NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

January 13, 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

Remove and Replace:
(3) Air21 KRC118023 B2A/B4P Antenna (Remove) – (3) AIR6449 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 4415 B25
(6) Hybrid Lines
(3) Commscope SDX1926Q-43

Existing to Remain:
(3) Air32 KRD901146 B66A-B2A 1900/2100 MHz Antenna
(3) Generic Twin TMA
(6) Hybrid Line

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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
Stamford Government Center
10th Floor
888 Washington Boulevard
Stamford, CT 06901

James Lunney III, Chief Zoning Enforcement Officer
Stamford Government Center
7th floor
888 Washington Boulevard
Stamford, CT 06901

Frontier Communications - as property and tower owner
805 Central Expressway South
Allen, TX 75013

Exhibit A

Original Facility Approval

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

1 CENTRAL PARK PLAZA • NEW BRITAIN, CONN. 06051

PHONE: 827-2604

Petition No. 128
Southern New England Telephone
Stamford, Ct.

On May 22, 1985, Chairperson Gloria Dibble Pond, Dr. William H. Smith and Robert K. Erling of the Siting Council met with Richard Kischell and James Bailey of Southern New England Telephone (SNET) for a field review at SNET's Central Office in Stamford. SNET is petitioning the Council for a ruling that no Certificate of Environmental Compatibility and Public Need is required for its proposed addition of a ten foot dish antenna to an existing 125' communications tower on the roof of the company's Stamford Office building. The proposed dish is needed to supply common carrier video service to Fairfield County. The proposed dish would face in a westerly direction and be affixed to the existing tower at the 120' level. This tower would not have to be strengthened or modified in any way to accommodate the proposed dish. With the addition of the dish, the power density of the facility would be 0.0000467 microwatts per square centimeter, which is thousands of times below the ANSI standard.

The proposed dish would be painted orange to blend with the color of the existing tower. The addition of the dish would not appreciably increase the visibility of this self-supporting galvanized steel tower, which presently supports a larger horn antenna at the same height, facing in the opposite direction.

Rober K. Erling
Siting Analyst

RKE/cp

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

1 CENTRAL PARK PLAZA • NEW BRITAIN, CONN. 06051

PHONE: 827-2604

Petition No. 154
Southern New England Telephone Company
Stamford, Connecticut

Southern New England Telephone Company (SNET) is petitioning the Siting Council (Council) for a ruling that no certificate of environmental compatibility and public need (certificate) is required for SNET's proposed addition of up to six cellular telephone antennas to its existing tower in Stamford, Connecticut. This 125' self-supporting tower is located on the roof of SNET's Central Office at 555 Main Street in Stamford. This Tower was the subject of a previous Council ruling, Petition No. 128. On May 22, 1985, Chairperson Gloria Dibble Pond, Dr. William H. Smith and Robert K. Erling of the Council conducted a field review of SNET's petition to add a 10' dish antenna to this tower. The Council subsequently ruled that no certificate was required for the addition of this dish.

SNET states that because of the tall buildings in metropolitan Stamford, cellular system customers are experiencing weak signals and impaired transmissions in the Stamford area. The addition of a cellular site in downtown Stamford would alleviate the problems now being experienced.

SNET proposes to add four transmit and two receive antennas to the existing Stamford tower, thus precluding the necessity of constructing an additional tower in this area. The additional 13' whip antennas would be mounted on brackets near the top of the tower and would not project above the existing lightning rod and obstruction light which is the highest point on this tower. Maximum power densities at the base of the tower are calculated to be 0.00866 mW/cm^2, which is some 300 times lower than the American National Standards Institute of 2.933 milliwatts per square centimeter for this frequency. This cell site has been designed to interface with adjacent SNET cell sites in Stamford and Norwalk and has been frequency coordinated with the NYNEX cellular system.

SNET asserts that the proposed addition does not constitute a modification of an existing facility as defined in the Connecticut General Statutes, (CGS), Section 16-50i(d), and that no certificate is required pursuant to Section 16-50k of this CGS, as the proposed modification would not have substantial adverse environmental effect.

Mr. Donald Chapman of SNET confirmed to Staff that only FCC notification is necessary.

Robert K. Erling
Siting Analyst
2/19/86

RKE/cp

Exhibit B

Property Card

555 EAST MAIN STREET

Location	555 EAST MAIN STREET	**Mblu**	002/ 1816/ / /
Acct#	002-1816	**Owner**	SOUTHERN NEW ENGLAND TELE CO
Assessment	$6,095,090	**Appraisal**	$8,707,260
PID	7839	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$2,085,780	$6,621,480	$8,707,260
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,460,050	$4,635,040	$6,095,090

Owner of Record

Owner	SOUTHERN NEW ENGLAND TELE CO	**Sale Price**	$0
Co-Owner		**Book & Page**	1251/ 284
Address	401 MERRITT 7 C/O TAX DEPT NORWALK, CT 06851	**Sale Date**	02/28/1972
		Instrument	25

Ownership History

Ownership History				
Owner	**Sale Price**	**Book & Page**	**Instrument**	**Sale Date**
SOUTHERN NEW ENGLAND TELE CO	$0	1251/ 284	25	02/28/1972

Building Information

Building 1 : Section 1

Year Built: 1949
Living Area: 99,506

Building Attributes	
Field	**Description**
STYLE	Off/Warehouse
MODEL	Comm/Ind
Grade	C+
Stories:	6
Occupancy	1
Exterior Wall 1	Brick
Exterior Wall 2	Stucco Mas
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	None
Bldg Use	Commercial MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300C
Heat/AC	None
Frame Type	FireProofSteel
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil&Wall
Rooms/Prtns	Average
Wall Height	16
% Comn Wall	9

Building Photo

(http://images.vgsi.com/photos/StamfordCTPhotos//\00\13\04/20.jpg)

Building Layout

(http://images.vgsi.com/photos/StamfordCTPhotos//Sketches/78

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
FUS	Upper Story, Finished	84,263	84,263
BAS	First Floor	15,243	15,243
UBM	Basement, Unfinished	16,131	0
		115,637	99,506

Extra Features

Extra Features	Legend

Code	Description	Size	Value	Bldg #
EL2	Elev Pass	24 STOPS	$216,000	1

Land

Land Use

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

Land Line Valuation

Size (Acres)	1.19
Depth	
Assessed Value	$4,635,040
Appraised Value	$6,621,480

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
AP1	Fence Chn Lk			3510 L.F.	$30,270	1
FC5	Shed Conc Blk			320 S.F.	$5,040	1
LP4	Pavng Asphlt			8000 S.F	$9,600	1
CEL2	Cell - Roof Top			1 SITES	$138,750	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$2,085,780	$6,621,480	$8,707,260
2017	$2,085,780	$6,621,480	$8,707,260
2016	$2,382,080	$6,675,340	$9,057,420

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,460,050	$4,635,040	$6,095,090
2017	$1,460,050	$4,635,040	$6,095,090
2016	$1,667,460	$4,672,740	$6,340,200

Stamford, CT Tax Maps

555 EAST MAIN STREET

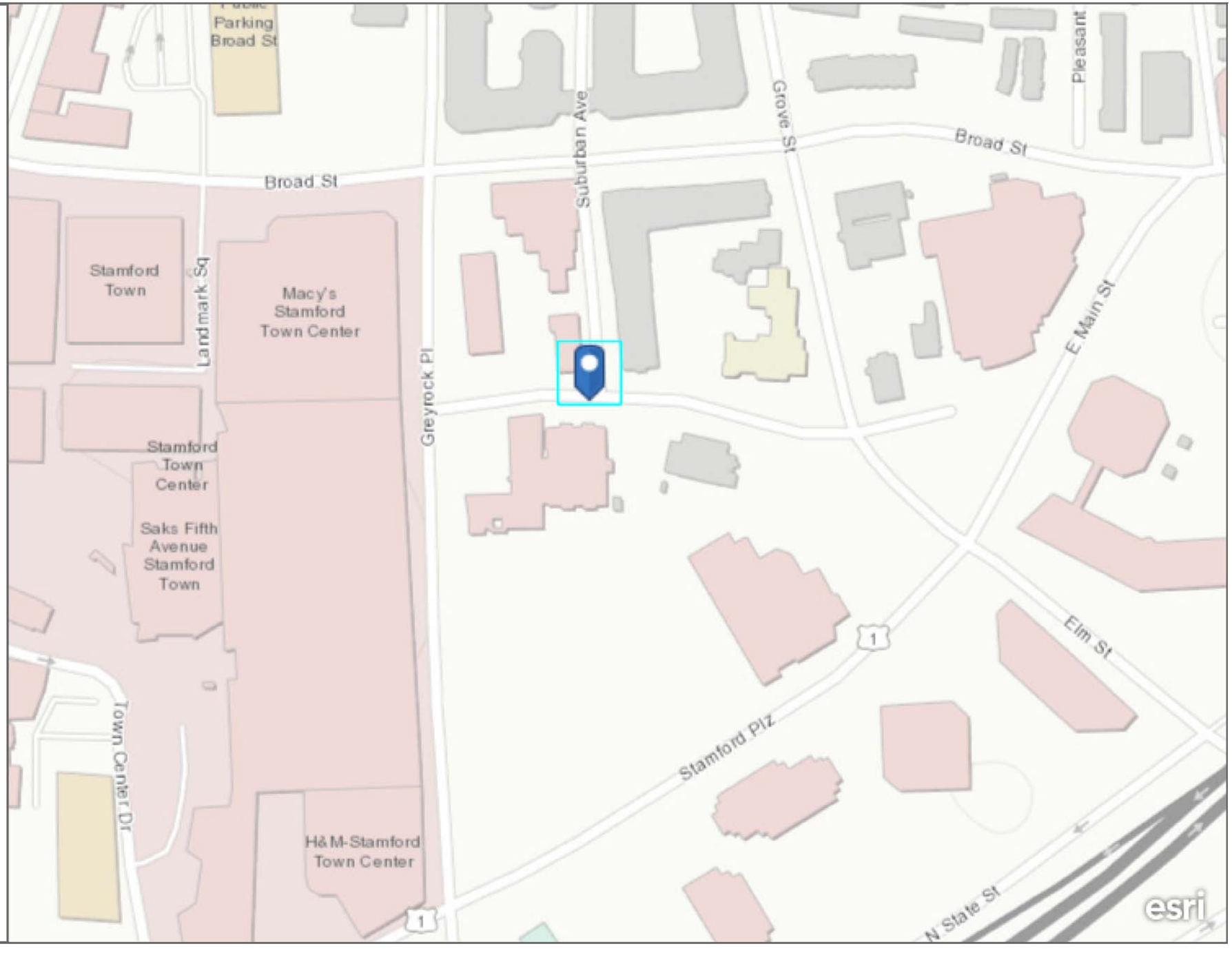


Exhibit C

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.

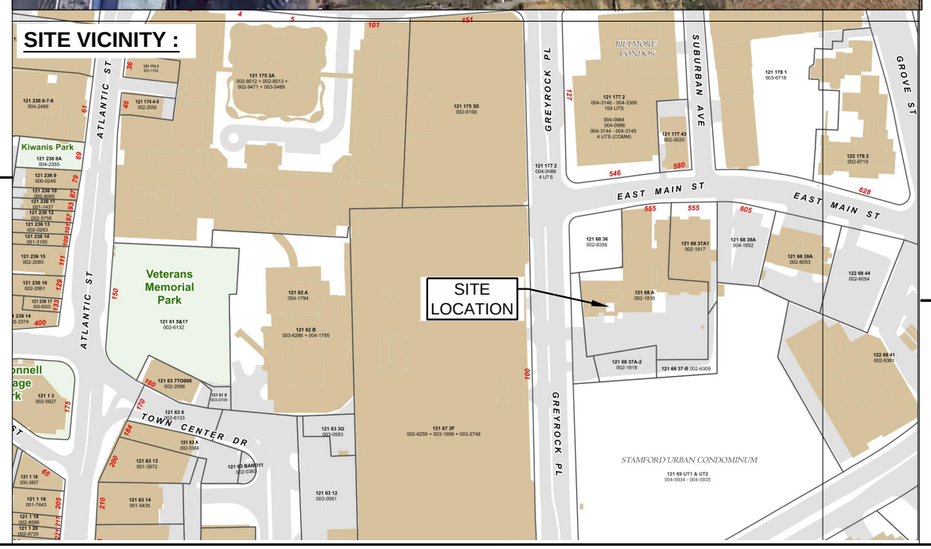
REFER TO STRUCTURAL ANALYSIS REPORT:
MOUNT STRUCTURAL ANALYSIS REPORT - DATED 05/28/2021 BY EFI GLOBAL INC.
STRUCTURAL ANALYSIS REPORT ROOFTOP - DATED 11/16/2021 BY TOWER ENGINEERING PROFESSIONALS.

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.
INSTALL (3) DIPLEXERS AT THE ANTENNAS.
KEEP (6) AND REMOVE EXCESS COAXIAL LINES, REMOVE ALL EXISTING HCS AND 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:

APPLICANT:

T-Mobile

T-MOBILE NORTHEAST LLC

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

PROJECT MANAGER

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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 · JOSEPH M. WEED · 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

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
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CONSULTANT:
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PROFESSIONAL SEAL

REV	DESCRIPTION	DATE
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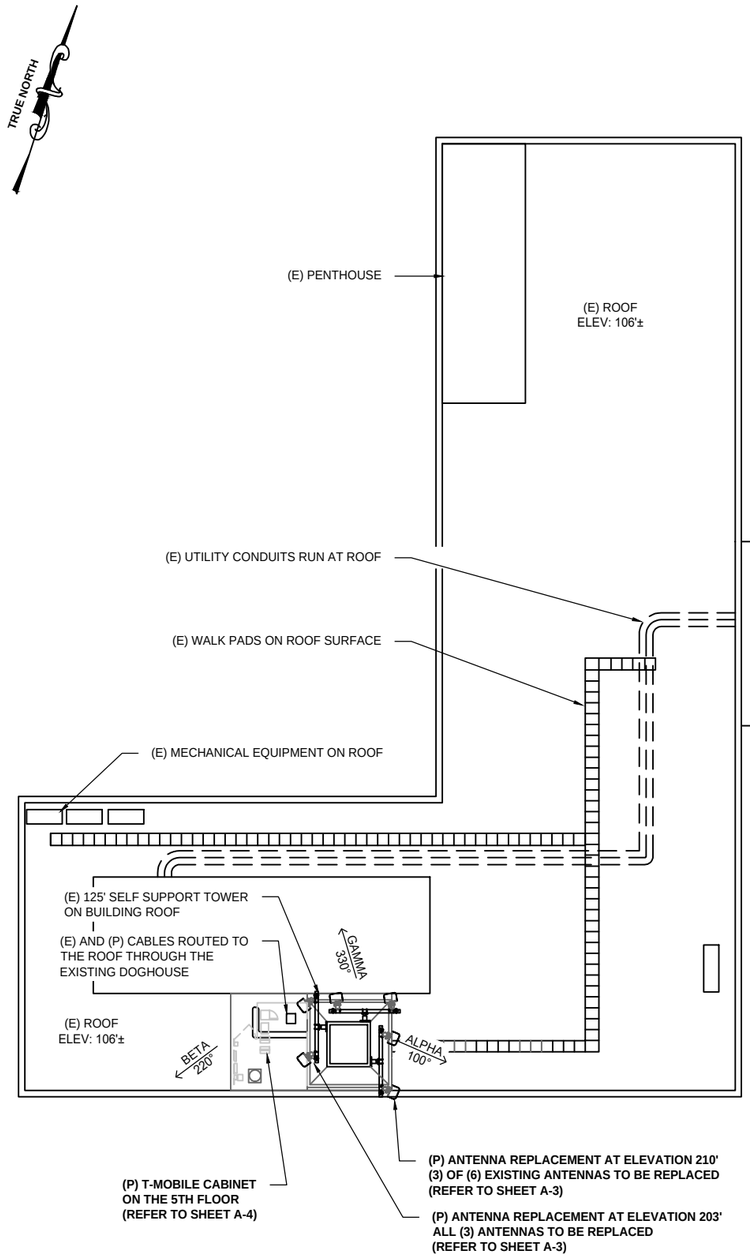
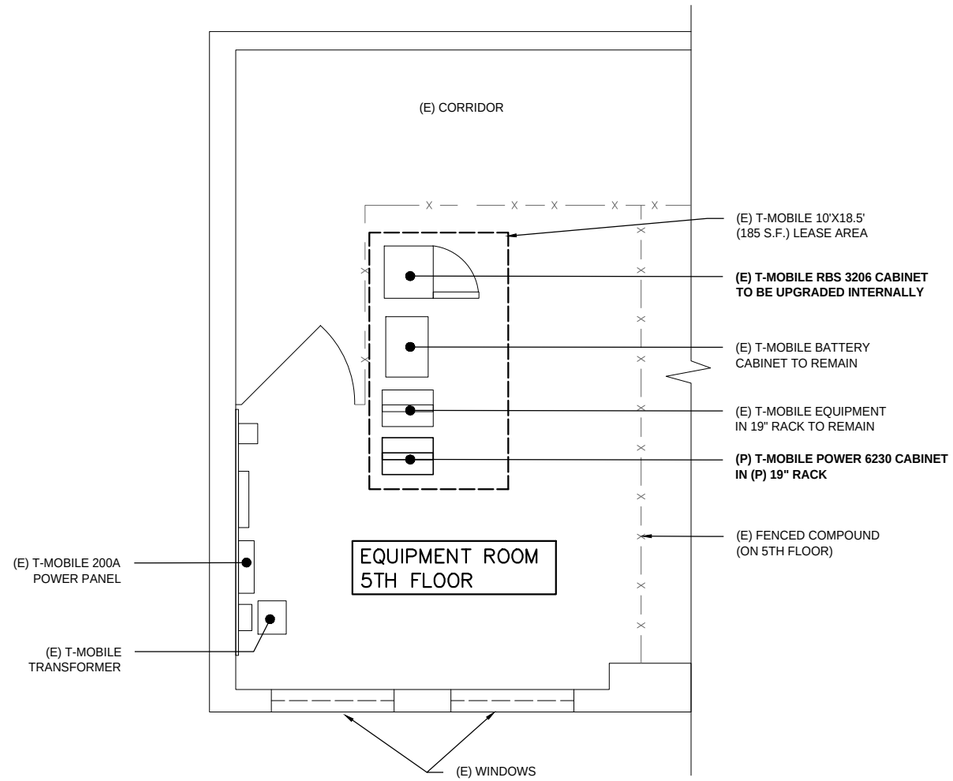
SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

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

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

PROJECT MANAGER
NORTHEAST SITE SOLUTIONS
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STURBRIDGE, MA 01566
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Architects . Engineers . Surveyors
462 WALNUT STREET, SUITE 1
NEWTON, MA 02460
617-212-3123

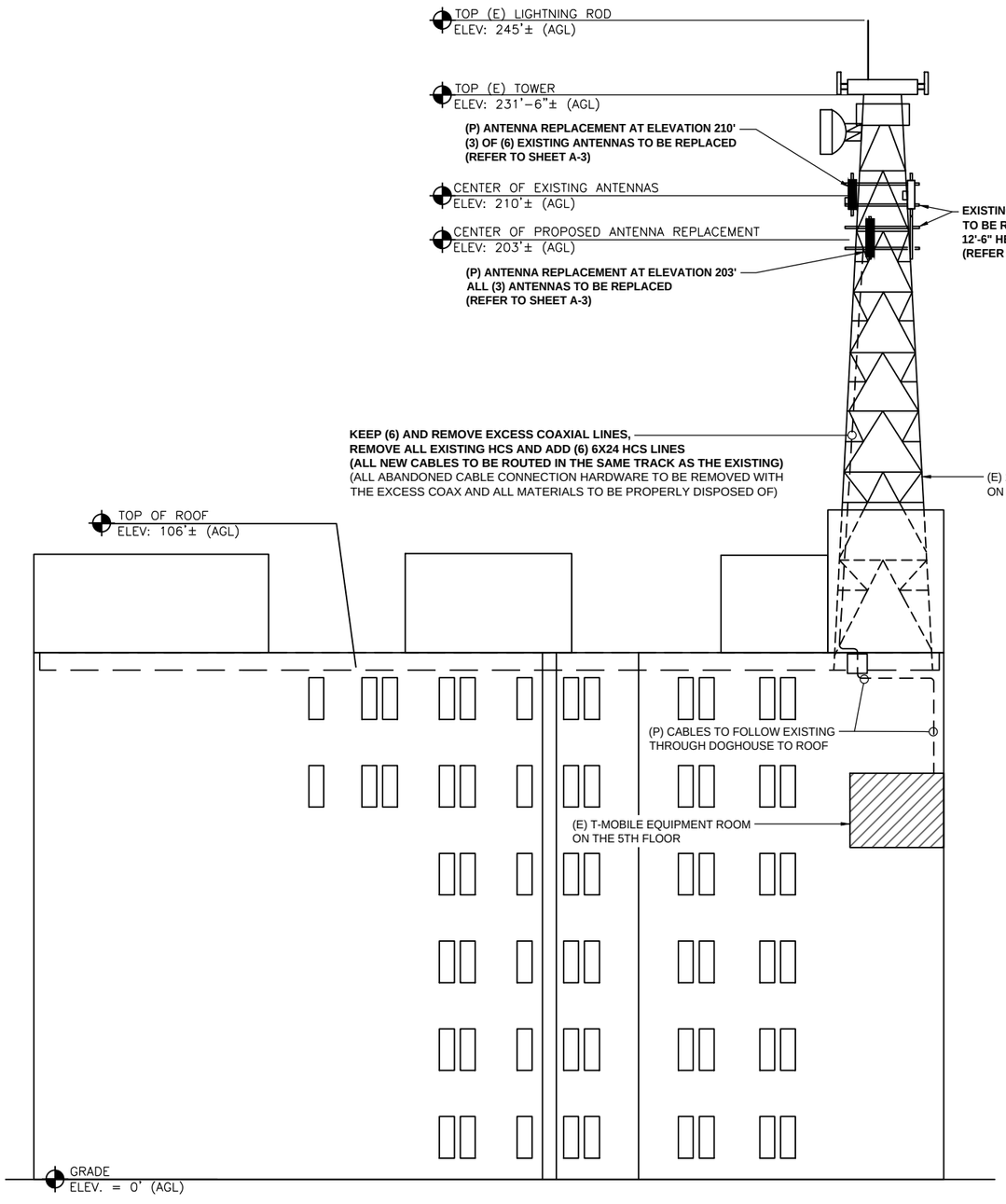
PROFESSIONAL SEAL
COMMONWEALTH OF MASSACHUSETTS
NO. ARI. 11162
REGISTERED ARCHITECT

REV	DESCRIPTION	DATE
A	PRELIMINARY	11/29/21
0	FINAL ISSUED	12/29/21
1	REVISED PER COMMENTS	01/12/22

SITE NUMBER: CT11410A
SITE NAME: STAMFORD / DWTN

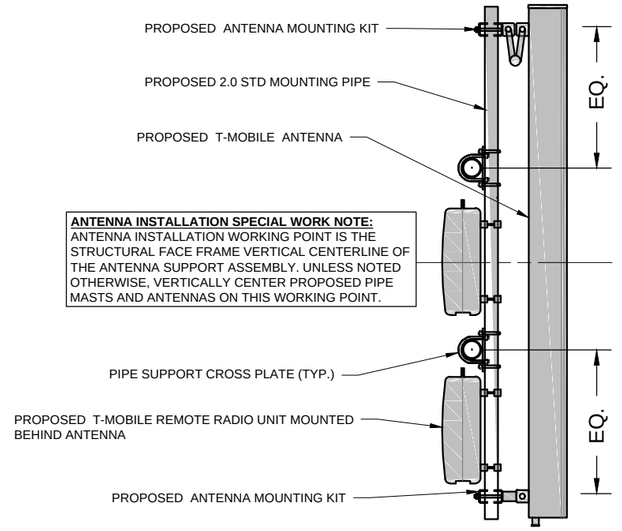
SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

SHEET TITLE:
A-1: PLANS



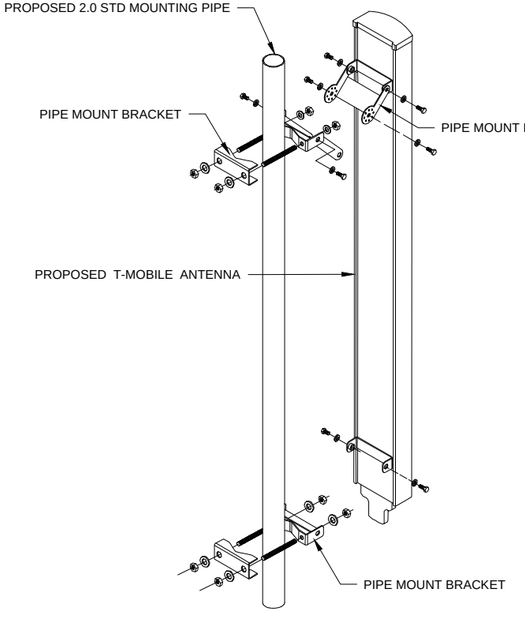
ELEVATION
SCALE: 1"=30'

1 / A-2



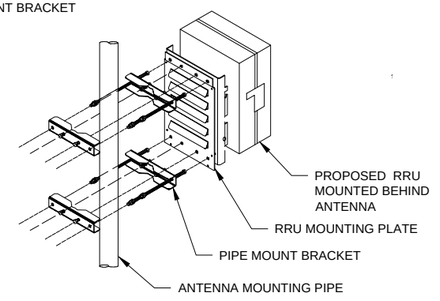
ANTENNA ELEVATION
N.T.S

2 / A-2



ANTENNA MOUNT DETAIL
N.T.S

3 / A-2



RRU MOUNT DETAIL
N.T.S

4 / A-2

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

PROJECT MANAGER
NORTHEAST SITE SOLUTIONS
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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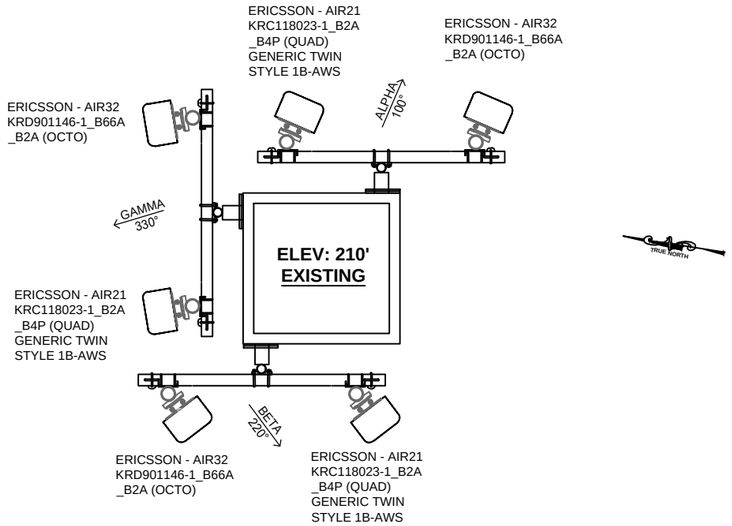
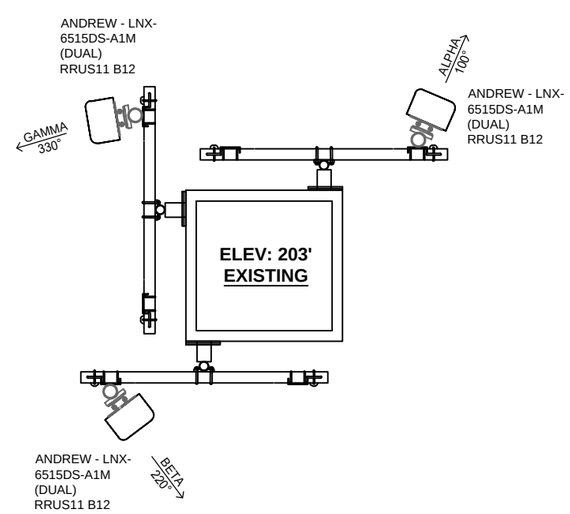
STAMFORD, CT, 06901

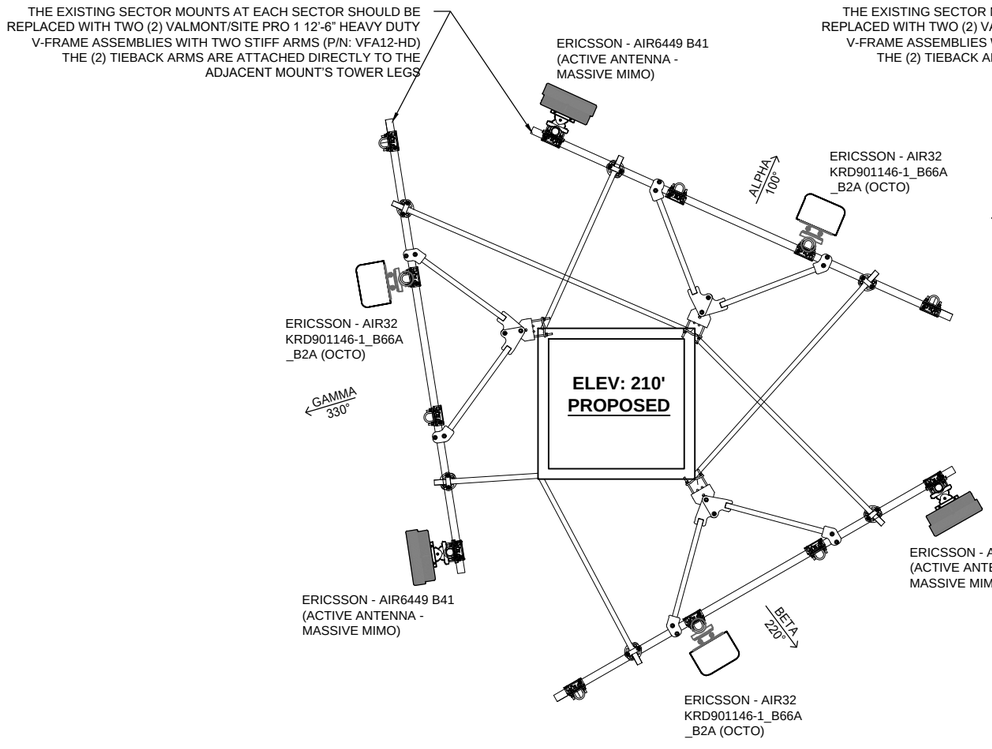
SHEET TITLE:
A-2: ELEVATION AND ANTENNA MOUNTING DETAILS

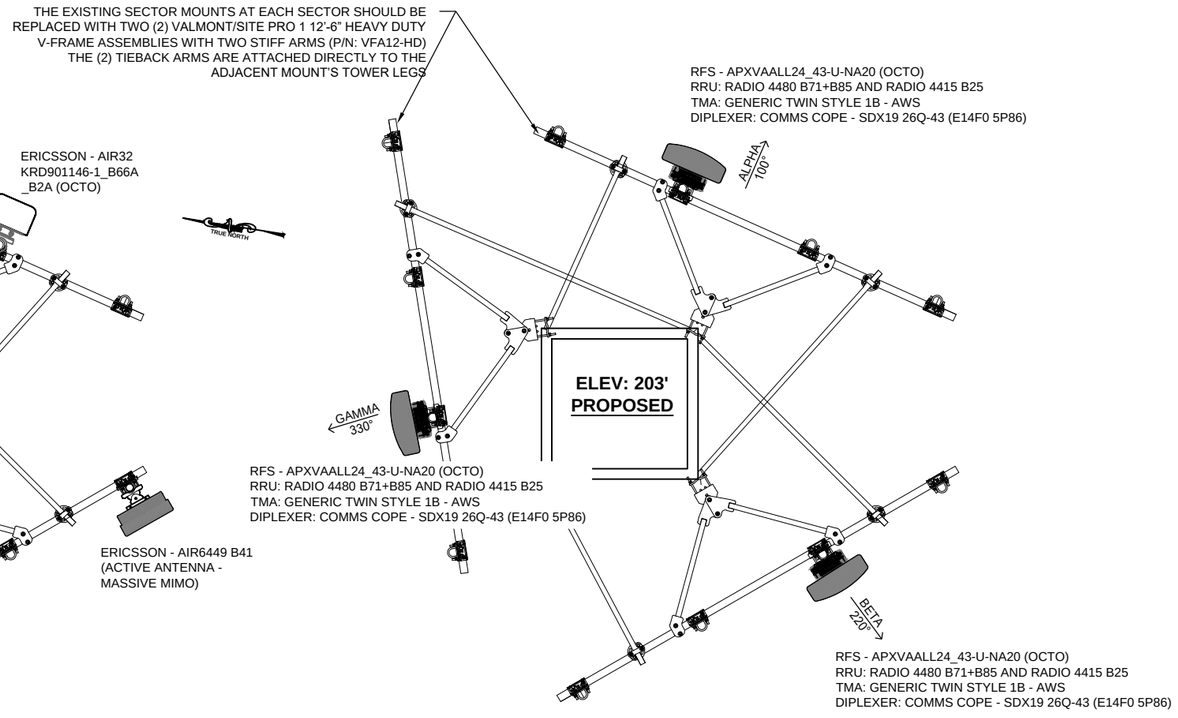




EXISTING ANTENNA PLAN
N.T.S.

1
A-3





FINAL ANTENNA PLAN
N.T.S.

2
A-3

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

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

CONSULTANT:
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462 WALNUT STREET, SUITE 1
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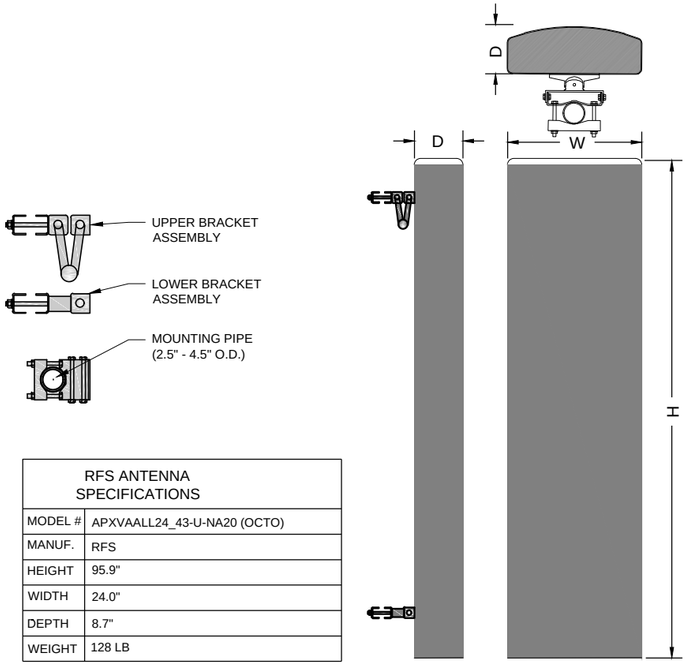
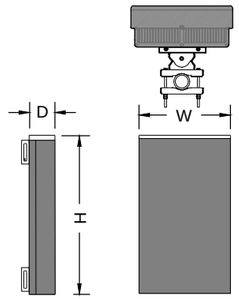
STAMFORD, CT, 06901

SHEET TITLE:
A-3: ANTENNA LAYOUT PLANS



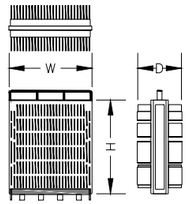
RFS ANTENNA SPECIFICATIONS	
MODEL #	APXVAALL24_43-U-NA20 (OCTO)
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.7"
WEIGHT	128 LB

RFS ANTENNA
N.T.S — 1 / A-4



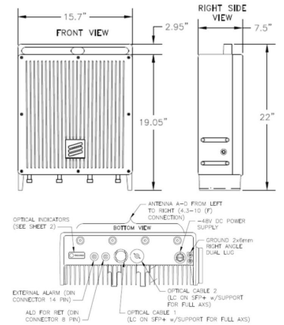
ERICSON ANTENNA SPECIFICATIONS	
MODEL #	AIR6449 B41
MANUF.	ERICSSON
HEIGHT	33.1"
WIDTH	20.5"
DEPTH	8.3"
WEIGHT	103 LB

ERICSSON ANTENNA
N.T.S — 2 / A-4



REMOTE RADIO UNIT SPECIFICATIONS	
MODEL #	RADIO 4415 B25
MANUF.	ERICSSON
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	5.4"
WEIGHT	46.3 LB

REMOTE RADIO UNIT
N.T.S. — 3 / A-4

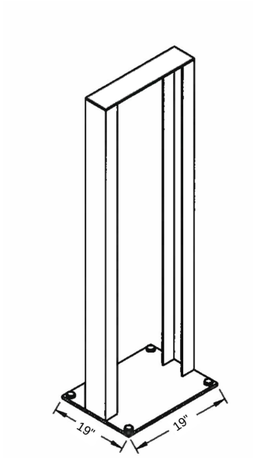


RRU SPECIFICATIONS	
MODEL #	4480 B71
MANUF.	ERICSSON
LENGTH	22.0"
WIDTH	15.7"
DEPTH	7.5"
WEIGHT	93.0 LB

REMOTE RADIO UNIT
N.T.S — 4 / A-4

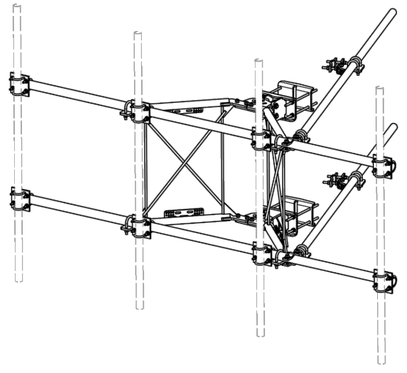
BATTERY CABINET SPECIFICATIONS	
MODEL #	POWER 6230
MANUF.	ERICSSON
HEIGHT	19"
WIDTH	26"
DEPTH	26"
WEIGHT	200 LBS

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

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

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

CONSULTANT:
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Architects . Engineers . Surveyors
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SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

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.

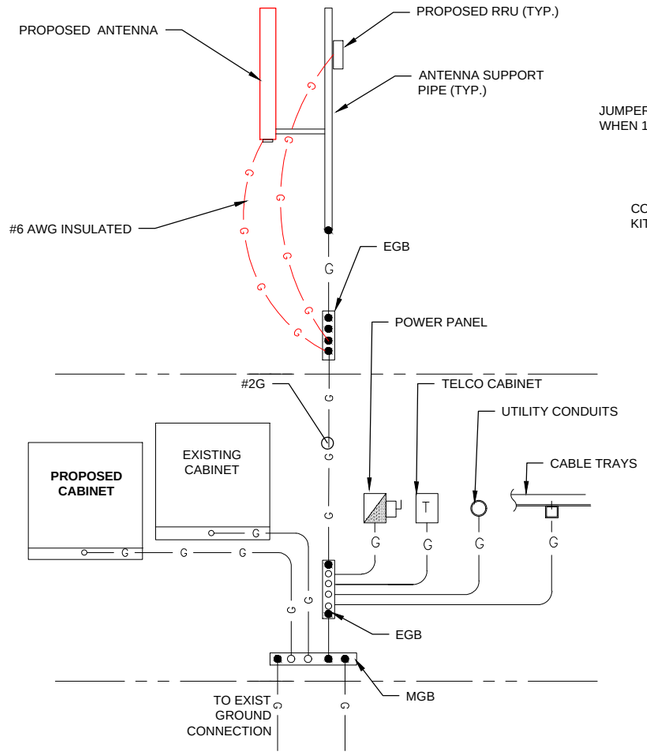
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

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

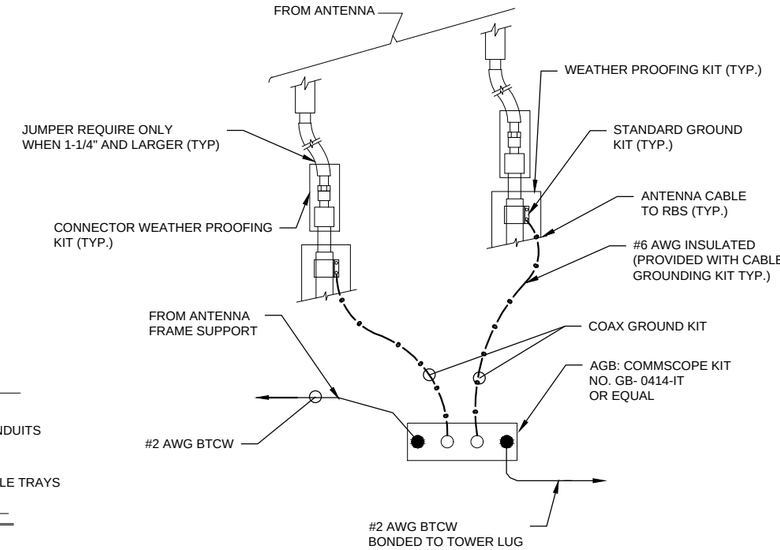
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.

