NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

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

March 24, 2022

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

RE: Notice of Exempt Modification
72 Boggy Hole Road, Old Lyme CT 06371
Latitude: 41.32215300
Longitude: -72.30746600
T-Mobile Site#: CT11636A_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 175-foot level of the existing 175-foot monopole located at 72 Boggy Hole Road, Old Lyme CT. The 175-foot tower and property are both owned by Michael W. Sanders. T-Mobile now intends to replace six (6) of their existing antennas with six (6) new 600/700/1900/2100 MHz 5G antenna. The new antennas would be installed at the 175-foot level of the tower. Please note that due to the antenna being flush mounted, there is not a mount analysis included for this site.
Planned Modifications:
Remove:
(9) Coax lines

Remove and Replace:
(3) Air 21 B2A/B4P (Remove) – (3) AIR6449 B41- 2500 MHz **5G** Antenna (Replace)
(3) Air 21 B2P/B4A (Remove) – (3) Commscope VV-64A-R1- 1900/2100 MHz **5G** Antenna (Replace)
(3) RRU 4449 B71+B85 (Remove) – (3) Radio 4449 B71+B85

Install New:
(3) Radio 4460 B25+B66

Existing to Remain:
(3) APXVAARR24 – 600/700MHz Antenna

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This facility was approved by the CT Siting Council Docket No.209 on June 25, 2002. This modification complies with this original approval. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Timothy C. Griswold, First Selectman and Dan Bourret, Land Use Coordinator for the Town of Old Lyme, as well as the property owner and the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing 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
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: Timothy C. Griswold, First Selectman
Old Lyme Memorial Town Hall
52 Lyme Street
Old Lyme, CT 06371

Dan Bourret, Land Use Coordinator
Old Lyme Memorial Town Hall
52 Lyme Street
Old Lyme, CT 06371

Wireless Solutions, LLC
PO Box 284
Old Lyme, CT 06371
Attn: Ken Thomas

Michael Sanders
72 Boggy Hole
Old Lyme CT 06371-1404

Exhibit A

Original Facility Approval

DOCKET NO. 209 - Wireless Solutions, LLC Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a wireless telecommunication facility at one of two locations at 72 Boggy Hole Road, or at 62-1 Boggy Hole Road, Old Lyme, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	June 25, 2002

Revised Decision and Order

Pursuant to the foregoing Revised Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed Alternate #1 site in Old Lyme, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and therefore directs that a Certificate of Environmental Compatibility and Public Need (Certificate), be issued to Wireless Solutions, LLC for the construction, maintenance, and operation of a telecommunication facility at the proposed Alternate #1 site at 62-1 Boggy Hole Road, Old Lyme, Connecticut. We revoke the Decision and Order and Certificate issued to Wireless Solutions, LLC on December 11, 2001 for the construction, maintenance, and operation of a telecommunication facility at proposed alternate site at 72 Boggy Hole Road. The Council denies certification of the proposed prime and alternate sites at 72 Boggy Hole Road, Old Lyme.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas for SNET Mobility, LLC, AT&T Wireless, Inc., Nextel Communications of the Mid-Altantic, VoiceStream Wireless Corporation, and other telecommunications entities both public and private, but such tower shall not exceed a height of 175 feet above ground level (AGL), including antennas.

2. The Certificate Holder shall construct a single equipment building with suitable architectural treatment to accommodate the telecommunications equipment for the carriers who have executed a lease at the time of construction, and allow future carriers to add onto the equipment building in increments, with the same external design and finish.

3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for development of the proposed Alternate #1 site, including the location and specifications for the tower foundation, antennas, equipment building, security fence, access road consistent with the Town of Old Lyme regulations, and utility line; construction plans for site grading, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; landscaping; a tower finish that may include painting; and provisions for the prevention and containment of spills and/or other discharge into surface water and groundwater bodies.

4. The Certificate Holder shall provide the Council with a determination from the Federal Aviation Administration regarding obstruction marking and lighting; and a determination from the Connecticut Department of Environmental Protection regarding Federal or State Endangered, Threatened or Special Concern Species at the Alternate #1 site, during the submission of the D&M Plan.

5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

6. The Certificate Holder shall provide the Council with a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

8. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, The Day, and the Pictorial/Gazette.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Certificate Holder

Wireless Solutions, LLC

Peter J. Tyrell, Esq.
Levy & Droney, P.C.
74 Batterson Park Road
Farmington, CT 06032

Intervenor

SNET Mobility, LLC	Charles R. Andres Tyler Cooper & Alcorn, LLP 205 Church Street, P.O. Box 1936 New Haven, CT 06509-1910

Party

Town of Old Lyme Zoning Commission	Eric Knapp, Esq. Branse & Willis, LLC 41-C New London Turnpike Glen Lochen East Glastonbury, CT 06033-2038

Intervenor

Nextel Communications of the Mid-Atlantic, Inc. d/b/a Nextel Communications	Christopher B. Fisher, Esq. Cuddy & Feder & Worby 90 Maple Avenue White Plains, NY 10601

Intervenor

VoiceStream Wireless Corporation	Stephen J. Humes Diane W. Whitney LeBoeuf, Lamb, Greene & MacRae, LLP Goodwin Square 225 Asylum Street Hartford, CT 06103

Intervenor

Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597

Exhibit B

72 BOGGY HOLE RD

Location	72 BOGGY HOLE RD	**Mblu**	22/ / 75/ /
Acct#	00113900	**Owner**	SANDERS MICHAEL
Assessment	$256,250	**Appraisal**	$414,600
PID	1294	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$250,500	$164,100	$414,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2014	$175,400	$80,850	$256,250

Owner of Record

Owner	SANDERS MICHAEL	**Sale Price**	$26,000
Co-Owner		**Certificate**	
Address	72 BOGGY HOLE RD OLD LYME, CT 06371	**Book & Page**	239/ 546
		Sale Date	07/01/1997

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
SANDERS MICHAEL	$26,000		239/ 546	07/01/1997

Building Information

Building 1 : Section 1

Year Built:	2000
Living Area:	940
Replacement Cost:	$198,150
Building Percent Good:	95
Replacement Cost Less Depreciation:	$188,200

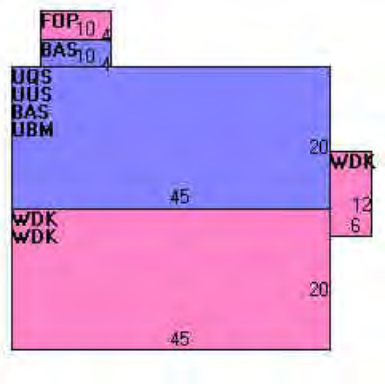
Building Attributes	
Field	**Description**

Style	Cape Cod
Model	Residential
Grade:	Average +10
Stories:	2 3/4 Stories
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure:	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Carpet
Heat Fuel	Oil
Heat Type:	Forced Air-Duc
AC Type:	None
Total Bedrooms:	2 Bedrooms
Total Bthrms:	1
Total Half Baths:	0
Total Xtra Fixtrs:	
Total Rooms:	4 Rooms
Bath Style:	Average
Kitchen Style:	Average

Building Photo

(http://images.vgsi.com/photos/OldLymeCTPhotos//\00\00\84/7

Building Layout



(http://images.vgsi.com/photos/OldLymeCTPhotos//Sketches/12

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	940	940
FOP	Porch, Open, Finished	40	0
UBM	Basement, Unfinished	900	0
UQS	Three Quater Story, unf	900	0
UUS	Upper Story, Unfinished	900	0
WDK	Deck, Wood	1,872	0
		5,552	940

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1010
Description	Single Fam MDL-01
Zone	RU80
Neighborhood	0050
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	29.50
Frontage	0
Depth	0
Assessed Value	$80,850
Appraised Value	$164,100

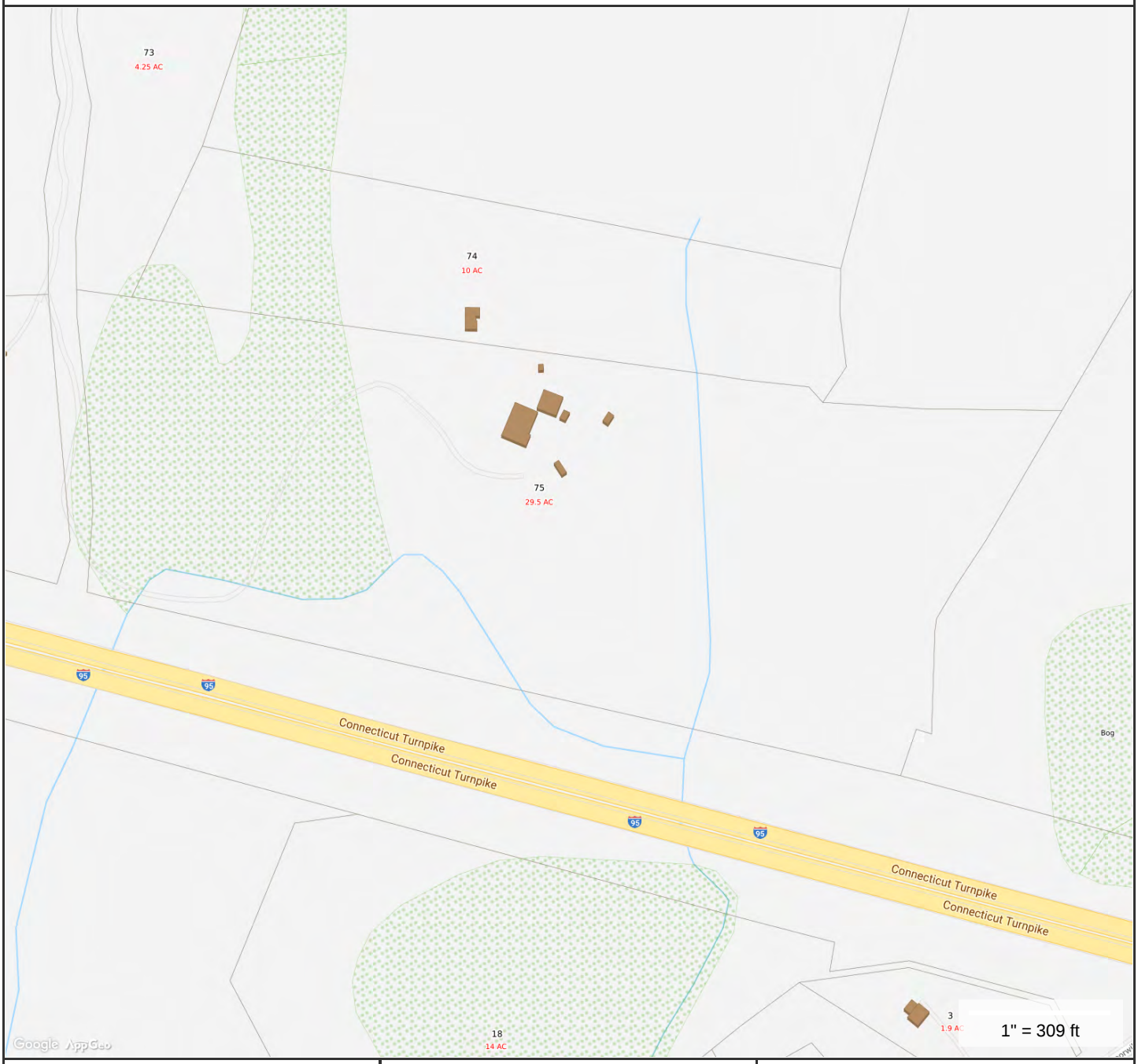
Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FGR5	W/LOFT GOOD			875 S.F.	$18,400	1
SHD1	SHED FRAME			300 S.F.	$2,100	1
PLT1	PLTRY HSE 1 ST			128 S.F.	$400	1
	TOWER			1 UNIT	$41,400	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$250,500	$164,100	$414,600
2017	$250,500	$164,100	$414,600
2011	$204,900	$164,100	$369,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$175,400	$80,850	$256,250
2017	$175,400	$80,850	$256,250
2011	$143,400	$78,720	$222,120



MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Old Lyme, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 05/01/2018
Data updated 11/19/2018

Exhibit C

Construction Drawings

MODIFICATION TO EXISTING WIRELESS FACILITY BY

T··Mobile·

T-MOBILE NORTHEAST LLC

PROJECT TITLE: ANCHOR

SITE NUMBER: CT11636A

SITE NAME: WIRELESS SOLUTIONS OLD LYME

SITE ADDRESS: 72 BOGGY HOLE ROAD
OLD LYME, CT 06371

RF CONFIGURATION: 67D5998E_1XAIR+1OP

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.

811 Know what's below. Call before you dig.

Connecticut - Call Before You Dig
811 or
1-800-922-4455

Advance Notice:
Minimum of 2 working days in advance, no more than 30 days in advance

CONTRACTOR'S NOTES:

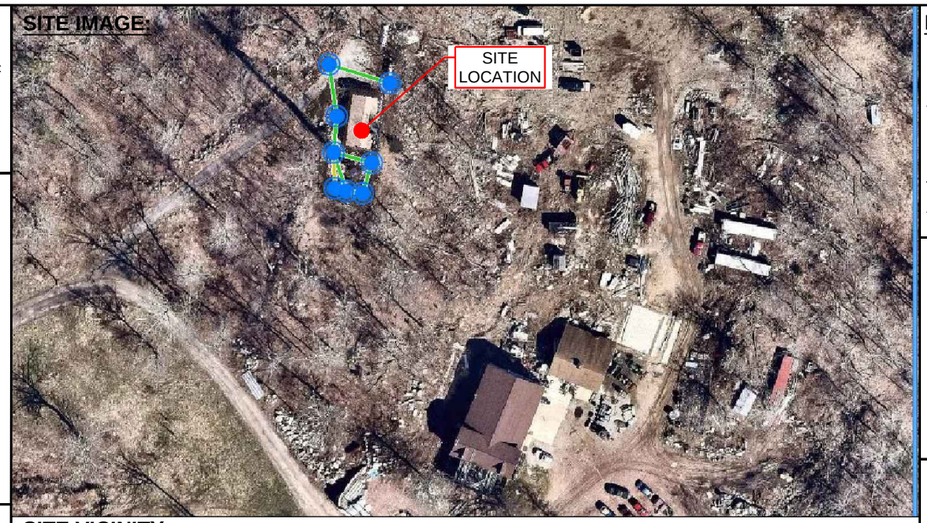
CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT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

REFER TO STRUCTURAL REPORTS / DRAWINGS:
TOWER ANALYSIS REPORT - , DATED 02/04/2022 BY EFI GLOBAL INC.

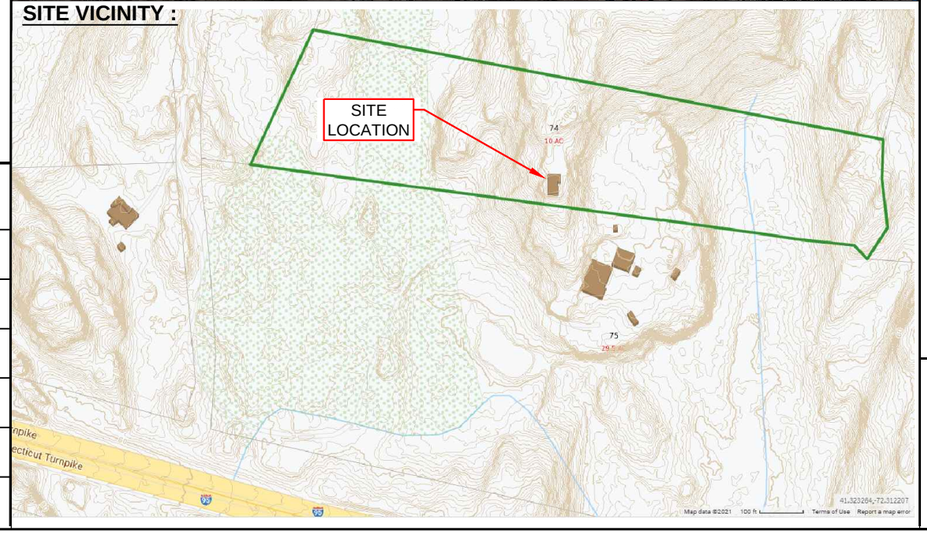
APPROVALS:

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

SITE IMAGE:



SITE VICINITY :



PROJECT DESCRIPTION:

THE PROPOSED PROJECT SCOPE WILL INCLUDE THE FOLLOWING EQUIPMENT MODIFICATIONS:

CABINETS: REMOVE THE EXISTING S 8000 CABINET, INSTALL ENCLOSURE 6160 AC V1 AND B160 CABINETS.

ANTENNAS: REPLACE (6) OF (9) EXISTING ANTENNAS.

RADIOS: ADD (3) NEW RADIOS FOR TOTAL OF (6).

CABLES: REMOVE ALL EXISTING COAX, ADD (1) 6X24 HYBRID TRUNK FOR TOTAL OF (3) 6X12 AND (1) 6X24 HYBRID CABLES).

PROJECT INFORMATION:

SITE NUMBER:	CT11636A
SITE NAME:	WIRELESS SOLUTIONS OLD LYME
SITE ADDRESS:	72 BOGGY HOLE ROAD OLD LYME, CT 06371
PID:	1293
ZONING DISTRICT:	RU80
STRUCTURE TYPE:	MONOPOLE TOWER
COORDINATES:	41° 19' 19.26" N, 71° 18' 26.69" W
GROUND ELEV:	81'± (AMSL)

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
PROPERTY OWNER:	SANDERS MICHAEL W 72 BOGGY HOLE ROAD OLD LYME, CT 06371
PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 SHELDON FREINCLE SHELDON@NORTHEASTSITESOLUTIONS.COM 201-776-8521
ENGINEERING CONSULTANTS:	FORESITE LLC 462 WALNUT ST, SUITE 1 NEWTON, MA 02460 SAEED MOSSAVAT SMOSSAVAT@FORESITELLC.COM 617-212-3123

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
www.northeastsitesolutions.com

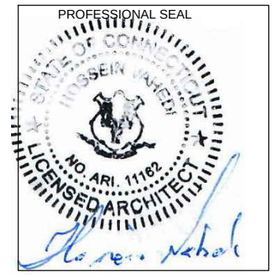
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

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

PROFESSIONAL SEAL



REV	DESCRIPTION	DATE
A	PRELIMINARY	02/04/22
0	FINAL ISSUED	03/08/22
1	REVISED PER COMMENTS	03/11/22
2	REVISED ADDRESS	03/11/22

SITE NUMBER: CT11636A
SITE NAME: WIRELESS SOLUTIONS OLD LYME
SITE ADDRESS:
72 BOGGY HOLE ROAD
OLD LYME, CT 06371

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"Ø 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-IH, 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

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
www.northeastsitesolutions.com

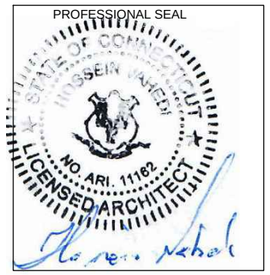
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:

FORESITE LLC
Architects . Engineers . Surveyors

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

PROFESSIONAL SEAL



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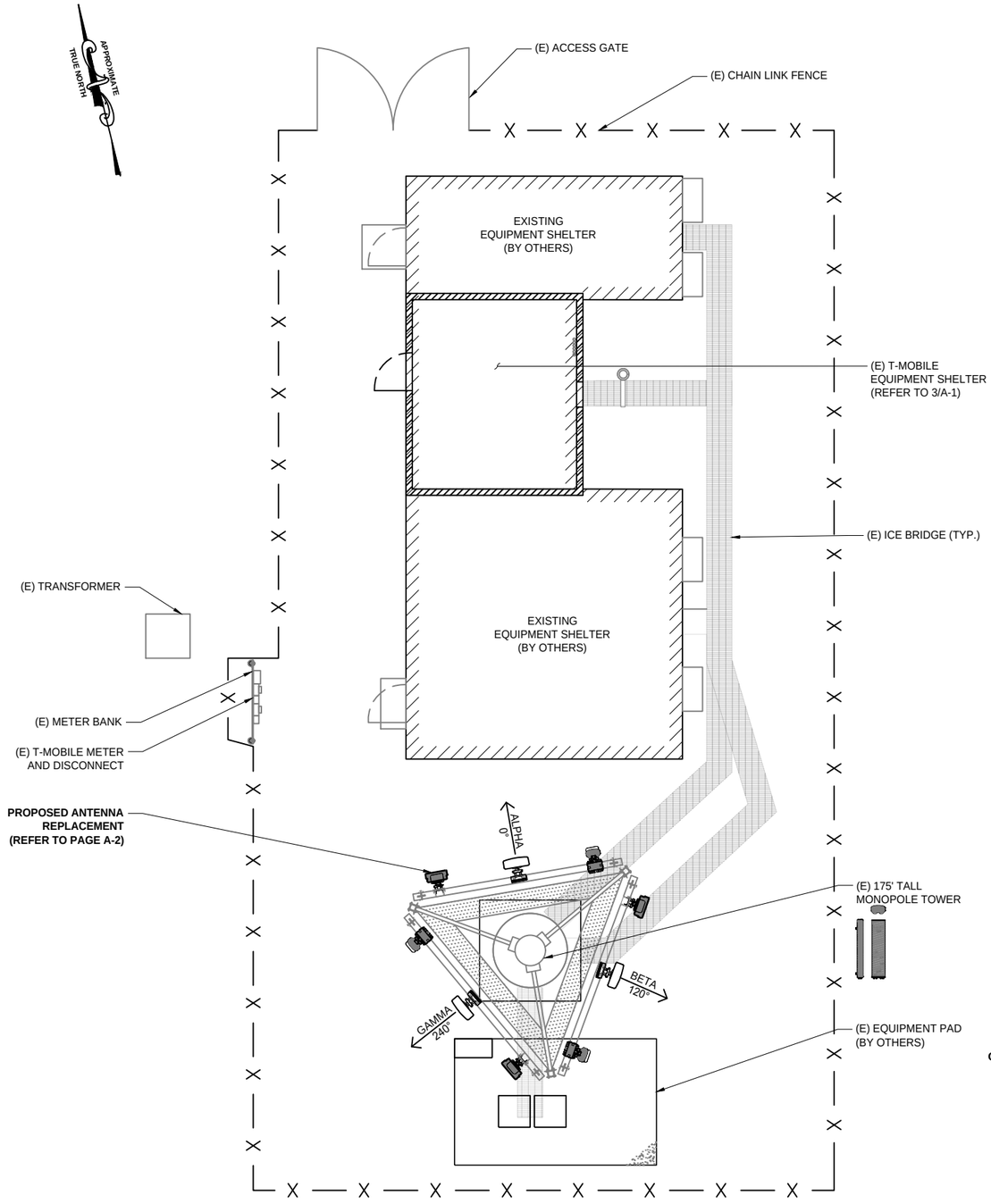
SITE NUMBER: CT11636A
SITE NAME: WIRELESS SOLUTIONS OLD LYME
SITE ADDRESS:
72 BOGGY HOLE ROAD
OLD LYME, CT 06371