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.

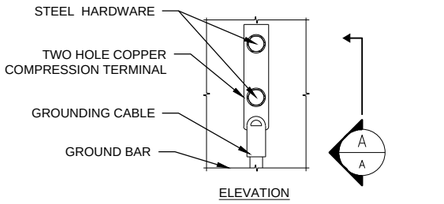


GROUNDING RISER DIAGRAM
N.T.S.
1 E–1

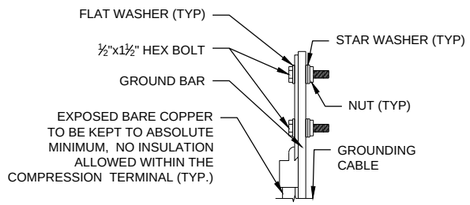


NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

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



ELEVATION



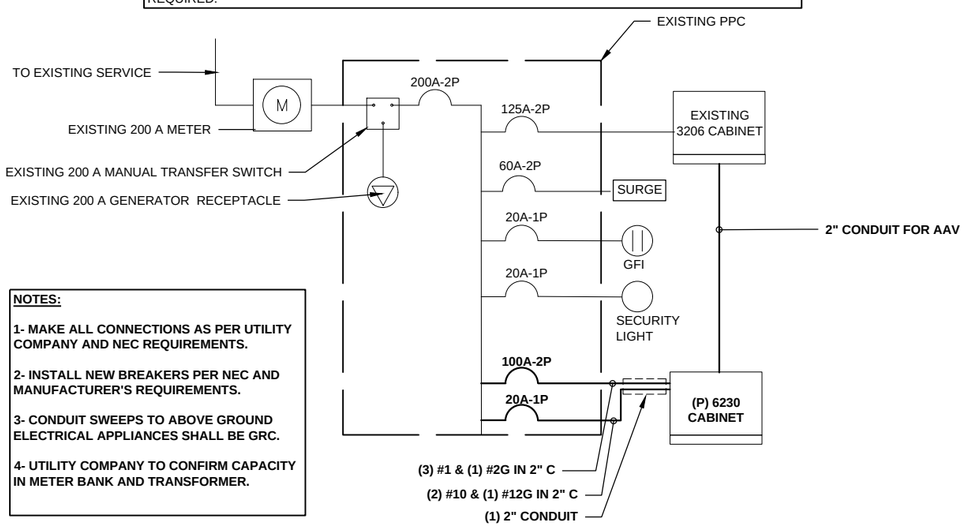
SECTION A-A

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
N.T.S.
3 E–1

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
N.T.S.
4 E–1

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

PROJECT MANAGER
NORTHEAST SITE SOLUTIONS
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SITE ADDRESS: 555 E MAIN STREET
STAMFORD, CT, 06901

SHEET TITLE:
E-1: ELECTRICAL & GROUNDING DETAIL

Exhibit D

Structural Analysis Report

November 16, 2021

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:**	263252.614101
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
78.7%	-

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: Gautam Sopal, E.I. / TWC

Respectfully submitted by:

Aaron T. Rucker, P.E.

Electronic Copy

11/16/2021

TABLE OF CONTENTS

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 AIR6449 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		6 1 1	1-5/8 Hybrid 1" Ø	DA Face	T-Mobile
			3	Ericsson Generic Twin Style 1B-AWS					

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*	*23*	*1-5/8*	*DA Face*	*T-Mobile*
			3	*Ericsson RRUS 11 B12*					
Proposed	***203.0***	***203.0***	***3***	***RFS APXVAALL24_43-U-NA20***	***(3) SitePro VFA12-HD***	***-***	***-***	***-***	***T-Mobile***
			3	***Ericsson 4480 B71+B85***					
			3	***Ericsson 4415 B25***					
			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
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	-7	90	67.2	Pass
T2	229 - 224.8	Leg	L4x4x3/8	11	-11	78	14.5	Pass
T3	224.8 - 220.7	Leg	L4x4x3/8	24	-20	79	25.2	Pass
T4	220.7 - 216.5	Leg	L4x4x3/8	40	-26	78	32.7	Pass
T5	216.5 - 211.5	Leg	L5x5x1/2	51	-34	133	25.6	Pass
T6	211.5 - 206.5	Leg	L5x5x1/2	67	-45	133	33.7	Pass
T7	206.5 - 201.5	Leg	L5x5x1/2	84	-57	133	42.7	Pass
T8	201.5 - 196.5	Leg	L5x5x1/2	96	-67	133	50.3	Pass
T9	196.5 - 191.5	Leg	L5x5x1/2	111	-78	133	58.6	Pass
T10	191.5 - 181.5	Leg	L6x6x5/8	123	-87	208	41.7	Pass
T11	181.5 - 171.5	Leg	L6x6x5/8	145	-108	209	51.8	Pass
T12	171.5 - 161.5	Leg	L6x6x5/8	165	-129	209	61.6	Pass
T13	161.5 - 151.5	Leg	L6x6x5/8	187	-149	209	71.2	Pass
T14	151.5 - 141.5	Leg	L6x6x3/4	207	-171	248	68.9	Pass
T15	141.5 - 131.5	Leg	L6x6x3/4	229	-207	287	72.0	Pass
T16	131.5 - 119	Leg	L6x6x7/8	297	-203	267	75.9	Pass
T17	119 - 106.5	Leg	L6x6x7/8	337	-226	314	72.0	Pass
T2	229 - 224.8	Diagonal	2L2 1/2x2 1/2x1/4x3/8	15	4	67	6.4 10.2 (b)	Pass
T3	224.8 - 220.7	Diagonal	2L2 1/2x2 1/2x1/4x3/8	35	4	67	6.2 9.8 (b)	Pass
T4	220.7 - 216.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	46	5	67	7.7 12.2 (b)	Pass
T5	216.5 - 211.5	Diagonal	L2 1/2x2x1/4	61	-5	21	25.6	Pass
T6	211.5 - 206.5	Diagonal	L2 1/2x2x1/4	77	-5	20	24.9	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	-6	19	33.0	Pass
T8	201.5 - 196.5	Diagonal	L2 1/2x2x1/4	105	-7	19	37.8	Pass
T9	196.5 - 191.5	Diagonal	L2 1/2x2x1/4	117	-7	18	39.4	Pass
T10	191.5 - 181.5	Diagonal	L3x3x1/4	135	-12	22	53.8	Pass
T11	181.5 - 171.5	Diagonal	L3x3x1/4	155	-12	21	56.3	Pass
T12	171.5 - 161.5	Diagonal	L3x3x1/4	177	-12	20	60.5	Pass
T13	161.5 - 151.5	Diagonal	L3x3x1/4	197	-13	19	65.8	Pass
T14	151.5 - 141.5	Diagonal	L3x3x1/4	219	-12	18	66.4	Pass
T15	141.5 - 131.5	Diagonal	L3x3x1/4	251	-14	27	50.4 56.6 (b)	Pass
T16	131.5 - 119	Diagonal	2L2 1/2x2 1/2x1/4x3/8	320	-19	30	65.1	Pass
T17	119 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	377	-20	44	45.9 46.6 (b)	Pass
T15	141.5 - 131.5	Horizontal	L2 1/2x2x1/4	242	-3	10	32.0	Pass
T10	191.5 - 181.5	Secondary Horizontal	L2 1/2x2x1/4	140	-1	13	9.9	Pass
T11	181.5 - 171.5	Secondary Horizontal	L2 1/2x2x1/4	160	-2	11	15.0	Pass
T12	171.5 - 161.5	Secondary Horizontal	L2 1/2x2x3/16	182	-2	7	27.5	Pass
T13	161.5 - 151.5	Secondary Horizontal	L2 1/2x2 1/2x1/4	202	-2	14	15.6	Pass
T14	151.5 - 141.5	Secondary Horizontal	L2 1/2x2x1/4	224	-3	6	39.4	Pass
T1	231.5 - 229	Top Girt	C8x11.5	8	-1	67	17.3	Pass
T3	224.8 - 220.7	Top Girt	L2 1/2x2 1/2x1/4	25	-1	19	6.9	Pass
T5	216.5 - 211.5	Top Girt	C7x9.8	53	-1	53	2.4 3.3 (b)	Pass
T6	211.5 - 206.5	Top Girt	L2 1/2x2x1/4	69	-1	14	7.3	Pass
T8	201.5 - 196.5	Top Girt	L2 1/2x2 1/2x1/4	99	-1	16	6.3	Pass
T10	191.5 - 181.5	Top Girt	L2 1/2x2 1/2x1/4	130	-3	14	21.8	Pass
T11	181.5 - 171.5	Top Girt	L2 1/2x2 1/2x1/4	150	-5	12	45.9	Pass
T12	171.5 - 161.5	Top Girt	L2 1/2x2 1/2x1/4	172	-6	10	59.1	Pass
T13	161.5 - 151.5	Top Girt	L2 1/2x2 1/2x1/4	192	-7	9	72.4	Pass
T14	151.5 - 141.5	Top Girt	L2 1/2x2 1/2x1/4	214	-6	8	78.7	Pass
T15	141.5 - 131.5	Top Girt	L2 1/2x2 1/2x1/4	234	-6	11	55.9	Pass
T16	131.5 - 119	Top Girt	2L2 1/2x2 1/2x1/4x3/8	301	-9	50	17.5 22.5 (b)	Pass
T17	119 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/8	341	-9	47	19.2 21.4 (b)	Pass
T15	141.5 - 131.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	247	-3	17	17.8 39.7 (b)	Pass
T16	131.5 - 119	Redund Horz 1 Bracing	L2 1/2x2x3/16	317	-3	17	18.0 39.7 (b)	Pass
T17	119 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	365	-3	17	20.3 43.3 (b)	Pass
T15	141.5 - 131.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	278	-2	15	13.7 26.8 (b)	Pass
T16	131.5 - 119	Redund Diag 1 Bracing	L2 1/2x2x3/16	318	-4	7	51.6	Pass
T17	119 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	366	-5	13	38.1 55.7 (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	249	0	16	0.4	Pass
T16	131.5 - 119	Redund Hip 1 Bracing	L2x2x1/4	334	0	15	0.7	Pass
T17	119 - 106.5	Redund Hip 1 Bracing	L2x2x1/4	391	0	14	0.9	Pass
T17	119 - 106.5	Redund Hip Diagonal 1 Bracing	L2x2x1/4	392	0	3	4.2	Pass
T17	119 - 106.5	Redund Sub Horz Bracing	L2 1/2x2x3/16	370	4	23	17.8 28.3 (b)	Pass
T17	119 - 106.5	Redund Sub Diagonal Bracing	L2 1/2x2x3/16	369	-5	17	27.8 28.4 (b)	Pass
T10	191.5 - 181.5	Inner Bracing	L2 1/2x2 1/2x3/16	126	1	31	1.9	Pass
T12	171.5 - 161.5	Inner Bracing	L2 1/2x2 1/2x3/16	167	1	31	3.7	Pass
T14	151.5 - 141.5	Inner Bracing	L2x2 1/2x3/16	210	1	28	3.7	Pass
T16	131.5 - 119	Inner Bracing	L3x3x3/16	304	0	9	0.8	Pass
T17	119 - 106.5	Inner Bracing	L3x3x3/16	344	0	8	0.9	Pass
							Summary	
						Leg (T16)	75.9	Pass
						Diagonal (T14)	66.4	Pass
						Horizontal (T15)	32.0	Pass
						Secondary Horizontal (T14)	39.4	Pass
						Top Girt (T14)	78.7	Pass
						Redund Horz 1 Bracing (T17)	43.3	Pass
						Redund Diag 1 Bracing (T17)	55.7	Pass
						Redund Hip 1 Bracing (T17)	0.9	Pass
						Redund Hip Diagonal 1 Bracing (T17)	4.2	Pass
						Redund Sub Horz Bracing (T17)	28.3	Pass
						Redund Sub Diagonal Bracing (T17)	28.4	Pass
						Inner Bracing (T12)	3.7	Pass
						Bolt Checks	53.9	Pass
						Rating =	**78.7**	**Pass**

Structure Rating (max from all components) =	**78.7%**

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	1.965	0.1456	0.0153
221.0	1' Ø HP Dish	1.888	0.1434	0.0151

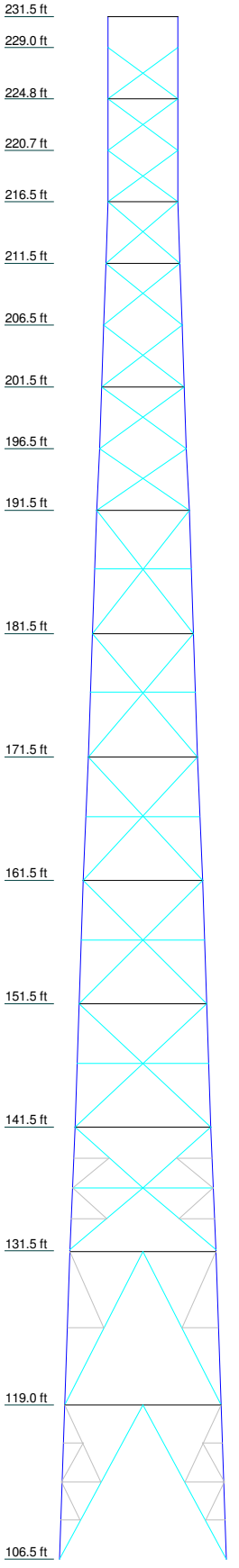
4.1) Recommendations

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			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 1/2x2x1/4					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			L2x2 1/2x3/16			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 (K)	25.6	3.9	3.5	2.6	2.2	1.9	1.9	1.8	1.9	0.6	0.7	0.6	0.8	0.6	0.7	0.6	0.4



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	AIR 32 KRD901146-1 w/ 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 6449 B41 w/ Mount Pipe	206.5
(3) HPA-45R-BUU-H6 w/ Mount Pipe	235	AIR 6449 B41 w/ Mount Pipe	206.5
TPA45R-KU6A w/ Mount Pipe	235	AIR 6449 B41 w/ Mount Pipe	206.5
TPA45R-KU6A w/ Mount Pipe	235	Style 1B Twin AWS	206.5
P65-15-XLH-RR w/ Mount Pipe	235	Style 1B Twin AWS	206.5
80010964 w/ Mount Pipe	235	Style 1B Twin AWS	206.5
(2) OPA-65R-LCUU-H6 w/ Mount Pipe	235	Site Pro 1 VFA12-HD	206.5
(3) RRUS 32	235	Site Pro 1 VFA12-HD	206.5
(3) RRUS 32	235	Site Pro 1 VFA12-HD	203
(3) RRUS 32	235	2.4" Dia x 8-ft Mount Pipe	203
(2) RRUS 4478	235	2.4" Dia x 8-ft Mount Pipe	203
RRUS 4478	235	2.4" Dia x 8-ft Mount Pipe	203
(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	APXVAALL24_43-U-NA20 w/ mount pipe	203
(2) TPX-070821	235		
(2) DC6-48-60-18-8F	235	RADIO 4480 B71_TMO	203
DC9-48-60-24-8C-EV	235	RADIO 4480 B71_TMO	203
(2) 12" x 24" Beacon	231.5	RADIO 4480 B71_TMO	203
5/8" x 4' Lightning Rod	231.5	RADIO 4415 B25	203
13' T Beam Mount	231.5	RADIO 4415 B25	203
17" 3 element yagi	229	RADIO 4415 B25	203
Pipe Mount [PM 601-1]	223.5	SDX1926Q-43	203
Andrew HP10	223.5	SDX1926Q-43	203
Pipe Mount [PM 601-1]	221	SDX1926Q-43	203
1-ft dish w/ shroud	221	Site Pro 1 VFA12-HD	203
4' L x 6' W Rest Platform	216.5	Site Pro 1 VFA12-HD	203
4' L x 6' W Rest Platform	216.5	2.4" Dia x 6-ft Pipe	132
Site Pro 1 VFA12-HD	206.5	4-ft x 7 Element Yagi	132
2.4" Dia x 8-ft Mount Pipe	206.5	Side Arm Mount [SO 901-1]	132
2.4" Dia x 8-ft Mount Pipe	206.5	2.4" Dia x 6-ft Pipe	132

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 FACTO

MAX. CORNER REACTIONS AT BASE:

DOWN: 255 K

SHEAR:

UPLIFT:

SHEAR: 2

AXIAL
194 K

SHEAR
20 K

MOMENT
1538 kip-ft

TORQUE 13 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL
59 K

SHEAR
61 K

MOMENT
4613 kip-ft

TORQUE 23 kip-ft
REACTIONS - 91 mph WIND

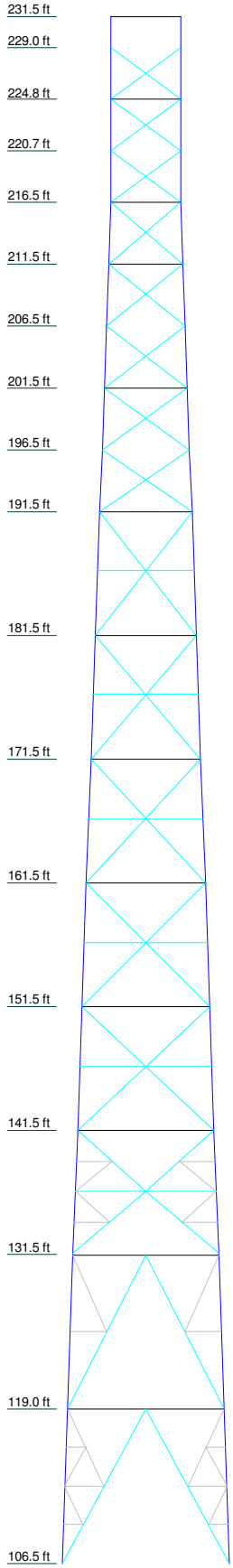
TOWER DESIGN NOTES

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: 78.7%

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. 263252.614101
Client: Everest Infrastructure	Drawn by: APJ / App'd:
Code: TIA-222-G	Date: 11/16/21 / Scale: NTS
Path:	Dwg No. E-1

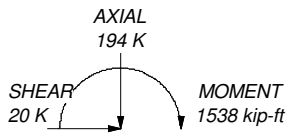
Section	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	L6x6x7/8		L6x6x3/4			L6x6x5/8					L5x5x1/2				L4x4x3/8		
Leg Grade	A36																
Diagonals	2L2 1/2x2 1/2x1/4x3/8				L3x3x1/4					L2 1/2x2x1/4				2L2 1/2x2 1/2x1/4x3/8			N.A.
Diagonal Grade	A36																N.A.
Top Girts	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.	L2 1/2x2 1/2x3/16					N.A.				5.60417
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		1 @ 4.2	1 @ 4.1	1 @ 4.2	D
# Panels @ (ft)	1 @ 12.5	1 @ 12.4167	2 @ 4.95833			5 @ 10					5 @ 5						0.4
Weight (K) 25.6	3.9	3.5	2.6	2.2	1.9	1.9	1.8	1.9	0.6	0.7	0.6	0.7	0.8	0.6	0.7	0.6	



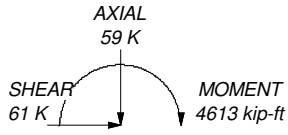
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 255 K
SHEAR: 23 K

UPLIFT: -229 K
SHEAR: 21 K



TORQUE 13 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 23 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: 78.7%

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Job: **Stamford #1 CO (638283)**			
Project: **TEP No. 263252.614101**			
Client: Everest Infrastructure	Drawn by: APJ	App'd:	
Code: TIA-222-G	Date: 11/16/21	Scale: NTS	
Path:		Dwg No. E-1	

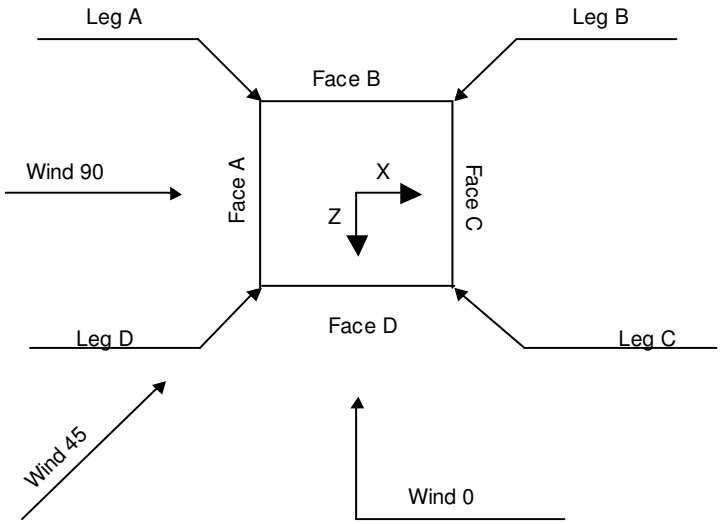
Tower Input Data

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 191.50-181.50	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T11 181.50-171.50	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T12 171.50-161.50	Single Angle	L2 1/2x2x3/16	A36 (36 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)
T13 161.50-151.50	Single Angle	L2 1/2x2 1/2x1/4	A36 (36 ksi)	Single Angle		A36 (36 ksi)
T14 151.50-141.50	Single Angle	L2 1/2x2x1/4	A36 (36 ksi)	Single Angle	L2x2 1/2x3/16	A36 (36 ksi)
T16 131.50-119.00	Single Angle		A36 (36 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)
T17 119.00-106.50	Single Angle		A36 (36 ksi)	Single Angle	L3x3x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	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 231.50-229.00	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
T2 229.00-224.80	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
T3 224.80-220.70	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
T4 220.70-216.50	0.00	0.3750	A36 (36 ksi)	1.03	1	1.05	11.0000	36.0000	36.0000
T5 216.50-211.50	0.00	0.5000	A36 (36 ksi)	1.03	1	1.05	36.0000	36.0000	36.0000
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	1.03	1	1.05	36.0000	36.0000	36.0000
206.50-201.50			(36 ksi)						
T8	0.00	0.5000	A36	1.03	1	1.05	36.0000	36.0000	36.0000
201.50-196.50			(36 ksi)						
T9	0.00	0.5000	A36	1.03	1	1.05	36.0000	36.0000	36.0000
196.50-191.50			(36 ksi)						
T10	0.00	0.6250	A36	1.03	1	1.05	36.0000	36.0000	36.0000
191.50-181.50			(36 ksi)						
T11	0.00	0.6250	A36	1.03	1	1.05	36.0000	36.0000	36.0000
181.50-171.50			(36 ksi)						
T12	0.00	0.6250	A36	1.03	1	1.05	36.0000	36.0000	36.0000
171.50-161.50			(36 ksi)						
T13	0.00	0.6250	A36	1.03	1	1.05	36.0000	36.0000	36.0000
161.50-151.50			(36 ksi)						
T14	0.00	0.7500	A36	1.03	1	1.05	36.0000	36.0000	36.0000
151.50-141.50			(36 ksi)						
T15	0.00	0.7500	A36	1.03	1	1.05	36.0000	36.0000	36.0000
141.50-131.50			(36 ksi)						
T16	0.00	0.8750	A36	1.03	1	1.05	22.2500	23.2500	36.0000
131.50-119.00			(36 ksi)						
T17	0.00	0.8750	A36	1.03	1	1.05	22.2500	23.2500	36.0000
119.00-106.50			(36 ksi)						

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

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

Tower Section Geometry *(cont'd)*

Tower Elevation ft	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
**													
**													
LDF7-50A(1-5/8)	A	No	No	Ar (CaAa)	206.50 - 111.50	0.0000	-0.4	7	4	0.5000	1.9800		0.82
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" Feedline	A	No	No	Ar (CaAa)	206.50 - 111.50	8.0000	-0.4	1	1	0.5000	1.0000		0.20
**													
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
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**								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	231.50-229.00	A	0.000	0.000	0.250	0.000	0
		B	0.000	0.000	1.344	0.000	0
		C	0.000	0.000	7.534	0.000	0
		D	0.000	0.000	0.000	0.000	0
T2	229.00-224.80	A	0.000	0.000	0.420	0.000	0
		B	0.000	0.000	2.257	0.000	0
		C	0.000	0.000	12.867	0.000	0
		D	0.000	0.000	0.000	0.000	0
T3	224.80-220.70	A	0.000	0.000	0.410	0.000	0
		B	0.000	0.000	2.981	0.000	0
		C	0.000	0.000	12.560	0.000	0
		D	0.000	0.000	0.000	0.000	0
T4	220.70-216.50	A	0.000	0.000	0.420	0.000	0
		B	0.000	0.000	3.648	0.000	0
		C	0.000	0.000	12.867	0.000	0
		D	0.000	0.000	0.000	0.000	0
T5	216.50-211.50	A	0.000	0.000	0.500	0.000	0
		B	0.000	0.000	4.843	0.000	0
		C	0.000	0.000	15.317	0.000	0
		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 K
T6	211.50-206.50	A	0.000	0.000	0.500	0.000	0
		B	0.000	0.000	6.842	0.000	0
		C	0.000	0.000	15.317	0.000	0
		D	0.000	0.000	0.000	0.000	0
T7	206.50-201.50	A	0.000	0.000	13.918	0.000	0
		B	0.000	0.000	6.842	0.000	0
		C	0.000	0.000	15.317	0.000	0
		D	0.000	0.000	2.500	0.000	0
T8	201.50-196.50	A	0.000	0.000	15.918	0.000	0
		B	0.000	0.000	6.842	0.000	0
		C	0.000	0.000	15.317	0.000	0
		D	0.000	0.000	2.500	0.000	0
T9	196.50-191.50	A	0.000	0.000	16.418	0.000	0
		B	0.000	0.000	6.842	0.000	0
		C	0.000	0.000	15.317	0.000	0
		D	0.000	0.000	2.500	0.000	0
T10	191.50-181.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.635	0.000	0
		D	0.000	0.000	5.000	0.000	0
T11	181.50-171.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.635	0.000	0
		D	0.000	0.000	5.000	0.000	0
T12	171.50-161.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.635	0.000	0
		D	0.000	0.000	5.000	0.000	0
T13	161.50-151.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.635	0.000	0
		D	0.000	0.000	5.000	0.000	0
T14	151.50-141.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.635	0.000	0
		D	0.000	0.000	5.000	0.000	0
T15	141.50-131.50	A	0.000	0.000	32.836	0.000	0
		B	0.000	0.000	13.685	0.000	0
		C	0.000	0.000	30.660	0.000	0
		D	0.000	0.000	5.000	0.000	0
T16	131.50-119.00	A	0.000	0.000	41.045	0.000	0
		B	0.000	0.000	17.106	0.000	0
		C	0.000	0.000	38.919	0.000	0
		D	0.000	0.000	6.250	0.000	0
T17	119.00-106.50	A	0.000	0.000	26.377	0.000	0
		B	0.000	0.000	12.826	0.000	0
		C	0.000	0.000	38.419	0.000	0
		D	0.000	0.000	5.500	0.000	0

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	231.50-229.00	A	2.429	0.000	0.000	1.464	0.000	0
		B		0.000	0.000	3.773	0.000	0
		C		0.000	0.000	17.154	0.000	0
		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 K
T2	229.00-224.80	A	2.425	0.000	0.000	2.457	0.000	0
		B		0.000	0.000	6.332	0.000	0
		C		0.000	0.000	31.052	0.000	1
		D		0.000	0.000	0.000	0.000	0
T3	224.80-220.70	A	2.421	0.000	0.000	2.395	0.000	0
		B		0.000	0.000	10.465	0.000	0
		C		0.000	0.000	30.291	0.000	1
		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	0
		B		0.000	0.000	15.712	0.000	0
		C		0.000	0.000	31.007	0.000	1
		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	0
		B		0.000	0.000	19.659	0.000	0
		C		0.000	0.000	36.882	0.000	1
		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	0
		B		0.000	0.000	23.550	0.000	0
		C		0.000	0.000	36.848	0.000	1
		D		0.000	0.000	0.000	0.000	0
T7	206.50-201.50	A	2.400	0.000	0.000	25.785	0.000	1
		B		0.000	0.000	23.512	0.000	0
		C		0.000	0.000	36.813	0.000	1
		D		0.000	0.000	4.900	0.000	0
T8	201.50-196.50	A	2.394	0.000	0.000	29.667	0.000	1
		B		0.000	0.000	23.474	0.000	0
		C		0.000	0.000	36.778	0.000	1
		D		0.000	0.000	4.894	0.000	0
T9	196.50-191.50	A	2.388	0.000	0.000	30.606	0.000	1
		B		0.000	0.000	23.434	0.000	0
		C		0.000	0.000	36.741	0.000	1
		D		0.000	0.000	4.888	0.000	0
T10	191.50-181.50	A	2.378	0.000	0.000	61.091	0.000	1
		B		0.000	0.000	46.746	0.000	1
		C		0.000	0.000	73.370	0.000	1
		D		0.000	0.000	9.756	0.000	0
T11	181.50-171.50	A	2.365	0.000	0.000	60.922	0.000	1
		B		0.000	0.000	46.575	0.000	1
		C		0.000	0.000	73.214	0.000	1
		D		0.000	0.000	9.730	0.000	0
T12	171.50-161.50	A	2.351	0.000	0.000	60.743	0.000	1
		B		0.000	0.000	46.396	0.000	1
		C		0.000	0.000	73.050	0.000	1
		D		0.000	0.000	9.703	0.000	0
T13	161.50-151.50	A	2.337	0.000	0.000	60.555	0.000	1
		B		0.000	0.000	46.207	0.000	1
		C		0.000	0.000	72.877	0.000	1
		D		0.000	0.000	9.674	0.000	0
T14	151.50-141.50	A	2.321	0.000	0.000	60.356	0.000	1
		B		0.000	0.000	46.006	0.000	1
		C		0.000	0.000	72.693	0.000	1
		D		0.000	0.000	9.643	0.000	0
T15	141.50-131.50	A	2.305	0.000	0.000	60.143	0.000	1
		B		0.000	0.000	45.793	0.000	1
		C		0.000	0.000	72.740	0.000	1
		D		0.000	0.000	9.610	0.000	0
T16	131.50-119.00	A	2.285	0.000	0.000	74.859	0.000	2
		B		0.000	0.000	56.920	0.000	1
		C		0.000	0.000	96.348	0.000	2
		D		0.000	0.000	11.963	0.000	0
T17	119.00-106.50	A	2.261	0.000	0.000	48.016	0.000	1

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	40.891	0.000	1
		C		0.000	0.000	91.045	0.000	1
		D		0.000	0.000	10.475	0.000	0

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	-1.8774	-3.0547	0.8798	-6.5460
T8	201.50-196.50	-2.7666	-2.3071	-0.3059	-4.9606
T9	196.50-191.50	-3.2770	-2.3629	-0.6230	-5.9236
T10	191.50-181.50	-3.0434	-2.3348	-0.4500	-5.8831
T11	181.50-171.50	-3.1088	-2.5050	-0.3015	-6.4730
T12	171.50-161.50	-3.1727	-2.6682	-0.1548	-7.0379
T13	161.50-151.50	-3.2346	-2.8247	-0.0118	-7.5804
T14	151.50-141.50	-3.2940	-2.9745	0.1264	-8.1031
T15	141.50-131.50	-2.9990	-2.8535	0.2146	-7.0194
T16	131.50-119.00	-3.6530	-3.6389	0.7120	-9.8482
T17	119.00-106.50	-1.4305	-5.9675	2.9514	-11.3343

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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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
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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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	20	LDF7-50A(1-5/8)	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
T8	22	1" Feedline	196.50 - 201.50	0.6000	0.4157
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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
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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T14	15	5/8" dia. coax	141.50 - 151.50	0.6000	0.5770
T14	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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	20	LDF7-50A(1-5/8)	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	22	1" Feedline	131.50 - 141.50	0.6000	0.4714
T15	25	1" Metal Conduit	131.50 - 141.50	0.6000	0.4714
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

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	15	5/8" dia. coax	119.00 - 131.50	0.6000	0.6000
T16	20	LDF7-50A(1-5/8)	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	22	1" Feedline	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	20	LDF7-50A(1-5/8)	111.50 - 119.00	0.6000	0.6000
T17	21	HB158-21U6S24-xxM_TMO (1-5/8)	111.50 - 119.00	0.6000	0.6000
T17	22	1" Feedline	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 K
**									
(2) 12" x 24" Beacon	B	From Face	0.00	0.0000	231.50	No Ice	1.00	1.00	0
			0.00			1/2" Ice	1.58	1.58	0
			14.00			1" Ice	1.77	1.77	0
5/8" x 4' Lightning Rod	B	From Face	0.00	0.0000	231.50	No Ice	0.25	0.25	0

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	0.66	0.66	0
			13.00			1" Ice	0.97	0.97	0
13' T Beam Mount	B	From Face	0.00	0.0000	231.50	No Ice	10.50	10.50	0
			0.00			1/2" Ice	14.00	14.00	0
			6.50			1" Ice	17.50	17.50	0
**									
Top Platform Mount	C	None		0.0000	235.00	No Ice	72.25	72.25	6
						1/2" Ice	90.00	90.00	8
						1" Ice	107.75	107.75	10
2.4" Dia x 6-ft Pipe	B	From Face	4.00	0.0000	235.00	No Ice	1.43	1.43	0
			0.00			1/2" Ice	1.93	1.93	0
			0.00			1" Ice	2.30	2.30	0
2.4" Dia x 6-ft Pipe	D	From Face	4.00	0.0000	235.00	No Ice	1.43	1.43	0
			0.00			1/2" Ice	1.93	1.93	0
			0.00			1" Ice	2.30	2.30	0
Unused I-Beam Mount	A	From Face	4.00	0.0000	235.00	No Ice	2.50	2.50	0
			0.00			1/2" Ice	4.00	4.00	0
			0.00			1" Ice	5.50	5.50	0
(3) HPA-45R-BUU-H6 w/ Mount Pipe	B	From Centroid-Face	4.00	0.0000	235.00	No Ice	12.13	7.70	0
			0.00			1/2" Ice	12.72	8.89	0
			0.00			1" Ice	13.28	9.79	0
(3) HPA-45R-BUU-H6 w/ Mount Pipe	D	From Centroid-Face	4.00	0.0000	235.00	No Ice	12.13	7.70	0
			0.00			1/2" Ice	12.72	8.89	0
			0.00			1" Ice	13.28	9.79	0
TPA45R-KU6A w/ Mount Pipe	B	From Centroid-Face	4.00	0.0000	235.00	No Ice	11.25	8.41	0
			0.00			1/2" Ice	11.86	9.68	0
			0.00			1" Ice	12.45	10.74	0
TPA45R-KU6A w/ Mount Pipe	D	From Centroid-Face	4.00	0.0000	235.00	No Ice	11.25	8.41	0
			0.00			1/2" Ice	11.86	9.68	0
			0.00			1" Ice	12.45	10.74	0
P65-15-XLH-RR w/ Mount Pipe	C	From Centroid-Face	4.00	0.0000	235.00	No Ice	5.30	3.67	0
			0.00			1/2" Ice	5.69	4.28	0
			0.00			1" Ice	6.09	4.90	0
80010964 w/ Mount Pipe	C	From Centroid-Face	4.00	0.0000	235.00	No Ice	10.23	5.51	0
			0.00			1/2" Ice	10.74	6.37	0
			0.00			1" Ice	11.24	7.12	0
(2) OPA-65R-LCUU-H6 w/ Mount Pipe	A	From Centroid-Face	4.00	0.0000	235.00	No Ice	9.90	7.18	0
			0.00			1/2" Ice	10.47	8.36	0
			0.00			1" Ice	11.01	9.26	0
(3) RRUS 32	B	From Centroid-Face	4.00	0.0000	235.00	No Ice	2.86	1.78	0
			0.00			1/2" Ice	3.08	1.97	0
			0.00			1" Ice	3.32	2.17	0
(3) RRUS 32	C	From Centroid-Face	4.00	0.0000	235.00	No Ice	2.86	1.78	0
			0.00			1/2" Ice	3.08	1.97	0
			0.00			1" Ice	3.32	2.17	0
(3) RRUS 32	D	From Centroid-Face	4.00	0.0000	235.00	No Ice	2.86	1.78	0
			0.00			1/2" Ice	3.08	1.97	0
			0.00			1" Ice	3.32	2.17	0
(2) RRUS 4478	B	From Centroid-Face	4.00	0.0000	235.00	No Ice	1.84	1.06	0
			0.00			1/2" Ice	2.01	1.20	0
			0.00			1" Ice	2.19	1.34	0
RRUS 4478	D	From Centroid-Face	4.00	0.0000	235.00	No Ice	1.84	1.06	0
			0.00			1/2" Ice	2.01	1.20	0
			0.00			1" Ice	2.19	1.34	0
(2) RRUS 11 B12	B	From Centroid-Face	4.00	0.0000	235.00	No Ice	2.79	1.19	0
			0.00			1/2" Ice	3.00	1.34	0
			0.00			1" Ice	3.21	1.50	0

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRUS 11 B12	D	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	2.79 3.00 3.21	1.19 1.34 1.50	0 0 0
(2) LGP21401	B	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0 0 0
(2) LGP21401	C	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0 0 0
(2) LGP21401	D	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	1.10 1.24 1.38	0.21 0.27 0.35	0 0 0
(2) TPX-070821	C	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	0.47 0.56 0.66	0.10 0.15 0.20	0 0 0
(2) DC6-48-60-18-8F	B	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	1.21 1.89 2.11	1.21 1.89 2.11	0 0 0
DC9-48-60-24-8C-EV	D	From Centroid-Face	4.00 0.00 0.00	0.0000	235.00	No Ice 1/2" Ice 1" Ice	1.14 1.79 2.00	1.14 1.79 2.00	0 0 0
17" 3 element yagi	C	From Centroid-Face	4.00 0.00 0.00	0.0000	229.00	No Ice 1/2" Ice 1" Ice	0.11 0.20 0.29	0.25 0.51 0.77	0 0 0
**									
Pipe Mount [PM 601-1]	A	From Face	1.50 0.00 0.00	0.0000	223.50	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84	1.32 1.58 1.84	0 0 0
**									
Pipe Mount [PM 601-1]	C	From Face	1.50 0.00 0.00	0.0000	221.00	No Ice 1/2" Ice 1" Ice	1.32 1.58 1.84	1.32 1.58 1.84	0 0 0
**									
4' L x 6' W Rest Platform	B	From Face	2.00 0.00 0.00	0.0000	216.50	No Ice 1/2" Ice 1" Ice	15.00 22.50 30.00	15.00 22.50 30.00	1 1 2
4' L x 6' W Rest Platform	D	From Face	2.00 0.00 0.00	0.0000	216.50	No Ice 1/2" Ice 1" Ice	15.00 22.50 30.00	15.00 22.50 30.00	1 1 2
**									
Site Pro 1 VFA12-HD	A	From Leg	2.00 0.00 0.00	0.0000	206.50	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	1 1 1
Site Pro 1 VFA12-HD	B	From Leg	2.00 0.00 0.00	0.0000	206.50	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	1 1 1
Site Pro 1 VFA12-HD	D	From Leg	2.00 0.00 0.00	0.0000	206.50	No Ice 1/2" Ice 1" Ice	13.20 19.50 25.80	9.20 14.60 19.50	1 1 1
2.4" Dia x 8-ft Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	206.50	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0 0 0
2.4" Dia x 8-ft Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	206.50	No Ice 1/2" Ice 1" Ice	1.90 2.73 3.40	1.90 2.73 3.40	0 0 0
2.4" Dia x 8-ft Mount Pipe	D	From Leg	4.00 0.00	0.0000	206.50	No Ice 1/2" Ice	1.90 2.73	1.90 2.73	0 0

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	3.40	3.40	0
AIR 32 KRD901146-1 w/ Mount Pipe	A	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	0
			0.00			1/2" Ice	4.47	4.26	0
			3.50			1" Ice	4.96	4.96	0
AIR 32 KRD901146-1 w/ Mount Pipe	B	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	0
			0.00			1/2" Ice	4.47	4.26	0
			3.50			1" Ice	4.96	4.96	0
AIR 32 KRD901146-1 w/ Mount Pipe	D	From Leg	4.00	0.0000	206.50	No Ice	4.00	3.43	0
			0.00			1/2" Ice	4.47	4.26	0
			3.50			1" Ice	4.96	4.96	0
AIR 6449 B41 w/ Mount Pipe	A	From Leg	4.00	0.0000	206.50	No Ice	6.81	3.54	0
			0.00			1/2" Ice	7.23	4.05	0
			3.50			1" Ice	7.65	4.57	0
AIR 6449 B41 w/ Mount Pipe	B	From Leg	4.00	0.0000	206.50	No Ice	6.81	3.54	0
			0.00			1/2" Ice	7.23	4.05	0
			3.50			1" Ice	7.65	4.57	0
AIR 6449 B41 w/ Mount Pipe	D	From Leg	4.00	0.0000	206.50	No Ice	6.81	3.54	0
			0.00			1/2" Ice	7.23	4.05	0
			3.50			1" Ice	7.65	4.57	0
Style 1B Twin AWS	A	From Leg	4.00	0.0000	206.50	No Ice	0.53	0.19	0
			0.00			1/2" Ice	0.63	0.26	0
			3.50			1" Ice	0.74	0.34	0
Style 1B Twin AWS	B	From Leg	4.00	0.0000	206.50	No Ice	0.53	0.19	0
			0.00			1/2" Ice	0.63	0.26	0
			3.50			1" Ice	0.74	0.34	0
Style 1B Twin AWS	D	From Leg	4.00	0.0000	206.50	No Ice	0.53	0.19	0
			0.00			1/2" Ice	0.63	0.26	0
			3.50			1" Ice	0.74	0.34	0
**									
Site Pro 1 VFA12-HD	A	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	1
			0.00			1/2" Ice	19.50	14.60	1
			0.00			1" Ice	25.80	19.50	1
Site Pro 1 VFA12-HD	B	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	1
			0.00			1/2" Ice	19.50	14.60	1
			0.00			1" Ice	25.80	19.50	1
Site Pro 1 VFA12-HD	D	From Leg	2.00	0.0000	203.00	No Ice	13.20	9.20	1
			0.00			1/2" Ice	19.50	14.60	1
			0.00			1" Ice	25.80	19.50	1
2.4" Dia x 8-ft Mount Pipe	A	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	0
			0.00			1/2" Ice	2.73	2.73	0
			0.00			1" Ice	3.40	3.40	0
2.4" Dia x 8-ft Mount Pipe	B	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	0
			0.00			1/2" Ice	2.73	2.73	0
			0.00			1" Ice	3.40	3.40	0
2.4" Dia x 8-ft Mount Pipe	D	From Leg	4.00	0.0000	203.00	No Ice	1.90	1.90	0
			0.00			1/2" Ice	2.73	2.73	0
			0.00			1" Ice	3.40	3.40	0
APXVAALL24_43-U-NA20 w/ mount pipe	A	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	0
			0.00			1/2" Ice	20.89	12.46	0
			0.00			1" Ice	21.55	13.56	0
APXVAALL24_43-U-NA20 w/ mount pipe	B	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	0
			0.00			1/2" Ice	20.89	12.46	0
			0.00			1" Ice	21.55	13.56	0
APXVAALL24_43-U-NA20 w/ mount pipe	D	From Leg	4.00	0.0000	203.00	No Ice	20.24	11.03	0
			0.00			1/2" Ice	20.89	12.46	0
			0.00			1" Ice	21.55	13.56	0
RADIO 4480 B71_TMO	A	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	0

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	3.06	1.54	0
			0.00			1" Ice	3.28	1.71	0
RADIO 4480 B71_TMO	B	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	0
			0.00			1/2" Ice	3.06	1.54	0
			0.00			1" Ice	3.28	1.71	0
RADIO 4480 B71_TMO	D	From Leg	4.00	0.0000	203.00	No Ice	2.85	1.38	0
			0.00			1/2" Ice	3.06	1.54	0
			0.00			1" Ice	3.28	1.71	0
RADIO 4415 B25	A	From Leg	4.00	0.0000	203.00	No Ice	1.84	0.82	0
			0.00			1/2" Ice	2.01	0.94	0
			0.00			1" Ice	2.19	1.07	0
RADIO 4415 B25	B	From Leg	4.00	0.0000	203.00	No Ice	1.84	0.82	0
			0.00			1/2" Ice	2.01	0.94	0
			0.00			1" Ice	2.19	1.07	0
RADIO 4415 B25	D	From Leg	4.00	0.0000	203.00	No Ice	1.84	0.82	0
			0.00			1/2" Ice	2.01	0.94	0
			0.00			1" Ice	2.19	1.07	0
SDX1926Q-43	A	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	0
			0.00			1/2" Ice	0.31	0.14	0
			0.00			1" Ice	0.38	0.19	0
SDX1926Q-43	B	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	0
			0.00			1/2" Ice	0.31	0.14	0
			0.00			1" Ice	0.38	0.19	0
SDX1926Q-43	D	From Leg	4.00	0.0000	203.00	No Ice	0.24	0.10	0
			0.00			1/2" Ice	0.31	0.14	0
			0.00			1" Ice	0.38	0.19	0
**									
Side Arm Mount [SO 901-1]	B	From Leg	1.00	0.0000	132.00	No Ice	0.33	0.62	0
			0.00			1/2" Ice	0.46	0.78	0
			0.00			1" Ice	0.62	0.97	0
2.4" Dia x 6-ft Pipe	B	From Leg	2.00	0.0000	132.00	No Ice	1.43	1.43	0
			0.00			1/2" Ice	1.93	1.93	0
			0.00			1" Ice	2.30	2.30	0
2.4" Dia x 6-ft Pipe	B	From Leg	2.50	0.0000	132.00	No Ice	1.43	1.43	0
			0.00			1/2" Ice	1.93	1.93	0
			0.00			1" Ice	2.30	2.30	0
4-ft x 7 Element Yagi	B	From Leg	2.50	0.0000	132.00	No Ice	1.05	1.65	0
			0.00			1/2" Ice	2.05	2.96	0
			0.00			1" Ice	3.04	4.28	0

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 K
Andrew HP10	A	Paraboloid w/Shroud (HP)	From Face	1.50	0.0000		223.50	10.00	No Ice	78.54	1
				0.00					1/2" Ice	79.85	1
				0.00					1" Ice	81.17	2
1-ft dish w/ shroud	C	Paraboloid	From	1.50	0.0000		221.00	1.00	No Ice	3.14	0

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
		w/Shroud (HP)	Face	0.00					1/2" Ice	3.41	0
				0.00					1" Ice	3.68	0

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 K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	231.5 - 229	Leg	Max Tension	5	4	-2	-1
			Max. Compression	20	-10	0	0
			Max. Mx	2	2	-4	2
			Max. My	12	-2	4	-4
			Max. Vy	8	-3	2	-2
			Max. Vx	12	-3	-2	2

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Top Girt	Max Tension	2	1	2	0
			Max. Compression	3	-1	-2	0
			Max. Mx	12	1	4	0
			Max. My	3	-1	-2	0
			Max. Vy	10	-1	-4	0
			Max. Vx	13	0	-4	0
T2	229 - 224.8	Leg	Max Tension	17	6	0	1
			Max. Compression	20	-11	0	0
			Max. Mx	8	-2	2	-2
			Max. My	12	-2	-2	2
			Max. Vy	17	-1	-2	2
			Max. Vx	5	-1	2	-2
		Diagonal	Max Tension	17	4	0	0
			Max. Compression	8	-4	0	0
			Max. Mx	22	1	0	0
			Max. My	10	4	0	0
			Max. Vy	22	0	0	0
			Max. Vx	10	0	0	0
T3	224.8 - 220.7	Leg	Max Tension	5	14	0	0
			Max. Compression	16	-20	0	0
			Max. Mx	2	9	-1	0
			Max. My	10	8	0	-1
			Max. Vy	8	-1	0	0
			Max. Vx	4	-1	0	0
		Diagonal	Max Tension	10	4	0	0
			Max. Compression	10	-4	0	0
			Max. Mx	26	-1	0	0
			Max. My	2	-4	0	0
			Max. Vy	19	0	0	0
			Max. Vx	2	0	0	0
		Top Girt	Max Tension	2	1	0	0
			Max. Compression	3	-1	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
T4	220.7 - 216.5	Leg	Max Tension	17	20	0	0
			Max. Compression	16	-26	0	0
			Max. Mx	4	-4	1	0
			Max. My	8	-4	0	1
			Max. Vy	6	0	0	0
			Max. Vx	9	0	0	0
		Diagonal	Max Tension	7	5	0	0
			Max. Compression	6	-5	0	0
			Max. Mx	26	1	0	0
			Max. My	2	-4	0	0
			Max. Vy	26	0	0	0
			Max. Vx	2	0	0	0
T5	216.5 - 211.5	Leg	Max Tension	5	28	0	0
			Max. Compression	4	-34	0	0
			Max. Mx	16	-34	0	0
			Max. My	8	-34	0	0
			Max. Vy	6	0	0	0
			Max. Vx	14	0	0	0
		Diagonal	Max Tension	7	5	0	0
			Max. Compression	6	-5	0	0
			Max. Mx	26	0	0	0
			Max. My	19	-2	0	0
			Max. Vy	26	0	0	0
			Max. Vx	19	0	0	0
		Top Girt	Max Tension	2	2	0	0
			Max. Compression	3	-1	0	0
			Max. Mx	18	0	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
T6	211.5 - 206.5	Leg	Max Tension	5	37	0	0
			Max. Compression	4	-45	0	0
			Max. Mx	4	-4	1	-1
			Max. My	12	-5	-1	1
			Max. Vy	8	0	1	-1
			Max. Vx	16	0	-1	1
		Diagonal	Max Tension	6	5	0	0
			Max. Compression	6	-5	0	0
			Max. Mx	19	1	0	0
			Max. My	19	-1	0	0
			Max. Vy	19	0	0	0
			Max. Vx	19	0	0	0
		Top Girt	Max Tension	2	1	0	0
			Max. Compression	3	-1	0	0
			Max. Mx	18	1	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
T7	206.5 - 201.5	Leg	Max Tension	5	46	0	0
			Max. Compression	16	-57	0	0
			Max. Mx	4	-5	1	-1
			Max. My	12	-7	-1	1
			Max. Vy	4	-1	0	0
			Max. Vx	10	-1	0	0
		Diagonal	Max Tension	7	6	0	0
			Max. Compression	6	-6	0	0
			Max. Mx	26	1	0	0
			Max. My	25	1	0	0
			Max. Vy	26	0	0	0
			Max. Vx	25	0	0	0
T8	201.5 - 196.5	Leg	Max Tension	5	55	0	0
			Max. Compression	16	-67	0	0
			Max. Mx	16	-8	1	-1
			Max. My	4	-7	-1	1
			Max. Vy	12	0	1	-1
			Max. Vx	4	0	-1	1
		Diagonal	Max Tension	6	7	0	0
			Max. Compression	6	-7	0	0
			Max. Mx	19	2	0	0
			Max. My	25	-3	0	0
			Max. Vy	19	0	0	0
			Max. Vx	25	0	0	0
		Top Girt	Max Tension	14	1	0	0
			Max. Compression	15	-1	0	0
			Max. Mx	18	0	0	0
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
T9	196.5 - 191.5	Leg	Max Tension	5	66	0	0
			Max. Compression	4	-78	0	0
			Max. Mx	16	-8	1	-1
			Max. My	4	-8	-1	1
			Max. Vy	16	0	1	-1
			Max. Vx	16	0	-1	1
		Diagonal	Max Tension	6	7	0	0
			Max. Compression	6	-7	0	0
			Max. Mx	26	2	0	0
			Max. My	25	2	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	26	0	0	0
			Max. Vx	25	0	0	0
T10	191.5 - 181.5	Leg	Max Tension	5	76	0	0
			Max. Compression	4	-87	0	0
			Max. Mx	6	-60	-1	0
			Max. My	14	-61	0	-1
			Max. Vy	4	0	0	0
			Max. Vx	12	0	0	-1
		Diagonal	Max Tension	13	11	0	0
			Max. Compression	4	-12	0	0
			Max. Mx	26	-1	0	0
			Max. My	12	-12	0	0
			Max. Vy	26	0	0	0
			Max. Vx	20	0	0	0
		Secondary Horizontal	Max Tension	14	0	0	0
			Max. Compression	14	0	0	0
			Max. Mx	21	0	0	0
			Max. My	25	0	0	0
			Max. Vy	21	0	0	0
			Max. Vx	25	0	0	0
		Top Girt	Max Tension	14	3	0	0
			Max. Compression	7	-3	0	0
			Max. Mx	18	1	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Inner Bracing	Max Tension	25	1	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	1	0	0
			Max. Vy	18	0	0	0
T11	181.5 - 171.5	Leg	Max Tension	5	95	0	0
			Max. Compression	4	-108	0	0
			Max. Mx	6	-74	-1	0
			Max. My	14	-75	0	-1
			Max. Vy	4	0	-1	-1
			Max. Vx	12	0	-1	-1
		Diagonal	Max Tension	13	11	0	0
			Max. Compression	4	-12	0	0
			Max. Mx	26	-1	0	0
			Max. My	20	-6	0	0
			Max. Vy	26	0	0	0
			Max. Vx	25	0	0	0
		Secondary Horizontal	Max Tension	4	1	0	0
			Max. Compression	5	-1	0	0
			Max. Mx	21	0	0	0
			Max. My	4	0	0	0
			Max. Vy	21	0	0	0
			Max. Vx	26	0	0	0
		Top Girt	Max Tension	14	7	0	0
			Max. Compression	7	-5	0	0
			Max. Mx	18	2	0	0
			Max. My	18	2	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
T12	171.5 - 161.5	Leg	Max Tension	5	114	0	0
			Max. Compression	4	-129	1	0
			Max. Mx	6	-89	-1	0
			Max. My	14	-90	0	-1
			Max. Vy	4	0	-1	-1

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	4	0	-1	-1
		Diagonal	Max Tension	13	11	0	0
			Max. Compression	4	-12	0	0
			Max. Mx	26	-1	0	0
			Max. My	20	-6	0	0
			Max. Vy	26	0	0	0
			Max. Vx	20	0	0	0
		Secondary Horizontal	Max Tension	4	1	0	0
			Max. Compression	5	-1	0	0
			Max. Mx	21	0	0	0
			Max. My	4	-1	0	0
			Max. Vy	21	0	0	0
			Max. Vx	26	0	0	0
		Top Girt	Max Tension	6	7	0	0
			Max. Compression	7	-6	0	0
			Max. Mx	18	1	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Inner Bracing	Max Tension	21	1	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	1	0	0
			Max. Vy	18	0	0	0
T13	161.5 - 151.5	Leg	Max Tension	5	133	0	0
			Max. Compression	4	-149	1	1
			Max. Mx	6	-103	-1	0
			Max. My	14	-104	0	-1
			Max. Vy	4	0	-1	-1
			Max. Vx	4	0	-1	-1
		Diagonal	Max Tension	13	11	0	0
			Max. Compression	4	-13	0	0
			Max. Mx	26	-1	0	0
			Max. My	20	-6	0	0
			Max. Vy	26	0	0	0
			Max. Vx	25	0	0	0
		Secondary Horizontal	Max Tension	4	1	0	0
			Max. Compression	5	-1	0	0
			Max. Mx	21	0	0	0
			Max. My	26	0	0	0
			Max. Vy	21	0	0	0
			Max. Vx	26	0	0	0
		Top Girt	Max Tension	6	8	0	0
			Max. Compression	7	-7	0	0
			Max. Mx	18	2	0	0
			Max. My	18	2	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
T14	151.5 - 141.5	Leg	Max Tension	5	153	-1	-1
			Max. Compression	4	-171	1	1
			Max. Mx	12	-169	1	1
			Max. My	4	-171	1	1
			Max. Vy	12	-1	-1	-1
			Max. Vx	4	-1	-1	-1
		Diagonal	Max Tension	13	11	0	0
			Max. Compression	4	-12	0	0
			Max. Mx	26	0	0	0
			Max. My	20	-6	0	0
			Max. Vy	26	0	0	0
			Max. Vx	20	0	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Secondary Horizontal	Max Tension	4	1	0	0
			Max. Compression	5	-1	0	0
			Max. Mx	21	0	0	0
			Max. My	26	0	0	0
			Max. Vy	21	0	0	0
			Max. Vx	26	0	0	0
		Top Girt	Max Tension	6	7	0	0
			Max. Compression	7	-6	0	0
			Max. Mx	18	1	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Inner Bracing	Max Tension	21	1	0	0
			Max. Compression	1	0	0	0
			Max. Mx	18	1	1	0
			Max. Vy	18	0	0	0
T15	141.5 - 131.5	Leg	Max Tension	5	186	-2	-2
			Max. Compression	4	-207	2	2
			Max. Mx	6	-134	4	0
			Max. My	14	-131	0	4
			Max. Vy	12	9	2	2
			Max. Vx	4	9	2	2
		Diagonal	Max Tension	5	13	0	0
			Max. Compression	4	-14	0	0
			Max. Mx	4	4	0	0
			Max. My	4	-4	0	0
			Max. Vy	26	0	0	0
			Max. Vx	4	0	0	0
		Horizontal	Max Tension	8	1	0	0
			Max. Compression	5	-1	0	0
			Max. Mx	25	0	0	0
			Max. My	6	1	0	0
			Max. Vy	25	0	0	0
			Max. Vx	6	0	0	0
		Top Girt	Max Tension	6	7	0	0
			Max. Compression	7	-6	0	0
			Max. Mx	18	2	0	0
			Max. My	18	2	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Horz 1 Bracing	Max Tension	6	3	0	0
			Max. Compression	7	-2	0	0
			Max. Mx	18	0	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Diag 1 Bracing	Max Tension	7	2	0	0
			Max. Compression	4	-2	0	0
			Max. Mx	18	0	0	0
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Hip 1 Bracing	Max Tension	5	0	0	0
			Max. Compression	4	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
T16	131.5 - 119	Leg	Max Tension	5	186	-2	-2

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	4	-207	1	1
			Max. Mx	6	-144	5	0
			Max. My	14	-141	0	5
			Max. Vy	12	9	1	1
			Max. Vx	4	9	1	1
		Diagonal	Max Tension	7	19	0	0
			Max. Compression	6	-19	0	0
			Max. Mx	4	14	0	0
			Max. My	4	-16	0	0
			Max. Vy	26	0	0	0
			Max. Vx	4	0	0	0
		Top Girt	Max Tension	4	9	0	0
			Max. Compression	13	-9	0	0
			Max. Mx	25	3	0	0
			Max. My	6	-3	0	0
			Max. Vy	25	0	0	0
			Max. Vx	6	0	0	0
		Redund Horz 1 Bracing	Max Tension	6	2	0	0
			Max. Compression	7	-2	0	0
			Max. Mx	18	0	0	0
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Diag 1 Bracing	Max Tension	7	3	0	0
			Max. Compression	6	-3	0	0
			Max. Mx	18	0	0	0
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Hip 1 Bracing	Max Tension	4	0	0	0
			Max. Compression	5	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
		Inner Bracing	Max Tension	5	0	0	0
			Max. Compression	4	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
T17	119 - 106.5	Leg	Max Tension	5	202	-1	-1
			Max. Compression	4	-226	-3	-3
			Max. Mx	6	-158	5	0
			Max. My	14	-154	0	5
			Max. Vy	4	2	-4	-4
			Max. Vx	12	2	-4	-4
		Diagonal	Max Tension	7	19	0	0
			Max. Compression	6	-20	0	0
			Max. Mx	4	-13	0	0
			Max. My	4	-15	0	0
			Max. Vy	4	0	0	0
			Max. Vx	4	0	0	0
		Top Girt	Max Tension	7	9	0	0
			Max. Compression	6	-9	0	0
			Max. Mx	25	0	0	0
			Max. My	6	1	0	0
			Max. Vy	25	0	0	0
			Max. Vx	21	0	0	0
		Redund Horz 1 Bracing	Max Tension	12	1	0	0
			Max. Compression	5	-1	0	0

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	18	0	0	0
			Max. My	18	0	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Diag 1 Bracing	Max Tension	5	4	0	0
			Max. Compression	4	-5	0	0
			Max. Mx	4	-5	0	0
			Max. My	24	0	0	0
			Max. Vy	26	0	0	0
			Max. Vx	21	0	0	0
		Redund Hip 1 Bracing	Max Tension	4	0	0	0
			Max. Compression	13	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
		Redund Hip Diagonal 1 Bracing	Max Tension	14	0	0	0
			Max. Compression	6	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0
		Redund Sub Horz Bracing	Max Tension	4	4	0	0
			Max. Compression	5	-4	0	0
			Max. Mx	18	1	0	0
			Max. My	18	1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Redund Sub Diagonal Bracing	Max Tension	5	4	0	0
			Max. Compression	4	-5	0	0
			Max. Mx	18	-1	0	0
			Max. My	18	-1	0	0
			Max. Vy	18	0	0	0
			Max. Vx	18	0	0	0
		Inner Bracing	Max Tension	7	0	0	0
			Max. Compression	14	0	0	0
			Max. Mx	18	0	0	0
			Max. Vy	18	0	0	0

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg D	Max. Vert	12	252	16	-16
	Max. H_x	12	252	16	-16
	Max. H_z	5	-229	-15	15
	Min. Vert	5	-229	-15	15
	Min. H_x	5	-229	-15	15
	Min. H_z	12	252	16	-16
Leg C	Max. Vert	8	250	-16	-16
	Max. H_x	17	-224	15	15
	Max. H_z	17	-224	15	15
	Min. Vert	17	-224	15	15
	Min. H_x	8	250	-16	-16
	Min. H_z	8	250	-16	-16

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg B	Max. Vert	4	255	-17	16
	Max. H_x	13	-226	15	-14
	Max. H_z	4	255	-17	16
	Min. Vert	13	-226	15	-14
	Min. H_x	4	255	-17	16
	Min. H_z	13	-226	15	-14
Leg A	Max. Vert	16	250	16	16
	Max. H_x	16	250	16	16
	Max. H_z	16	250	16	16
	Min. Vert	9	-225	-15	-14
	Min. H_x	9	-225	-15	-14
	Min. H_z	9	-225	-15	-14

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	49	0	0	-11	17	0
1.2 Dead+1.6 Wind 0 deg - No Ice	59	0	-50	-3923	22	-22
0.9 Dead+1.6 Wind 0 deg - No Ice	44	0	-50	-3920	17	-22
1.2 Dead+1.6 Wind 45 deg - No Ice	59	44	-42	-3187	-3333	-19
0.9 Dead+1.6 Wind 45 deg - No Ice	44	44	-42	-3183	-3338	-19
1.2 Dead+1.6 Wind 90 deg - No Ice	59	59	0	-46	-4452	-23
0.9 Dead+1.6 Wind 90 deg - No Ice	44	59	0	-43	-4457	-23
1.2 Dead+1.6 Wind 135 deg - No Ice	59	44	42	3114	-3287	-14
0.9 Dead+1.6 Wind 135 deg - No Ice	44	44	42	3117	-3292	-14
1.2 Dead+1.6 Wind 180 deg - No Ice	59	-1	50	3897	88	22
0.9 Dead+1.6 Wind 180 deg - No Ice	44	-1	50	3900	83	22
1.2 Dead+1.6 Wind 225 deg - No Ice	59	-43	42	3153	3300	22
0.9 Dead+1.6 Wind 225 deg - No Ice	44	-43	42	3157	3295	22
1.2 Dead+1.6 Wind 270 deg - No Ice	59	-58	0	20	4412	23
0.9 Dead+1.6 Wind 270 deg - No Ice	44	-58	0	23	4407	23
1.2 Dead+1.6 Wind 315 deg - No Ice	59	-43	-42	-3133	3254	10
0.9 Dead+1.6 Wind 315 deg - No Ice	44	-43	-42	-3130	3249	10
1.2 Dead+1.0 Ice+1.0 Temp	194	0	0	-75	31	0
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	194	0	-17	-1413	31	-4
1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp	194	14	-14	-1106	-1044	-8
1.2 Dead+1.0 Wind 90 deg+1.0	194	19	0	-82	-1439	-13

Load Combination	Vertical K	Shear$_x$ K	Shear$_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Ice+1.0 Temp						
1.2 Dead+1.0 Wind 135 deg+1.0 Ice+1.0 Temp	194	14	14	946	-1033	-7
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	194	0	17	1263	45	4
1.2 Dead+1.0 Wind 225 deg+1.0 Ice+1.0 Temp	194	-14	14	955	1091	9
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	194	-19	0	-68	1485	13
1.2 Dead+1.0 Wind 315 deg+1.0 Ice+1.0 Temp	194	-14	-14	-1095	1080	7
Dead+Wind 0 deg - Service	49	0	-14	-1073	17	-6
Dead+Wind 45 deg - Service	49	12	-12	-873	-895	-5
Dead+Wind 90 deg - Service	49	16	0	-20	-1199	-6
Dead+Wind 135 deg - Service	49	12	11	839	-882	-4
Dead+Wind 180 deg - Service	49	0	14	1052	35	6
Dead+Wind 225 deg - Service	49	-12	12	849	908	6
Dead+Wind 270 deg - Service	49	-16	0	-2	1210	6
Dead+Wind 315 deg - Service	49	-12	-11	-859	895	3

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0	-49	0	0	49	0	0.000%
2	0	-59	-50	0	59	50	0.000%
3	0	-44	-50	0	44	50	0.000%
4	44	-59	-42	-44	59	42	0.000%
5	44	-44	-42	-44	44	42	0.000%
6	59	-59	0	-59	59	0	0.000%
7	59	-44	0	-59	44	0	0.000%
8	44	-59	42	-44	59	-42	0.000%
9	44	-44	42	-44	44	-42	0.000%
10	-1	-59	50	1	59	-50	0.000%
11	-1	-44	50	1	44	-50	0.000%
12	-43	-59	42	43	59	-42	0.000%
13	-43	-44	42	43	44	-42	0.000%
14	-58	-59	0	58	59	0	0.000%
15	-58	-44	0	58	44	0	0.000%
16	-43	-59	-42	43	59	42	0.000%
17	-43	-44	-42	43	44	42	0.000%
18	0	-194	0	0	194	0	0.000%
19	0	-194	-17	0	194	17	0.000%
20	14	-194	-14	-14	194	14	0.000%
21	19	-194	0	-19	194	0	0.000%
22	14	-194	14	-14	194	-14	0.000%
23	0	-194	17	0	194	-17	0.000%
24	-14	-194	14	14	194	-14	0.000%
25	-19	-194	0	19	194	0	0.000%
26	-14	-194	-14	14	194	14	0.000%
27	0	-49	-14	0	49	14	0.000%
28	12	-49	-12	-12	49	12	0.000%
29	16	-49	0	-16	49	0	0.000%
30	12	-49	11	-12	49	-11	0.000%
31	0	-49	14	0	49	-14	0.000%
32	-12	-49	12	12	49	-12	0.000%
33	-16	-49	0	16	49	0	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
34	-12	-49	-11	12	49	11	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	231.5 - 229	2.241	34	0.1488	0.0165
T2	229 - 224.8	2.136	34	0.1481	0.0154
T3	224.8 - 220.7	2.004	34	0.1465	0.0153
T4	220.7 - 216.5	1.879	34	0.1431	0.0151
T5	216.5 - 211.5	1.753	34	0.1385	0.0147
T6	211.5 - 206.5	1.605	34	0.1344	0.0140
T7	206.5 - 201.5	1.462	28	0.1293	0.0133
T8	201.5 - 196.5	1.326	28	0.1232	0.0122
T9	196.5 - 191.5	1.196	28	0.1159	0.0109
T10	191.5 - 181.5	1.072	28	0.1081	0.0098
T11	181.5 - 171.5	0.844	28	0.0972	0.0079
T12	171.5 - 161.5	0.640	28	0.0848	0.0064
T13	161.5 - 151.5	0.462	28	0.0712	0.0051
T14	151.5 - 141.5	0.313	28	0.0567	0.0040
T15	141.5 - 131.5	0.193	28	0.0437	0.0031
T16	131.5 - 119	0.099	28	0.0303	0.0023
T17	119 - 106.5	0.029	28	0.0154	0.0011

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	2.241	0.1488	0.0165	7638
231.50	(2) 12" x 24" Beacon	34	2.241	0.1488	0.0165	7638
229.00	17" 3 element yagi	34	2.136	0.1481	0.0154	7638
223.50	Andrew HP10	34	1.965	0.1456	0.0153	162137
221.00	1-ft dish w/ shroud	34	1.888	0.1434	0.0151	213275
216.50	4' L x 6' W Rest Platform	34	1.753	0.1385	0.0147	98323
206.50	Site Pro 1 VFA12-HD	28	1.462	0.1293	0.0133	62486
203.00	Site Pro 1 VFA12-HD	28	1.366	0.1252	0.0126	52017
132.00	Side Arm Mount [SO 901-1]	28	0.103	0.0309	0.0024	34825

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	231.5 - 229	8.221	5	0.5375	0.0608
T2	229 - 224.8	7.837	5	0.5348	0.0566
T3	224.8 - 220.7	7.363	5	0.5291	0.0563

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T4	220.7 - 216.5	6.908	5	0.5174	0.0555
T5	216.5 - 211.5	6.453	5	0.5012	0.0543
T6	211.5 - 206.5	5.917	5	0.4869	0.0514
T7	206.5 - 201.5	5.398	5	0.4682	0.0488
T8	201.5 - 196.5	4.895	5	0.4475	0.0450
T9	196.5 - 191.5	4.413	5	0.4227	0.0403
T10	191.5 - 181.5	3.957	5	0.3955	0.0362
T11	181.5 - 171.5	3.116	5	0.3569	0.0291
T12	171.5 - 161.5	2.362	5	0.3124	0.0234
T13	161.5 - 151.5	1.705	5	0.2630	0.0188
T14	151.5 - 141.5	1.156	5	0.2096	0.0148
T15	141.5 - 131.5	0.710	5	0.1615	0.0114
T16	131.5 - 119	0.365	5	0.1118	0.0085
T17	119 - 106.5	0.106	4	0.0569	0.0040

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	8.221	0.5375	0.0608	2079
231.50	(2) 12" x 24" Beacon	5	8.221	0.5375	0.0608	2079
229.00	17" 3 element yagi	5	7.837	0.5348	0.0566	2079
223.50	Andrew HP10	5	7.222	0.5262	0.0563	48051
221.00	1-ft dish w/ shroud	5	6.942	0.5185	0.0556	66922
216.50	4' L x 6' W Rest Platform	5	6.453	0.5012	0.0543	27932
206.50	Site Pro 1 VFA12-HD	5	5.398	0.4682	0.0488	18237
203.00	Site Pro 1 VFA12-HD	5	5.044	0.4540	0.0463	15436
132.00	Side Arm Mount [SO 901-1]	5	0.379	0.1142	0.0087	9464

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	231.5	Top Girt	A325N	0.7500	2	1	15	0.039	1.05	Member Bearing
T2	229	Diagonal	A325N	0.7500	2	2	21	0.102	1.05	Member Block Shear
T3	224.8	Leg	A325N	0.7500	8	2	30	0.060	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	2	21	0.098	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	1	10	0.067	1.05	Member Block Shear
T4	220.7	Diagonal	A325N	0.7500	2	3	21	0.122	1.05	Member Block Shear
T5	216.5	Diagonal	A325N	0.7500	2	2	10	0.226	1.05	Member Block Shear
		Top Girt	A325N	0.7500	3	1	15	0.033	1.05	Member Bearing
T6	211.5	Diagonal	A325N	0.7500	2	2	10	0.238	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	1	10	0.065	1.05	Member Block

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
										Shear
T7	206.5	Diagonal	A325N	0.7500	2	3	10	0.293	1.05	Member Block Shear
T8	201.5	Leg	A325N	0.7500	12	5	30	0.153	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	3	10	0.329	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	1	10	0.048	1.05	Member Block Shear
T9	196.5	Diagonal	A325N	0.7500	2	4	10	0.338	1.05	Member Block Shear
T10	191.5	Diagonal	A325N	0.7500	2	5	11	0.476	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1	10	0.062	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	2	10	0.163	1.05	Member Block Shear
T11	181.5	Leg	A325N	0.7500	16	6	30	0.199	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	5	11	0.480	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1	10	0.077	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3	10	0.318	1.05	Member Block Shear
T12	171.5	Diagonal	A325N	0.7500	2	5	11	0.492	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1	8	0.123	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	3	10	0.330	1.05	Member Block Shear
T13	161.5	Leg	A325N	0.7500	20	7	30	0.223	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	6	11	0.508	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1	10	0.107	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4	10	0.374	1.05	Member Block Shear
T14	151.5	Diagonal	A325N	0.7500	2	5	11	0.489	1.05	Member Block Shear
		Secondary Horizontal	A325N	0.7500	2	1	10	0.122	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4	10	0.341	1.05	Member Block Shear
T15	141.5	Leg	A325N	0.7500	20	9	30	0.311	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	6	11	0.566	1.05	Member Block Shear
		Horizontal	A325N	0.7500	2	2	10	0.148	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4	10	0.352	1.05	Member Block Shear
		Redund Horz 1 Bracing	A325N	0.6250	1	3	8	0.397	1.05	Member Bearing
		Redund Diag 1 Bracing	A325N	0.6250	1	2	8	0.268	1.05	Member Bearing
		Redund Hip 1 Bracing	A325N	0.6250	2	0	8	0.001	1.05	Member Block Shear
T16	131.5	Diagonal	A325N	0.7500	2	9	21	0.448	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	5	21	0.225	1.05	Member Block Shear
		Redund Horz 1	A325N	0.6250	1	3	8	0.397	1.05	Member Bearing

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bracing Redund Diag 1	A325N	0.6250	1	4	8	0.457	1.05	Member Bearing
		Bracing Redund Hip 1	A325N	0.6250	2	0	8	0.006	1.05	Member Block Shear
T17	119	Bracing Leg	A325N	0.7500	28	7	30	0.241	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	10	21	0.466	1.05	Member Block Shear
		Top Girt	A325N	0.7500	2	4	21	0.214	1.05	Member Block Shear
		Redund Horz 1	A325N	0.6250	1	3	8	0.433	1.05	Member Bearing
		Bracing Redund Diag 1	A325N	0.6250	1	4	8	0.557	1.05	Member Bearing
		Bracing Redund Hip 1	A325N	0.6250	2	0	8	0.008	1.05	Member Block Shear
		Bracing Redund Hip Diagonal 1	A325N	0.6250	2	0	8	0.007	1.05	Member Block Shear
		Bracing Redund Sub Horz Bracing	A325N	0.6250	2	2	7	0.283	1.05	Member Block Shear
		Redund Sub Diagonal Bracing	A325N	0.6250	2	2	7	0.284	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 K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	L4x4x3/8	2.50	2.50	38.1 K=1.00	2.8600	-7	86	0.083
T2	229 - 224.8	L4x4x3/8	4.20	4.20	64.0 K=1.00	2.8600	-11	75	0.152 [1]
T3	224.8 - 220.7	L4x4x3/8	4.10	4.10	62.4 K=1.00	2.8600	-20	75	0.264 [1]
T4	220.7 - 216.5	L4x4x3/8	4.20	4.20	64.0 K=1.00	2.8600	-26	75	0.344 [1]
T5	216.5 - 211.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-34	126	0.269 [1]
T6	211.5 - 206.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-45	126	0.354 [1]
T7	206.5 - 201.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-57	126	0.448 [1]
T8	201.5 - 196.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-67	126	0.529 [1]
T9	196.5 - 191.5	L5x5x1/2	5.01	5.01	61.1 K=1.00	4.7500	-78	126	0.615 [1]
T10	191.5 - 181.5	L6x6x5/8	10.01	5.24	53.3 K=1.00	7.1100	-87	198	0.438 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T11	181.5 - 171.5	L6x6x5/8	10.01	5.22	53.1 K=1.00	7.1100	-108	199	0.544 [1]
T12	171.5 - 161.5	L6x6x5/8	10.01	5.20	52.9 K=1.00	7.1100	-129	199	0.647 [1]
T13	161.5 - 151.5	L6x6x5/8	10.01	5.19	52.8 K=1.00	7.1100	-149	199	0.748 [1]
T14	151.5 - 141.5	L6x6x3/4	10.01	5.18	53.1 K=1.00	8.4400	-171	236	0.723 [1]
T15	141.5 - 131.5	L6x6x3/4	10.01	0.08	0.9 K=1.00	8.4400	-207	273	0.756 [1]
T16	131.5 - 119	L6x6x7/8	12.52	6.22	63.8 K=1.00	9.7300	-203	255	0.797 [1]
T17	119 - 106.5	L6x6x7/8	12.52	3.13	32.1 K=1.00	9.7300	-226	299	0.756 [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	0.448	0.000	0.000	0.448 [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
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	0.438	0.000	0.000	0.438 [1]	1.050	4.8.1
T11	181.5 - 171.5	L6x6x5/8	0.544	0.000	0.000	0.544 [1]	1.050	4.8.1
T12	171.5 - 161.5	L6x6x5/8	0.647	0.000	0.000	0.647 [1]	1.050	4.8.1
T13	161.5 - 151.5	L6x6x5/8	0.748	0.000	0.000	0.748 [1]	1.050	4.8.1
T14	151.5 - 141.5	L6x6x3/4	0.723	0.000	0.000	0.723 [1]	1.050	4.8.1
T15	141.5 - 131.5	L6x6x3/4	0.756	0.000	0.000	0.756 [1]	1.050	4.8.1
T16	131.5 - 119	L6x6x7/8	0.797	0.000	0.000	0.797 [1]	1.050	4.8.1
T17	119 - 106.5	L6x6x7/8	0.756	0.000	0.000	0.756 [1]	1.050	4.8.1