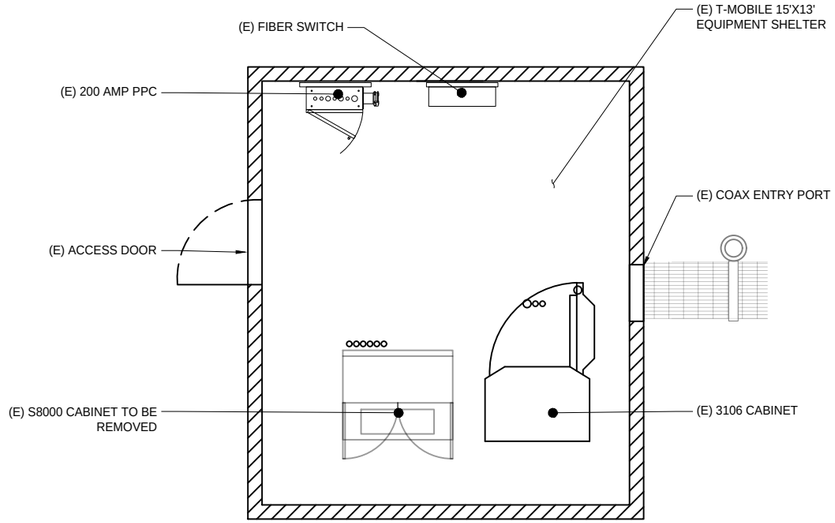
SHEET TITLE:

A-1: GENERAL NOTES



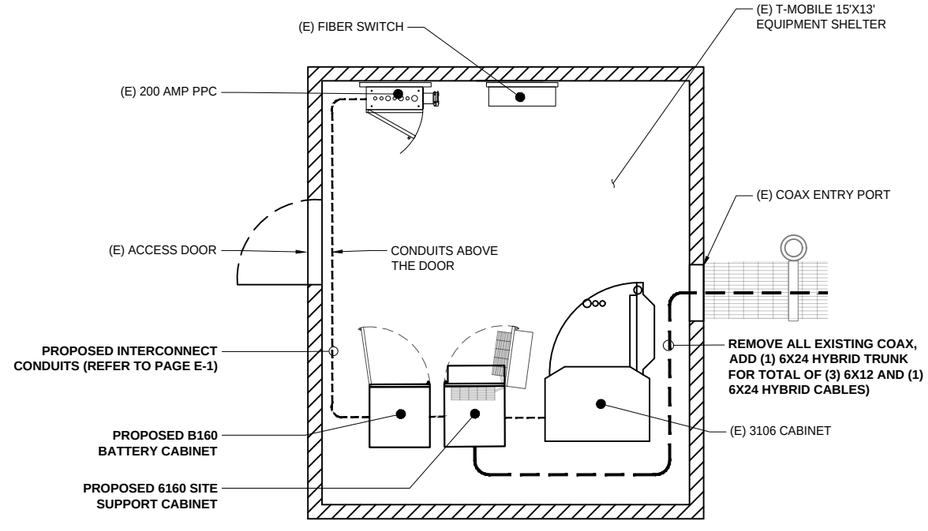
SITE PLAN
SCALE: 3/32" = 1'-0"

1 / A-1



EXISTING EQUIPMENT LAYOUT
SCALE: 3/16" = 1'-0"

2 / A-1



PROPOSED EQUIPMENT LAYOUT
SCALE: 3/16" = 1'-0"

3 / A-1

APPLICANT:

T-MOBILE NORTHEAST LLC

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

PROJECT MANAGER

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Turnkey Wireless Development

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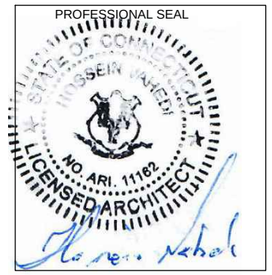

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SITE ADDRESS:
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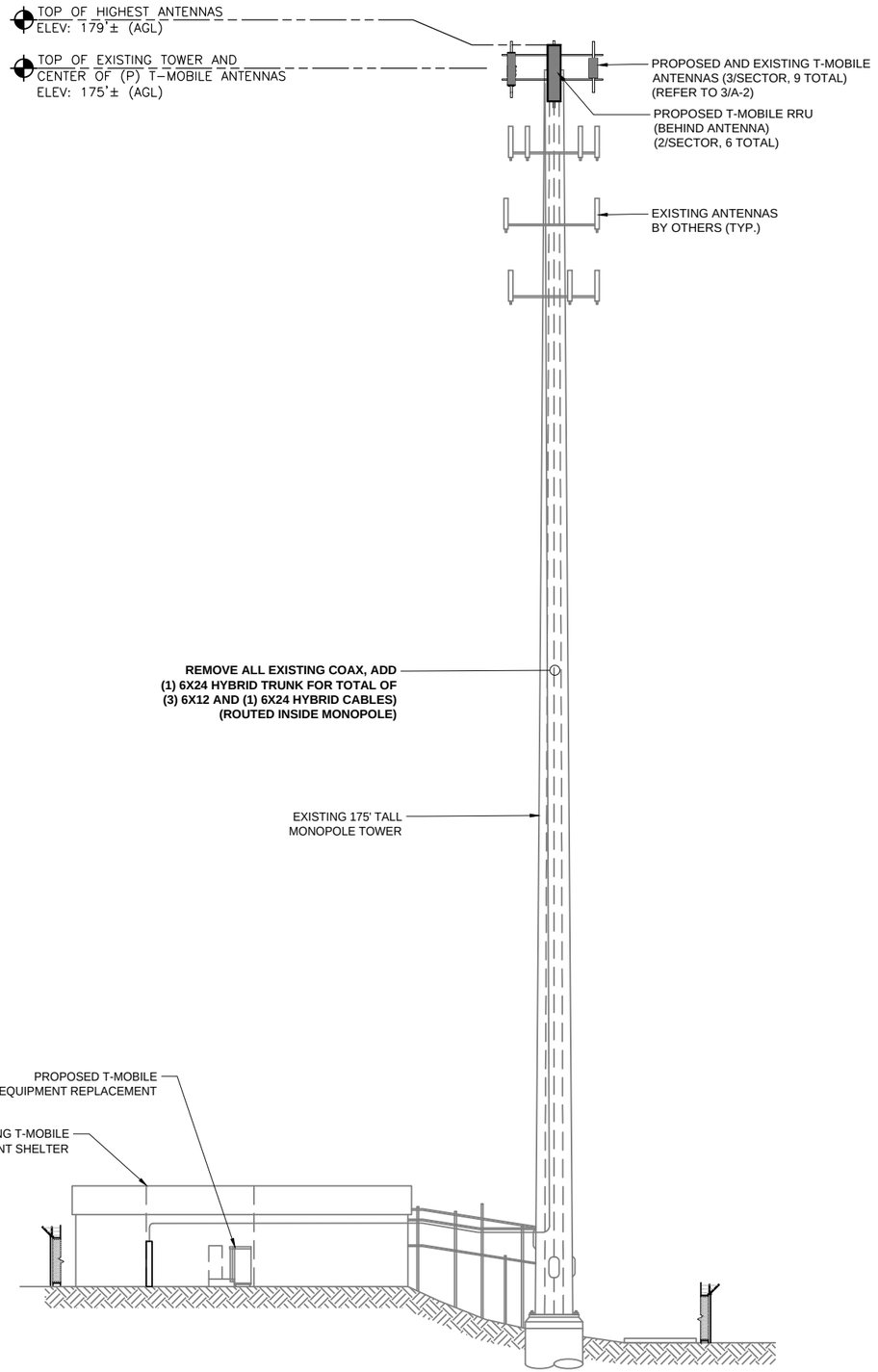
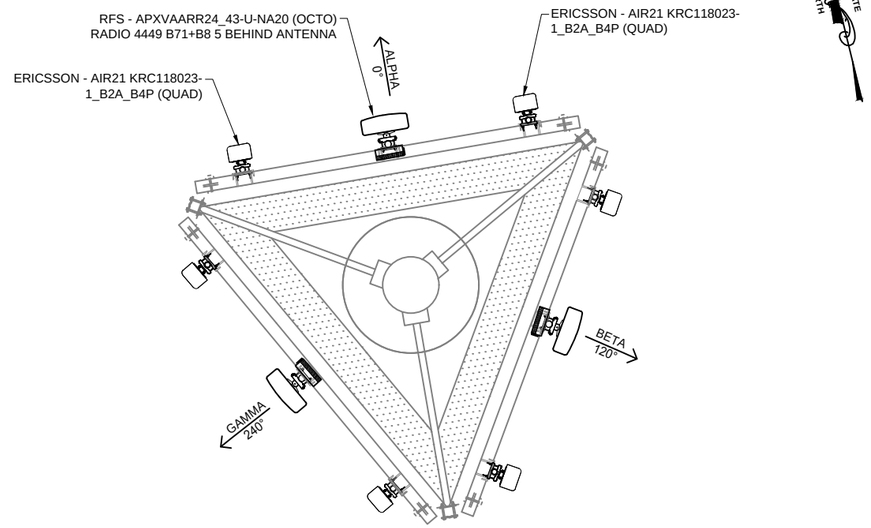
OLD LYME, CT 06371

SHEET TITLE:
A-1: SITE PLAN



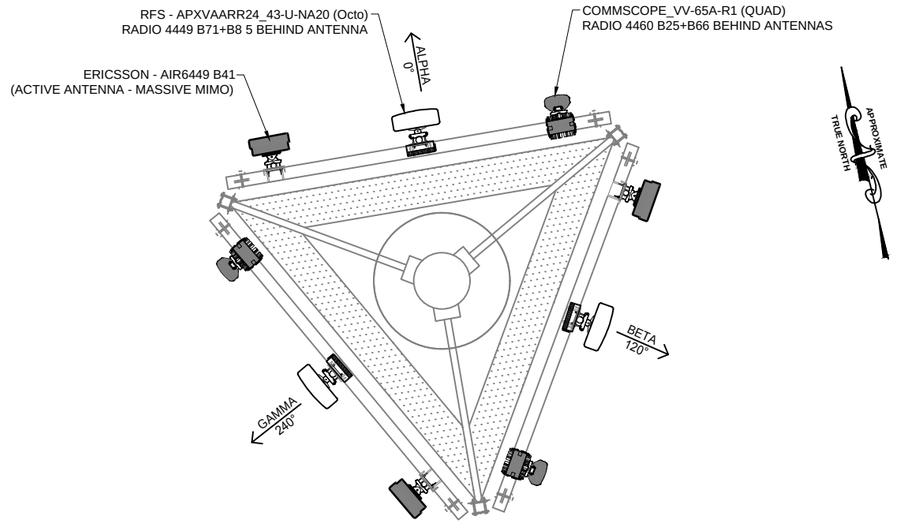
ELEVATION

SCALE: 1/16"=1'-0" — 1 / A-2



EXISTING ANTENNA LAYOUT

N.T.S. — 2 / A-2



FINAL ANTENNA LAYOUT

N.T.S. — 3 / A-2

APPLICANT:

T-MOBILE NORTHEAST LLC

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

PROJECT MANAGER

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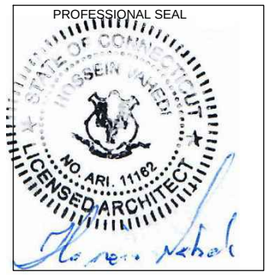

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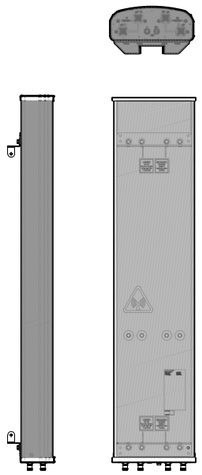
OLD LYME, CT 06371

SHEET TITLE:

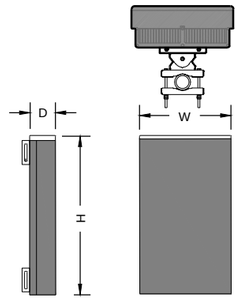
A-2: ELEVATION AND ANTENNA LAYOUT



ERICSON ANTENNA SPECIFICATIONS	
MODEL #	VV-65A-R1
MANUF.	COMMSCOPE
LENGTH	54.7"
WIDTH	12.1"
DEPTH	4.6"
WEIGHT	41.9 LB

COMMSCOPE ANTENNA
N.T.S

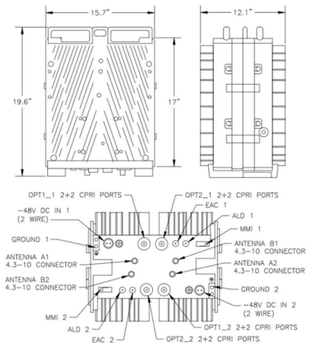
1 A-3



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

ERICSSON ANTENNA
N.T.S

2 A-3



RRU SPECIFICATIONS	
MODEL #	4460 B2/25
MANUF.	ERICSSON
LENGTH	19.6"
WIDTH	15.7"
DEPTH	12.1"
WEIGHT	109 LB

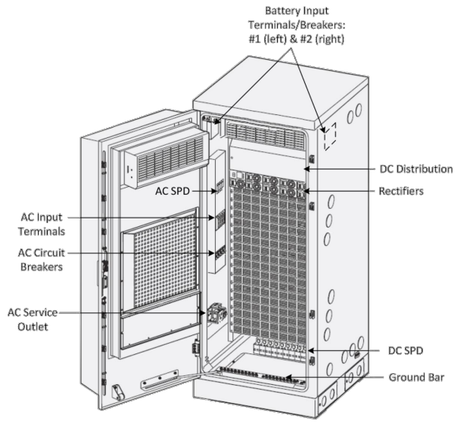
REMOTE RADIO UNIT
N.T.S

3 A-3

BATTERY CABINET SPECIFICATIONS	
MODEL #	B160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	26"
DEPTH	26"
WEIGHT	1883 lbs

BATTERY CABINET
N.T.S.

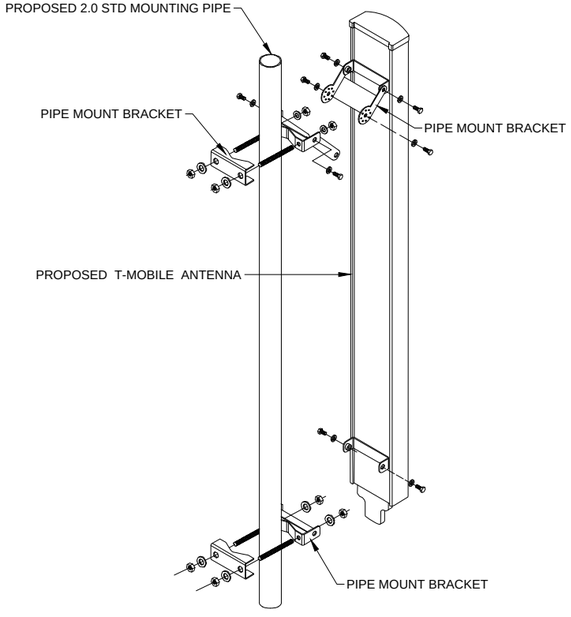
4 A-3



SITE SUPPORT CABINET SPECIFICATIONS	
MODEL #	6160
MANUF.	ERICSSON
HEIGHT	63"
WIDTH	25.6"
DEPTH	33.5"
WEIGHT	605 lbs

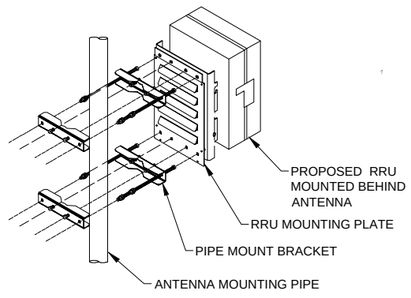
SITE SUPPORT CABINET
N.T.S.

5 A-3



ANTENNA MOUNT DETAIL
N.T.S

6 A-3



RRU MOUNT DETAIL
N.T.S

7 A-3

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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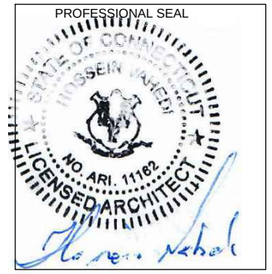

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SITE ADDRESS:
72 BOGGY HOLE ROAD
OLD LYME, CT 06371

SHEET TITLE:
A-3: 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.

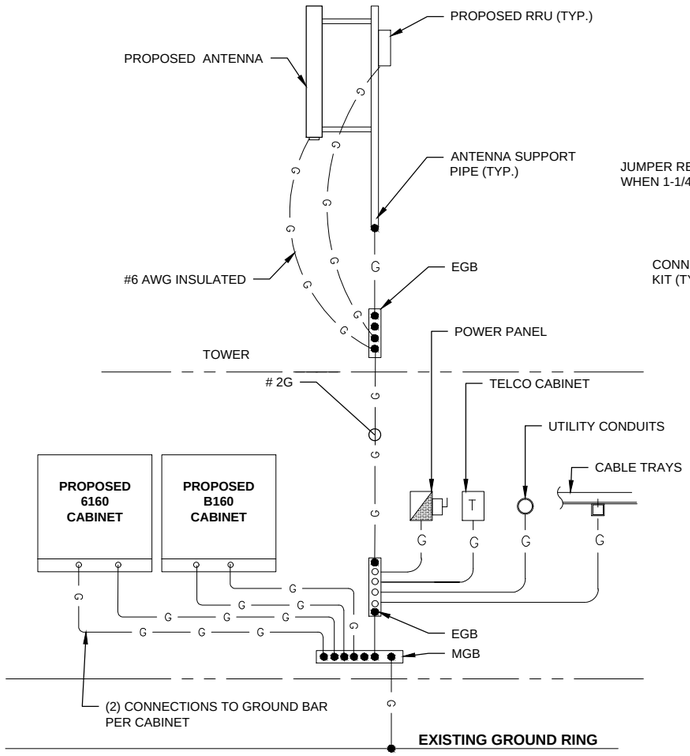
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

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.

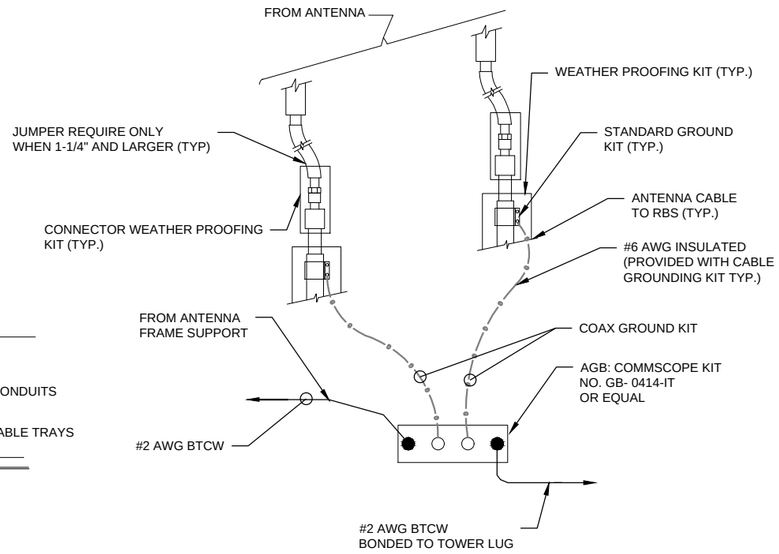
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.



GROUNDING RISER DIAGRAM

N.T.S.

1 / E–1

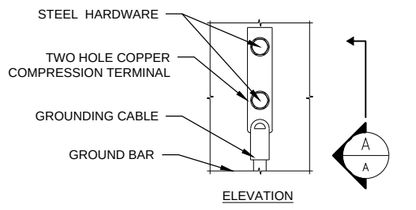


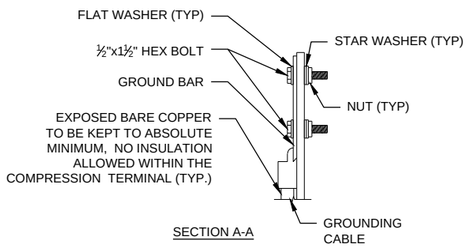
NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND
AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

TOWER TOP CABLE GROUNDING DETAIL

N.T.S.

2 / E–1





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

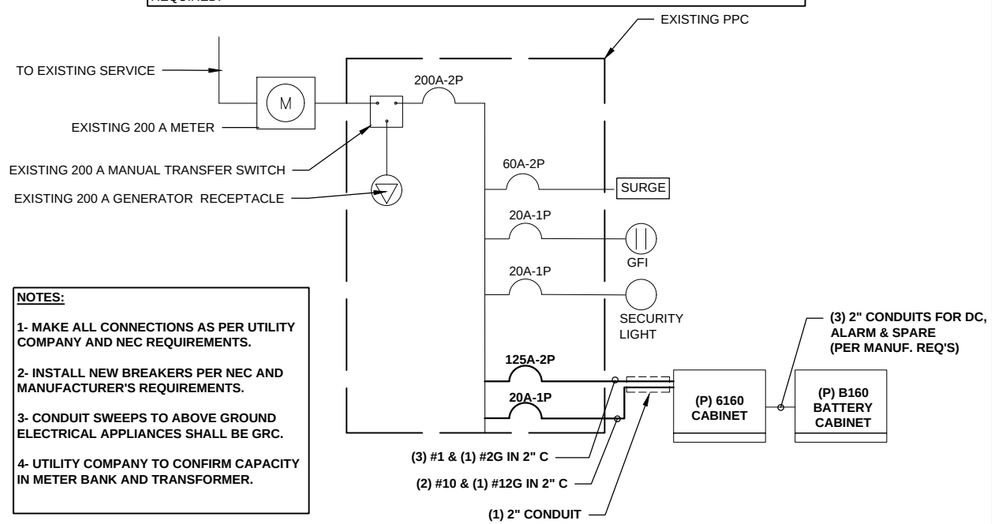
TYPICAL GROUND BAR CONNECTIONS DETAIL

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

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BLOOMFIELD, CT 06002
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PROJECT MANAGER

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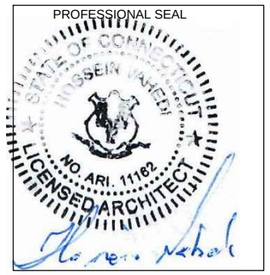

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OLD LYME, CT 06371

SHEET TITLE:

E-1: ELECTRICAL & GROUNDING DETAIL

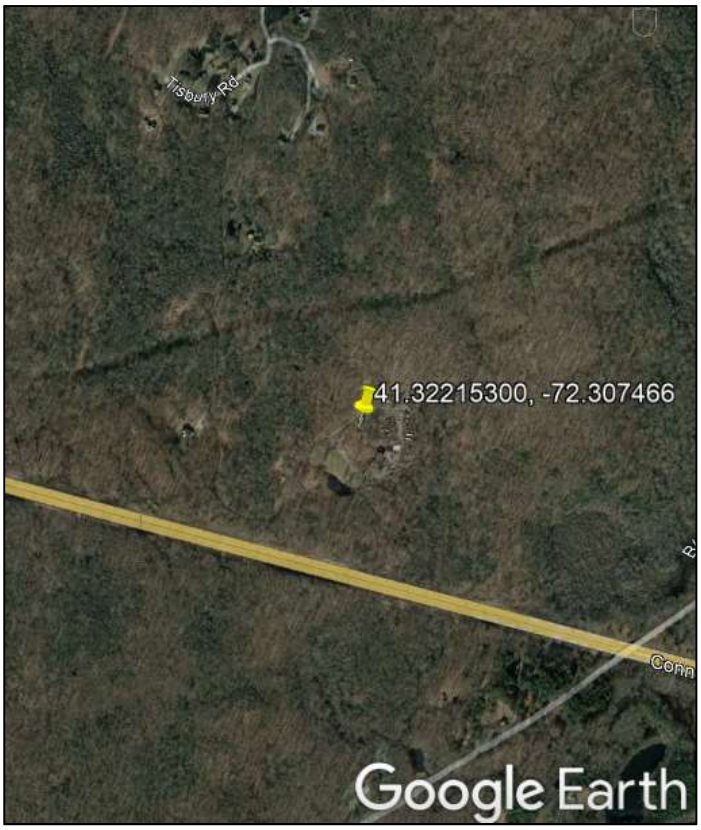
Exhibit D

Structural Analysis Report

STRUCTURAL ANALYSIS REPORT
MONOPOLE

Prepared For:

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



Structure Rating:	
Monopole Tower:	**Pass**
Anchor Bolts:	**Pass**
Base Plate:	**Pass**
Foundation:	**Pass**

Sincerely,
EFI Global, Inc.