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	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	-4	68	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	-4	69	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	-5	68	0.077 [1]
T5	216.5 - 211.5	L2 1/2x2x1/4	7.65	3.44	103.0 K=1.06	1.0600	-5	20	0.269 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	7.93	3.58	106.0 K=1.05	1.0600	-5	19	0.261 [1]
T7	206.5 - 201.5	L2 1/2x2x1/4	8.21	3.73	109.1 K=1.03	1.0600	-6	18	0.347 [1]
T8	201.5 - 196.5	L2 1/2x2x1/4	8.50	3.88	112.3 K=1.02	1.0600	-7	18	0.397 [1]
T9	196.5 - 191.5	L2 1/2x2x1/4	8.80	4.03	115.5 K=1.01	1.0600	-7	17	0.414 [1]
T10	191.5 - 181.5	L3x3x1/4	12.68	6.00	122.3 K=0.99	1.4400	-12	21	0.565 [1]
T11	181.5 - 171.5	L3x3x1/4	13.13	6.23	126.0 K=0.99	1.4400	-12	20	0.592 [1]
T12	171.5 - 161.5	L3x3x1/4	13.61	6.48	129.8 K=0.98	1.4400	-12	19	0.635 [1]
T13	161.5 - 151.5	L3x3x1/4	14.12	6.73	133.8 K=0.97	1.4400	-13	18	0.691 [1]
T14	151.5 - 141.5	L3x3x1/4	14.64	7.00	137.9 K=0.96	1.4400	-12	17	0.697 [1]
T15	141.5 - 131.5	L3x3x1/4	7.70	6.91	104.8 K=1.17	1.4400	-14	26	0.529 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	13.95	12.94	138.1 K=1.00	2.3800	-19	28	0.683 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	14.23	6.89	107.5 K=1.00	2.3800	-20	42	0.482 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T15	141.5 - 131.5	L2 1/2x2x1/4	11.40	7.95	161.0 K=1.00	1.0600	-3	9	0.336 [1]

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T10	191.5 - 181.5	L2 1/2x2x1/4	7.76	6.81	137.8 K=1.00	1.0600	-1	13	0.104 [1]
T11	181.5 - 171.5	L2 1/2x2x1/4	8.49	7.53	152.6 K=1.00	1.0600	-2	10	0.158 [1]
T12	171.5 - 161.5	L2 1/2x2x3/16	9.22	8.26	165.2 K=1.00	0.8090	-2	7	0.288 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.94	8.98	140.2 K=1.00	1.1900	-2	14	0.163 [1]
T14	151.5 - 141.5	L2 1/2x2x1/4	10.67	9.71	196.7 K=1.00	1.0600	-3	6	0.414 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	231.5 - 229	C8x11.5	5.60	5.27	101.2 K=1.00	3.3800	-1	64	0.011
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	5.60	4.81	118.8 K=1.01	1.1900	-1	18	0.073 [1]
T5	216.5 - 211.5	C7x9.8	5.60	5.19	107.1 K=1.00	2.8700	-1	51	0.025 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	5.97	5.09	134.8 K=0.94	1.0600	-1	13	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	-1	15	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	-3	13	0.229 [1]
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	8.14	7.18	154.2 K=0.88	1.1900	-5	11	0.482 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	8.87	7.91	165.1 K=0.85	1.1900	-6	10	0.620 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.59	8.64	176.0 K=0.83	1.1900	-7	9	0.760 [1]
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	10.32	9.36	186.9 K=0.82	1.1900	-6	8	0.826 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	11.04	7.45	158.2 K=0.87	1.1900	-6	11	0.587 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	11.78	8.23	95.5 K=1.00	2.3800	-9	48	0.184 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	12.68	8.90	101.5 K=1.00	2.3800	-9	45	0.202 [1]

[1] $P_u / \phi P_n$ 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	0.229	0.000	0.000	0.229 [1]	1.050	4.8.1
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0.482	0.000	0.000	0.482 [1]	1.050	4.8.1
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0.620	0.000	0.000	0.620 [1]	1.050	4.8.1
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0.760	0.000	0.000	0.760 [1]	1.050	4.8.1
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0.826	0.000	0.000	0.826 [1]	1.050	4.8.1
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0.587	0.000	0.000	0.587 [1]	1.050	4.8.1
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0.184	0.000	0.000	0.184 [1]	1.050	4.8.1
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0.202	0.000	0.000	0.202 [1]	1.050	4.8.1

[1] $P_u / \phi P_n$ controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T15	141.5 - 131.5	L2 1/2x2x3/16	2.85	2.36	93.2 K=1.40	0.8090	-3	17	0.187 [1]
T16	131.5 - 119	L2 1/2x2x3/16	2.94	2.45	94.5 K=1.37	0.8090	-3	16	0.190 [1]
T17	119 - 106.5	L2 1/2x2x3/16	3.17	2.68	97.7 K=1.30	0.8090	-3	16	0.213 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T15	141.5 - 131.5	L2 1/2x2x3/16	3.85	3.27	106.0 K=1.15	0.8090	-2	15	0.144 [1]
T16	131.5 - 119	L2 1/2x2x3/16	6.78	5.92	166.4 K=1.00	0.8090	-4	7	0.542 [1]
T17	119 - 106.5	L2 1/2x2x3/16	6.91	6.09	121.8 K=1.00	0.8090	-5	12	0.400 [1]

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T15	141.5 - 131.5	L2x2x1/4	4.03	3.64	115.8 K=1.04	0.9380	0	15	0.002 [1]
T16	131.5 - 119	L2x2x1/4	4.16	3.77	117.8 K=1.02	0.9380	0	15	0.007 [1]
T17	119 - 106.5	L2x2x1/4	4.48	4.09	125.4 K=1.00	0.9380	0	13	0.010 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Compression)

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

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T17	119 - 106.5	L2x2x1/4	9.53	9.13	280.3 K=1.00	0.9380	0	3	0.044 [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 K	ϕP_n K	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	-4	20	0.181 [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 K	ϕP_n K	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	-5	16	0.292 [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 K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T16	131.5 - 119	L3x3x3/16	8.33	8.33	167.7 K=1.00	1.0900	0	9	0.006 [1]
T17	119 - 106.5	L3x3x3/16	8.96	8.96	180.5 K=1.00	1.0900	0	8	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 K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	231.5 - 229	L4x4x3/8	2.50	2.50	24.4	2.8600	3	93	0.029
T2	229 - 224.8	L4x4x3/8	4.20	4.20	41.0	2.8600	6	93	0.064 [1]
T3	224.8 - 220.7	L4x4x3/8	4.10	4.10	40.0	2.8600	14	93	0.155 [1]
T4	220.7 - 216.5	L4x4x3/8	4.20	4.20	41.0	2.8600	20	93	0.214 [1]
T5	216.5 - 211.5	L5x5x1/2	5.01	5.01	39.0	4.7500	28	154	0.180 [1]
T6	211.5 - 206.5	L5x5x1/2	5.01	5.01	39.0	4.7500	37	154	0.240 [1]
T7	206.5 - 201.5	L5x5x1/2	5.01	5.01	39.0	4.7500	46	154	0.296 [1]
T8	201.5 - 196.5	L5x5x1/2	5.01	5.01	39.0	4.7500	55	154	0.357 [1]
T9	196.5 - 191.5	L5x5x1/2	5.01	5.01	39.0	4.7500	66	154	0.427 [1]
T10	191.5 - 181.5	L6x6x5/8	10.01	4.77	31.1	7.1100	76	230	0.328 [1]
T11	181.5 - 171.5	L6x6x5/8	10.01	4.79	31.3	7.1100	95	230	0.414 [1]
T12	171.5 - 161.5	L6x6x5/8	10.01	4.81	31.4	7.1100	114	230	0.497 [1]
T13	161.5 - 151.5	L6x6x5/8	10.01	4.82	31.5	7.1100	133	230	0.578 [1]
T14	151.5 - 141.5	L6x6x3/4	10.01	4.84	31.7	8.4400	153	273	0.560 [1]
T15	141.5 - 131.5	L6x6x3/4	10.01	0.08	0.5	8.4400	186	273	0.679 [1]
T16	131.5 - 119	L6x6x7/8	12.52	0.08	0.6	9.7300	186	315	0.589 [1]
T17	119 - 106.5	L6x6x7/8	12.52	3.13	20.7	9.7300	202	315	0.640 [1]

[1] $P_u / \phi P_n$ controls

Leg Bending Design Data (Tension)

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	0.381	-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 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	0.029	0.381	0.290	0.686	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
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	0.328	0.000	0.000	0.328 [1]	1.050	4.8.1
T11	181.5 - 171.5	L6x6x5/8	0.414	0.000	0.000	0.414 [1]	1.050	4.8.1
T12	171.5 - 161.5	L6x6x5/8	0.497	0.000	0.000	0.497 [1]	1.050	4.8.1
T13	161.5 - 151.5	L6x6x5/8	0.578	0.000	0.000	0.578 [1]	1.050	4.8.1
T14	151.5 - 141.5	L6x6x3/4	0.560	0.000	0.000	0.560 [1]	1.050	4.8.1
T15	141.5 - 131.5	L6x6x3/4	0.679	0.000	0.000	0.679 [1]	1.050	4.8.1
T16	131.5 - 119	L6x6x7/8	0.589	0.000	0.000	0.589 [1]	1.050	4.8.1
T17	119 - 106.5	L6x6x7/8	0.640	0.000	0.000	0.640 [1]	1.050	4.8.1

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	229 - 224.8	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	51.4	1.4569	4	63	0.067 [1]
T3	224.8 - 220.7	2L2 1/2x2 1/2x1/4x3/8	6.94	3.04	51.0	1.4569	4	63	0.065 [1]
T4	220.7 - 216.5	2L2 1/2x2 1/2x1/4x3/8	7.00	3.06	51.4	1.4569	5	63	0.080 [1]
T5	216.5 - 211.5	L2 1/2x2x1/4	7.65	3.44	74.3	0.6309	5	27	0.173 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	7.93	3.58	77.2	0.6309	5	27	0.181 [1]
T7	206.5 - 201.5	L2 1/2x2x1/4	8.21	3.73	80.2	0.6309	6	27	0.223 [1]
T8	201.5 - 196.5	L2 1/2x2x1/4	8.50	3.88	83.2	0.6309	7	27	0.251 [1]
T9	196.5 - 191.5	L2 1/2x2x1/4	8.80	4.03	86.2	0.6309	7	27	0.258 [1]
T10	191.5 - 181.5	L3x3x1/4	12.68	6.00	80.7	0.9159	11	40	0.267 [1]
T11	181.5 - 171.5	L3x3x1/4	13.13	6.23	83.7	0.9159	11	40	0.269 [1]
T12	171.5 - 161.5	L3x3x1/4	13.61	6.48	86.9	0.9159	11	40	0.275 [1]
T13	161.5 - 151.5	L3x3x1/4	14.12	6.73	90.2	0.9159	11	40	0.284 [1]
T14	151.5 - 141.5	L3x3x1/4	14.64	7.00	93.6	0.9159	11	40	0.274 [1]
T15	141.5 - 131.5	L3x3x1/4	7.70	6.91	95.5	0.9159	13	40	0.317 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	13.95	12.94	135.1	1.4569	19	63	0.296 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	14.23	6.89	111.1	1.4569	19	63	0.308 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x1/4	11.40	7.95	165.7	0.6309	3	27	0.113 [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	K	K	
T10	191.5 - 181.5	L2 1/2x2x1/4	7.76	6.81	147.1	0.6309	1	27	0.048 [1]
T11	181.5 - 171.5	L2 1/2x2x1/4	8.49	7.53	161.9	0.6309	2	27	0.059 [1]
T12	171.5 - 161.5	L2 1/2x2x3/16	9.22	8.26	174.4	0.4837	2	21	0.092 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.94	8.98	147.4	0.7284	2	32	0.070 [1]
T14	151.5 - 141.5	L2 1/2x2x1/4	10.67	9.71	206.0	0.6309	3	27	0.093 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	231.5 - 229	C8x11.5	5.60	5.27	101.2	2.3906	1	104	0.007
T3	224.8 - 220.7	L2 1/2x2 1/2x1/4	5.60	4.81	82.2	0.7284	1	32	0.044 [1]
T5	216.5 - 211.5	C7x9.8	5.60	5.19	107.1	2.0147	2	88	0.017 [1]
T6	211.5 - 206.5	L2 1/2x2x1/4	5.97	5.09	112.4	0.6309	1	27	0.050 [1]
T8	201.5 - 196.5	L2 1/2x2 1/2x1/4	6.69	5.82	97.9	0.7284	1	32	0.032 [1]
T10	191.5 - 181.5	L2 1/2x2 1/2x1/4	7.42	6.46	107.9	0.7284	3	32	0.108 [1]
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	8.14	7.18	119.3	0.7284	7	32	0.210 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	8.87	7.91	130.6	0.7284	7	32	0.218 [1]
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	9.59	8.64	141.9	0.7284	8	32	0.247 [1]
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	10.32	9.36	153.2	0.7284	7	32	0.225 [1]
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	11.04	7.45	164.5	0.7284	7	32	0.232 [1]
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	11.78	8.23	88.0	1.4569	9	63	0.149 [1]
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	12.68	8.90	95.0	1.4569	9	63	0.141 [1]

[1] P_u / ϕP_n controls

Top Girt Bending Design Data

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	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

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 $\frac{M_{uy}}{\phi M_{ny}}$
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	0.108	0.000	0.000	0.108 [1]	1.050	4.8.1
T11	181.5 - 171.5	L2 1/2x2 1/2x1/4	0.210	0.000	0.000	0.210 [1]	1.050	4.8.1
T12	171.5 - 161.5	L2 1/2x2 1/2x1/4	0.218	0.000	0.000	0.218 [1]	1.050	4.8.1
T13	161.5 - 151.5	L2 1/2x2 1/2x1/4	0.247	0.000	0.000	0.247 [1]	1.050	4.8.1
T14	151.5 - 141.5	L2 1/2x2 1/2x1/4	0.225	0.000	0.000	0.225 [1]	1.050	4.8.1
T15	141.5 - 131.5	L2 1/2x2 1/2x1/4	0.232	0.000	0.000	0.232 [1]	1.050	4.8.1
T16	131.5 - 119	2L2 1/2x2 1/2x1/4x3/8	0.149	0.000	0.000	0.149 [1]	1.050	4.8.1
T17	119 - 106.5	2L2 1/2x2 1/2x1/4x3/8	0.141	0.000	0.000	0.141 [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 K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	2.85	2.36	52.0	0.5013	3	22	0.142 [1]
T16	131.5 - 119	L2 1/2x2x3/16	2.94	2.45	53.9	0.5013	3	22	0.142 [1]
T17	119 - 106.5	L2 1/2x2x3/16	3.17	2.68	58.4	0.5013	3	22	0.155 [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 K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T15	141.5 - 131.5	L2 1/2x2x3/16	3.85	3.27	70.3	0.5013	2	22	0.096 [1]
T16	131.5 - 119	L2 1/2x2x3/16	6.78	5.92	123.2	0.5013	4	22	0.164 [1]
T17	119 - 106.5	L2 1/2x2x3/16	6.91	6.09	126.6	0.5013	4	22	0.200 [1]

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T15	141.5 - 131.5	L2x2x1/4	4.03	3.64	79.4	0.5629	0	24	0.001 [1]
T16	131.5 - 119	L2x2x1/4	4.16	3.77	82.0	0.5629	0	24	0.004 [1]
T17	119 - 106.5	L2x2x1/4	4.48	4.09	88.3	0.5629	0	24	0.005 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T17	119 - 106.5	L2x2x1/4	9.53	9.13	187.8	0.5629	0	24	0.005 [1]

[1] P_u / ϕP_n controls

Redundant Sub-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	K	K	
T17	119 - 106.5	L2 1/2x2x3/16	1.58	0.94	26.7	0.5013	4	22	0.186 [1]

[1] P_u / ϕP_n controls

Redundant Sub 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	K	K	
T17	119 - 106.5	L2 1/2x2x3/16	3.56	2.64	60.7	0.5013	4	22	0.187 [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 K	ϕP_n K	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	1	29	0.020 [1]
T12	171.5 - 161.5	L2 1/2x2 1/2x3/16	12.54	12.04	185.7	0.9020	1	29	0.039 [1]
T14	151.5 - 141.5	L2x2 1/2x3/16	14.59	14.09	282.0	0.8090	1	26	0.038[*1]
T16	131.5 - 119	L3x3x3/16	8.33	8.33	106.4	1.0900	0	35	0.001 [1]
T17	119 - 106.5	L3x3x3/16	8.96	8.96	114.6	1.0900	0	35	0.001 [1]

[*] DL controls
[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	231.5 - 229	Leg	L4x4x3/8	4	-7	90	67.2	Pass
T2	229 - 224.8	Leg	L4x4x3/8	11	-11	78	14.5	Pass
T3	224.8 - 220.7	Leg	L4x4x3/8	24	-20	79	25.2	Pass
T4	220.7 - 216.5	Leg	L4x4x3/8	40	-26	78	32.7	Pass
T5	216.5 - 211.5	Leg	L5x5x1/2	51	-34	133	25.6	Pass
T6	211.5 - 206.5	Leg	L5x5x1/2	67	-45	133	33.7	Pass
T7	206.5 - 201.5	Leg	L5x5x1/2	84	-57	133	42.7	Pass
T8	201.5 - 196.5	Leg	L5x5x1/2	96	-67	133	50.3	Pass
T9	196.5 - 191.5	Leg	L5x5x1/2	111	-78	133	58.6	Pass
T10	191.5 - 181.5	Leg	L6x6x5/8	123	-87	208	41.7	Pass
T11	181.5 - 171.5	Leg	L6x6x5/8	145	-108	209	51.8	Pass
T12	171.5 - 161.5	Leg	L6x6x5/8	165	-129	209	61.6	Pass
T13	161.5 - 151.5	Leg	L6x6x5/8	187	-149	209	71.2	Pass
T14	151.5 - 141.5	Leg	L6x6x3/4	207	-171	248	68.9	Pass
T15	141.5 - 131.5	Leg	L6x6x3/4	229	-207	287	72.0	Pass
T16	131.5 - 119	Leg	L6x6x7/8	297	-203	267	75.9	Pass
T17	119 - 106.5	Leg	L6x6x7/8	337	-226	314	72.0	Pass
T2	229 - 224.8	Diagonal	2L2 1/2x2 1/2x1/4x3/8	15	4	67	6.4 10.2 (b)	Pass
T3	224.8 - 220.7	Diagonal	2L2 1/2x2 1/2x1/4x3/8	35	4	67	6.2 9.8 (b)	Pass
T4	220.7 - 216.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	46	5	67	7.7 12.2 (b)	Pass
T5	216.5 - 211.5	Diagonal	L2 1/2x2x1/4	61	-5	21	25.6	Pass
T6	211.5 - 206.5	Diagonal	L2 1/2x2x1/4	77	-5	20	24.9	Pass
T7	206.5 - 201.5	Diagonal	L2 1/2x2x1/4	89	-6	19	33.0	Pass
T8	201.5 - 196.5	Diagonal	L2 1/2x2x1/4	105	-7	19	37.8	Pass
T9	196.5 - 191.5	Diagonal	L2 1/2x2x1/4	117	-7	18	39.4	Pass
T10	191.5 - 181.5	Diagonal	L3x3x1/4	135	-12	22	53.8	Pass
T11	181.5 - 171.5	Diagonal	L3x3x1/4	155	-12	21	56.3	Pass
T12	171.5 - 161.5	Diagonal	L3x3x1/4	177	-12	20	60.5	Pass
T13	161.5 - 151.5	Diagonal	L3x3x1/4	197	-13	19	65.8	Pass
T14	151.5 - 141.5	Diagonal	L3x3x1/4	219	-12	18	66.4	Pass
T15	141.5 - 131.5	Diagonal	L3x3x1/4	251	-14	27	50.4 56.6 (b)	Pass
T16	131.5 - 119	Diagonal	2L2 1/2x2 1/2x1/4x3/8	320	-19	30	65.1	Pass
T17	119 - 106.5	Diagonal	2L2 1/2x2 1/2x1/4x3/8	377	-20	44	45.9 46.6 (b)	Pass
T15	141.5 - 131.5	Horizontal	L2 1/2x2x1/4	242	-3	10	32.0	Pass
T10	191.5 - 181.5	Secondary Horizontal	L2 1/2x2x1/4	140	-1	13	9.9	Pass
T11	181.5 - 171.5	Secondary Horizontal	L2 1/2x2x1/4	160	-2	11	15.0	Pass
T12	171.5 - 161.5	Secondary Horizontal	L2 1/2x2x3/16	182	-2	7	27.5	Pass
T13	161.5 - 151.5	Secondary Horizontal	L2 1/2x2 1/2x1/4	202	-2	14	15.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T14	151.5 - 141.5	Secondary Horizontal	L2 1/2x2x1/4	224	-3	6	39.4	Pass
T1	231.5 - 229	Top Girt	C8x11.5	8	-1	67	17.3	Pass
T3	224.8 - 220.7	Top Girt	L2 1/2x2 1/2x1/4	25	-1	19	6.9	Pass
T5	216.5 - 211.5	Top Girt	C7x9.8	53	-1	53	2.4	Pass
							3.3 (b)	
T6	211.5 - 206.5	Top Girt	L2 1/2x2x1/4	69	-1	14	7.3	Pass
T8	201.5 - 196.5	Top Girt	L2 1/2x2 1/2x1/4	99	-1	16	6.3	Pass
T10	191.5 - 181.5	Top Girt	L2 1/2x2 1/2x1/4	130	-3	14	21.8	Pass
T11	181.5 - 171.5	Top Girt	L2 1/2x2 1/2x1/4	150	-5	12	45.9	Pass
T12	171.5 - 161.5	Top Girt	L2 1/2x2 1/2x1/4	172	-6	10	59.1	Pass
T13	161.5 - 151.5	Top Girt	L2 1/2x2 1/2x1/4	192	-7	9	72.4	Pass
T14	151.5 - 141.5	Top Girt	L2 1/2x2 1/2x1/4	214	-6	8	78.7	Pass
T15	141.5 - 131.5	Top Girt	L2 1/2x2 1/2x1/4	234	-6	11	55.9	Pass
T16	131.5 - 119	Top Girt	2L2 1/2x2 1/2x1/4x3/8	301	-9	50	17.5	Pass
							22.5 (b)	
T17	119 - 106.5	Top Girt	2L2 1/2x2 1/2x1/4x3/8	341	-9	47	19.2	Pass
							21.4 (b)	
T15	141.5 - 131.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	247	-3	17	17.8	Pass
							39.7 (b)	
T16	131.5 - 119	Redund Horz 1 Bracing	L2 1/2x2x3/16	317	-3	17	18.0	Pass
							39.7 (b)	
T17	119 - 106.5	Redund Horz 1 Bracing	L2 1/2x2x3/16	365	-3	17	20.3	Pass
							43.3 (b)	
T15	141.5 - 131.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	278	-2	15	13.7	Pass
							26.8 (b)	
T16	131.5 - 119	Redund Diag 1 Bracing	L2 1/2x2x3/16	318	-4	7	51.6	Pass
T17	119 - 106.5	Redund Diag 1 Bracing	L2 1/2x2x3/16	366	-5	13	38.1	Pass
							55.7 (b)	
T15	141.5 - 131.5	Redund Hip 1 Bracing	L2x2x1/4	249	0	16	0.4	Pass
T16	131.5 - 119	Redund Hip 1 Bracing	L2x2x1/4	334	0	15	0.7	Pass
T17	119 - 106.5	Redund Hip 1 Bracing	L2x2x1/4	391	0	14	0.9	Pass
T17	119 - 106.5	Redund Hip Diagonal 1 Bracing	L2x2x1/4	392	0	3	4.2	Pass
T17	119 - 106.5	Redund Sub Horz Bracing	L2 1/2x2x3/16	370	4	23	17.8	Pass
							28.3 (b)	
T17	119 - 106.5	Redund Sub Diagonal Bracing	L2 1/2x2x3/16	369	-5	17	27.8	Pass
							28.4 (b)	
T10	191.5 - 181.5	Inner Bracing	L2 1/2x2 1/2x3/16	126	1	31	1.9	Pass
T12	171.5 - 161.5	Inner Bracing	L2 1/2x2 1/2x3/16	167	1	31	3.7	Pass
T14	151.5 - 141.5	Inner Bracing	L2x2 1/2x3/16	210	1	28	3.7	Pass
T16	131.5 - 119	Inner Bracing	L3x3x3/16	304	0	9	0.8	Pass
T17	119 - 106.5	Inner Bracing	L3x3x3/16	344	0	8	0.9	Pass
							Summary	
						Leg (T16)	75.9	Pass
						Diagonal (T14)	66.4	Pass
						Horizontal (T15)	32.0	Pass
						Secondary Horizontal (T14)	39.4	Pass
						Top Girt (T14)	78.7	Pass
						Redund Horz 1 Bracing (T17)	43.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
						Redund Diag 1 Bracing (T17)	55.7	Pass
						Redund Hip 1 Bracing (T17)	0.9	Pass
						Redund Hip Diagonal 1 Bracing (T17)	4.2	Pass
						Redund Sub Horz Bracing (T17)	28.3	Pass
						Redund Sub Diagonal Bracing (T17)	28.4	Pass
						Inner Bracing (T12)	3.7	Pass
						Bolt Checks	53.9	Pass
						RATING =	**78.7**	**Pass**

APPENDIX B

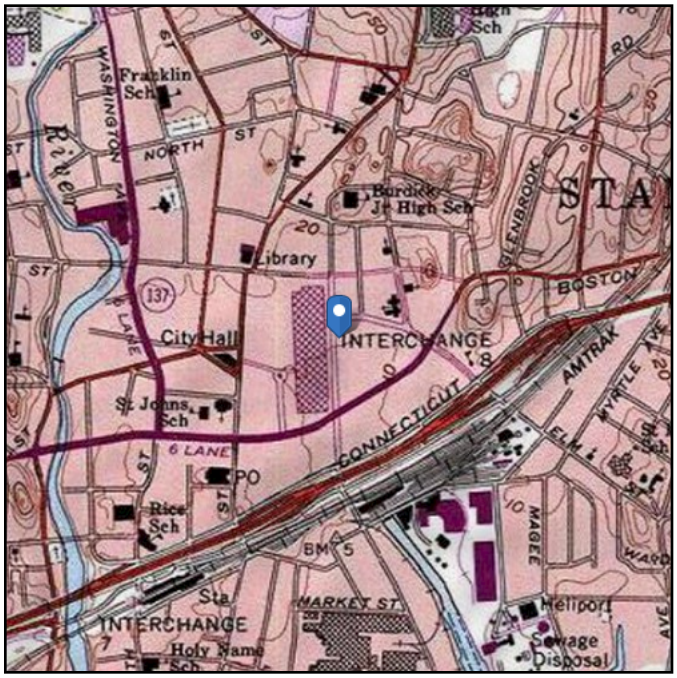
ADDITIONAL CALCULATIONS

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.

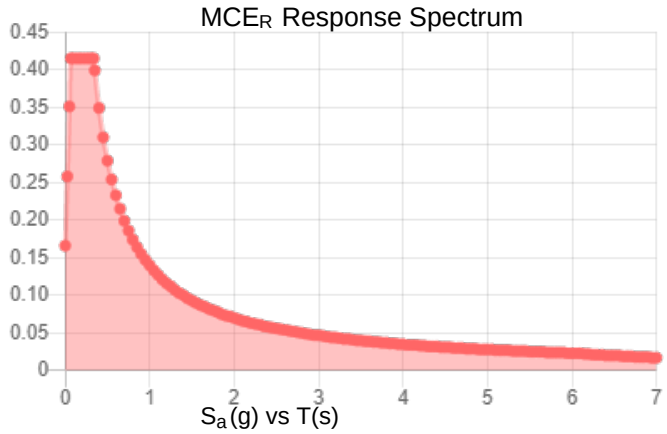
Seismic

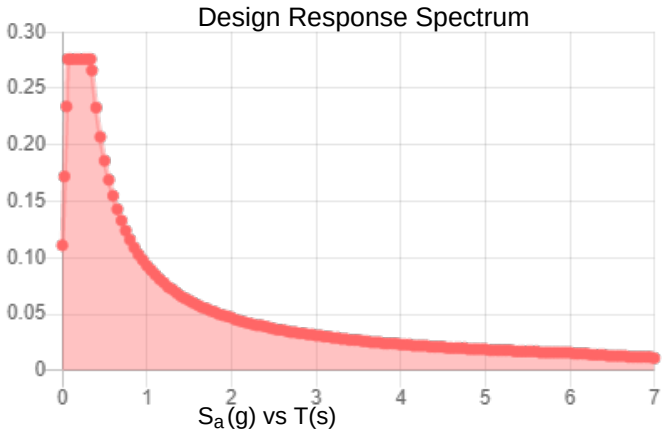
Site Soil Class: D - Default (see Section 11.4.3)

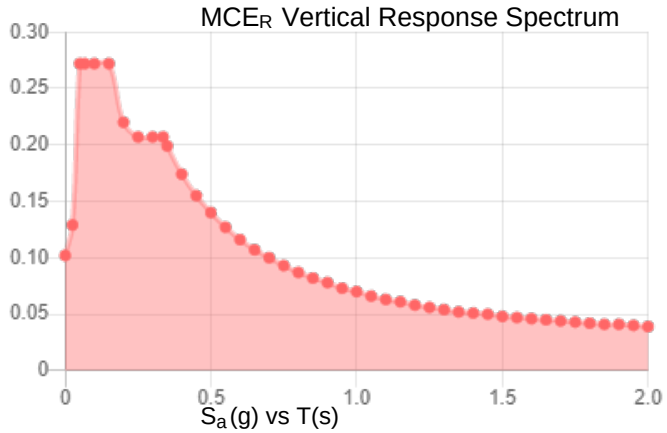
Results:

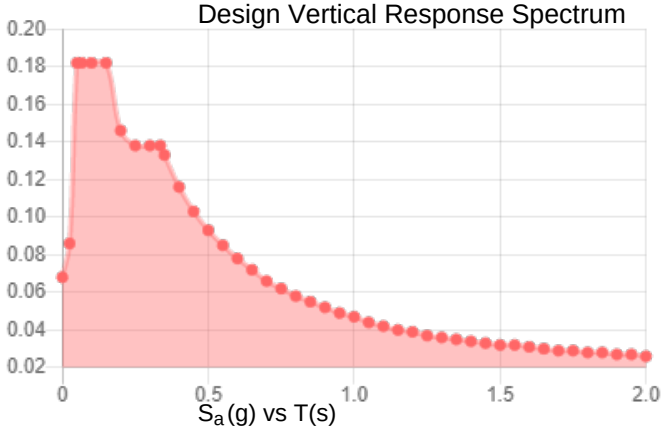
S_S :	0.261	S_{D1} :	0.093
S_1 :	0.058	T_L :	6
F_a :	1.592	PGA :	0.157
F_v :	2.4	PGA_M :	0.233
S_{MS} :	0.415	F_{PGA} :	1.487
S_{M1} :	0.14	I_e :	1
S_{DS} :	0.276	C_v :	0.821

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: 5/28/2021

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:**	049.01315 - 2175008
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 mount 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 mount to have:

Existing + Proposed Equipment **Adequate Capacity (48.7%)**
Note: See Analysis Criteria for loading configuration

The analysis has been performed in accordance with TIA-222-G Standard and the 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

STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED
PROFESSIONAL ENGINEER

5/28/2021

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’ / 203’
Structure Type	Self-Support on Rooftop
Exposure Category	B
Nominal Wind Speed	93 mph
Ice Loading	0.75” with 50 mph Wind
Risk Category	II
Topographic Factor	K_{zt} = 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	Ericsson AIR6449 B41 - RRUs
3	Ericsson AIR32 B66A/B2A - Antennas
3	RFS APXVAALL24_43-U-NA20 - Antennas
3	Generic Twin Style 1B - AWS - TMAs*
3	Commscope SDX1926Q-43 - Diplexers*
3	Radio 4480 B71+B85 - RRUs*
3	Radio 4415 B25 - RRUs*

*** To be mounted behind antennas.**

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Table 1.3 - Assumed Material Properties: Hot Rolled

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	5/10/2021
Structural Analysis Report	Malouf Engineering	5/22/2017

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

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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 building, 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 250 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	27.0	Pass
Horizontal Standoff Pipe	32.5	Pass
Vertical Standoff Solid Rod	38.0	Pass
Diagonal Standoff Solid Rod	< 20.0	Pass
Antenna Mount Pipe	42.3	Pass
Connection Plates	32.9	Pass
Pipe Kicker	< 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	30.2	Pass
Vertical Standoff Solid Rod	40.7	Pass
Diagonal Standoff Solid Rod	< 20.0	Pass
Antenna Mount Pipe	48.7	Pass
Connection Plates	33.4	Pass
Pipe Kicker	< 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 **48.7%** of their structural capacity. The mount members at 210' are stressed to **42.3%** 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.**

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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 -TIA 222 G Standard (chapter 16 revisions)

Tower Height	231.50	ft	Type of Mount: Platform
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

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	
1	0.95	DOES NOT CHANGE
Lattice Tower		

Gust Effect Factor Gh

Structure Type	Gh	
1	1.00	DOES NOT CHANGE
Lattice Tower		

Shielding Factor, Ka

Structure Type	Ka	
	0.90	DOES NOT CHANGE
Lattice Tower		

Seismic Factors

Ss	0.825	
S1	0.281	
Fa	1.17	
Fv	1.838	
R	3	Truss or Pole

CLIENT: Foresite LLC

PROJECT: CT11410A

SUBJECT: Antenna Loads -TIA 222 G Standard (chapter 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	Lateral Load (Seismic)	Vertical Load (Seismic)
Pos. 1 Upper Mount	**210.00**	Ericsson AIR6449 B41	1	103.0	33.1	20.5	8.3	0.90	4.71	1.91	1.61	3.99	1.20	1.27	1.222	25.7	130.8	55.9	103	131	56	103	10	13
		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					
																				66	**28**	**52**	**5**	**7**
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	13	17
		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**	**6**	**8**
Pos.3 Lower Mount	**210.00**	RFS APXVAALL24_43-U-NA20	1	153.3	95.9	24.0	8.7	0.90	15.98	5.79	4.00	11.02	1.27	1.53	1.222	25.7	468.1	205.5	153.3	468	325	295	29	38
	210.00	TMA - Generic Twin Sytle 1B - AWS	1	12.0	7.7	N/A	7.5	0.90	-	0.40	-	1.03	-	1.20	1.222	25.7	0.0	11.1	12					
	210.00	Radio 4480 B71+B85	1	84.0	21.8	N/A	15.7	0.90	-	2.38	-	1.39	-	1.20	1.222	25.7	0.0	66.0	84					
	210.00	Radio 4415 B25	1	46.0	16.5	N/A	13.4	0.90	-	1.54	-	1.23	-	1.20	1.222	25.7	0.0	42.6	46					
		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	0.0	0					
																				235	**163**	**148**	**14**	**19**
Pos. 3-4 (Upper) Pos. 1,2,4 (Lower) Empty		Empty		0.0	-	-	-	0.90	-	-	-	-	-	-	-	-	0.0	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**	**0**	**0**

* Enter N/A in the W column for front shielded appurtenances.