STATE OF CONNECTICUT AHMET COLAKOGLU PEN. 27057 LICENSED PROFESSIONAL ENGINEER

2/4/2022

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

T-Mobile Site Name: Wireless Solutions Old Lyme
T-Mobile Site ID: CT11636A
72 Boggy Hole Rd.
Old Lyme, CT 06371

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

CONTENTS

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

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the 175 ft. tall monopole tower located at 72 Boggy Hold Rd., Old Lyme, CT 06371 for the additions and alterations proposed by T-Mobile.

The structural analysis is based on the following documentation provided to EFI Global, Inc. (EFI):

- RFDS prepared for T-Mobile, dated 11/15/2021.
- Structural Analysis Report prepared by Tectonic, dated 06/21/2019.
- Structural Analysis Report prepared by Centek Engineering, dated 01/06/2015.

1.1 STRUCTURE

The structure is a 175 ft. tall, 18-sided monopole. The monopole is attached to the foundation with a base plate and anchor bolts. It is formed by the following sections:

Section Length (ft.)	Lap Splice (ft)	Shaft Thickness (in)	Top Dia./Bottom Dia. (in/in)	Steel Yield Strength (ksi)
20.13	4.25	0.18750	24.2100/29.4500	65
42.83	5.42	0.37500	27.9690/38.9900	65
47.54	6.67	0.50000	36.8450/49.0700	65
47.50	7.83	0.56250	46.3550/58.5800	65
41.17	-	0.62500	55.4400/66.0000	65

2.0 EXISTING AND PROPOSED APPURTENNANCES

Existing Configuration T-Mobile Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax*	Mounts
175.0	(3) Air 21 B2A/B4P (3) Air 21 B2P/B4A (3) APXVAARR24_43-U-NA20 (3) RRU 4449 B71+B85	(9) 1-5/8” (1) 9x18 Hybriflex (3) 6x12 Hybriflex	(1) Low Profile Platform w/ Handrail Kit

***: Inside Shaft**

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

Proposed and Final Configuration of T-Mobile Appurtenances:

Rad Center (ft.)	Antennas & Equipment	Coax*	Mounts
175.0	(3) AIR6449 B41 (3) VV-65A-R1 (3) APXVAARR24_43-U-NA20 (3) Radio 4449 B71+B85 (3) Radio 4460 B25+B66	(1) 6x24 Hybriflex (3) 6x12 Hybriflex	(1) Low Profile Platform w/ Handrail Kit

***: Inside Shaft**

Appurtenances By Others:

RAD CENTER (FT)	ANTENNA & TMA	COAX	MOUNT
165.5	(3) RRH2x40-AWS (3) RRH2x40-07-U (3) LNX-7514DS-VTM (6) HBXX-6517DS-VTM (3) BXA-70063-6CF-EDIN-0 (1) RHSDC-3315-PF-48	(6) 1-5/8” (6) 1-5/8”* (1) 1.5” Hybriflex*	(1) Low Profile Platform (1) Pipe Mount
165.0			
155.0	(6) APXV18-206516S-C-A20	(6) 1-5/8”* (1) 0.4” Cable*	(1) Low Profile Platform
146.0	(3) RRUS 11 B12 (3) RRUS 16”X13”X5.5”	(12) 1-5/8”* (1) 0.4” Cable* (1) 0.32” Cable* (2) 0.8” DC Cable*	(3) Pipe Mount (1) Low Profile Platform
144.5	(6) DTMABP7819VG12A (6) CCI 72”X14.5”X7.5” Antenna (3) 7770.0 (3) AM-X-CD-16-65-00T-RET (1) DC6-48-60-18-8F		
144.0	(1) DC6-48-60-18-8F		

***: Inside Shaft**

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3.0 CODES AND LOADING

This analysis has been performed in accordance with TIA-222-G, as referenced by the 2015 International Building Code, based upon an ultimate wind speed of 135 mph (Risk Category II) converted to a nominal 3-second gust wind speed of 105 mph per section 1609.3.1 as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. The following loading criteria were used in the analysis:

- Basic wind speed 105 mph without ice (V)
- Basic wind speed 50 mph concurrent with design ice thickness of 1" (V_i and t_i)
- Exposure Category B, Structure Class II
- Topographic Category I

The following load combinations were used with wind blowing at 30° increments, measured from a line normal to the face of the tower:

- $1.2D + 1.6W_o$
- $0.9D + 1.6W_o$
- $1.2D + 1.0D_i + 1.0W_i$

D: Dead Load of structure and appurtenances, excluding guy assemblies
W_o: Wind Load, without ice
W_i: Concurrent wind load with factored ice thickness;
D_i: Weight of ice due to factored ice thickness

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to EFI and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. EFI will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis does not include a qualification of the mounts attached on the structure or their connections. The analysis is performed to verify the capacity of the main structural members, which is the current practice in the tower industry.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require EFI to generate an additional structural analysis.

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5.0 ANALYSIS AND ASSUMPTIONS

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

6.0 RESULTS AND CONCLUSION

Based on a rigorous analysis per ANSI/TIA-222-G, the existing monopole is found to have **adequate** structural capacity for the proposed changes by T-Mobile. For the code specified load combinations and as a maximum, the base plate is stressed to **45.0%** of their structural capacity. The anchor rods, monopole shaft, and foundation are stressed to **36.0%, 36.5%, and 43.7%** of their structural capacities, respectively.

Therefore, the proposed alterations and additions by T-Mobile **can** be implemented as intended, with the conditions outlined in this report.

Should you need any clarifications or have any questions about this report, please contact EFI at telecom@efiglobal.com.

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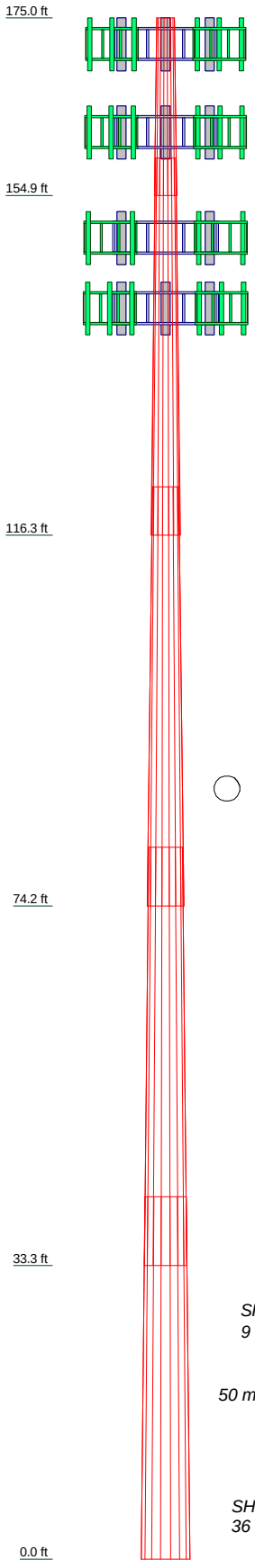
APPENDIX A
SOFTWARE OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	20.1300	18	0.1875	4.2500	24.2100	29.4500		1.1
2	42.8300	18	0.3750	5.4200	27.9687	38.9900		5.7
3	47.5400	18	0.5000	6.6700	36.8453	49.0700	A572-65	10.9
4	47.5000	18	0.5625	7.8300	46.3548	58.5800		15.0
5	41.1700	18	0.6250		55.4398	66.0000		16.7
								49.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	172	RRH2X40-07-U	162
		RRH2x40-AWS	162
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	172	RRH2x40-AWS	162
		RRH2x40-AWS	162
APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	172	EEI Low-Profile Platform	162
AIR 6449 B41_TIA w/ Mount Pipe	172	(2) APXV18-206516S-C-A20_TIA w/ Mount Pipe	152
AIR 6449 B41_TIA w/ Mount Pipe	172	(2) APXV18-206516S-C-A20_TIA w/ Mount Pipe	152
AIR 6449 B41_TIA w/ Mount Pipe	172		
VV-65A-R1_TIA w/ Mount Pipe	172	(2) APXV18-206516S-C-A20_TIA w/ Mount Pipe	152
VV-65A-R1_TIA w/ Mount Pipe	172		
VV-65A-R1_TIA w/ Mount Pipe	172	EEI Low-Profile Platform	150
RADIO 4449 B71/B85	172	RRUS 11 B12	145
RADIO 4449 B71/B85	172	RRUS 11 B12	145
RADIO 4449 B71/B85	172	RRUS 11 B12	145
RADIO 4460 B25 B66	172	Ericsson RRUS 16"x13"x5.5"	145
RADIO 4460 B25 B66	172	Ericsson RRUS 16"x13"x5.5"	145
RADIO 4460 B25 B66	172	Ericsson RRUS 16"x13"x5.5"	145
8'-P2x0.203	172	DC6-48-60-18-8F (Round)	145
Platform Mount [LP 602-1]	172	4'-P2x0.154	145
RHSDC-3315-PF-48	165	4'-P2x0.154	145
4'-P2x0.154	165	4'-P2x0.154	145
Collar Mount	165	Collar Mount	145
BXA-70063-8CF-EDIN-X_TIA w/ Mount Pipe	162	AM-X-CD-16-65-00T-RET_TIA w/ Mount Pipe	142
BXA-70063-8CF-EDIN-X_TIA w/ Mount Pipe	162	AM-X-CD-16-65-00T-RET_TIA w/ Mount Pipe	142
BXA-70063-8CF-EDIN-X_TIA w/ Mount Pipe	162	AM-X-CD-16-65-00T-RET_TIA w/ Mount Pipe	142
(2) HBXX-6517DS-VTM_TIA w/ Mount Pipe	162	7770_TIA w/ Mount Pipe	142
		7770_TIA w/ Mount Pipe	142
(2) HBXX-6517DS-VTM_TIA w/ Mount Pipe	162	7770_TIA w/ Mount Pipe	142
		CCI 72"x14.5"x7.5" Antenna	142
(2) HBXX-6517DS-VTM_TIA w/ Mount Pipe	162	CCI 72"x14.5"x7.5" Antenna	142
		CCI 72"x14.5"x7.5" Antenna	142
LNX-6514DS-VTM_TIA w/ Mount Pipe	162	(2) DTMABP7819VG12A	142
LNX-6514DS-VTM_TIA w/ Mount Pipe	162	(2) DTMABP7819VG12A	142
LNX-6514DS-VTM_TIA w/ Mount Pipe	162	(2) DTMABP7819VG12A	142
RRH2X40-07-U	162	EEI Low-Profile Platform	142
RRH2X40-07-U	162		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower designed for Exposure B to the TIA-222-G Standard.
2. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.0000 ft
7. TOWER RATING: 36.5%

ALL REACTIONS ARE FACTORED

AXIAL 131 K
SHEAR 9 K
MOMENT 1155 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL 77 K
SHEAR 36 K
MOMENT 4448 kip-ft
TORQUE 1 kip-ft
REACTIONS - 105 mph WIND

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Job: ***CT11636A***			
Project: ***049.02893 - 2275001***			
Client: Qualtek Wireless	Drawn by: Patrick.Baxter	App'd:	
Code: TIA-222-G	Date: 02/02/22	Scale: NTS	
Path: C:\Users\patrick.baxter\Sedgwick\Desktek Server - Documents\Projects\2022\75 - ForeSite LLC\001 - CT11636A\tnxTower\CT11636A.eri		Dwg No. E-1	

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Basic wind speed of 105 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.0000 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56.00 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.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole 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

Tapered Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Splice Length* *ft*	*Number of Sides*	*Top Diameter* *in*	*Bottom Diameter* *in*	*Wall Thickness* *in*	*Bend Radius* *in*	*Pole Grade*
L1	175.0000-154.8700	20.1300	4.25	18	24.2100	29.4500	0.1875	0.7500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L2	154.8700-116.2900	42.8300	5.42	18	27.9687	38.9900	0.3750	1.5000	A572-65 (65 ksi)
L3	116.2900-74.1700	47.5400	6.67	18	36.8453	49.0700	0.5000	2.0000	A572-65 (65 ksi)
L4	74.1700-33.3400	47.5000	7.83	18	46.3548	58.5800	0.5625	2.2500	A572-65 (65 ksi)
L5	33.3400-0.0000	41.1700		18	55.4398	66.0000	0.6250	2.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.5546	14.2964	1042.3180	8.5280	12.2987	84.7504	2086.0076	7.1496	3.9310	20.965
	29.8754	17.4148	1883.9958	10.3882	14.9606	125.9305	3770.4706	8.7091	4.8532	25.884
L2	29.4528	32.8434	3159.4030	9.7958	14.2081	222.3664	6322.9633	16.4248	4.2625	11.367
	39.5336	45.9615	8658.5219	13.7083	19.8069	437.1463	17328.4368	22.9851	6.2022	16.539
L3	38.7518	57.6800	9626.2851	12.9026	18.7174	514.2959	19265.2367	28.8455	5.6048	11.21
	49.7499	77.0806	22973.0516	17.2423	24.9276	921.5925	45976.3317	38.5476	7.7563	15.513
L4	48.7263	81.7565	21659.3452	16.2563	23.5483	919.7855	43347.1904	40.8860	7.1685	12.744
	59.3969	103.5830	44049.7991	20.5962	29.7586	1480.2356	88157.5601	51.8013	9.3201	16.569
L5	58.2380	108.7388	41277.8785	19.4592	28.1634	1465.6564	82610.0715	54.3797	8.6574	13.852
	66.9217	129.6877	70026.0284	23.2081	33.5280	2088.5835	140144.1989	64.8562	10.5160	16.826

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
L1 175.0000-154.8700				1	1	1			
L2 154.8700-116.2900				1	1	1			
L3 116.2900-74.1700				1	1	1			
L4 74.1700-33.3400				1	1	1			
L5 33.3400-0.0000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LCF158-50JA-A7(1 5/8)	C	No	Surface Ar (CaAa)	165.0000 - 3.0000	6	6	-0.500 -0.250	1.9800		0.72

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
***									
6x24 Hybriflex	C	No	No	Inside Pole	175.0000 - 6.0000	1	No Ice	0.0000	1.10
							1/2" Ice	0.0000	1.10
							1" Ice	0.0000	1.10
6x12 Hybriflex	C	No	No	Inside Pole	175.0000 - 6.0000	3	No Ice	0.0000	0.55
							1/2" Ice	0.0000	0.55
							1" Ice	0.0000	0.55
***									
LCF158-50JA-A7(1 5/8)	C	No	No	Inside Pole	165.0000 - 3.0000	6	No Ice	0.0000	0.72
							1/2" Ice	0.0000	0.72
							1" Ice	0.0000	0.72
1.5" Hybriflex	C	No	No	Inside Pole	165.0000 - 3.0000	1	No Ice	0.0000	0.98
							1/2" Ice	0.0000	0.98
							1" Ice	0.0000	0.98
***									
LCF158-50JA-A7(1 5/8)	C	No	No	Inside Pole	155.0000 - 6.0000	6	No Ice	0.0000	0.72
							1/2" Ice	0.0000	0.72
							1" Ice	0.0000	0.72
0.4" Cable	C	No	No	Inside Pole	155.0000 - 6.0000	1	No Ice	0.0000	0.17
							1/2" Ice	0.0000	0.17
							1" Ice	0.0000	0.17
***									
LCF158-50JA-A7(1 5/8)	C	No	No	Inside Pole	145.0000 - 6.0000	12	No Ice	0.0000	0.72
							1/2" Ice	0.0000	0.72
							1" Ice	0.0000	0.72
04" Cable	C	No	No	Inside Pole	145.0000 - 6.0000	1	No Ice	0.0000	0.17
							1/2" Ice	0.0000	0.17
							1" Ice	0.0000	0.17
0.32" Cable	C	No	No	Inside Pole	145.0000 - 6.0000	1	No Ice	0.0000	0.07
							1/2" Ice	0.0000	0.07
							1" Ice	0.0000	0.07
0.8" DC Cable	C	No	No	Inside Pole	145.0000 - 6.0000	2	No Ice	0.0000	0.30
							1/2" Ice	0.0000	0.30
							1" Ice	0.0000	0.30

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
L1	175.0000-154.870 0	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00

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
		C	0.000	0.000	12.034	0.000	0.15
L2	154.8700-116.290	A	0.000	0.000	0.000	0.000	0.00
	0	B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	45.833	0.000	0.92
L3	116.2900-74.1700	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	50.039	0.000	1.11
L4	74.1700-33.3400	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	48.506	0.000	1.08
L5	33.3400-0.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	36.044	0.000	0.75

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
L1	175.0000-154.870	A	2.349	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	20.991	0.000	0.48
L2	154.8700-116.290	A	2.302	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	79.944	0.000	2.16
L3	116.2900-74.1700	A	2.222	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	86.791	0.000	2.43
L4	74.1700-33.3400	A	2.100	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	83.317	0.000	2.31
L5	33.3400-0.0000	A	1.864	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	60.980	0.000	1.61

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	175.0000-154.8700	3.0717	3.0717	2.3853	2.3853
L2	154.8700-116.2900	4.9481	4.9481	3.8698	3.8698
L3	116.2900-74.1700	5.3467	5.3467	4.2880	4.2880
L4	74.1700-33.3400	5.6433	5.6433	4.6023	4.6023
L5	33.3400-0.0000	5.4134	5.4134	4.4688	4.4688

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	1	LCF158-50JA-A7(1 5/8)	154.87 - 165.00	1.0000	1.0000
L2	1	LCF158-50JA-A7(1 5/8)	116.29 - 154.87	1.0000	1.0000
L3	1	LCF158-50JA-A7(1 5/8)	74.17 - 116.29	1.0000	1.0000
L4	1	LCF158-50JA-A7(1 5/8)	33.34 - 74.17	1.0000	1.0000
L5	1	LCF158-50JA-A7(1 5/8)	3.00 - 33.34	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	A	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	20.4801 21.2306 21.9900	11.0240 12.5496 14.0992	0.19 0.32 0.47
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	B	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	20.4801 21.2306 21.9900	11.0240 12.5496 14.0992	0.19 0.32 0.47
APXVAARR24_43-U-NA20 _TIA w/ Mount Pipe	C	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	20.4801 21.2306 21.9900	11.0240 12.5496 14.0992	0.19 0.32 0.47
AIR 6449 B41_TIA w/ Mount Pipe	A	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	5.8701 6.2332 6.6061	3.2700 3.7282 4.2026	0.13 0.18 0.23
AIR 6449 B41_TIA w/ Mount Pipe	B	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	5.8701 6.2332 6.6061	3.2700 3.7282 4.2026	0.13 0.18 0.23
AIR 6449 B41_TIA w/ Mount Pipe	C	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	5.8701 6.2332 6.6061	3.2700 3.7282 4.2026	0.13 0.18 0.23
VV-65A-R1_TIA w/ Mount Pipe	A	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	6.1245 6.5605 6.9915	4.0513 4.8019 5.4938	0.05 0.10 0.16
VV-65A-R1_TIA w/ Mount Pipe	B	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	6.1245 6.5605 6.9915	4.0513 4.8019 5.4938	0.05 0.10 0.16
VV-65A-R1_TIA w/ Mount Pipe	C	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	6.1245 6.5605 6.9915	4.0513 4.8019 5.4938	0.05 0.10 0.16
RADIO 4449 B71/B85	A	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3102 1.4554 1.6081	0.07 0.09 0.11
RADIO 4449 B71/B85	B	From Face	3.5000 0.00 3.00	0.000	172.0000	No Ice 1/2" Ice 1" Ice	1.6444 1.8044 1.9719	1.3102 1.4554 1.6081	0.07 0.09 0.11
RADIO 4449 B71/B85	C	From Face	3.5000 0.00	0.000	172.0000	No Ice 1/2" Ice	1.6444 1.8044	1.3102 1.4554	0.07 0.09

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert*	*Azimuth Adjustment*	*Placement*		*C_AA_A Front*	*C_AA_A Side*	*Weight*
			ft ft ft	*°*	*ft*		*ft²*	*ft²*	*K*
			3.00			1" Ice	1.9719	1.6081	0.11
RADIO 4460 B25 B66	C	From Face	3.5000	0.000	172.0000	No Ice	2.1392	1.6858	0.11
			0.00			1/2" Ice	2.3212	1.8501	0.13
			3.00			1" Ice	2.5106	2.0218	0.16
RADIO 4460 B25 B66	C	From Face	3.5000	0.000	172.0000	No Ice	2.1392	1.6858	0.11
			0.00			1/2" Ice	2.3212	1.8501	0.13
			3.00			1" Ice	2.5106	2.0218	0.16
RADIO 4460 B25 B66	C	From Face	3.5000	0.000	172.0000	No Ice	2.1392	1.6858	0.11
			0.00			1/2" Ice	2.3212	1.8501	0.13
			3.00			1" Ice	2.5106	2.0218	0.16
8'-P2x0.203	C	None		0.000	172.0000	No Ice	1.9000	1.9000	0.03
						1/2" Ice	2.7281	2.7281	0.04
						1" Ice	3.4009	3.4009	0.06
Platform Mount [LP 602-1]	C	None		0.000	172.0000	No Ice	31.0700	31.0700	1.34
						1/2" Ice	34.8200	34.8200	1.97
						1" Ice	38.4800	38.4800	2.67
***									
RHSDC-3315-PF-48	C	From Face	0.5000	0.000	165.0000	No Ice	3.3636	2.1921	0.03
			0.00			1/2" Ice	3.5972	2.3950	0.06
			0.00			1" Ice	3.8383	2.6056	0.09
4'-P2x0.154	C	From Face	0.5000	0.000	165.0000	No Ice	0.8657	0.8657	0.01
			0.00			1/2" Ice	1.1106	1.1106	0.02
			0.00			1" Ice	1.3648	1.3648	0.03
Collar Mount	C	None		0.000	165.0000	No Ice	0.0000	0.0000	0.10
						1/2" Ice	0.0000	0.0000	0.13
						1" Ice	0.0000	0.0000	0.16
BXA-70063-8CF-EDIN-X_T	A	From Face	3.5000	0.000	162.0000	No Ice	10.9066	8.1774	0.07
IA w/ Mount Pipe			0.00			1/2" Ice	11.6147	9.6672	0.15
			3.00			1" Ice	12.3308	11.1698	0.24
BXA-70063-8CF-EDIN-X_T	B	From Face	3.5000	0.000	162.0000	No Ice	10.9066	8.1774	0.07
IA w/ Mount Pipe			0.00			1/2" Ice	11.6147	9.6672	0.15
			3.00			1" Ice	12.3308	11.1698	0.24
BXA-70063-8CF-EDIN-X_T	C	From Face	3.5000	0.000	162.0000	No Ice	10.9066	8.1774	0.07
IA w/ Mount Pipe			0.00			1/2" Ice	11.6147	9.6672	0.15
			3.00			1" Ice	12.3308	11.1698	0.24
(2)	A	From Face	3.5000	0.000	162.0000	No Ice	8.7792	6.9736	0.08
HBXX-6517DS-VTM_TIA			0.00			1/2" Ice	9.3560	8.1938	0.15
w/ Mount Pipe			3.00			1" Ice	9.9035	9.1582	0.22
(2)	B	From Face	3.5000	0.000	162.0000	No Ice	8.7792	6.9736	0.08
HBXX-6517DS-VTM_TIA			0.00			1/2" Ice	9.3560	8.1938	0.15
w/ Mount Pipe			3.00			1" Ice	9.9035	9.1582	0.22
(2)	C	From Face	3.5000	0.000	162.0000	No Ice	8.7792	6.9736	0.08
HBXX-6517DS-VTM_TIA			0.00			1/2" Ice	9.3560	8.1938	0.15
w/ Mount Pipe			3.00			1" Ice	9.9035	9.1582	0.22
LNX-6514DS-VTM_TIA w/	A	From Face	3.5000	0.000	162.0000	No Ice	8.4106	7.0817	0.06
Mount Pipe			0.00			1/2" Ice	8.9745	8.2729	0.13
			3.00			1" Ice	9.5048	9.1847	0.21
LNX-6514DS-VTM_TIA w/	B	From Face	3.5000	0.000	162.0000	No Ice	8.4106	7.0817	0.06
Mount Pipe			0.00			1/2" Ice	8.9745	8.2729	0.13
			3.00			1" Ice	9.5048	9.1847	0.21
LNX-6514DS-VTM_TIA w/	C	From Face	3.5000	0.000	162.0000	No Ice	8.4106	7.0817	0.06
Mount Pipe			0.00			1/2" Ice	8.9745	8.2729	0.13
			3.00			1" Ice	9.5048	9.1847	0.21
RRH2X40-07-U	A	From Face	3.5000	0.000	162.0000	No Ice	1.9250	1.0523	0.05
			0.00			1/2" Ice	2.0976	1.1871	0.07
			3.00			1" Ice	2.2776	1.3294	0.09
RRH2X40-07-U	B	From Face	3.5000	0.000	162.0000	No Ice	1.9250	1.0523	0.05