** A_N is the product of H and W

*** A_T is the product of H and D

DL 530

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	Weight (lb/ft)	*** Ca	K_z	q_z (psf)	Wind Load (PLF)	Lateral Load (Seismic)	Vertical Load (Seismic)
	210.00	5/8" SR	12.00	0.63	0.00		1.20	1.222	23.1	1	-	-
	210.00	3/4" SR	12.00	0.75	0.00		1.20	1.222	23.1	2	-	-
	210.00	2.0 STD Pipe	12.00	2.38	0.00		1.20	1.222	23.1	5	-	-
	210.00	2.5 STD Pipe	12.00	2.88	0.00		1.20	1.222	23.1	7	-	-
	210.00	Single Angle	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Single Angle	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Single Angle	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Plate Horizontal (P3.5x0.625)	12.00	0.63	3.50		2.00	1.222	23.1	2	-	-
	210.00	Plate Horizontal	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Tube Horizontal	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Double Angle	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Double Angle	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Channel (Weak Axis Bending)	0.00	0.00	0.00		-	-	-	-	-	-
	210.00	Channel (Weak Axis Bending)	0.00	0.00	0.00		-	-	-	-	-	-

* 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 -TIA 222 G Standard (chapter 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 Upper Mount	**210.00**	Ericsson AIR6449 B41	1	33.1	20.5	8.3	0.90	1.43	1.13	2.84	159.09	0.70	0.71	1.222	7.4	6.7	5.4	44.5	21.5	159	45	22	159
		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			
																					23	**11**	**80**
Pos. 2 Upper Mount	**210.00**	Ericsson AIR32 B66A/B2A	1	56.6	12.9	8.7	0.90	1.83	1.73	3.41	190.70	0.73	0.75	1.222	7.4	8.9	8.7	52.4	40.2	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	**21**	**96**
Pos.3 Lower Mount	**210.00**	RFS APXVAALL24_43-U-NA20	1	95.9	24.0	8.7	0.90	3.10	2.71	7.98	447.12	0.72	0.82	1.222	7.4	15.0	14.9	150.3	74.4	447	150	120	626
	210.00	TMA - Generic Twin Sytle 1B - AWS	1	7.7	3.4	7.5	0.90	-	0.47	0.40	22.18	0.70	0.70	1.222	7.4	0.0	2.2	0.0	5.4	22			
	210.00	Radio 4480 B71+B85	1	21.8	7.5	15.7	0.90	-	1.03	1.67	93.47	0.70	0.70	1.222	7.4	0.0	4.8	0.0	23.9	93			
	210.00	Radio 4415 B25	1	16.5	5.9	13.4	0.90	-	0.84	1.13	63.15	0.70	0.70	1.222	7.4	0.0	3.9	0.0	16.2	63			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					76	**60**	**313**
Pos. 3-4 (Upper) Pos. 1,2,4 (Lower) Empty		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	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			
		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

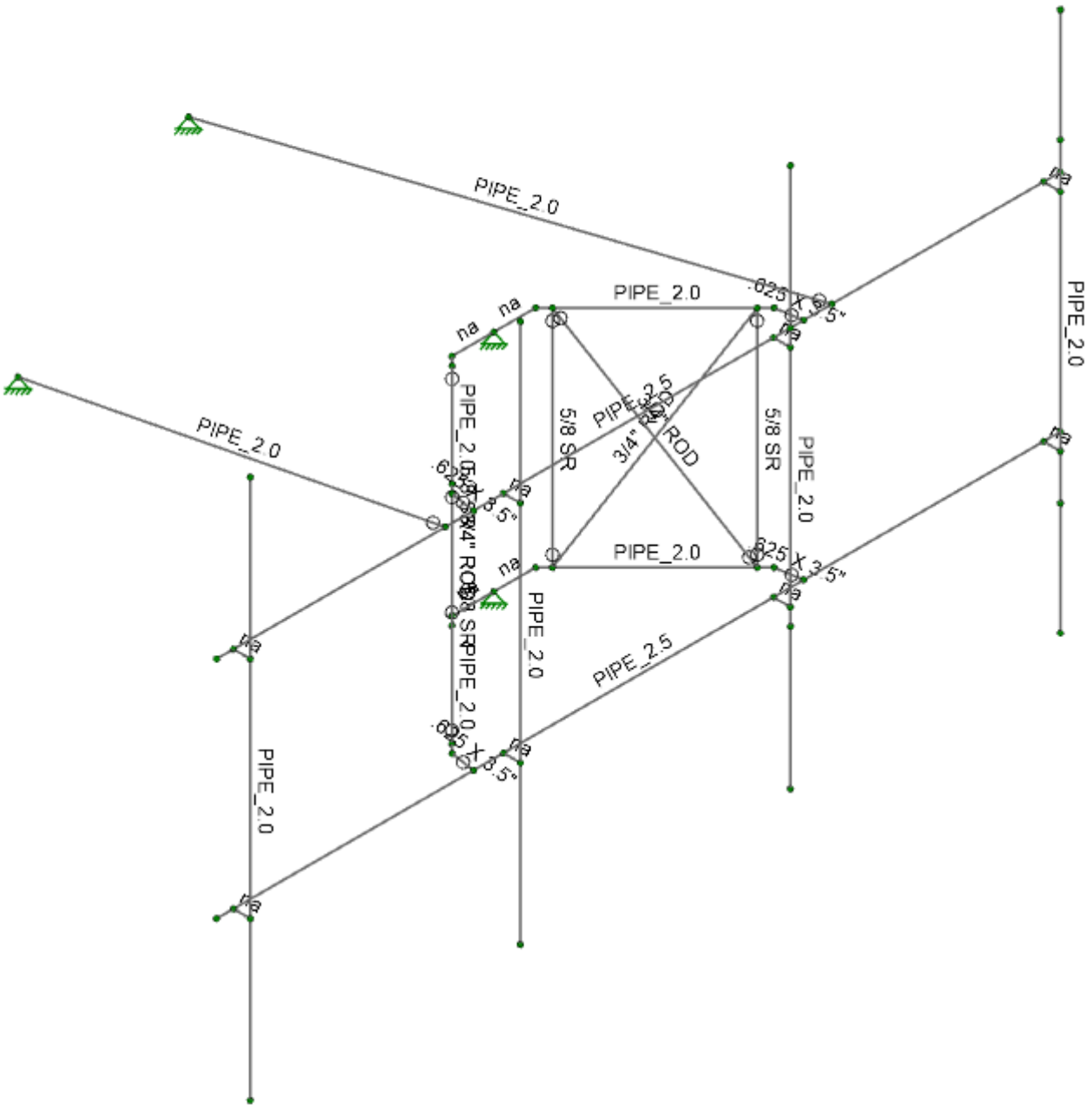
Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A_N (ft2)	Volume Ice (ft3)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q_z (psf)	PLF: Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	210.00	5/8" SR	12.00	0.63	0.00	0.41	0.10	5.36	1.20	1.222	6.7	3.3	3.7	5
	210.00	3/4" SR	12.00	0.75	0.00	0.41	0.10	5.63	1.20	1.222	6.7	3.3	3.8	6
	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
	210.00	2.5 STD Pipe	12.00	2.88	0.00	0.46	0.18	10.32	1.20	1.222	6.7	3.7	5.6	10
	210.00	Single Angle	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Single Angle	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Single Angle	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Plate Horizontal (P3.5x0.625)	12.00	0.63	3.50	0.41	0.26	14.38	1.20	1.222	6.7	3.3	4.0	14
	210.00	Plate Horizontal	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Tube Horizontal	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Double Angle	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Double Angle	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Channel (Weak Axis Bending)	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-
	210.00	Channel (Weak Axis Bending)	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-

* 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

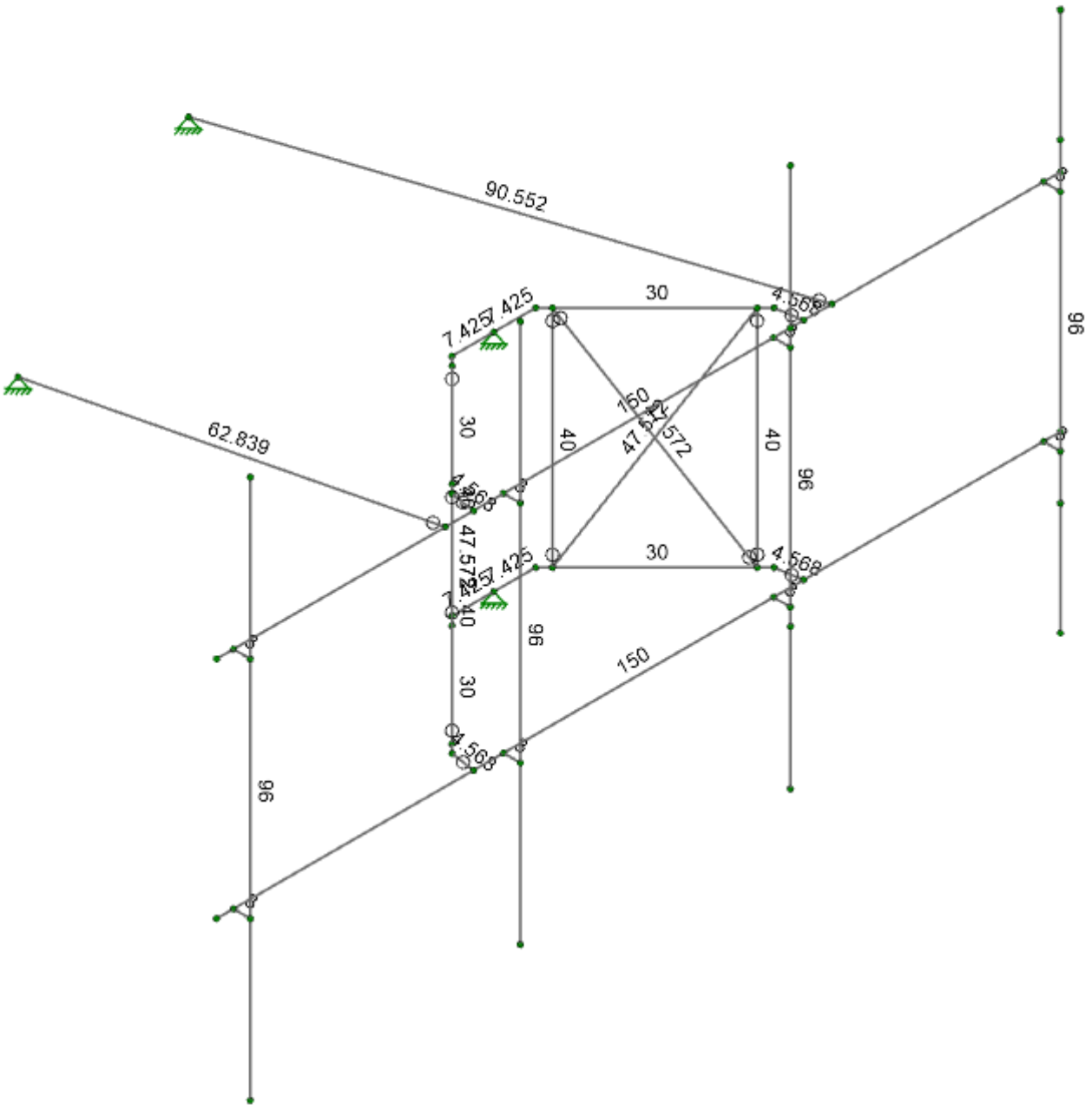
*** A_N is the area of ice built up on the LW plane

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



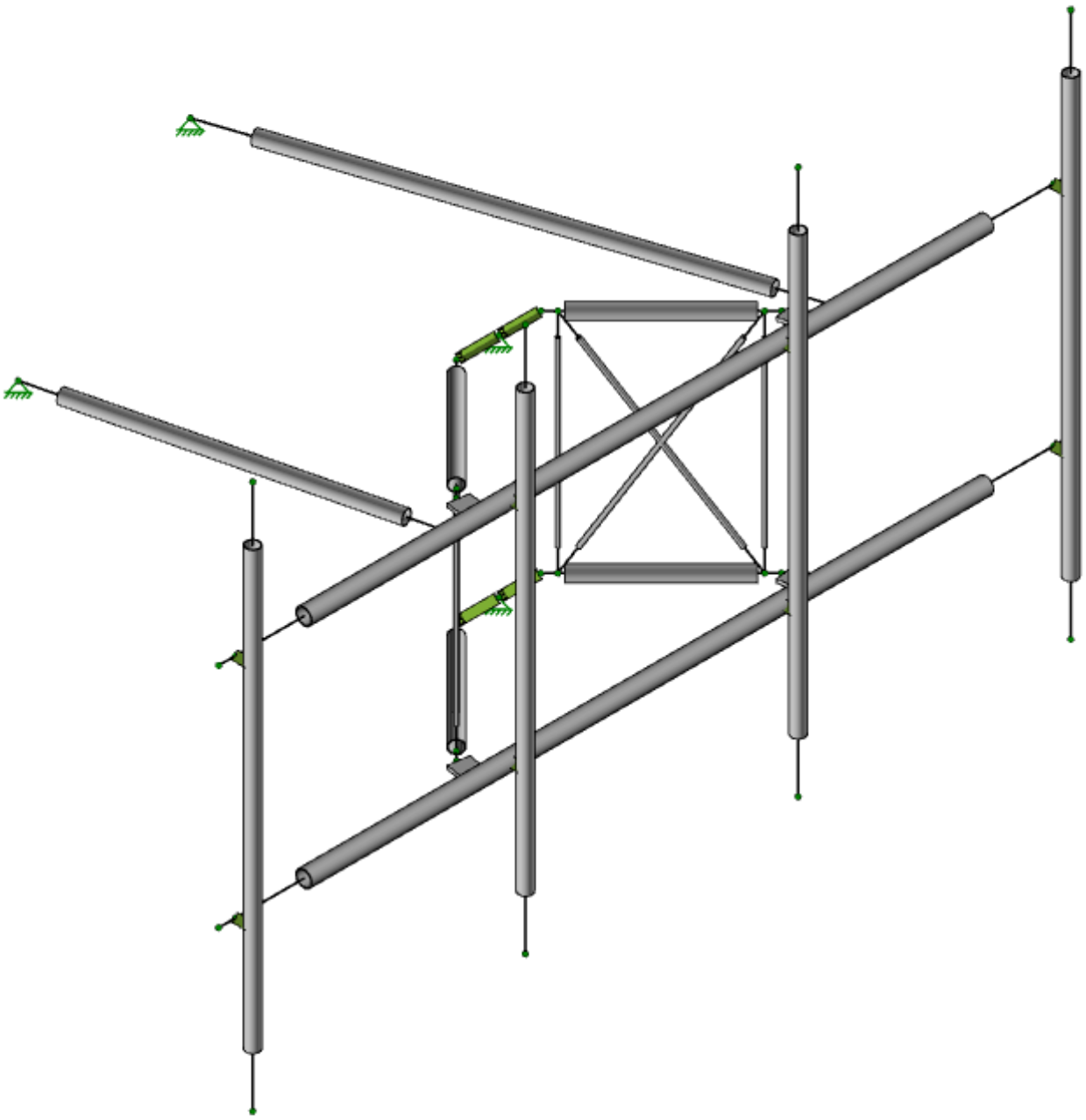
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	1
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



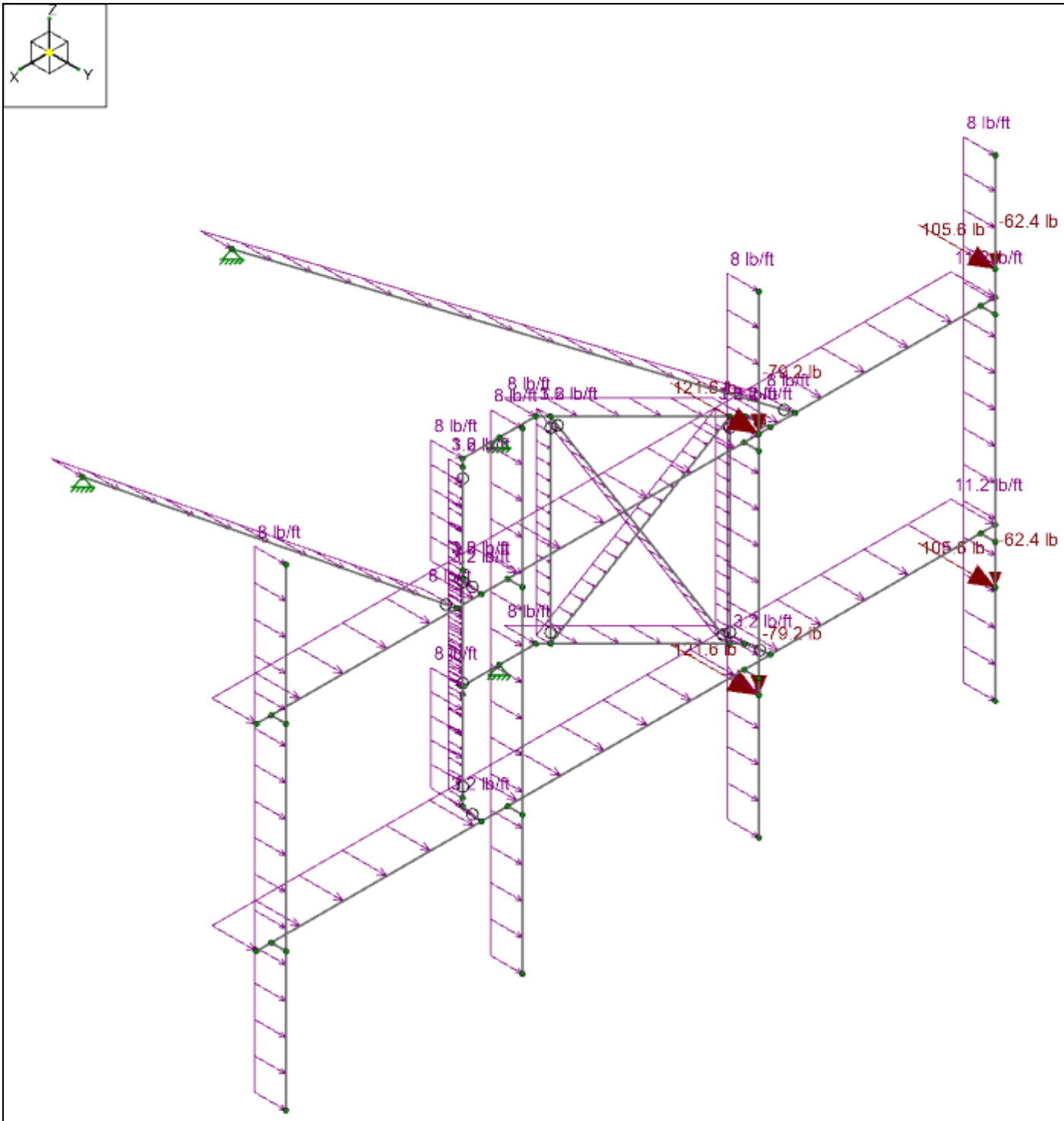
Member Length (in) Displayed
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	2
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



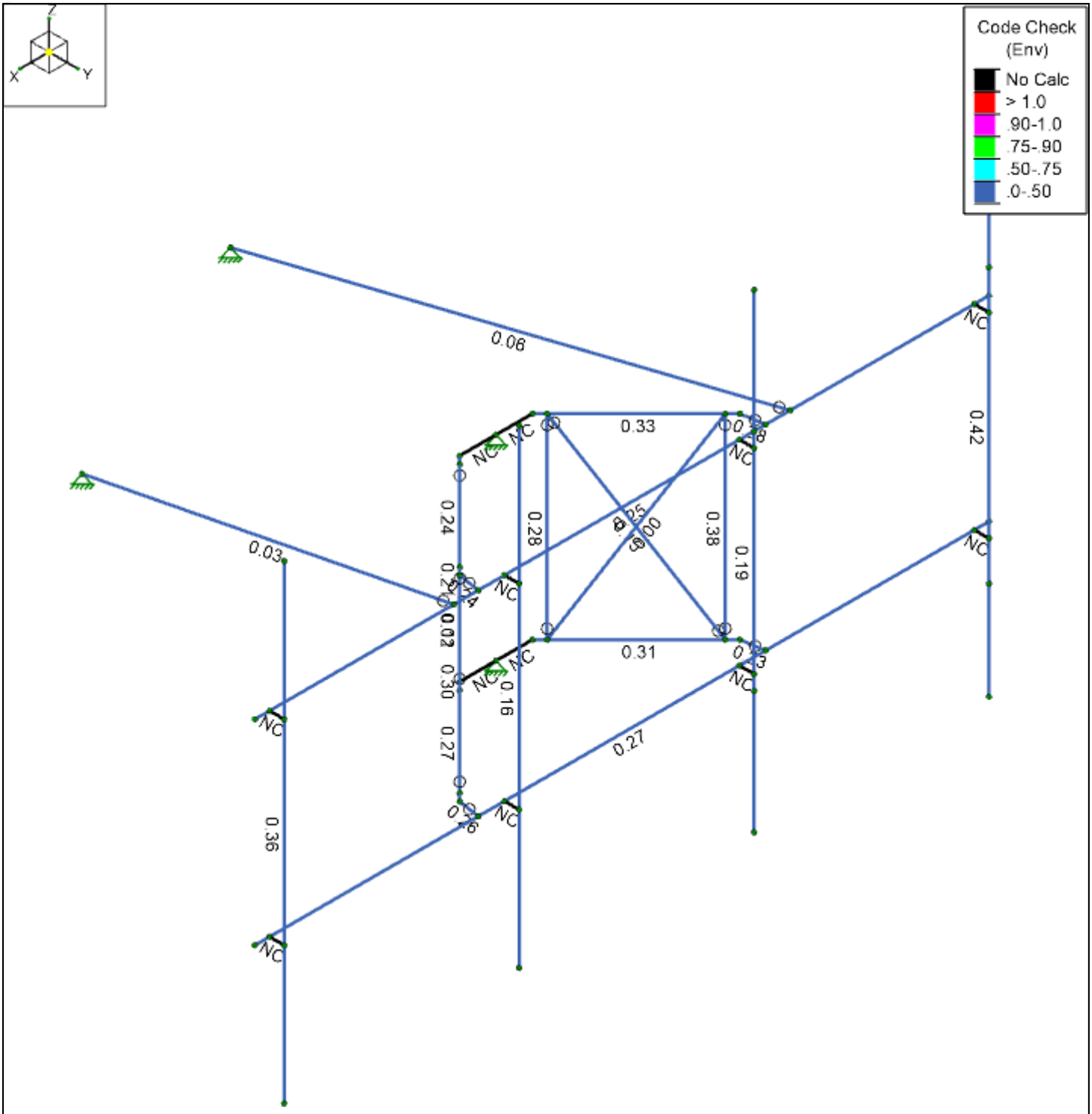
Member Length (in) Displayed
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	3
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



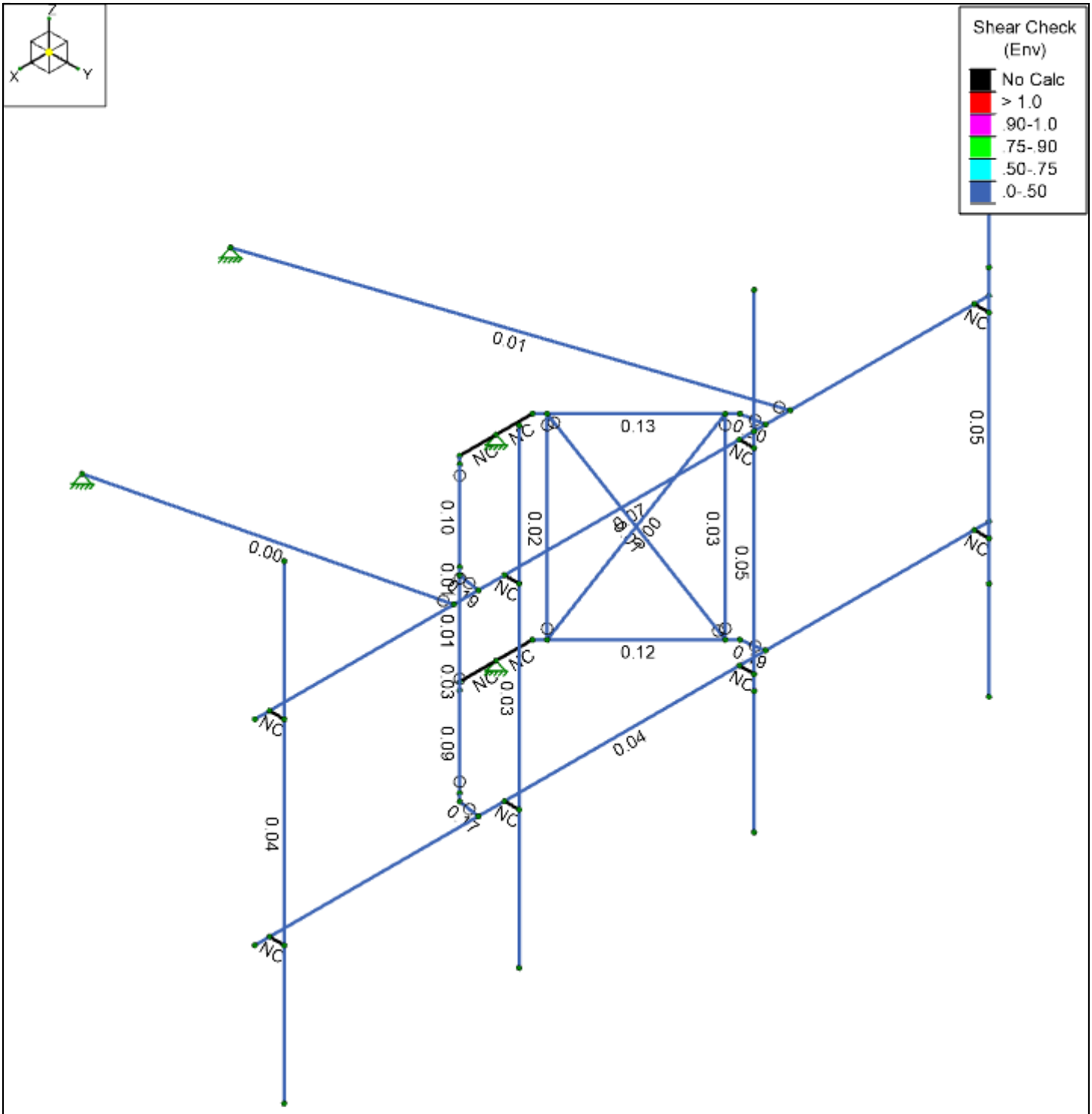
Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	4
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



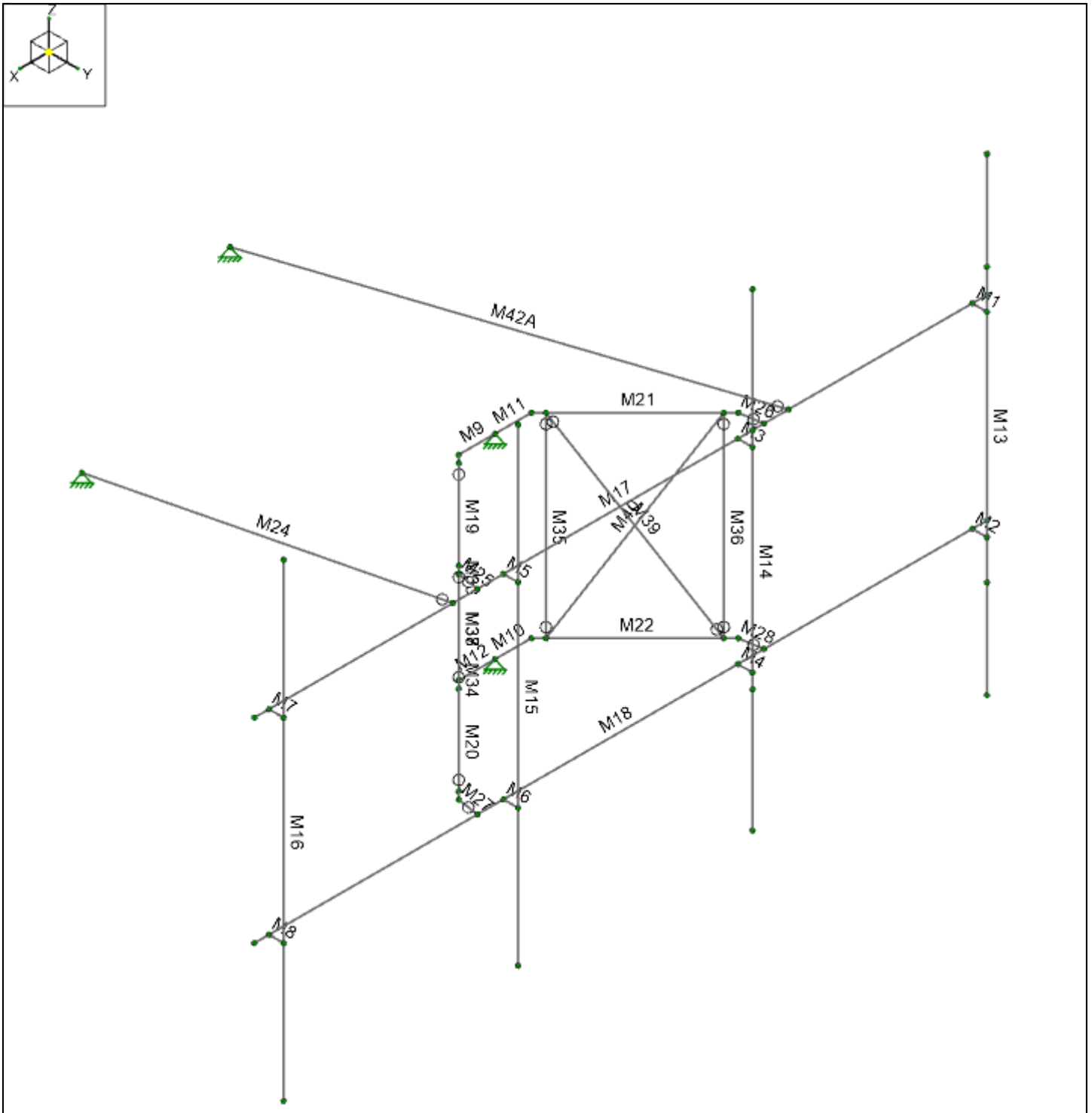
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	5
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



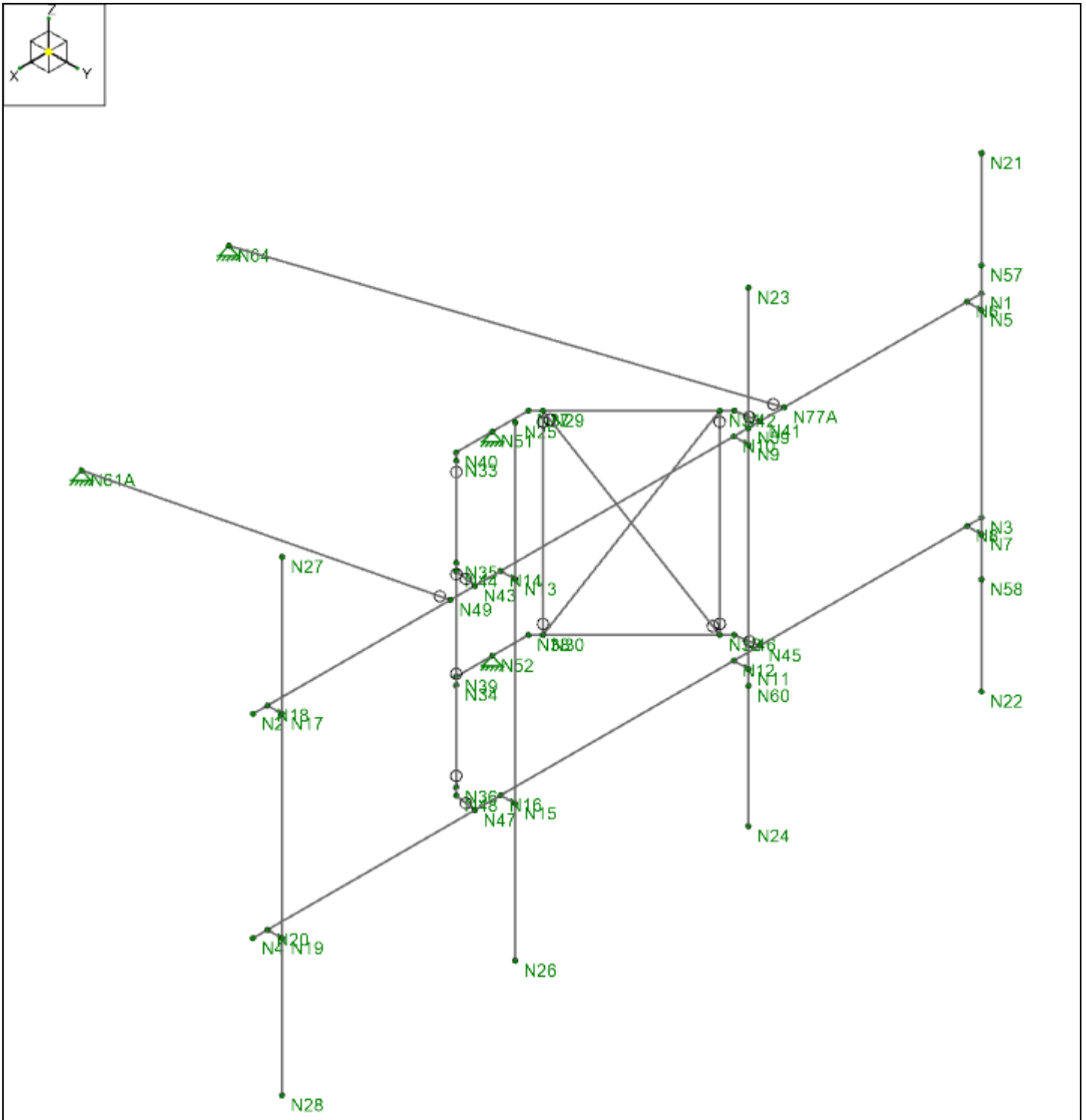
Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	6
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	7
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d



Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 210' RAD Center	8
EM		May 28, 2021
049.01315 - 2175008		CT11410A - VFA12-HD - 210'.r3d

Model Settings

Number of Reported Sections	5
Number of Internal Sections	97
Member Area Load Mesh Size (in²)	144
Consider Shear Deformation	Yes
Consider Torsional Warping	Yes

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

Single	No
Multiple (Optimum)	Yes
Maximum	No

Global Axis corresponding to vertical direction	Z
Convert Existing Data	Yes

Default Global Plane for z-axis	XZ

Plate Local Axis Orientation	Nodal

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)

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

Column Min Steel	1
Column Max Steel	8
Rebar Material Spec	ASTM A615
Warn if beam-column framing arrangement is not understood	No
Number of Shear Regions	4
Region 2 & 3 Spacing Increase Increment (in)	4

Code	ASCE 7-05

Model Settings (Continued)

Risk Category	I
Drift Cat	Other
Base Elevation (ft)	-999999
Include the weight of the structure in base shear calcs	Yes

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

T (sec)	
T (sec)	
C_t	0.035
C_t	0.035
C_t Exp.	0.75
C_t Exp.	0.75
R	8.5
R	8.5
Ω_o	1
Ω_o	1
C_d	4
C_d	4
ρ	1
ρ	1

Line Project Grid

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. C...	Density [k...	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

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff...	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A570_33	29500	11346	0.3	0.65	0.49	33	52
2	A607_C1_55	29500	11346	0.3	0.65	0.49	55	70

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	HR1A	C15X50	Beam	None	A36 Gr.36	Typical	14.7	11	404	2.65

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1A	1.5CU1.2...	Beam	None	A570_33	Typical	0.131	0.022	0.052	5.4e-05

Primary Member Properties

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

Primary Member Properties (Continued)

	Label	I Node	J Node	K Node	Rotate(deg)	Section/S...	Type	Design List	Material	Design Rule
31	M38	N33	N36			3/4" ROD	Beam	None	A36 Gr.36	Typical
32	M37	N35	N34			3/4" ROD	Beam	None	A36 Gr.36	Typical
33	M28	N46	N45			.625 X 3.5"	None	None	A36 Gr.36	Typical
34	M27	N48	N47			.625 X 3.5"	None	None	A36 Gr.36	Typical
35	M26	N42	N41			.625 X 3.5"	None	None	A36 Gr.36	Typical
36	M25	N44	N43			.625 X 3.5"	None	None	A36 Gr.36	Typical

Advanced Member Properties

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflectio...	Analysis...	Activation	Seismic...
1	M12						Yes	** NA **			None
2	M11						Yes	** NA **			None
3	M10						Yes	** NA **			None
4	M9						Yes	** NA **			None
5	M8						Yes	** NA **			None
6	M7						Yes	** NA **			None
7	M6						Yes	** NA **			None
8	M5						Yes	** NA **			None
9	M4						Yes	** NA **			None
10	M3						Yes	** NA **			None
11	M2						Yes	** NA **			None
12	M1						Yes	** NA **			None
13	M18						Yes				None
14	M17						Yes				None
15	M24	BenPIN					Yes				None
16	M22						Yes				None
17	M21						Yes				None
18	M20						Yes				None
19	M19						Yes				None
20	M16						Yes				None
21	M15						Yes				None
22	M14						Yes				None
23	M13						Yes				None
24	M42A	BenPIN					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...	Yes				None
30	M39	BenPIN	BenPIN				Yes				None
31	M38	BenPIN	BenPIN				Yes				None
32	M37					Tension...	Yes				None
33	M28		BenPIN				Yes	** NA **			None
34	M27		BenPIN				Yes	** NA **			None
35	M26		BenPIN				Yes	** NA **			None
36	M25		BenPIN				Yes	** NA **			None

Hot Rolled Member Properties

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp t...	Lcomp...	L-Torqu...	K y-y	K z-z	Cb	Function
1	M18	PIPE_2.5	150									Lateral
2	M17	PIPE_2.5	150									Lateral
3	M24	PIPE_2.0	62.839									Lateral
4	M22	PIPE_2.0	30									Lateral
5	M21	PIPE_2.0	30									Lateral
6	M20	PIPE_2.0	30									Lateral
7	M19	PIPE_2.0	30									Lateral
8	M16	PIPE_2.0	96									Lateral
9	M15	PIPE_2.0	96									Lateral

Hot Rolled Member Properties (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp t...	Lcomp...	L-Torqu...	K y-y	K z-z	Cb	Function
10	M14	PIPE_2.0	96									Lateral
11	M13	PIPE_2.0	96									Lateral
12	M42A	PIPE_2.0	90.552									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	M28	.625 X...	4.568									Lateral
22	M27	.625 X...	4.568									Lateral
23	M26	.625 X...	4.568									Lateral
24	M25	.625 X...	4.568									Lateral

Cold Formed Member Properties

No Data to Print...

Nodes

	Label	X [in]	Y [in]	Z [in]	Temp [deg F]	Detach From Dia...
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		

Nodes (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [deg F]	Detach From Dia...
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		
54	N57	-72	3	48		
55	N58	-72	3	-8		
56	N59	-24	3	43		
57	N60	-24	3	-3		
58	N61A	49.199072	-61.059004	40		

Boundary Conditions

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

Basic Load Cases

	BLC Desc...	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Me...	Surface(P...
1	DEAD LO...	None			-1	4				
2	DEAD LO...	None				4		24		
3	WIND LO...	None				4		24		
4	WIND LO...	None				4		24		
5	WIND LO...	None				4		24		
6	WIND LO...	None				4		24		
7	LIVE LOA...	None				1				
8	LIVE LOA...	None				1				
9	LIVE LOA...	None								
10	MAINTEN...	None				1				
11	MAINTEN...	None				1				
12	MAINTEN...	None				1				
13	MAINTEN...	None				1				

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Z	-52	Active
2	N58	L	Z	-52	Active
3	N60	L	Z	-66	Active
4	N59	L	Z	-66	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Z	-80	Active
2	N58	L	Z	-80	Active
3	N60	L	Z	-96	Active
4	N59	L	Z	-96	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Y	66	Active
2	N58	L	Y	66	Active
3	N60	L	Y	76	Active
4	N59	L	Y	76	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	X	28	Active
2	N58	L	X	28	Active
3	N60	L	X	55	Active
4	N59	L	X	55	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Y	23	Active
2	N58	L	Y	23	Active
3	N60	L	Y	27	Active
4	N59	L	Y	27	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	X	11	Active
2	N58	L	X	11	Active
3	N60	L	X	21	Active
4	N59	L	X	21	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N3	L	Z	-250	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N4	L	Z	-250	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N22	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N24	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N26	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N28	L	Z	-500	Active

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

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

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

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

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

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

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

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

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
1	M18	PX	5.6	5.6	0	%100	Active
2	M17	PX	5.6	5.6	0	%100	Active
3	M24	PX	5.2	5.2	0	%100	Active

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
4	M22	PX	5.2	5.2	0	%100	Active
5	M21	PX	5.2	5.2	0	%100	Active
6	M20	PX	5.2	5.2	0	%100	Active
7	M19	PX	5.2	5.2	0	%100	Active
8	M16	PX	5.2	5.2	0	%100	Active
9	M15	PX	5.2	5.2	0	%100	Active
10	M14	PX	5.2	5.2	0	%100	Active
11	M13	PX	5.2	5.2	0	%100	Active
12	M42A	PX	5.2	5.2	0	%100	Active
13	M36	PX	3.7	3.7	0	%100	Active
14	M35	PX	3.7	3.7	0	%100	Active
15	M34	PX	3.7	3.7	0	%100	Active
16	M33	PX	3.7	3.7	0	%100	Active
17	M40	PX	3.8	3.8	0	%100	Active
18	M39	PX	3.8	3.8	0	%100	Active
19	M38	PX	3.8	3.8	0	%100	Active
20	M37	PX	3.8	3.8	0	%100	Active
21	M28	PX	4	4	0	%100	Active
22	M27	PX	4	4	0	%100	Active
23	M26	PX	4	4	0	%100	Active
24	M25	PX	4	4	0	%100	Active

Load Combinations

	De...	So...	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
1	DL...	Yes	Y		1	1.2			3	1.6														
2	DL...	Yes	Y		1	1.2			3	1.3...	4	0.8												
3	DL...	Yes	Y		1	1.2			3	0.8	4	1.3...												
4	DL...	Yes	Y		1	1.2					4	1.6												
5	DL...	Yes	Y		1	1.2			3	-0.8	4	1.3...												
6	DL...	Yes	Y		1	1.2			3	-1....	4	0.8												
7	DL...	Yes	Y		1	1.2			3	-1.6														
8	DL...	Yes	Y		1	1.2			3	-1....	4	-0.8												
9	DL...	Yes	Y		1	1.2			3	-0.8	4	-1....												
10	DL...	Yes	Y		1	1.2					4	-1.6												
11	DL...	Yes	Y		1	1.2			3	0.8	4	-1....												
12	DL...	Yes	Y		1	1.2			3	1.3...	4	-0.8												
13	DL...	Yes	Y		1	1.2	2	1	5	1														
14	DL...	Yes	Y		1	1.2	2	1	5	0.8...	6	0.5												
15	DL...	Yes	Y		1	1.2	2	1	5	0.5	6	0.8...												
16	DL...	Yes	Y		1	1.2	2	1			6	1												
17	DL...	Yes	Y		1	1.2	2	1	5	-0.5	6	0.8...												
18	DL...	Yes	Y		1	1.2	2	1	5	-0....	6	0.5												
19	DL...	Yes	Y		1	1.2	2	1	5	-1														
20	DL...	Yes	Y		1	1.2	2	1	5	-0....	6	-0.5												
21	DL...	Yes	Y		1	1.2	2	1	5	-0.5	6	-0....												
22	DL...	Yes	Y		1	1.2	2	1			6	-1												
23	DL...	Yes	Y		1	1.2	2	1	5	0.5	6	-0....												
24	DL...	Yes	Y		1	1.2	2	1	5	0.8...	6	-0.5												
25	DE...	Yes	Y		1	1.2					7	1.5												
26	DE...	Yes	Y		1	1.2					8	1.5												
27	DE...	Yes	Y		1	1.2					9	1.5												
28	DL...	Yes	Y		1	1.2	10	1.5	3	0.1...														
29	DL...	Yes	Y		1	1.2	11	1.5	3	0.1...														
30	DL...	Yes	Y		1	1.2	12	1.5	3	0.1...														
31	DL...	Yes	Y		1	1.2	13	1.5	3	0.1...														
32	DL...	Yes	Y		1	1.2	10	1.5	4	0.1...														
33	DL...	Yes	Y		1	1.2	11	1.5	4	0.1...														
34	DL...	Yes	Y		1	1.2	12	1.5	4	0.1...														

Load Combinations (Continued)

	De...	So...	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
35	DL...	Yes	Y		1	1.2	13	1.5	4	0.1...														
36	DL...	Yes	Y		1	1.2	10	1.5	3	-0....														
37	DL...	Yes	Y		1	1.2	11	1.5	3	-0....														
38	DL...	Yes	Y		1	1.2	12	1.5	3	-0....														
39	DL...	Yes	Y		1	1.2	13	1.5	3	-0....														
40	DL...	Yes	Y		1	1.2	10	1.5	4	-0....														
41	DL...	Yes	Y		1	1.2	11	1.5	4	-0....														
42	DL...	Yes	Y		1	1.2	12	1.5	4	-0....														
43	DL...	Yes	Y		1	1.2	13	1.5	4	-0....														

Node Reactions

	Node...		X [lbs]	LC	Y [lbs]	LC	Z [lbs]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	1491.2...	36	336.309	12	1562.72	13	0	43	0	43	0	43
2		min	-939.54	31	-1400....	39	566.938	7	0	1	0	1	0	1
3	N52	max	1043.8...	43	1464.3...	19	391.456	19	0	43	0	43	0	43
4		min	-1689....	32	-104.754	1	106.142	2	0	1	0	1	0	1
5	N64	max	377.894	1	992.23	7	50.232	13	0	43	0	43	0	43
6		min	-324.24	7	-1156....	1	15.206	7	0	1	0	1	0	1
7	N61A	max	120.796	11	321.076	5	34.473	18	0	43	0	43	0	43
8		min	-95.13	5	-426.454	11	10.635	35	0	1	0	1	0	1
9	Totals:	max	749.234	10	1144.7...	7	2012.8...	14						
10		min	-749.236	4	-1144....	1	734.644	7						

Node Displacements

	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
1	N1	max	0.02	31	0.23	1	0.025	43	1.113e...	3	6.673e...	39	7.01e-03	7
2		min	-0.032	36	-0.243	7	-0.479	32	-1.198...	39	-6.612...	28	-6.689...	1
3	N2	max	0.021	31	0.079	1	0.122	32	1.34e-03	8	5.306e...	43	2.095e...	1
4		min	-0.03	36	-0.097	7	-0.378	43	-1.511...	2	-1.942...	32	-2.511...	7
5	N3	max	0.065	32	0.323	1	0.025	43	2.892e...	2	6.72e-04	43	7.205e...	7
6		min	-0.046	43	-0.33	7	-0.479	32	-3.059...	8	-6.648...	32	-7.001...	1
7	N4	max	0.064	32	0.058	12	0.122	32	1.081e...	26	5.329e...	43	2.298e...	1
8		min	-0.047	43	-0.09	36	-0.378	43	-1.25e...	3	-1.941...	32	-2.651...	7
9	N5	max	0.031	2	0.21	1	0.02	43	1.113e...	3	6.674e...	39	7.01e-03	7
10		min	-0.043	8	-0.222	7	-0.458	32	-1.198...	39	-6.612...	28	-6.689...	1
11	N6	max	0.02	31	0.21	1	0.023	43	1.113e...	3	6.674e...	39	7.01e-03	7
12		min	-0.032	36	-0.222	7	-0.459	32	-1.198...	39	-6.612...	28	-6.689...	1
13	N7	max	0.075	2	0.302	1	0.02	43	2.892e...	2	6.721e...	43	7.204e...	7
14		min	-0.057	8	-0.309	7	-0.459	32	-3.059...	8	-6.648...	32	-7.001...	1
15	N8	max	0.065	32	0.302	1	0.023	43	2.892e...	2	6.721e...	43	7.204e...	7
16		min	-0.046	43	-0.309	7	-0.46	32	-3.059...	8	-6.648...	32	-7.001...	1
17	N9	max	0.022	31	0.011	7	0.012	31	4.126e...	4	7.358e...	43	1.674e...	8
18		min	-0.034	36	-0.01	1	-0.079	36	-6.591...	43	-4.282...	32	-1.342...	2
19	N10	max	0.02	31	0.011	7	0.014	31	4.126e...	4	7.358e...	43	1.674e...	8
20		min	-0.031	36	-0.01	1	-0.08	36	-6.591...	43	-4.282...	32	-1.342...	2
21	N11	max	0.066	28	0.035	3	0.012	31	1.318e...	2	7.569e...	43	3.525e...	8
22		min	-0.048	39	-0.03	9	-0.079	36	-1.599...	8	-4.231...	32	-3.543...	2
23	N12	max	0.064	32	0.035	3	0.014	31	1.318e...	2	7.569e...	43	3.525e...	8
24		min	-0.046	43	-0.03	9	-0.079	36	-1.599...	8	-4.231...	32	-3.543...	2
25	N13	max	0.019	31	0.01	7	0.035	36	9.277e...	8	3.217e...	43	9.061e...	1
26		min	-0.028	36	-0.008	1	-0.054	31	-1.089...	2	-1.739...	32	-1.219...	7
27	N14	max	0.021	31	0.01	7	0.036	36	9.277e...	8	3.217e...	43	9.061e...	1
28		min	-0.031	36	-0.008	1	-0.055	31	-1.089...	2	-1.739...	32	-1.219...	7
29	N15	max	0.068	32	0.048	8	0.035	36	3.602e...	10	3.178e...	43	1.019e...	43
30		min	-0.05	43	-0.053	2	-0.054	31	-7.648...	34	-1.749...	32	-1.326...	32
31	N16	max	0.064	32	0.048	8	0.037	36	3.602e...	10	3.178e...	43	1.019e...	43
32		min	-0.047	43	-0.053	2	-0.054	31	-7.648...	34	-1.749...	32	-1.326...	32

Node Displacements (Continued)

	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
33	N17	max	0.019	35	0.073	1	0.114	32	1.34e-03	8	5.306e...	43	2.094e...	1
34		min	-0.026	40	-0.09	7	-0.362	43	-1.511...	2	-1.942...	32	-2.51e...	7
35	N18	max	0.021	31	0.073	1	0.116	32	1.34e-03	8	5.306e...	43	2.094e...	1
36		min	-0.03	36	-0.09	7	-0.362	43	-1.511...	2	-1.942...	32	-2.51e...	7
37	N19	max	0.067	32	0.054	31	0.114	32	1.081e...	26	5.329e...	43	2.298e...	1
38		min	-0.05	43	-0.086	36	-0.363	43	-1.25e...	3	-1.941...	32	-2.651...	7
39	N20	max	0.064	32	0.054	31	0.116	32	1.081e...	26	5.329e...	43	2.298e...	1
40		min	-0.047	43	-0.086	36	-0.362	43	-1.25e...	3	-1.941...	32	-2.651...	7
41	N21	max	0.039	31	0.197	1	0.02	43	9.133e...	3	6.676e...	39	7.01e-03	7
42		min	-0.219	36	-0.206	7	-0.458	32	-1.197...	43	-6.613...	28	-6.689...	1
43	N22	max	0.249	28	0.391	1	0.02	43	3.243e...	1	6.892e...	43	7.204e...	7
44		min	-0.066	39	-0.402	7	-0.459	32	-3.406...	7	-6.531...	32	-7.001...	1
45	N23	max	0.042	31	0.019	43	0.012	31	4.127e...	4	7.333e...	35	1.674e...	8
46		min	-0.154	36	-0.014	3	-0.079	36	-6.592...	43	-4.282...	40	-1.342...	2
47	N24	max	0.185	32	0.075	2	0.012	31	1.497e...	1	7.695e...	43	3.525e...	8
48		min	-0.069	43	-0.078	8	-0.079	36	-1.777...	8	-4.243...	32	-3.543...	2
49	N25	max	0.109	31	0.025	2	0.035	36	1.073e...	8	3.211e...	31	9.061e...	1
50		min	-0.076	36	-0.019	8	-0.054	31	-1.235...	2	-1.735...	36	-1.219...	7
51	N26	max	0.117	32	0.05	9	0.035	36	3.602e...	10	3.189e...	43	1.019e...	43
52		min	-0.139	43	-0.063	3	-0.054	31	-7.495...	34	-1.76e...	32	-1.326...	32
53	N27	max	0.166	35	0.109	2	0.114	32	1.486e...	8	5.302e...	39	2.094e...	1
54		min	-0.079	40	-0.121	8	-0.362	43	-1.657...	2	-1.937...	28	-2.51e...	7
55	N28	max	0.122	32	0.073	26	0.114	32	1.081e...	26	5.232e...	43	2.298e...	1
56		min	-0.197	43	-0.108	32	-0.364	43	-1.173...	4	-1.952...	32	-2.651...	7
57	N29	max	0.003	36	0.021	36	0.024	43	-4.119...	1	2.718e...	43	1.11e-03	31
58		min	-0.002	31	-0.013	31	-0.043	32	-1.339...	21	-4.16e...	32	-1.727...	36
59	N30	max	0.002	2	0.01	2	0.023	43	3.448e...	28	2.5e-03	43	1.993e...	8
60		min	-0.003	8	-0.018	8	-0.038	32	-5.629...	38	-3.856...	32	-1.355...	2
61	N31	max	0.01	35	0.006	7	0.03	31	-3.239...	2	1.231e...	31	2.549e...	36
62		min	-0.016	40	-0.005	1	-0.079	36	-2.237...	39	-2.992...	36	-1.639...	31
63	N32	max	0.041	2	0.049	2	0.031	31	-7.632...	3	9.261e...	31	2.915e...	43
64		min	-0.032	8	-0.048	8	-0.073	36	-2.375...	41	-3.228...	36	-4.291...	32
65	N33	max	0.003	36	0.014	31	0.04	32	-5.386...	9	2.549e...	43	1.21e-03	31
66		min	-0.002	31	-0.021	36	-0.027	43	-1.627...	15	-4.311...	32	-1.854...	36
67	N34	max	0.002	2	0.018	8	0.038	32	1.638e...	43	2.335e...	43	1.855e...	8
68		min	-0.003	8	-0.01	2	-0.024	43	-6.982...	14	-3.989...	32	-1.24e...	2
69	N35	max	0.008	31	0.005	35	0.054	36	-8.248...	9	2.106e...	31	2.822e...	36
70		min	-0.012	36	-0.007	40	-0.052	31	-2.593...	17	-1.97e...	36	-1.929...	31
71	N36	max	0.038	2	0.042	8	0.055	36	-7.485...	8	2.318e...	31	2.948e...	43
72		min	-0.028	8	-0.046	2	-0.048	31	-2.492...	14	-1.694...	36	-4.258...	32
73	N37	max	0	1	0.018	36	0.022	43	-5.538...	12	2.897e...	43	1.548e...	31
74		min	0	36	-0.011	31	-0.035	32	-1.544...	18	-4.679...	32	-2.4e-03	36
75	N38	max	0	36	0.008	2	0.02	43	2.776e...	28	2.667e...	43	2.007e...	8
76		min	0	31	-0.015	8	-0.032	32	-5.688...	13	-4.351...	32	-1.112...	2
77	N39	max	0	28	0.015	8	0.032	32	2.776e...	28	2.667e...	43	2.007e...	8
78		min	0	39	-0.008	2	-0.02	43	-5.688...	13	-4.351...	32	-1.112...	2
79	N40	max	0	35	0.011	31	0.035	32	-5.538...	12	2.897e...	43	1.548e...	31
80		min	0	40	-0.018	36	-0.022	43	-1.544...	18	-4.679...	32	-2.4e-03	36
81	N41	max	0.02	31	0.003	35	0.017	31	4.61e-04	3	5.048e...	43	2.093e...	7
82		min	-0.031	36	-0.004	40	-0.106	36	-7.312...	43	-5.677...	32	-1.72e...	1
83	N42	max	0.013	35	0.003	6	0.029	31	-5.019...	2	1.127e...	31	2.586e...	36
84		min	-0.02	40	-0.003	12	-0.086	36	-2.46e...	20	-3.356...	36	-1.657...	31
85	N43	max	0.021	31	0.003	7	0.045	36	9.641e...	8	4.451e...	43	1.111e...	2
86		min	-0.03	36	-0.003	1	-0.075	31	-1.138...	2	-1.667...	32	-1.486...	8
87	N44	max	0.011	31	0.002	39	0.054	36	-9.054...	10	2.413e...	31	3.07e-03	40
88		min	-0.016	36	-0.003	28	-0.058	31	-2.734...	17	-1.925...	36	-2.114...	35
89	N45	max	0.064	32	0.054	2	0.017	31	1.481e...	2	5.098e...	43	4.185e...	8
90		min	-0.046	43	-0.05	8	-0.105	36	-1.764...	8	-5.635...	32	-4.114...	2

Node Displacements (Continued)

	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
91	N46	max	0.045	2	0.052	2	0.029	31	-9.63e...	5	8.444e...	31	3.021e...	43
92		min	-0.033	8	-0.049	8	-0.081	36	-2.807...	41	-3.585...	36	-4.501...	32
93	N47	max	0.064	32	0.045	8	0.046	36	4.175e...	10	4.422e...	43	9.548e...	12
94		min	-0.047	43	-0.052	2	-0.075	31	-7.669...	34	-1.664...	32	-1.343...	36
95	N48	max	0.044	28	0.044	8	0.054	36	-8.458...	8	2.621e...	31	3.092e...	43
96		min	-0.033	39	-0.05	2	-0.054	31	-2.8e-03	30	-1.673...	36	-4.432...	32
97	N49	max	0.021	31	0.005	31	0.054	36	1.008e...	8	5.686e...	43	1.284e...	2
98		min	-0.03	36	-0.007	36	-0.101	31	-1.182...	2	-1.605...	32	-1.681...	8
99	N51	max	0	31	0	39	0	7	-5.538...	12	2.897e...	43	1.548e...	31
100		min	0	36	0	12	0	13	-1.544...	18	-4.679...	32	-2.4e-03	36
101	N52	max	0	32	0	1	0	2	2.776e...	28	2.667e...	43	2.007e...	8
102		min	0	43	0	19	0	19	-5.688...	13	-4.351...	32	-1.112...	2
103	N77A	max	0.02	31	0.009	2	0.019	31	5.374e...	3	2.561e...	43	2.88e-03	7
104		min	-0.031	36	-0.012	8	-0.139	36	-7.858...	43	-7.097...	32	-2.535...	1
105	N64	max	0	7	0	1	0	7	-8.613...	28	2.955e...	43	1.479e...	10
106		min	0	1	0	7	0	13	-2.265...	21	-7.205...	32	-1.349...	4
107	N57	max	0.027	31	0.205	1	0.02	43	9.438e...	3	6.675e...	39	7.01e-03	7
108		min	-0.087	36	-0.216	7	-0.458	32	-1.197...	43	-6.613...	28	-6.689...	1
109	N58	max	0.118	28	0.327	1	0.02	43	3.185e...	2	6.853e...	43	7.204e...	7
110		min	-0.053	8	-0.334	7	-0.459	32	-3.352...	8	-6.595...	32	-7.001...	1
111	N59	max	0.024	31	0.011	7	0.012	31	4.127e...	4	7.319e...	39	1.674e...	8
112		min	-0.047	36	-0.01	1	-0.079	36	-6.591...	43	-4.277...	28	-1.342...	2
113	N60	max	0.079	28	0.038	3	0.012	31	1.393e...	2	7.618e...	43	3.525e...	8
114		min	-0.051	39	-0.034	8	-0.079	36	-1.674...	8	-4.236...	32	-3.543...	2
115	N61A	max	0	5	0	11	0	35	9.247e...	36	4.916e...	31	7.6e-04	9
116		min	0	11	0	5	0	18	-3.101...	31	-1.245...	36	-5.808...	3

LRFD

	Member	Shape	Code...	Loc [in]	LC	Shear...	Loc [in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M...	Cb	Eqn
1	M18	PIPE...	0.270	45.313	36	0.043	46.875		1	14558...	50715	3.596	3.596	2.101	H1-1b
2	M17	PIPE...	0.249	45.313	32	0.074	42.188		1	14558...	50715	3.596	3.596	1.52	H1-1b
3	M24	PIPE...	0.031	31.419	23	0.004	62.839		22	23127...	32130	1.872	1.872	1.136	H1-1b
4	M22	PIPE...	0.311	2.188	32	0.121	28.125		28	29810...	32130	1.872	1.872	1.417	H1-1b
5	M21	PIPE...	0.325	1.875	40	0.133	0		32	29810...	32130	1.872	1.872	1.677	H1-1b
6	M20	PIPE...	0.269	1.875	32	0.090	28.125		42	29810...	32130	1.872	1.872	1.493	H1-1b
7	M19	PIPE...	0.235	0	36	0.101	0		38	29810...	32130	1.872	1.872	1.328	H1-1b
8	M16	PIPE...	0.364	68	31	0.045	28		31	14916...	32130	1.872	1.872	3	H1-1b
9	M15	PIPE...	0.158	28	31	0.029	28		3	14916...	32130	1.872	1.872	3	H1-1b
10	M14	PIPE...	0.187	28	36	0.052	28		2	14916...	32130	1.872	1.872	3	H1-1b
11	M13	PIPE...	0.423	68	36	0.055	28		28	14916...	32130	1.872	1.872	3	H1-1b
12	M42A	PIPE...	0.064	90.552	7	0.005	90.552		16	16233...	32130	1.872	1.872	1.136	H1-1b*
13	M36	5/8 SR	0.380	25.417	32	0.030	40		32	2855....	9946.8	0.097	0.097	1	H1-1a
14	M35	5/8 SR	0.284	25.417	28	0.015	40		8	2855....	9946.8	0.097	0.097	1.136	H1-1a
15	M34	5/8 SR	0.296	25.417	39	0.031	40		32	2855....	9946.8	0.097	0.097	1.136	H1-1a
16	M33	5/8 SR	0.214	25.417	39	0.014	40		8	2855....	9946.8	0.097	0.097	1.136	H1-1a
17	M40	3/4" R...	0.000	47.572	43	0.000	47.572		43	1550....	14313...	0.179	0.179	1	H1-1a
18	M39	3/4" R...	0.154	23.786	17	0.014	47.572		3	3164....	14313...	0.179	0.179	1.136	H1-1b
19	M38	3/4" R...	0.108	23.786	21	0.013	47.572		3	3164....	14313...	0.179	0.179	1.136	H1-1b
20	M37	3/4" R...	0.015	0	28	0.008	47.572		40	1550....	14313...	0.179	0.179	2.407	H1-1b*
21	M28	.625...	0.329	0	32	0.192	0.666	y	28	68522...	70875	0.923	5.168	1.667	H1-1b
22	M27	.625...	0.258	0	39	0.168	0	y	43	68522...	70875	0.923	5.168	1.667	H1-1b
23	M26	.625...	0.280	0	28	0.201	0.666	y	28	68522...	70875	0.923	5.168	1.667	H1-1b
24	M25	.625...	0.239	0	39	0.185	0.666	y	39	68522...	70875	0.923	5.168	1.667	H1-1b

Cold Formed Steel Code Checks

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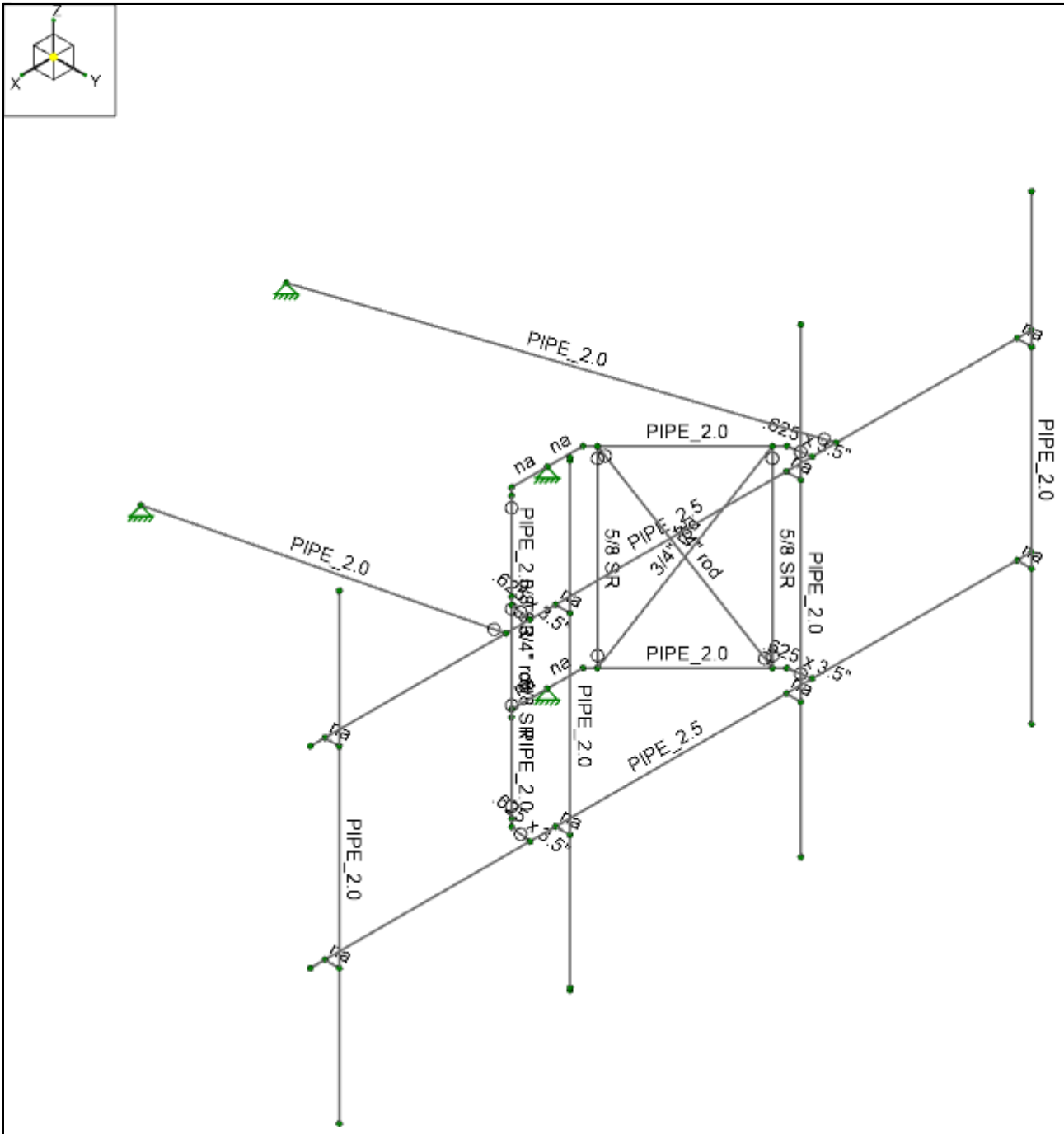

Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	1
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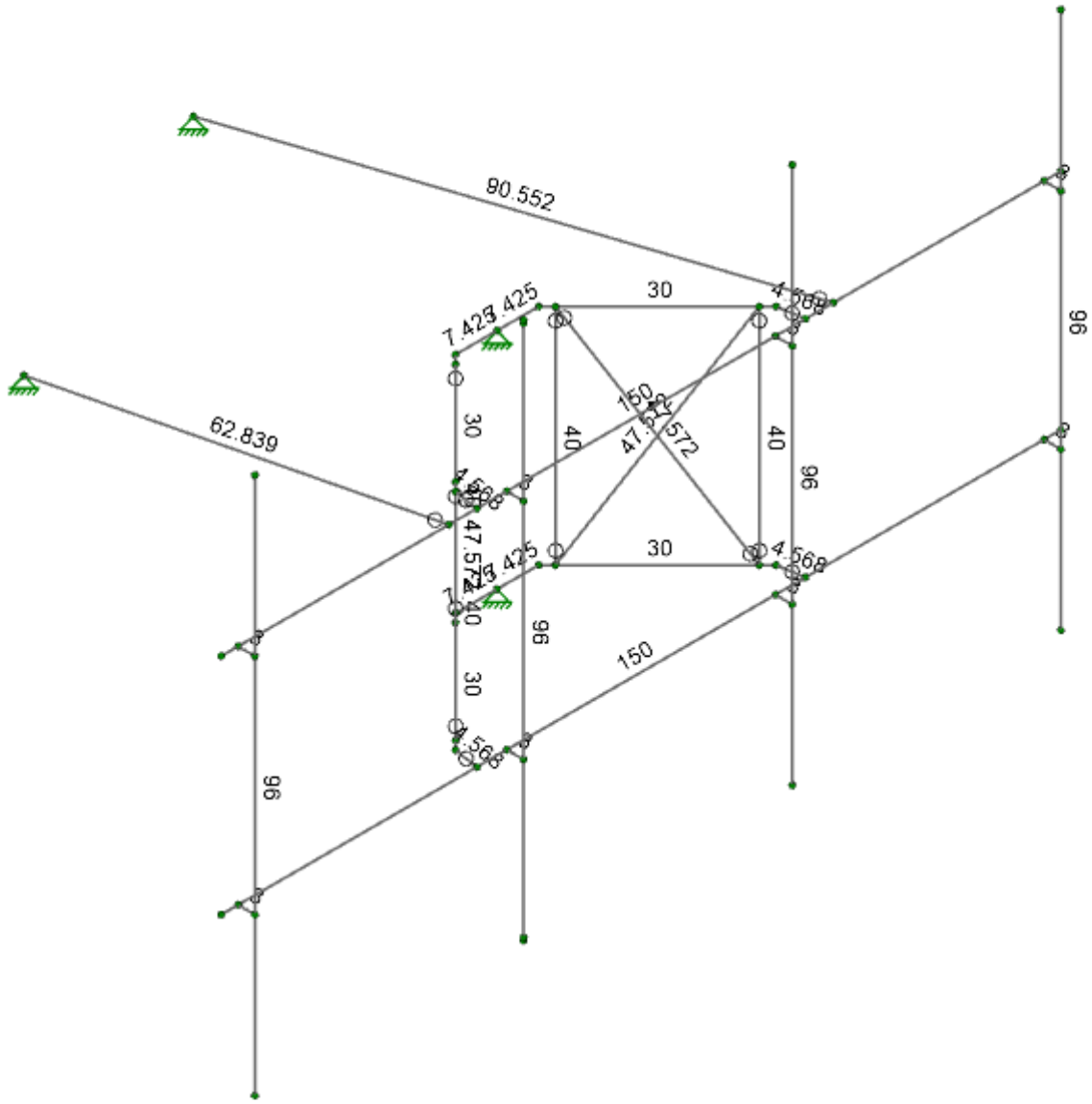

Member Length (in) Displayed
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	2
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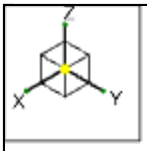

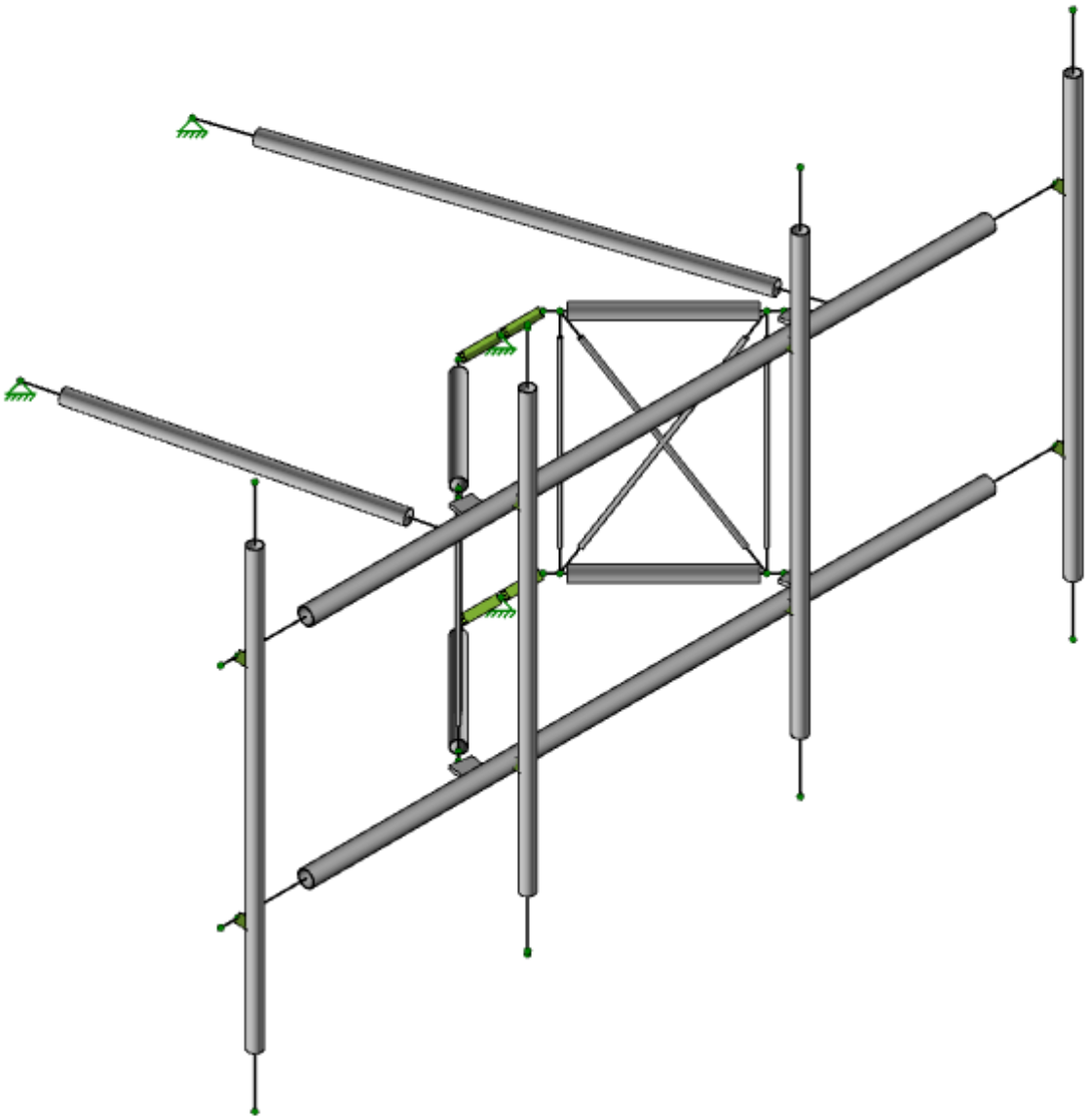

Member Length (in) Displayed
Envelope Only Solution

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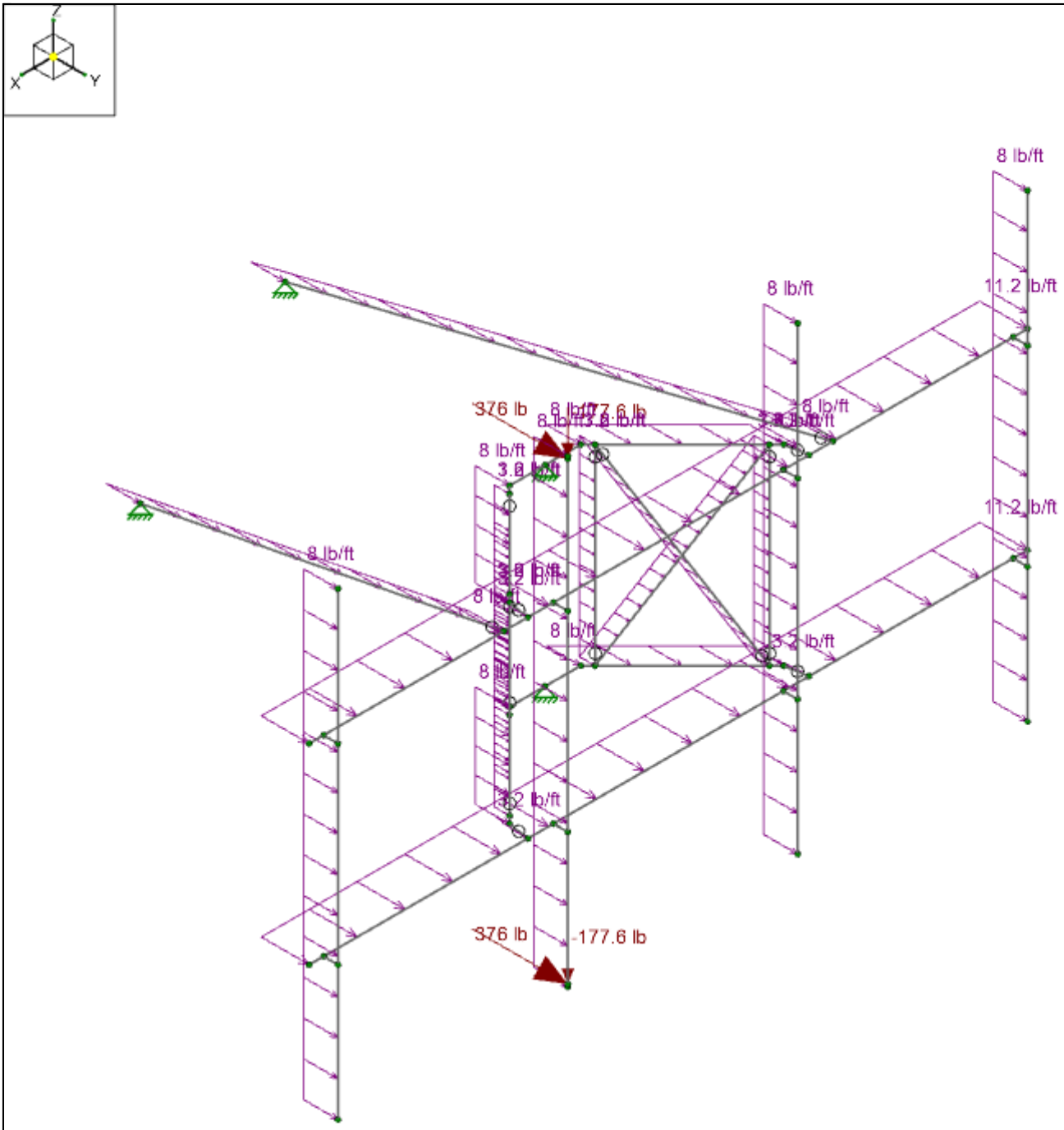

Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

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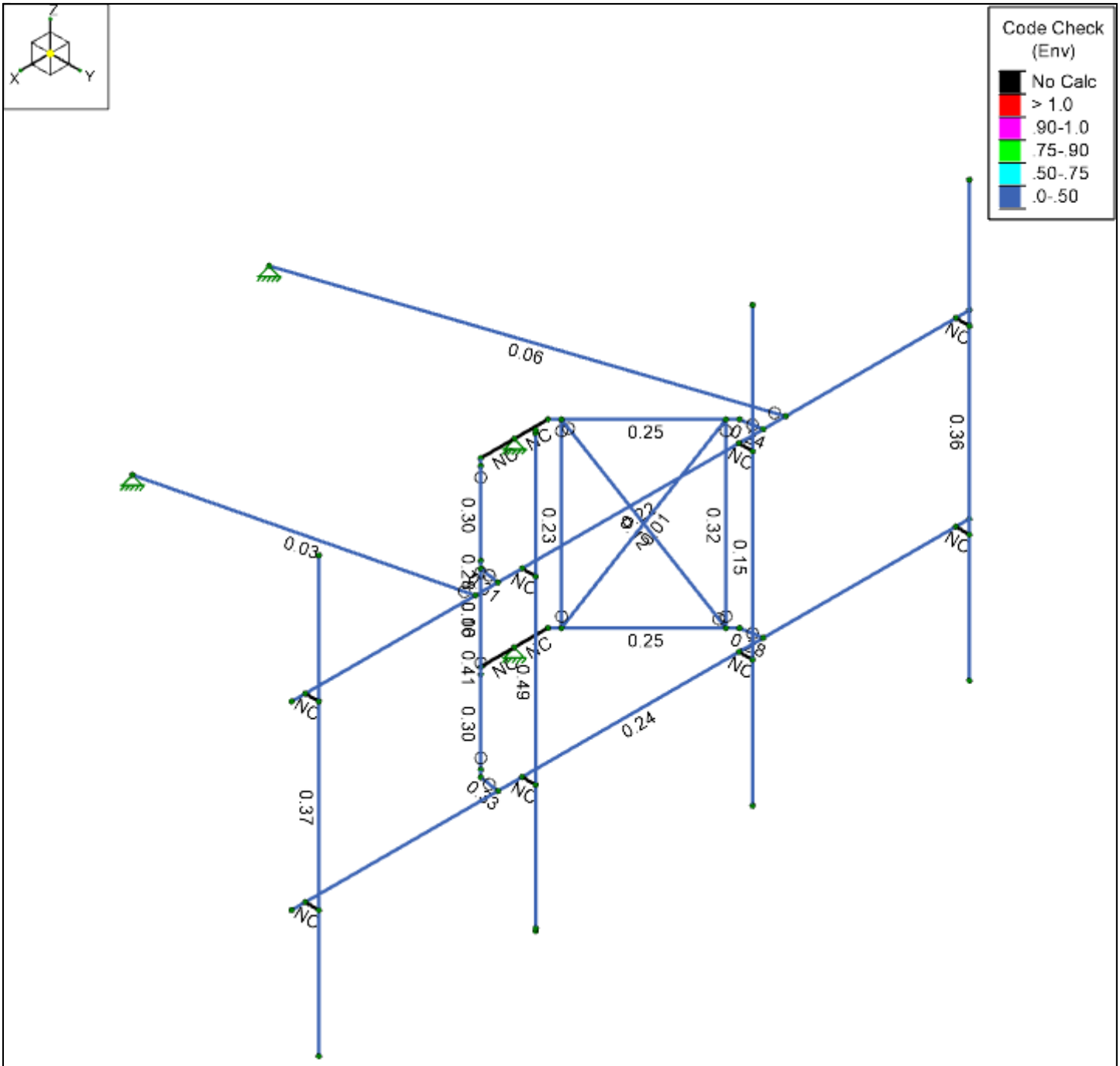