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
			0.00			1/2" Ice	2.0976	1.1871	0.07
			3.00			1" Ice	2.2776	1.3294	0.09
RRH2X40-07-U	C	From Face	3.5000	0.000	162.0000	No Ice	1.9250	1.0523	0.05
			0.00			1/2" Ice	2.0976	1.1871	0.07
			3.00			1" Ice	2.2776	1.3294	0.09
RRH2x40-AWS	A	From Face	3.5000	0.000	162.0000	No Ice	2.1614	1.4199	0.04
			0.00			1/2" Ice	2.3597	1.5903	0.06
			3.00			1" Ice	2.5655	1.7676	0.08
RRH2x40-AWS	B	From Face	3.5000	0.000	162.0000	No Ice	2.1614	1.4199	0.04
			0.00			1/2" Ice	2.3597	1.5903	0.06
			3.00			1" Ice	2.5655	1.7676	0.08
RRH2x40-AWS	C	From Face	3.5000	0.000	162.0000	No Ice	2.1614	1.4199	0.04
			0.00			1/2" Ice	2.3597	1.5903	0.06
			3.00			1" Ice	2.5655	1.7676	0.08
EEI Low-Profile Platform	C	None		0.000	162.0000	No Ice	16.5000	16.5000	1.55
						1/2" Ice	20.0000	20.0000	1.80
						1" Ice	23.5000	23.5000	2.05
***									
(2)	A	From Face	3.5000	0.000	152.0000	No Ice	3.8586	3.2963	0.04
APXV18-206516S-C-A20_TI			0.00			1/2" Ice	4.2736	4.0044	0.07
A w/ Mount Pipe			3.00			1" Ice	4.6737	4.6717	0.11
(2)	B	From Face	3.5000	0.000	152.0000	No Ice	3.8586	3.2963	0.04
APXV18-206516S-C-A20_TI			0.00			1/2" Ice	4.2736	4.0044	0.07
A w/ Mount Pipe			3.00			1" Ice	4.6737	4.6717	0.11
(2)	C	From Face	3.5000	0.000	152.0000	No Ice	3.8586	3.2963	0.04
APXV18-206516S-C-A20_TI			0.00			1/2" Ice	4.2736	4.0044	0.07
A w/ Mount Pipe			3.00			1" Ice	4.6737	4.6717	0.11
EEI Low-Profile Platform	C	None		0.000	150.0000	No Ice	16.5000	16.5000	1.55
						1/2" Ice	20.0000	20.0000	1.80
						1" Ice	23.5000	23.5000	2.05
***									
RRUS 11 B12	A	From Face	0.5000	0.000	145.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			1.00			1" Ice	3.2593	1.4848	0.10
RRUS 11 B12	B	From Face	0.5000	0.000	145.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			1.00			1" Ice	3.2593	1.4848	0.10
RRUS 11 B12	C	From Face	0.5000	0.000	145.0000	No Ice	2.8333	1.1821	0.05
			0.00			1/2" Ice	3.0426	1.3299	0.07
			1.00			1" Ice	3.2593	1.4848	0.10
Ericsson RRUS 16"x13"x5.5"	A	From Face	0.5000	0.000	145.0000	No Ice	1.6440	0.6790	0.04
			0.00			1/2" Ice	1.8040	0.7910	0.06
			1.00			1" Ice	1.9720	0.9130	0.07
Ericsson RRUS 16"x13"x5.5"	B	From Face	0.5000	0.000	145.0000	No Ice	1.6440	0.6790	0.04
			0.00			1/2" Ice	1.8040	0.7910	0.06
			1.00			1" Ice	1.9720	0.9130	0.07
Ericsson RRUS 16"x13"x5.5"	C	From Face	0.5000	0.000	145.0000	No Ice	1.6440	0.6790	0.04
			0.00			1/2" Ice	1.8040	0.7910	0.06
			1.00			1" Ice	1.9720	0.9130	0.07
DC6-48-60-18-8F (Round)	C	From Leg	0.5000	0.000	145.0000	No Ice	0.7915	0.7915	0.02
			0.00			1/2" Ice	1.2743	1.2743	0.03
			-1.00			1" Ice	1.4503	1.4503	0.05
4'-P2x0.154	A	From Face	0.5000	0.000	145.0000	No Ice	0.8657	0.8657	0.01
			0.00			1/2" Ice	1.1106	1.1106	0.02
			0.00			1" Ice	1.3648	1.3648	0.03
4'-P2x0.154	B	From Face	0.5000	0.000	145.0000	No Ice	0.8657	0.8657	0.01
			0.00			1/2" Ice	1.1106	1.1106	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	1.3648	1.3648	0.03
4'-P2x0.154	C	From Face	0.5000	0.000	145.0000	No Ice	0.8657	0.8657	0.01
			0.00			1/2" Ice	1.1106	1.1106	0.02
			0.00			1" Ice	1.3648	1.3648	0.03
Collar Mount	C	None		0.000	145.0000	No Ice	0.0000	0.0000	0.10
						1/2" Ice	0.0000	0.0000	0.13
						1" Ice	0.0000	0.0000	0.16
AM-X-CD-16-65-00T-RET_	A	From Face	3.5000	0.000	142.0000	No Ice	8.2619	6.3625	0.07
TIA w/ Mount Pipe			0.00			1/2" Ice	8.8215	7.5378	0.14
			2.50			1" Ice	9.3462	8.4270	0.21
AM-X-CD-16-65-00T-RET_	B	From Face	3.5000	0.000	142.0000	No Ice	8.2619	6.3625	0.07
TIA w/ Mount Pipe			0.00			1/2" Ice	8.8215	7.5378	0.14
			2.50			1" Ice	9.3462	8.4270	0.21
AM-X-CD-16-65-00T-RET_	C	From Face	3.5000	0.000	142.0000	No Ice	8.2619	6.3625	0.07
TIA w/ Mount Pipe			0.00			1/2" Ice	8.8215	7.5378	0.14
			2.50			1" Ice	9.3462	8.4270	0.21
7770_TIA w/ Mount Pipe	A	From Face	3.5000	0.000	142.0000	No Ice	5.7460	4.2543	0.06
			0.00			1/2" Ice	6.1791	5.0137	0.10
			2.50			1" Ice	6.6067	5.7109	0.16
7770_TIA w/ Mount Pipe	B	From Face	3.5000	0.000	142.0000	No Ice	5.7460	4.2543	0.06
			0.00			1/2" Ice	6.1791	5.0137	0.10
			2.50			1" Ice	6.6067	5.7109	0.16
7770_TIA w/ Mount Pipe	C	From Face	3.5000	0.000	142.0000	No Ice	5.7460	4.2543	0.06
			0.00			1/2" Ice	6.1791	5.0137	0.10
			2.50			1" Ice	6.6067	5.7109	0.16
CCI 72"x14.5"x7.5" Antenna	A	From Face	3.5000	0.000	142.0000	No Ice	10.1500	7.0000	0.07
			0.00			1/2" Ice	10.7150	7.9550	0.15
			2.50			1" Ice	11.2890	8.7870	0.23
CCI 72"x14.5"x7.5" Antenna	B	From Face	3.5000	0.000	142.0000	No Ice	10.1500	7.0000	0.07
			0.00			1/2" Ice	10.7150	7.9550	0.15
			2.50			1" Ice	11.2890	8.7870	0.23
CCI 72"x14.5"x7.5" Antenna	C	From Face	3.5000	0.000	142.0000	No Ice	10.1500	7.0000	0.07
			0.00			1/2" Ice	10.7150	7.9550	0.15
			2.50			1" Ice	11.2890	8.7870	0.23
(2) DTMABP7819VG12A	A	From Face	3.5000	0.000	142.0000	No Ice	0.9762	0.3387	0.02
			0.00			1/2" Ice	1.1002	0.4192	0.03
			2.50			1" Ice	1.2316	0.5098	0.04
(2) DTMABP7819VG12A	B	From Face	3.5000	0.000	142.0000	No Ice	0.9762	0.3387	0.02
			0.00			1/2" Ice	1.1002	0.4192	0.03
			2.50			1" Ice	1.2316	0.5098	0.04
(2) DTMABP7819VG12A	C	From Face	3.5000	0.000	142.0000	No Ice	0.9762	0.3387	0.02
			0.00			1/2" Ice	1.1002	0.4192	0.03
			2.50			1" Ice	1.2316	0.5098	0.04
EEI Low-Profile Platform	C	None		0.000	142.0000	No Ice	16.5000	16.5000	1.55
						1/2" Ice	20.0000	20.0000	1.80
						1" Ice	23.5000	23.5000	2.05

Load Combinations

Comb. No.	Description

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 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	175 - 154.87	Pole	Max Tension	14	0.00	-0.00	0.00
			Max. Compression	26	-25.95	0.00	-4.61
			Max. Mx	20	-7.42	127.09	-1.88

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-7.40	0.00	-130.36
			Max. Vy	20	-12.98	127.09	-1.88
			Max. Vx	14	13.11	0.00	-130.36
			Max. Torque	20			1.29
L2	154.87 - 116.29	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.00	0.20	-7.15
			Max. Mx	20	-19.72	837.11	-2.25
			Max. My	14	-19.70	0.04	-845.43
			Max. Vy	20	-22.94	837.11	-2.25
			Max. Vx	14	23.07	0.04	-845.43
			Max. Torque	20			1.32
L3	116.29 - 74.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.29	0.20	-10.34
			Max. Mx	20	-33.28	1865.07	-2.71
			Max. My	14	-33.27	0.04	-1879.06
			Max. Vy	20	-27.37	1865.07	-2.71
			Max. Vx	14	27.50	0.04	-1879.06
			Max. Torque	20			1.32
L4	74.17 - 33.34	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-98.07	0.20	-13.57
			Max. Mx	20	-51.66	3037.47	-3.21
			Max. My	14	-51.65	0.04	-3056.99
			Max. Vy	20	-31.62	3037.47	-3.21
			Max. Vx	14	31.75	0.04	-3056.99
			Max. Torque	20			1.32
L5	33.34 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-130.75	0.20	-16.84
			Max. Mx	20	-76.49	4422.79	-3.74
			Max. My	14	-76.49	0.04	-4447.96
			Max. Vy	20	-35.60	4422.79	-3.74
			Max. Vx	14	35.73	0.04	-4447.96
			Max. Torque	20			1.32

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	130.75	-0.00	0.00
	Max. H_x	21	57.38	35.58	-0.00
	Max. H_z	3	57.38	0.00	35.71
	Max. M_x	2	4440.50	0.00	35.70
	Max. M_z	8	4422.71	-35.58	0.00
	Max. Torsion	20	1.32	35.58	0.00
	Min. Vert	15	57.38	0.00	-35.71
	Min. H_x	9	57.38	-35.58	-0.00
	Min. H_z	15	57.38	0.00	-35.71
	Min. M_x	14	-4447.96	0.00	-35.70
	Min. M_z	20	-4422.79	35.58	0.00
	Min. Torsion	8	-1.32	-35.58	0.00

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	63.75	0.00	-0.00	2.98	0.03	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	76.50	-0.00	-35.70	-4440.50	0.04	-0.06
0.9 Dead+1.6 Wind 0 deg - No Ice	57.38	-0.00	-35.71	-4409.40	0.03	-0.06
1.2 Dead+1.6 Wind 30 deg - No Ice	76.50	17.79	-30.92	-3845.60	-2211.62	0.60
0.9 Dead+1.6 Wind 30 deg - No Ice	57.38	17.79	-30.92	-3818.64	-2195.60	0.60
1.2 Dead+1.6 Wind 60 deg - No Ice	76.50	30.82	-17.85	-2218.69	-3830.68	1.11
0.9 Dead+1.6 Wind 60 deg - No Ice	57.38	30.82	-17.85	-2203.53	-3802.92	1.11
1.2 Dead+1.6 Wind 90 deg - No Ice	76.50	35.58	-0.00	3.74	-4422.71	1.32
0.9 Dead+1.6 Wind 90 deg - No Ice	57.38	35.58	0.00	2.77	-4390.84	1.31
1.2 Dead+1.6 Wind 120 deg - No Ice	76.50	30.82	17.85	2226.16	-3830.68	1.17
0.9 Dead+1.6 Wind 120 deg - No Ice	57.38	30.82	17.85	2209.07	-3802.92	1.17
1.2 Dead+1.6 Wind 150 deg - No Ice	76.50	17.79	30.92	3853.07	-2211.62	0.71
0.9 Dead+1.6 Wind 150 deg - No Ice	57.38	17.79	30.92	3824.18	-2195.60	0.71
1.2 Dead+1.6 Wind 180 deg - No Ice	76.50	-0.00	35.70	4447.96	0.04	0.06
0.9 Dead+1.6 Wind 180 deg - No Ice	57.38	-0.00	35.71	4414.94	0.03	0.06
1.2 Dead+1.6 Wind 210 deg - No Ice	76.50	-17.79	30.92	3853.07	2211.70	-0.60
0.9 Dead+1.6 Wind 210 deg - No Ice	57.38	-17.79	30.92	3824.18	2195.66	-0.60
1.2 Dead+1.6 Wind 240 deg - No Ice	76.50	-30.82	17.85	2226.16	3830.76	-1.11
0.9 Dead+1.6 Wind 240 deg - No Ice	57.38	-30.82	17.85	2209.07	3802.98	-1.11
1.2 Dead+1.6 Wind 270 deg - No Ice	76.50	-35.58	-0.00	3.74	4422.79	-1.32
0.9 Dead+1.6 Wind 270 deg - No Ice	57.38	-35.58	0.00	2.77	4390.90	-1.31
1.2 Dead+1.6 Wind 300 deg - No Ice	76.50	-30.82	-17.85	-2218.69	3830.76	-1.17
0.9 Dead+1.6 Wind 300 deg - No Ice	57.38	-30.82	-17.85	-2203.53	3802.98	-1.17
1.2 Dead+1.6 Wind 330 deg - No Ice	76.50	-17.79	-30.92	-3845.60	2211.70	-0.71
0.9 Dead+1.6 Wind 330 deg - No Ice	57.38	-17.79	-30.92	-3818.64	2195.66	-0.71
1.2 Dead+1.0 Ice+1.0 Temp	130.75	0.00	-0.00	16.84	0.20	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	130.75	0.00	-9.14	-1120.59	0.21	-0.02
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	130.75	4.56	-7.92	-968.14	-566.89	0.13
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	130.75	7.90	-4.57	-551.64	-982.04	0.25
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	130.75	9.12	-0.00	17.30	-1134.00	0.30
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	130.75	7.90	4.57	586.32	-982.16	0.27

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	130.75	4.56	7.92	1002.87	-566.96	0.17
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	130.75	0.00	9.14	1155.19	0.21	0.02
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	130.75	-4.56	7.92	1002.87	567.38	-0.13
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	130.75	-7.90	4.57	586.32	982.58	-0.25
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	130.75	-9.12	-0.00	17.30	1134.42	-0.30
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	130.75	-7.90	-4.57	-551.64	982.46	-0.27
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	130.75	-4.56	-7.92	-968.14	567.31	-0.17
Dead+Wind 0 deg - Service	63.75	0.00	-6.52	-805.02	0.03	-0.01
Dead+Wind 30 deg - Service	63.75	3.25	-5.65	-696.75	-402.07	0.11
Dead+Wind 60 deg - Service	63.75	5.63	-3.26	-400.96	-696.43	0.20
Dead+Wind 90 deg - Service	63.75	6.50	-0.00	3.10	-804.17	0.24
Dead+Wind 120 deg - Service	63.75	5.63	3.26	407.15	-696.43	0.22
Dead+Wind 150 deg - Service	63.75	3.25	5.65	702.94	-402.07	0.13
Dead+Wind 180 deg - Service	63.75	0.00	6.52	811.21	0.03	0.01
Dead+Wind 210 deg - Service	63.75	-3.25	5.65	702.94	402.14	-0.11
Dead+Wind 240 deg - Service	63.75	-5.63	3.26	407.15	696.50	-0.20
Dead+Wind 270 deg - Service	63.75	-6.50	-0.00	3.10	804.24	-0.24
Dead+Wind 300 deg - Service	63.75	-5.63	-3.26	-400.96	696.50	-0.22
Dead+Wind 330 deg - Service	63.75	-3.25	-5.65	-696.75	402.14	-0.13

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-63.75	0.00	-0.00	63.75	0.00	0.000%
2	0.00	-76.50	-35.71	0.00	76.50	35.70	0.005%
3	0.00	-57.38	-35.71	0.00	57.38	35.71	0.004%
4	17.79	-76.50	-30.92	-17.79	76.50	30.92	0.000%
5	17.79	-57.38	-30.92	-17.79	57.38	30.92	0.000%
6	30.82	-76.50	-17.85	-30.82	76.50	17.85	0.000%
7	30.82	-57.38	-17.85	-30.82	57.38	17.85	0.000%
8	35.59	-76.50	0.00	-35.58	76.50	0.00	0.005%
9	35.59	-57.38	0.00	-35.58	57.38	-0.00	0.004%
10	30.82	-76.50	17.85	-30.82	76.50	-17.85	0.000%
11	30.82	-57.38	17.85	-30.82	57.38	-17.85	0.000%
12	17.79	-76.50	30.92	-17.79	76.50	-30.92	0.000%
13	17.79	-57.38	30.92	-17.79	57.38	-30.92	0.000%
14	0.00	-76.50	35.71	0.00	76.50	-35.70	0.005%
15	0.00	-57.38	35.71	0.00	57.38	-35.71	0.004%
16	-17.79	-76.50	30.92	17.79	76.50	-30.92	0.000%
17	-17.79	-57.38	30.92	17.79	57.38	-30.92	0.000%
18	-30.82	-76.50	17.85	30.82	76.50	-17.85	0.000%
19	-30.82	-57.38	17.85	30.82	57.38	-17.85	0.000%
20	-35.59	-76.50	0.00	35.58	76.50	0.00	0.005%
21	-35.59	-57.38	0.00	35.58	57.38	-0.00	0.004%
22	-30.82	-76.50	-17.85	30.82	76.50	17.85	0.000%
23	-30.82	-57.38	-17.85	30.82	57.38	17.85	0.000%
24	-17.79	-76.50	-30.92	17.79	76.50	30.92	0.000%
25	-17.79	-57.38	-30.92	17.79	57.38	30.92	0.000%
26	0.00	-130.75	0.00	-0.00	130.75	0.00	0.001%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
27	0.00	-130.75	-9.14	-0.00	130.75	9.14	0.001%
28	4.56	-130.75	-7.92	-4.56	130.75	7.92	0.001%
29	7.90	-130.75	-4.57	-7.90	130.75	4.57	0.001%
30	9.12	-130.75	0.00	-9.12	130.75	0.00	0.001%
31	7.90	-130.75	4.57	-7.90	130.75	-4.57	0.000%
32	4.56	-130.75	7.92	-4.56	130.75	-7.92	0.000%
33	0.00	-130.75	9.14	-0.00	130.75	-9.14	0.001%
34	-4.56	-130.75	7.92	4.56	130.75	-7.92	0.000%
35	-7.90	-130.75	4.57	7.90	130.75	-4.57	0.000%
36	-9.12	-130.75	0.00	9.12	130.75	0.00	0.001%
37	-7.90	-130.75	-4.57	7.90	130.75	4.57	0.001%
38	-4.56	-130.75	-7.92	4.56	130.75	7.92	0.001%
39	0.00	-63.75	-6.52	-0.00	63.75	6.52	0.001%
40	3.25	-63.75	-5.65	-3.25	63.75	5.65	0.001%
41	5.63	-63.75	-3.26	-5.63	63.75	3.26	0.001%
42	6.50	-63.75	0.00	-6.50	63.75	0.00	0.001%
43	5.63	-63.75	3.26	-5.63	63.75	-3.26	0.001%
44	3.25	-63.75	5.65	-3.25	63.75	-5.65	0.001%
45	0.00	-63.75	6.52	-0.00	63.75	-6.52	0.001%
46	-3.25	-63.75	5.65	3.25	63.75	-5.65	0.001%
47	-5.63	-63.75	3.26	5.63	63.75	-3.26	0.001%
48	-6.50	-63.75	0.00	6.50	63.75	0.00	0.001%
49	-5.63	-63.75	-3.26	5.63	63.75	3.26	0.001%
50	-3.25	-63.75	-5.65	3.25	63.75	5.65	0.001%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	12	0.00009252	0.00009531
3	Yes	12	0.00006457	0.00008807
4	Yes	15	0.00000001	0.00008087
5	Yes	15	0.00000001	0.00006556
6	Yes	15	0.00000001	0.00007715
7	Yes	15	0.00000001	0.00006250
8	Yes	12	0.00009254	0.00013422
9	Yes	12	0.00006459	0.00011971
10	Yes	15	0.00000001	0.00008245
11	Yes	15	0.00000001	0.00006676
12	Yes	15	0.00000001	0.00007880
13	Yes	15	0.00000001	0.00006370
14	Yes	12	0.00009251	0.00009557
15	Yes	12	0.00006456	0.00008825
16	Yes	15	0.00000001	0.00007897
17	Yes	15	0.00000001	0.00006384
18	Yes	15	0.00000001	0.00008235
19	Yes	15	0.00000001	0.00006668
20	Yes	12	0.00009254	0.00013423
21	Yes	12	0.00006459	0.00011971
22	Yes	15	0.00000001	0.00007707
23	Yes	15	0.00000001	0.00006243
24	Yes	15	0.00000001	0.00008105
25	Yes	15	0.00000001	0.00006572
26	Yes	9	0.00000001	0.00002214
27	Yes	13	0.00013193	0.00013545