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	5
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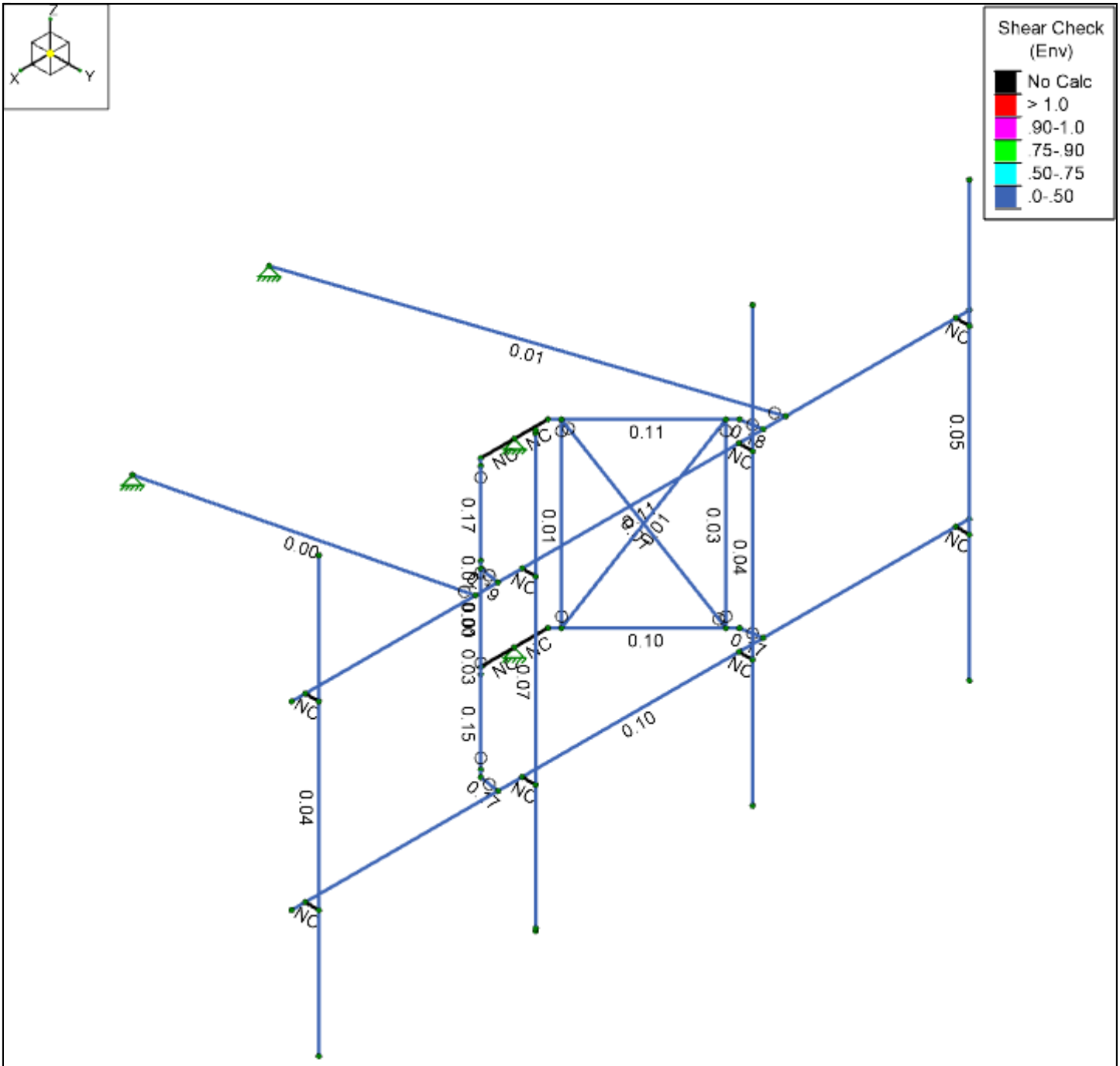

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	6
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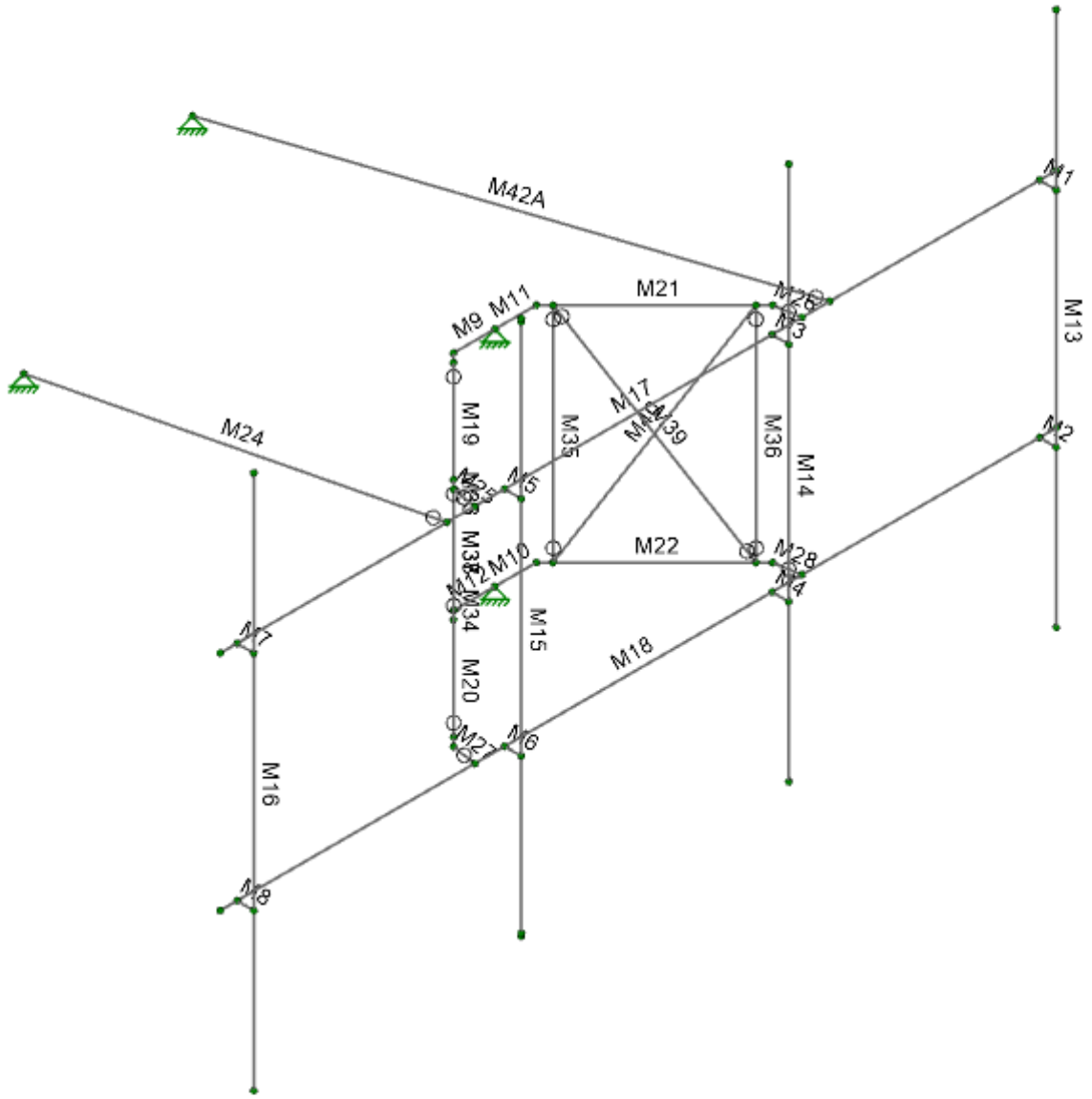

Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	7
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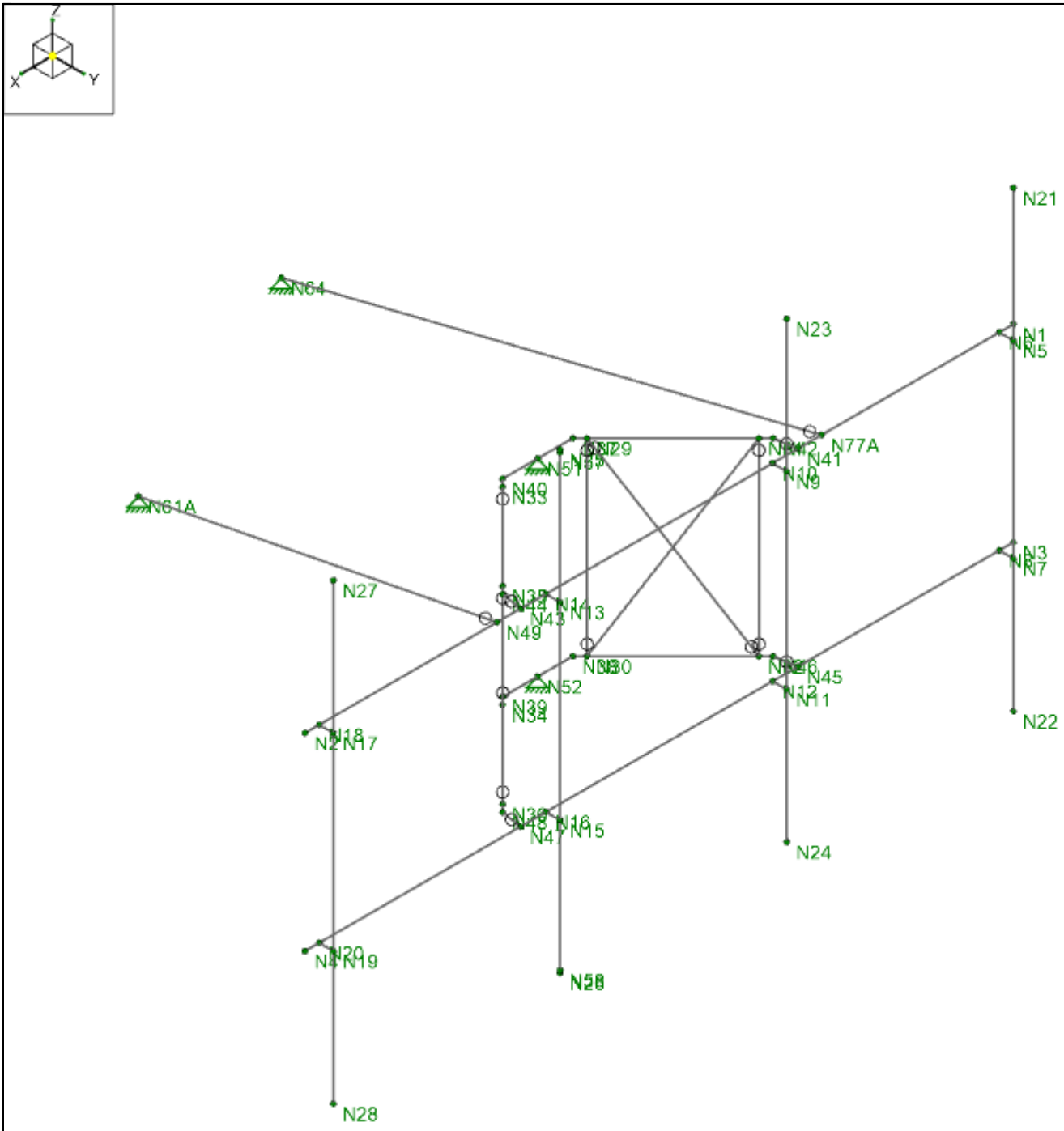

Envelope Only Solution

Foresite LLC / EFI Global Inc.	CT11410A - 203' RAD Center	8
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Cold Formed Steel Code Checks

No Data to Print...

Line Project Grid

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. C...	Density [k...	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

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff...	Density [k/ft³]	Yield [ksi]	Fu [ksi]
1	A570_33	29500	11346	0.3	0.65	0.49	33	52
2	A607_C1_55	29500	11346	0.3	0.65	0.49	55	70

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	HR1A	C15X50	Beam	None	A36 Gr.36	Typical	14.7	11	404	2.65

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in²]	Iyy [in⁴]	Izz [in⁴]	J [in⁴]
1	CF1A	1.5CU1.2...	Beam	None	A570_33	Typical	0.131	0.022	0.052	5.4e-05

Primary Member Properties

	Label	I Node	J Node	K Node	Rotate(deg)	Section/S...	Type	Design List	Material	Design Rule
1	M12	N52	N39			RIGID	None	None	LINK	Typical
2	M11	N51	N37			RIGID	None	None	LINK	Typical
3	M10	N38	N52			RIGID	None	None	LINK	Typical
4	M9	N40	N51			RIGID	None	None	LINK	Typical
5	M8	N19	N20			RIGID	None	None	LINK	Typical
6	M7	N17	N18			RIGID	None	None	LINK	Typical
7	M6	N15	N16			RIGID	None	None	LINK	Typical
8	M5	N13	N14			RIGID	None	None	LINK	Typical
9	M4	N11	N12			RIGID	None	None	LINK	Typical
10	M3	N9	N10			RIGID	None	None	LINK	Typical
11	M2	N7	N8			RIGID	None	None	LINK	Typical
12	M1	N5	N6			RIGID	None	None	LINK	Typical
13	M18	N3	N4			PIPE_2.5	Beam	None	A53 Gr.B	Typical
14	M17	N1	N2			PIPE_2.5	Beam	None	A53 Gr.B	Typical
15	M24	N49	N61A			PIPE_2.0	Beam	None	A53 Gr.B	Typical
16	M22	N38	N46			PIPE_2.0	Beam	None	A53 Gr.B	Typical
17	M21	N37	N42			PIPE_2.0	Beam	None	A53 Gr.B	Typical
18	M20	N39	N48			PIPE_2.0	Beam	None	A53 Gr.B	Typical
19	M19	N40	N44			PIPE_2.0	Beam	None	A53 Gr.B	Typical
20	M16	N27	N28			PIPE_2.0	Beam	None	A53 Gr.B	Typical
21	M15	N25	N26			PIPE_2.0	Beam	None	A53 Gr.B	Typical
22	M14	N23	N24			PIPE_2.0	Beam	None	A53 Gr.B	Typical
23	M13	N21	N22			PIPE_2.0	Beam	None	A53 Gr.B	Typical
24	M42A	N77A	N64			PIPE_2.0	Beam	None	A53 Gr.B	Typical
25	M36	N31	N32			5/8 SR	Beam	None	A36 Gr.36	Typical
26	M35	N29	N30			5/8 SR	Beam	None	A36 Gr.36	Typical

Primary Member Properties (Continued)

	Label	I Node	J Node	K Node	Rotate(deg)	Section/S...	Type	Design List	Material	Design Rule
27	M34	N35	N36			5/8 SR	Beam	None	A36 Gr.36	Typical
28	M33	N33	N34			5/8 SR	Beam	None	A36 Gr.36	Typical
29	M40	N31	N30			3/4" rod	Beam	None	A36 Gr.36	Typical
30	M39	N29	N32			3/4" rod	Beam	None	A36 Gr.36	Typical
31	M38	N33	N36			3/4" rod	Beam	None	A36 Gr.36	Typical
32	M37	N35	N34			3/4" rod	Beam	None	A36 Gr.36	Typical
33	M28	N46	N45			.625 x 3.5"	None	None	A36 Gr.36	Typical
34	M27	N48	N47			.625 x 3.5"	None	None	A36 Gr.36	Typical
35	M26	N42	N41			.625 x 3.5"	None	None	A36 Gr.36	Typical
36	M25	N44	N43			.625 x 3.5"	None	None	A36 Gr.36	Typical

Advanced Member Properties

	Label	I Release	J Release	I Offset [in]	J Offset [in]	T/C Only	Physical	Deflectio...	Analysis...	Activation	Seismic...
1	M12						Yes	** NA **			None
2	M11						Yes	** NA **			None
3	M10						Yes	** NA **			None
4	M9						Yes	** NA **			None
5	M8						Yes	** NA **			None
6	M7						Yes	** NA **			None
7	M6						Yes	** NA **			None
8	M5						Yes	** NA **			None
9	M4						Yes	** NA **			None
10	M3						Yes	** NA **			None
11	M2						Yes	** NA **			None
12	M1						Yes	** NA **			None
13	M18						Yes				None
14	M17						Yes				None
15	M24	BenPIN					Yes				None
16	M22						Yes				None
17	M21						Yes				None
18	M20						Yes				None
19	M19						Yes				None
20	M16						Yes				None
21	M15						Yes				None
22	M14						Yes				None
23	M13						Yes				None
24	M42A	BenPIN					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...	Yes				None
30	M39	BenPIN	BenPIN				Yes				None
31	M38	BenPIN	BenPIN				Yes				None
32	M37					Tension...	Yes				None
33	M28		BenPIN				Yes	** NA **			None
34	M27		BenPIN				Yes	** NA **			None
35	M26		BenPIN				Yes	** NA **			None
36	M25		BenPIN				Yes	** NA **			None

Hot Rolled Member Properties

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp t...	Lcomp...	L-Torqu...	K y-y	K z-z	Cb	Function
1	M18	PIPE_2.5	150									Lateral
2	M17	PIPE_2.5	150									Lateral
3	M24	PIPE_2.0	62.839									Lateral
4	M22	PIPE_2.0	30									Lateral
5	M21	PIPE_2.0	30									Lateral

Hot Rolled Member Properties (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp t...	Lcomp...	L-Torqu...	K y-y	K z-z	Cb	Function
6	M20	PIPE_2.0	30									Lateral
7	M19	PIPE_2.0	30									Lateral
8	M16	PIPE_2.0	96									Lateral
9	M15	PIPE_2.0	96									Lateral
10	M14	PIPE_2.0	96									Lateral
11	M13	PIPE_2.0	96									Lateral
12	M42A	PIPE_2.0	90.552									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	M28	.625 x 3...	4.568									Lateral
22	M27	.625 x 3...	4.568									Lateral
23	M26	.625 x 3...	4.568									Lateral
24	M25	.625 x 3...	4.568									Lateral

Cold Formed Member Properties

No Data to Print...

Nodes

	Label	X [in]	Y [in]	Z [in]	Temp [deg F]	Detach From Dia...
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		

Nodes (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [deg F]	Detach From Dia...
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		
54	N57	24	3	67.5		
55	N58	24	3	-27.5		
56	N61A	49.199072	-61.059004	40		

Boundary Conditions

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

Basic Load Cases

	BLC Desc...	Category	X Gravity	Y Gravity	Z Gravity	Nodal	Point	Distributed	Area(Me...	Surface(P...
1	DEAD LO...	None			-1	2				
2	DEAD LO...	None				2		24		
3	WIND LO...	None				2		24		
4	WIND LO...	None				2		24		
5	WIND LO...	None				2		24		
6	WIND LO...	None				2		24		
7	LIVE LOA...	None				1				
8	LIVE LOA...	None				1				
9	LIVE LOA...	None								
10	MAINTEN...	None				1				
11	MAINTEN...	None				1				
12	MAINTEN...	None				1				
13	MAINTEN...	None				1				

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Z	-148	Active
2	N58	L	Z	-148	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Z	-313	Active
2	N58	L	Z	-313	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Y	235	Active
2	N58	L	Y	235	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	X	163	Active
2	N58	L	X	163	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	Y	76	Active
2	N58	L	Y	76	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N57	L	X	60	Active
2	N58	L	X	60	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N3	L	Z	-250	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N4	L	Z	-250	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N22	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N24	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N26	L	Z	-500	Active

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft),...	Inactive [(lb, k-ft), (in,...
1	N28	L	Z	-500	Active

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
1	M18	Z	-10	-10	0	%100	Active
2	M17	Z	-10	-10	0	%100	Active
3	M24	Z	-9	-9	0	%100	Active
4	M22	Z	-9	-9	0	%100	Active

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
5	M21	Z	-9	-9	0	%100	Active
6	M20	Z	-9	-9	0	%100	Active
7	M19	Z	-9	-9	0	%100	Active
8	M16	Z	-9	-9	0	%100	Active
9	M15	Z	-9	-9	0	%100	Active
10	M14	Z	-9	-9	0	%100	Active
11	M13	Z	-9	-9	0	%100	Active
12	M42A	Z	-9	-9	0	%100	Active
13	M36	Z	-5	-5	0	%100	Active
14	M35	Z	-5	-5	0	%100	Active
15	M34	Z	-5	-5	0	%100	Active
16	M33	Z	-5	-5	0	%100	Active
17	M40	Z	-6	-6	0	%100	Active
18	M39	Z	-6	-6	0	%100	Active
19	M38	Z	-6	-6	0	%100	Active
20	M37	Z	-6	-6	0	%100	Active
21	M28	Z	-14	-14	0	%100	Active
22	M27	Z	-14	-14	0	%100	Active
23	M26	Z	-14	-14	0	%100	Active
24	M25	Z	-14	-14	0	%100	Active

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

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

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
1	M18	PX	7	7	0	%100	Active
2	M17	PX	7	7	0	%100	Active
3	M24	PX	5	5	0	%100	Active
4	M22	PX	5	5	0	%100	Active
5	M21	PX	5	5	0	%100	Active
6	M20	PX	5	5	0	%100	Active
7	M19	PX	5	5	0	%100	Active

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
8	M16	PX	5	5	0	%100	Active
9	M15	PX	5	5	0	%100	Active
10	M14	PX	5	5	0	%100	Active
11	M13	PX	5	5	0	%100	Active
12	M42A	PX	5	5	0	%100	Active
13	M36	PX	1	1	0	%100	Active
14	M35	PX	1	1	0	%100	Active
15	M34	PX	1	1	0	%100	Active
16	M33	PX	1	1	0	%100	Active
17	M40	PX	2	2	0	%100	Active
18	M39	PX	2	2	0	%100	Active
19	M38	PX	2	2	0	%100	Active
20	M37	PX	2	2	0	%100	Active
21	M28	PX	2	2	0	%100	Active
22	M27	PX	2	2	0	%100	Active
23	M26	PX	2	2	0	%100	Active
24	M25	PX	2	2	0	%100	Active

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

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

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
1	M18	PX	5.6	5.6	0	%100	Active
2	M17	PX	5.6	5.6	0	%100	Active
3	M24	PX	5.2	5.2	0	%100	Active
4	M22	PX	5.2	5.2	0	%100	Active
5	M21	PX	5.2	5.2	0	%100	Active
6	M20	PX	5.2	5.2	0	%100	Active
7	M19	PX	5.2	5.2	0	%100	Active
8	M16	PX	5.2	5.2	0	%100	Active
9	M15	PX	5.2	5.2	0	%100	Active
10	M14	PX	5.2	5.2	0	%100	Active

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

	Member Label	Direction	Start Magnitud...	End Magnitude...	Start Location [...	End Location [(...	Inactive [(lb, k-...
11	M13	PX	5.2	5.2	0	%100	Active
12	M42A	PX	5.2	5.2	0	%100	Active
13	M36	PX	3.7	3.7	0	%100	Active
14	M35	PX	3.7	3.7	0	%100	Active
15	M34	PX	3.7	3.7	0	%100	Active
16	M33	PX	3.7	3.7	0	%100	Active
17	M40	PX	3.8	3.8	0	%100	Active
18	M39	PX	3.8	3.8	0	%100	Active
19	M38	PX	3.8	3.8	0	%100	Active
20	M37	PX	3.8	3.8	0	%100	Active
21	M28	PX	4	4	0	%100	Active
22	M27	PX	4	4	0	%100	Active
23	M26	PX	4	4	0	%100	Active
24	M25	PX	4	4	0	%100	Active

Load Combinations

	De...	So...	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
1	DL...	Yes	Y		1	1.2			3	1.6														
2	DL...	Yes	Y		1	1.2			3	1.3...	4	0.8												
3	DL...	Yes	Y		1	1.2			3	0.8	4	1.3...												
4	DL...	Yes	Y		1	1.2					4	1.6												
5	DL...	Yes	Y		1	1.2			3	-0.8	4	1.3...												
6	DL...	Yes	Y		1	1.2			3	-1....	4	0.8												
7	DL...	Yes	Y		1	1.2			3	-1.6														
8	DL...	Yes	Y		1	1.2			3	-1....	4	-0.8												
9	DL...	Yes	Y		1	1.2			3	-0.8	4	-1....												
10	DL...	Yes	Y		1	1.2					4	-1.6												
11	DL...	Yes	Y		1	1.2			3	0.8	4	-1....												
12	DL...	Yes	Y		1	1.2			3	1.3...	4	-0.8												
13	DL...	Yes	Y		1	1.2	2	1	5	1														
14	DL...	Yes	Y		1	1.2	2	1	5	0.8...	6	0.5												
15	DL...	Yes	Y		1	1.2	2	1	5	0.5	6	0.8...												
16	DL...	Yes	Y		1	1.2	2	1			6	1												
17	DL...	Yes	Y		1	1.2	2	1	5	-0.5	6	0.8...												
18	DL...	Yes	Y		1	1.2	2	1	5	-0....	6	0.5												
19	DL...	Yes	Y		1	1.2	2	1	5	-1														
20	DL...	Yes	Y		1	1.2	2	1	5	-0....	6	-0.5												
21	DL...	Yes	Y		1	1.2	2	1	5	-0.5	6	-0....												
22	DL...	Yes	Y		1	1.2	2	1			6	-1												
23	DL...	Yes	Y		1	1.2	2	1	5	0.5	6	-0....												
24	DL...	Yes	Y		1	1.2	2	1	5	0.8...	6	-0.5												
25	DE...	Yes	Y		1	1.2					7	1.5												
26	DE...	Yes	Y		1	1.2					8	1.5												
27	DE...	Yes	Y		1	1.2					9	1.5												
28	DL...	Yes	Y		1	1.2	10	1.5	3	0.1...														
29	DL...	Yes	Y		1	1.2	11	1.5	3	0.1...														
30	DL...	Yes	Y		1	1.2	12	1.5	3	0.1...														
31	DL...	Yes	Y		1	1.2	13	1.5	3	0.1...														
32	DL...	Yes	Y		1	1.2	10	1.5	4	0.1...														
33	DL...	Yes	Y		1	1.2	11	1.5	4	0.1...														
34	DL...	Yes	Y		1	1.2	12	1.5	4	0.1...														
35	DL...	Yes	Y		1	1.2	13	1.5	4	0.1...														
36	DL...	Yes	Y		1	1.2	10	1.5	3	-0....														
37	DL...	Yes	Y		1	1.2	11	1.5	3	-0....														
38	DL...	Yes	Y		1	1.2	12	1.5	3	-0....														
39	DL...	Yes	Y		1	1.2	13	1.5	3	-0....														
40	DL...	Yes	Y		1	1.2	10	1.5	4	-0....														
41	DL...	Yes	Y		1	1.2	11	1.5	4	-0....														

Load Combinations (Continued)

	De...	So...	PD...	SR...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...
42	DL...	Yes	Y		1	1.2	12	1.5	4	-0....														
43	DL...	Yes	Y		1	1.2	13	1.5	4	-0....														

Node Reactions

	Node...		X [lbs]	LC	Y [lbs]	LC	Z [lbs]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N51	max	1015.0...	40	-116.019	9	1855.8...	15	0	43	0	43	0	43
2		min	-1419....	35	-1751....	17	585.523	10	0	1	0	1	0	1
3	N52	max	1584.7...	43	1736.7...	19	450.161	20	0	43	0	43	0	43
4		min	-1166....	32	-199.122	1	95.776	4	0	1	0	1	0	1
5	N64	max	102.88	28	344.333	43	49.679	14	0	43	0	43	0	43
6		min	-112.513	39	-314.332	32	15.698	8	0	1	0	1	0	1
7	N61A	max	186.564	11	738.937	5	34.785	23	0	43	0	43	0	43
8		min	-196.546	5	-696.741	11	10.363	35	0	1	0	1	0	1
9	Totals:	max	1005.2...	10	1442.3...	7	2358.8...	13						
10		min	-1005....	4	-1442.35	1	806.644	6						

Node Displacements

	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
1	N1	max	0.029	35	0.064	2	0.114	31	2.284e...	6	1.797e...	31	1.435e...	8
2		min	-0.023	40	-0.049	8	-0.39	36	-2.271...	12	-5.528...	36	-1.741...	2
3	N2	max	0.03	35	0.058	31	0.075	32	2.176e...	8	5.797e...	43	1.697e...	12
4		min	-0.022	40	-0.049	36	-0.429	43	-2.719...	2	-1.546...	32	-1.648...	6
5	N3	max	0.057	32	0.098	4	0.114	43	1.415e...	25	1.799e...	43	1.526e...	8
6		min	-0.057	43	-0.082	10	-0.39	32	-1.405...	9	-5.559...	32	-1.762...	2
7	N4	max	0.056	32	0.125	12	0.075	36	4.299e...	12	5.783e...	31	1.725e...	12
8		min	-0.057	43	-0.141	6	-0.43	31	-4.944...	6	-1.504...	36	-1.806...	6
9	N5	max	0.03	35	0.059	2	0.105	31	2.284e...	6	1.797e...	31	1.435e...	8
10		min	-0.024	40	-0.045	8	-0.372	36	-2.271...	12	-5.528...	36	-1.741...	2
11	N6	max	0.029	35	0.059	2	0.109	31	2.284e...	6	1.797e...	31	1.435e...	8
12		min	-0.023	40	-0.045	8	-0.373	36	-2.271...	12	-5.528...	36	-1.741...	2
13	N7	max	0.057	32	0.095	4	0.105	31	1.415e...	25	1.799e...	43	1.526e...	8
14		min	-0.056	11	-0.08	10	-0.372	36	-1.405...	9	-5.559...	32	-1.762...	2
15	N8	max	0.057	32	0.095	4	0.109	43	1.415e...	25	1.799e...	43	1.526e...	8
16		min	-0.057	43	-0.08	10	-0.374	32	-1.405...	9	-5.559...	32	-1.762...	2
17	N9	max	0.031	35	0.002	6	0.03	35	2.961e...	7	1.778e...	43	5.67e-04	40
18		min	-0.024	40	-0.002	12	-0.059	40	-2.971...	1	-3.288...	32	-6.449...	35
19	N10	max	0.029	35	0.002	6	0.032	31	2.961e...	7	1.778e...	43	5.67e-04	40
20		min	-0.022	40	-0.002	12	-0.06	36	-2.971...	1	-3.288...	32	-6.449...	35
21	N11	max	0.06	5	0.05	5	0.03	35	2.153e...	2	1.797e...	31	1.307e...	11
22		min	-0.06	11	-0.044	11	-0.059	40	-2.309...	8	-3.246...	36	-1.586...	5
23	N12	max	0.056	32	0.05	5	0.032	39	2.153e...	2	1.797e...	31	1.307e...	11
24		min	-0.057	43	-0.044	11	-0.06	28	-2.309...	8	-3.246...	36	-1.586...	5
25	N13	max	0.027	35	0.004	28	0.009	40	5.625e...	7	3.819e...	35	6.576e...	39
26		min	-0.02	40	-0.004	39	-0.082	35	-6.151...	1	-1.275...	40	-6.682...	28
27	N14	max	0.029	35	0.004	28	0.012	28	5.625e...	7	3.819e...	35	6.576e...	39
28		min	-0.022	40	-0.004	39	-0.083	39	-6.151...	1	-1.275...	40	-6.682...	28
29	N15	max	0.061	5	0.044	11	0.009	40	6.626e...	1	3.794e...	43	1.671e...	11
30		min	-0.062	11	-0.052	5	-0.082	35	-7.327...	7	-1.32e...	32	-1.842...	5
31	N16	max	0.056	32	0.044	11	0.013	36	6.626e...	1	3.794e...	43	1.671e...	11
32		min	-0.057	43	-0.052	5	-0.082	31	-7.327...	7	-1.32e...	32	-1.842...	5
33	N17	max	0.027	35	0.055	31	0.067	32	2.176e...	8	5.797e...	43	1.697e...	12
34		min	-0.019	40	-0.046	36	-0.413	43	-2.719...	2	-1.546...	32	-1.648...	6
35	N18	max	0.03	35	0.055	31	0.07	32	2.176e...	8	5.797e...	43	1.697e...	12
36		min	-0.022	40	-0.046	36	-0.412	43	-2.719...	2	-1.546...	32	-1.648...	6
37	N19	max	0.059	5	0.12	12	0.067	32	4.299e...	12	5.783e...	31	1.725e...	12
38		min	-0.061	43	-0.136	6	-0.413	43	-4.944...	6	-1.504...	36	-1.806...	6
39	N20	max	0.056	32	0.12	12	0.071	36	4.299e...	12	5.783e...	31	1.725e...	12

Node Displacements (Continued)

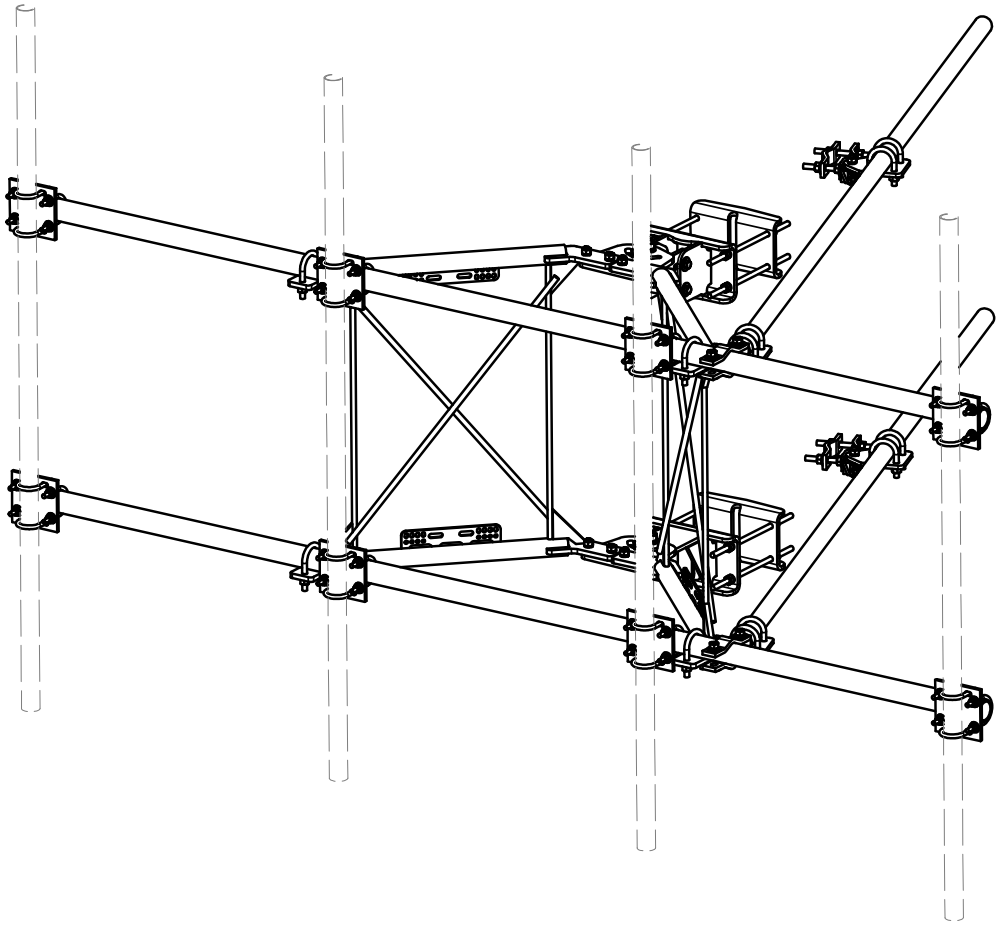
	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
40		min	-0.057	43	-0.136	6	-0.413	31	-4.944...	6	-1.504...	36	-1.806...	6
41	N21	max	0.08	31	0.107	1	0.105	31	2.43e-03	6	1.797e...	31	1.435e...	8
42		min	-0.178	36	-0.093	7	-0.372	36	-2.416...	12	-5.528...	36	-1.741...	2
43	N22	max	0.211	32	0.129	4	0.105	31	1.416e...	3	1.81e-03	43	1.526e...	8
44		min	-0.106	43	-0.116	10	-0.373	36	-1.489...	9	-5.459...	32	-1.762...	2
45	N23	max	0.079	35	0.085	1	0.03	35	3.129e...	7	1.768e...	43	5.67e-04	40
46		min	-0.115	40	-0.085	7	-0.059	40	-3.139...	1	-3.277...	32	-6.449...	35
47	N24	max	0.148	32	0.07	3	0.03	35	2.298e...	2	1.797e...	31	1.307e...	11
48		min	-0.107	43	-0.07	9	-0.059	40	-2.454...	8	-3.245...	36	-1.586...	5
49	N25	max	0.185	4	0.366	1	0.009	40	1.563e...	7	8.221e...	4	6.576e...	39
50		min	-0.163	10	-0.351	7	-0.082	35	-1.615...	1	-7.677...	10	-6.682...	28
51	N26	max	0.22	4	0.4	1	0.009	40	1.65e-02	1	8.669e...	10	1.671e...	11
52		min	-0.234	10	-0.428	7	-0.082	35	-1.72e...	7	-8.185...	4	-1.842...	5
53	N27	max	0.187	31	0.12	2	0.067	32	2.321e...	8	5.787e...	43	1.697e...	12
54		min	-0.06	36	-0.098	8	-0.413	43	-2.865...	2	-1.536...	32	-1.648...	6
55	N28	max	0.101	32	0.244	12	0.067	32	4.444e...	12	5.667e...	31	1.725e...	12
56		min	-0.22	43	-0.278	6	-0.414	43	-5.089...	6	-1.503...	36	-1.806...	6
57	N29	max	0.002	40	0.014	40	0.037	43	-5.767...	5	4.12e-03	43	1.615e...	35
58		min	-0.003	35	-0.02	35	-0.03	36	-2.166...	23	-2.776...	32	-1.185...	40
59	N30	max	0.003	6	0.017	6	0.036	43	8.286e...	28	3.807e...	31	1.098e...	12
60		min	-0.002	12	-0.009	12	-0.026	36	-9.988...	13	-2.545...	36	-1.863...	6
61	N31	max	0.015	35	0.001	6	0.051	35	-6.341...	2	2.013e...	43	1.8e-03	40
62		min	-0.011	40	-0.002	24	-0.056	36	-3.183...	20	-2.128...	32	-2.299...	35
63	N32	max	0.04	5	0.052	5	0.051	35	-5.254...	7	1.722e...	35	3.851e...	43
64		min	-0.038	11	-0.044	11	-0.051	36	-3.12e...	24	-2.343...	36	-3.464...	32
65	N33	max	0.002	40	0.02	35	0.026	36	-6.261...	26	3.923e...	31	1.786e...	35
66		min	-0.003	35	-0.015	40	-0.041	43	-1.937...	16	-2.999...	36	-1.291...	40
67	N34	max	0.003	6	0.009	12	0.026	32	1.8e-04	31	3.618e...	43	1.242e...	12
68		min	-0.002	12	-0.018	6	-0.037	43	-8.697...	17	-2.75e...	32	-2.034...	6
69	N35	max	0.011	35	0.007	35	0.032	28	5.798e...	12	2.561e...	35	2.045e...	40
70		min	-0.008	40	-0.005	40	-0.076	39	-3.478...	18	-1.641...	40	-2.781...	35
71	N36	max	0.043	5	0.046	11	0.033	40	1.763e...	7	2.812e...	43	3.879e...	43
72		min	-0.041	11	-0.057	5	-0.07	35	-3.613...	13	-1.327...	32	-3.436...	32
73	N37	max	0	35	0.012	40	0.033	43	-6.478...	5	4.442e...	43	2.278e...	35
74		min	0	40	-0.017	35	-0.024	36	-2.141...	23	-3.17e...	36	-1.657...	40
75	N38	max	0	36	0.015	6	0.031	43	-1.111...	31	4.121e...	43	1.006e...	12
76		min	0	31	-0.007	12	-0.022	32	-9.48e...	16	-2.917...	32	-1.954...	6
77	N39	max	0	28	0.007	12	0.022	32	-1.111...	31	4.121e...	43	1.006e...	12
78		min	0	39	-0.015	6	-0.031	43	-9.48e...	16	-2.917...	32	-1.954...	6
79	N40	max	0	35	0.017	35	0.024	36	-6.478...	5	4.442e...	43	2.278e...	35
80		min	0	40	-0.012	40	-0.033	43	-2.141...	23	-3.17e...	36	-1.657...	40
81	N41	max	0.029	35	0.004	35	0.041	31	2.846e...	7	1.693e...	43	5.786e...	40
82		min	-0.022	40	-0.003	40	-0.081	36	-2.866...	1	-4.518...	32	-8.039...	35
83	N42	max	0.019	35	0.003	5	0.05	35	-6.443...	2	1.962e...	43	1.825e...	40
84		min	-0.014	40	-0.002	11	-0.062	36	-3.413...	20	-2.452...	32	-2.3e-03	35
85	N43	max	0.029	35	0.003	1	0.019	28	5.174e...	7	4.958e...	31	9.587e...	35
86		min	-0.022	40	-0.002	7	-0.106	39	-5.713...	1	-1.253...	36	-8.537...	40
87	N44	max	0.015	35	0.003	2	0.031	28	5.992e...	1	2.901e...	35	2.233e...	40
88		min	-0.011	40	-0.002	8	-0.083	39	-3.963...	18	-1.561...	40	-3.047...	35
89	N45	max	0.056	32	0.057	5	0.041	39	2.029e...	2	1.703e...	31	1.144e...	10
90		min	-0.057	43	-0.051	11	-0.08	28	-2.184...	8	-4.489...	36	-1.405...	4
91	N46	max	0.044	5	0.056	5	0.05	35	-5.754...	7	1.692e...	35	4.008e...	43
92		min	-0.043	11	-0.049	11	-0.057	40	-3.377...	13	-2.659...	36	-3.627...	32
93	N47	max	0.056	32	0.052	11	0.019	36	6.328e...	1	4.944e...	43	1.561e...	11
94		min	-0.057	43	-0.061	5	-0.105	31	-7.03e...	7	-1.276...	32	-1.727...	5
95	N48	max	0.046	5	0.05	11	0.031	36	8.904e...	7	3.153e...	43	4.075e...	43
96		min	-0.045	11	-0.06	5	-0.078	31	-4.175...	13	-1.277...	32	-3.56e...	32
97	N49	max	0.029	35	0.006	35	0.024	28	4.764e...	7	6.184e...	31	1.164e...	35