28	Yes	13	0.00013188	0.00014723
29	Yes	13	0.00013194	0.00014733
30	Yes	13	0.00013207	0.00013811
31	Yes	14	0.00000001	0.00006576
32	Yes	14	0.00000001	0.00006597
33	Yes	13	0.00013224	0.00014166
34	Yes	14	0.00000001	0.00006602
35	Yes	14	0.00000001	0.00006580
36	Yes	13	0.00013208	0.00013823
37	Yes	13	0.00013195	0.00014744
38	Yes	13	0.00013189	0.00014735
39	Yes	12	0.00000001	0.00002075
40	Yes	12	0.00000001	0.00001823
41	Yes	12	0.00000001	0.00001725
42	Yes	12	0.00000001	0.00002109
43	Yes	12	0.00000001	0.00001886
44	Yes	12	0.00000001	0.00001762
45	Yes	12	0.00000001	0.00002103
46	Yes	12	0.00000001	0.00001767
47	Yes	12	0.00000001	0.00001881
48	Yes	12	0.00000001	0.00002109
49	Yes	12	0.00000001	0.00001724
50	Yes	12	0.00000001	0.00001831

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 154.87	12.222	45	0.658	0.002
L2	159.12 - 116.29	10.067	45	0.627	0.001
L3	121.71 - 74.17	5.668	45	0.471	0.000
L4	80.84 - 33.34	2.382	45	0.287	0.000
L5	41.17 - 0	0.605	45	0.132	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
172.0000	APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	45	11.810	0.653	0.002	58577
165.0000	RHSDC-3315-PF-48	45	10.855	0.640	0.001	29288
162.0000	BXA-70063-8CF-EDIN-X_TIA w/ Mount Pipe	45	10.451	0.634	0.001	22611
152.0000	(2) APXV18-206516S-C-A20_TIA w/ Mount Pipe	45	9.143	0.605	0.001	16511
150.0000	EEI Low-Profile Platform	45	8.889	0.598	0.001	16039
145.0000	RRUS 11 B12	45	8.270	0.579	0.001	14969
142.0000	AM-X-CD-16-65-00T-RET_TIA w/ Mount Pipe	45	7.907	0.566	0.001	14393

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 154.87	66.850	14	3.574	0.009
L2	159.12 - 116.29	55.122	14	3.424	0.006
L3	121.71 - 74.17	31.071	14	2.578	0.002
L4	80.84 - 33.34	13.061	14	1.573	0.001
L5	41.17 - 0	3.316	14	0.725	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
172.0000	APXVAARR24_43-U-NA20_TIA w/ Mount Pipe	14	64.608	3.552	0.008	11394
165.0000	RHSDC-3315-PF-48	14	59.411	3.492	0.007	5697
162.0000	BXA-70063-8CF-EDIN-X_TIA w/ Mount Pipe	14	57.211	3.460	0.006	4396
152.0000	(2) APXV18-206516S-C-A20_TIA w/ Mount Pipe	14	50.080	3.309	0.004	3158
150.0000	EEI Low-Profile Platform	14	48.697	3.271	0.004	3056
145.0000	RRUS 11 B12	14	45.311	3.166	0.004	2826
142.0000	AM-X-CD-16-65-00T-RET_TIA w/ Mount Pipe	14	43.330	3.098	0.003	2704

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	175 - 154.87 (1)	TP29.45x24.21x0.1875	20.1300	0.0000	0.0	16.7565	-7.40	1088.51	0.007
L2	154.87 - 116.29 (2)	TP38.99x27.9687x0.375	42.8300	0.0000	0.0	44.3014	-19.70	3291.38	0.006
L3	116.29 - 74.17 (3)	TP49.07x36.8453x0.5	47.5400	0.0000	0.0	74.3586	-33.27	5524.47	0.006
L4	74.17 - 33.34 (4)	TP58.58x46.3548x0.5625	47.5000	0.0000	0.0	99.9851	-51.65	7428.39	0.007
L5	33.34 - 0 (5)	TP66x55.4398x0.625	41.1700	0.0000	0.0	129.6880	-76.49	9525.50	0.008

Pole 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 $\frac{M_{uy}}{\phi M_{ny}}$
L1	175 - 154.87 (1)	TP29.45x24.21x0.1875	130.36	630.98	0.207	0.00	630.98	0.000
L2	154.87 - 116.29 (2)	TP38.99x27.9687x0.375	845.43	2513.60	0.336	0.00	2513.60	0.000
L3	116.29 - 74.17 (3)	TP49.07x36.8453x0.5	1879.06	5307.97	0.354	0.00	5307.97	0.000
L4	74.17 - 33.34 (4)	TP58.58x46.3548x0.5625	3056.98	8536.00	0.358	0.00	8536.00	0.000
L5	33.34 - 0 (5)	TP66x55.4398x0.625	4447.97	12783.83	0.348	0.00	12783.83	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	175 - 154.87 (1)	TP29.45x24.21x0.1875	13.11	544.25	0.024	0.00	1264.78	0.000
L2	154.87 - 116.29 (2)	TP38.99x27.9687x0.375	23.07	1645.69	0.014	0.06	5040.98	0.000
L3	116.29 - 74.17 (3)	TP49.07x36.8453x0.5	27.50	2762.24	0.010	0.06	10646.00	0.000
L4	74.17 - 33.34 (4)	TP58.58x46.3548x0.5625	31.75	3714.20	0.009	0.06	17118.67	0.000
L5	33.34 - 0 (5)	TP66x55.4398x0.625	35.73	4762.75	0.008	0.06	25635.75	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	175 - 154.87 (1)	0.007	0.207	0.000	0.024	0.000	0.214	1.000	4.8.2
L2	154.87 - 116.29 (2)	0.006	0.336	0.000	0.014	0.000	0.343	1.000	4.8.2
L3	116.29 - 74.17 (3)	0.006	0.354	0.000	0.010	0.000	0.360	1.000	4.8.2
L4	74.17 - 33.34 (4)	0.007	0.358	0.000	0.009	0.000	0.365	1.000	4.8.2
L5	33.34 - 0 (5)	0.008	0.348	0.000	0.008	0.000	0.356	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail

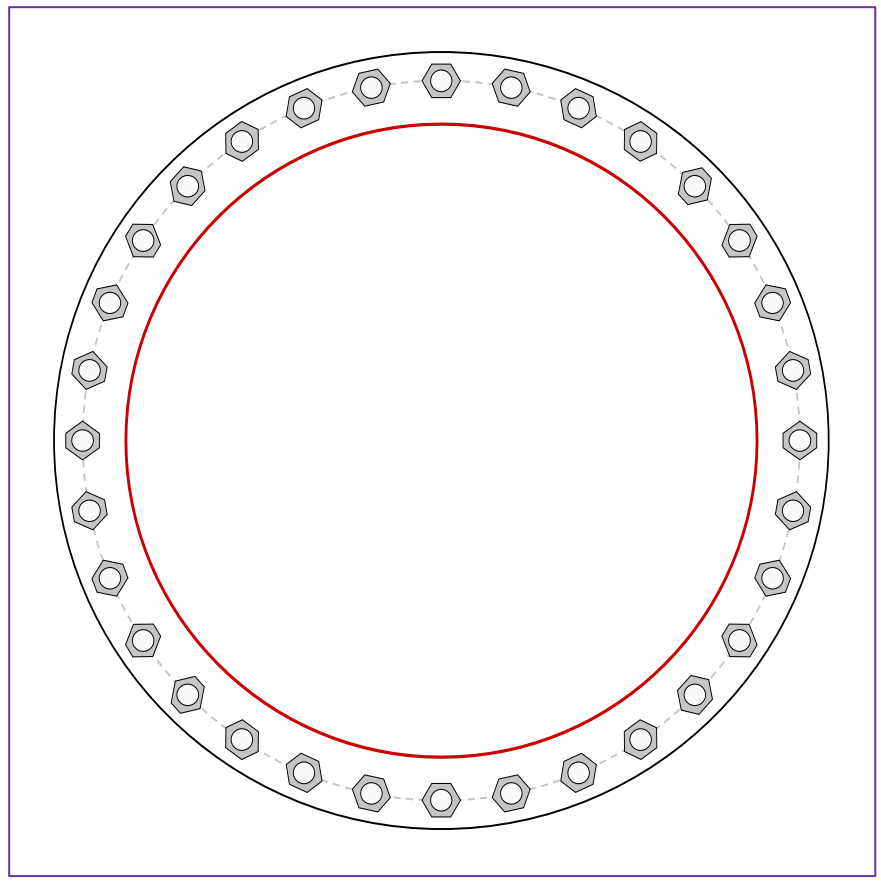
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	175 - 154.87	Pole	TP29.45x24.21x0.1875	1	-7.40	1088.51	21.4	Pass
L2	154.87 - 116.29	Pole	TP38.99x27.9687x0.375	2	-19.70	3291.38	34.3	Pass
L3	116.29 - 74.17	Pole	TP49.07x36.8453x0.5	3	-33.27	5524.47	36.0	Pass
L4	74.17 - 33.34	Pole	TP58.58x46.3548x0.5625	4	-51.65	7428.39	36.5	Pass
L5	33.34 - 0	Pole	TP66x55.4398x0.625	5	-76.49	9525.50	35.6	Pass
							Summary	
						Pole (L4)	36.5	Pass
						RATING =	**36.5**	**Pass**

Monopole Base Plate Connection

Site Info	
BU #	
Site Name	
Order #	

Analysis Considerations	
TIA-222 Revision	G
Grout Considered:	No
l_{ar} (in)	3
Eta Factor, η	0.5

Applied Loads	
Moment (kip-ft)	4447.96
Axial Force (kips)	76.49
Shear Force (kips)	35.73



Connection Properties

Anchor Rod Data

(32) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 75" BC

Base Plate Data

81" OD x 2.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

66" x 0.625" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 91.32	ϕPn_t = 260	**Stress Rating**
Vu = 1.12	ϕVn = n/a	**36.0%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	24.55	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**45.5%**	**Pass**

Pier and Pad Foundation

BU # :	
Site Name:	CT11636A
App. Number:	

TIA-222 Revision:	G
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☑
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	77	kips
Base Shear, Vu_comp:	36	kips
Moment, M_u:	4448	ft-kips
Tower Height, **H**:	175	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, **dpier**:	8	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	60	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	3	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	4.5	ft
Pad Width, W_1:	34	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	9	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	36	
Pad Rebar Size (Bottom dir. 2), Sp_2:	9	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	68	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	100	pcf
Ultimate Gross Bearing, Qult:	8.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.45	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

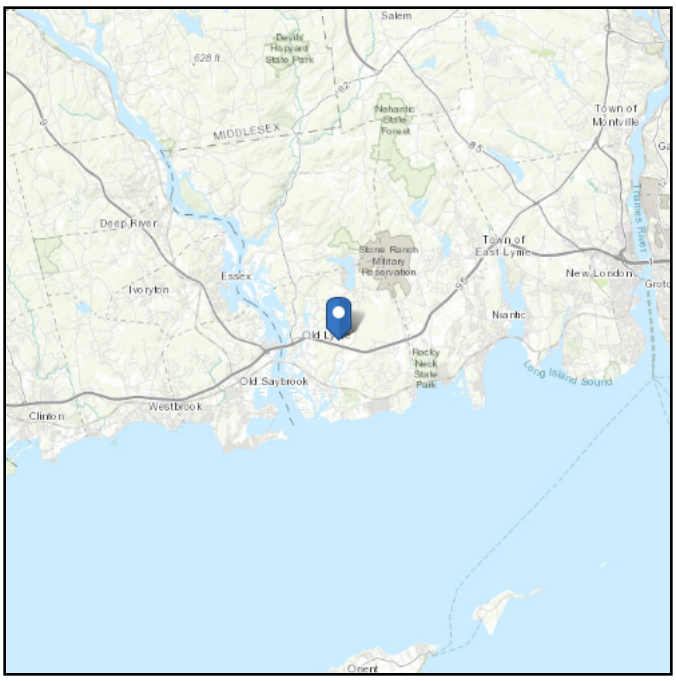
Foundation Analysis Checks	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	269.59	36.00	**13.4%**	**Pass**
Bearing Pressure (ksf)	6.00	1.30	**21.7%**	**Pass**
*Overturning (kip*ft)*	10645.44	4655.00	**43.7%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	10941.78	4538.00	**41.5%**	**Pass**
Pier Compression (kip)	40734.72	105.80	**0.3%**	**Pass**
*Pad Flexure (kip*ft)*	9130.25	1755.50	**19.2%**	**Pass**
Pad Shear - 1-way (kips)	1211.82	203.14	**16.8%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.037	**19.7%**	**Pass**

Structural Rating:	**41.5%**
Soil Rating:	**43.7%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	79.06 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.322153
Soil Class:	D - Stiff Soil	**Longitude:**	-72.307466



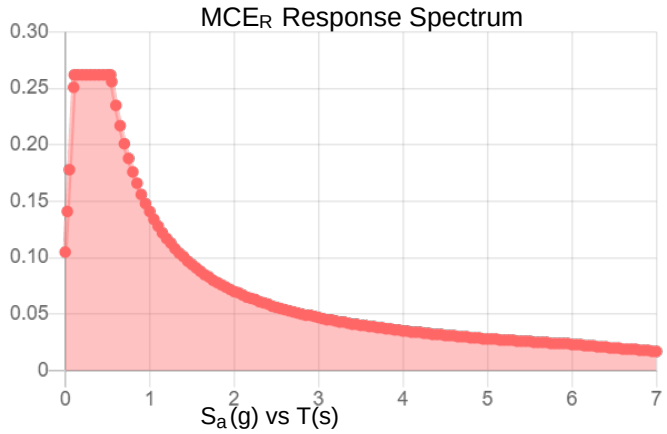
Seismic

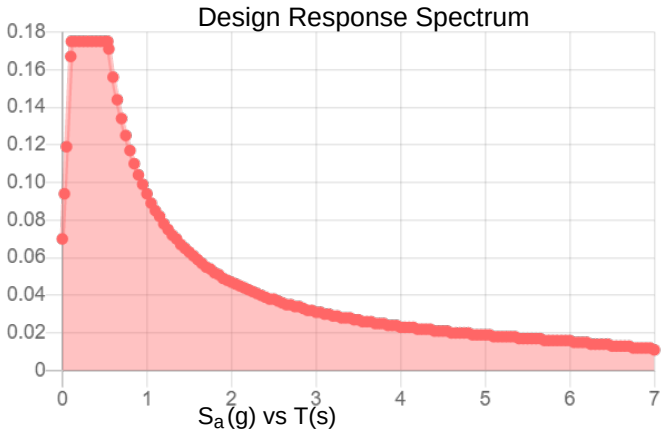
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.164	S_{DS} :	0.175
S_1 :	0.059	S_{D1} :	0.094
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.082
S_{MS} :	0.262	PGA_M :	0.131
S_{M1} :	0.141	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: **Tue Feb 01 2022**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Feb 01 2022

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

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

Exhibit E

Mount Analysis

Date: 2/4/2022

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

Subject:	**Mount Structural Analysis Report**	
T-Mobile Designation:	**Site Name:**	Wireless Solutions Old Lyme
	Site ID:	CT11636A
EFI Designation:	**Project Number:**	049.02893 - 2275001
Site Data:	**72 Boggy Hole Road, Old Lyme, CT 06371** **Latitude 41.322153°, Longitude -72.307466°**	

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

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

Existing + Proposed Equipment **Adequate Capacity w/ Mods (94.6%)**
Note: See Analysis Criteria for loading configuration

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

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

Sincerely,
EFI Global, Inc.
License No: PEC0001245

2/4/2022

Richard L. Peterman, P.E.
Connecticut Professional Engineer
License No: 30077

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	175’
Structure Type	Monopole
Exposure Category	B
Basic Wind Speed	135 * √0.6 = 105 mph (ASD)
Ice Loading	1.00” with 50 mph Wind
Risk Category	II
Topographic Factor	Kzt = 1.0

Table 1.1 – Existing Appurtenance Configuration

Qty	Model
3	Ericsson AIR21 KRC118023-1_B2A_B4P – Antennas
3	Ericsson AIR21 KRC118023-1_B2P_B4A – Antennas
3	RFS APXVAARR24_43-U-NA20 – Antennas
3	Radio 4449 B71 + B85 – RRUs

Table 1.2 – Proposed and Final Appurtenance Configuration

Qty	Model
3	Ericsson AIR6449 B41 – Antennas
3	Commscope VV-65A-R1 – Antennas
3	RFS APXVAARR24_43-U-NA20 – Antennas
3	Radio 4449 B71 + B85 – RRUs*
3	Radio 4460 B25 + B66 – RRUs*

*** To be mounted behind the antennas**

Table 1.3 – Assumed Material Properties

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

2) ANALYSIS PROCEDURE

The analysis is based on the following information:

Table 2 – Documents

Document	Provided By	Date
RFDS	T-Mobile	11/15/2021
Structural Analysis Report	Tectonic	06/21/2019

2.1) Analysis Method

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

2.2) Analysis Conditions and Assumptions

1) The mount was built and installed in accordance with the manufacturer's specifications.
2) The mount has been maintained and will be maintained in accordance with the manufacturer's specifications. All structural members and connections of the mount are in good condition and can achieve theoretical strength.
3) The configuration of antennas is as specified in "1) Analysis Criteria".
4) The analysis was performed for the subject mount only. It does not include an evaluation of the other mounts or the tower, which should be analyzed by others.
5) The evaluation does not include any antenna rigging loads. The equipment should not be rigged using the subject antenna mount as the support.
6) The analysis includes a minimum 250 lbf maintenance point load at the worst-case location on the mount, as well as a minimum 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 structural analysis report 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

Component	% Capacity	Pass / Fail
Platform Base Face Tube	23.3	Pass
Platform Base Standoff Tube	94.6	Pass
Grating Angle	<20.0	Pass
Support Rail Pipe	68.0	Pass
Support Rail Connection Angle	56.8	Pass
Mount Pipe	89.2	Pass

Platform Mount: The existing platform mount **will have adequate** capacity for the proposed changes by T-Mobile, **once the new proposed antennas Ericsson AIR6449 B41 and Commscope VV-65A-R1 are installed on new 72" long 2.5 STD mount pipes, (2) per sector for a total of (6), the new mount pipes should be connected to the face tubes using Valmont/Site Pro 1 Crossover Plate Kit with Square U-Bolts (P/N: SQCX4-K), (2) per sector for a total of (6) and should be connected to the support rail pipes using Valmont/Site Pro 1 Crossover Plate Kits (P/N: SCX2-K), (2) per sector for a total of (6).** For the code specified load combinations and as a maximum, the mount members are stressed to **94.6%** of their structural capacity.

APPENDIX

INPUT LOADS
ANALYSIS OUTPUT

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

CLIENT: Foresite LLC

PROJECT: CT11636A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Tower Height	175.00	ft	Type of Mount	Platform
Basic Wind Speed, V	105	mph (=Ultimate Speed*Sqrt(0.6))		
Basic Wind Speed with Ice, V_i	50	mph		
Maintanence Load Factor, L_{FM}	0.0816	Load Factor for Maint. Load Cases (Basic Wind Speed=30 mph)		
Design Ice Thickness, t_i		1	inches	

Table 2-3 Importance Factors

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

Table 2-4 Exposure Category Coefficients

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

Table 2-5 Topographic Categories

Kzt 1.000

Table 2-2 Wind Directionality Factor, Kd

Structure Type	Kd	
Monopole	0.95	DOES NOT CHANGE

Gust Effect Factor Gh

Structure Type	Gh	
Monopole	1.00	DOES NOT CHANGE

Shielding Factor, Ka

Structure Type	Ka	
Monopole	0.90	DOES NOT CHANGE

CLIENT: Foresite LLC

PROJECT: CT11636A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

Rad Center 175.00 ft

Antenna AND Mount Without Ice

Mounting Pole	Height (ft)	Model Number	#	Weight (lbs)	H (in)	*W (in)	D (in)	Ka	**A_N (ft2)	***A_T (ft2)	Aspect (FRONT)	Aspect (SIDE)	Ca (FRONT)	Ca (SIDE)	K_z	q_z (psf)	Pounds: Wind Load (Front)	Wind Load (Side)	Dead Load	Total Wind Load (Front)	Total Wind Load (Side)	Total Dead Load
Pos. 1	**175.00**	Ericsson AIR6449 B41	1	114.6	33.1	20.5	8.5	0.90	4.71	1.96	1.61	3.88	1.20	1.26	1.160	31.1	158.2	69.3	114.63	158	69	115
		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			
																				80	**35**	**58**
Pos.2	**175.00**	RFS-APXVAARR24_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	1.160	31.1	566.4	248.7	153.3	566	293	227
	175.00	Radio 4449 B71+B85	1	73.2	17.9	N/A	10.6	0.90	-	1.32	-	1.68	-	1.20	1.160	31.1	0.0	44.4	73.21			
		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			
																				284	**147**	**114**
Pos.3	**175.00**	Commscope VV-65A-R1	1	23.8	54.7	12.1	4.6	0.90	4.59	1.77	4.53	11.78	1.29	1.56	1.160	31.1	165.8	77.0	23.81	166	132	133
	175.00	Ericsson Radio 4460 B25+B66	1	109.0	19.6	N/A	12.1	0.90	-	1.65	-	1.62	-	1.20	1.160	31.1	0.0	55.3	109			
		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			
																				83	**67**	**67**

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

** A_N is the product of H and W

*** A_T is the product of H and D

DL #REF!

Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	*** Ca	K_z	q_z (psf)	Wind Load (PLF)
	175.00	2.5 STD Pipe	12.00	2.88	0.00	1.20	1.160	28.0	8.0
	175.00	2.0 STD Pipe	12.00	2.38	0.00	1.20	1.160	28.0	6.6
	175.00	1.5 STD Pipe	0.00	1.90	0.00	-	-	-	-
	175.00	0.625 SR	0.00	0.63	0.00	-	-	-	-
	175.00	(L3x1.875x0.1875)	0.00	3.00	1.88	-	-	-	-
	175.00	L(1.5X1.5)	12.00	1.50	1.50	2.00	1.160	28.0	7.0
	175.00	L(2.5X2.5)	12.00	2.50	2.50	2.00	1.160	28.0	11.7
	175.00	HSS 4X4X4	12.00	4.00	4.00	2.00	1.160	28.0	18.7
	175.00	PL5.5X0.25	0.00	5.50	0.25	-	-	-	-
	175.00	PL0.5X4	0.00	0.50	4.00	-	-	-	-
	175.00	PL0.375X0.875	0.00	0.38	0.88	-	-	-	-
	175.00	PL0.875X0.375	0.00	0.88	0.38	-	-	-	-
	175.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-
	175.00	Channel (2.5X1.4)	0.00	5.60	2.60	-	-	-	-
	175.00	Channel (5.6X3.1)	0.00	5.60	3.10	-	-	-	-

* 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: CT11636A

SUBJECT: Antenna Loads - G Code with Sections 16 Revisions

ti (in) 2.363102 Kiz 1.1815508 reduction 0.22676

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	**175.00**	Ericsson AIR6449 B41	1	33.1	20.5	8.5	0.90	1.91	1.52	3.97	222.44	0.70	0.70	1.160	7.1	8.5	6.8	44.4	22.5	222	44	22	222
		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	**12**	**112**
Pos.2	**175.00**	RFS-APXVAARR24_43-U-NA20	1	95.9	24.0	8.7	0.90	4.09	3.59	10.87	608.80	0.70	0.70	1.160	7.1	18.2	15.9	146.6	72.3	609	147	87	729
	175.00	Radio 4449 B71+B85	1	17.9	13.2	10.6	0.90	-	1.09	2.15	120.50	0.70	0.70	1.160	7.1	0.0	4.8	0.0	14.9	120			
		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			
																					74	**44**	**365**
Pos.3	**175.00**	Commscope VV-65A-R1	1	54.7	12.1	4.6	0.90	2.35	2.10	3.64	204.00	0.70	0.70	1.160	7.1	10.4	9.3	48.0	26.8	204	48	45	354
	175.00	Ericsson Radio 4460 B25+B66	1	19.6	15.7	12.1	0.90	-	1.20	2.68	150.29	0.70	0.70	1.160	7.1	0.0	5.3	0.0	17.9	150			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
		Empty		-	-	-	0.90	-	-	-	0.00	-	-	-	-	0.0	0.0	0.0	0.0	0			
																					25	**23**	**178**

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

** Ca will equal 1.2 for all ice load calculations

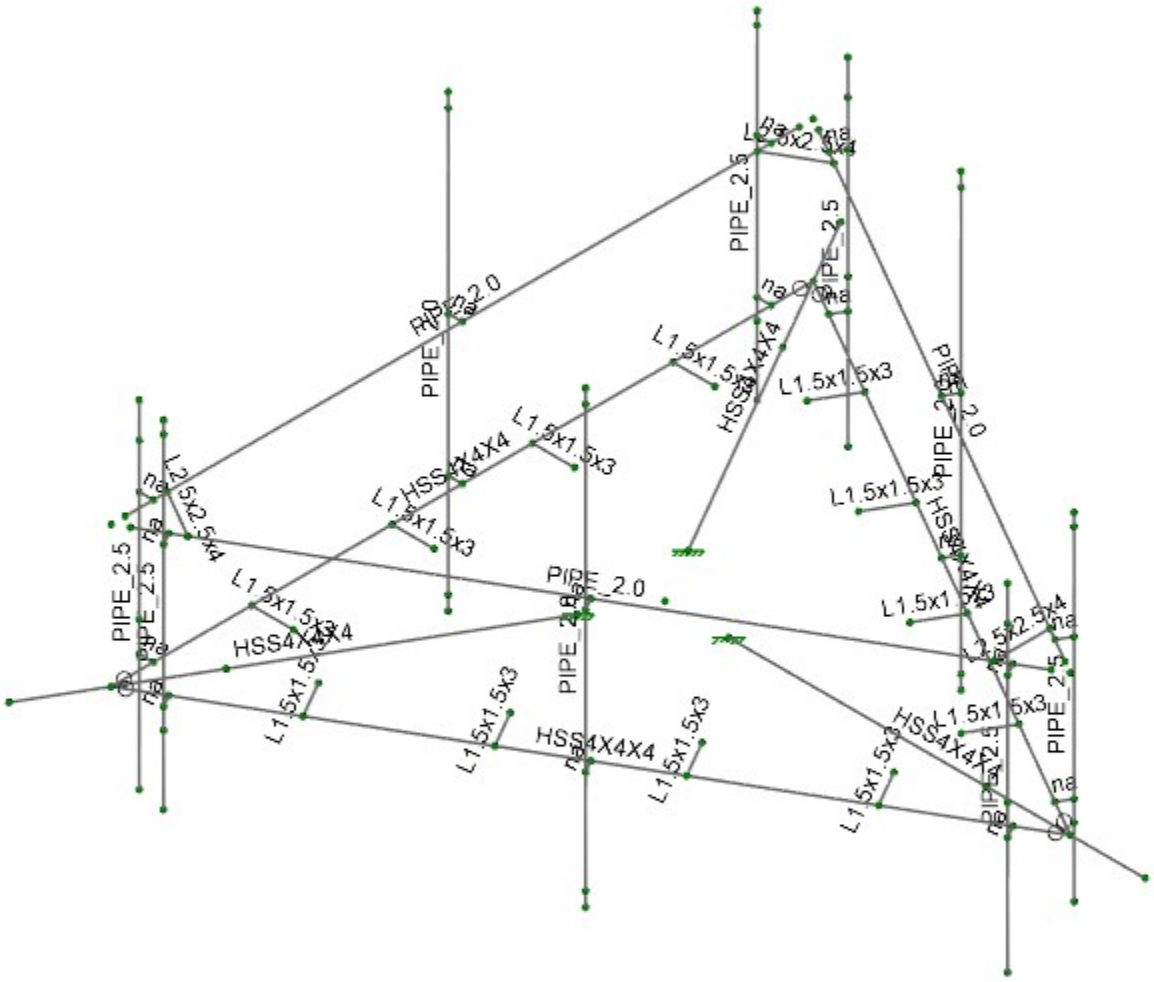
Mount	Height (ft)	Member	*L (in)	**W (in)	D (in)	***A_N (ft2)	Volume Ice (ft3)	Weight Ice (lbs)	****Ca (FRONT)	Kz	q_z (psf)	PLF: Ice Wind Load (Front)	Combined Wind Load (Front)	Ice Dead Load
	175.00	2.5 STD Pipe	12.00	2.88	0.00	0.64	0.27	15.12	1.20	1.160	6.3	4.9	6.7	15.1
	175.00	2.0 STD Pipe	12.00	2.38	0.00	0.63	0.24	13.68	1.20	1.160	6.3	4.8	6.3	13.7
	175.00	1.5 STD Pipe	0.00	1.90	0.00	-	-	-	-	-	-	-	-	-
	175.00	0.625 SR	0.00	0.63	0.00	-	-	-	-	-	-	-	-	-
	175.00	(L3x1.875x0.1875)	0.00	3.00	1.88	-	-	-	-	-	-	-	-	-
	175.00	L(1.5X1.5)	12.00	1.50	1.50	0.60	0.10	5.51	1.20	1.160	6.3	4.6	6.1	5.5
	175.00	L(2.5X2.5)	12.00	2.50	2.50	0.63	0.16	9.19	1.20	1.160	6.3	4.8	7.4	9.2
	175.00	HSS 4X4X4	12.00	4.00	4.00	0.68	0.63	35.05	1.20	1.160	6.3	5.2	9.4	35.1
	175.00	PL5.5X0.25	0.00	5.50	0.25	-	-	-	-	-	-	-	-	-
	175.00	PL0.5X4	0.00	0.50	4.00	-	-	-	-	-	-	-	-	-
	175.00	PL0.375X0.875	0.00	0.38	0.88	-	-	-	-	-	-	-	-	-
	175.00	PL0.875X0.375	0.00	0.88	0.38	-	-	-	-	-	-	-	-	-
	175.00	Double Angle (LL3x3x4x0)	0.00	3.00	3.00	-	-	-	-	-	-	-	-	-
	175.00	Channel (2.5X1.4)	0.00	5.60	2.60	-	-	-	-	-	-	-	-	-
	175.00	Channel (5.6X3.1)	0.00	5.60	3.10	-	-	-	-	-	-	-	-	-

* 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

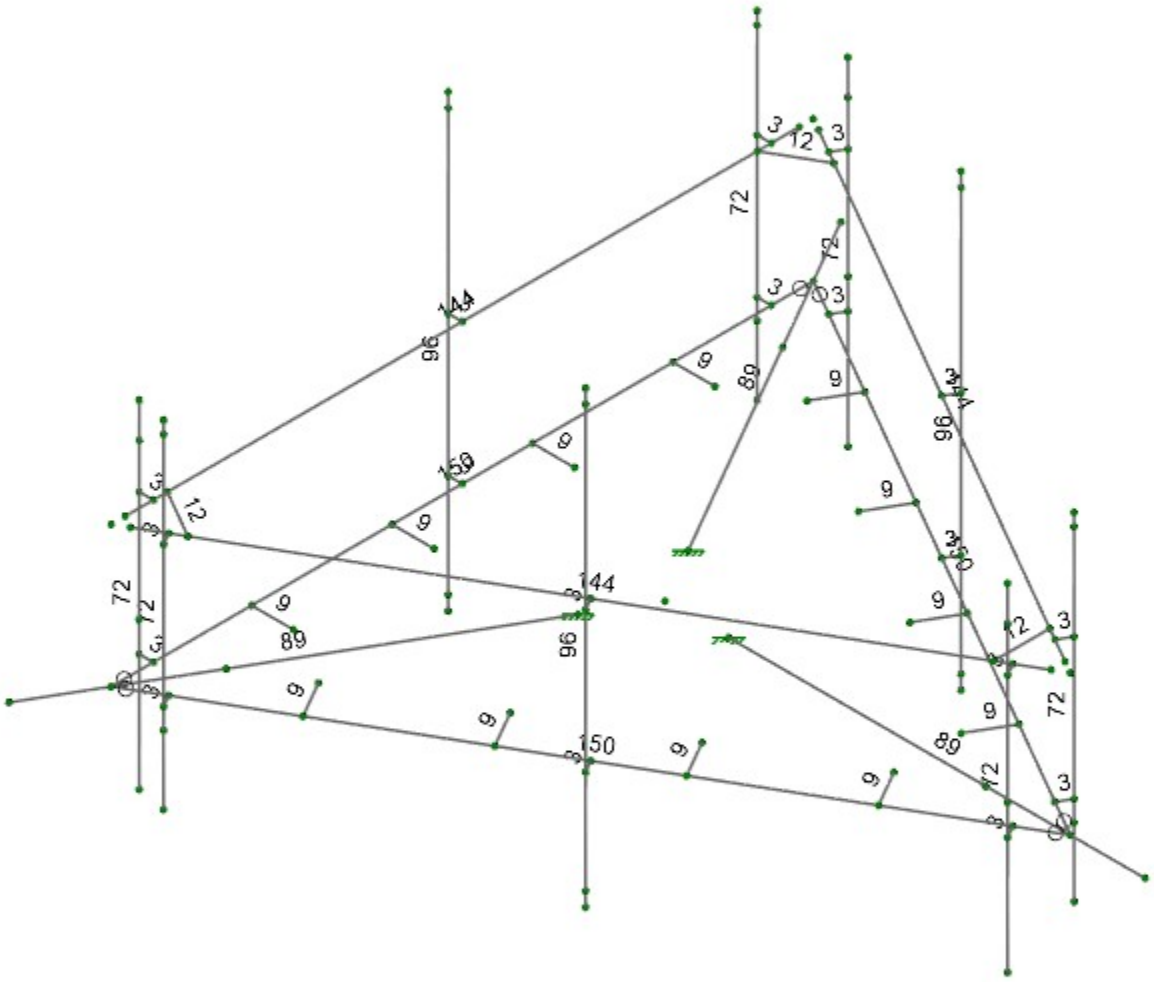
*** A_N is the area of ice built up on the LW plane

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



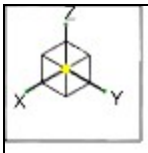
Envelope Only Solution

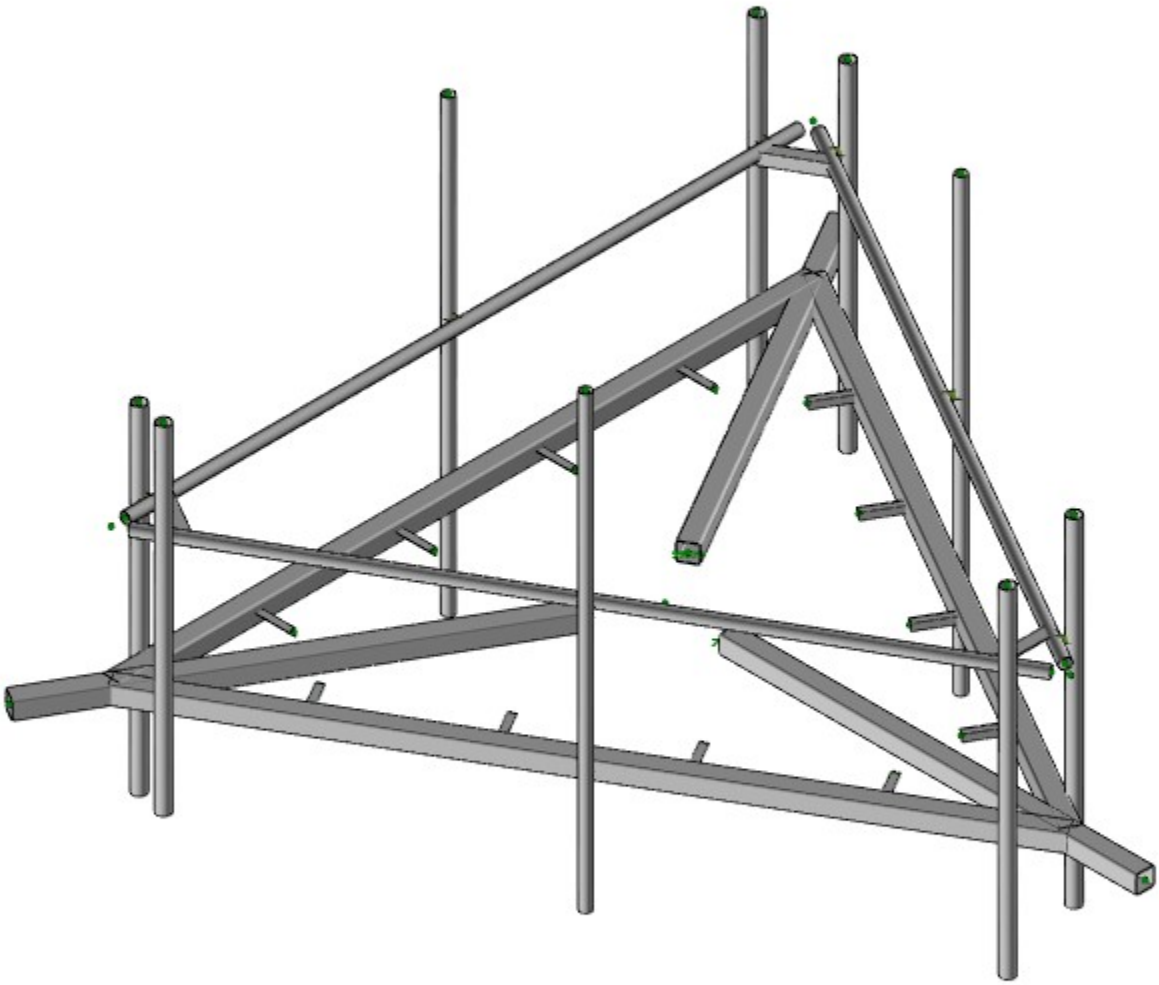
ForeSite/EFI	CT11636A	SK-1
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d



Member Length (in) Displayed
Envelope Only Solution

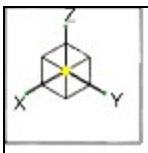
ForeSite/EFI	CT11636A	SK-2
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d

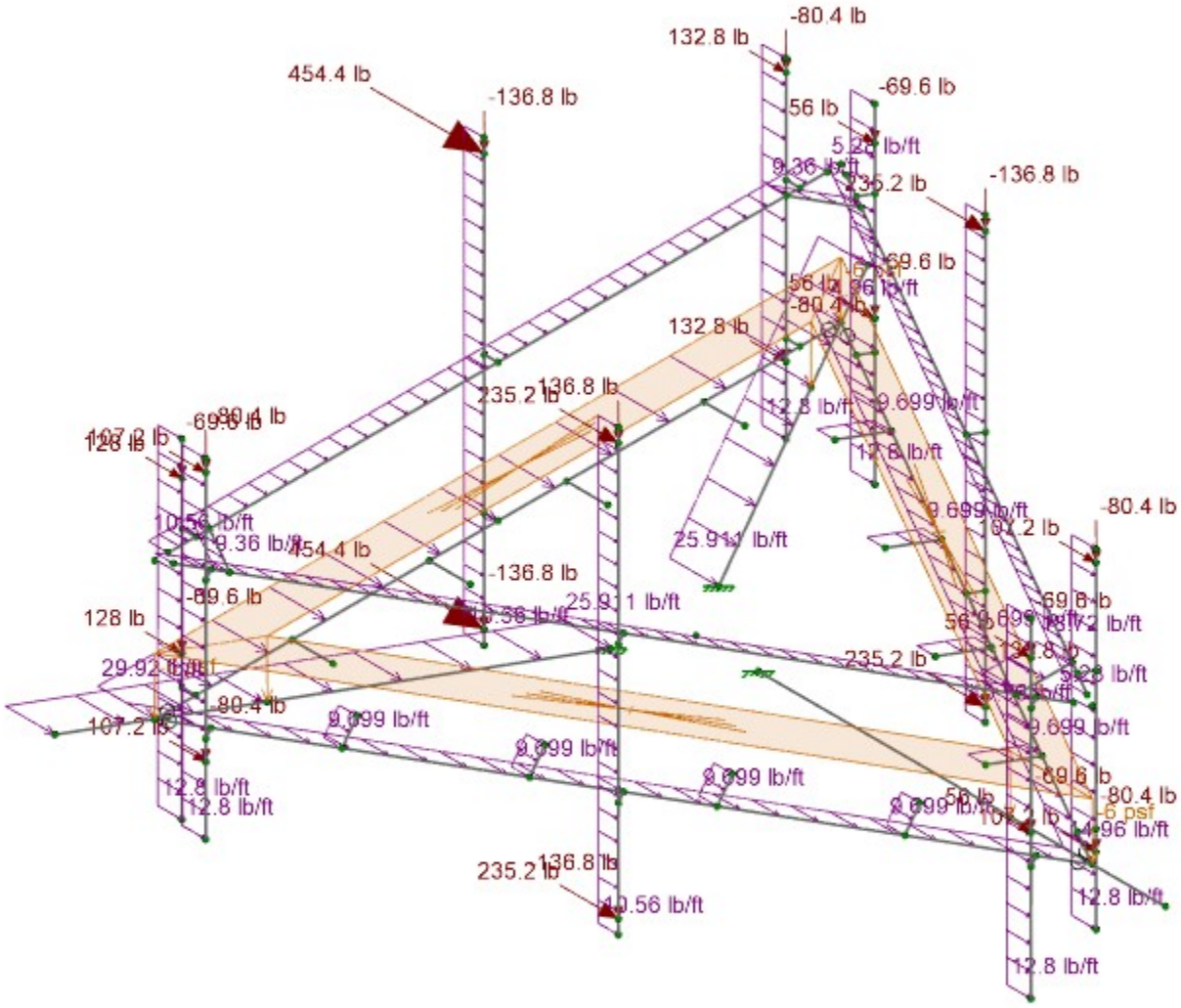




Envelope Only Solution

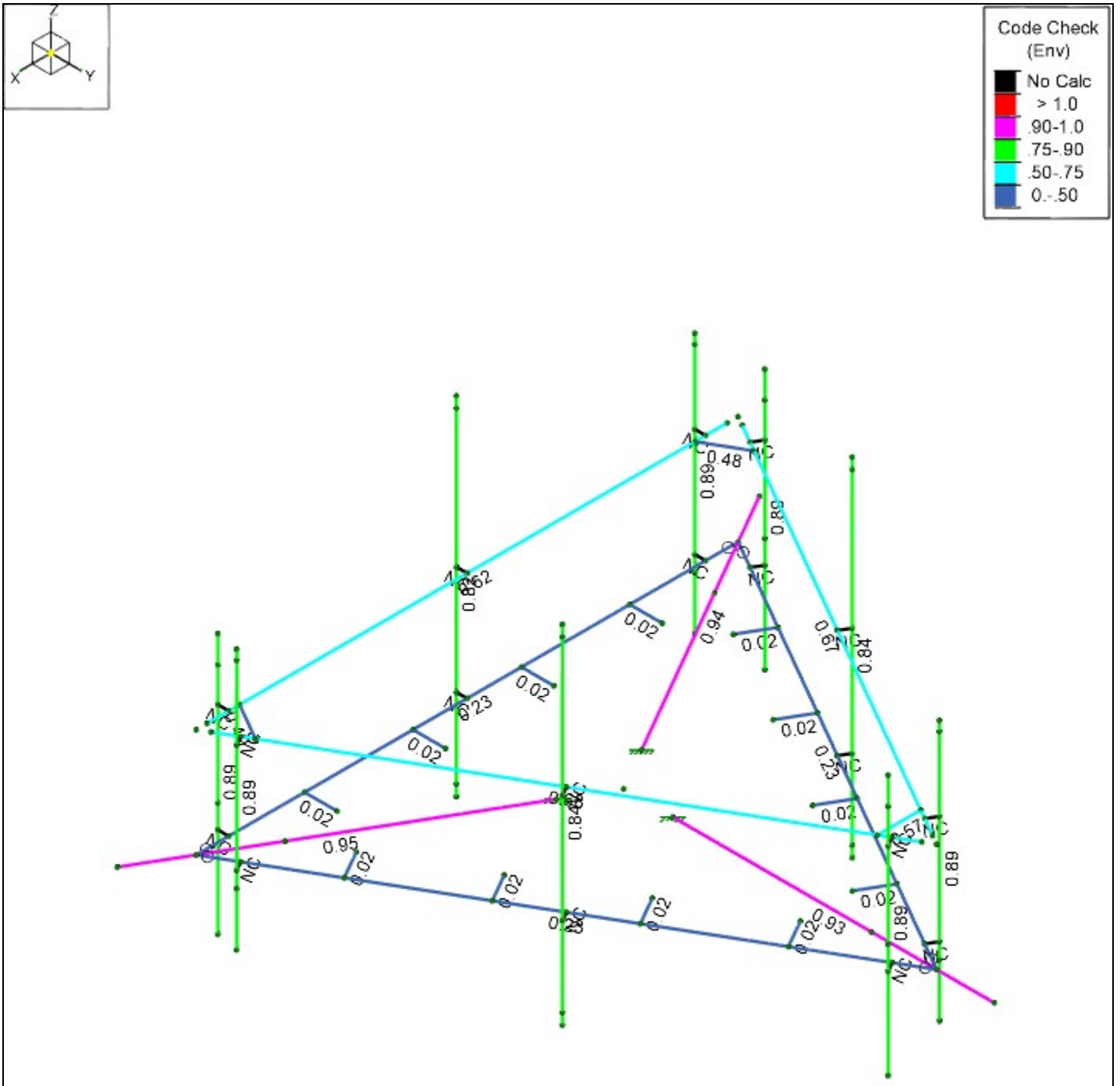
ForeSite/EFI	CT11636A	SK-3
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d