Node Displacements (Continued)

	Node...		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rota...	LC	Y Rota...	LC	Z Rota...	LC
98		min	-0.022	40	-0.005	40	-0.134	39	-5.305...	1	-1.187...	36	-9.537...	40
99	N51	max	0	35	0	17	0	10	-6.478...	5	4.442e...	43	2.278e...	35
100		min	0	40	0	9	0	15	-2.141...	23	-3.17e...	36	-1.657...	40
101	N52	max	0	32	0	1	0	4	-1.111...	31	4.121e...	43	1.006e...	12
102		min	0	43	0	19	0	20	-9.48e...	16	-2.917...	32	-1.954...	6
103	N77A	max	0.029	35	0.008	35	0.049	31	2.75e-03	7	1.607e...	43	5.052e...	8
104		min	-0.022	40	-0.006	40	-0.107	36	-2.767...	1	-5.769...	32	-9.179...	14
105	N64	max	0	39	0	32	0	8	-6.145...	36	1.621e...	31	1.408e...	10
106		min	0	28	0	43	0	14	-2.449...	23	-5.938...	36	-1.488...	4
107	N57	max	0.181	4	0.358	1	0.009	40	1.563e...	7	8.221e...	4	6.576e...	39
108		min	-0.159	10	-0.343	7	-0.082	35	-1.615...	1	-7.677...	10	-6.682...	28
109	N58	max	0.215	4	0.392	1	0.009	40	1.65e-02	1	8.669e...	10	1.671e...	11
110		min	-0.23	10	-0.419	7	-0.082	35	-1.72e...	7	-8.185...	4	-1.842...	5
111	N61A	max	0	5	0	11	0	35	3.565e...	36	5.388e...	31	6.157e...	10
112		min	0	11	0	5	0	23	-3.723...	35	-1.543...	7	-7.292...	4

LRFD

	Member	Shape	Code...	Loc [in]	LC	Shear...	Loc [in]	Dir	LC	phi*P...	phi*P...	phi*M...	phi*M...	Cb	Eqn
1	M18	PIPE...	0.238	45.313	32	0.103	51.563		6	14558...	50715	3.596	3.596	2.087	H1-1b
2	M17	PIPE...	0.224	104.688	43	0.109	103.125		7	14558...	50715	3.596	3.596	1.943	H1-1b
3	M24	PIPE...	0.033	62.839	5	0.004	62.839		16	23127...	32130	1.872	1.872	1.136	H1-1b*
4	M22	PIPE...	0.247	1.875	43	0.099	28.125		29	29810...	32130	1.872	1.872	1.501	H1-1b
5	M21	PIPE...	0.251	0	35	0.110	0		37	29810...	32130	1.872	1.872	1.74	H1-1b
6	M20	PIPE...	0.298	2.188	43	0.154	28.125		24	29810...	32130	1.872	1.872	1.418	H1-1b
7	M19	PIPE...	0.302	1.875	35	0.170	0		19	29810...	32130	1.872	1.872	1.249	H1-1b
8	M16	PIPE...	0.366	68	39	0.043	28		35	14916...	32130	1.872	1.872	3	H1-1b
9	M15	PIPE...	0.487	28	1	0.072	28		6	14916...	32130	1.872	1.872	1.344	H1-1b
10	M14	PIPE...	0.145	68	6	0.036	68		32	14916...	32130	1.872	1.872	2.402	H1-1b
11	M13	PIPE...	0.360	68	28	0.046	28		40	14916...	32130	1.872	1.872	3	H1-1b
12	M42A	PIPE...	0.060	45.276	21	0.005	90.552		22	16233...	32130	1.872	1.872	1.136	H1-1b
13	M36	5/8 SR	0.319	25.417	36	0.027	40		31	2855....	9946.8	0.097	0.097	1.136	H1-1a
14	M35	5/8 SR	0.230	25.417	32	0.013	40		35	2855....	9946.8	0.097	0.097	1	H1-1a
15	M34	5/8 SR	0.407	20.833	19	0.029	40		43	2855....	9946.8	0.097	0.097	1.136	H1-1a
16	M33	5/8 SR	0.283	25.417	31	0.014	40		35	2855....	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....	14313...	0.179	0.179	2.421	H1-1b*
18	M39	3/4" rod	0.122	23.786	17	0.013	47.572		5	3164....	14313...	0.179	0.179	1.136	H1-1b
19	M38	3/4" rod	0.161	23.786	21	0.015	47.572		11	3164....	14313...	0.179	0.179	1.136	H1-1b
20	M37	3/4" rod	0.000	47.572	43	0.000	47.572		43	1550....	14313...	0.179	0.179	1	H1-1a
21	M28	.625 x...	0.275	0	32	0.173	0	y	32	68522...	70875	0.923	5.168	1.667	H1-1b
22	M27	.625 x...	0.334	0	31	0.172	0	y	43	68522...	70875	0.923	5.168	1.667	H1-1b
23	M26	.625 x...	0.235	0	36	0.182	0.666	y	36	68522...	70875	0.923	5.168	1.667	H1-1b
24	M25	.625 x...	0.310	0	39	0.191	0.666	y	39	68522...	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

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
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ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
12' 6" HEAVY DUTY
V-FRAME ASSEMBLY
WITH TWO STIFF ARMS

SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

Locations:
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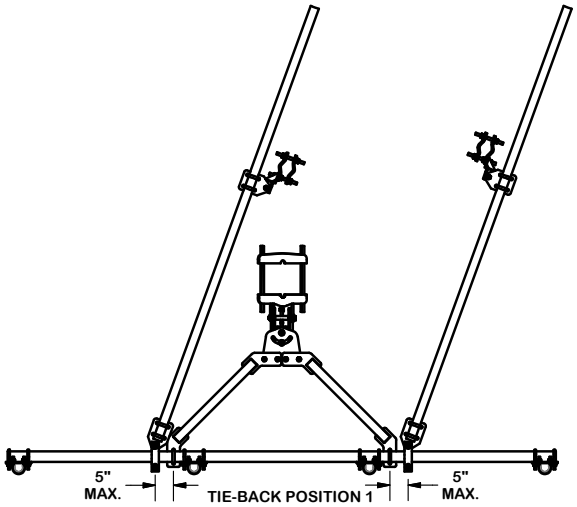
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

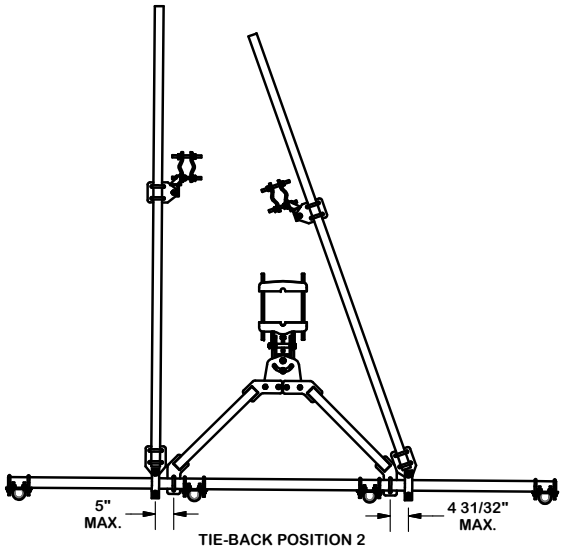
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 1/25/2017		VFA12-HD

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

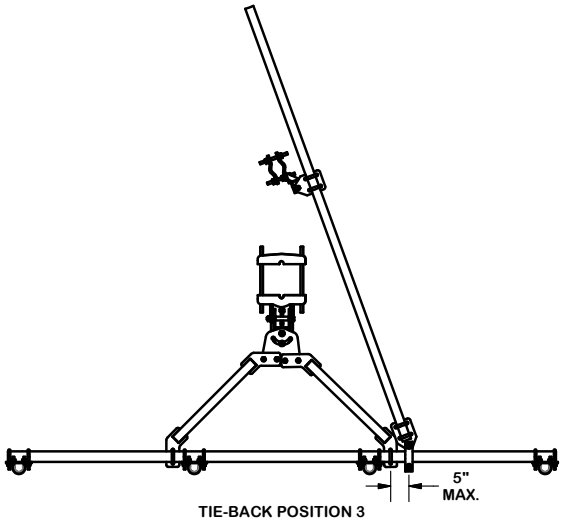
TIE-BACK POSITIONS



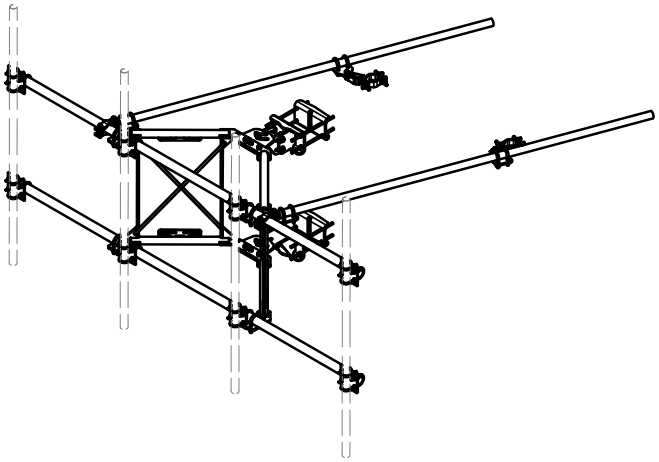
TIE-BACK POSITION 1
-20° / +20° TOP PARALLEL

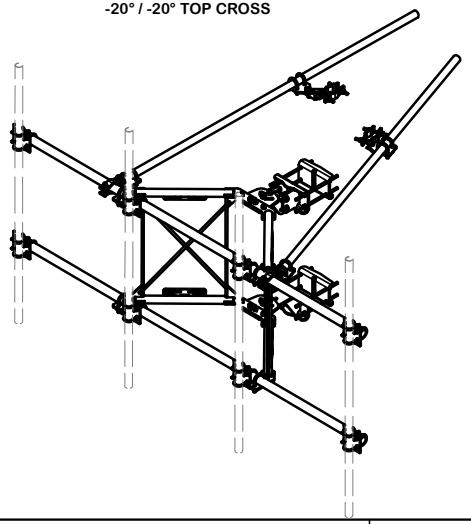


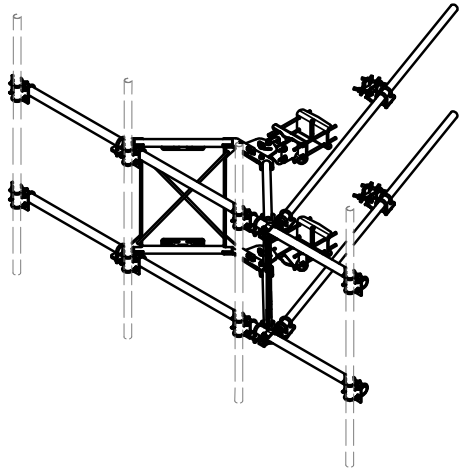
TIE-BACK POSITION 2
-20° / -20° TOP CROSS



TIE-BACK POSITION 3
-20° SAME SIDE STACKED







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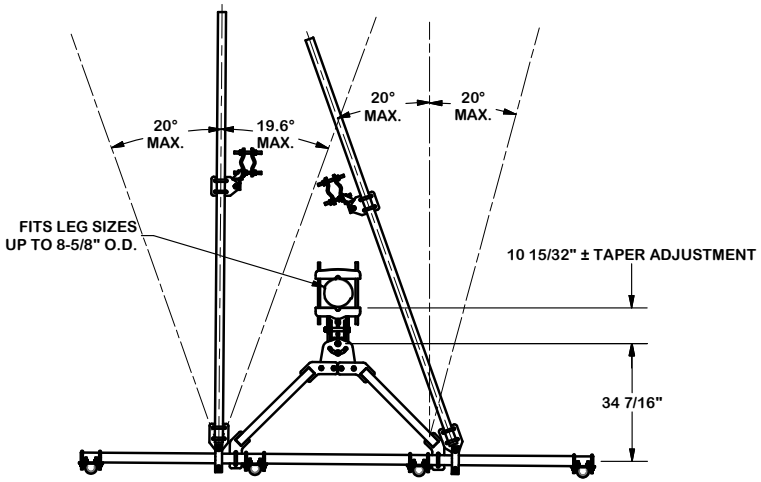
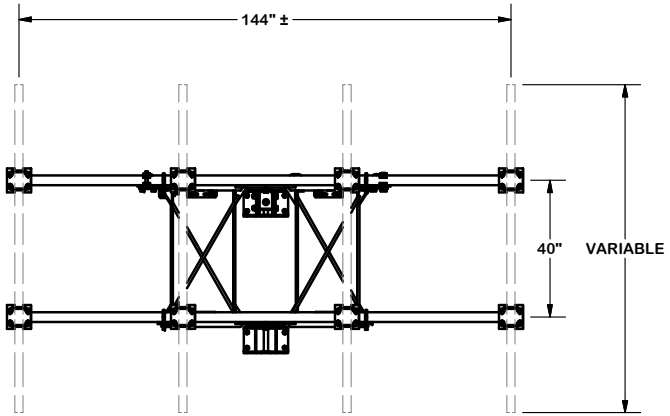
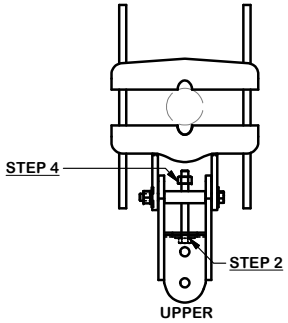
CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 12/13/2017	VFA12-HD

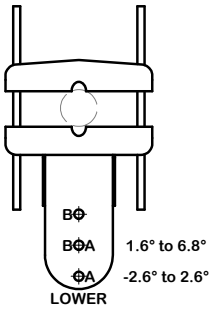


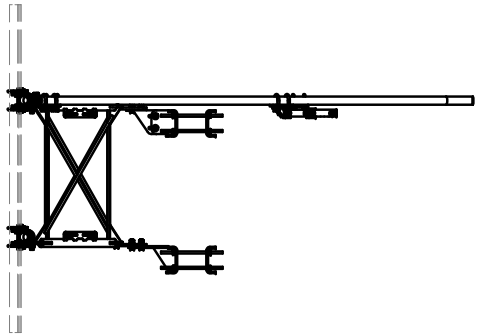


ANGLE CALIBRATING PROCEDURE:

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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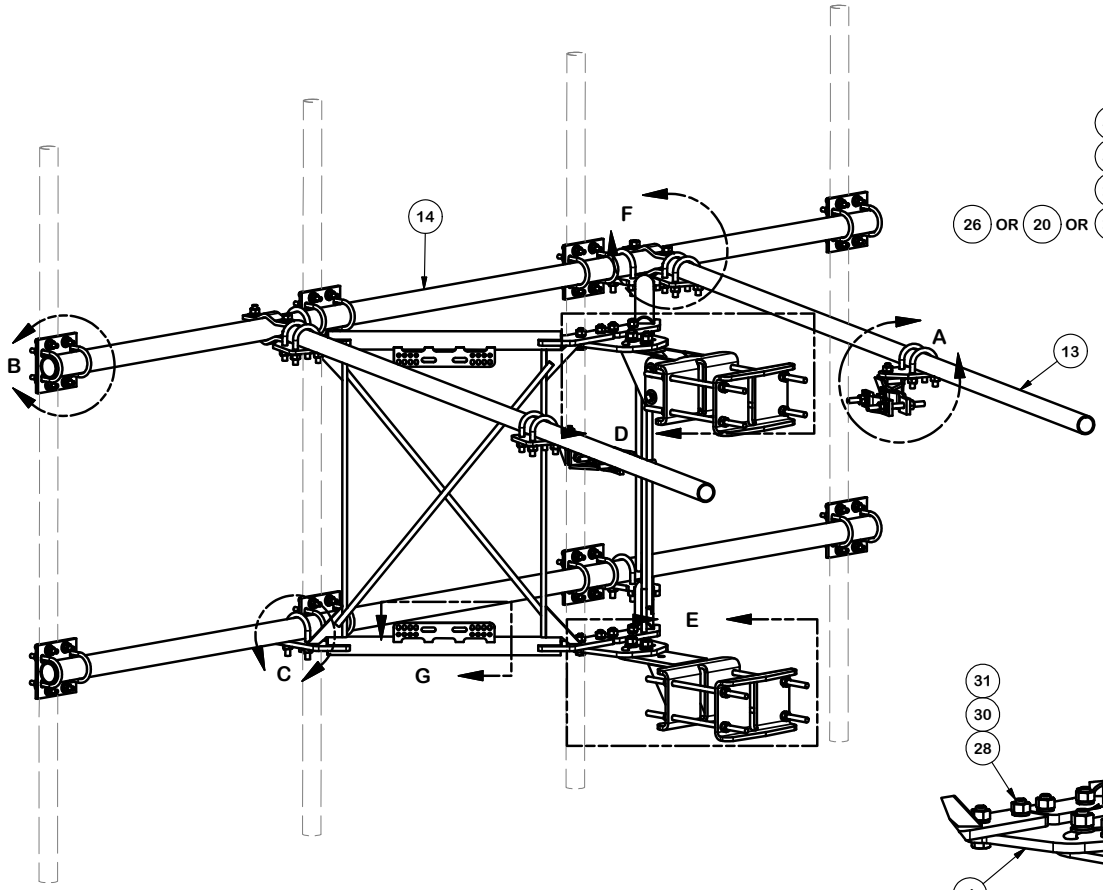
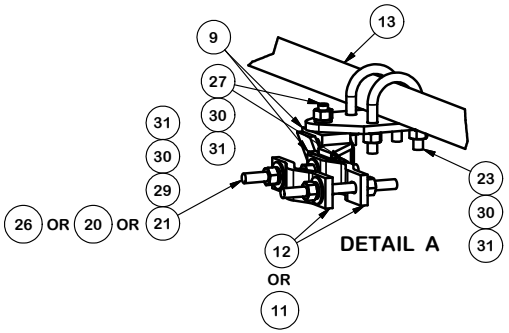
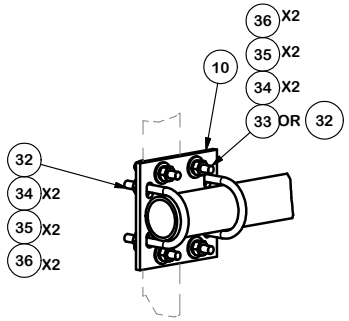
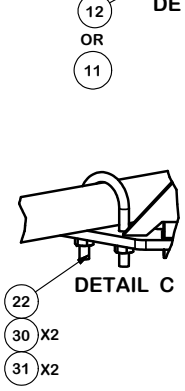
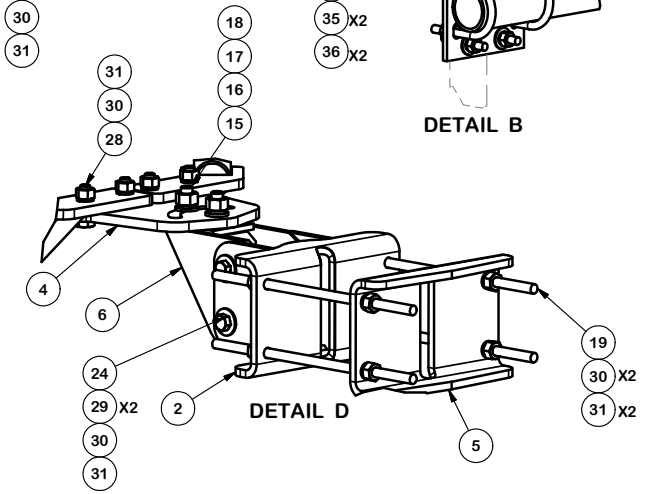
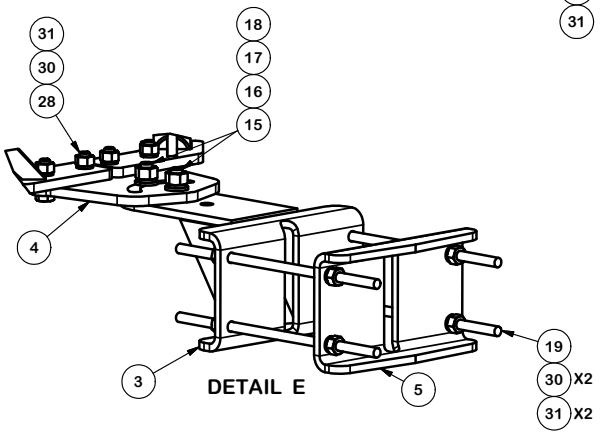


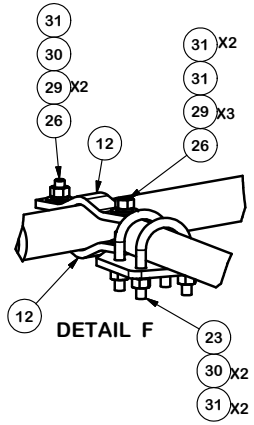








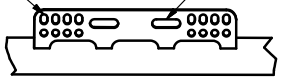




7/16" LUG HOLES

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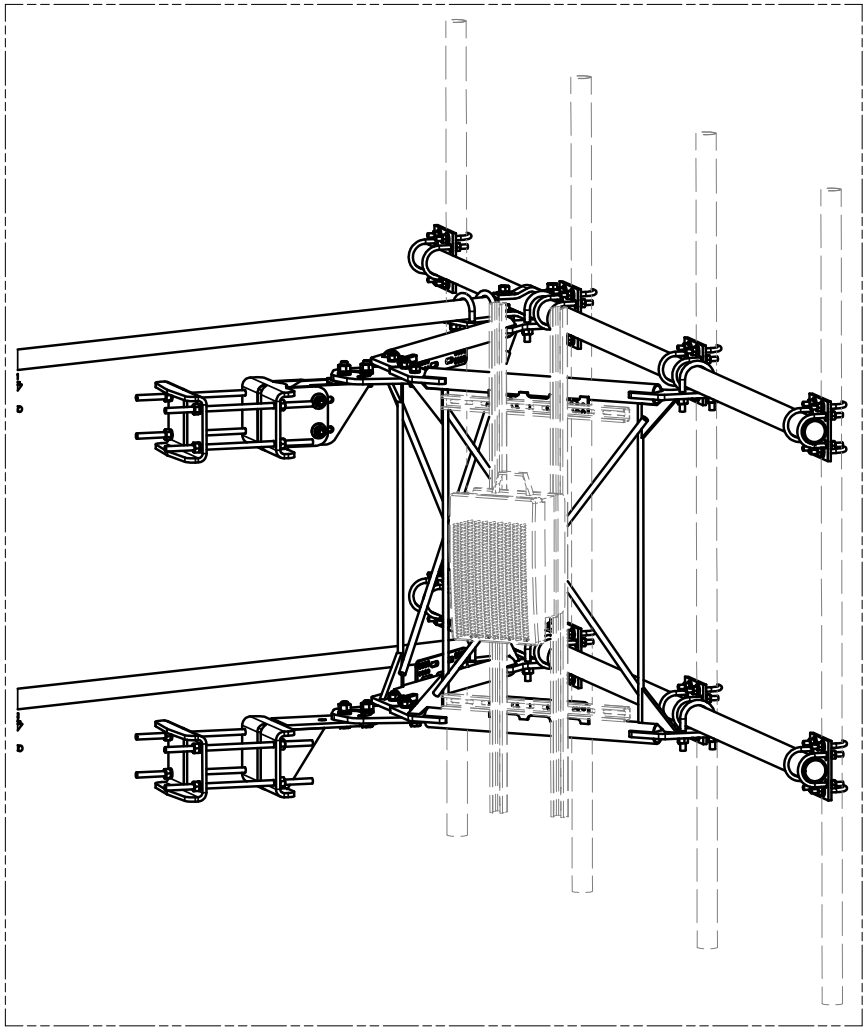
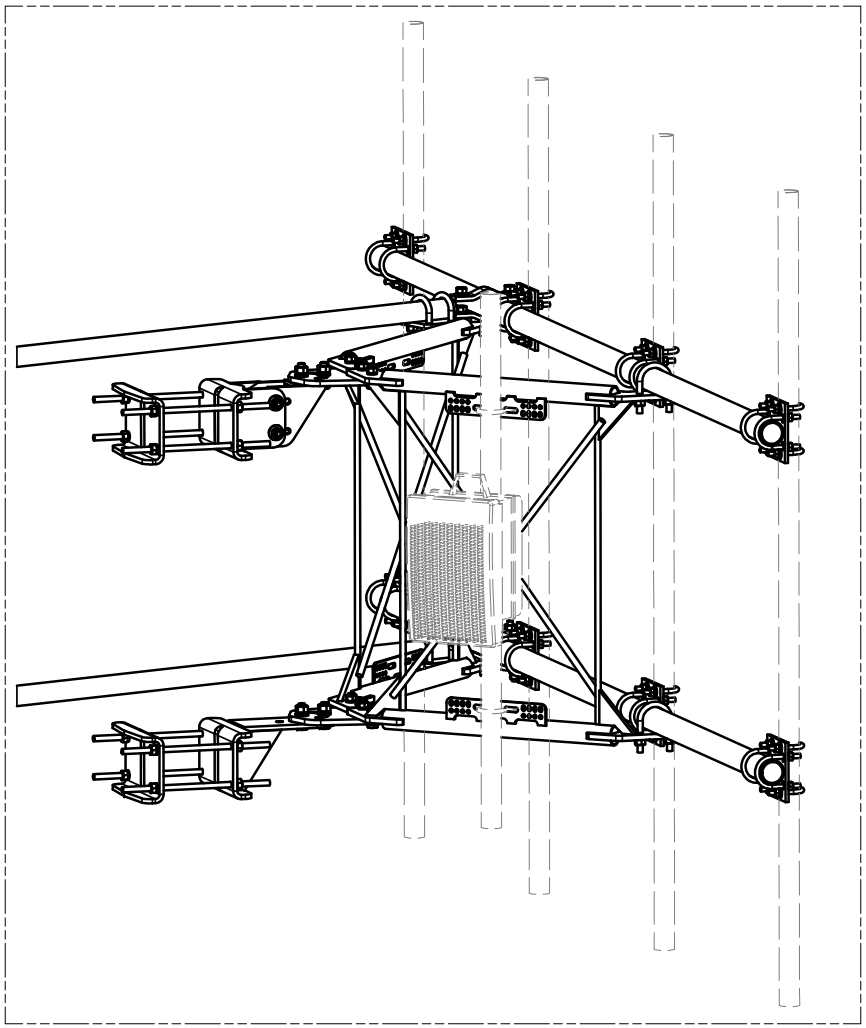
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	CEK 1/25/2017		VFA12-HD

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



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

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
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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

January 16, 2022

Fox Hill Telecom Project Number: 210861

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**7.96 %**

Fox Hill Telecom

January 16, 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
UMTS	2100 MHz (AWS)	1	40

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 AIR6449 B41	210
A	3	RFS APXVAALL24_43-U-NA20	203
B	1	Ericsson Air 32 KRD901146-1_B66A_B2A	210
B	2	Ericsson AIR6449 B41	210
B	3	RFS APXVAALL24_43-U-NA20	203
C	1	Ericsson Air 32 KRD901146-1_B66A_B2A	210
C	2	Ericsson AIR6449 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 AIR6449 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	7	280	10,354.93	1.31
						Sector A Composite MPE%	**4.91**
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 AIR6449 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	7	280	10,354.93	1.31
						Sector B Composite MPE%	**4.91**
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 AIR6449 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	7	280	10,354.93	1.31
						Sector C Composite MPE%	**4.91**

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	**4.91 %**
AT&T	2.41 %
WinStar Wireless	0.07 %
PageNet	0.14 %
Broadcast Video	0.43 %
Site Total MPE %:	**7.96 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	4.91 %
T-MOBILE Sector B Total:	4.91 %
T-MOBILE Sector C Total:	4.91 %
Site Total:	7.96 %

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%
T-Mobile 2100 MHz (AWS) UMTS	1	1,981.80	203	1.84	2100 MHz (AWS)	1000	0.18%
						Total:	**4.91%**

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:	4.91 %
Sector B:	4.91 %
Sector C:	4.91 %
T-MOBILE Maximum Total (per sector):	4.91 %
Site Total:	7.96 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **7.96 %** 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
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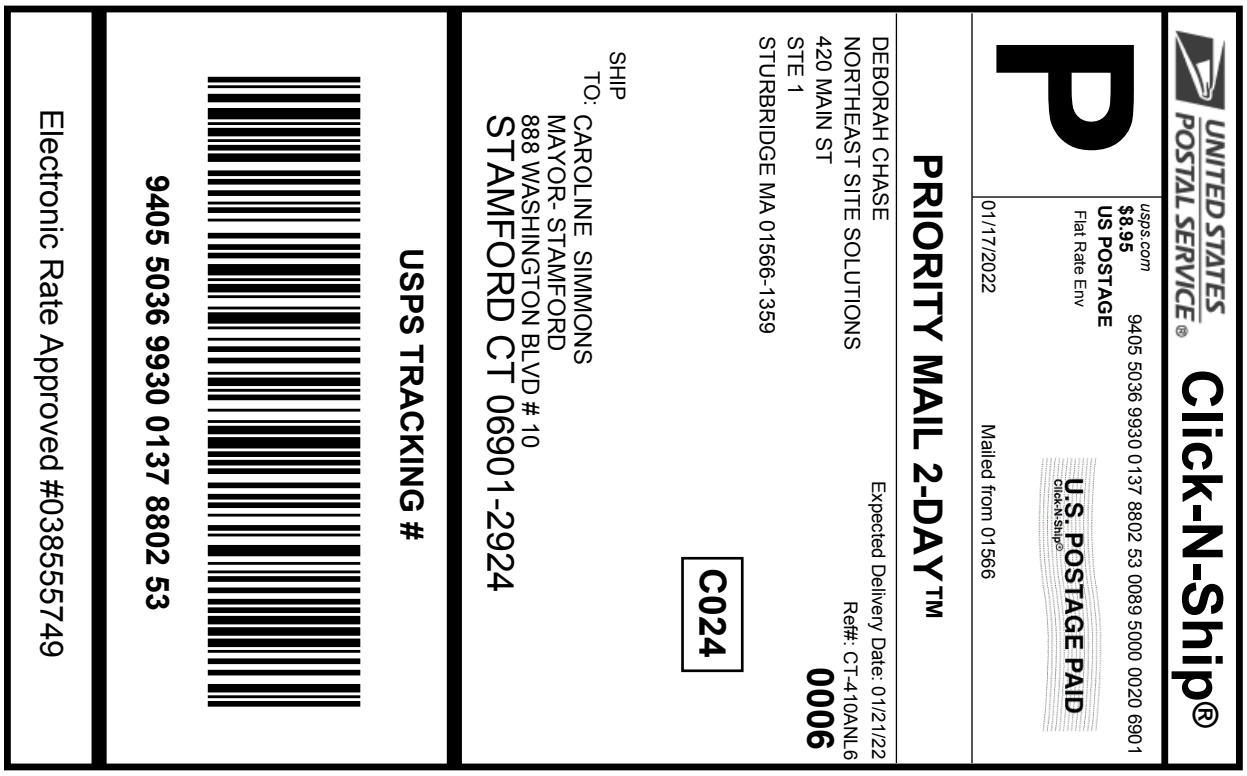
Exhibit G

Recipient Mailings



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Trans. #:	554198919
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Expected Delivery Date:	01/21/2022

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

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CT-410ANL6

To: CAROLINE SIMMONS
MAYOR- STAMFORD
888 WASHINGTON BLVD # 10
STAMFORD CT 06901-2924

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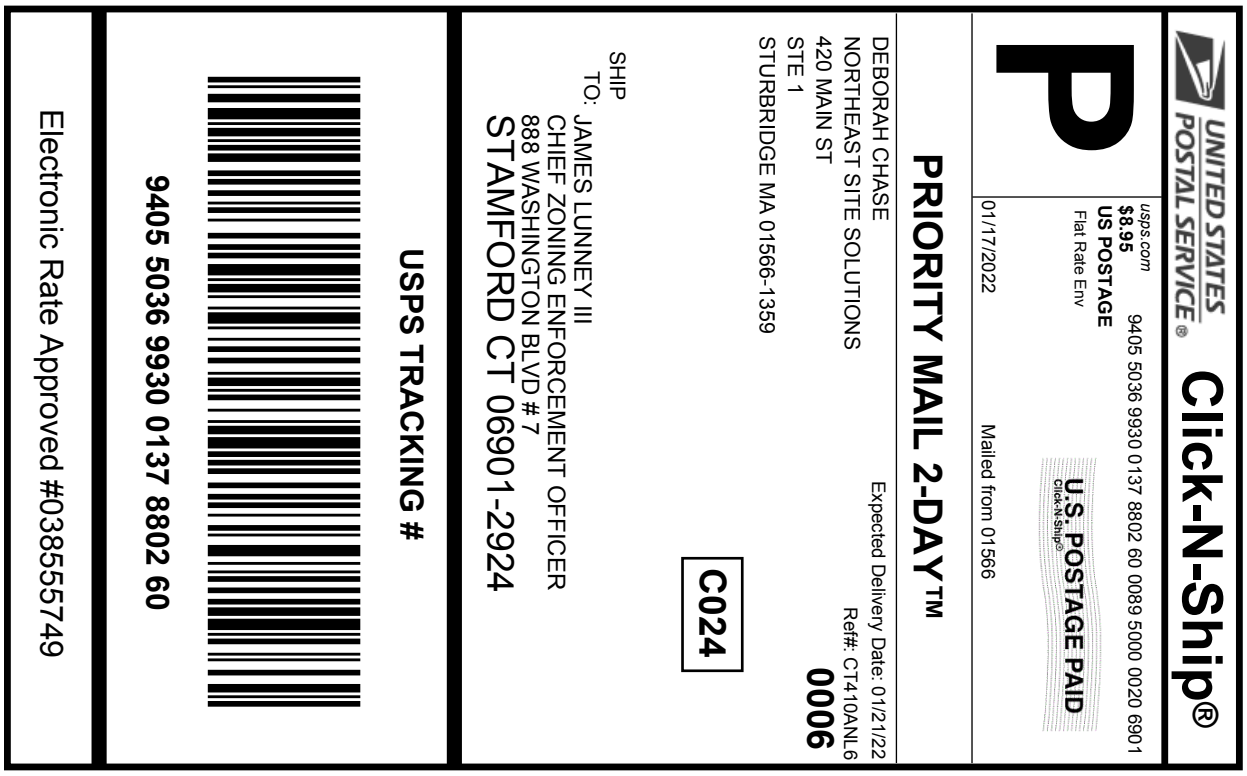

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9405 5036 9930 0137 8802 60

Trans. #:	554198919
Print Date:	01/17/2022
Ship Date:	01/17/2022
Expected Delivery Date:	01/21/2022

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

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CT410ANL6

To: JAMES LUNNEY III
CHIEF ZONING ENFORCEMENT OFFICER
888 WASHINGTON BLVD # 7
STAMFORD CT 06901-2924

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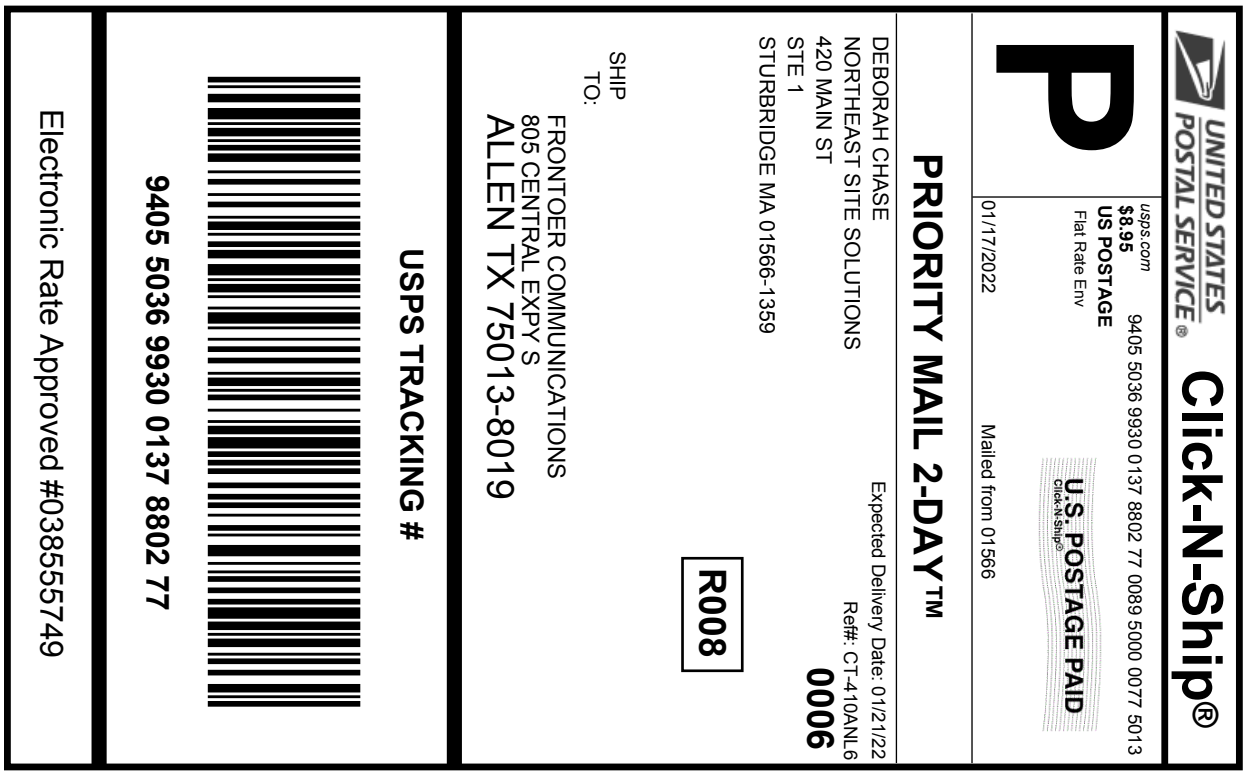

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9405 5036 9930 0137 8802 77

Trans. #:	554198919
Print Date:	01/17/2022
Ship Date:	01/17/2022
Expected Delivery Date:	01/21/2022

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

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CT-410ANL6

To: FRONTOER COMMUNICATIONS
805 CENTRAL EXPY S
ALLEN TX 75013-8019

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Prepaid Mail Allen, TX 75013 Weight: 0 lb 6.50 oz Acceptance Date: Tue 01/18/2022 Tracking #: 9405 5036 9930 0137 8802 77	1		$0.00
Prepaid Mail Stamford, CT 06901 Weight: 0 lb 6.50 oz Acceptance Date: Tue 01/18/2022 Tracking #: 9405 5036 9930 0137 8802 53	1		$0.00