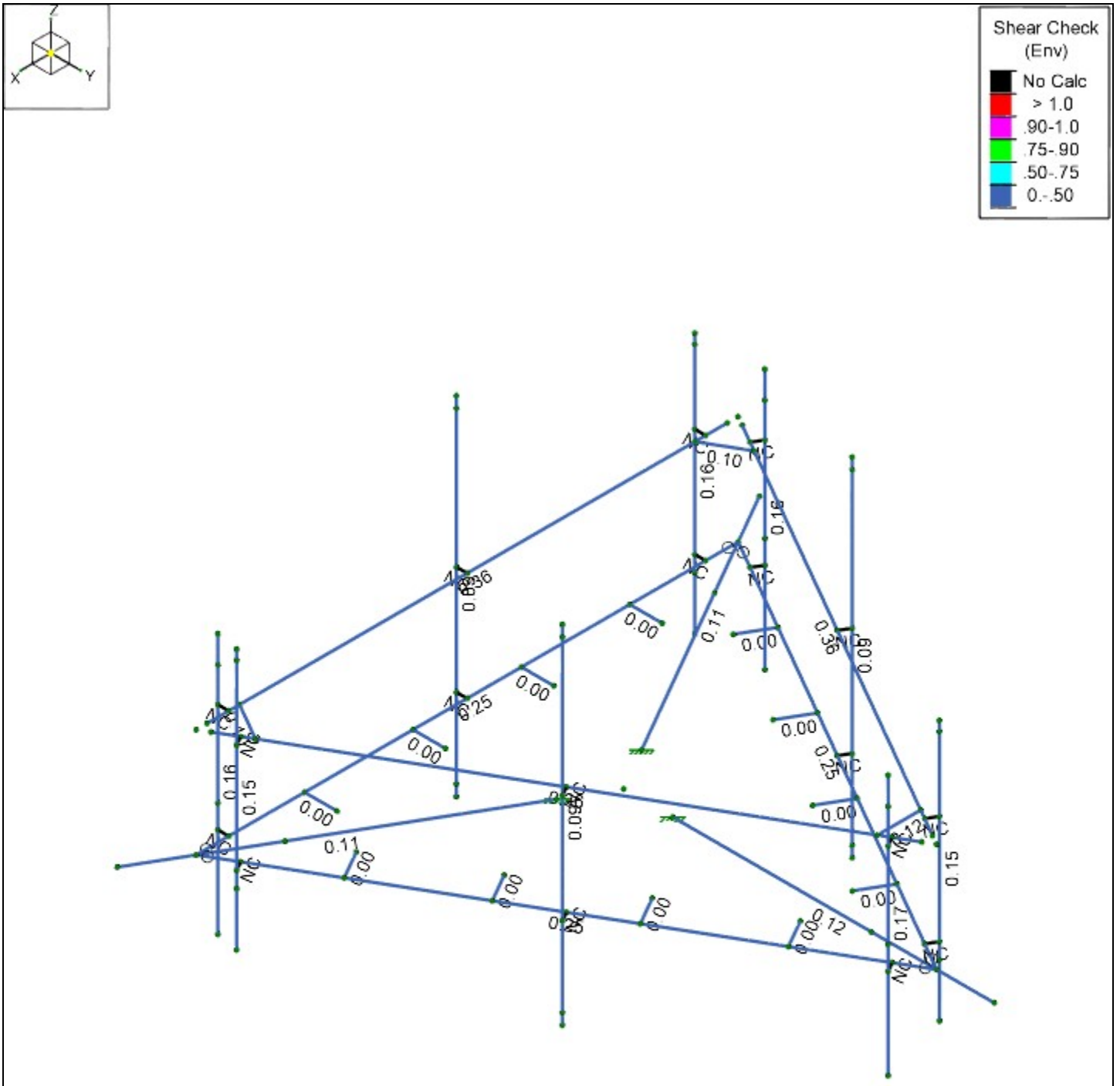
Loads: LC 1, DL + WL (NO ICE) 0 Degree
Envelope Only Solution

ForeSite/EFI	CT11636A	SK-4
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d



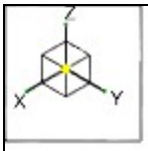
Member Code Checks Displayed (Enveloped)
Envelope Only Solution

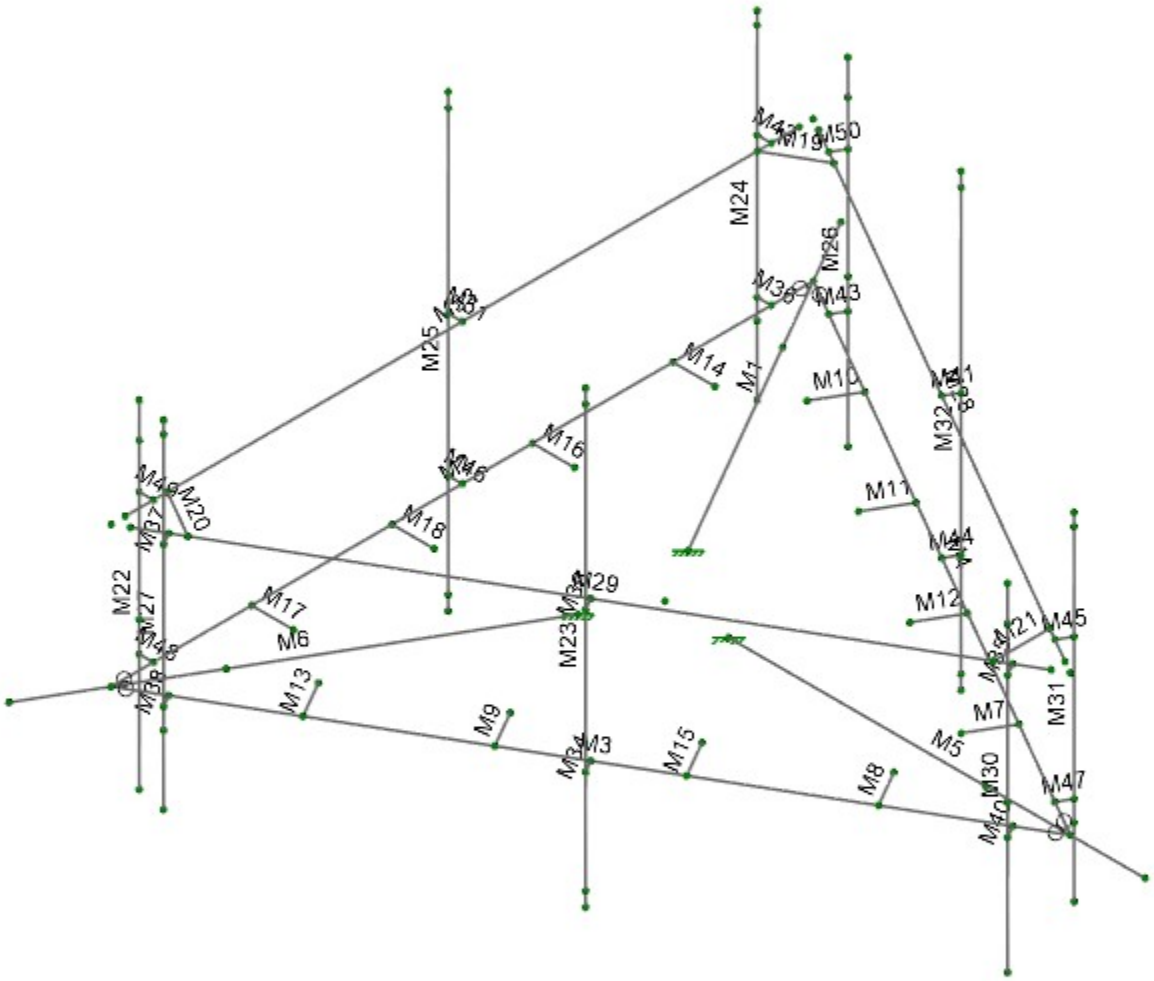
ForeSite/EFI	CT11636A	SK-5
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

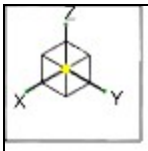
ForeSite/EFI	CT11636A	SK-6
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d

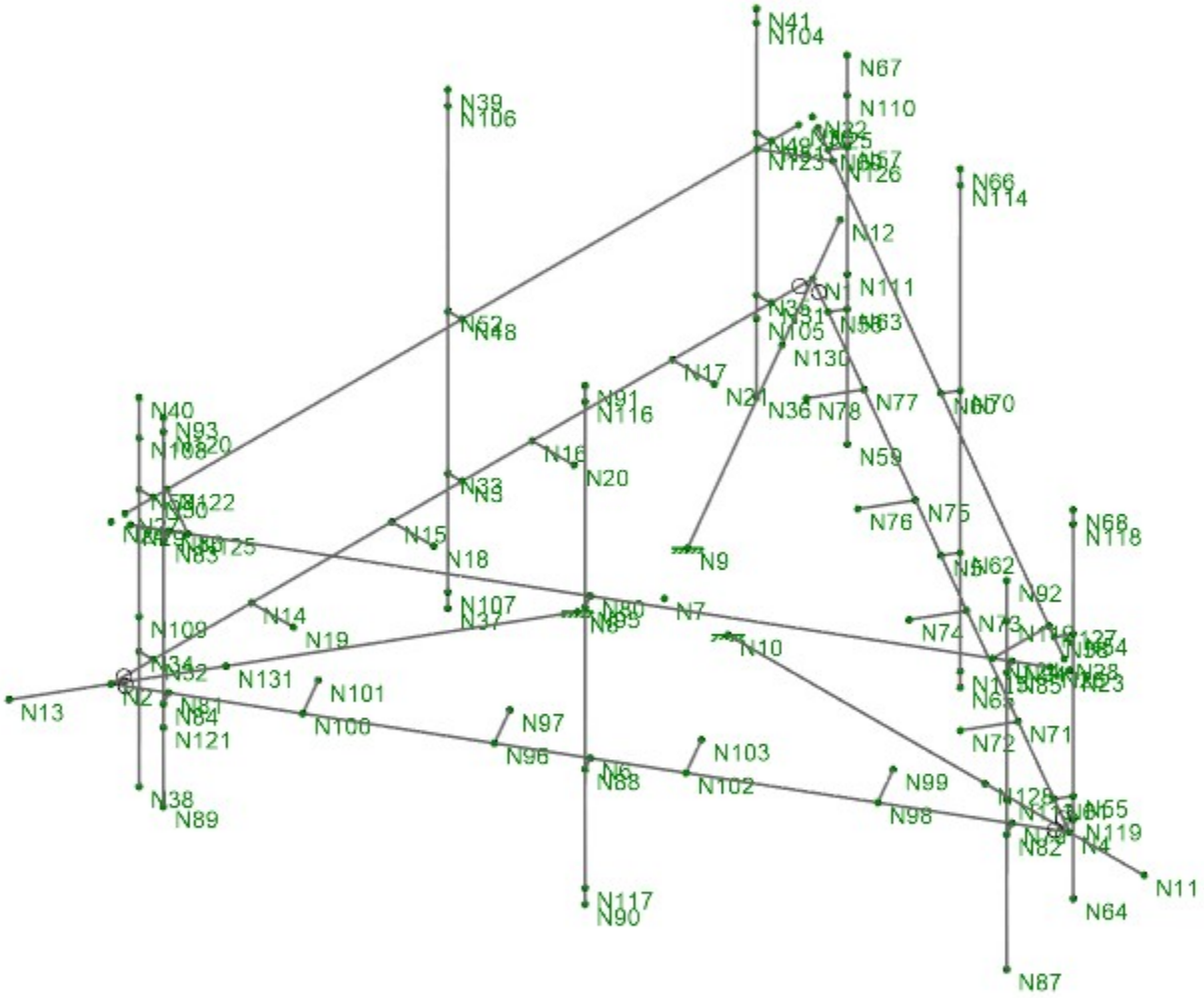




Envelope Only Solution

ForeSite/EFI	CT11636A	SK-7
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d





Envelope Only Solution

ForeSite/EFI	CT11636A	SK-8
		Feb 03, 2022
049.02893 - 2275001		CT11636A.r3d

Model Settings

Solution

Members

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

Wall Panels

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

Processor Core Utilization

Single	No
Multiple (Optimum)	Yes
Maximum	No

Axis

Vertical Global Axis

Global Axis corresponding to vertical direction	Z
Convert Existing Data	Yes

Default Member Orientation

Default Global Plane for z-axis	XZ

Plate Axis

Plate Local Axis Orientation	Nodal

Codes

Hot Rolled Steel	AISC 14th (360-10): LRFD
Stiffness Adjustment	Yes (Iterative)
Notional Annex	None
Connections	AISC 14th (360-10): LRFD
Cold Formed Steel	AISI S100-12: LRFD
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): LRFD
Stiffness Adjustment	Yes (Iterative)

Concrete

Column Design

Analysis Methodology	Exact Integration Method
Parme Beta Factor	0.65

Compression Stress Block	Rectangular Stress Block
Analyze using Cracked Sections	Yes
Leave room for horizontal rebar splices (2*d bar spacing)	No
List forces which were ignored for design in the Detail Report	Yes

Rebar

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

Model Settings (Continued)

Shear Reinforcement

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

Seismic

RISA-3D Seismic Load Options

Code	ASCE 7-10
Risk Category	I or II
Drift Cat	Other
Base Elevation (ft)	
Include the weight of the structure in base shear calcs	Yes

Site Parameters

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

Structure Characteristics

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

Project Grid Lines

No Data to Print...

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e^{5}°F^{-1}]	Density [lb/ft^{3}]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	490	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	0.3	0.65	490	50	1.1	65	1.2
3	A992	29000	11154	0.3	0.65	490	50	1.1	65	1.2
4	A500 Gr.42	29000	11154	0.3	0.65	490	42	1.3	58	1.1
5	A500 Gr.46	29000	11154	0.3	0.65	490	46	1.2	58	1.1
6	A53 Gr.B	29000	11154	0.3	0.65	490	35	1.5	60	1.2
7	A529 Gr.50	29000	11154	0.3	0.65	490	50	1.1	65	1.2

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N9	N12		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
2	M2	N2	N1		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
3	M3	N4	N2		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
4	M4	N1	N4		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
5	M5	N10	N11		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
6	M6	N8	N13		HSS4X4X4	Beam	Tube	A500 Gr.46	Typical
7	M7	N71	N72	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N98	N99		L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N96	N97		L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N77	N78	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
11	M11	N75	N76	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N73	N74	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
13	M13	N100	N101		L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
14	M14	N17	N21	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
15	M15	N102	N103		L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
16	M16	N16	N20	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N14	N19	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
18	M18	N15	N18	180	L1.5x1.5x3	Beam	Single Angle	A36 Gr.36	Typical
19	M19	N123	N126	90	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
20	M20	N125	N122	90	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
21	M21	N127	N124	270	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical
22	M22	N38	N40		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
23	M23	N90	N91		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
24	M24	N36	N41		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
25	M25	N37	N39		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
26	M26	N59	N67		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
27	M27	N89	N93		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
28	M28	N25	N28		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
29	M29	N26	N29		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
30	M30	N87	N92		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
31	M31	N64	N68		PIPE_2.5	Beam	HSS Pipe	A53 Gr.B	Typical
32	M32	N65	N66		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
33	M33	N27	N30		PIPE_2.0	Beam	HSS Pipe	A53 Gr.B	Typical
34	M34	N88	N6		RIGID	None	None	LINK	Typical
35	M35	N85	N94		RIGID	None	None	LINK	Typical
36	M36	N35	N31		RIGID	None	None	LINK	Typical
37	M37	N83	N86		RIGID	None	None	LINK	Typical
38	M38	N84	N81		RIGID	None	None	LINK	Typical
39	M39	N95	N80		RIGID	None	None	LINK	Typical
40	M40	N82	N79		RIGID	None	None	LINK	Typical
41	M41	N70	N60		RIGID	None	None	LINK	Typical
42	M42	N49	N51		RIGID	None	None	LINK	Typical
43	M43	N63	N56		RIGID	None	None	LINK	Typical
44	M44	N62	N5		RIGID	None	None	LINK	Typical
45	M45	N54	N58		RIGID	None	None	LINK	Typical
46	M46	N33	N3		RIGID	None	None	LINK	Typical
47	M47	N55	N61		RIGID	None	None	LINK	Typical
48	M48	N34	N32		RIGID	None	None	LINK	Typical
49	M49	N53	N50		RIGID	None	None	LINK	Typical
50	M50	N57	N69		RIGID	None	None	LINK	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
51	M51	N52	N48		RIGID	None	None	LINK	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Seismic DR
1	M1			Yes	Default	None
2	M2	BenPIN	BenPIN	Yes	Default	None
3	M3	BenPIN	BenPIN	Yes	Default	None
4	M4	BenPIN	BenPIN	Yes	Default	None
5	M5			Yes	Default	None
6	M6			Yes	Default	None
7	M7			Yes	Default	None
8	M8			Yes	Default	None
9	M9			Yes	Default	None
10	M10			Yes	Default	None
11	M11			Yes	Default	None
12	M12			Yes	Default	None
13	M13			Yes	Default	None
14	M14			Yes	Default	None
15	M15			Yes	Default	None
16	M16			Yes	Default	None
17	M17			Yes	Default	None
18	M18			Yes	Default	None
19	M19			Yes	Default	None
20	M20			Yes	Default	None
21	M21			Yes	Default	None
22	M22			Yes	Default	None
23	M23			Yes	Default	None
24	M24			Yes	Default	None
25	M25			Yes	Default	None
26	M26			Yes	Default	None
27	M27			Yes	Default	None
28	M28			Yes	Default	None
29	M29			Yes	Default	None
30	M30			Yes	Default	None
31	M31			Yes	Default	None
32	M32			Yes	Default	None
33	M33			Yes	Default	None
34	M34			Yes	** NA **	None
35	M35			Yes	** NA **	None
36	M36			Yes	** NA **	None
37	M37			Yes	** NA **	None
38	M38			Yes	** NA **	None
39	M39			Yes	** NA **	None
40	M40			Yes	** NA **	None
41	M41			Yes	** NA **	None
42	M42			Yes	** NA **	None
43	M43			Yes	** NA **	None
44	M44			Yes	** NA **	None
45	M45			Yes	** NA **	None
46	M46			Yes	** NA **	None
47	M47			Yes	** NA **	None
48	M48			Yes	** NA **	None
49	M49			Yes	** NA **	None
50	M50			Yes	** NA **	None
51	M51			Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	Function
1	M1	HSS4X4X4	89	Lbyy	Lateral
2	M2	HSS4X4X4	150	Lbyy	Lateral
3	M3	HSS4X4X4	150	Lbyy	Lateral
4	M4	HSS4X4X4	150	Lbyy	Lateral
5	M5	HSS4X4X4	89	Lbyy	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lcomp top [in]	Function
6	M6	HSS4X4X4	89	Lbyy	Lateral
7	M7	L1.5x1.5x3	9	Lbyy	Lateral
8	M8	L1.5x1.5x3	9	Lbyy	Lateral
9	M9	L1.5x1.5x3	9	Lbyy	Lateral
10	M10	L1.5x1.5x3	9	Lbyy	Lateral
11	M11	L1.5x1.5x3	9	Lbyy	Lateral
12	M12	L1.5x1.5x3	9	Lbyy	Lateral
13	M13	L1.5x1.5x3	9	Lbyy	Lateral
14	M14	L1.5x1.5x3	9	Lbyy	Lateral
15	M15	L1.5x1.5x3	9	Lbyy	Lateral
16	M16	L1.5x1.5x3	9	Lbyy	Lateral
17	M17	L1.5x1.5x3	9	Lbyy	Lateral
18	M18	L1.5x1.5x3	9	Lbyy	Lateral
19	M19	L2.5x2.5x4	12	Lbyy	Lateral
20	M20	L2.5x2.5x4	12	Lbyy	Lateral
21	M21	L2.5x2.5x4	12	Lbyy	Lateral
22	M22	PIPE_2.5	72	Lbyy	Lateral
23	M23	PIPE_2.0	96	Lbyy	Lateral
24	M24	PIPE_2.5	72	Lbyy	Lateral
25	M25	PIPE_2.0	96	Lbyy	Lateral
26	M26	PIPE_2.5	72	Lbyy	Lateral
27	M27	PIPE_2.5	72	Lbyy	Lateral
28	M28	PIPE_2.0	144	Lbyy	Lateral
29	M29	PIPE_2.0	144	Lbyy	Lateral
30	M30	PIPE_2.5	72	Lbyy	Lateral
31	M31	PIPE_2.5	72	Lbyy	Lateral
32	M32	PIPE_2.0	96	Lbyy	Lateral
33	M33	PIPE_2.0	144	Lbyy	Lateral

Node Coordinates

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
1	N1	-0.	0	0	
2	N2	150.	0	0	
3	N3	75	0	0	
4	N4	75	129.903811	0	
5	N5	37.5	64.951905	0	
6	N6	112.5	64.951905	0	
7	N7	75	43.30127	0	
8	N8	86.75	36.517405	0	
9	N9	63.25	36.517405	0	
10	N10	75	56.869002	0	
11	N11	75	145.869002	0	
12	N12	-13.826261	-7.982595	0	
13	N13	163.826261	-7.982595	0	
14	N14	120.	0	0	
15	N15	90.	0	0	
16	N16	60.	0	0	
17	N17	30.	0	0	
18	N18	90.	9	0	
19	N19	120.	9	0	
20	N20	60.	9	0	
21	N21	30.	9	0	
22	N22	-0.	0	30	
23	N23	75	129.903811	30	
24	N24	150.	0	30	
25	N25	1.5	2.598076	30	
26	N26	76.5	127.305734	30	
27	N27	147.	0	30	
28	N28	73.5	127.305734	30	
29	N29	148.5	2.598076	30	
30	N30	3.	0	30	
31	N31	9.	0	0	
32	N32	141.	0	0	
33	N33	75	-3	0	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
34	N34	141.	-3	0	
35	N35	9.	-3	0	
36	N36	9.	-3	-19	
37	N37	75	-3	-25	
38	N38	141.	-3	-25	
39	N39	75	-3	71	
40	N40	141.	-3	47	
41	N41	9.	-3	53	
42	N48	75	0	30	
43	N49	9.	-3	30	
44	N50	141.	0	30	
45	N51	9.	0	30	
46	N52	75	-3	30	
47	N53	141.	-3	30	
48	N54	67.901924	123.609582	30	
49	N55	67.901924	123.609582	0	
50	N56	4.5	7.794229	0	
51	N57	1.901924	9.294229	30	
52	N58	70.5	122.109582	30	
53	N59	1.901924	9.294229	-25	
54	N60	37.5	64.951905	30	
55	N61	70.5	122.109582	0	
56	N62	34.901924	66.451905	0	
57	N63	1.901924	9.294229	0	
58	N64	67.901924	123.609582	-19	
59	N65	34.901924	66.451905	-25	
60	N66	34.901924	66.451905	71	
61	N67	1.901924	9.294229	47	
62	N68	67.901924	123.609582	53	
63	N69	4.5	7.794229	30	
64	N70	34.901924	66.451905	30	
65	N71	60.	103.923048	0	
66	N72	67.794229	99.423048	0	
67	N73	45.	77.942286	0	
68	N74	52.794229	73.442286	0	
69	N75	30.	51.961524	0	
70	N76	37.794229	47.461524	0	
71	N77	15.	25.980762	0	
72	N78	22.794229	21.480762	0	
73	N79	79.5	122.109582	0	
74	N80	112.5	64.951905	30	
75	N81	145.5	7.794229	0	
76	N82	82.098076	123.609582	0	
77	N83	148.098076	9.294229	30	
78	N84	148.098076	9.294229	0	
79	N85	82.098076	123.609582	30	
80	N86	145.5	7.794229	30	
81	N87	82.098076	123.609582	-25	
82	N88	115.098076	66.451905	0	
83	N89	148.098076	9.294229	-19	
84	N90	115.098076	66.451905	-25	
85	N91	115.098076	66.451905	71	
86	N92	82.098076	123.609582	47	
87	N93	148.098076	9.294229	53	
88	N94	79.5	122.109582	30	
89	N95	115.098076	66.451905	30	
90	N96	120	51.961524	0	
91	N97	112.205771	47.461524	0	
92	N98	90	103.923048	0	
93	N99	82.205771	99.423048	0	
94	N100	135	25.980762	0	
95	N101	127.205771	21.480762	0	
96	N102	105	77.942286	0	
97	N103	97.205771	73.442286	0	
98	N104	9.	-3	50.35	

Node Coordinates (Continued)

	Label	X [in]	Y [in]	Z [in]	Detach From Diaphragm
99	N105	9.	-3	-4.35	
100	N106	75	-3	68	
101	N107	75	-3	-22	
102	N108	141.	-3	39.55	
103	N109	141.	-3	6.45	
104	N110	1.901924	9.294229	39.55	
105	N111	1.901924	9.294229	6.45	
106	N112	82.098076	123.609582	39.55	
107	N113	82.098076	123.609582	6.45	
108	N114	34.901924	66.451905	68	
109	N115	34.901924	66.451905	-22	
110	N116	115.098076	66.451905	68	
111	N117	115.098076	66.451905	-22	
112	N118	67.901924	123.609582	50.35	
113	N119	67.901924	123.609582	-4.35	
114	N120	148.098076	9.294229	50.35	
115	N121	148.098076	9.294229	-4.35	
116	N122	138.	0	30	
117	N123	12.	0	30	
118	N124	81	119.511506	30	
119	N125	144.	10.392305	30	
120	N126	6.	10.392305	30	
121	N127	69	119.511506	30	
122	N130	15.588457	9	0	
123	N131	134.411543	9	0	
124	N128	75	111.903811	0	

Node Boundary Conditions

	Y [k/in]	X Rot [k-ft/rad]	X [k/in]	Z Rot [k-ft/rad]	Z [k/in]	Node Label	Y Rot [k-ft/rad]
1	Reaction	Reaction	Reaction	Reaction	Reaction	N8	Reaction
2	Reaction	Reaction	Reaction	Reaction	Reaction	N10	Reaction
3	Reaction	Reaction	Reaction	Reaction	Reaction	N9	Reaction

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed	Area(Member)
1	DEAD LOAD	None	-1	18		3
2	DEAD LOAD ICE	None		18	33	3
3	WIND LOAD (NO ICE) FRONT	None		18	33	
4	WIND LOAD (NO ICE) SIDE	None		18	33	
5	WIND LOAD (ICE) FRONT	None		18	33	
6	WIND LOAD (ICE) SIDE	None		18	33	
7	LIVE LOAD1	None		1		
8	LIVE LOAD2	None		1		
9	LIVE LOAD3	None		1		
10	MAINTENANCE LOAD 1	None		1		
11	MAINTENANCE LOAD 2	None		1		
12	MAINTENANCE LOAD 3	None		1		
13	MAINTENANCE LOAD 4	None				
14	BLC 1 Transient Area Loads	None			33	
15	BLC 2 Transient Area Loads	None			33	

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	Z	-58
2	N109	L	Z	-58
3	N107	L	Z	-114
4	N106	L	Z	-114
5	N105	L	Z	-67
6	N104	L	Z	-67
7	N110	L	Z	-58
8	N111	L	Z	-58

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
9	N112	L	Z	-58
10	N113	L	Z	-58
11	N114	L	Z	-114
12	N115	L	Z	-114
13	N116	L	Z	-114
14	N117	L	Z	-114
15	N118	L	Z	-67
16	N119	L	Z	-67
17	N120	L	Z	-67
18	N121	L	Z	-67

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	Z	-112
2	N109	L	Z	-112
3	N107	L	Z	365
4	N106	L	Z	-365
5	N105	L	Z	-178
6	N104	L	Z	-178
7	N110	L	Z	-112
8	N111	L	Z	-112
9	N112	L	Z	-112
10	N113	L	Z	-112
11	N114	L	Z	-365
12	N115	L	Z	365
13	N116	L	Z	-365
14	N117	L	Z	365
15	N118	L	Z	-178
16	N119	L	Z	-178
17	N120	L	Z	-178
18	N121	L	Z	-178

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	Y	80
2	N109	L	Y	80
3	N107	L	Y	284
4	N106	L	Y	284
5	N105	L	Y	83
6	N104	L	Y	83
7	N110	L	Y	35
8	N111	L	Y	35
9	N112	L	Y	35
10	N113	L	Y	35
11	N114	L	Y	147
12	N115	L	Y	147
13	N116	L	Y	147
14	N117	L	Y	147
15	N118	L	Y	67
16	N119	L	Y	67
17	N120	L	Y	67
18	N121	L	Y	67

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	X	35
2	N109	L	X	35
3	N107	L	X	147
4	N106	L	X	147
5	N105	L	X	67
6	N104	L	X	67

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
7	N110	L	X	80
8	N111	L	X	80
9	N112	L	X	80
10	N113	L	X	80
11	N114	L	X	284
12	N115	L	X	284
13	N116	L	X	284
14	N117	L	X	284
15	N118	L	X	83
16	N119	L	X	83
17	N120	L	X	83
18	N121	L	X	83

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	Y	23
2	N109	L	Y	23
3	N107	L	Y	74
4	N106	L	Y	74
5	N105	L	Y	25
6	N104	L	Y	25
7	N110	L	Y	12
8	N111	L	Y	12
9	N112	L	Y	12
10	N113	L	Y	12
11	N114	L	Y	44
12	N115	L	Y	44
13	N116	L	Y	44
14	N117	L	Y	44
15	N118	L	Y	23
16	N119	L	Y	23
17	N120	L	Y	23
18	N121	L	Y	23

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N108	L	X	12
2	N109	L	X	12
3	N107	L	X	44
4	N106	L	X	44
5	N105	L	X	23
6	N104	L	X	23
7	N110	L	X	23
8	N111	L	X	23
9	N112	L	X	23
10	N113	L	X	23
11	N114	L	X	74
12	N115	L	X	74
13	N116	L	X	74
14	N117	L	X	74
15	N118	L	X	25
16	N119	L	X	25
17	N120	L	X	25
18	N121	L	X	25

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N2	L	Z	-250

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

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

Node Loads and Enforced Displacements (BLC 9 : LIVE LOAD3)

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N1	L	Z	-250

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N38	L	Z	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N37	L	Z	-500

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

	Node Label	L, D, M	Direction	Magnitude [(lb, k-ft), (in, rad), (lb*s²/in, lb*s²*in)]
1	N36	L	Z	-500

Member Point Loads

No Data to Print...

Member Distributed Loads (BLC 2 : DEAD LOAD ICE)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	Z	-35.1	-35.1	0	%100
2	M2	Z	-35.1	-35.1	0	%100
3	M3	Z	-35.1	-35.1	0	%100
4	M4	Z	-35.1	-35.1	0	%100
5	M5	Z	-35.1	-35.1	0	%100
6	M6	Z	-35.1	-35.1	0	%100
7	M7	Z	-5.5	-5.5	0	%100
8	M8	Z	-5.5	-5.5	0	%100
9	M9	Z	-5.5	-5.5	0	%100
10	M10	Z	-5.5	-5.5	0	%100
11	M11	Z	-5.5	-5.5	0	%100
12	M12	Z	-5.5	-5.5	0	%100
13	M13	Z	-5.5	-5.5	0	%100
14	M14	Z	-5.5	-5.5	0	%100
15	M15	Z	-5.5	-5.5	0	%100
16	M16	Z	-5.5	-5.5	0	%100
17	M17	Z	-5.5	-5.5	0	%100
18	M18	Z	-5.5	-5.5	0	%100
19	M19	Z	-9.2	-9.2	0	%100
20	M20	Z	-9.2	-9.2	0	%100
21	M21	Z	-9.2	-9.2	0	%100
22	M22	Z	-15.1	-15.1	0	%100
23	M23	Z	-13.7	-13.7	0	%100
24	M24	Z	-15.1	-15.1	0	%100
25	M25	Z	-13.7	-13.7	0	%100
26	M26	Z	-15.1	-15.1	0	%100
27	M27	Z	-15.1	-15.1	0	%100
28	M28	Z	-13.7	-13.7	0	%100
29	M29	Z	-13.7	-13.7	0	%100
30	M30	Z	-15.1	-15.1	0	%100
31	M31	Z	-15.1	-15.1	0	%100
32	M32	Z	-13.7	-13.7	0	%100
33	M33	Z	-13.7	-13.7	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	PY	18.7	18.7	0	%100
2	M2	PY	18.7	18.7	0	%100
3	M3	PY	18.7	18.7	0	%100
4	M4	PY	18.7	18.7	0	%100
5	M5	PY	18.7	18.7	0	%100
6	M6	PY	18.7	18.7	0	%100
7	M7	PY	7	7	0	%100
8	M8	PY	7	7	0	%100
9	M9	PY	7	7	0	%100
10	M10	PY	7	7	0	%100
11	M11	PY	7	7	0	%100
12	M12	PY	7	7	0	%100
13	M13	PY	7	7	0	%100
14	M14	PY	7	7	0	%100
15	M15	PY	7	7	0	%100
16	M16	PY	7	7	0	%100
17	M17	PY	7	7	0	%100
18	M18	PY	7	7	0	%100
19	M19	PY	11.7	11.7	0	%100
20	M20	PY	11.7	11.7	0	%100
21	M21	PY	11.7	11.7	0	%100
22	M22	PY	8	8	0	%100
23	M23	PY	6.6	6.6	0	%100
24	M24	PY	8	8	0	%100
25	M25	PY	6.6	6.6	0	%100
26	M26	PY	8	8	0	%100
27	M27	PY	8	8	0	%100
28	M28	PY	6.6	6.6	0	%100
29	M29	PY	6.6	6.6	0	%100
30	M30	PY	8	8	0	%100
31	M31	PY	8	8	0	%100
32	M32	PY	6.6	6.6	0	%100
33	M33	PY	6.6	6.6	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	PX	18.7	18.7	0	%100
2	M2	PX	18.7	18.7	0	%100
3	M3	PX	18.7	18.7	0	%100
4	M4	PX	18.7	18.7	0	%100
5	M5	PX	18.7	18.7	0	%100
6	M6	PX	18.7	18.7	0	%100
7	M7	PX	7	7	0	%100
8	M8	PX	7	7	0	%100
9	M9	PX	7	7	0	%100
10	M10	PX	7	7	0	%100
11	M11	PX	7	7	0	%100
12	M12	PX	7	7	0	%100
13	M13	PX	7	7	0	%100
14	M14	PX	7	7	0	%100
15	M15	PX	7	7	0	%100
16	M16	PX	7	7	0	%100
17	M17	PX	7	7	0	%100
18	M18	PX	7	7	0	%100
19	M19	PX	11.7	11.7	0	%100
20	M20	PX	11.7	11.7	0	%100
21	M21	PX	11.7	11.7	0	%100
22	M22	PX	8	8	0	%100
23	M23	PX	6.6	6.6	0	%100
24	M24	PX	8	8	0	%100
25	M25	PX	6.6	6.6	0	%100
26	M26	PX	8	8	0	%100
27	M27	PX	8	8	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
28	M28	PX	6.6	6.6	0	%100
29	M29	PX	6.6	6.6	0	%100
30	M30	PX	8	8	0	%100
31	M31	PX	8	8	0	%100
32	M32	PX	6.6	6.6	0	%100
33	M33	PX	6.6	6.6	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	PY	9.4	9.4	0	%100
2	M2	PY	9.4	9.4	0	%100
3	M3	PY	9.4	9.4	0	%100
4	M4	PY	9.4	9.4	0	%100
5	M5	PY	9.4	9.4	0	%100
6	M6	PY	9.4	9.4	0	%100
7	M7	PY	6.1	6.1	0	%100
8	M8	PY	6.1	6.1	0	%100
9	M9	PY	6.1	6.1	0	%100
10	M10	PY	6.1	6.1	0	%100
11	M11	PY	6.1	6.1	0	%100
12	M12	PY	6.1	6.1	0	%100
13	M13	PY	6.1	6.1	0	%100
14	M14	PY	6.1	6.1	0	%100
15	M15	PY	6.1	6.1	0	%100
16	M16	PY	6.1	6.1	0	%100
17	M17	PY	6.1	6.1	0	%100
18	M18	PY	6.1	6.1	0	%100
19	M19	PY	7.4	7.4	0	%100
20	M20	PY	7.4	7.4	0	%100
21	M21	PY	7.4	7.4	0	%100
22	M22	PY	6.7	6.7	0	%100
23	M23	PY	6.3	6.3	0	%100
24	M24	PY	6.7	6.7	0	%100
25	M25	PY	6.3	6.3	0	%100
26	M26	PY	6.7	6.7	0	%100
27	M27	PY	6.7	6.7	0	%100
28	M28	PY	6.3	6.3	0	%100
29	M29	PY	6.3	6.3	0	%100
30	M30	PY	6.7	6.7	0	%100
31	M31	PY	6.7	6.7	0	%100
32	M32	PY	6.3	6.3	0	%100
33	M33	PY	6.3	6.3	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	PX	9.4	9.4	0	%100
2	M2	PX	9.4	9.4	0	%100
3	M3	PX	9.4	9.4	0	%100
4	M4	PX	9.4	9.4	0	%100
5	M5	PX	9.4	9.4	0	%100
6	M6	PX	9.4	9.4	0	%100
7	M7	PX	6.1	6.1	0	%100
8	M8	PX	6.1	6.1	0	%100
9	M9	PX	6.1	6.1	0	%100
10	M10	PX	6.1	6.1	0	%100
11	M11	PX	6.1	6.1	0	%100
12	M12	PX	6.1	6.1	0	%100
13	M13	PX	6.1	6.1	0	%100
14	M14	PX	6.1	6.1	0	%100
15	M15	PX	6.1	6.1	0	%100
16	M16	PX	6.1	6.1	0	%100
17	M17	PX	6.1	6.1	0	%100
18	M18	PX	6.1	6.1	0	%100

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

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
19	M19	PX	7.4	7.4	0	%100
20	M20	PX	7.4	7.4	0	%100
21	M21	PX	7.4	7.4	0	%100
22	M22	PX	6.7	6.7	0	%100
23	M23	PX	6.3	6.3	0	%100
24	M24	PX	6.7	6.7	0	%100
25	M25	PX	6.3	6.3	0	%100
26	M26	PX	6.7	6.7	0	%100
27	M27	PX	6.7	6.7	0	%100
28	M28	PX	6.3	6.3	0	%100
29	M29	PX	6.3	6.3	0	%100
30	M30	PX	6.7	6.7	0	%100
31	M31	PX	6.7	6.7	0	%100
32	M32	PX	6.3	6.3	0	%100
33	M33	PX	6.3	6.3	0	%100

Member Distributed Loads (BLC 14 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	Z	-3.629	-3.629	51.496	66.542
2	M2	Z	-0.158	-2.169	0	25
3	M2	Z	-2.169	-2.862	25	50
4	M2	Z	-2.862	-2.491	50	75
5	M2	Z	-2.491	-2.862	75	100
6	M2	Z	-2.862	-2.171	100	125
7	M2	Z	-2.171	-0.158	125	150
8	M6	Z	-3.629	-3.629	51.503	66.611
9	M14	Z	-3.611	-3.611	0	9
10	M16	Z	-3.693	-3.693	1.066e-14	9
11	M17	Z	-3.614	-3.614	0	9
12	M18	Z	-3.693	-3.693	3.197e-14	9
13	M3	Z	-0.158	-2.169	0	25
14	M3	Z	-2.169	-2.862	25	50
15	M3	Z	-2.862	-2.491	50	75
16	M3	Z	-2.491	-2.862	75	100
17	M3	Z	-2.862	-2.171	100	125
18	M3	Z	-2.171	-0.158	125	150
19	M5	Z	-3.629	-3.629	51.503	66.611
20	M8	Z	-3.614	-3.614	0	9
21	M9	Z	-3.693	-3.693	0	9
22	M13	Z	-3.611	-3.611	0	9
23	M15	Z	-3.693	-3.693	0	9
24	M4	Z	-0.158	-2.169	0	25
25	M4	Z	-2.169	-2.862	25	50
26	M4	Z	-2.862	-2.491	50	75
27	M4	Z	-2.491	-2.862	75	100
28	M4	Z	-2.862	-2.171	100	125
29	M4	Z	-2.171	-0.158	125	150
30	M7	Z	-3.611	-3.611	0	9
31	M10	Z	-3.614	-3.614	0	9
32	M11	Z	-3.693	-3.693	3.438e-12	9
33	M12	Z	-3.693	-3.693	1.853e-12	9

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
1	M1	Z	-8.004	-8.004	51.496	66.542
2	M2	Z	-0.349	-4.784	0	25
3	M2	Z	-4.784	-6.311	25	50
4	M2	Z	-6.311	-5.494	50	75
5	M2	Z	-5.494	-6.311	75	100
6	M2	Z	-6.311	-4.789	100	125
7	M2	Z	-4.789	-0.349	125	150
8	M6	Z	-8.004	-8.004	51.503	66.611
9	M14	Z	-7.963	-7.963	0	9

Member Distributed Loads (BLC 15 : BLC 2 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude [lb/ft, F, psf, k-ft/in]	End Magnitude [lb/ft, F, psf, k-ft/in]	Start Location [(in, %)]	End Location [(in, %)]
10	M16	Z	-8.146	-8.146	1.066e-14	9
11	M17	Z	-7.971	-7.971	0	9
12	M18	Z	-8.146	-8.146	3.197e-14	9
13	M3	Z	-0.349	-4.784	0	25
14	M3	Z	-4.784	-6.311	25	50
15	M3	Z	-6.311	-5.494	50	75
16	M3	Z	-5.494	-6.311	75	100
17	M3	Z	-6.311	-4.789	100	125
18	M3	Z	-4.789	-0.349	125	150
19	M5	Z	-8.004	-8.004	51.503	66.611
20	M8	Z	-7.971	-7.971	0	9
21	M9	Z	-8.146	-8.146	0	9
22	M13	Z	-7.963	-7.963	0	9
23	M15	Z	-8.146	-8.146	0	9
24	M4	Z	-0.349	-4.784	0	25
25	M4	Z	-4.784	-6.311	25	50
26	M4	Z	-6.311	-5.494	50	75
27	M4	Z	-5.494	-6.311	75	100
28	M4	Z	-6.311	-4.789	100	125
29	M4	Z	-4.789	-0.349	125	150
30	M7	Z	-7.963	-7.963	0	9
31	M10	Z	-7.971	-7.971	0	9
32	M11	Z	-8.146	-8.146	3.438e-12	9
33	M12	Z	-8.146	-8.146	1.853e-12	9

Member Area Loads (BLC 1 : DEAD LOAD)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N1	N130	N131	N2	Z	Two Way	-5
2	N2	N131	N128	N4	Z	Two Way	-5
3	N4	N128	N130	N1	Z	Two Way	-5

Member Area Loads (BLC 2 : DEAD LOAD ICE)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [psf]
1	N1	N130	N131	N2	Z	Two Way	-11.028
2	N2	N131	N128	N4	Z	Two Way	-11.028
3	N4	N128	N130	N1	Z	Two Way	-11.028

Load Combinations

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

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
23	DL + DL ICE + WL (ICE) 300 Degree	Yes	Y	1	1.2	2	1	5	0.5	6	-0.866
24	DL + DL ICE + WL (ICE) 330 Degree	Yes	Y	1	1.2	2	1	5	0.866	6	-0.5
25	DEAD LOAD + LIVE LOAD1	Yes	Y	1	1.2					7	1.5
26	DEAD LOAD + LIVE LOAD2	Yes	Y	1	1.2					8	1.5
27	DEAD LOAD + LIVE LOAD3	Yes	Y	1	1.2					9	1.5
28	DL + MAIN L1+30MPH WL FRONT	Yes	Y	1	1.2	10	1.5	3	0.085		
29	DL + MAIN L2+30MPH WL FRONT	Yes	Y	1	1.2	11	1.5	3	0.085		
30	DL + MAIN L3+30MPH WL FRONT	Yes	Y	1	1.2	12	1.5	3	0.085		
31	DL + MAIN L4+30MPH WL FRONT	Yes	Y	1	1.2	13	1.5	3	0.085		
32	DL + MAIN L1+30MPH WL SIDE	Yes	Y	1	1.2	10	1.5	4	0.085		
33	DL + MAIN L2+30MPH WL SIDE	Yes	Y	1	1.2	11	1.5	4	0.085		
34	DL + MAIN L3+30MPH WL SIDE	Yes	Y	1	1.2	12	1.5	4	0.085		
35	DL + MAIN L4+30MPH WL SIDE	Yes	Y	1	1.2	13	1.5	4	0.085		
36	DL + MAIN L1+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	10	1.5	3	-0.085		
37	DL + MAIN L2+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	11	1.5	3	-0.085		
38	DL + MAIN L3+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	12	1.5	3	-0.085		
39	DL + MAIN L4+30MPH WL FRONT (REVERSED)	Yes	Y	1	1.2	13	1.5	3	-0.085		
40	DL + MAIN L1+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	10	1.5	4	-0.085		
41	DL + MAIN L2+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	11	1.5	4	-0.085		
42	DL + MAIN L3+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	12	1.5	4	-0.085		
43	DL + MAIN L4+30MPH WL SIDE (REVERSED)	Yes	Y	1	1.2	13	1.5	4	-0.085		

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N8	max	3110.132	11	2010.604	5	3091.282	17	-0.683	12	-1.45	11	1.136	4
2		min	-3071.001	5	-2017.379	11	434.971	11	-7.552	18	-12.988	17	-1.131	10
3	N10	max	315.448	10	3344.796	7	3084.724	13	14.973	13	1.294	10	1.393	4
4		min	-315.467	4	-3308.189	1	498.765	7	1.974	7	-1.292	4	-1.392	10
5	N9	max	3087.293	9	1991.725	9	3091.226	21	-0.706	2	12.979	21	1.131	4
6		min	-3125.461	3	-1999.984	3	434.809	3	-7.565	20	1.438	3	-1.135	10
7	Totals:	max	5782.579	10	5219.663	7	8772.667	19						
8		min	-5782.579	4	-5219.664	1	3214.757	1						

Envelope Node Displacements

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
1	N1	max	0.066	10	0.121	4	-0.15	3	1.527e-2	19	-5.201e-4	4	2.835e-3	10
2		min	-0.066	4	-0.121	10	-1.587	21	-1.646e-3	1	-2.517e-2	22	-2.844e-3	4
3	N2	max	0.066	10	0.121	10	-0.15	11	1.52e-2	19	2.522e-2	16	2.844e-3	10
4		min	-0.066	4	-0.121	4	-1.587	17	-1.824e-3	1	6.274e-4	10	-2.836e-3	4
5	N3	max	0.066	10	0.445	1	-0.425	1	1.242e-2	19	4.147e-3	4	1.107e-3	10
6		min	-0.066	4	-0.332	7	-1.745	19	-3.649e-3	1	-4.152e-3	10	-1.107e-3	4
7	N4	max	0.15	4	0.003	1	-0.177	7	-2.512e-3	7	7.932e-3	4	2.988e-3	10
8		min	-0.15	10	-0.003	7	-1.586	13	-2.877e-2	13	-7.946e-3	10	-2.989e-3	4
9	N5	max	0.408	5	0.103	11	-0.386	5	3.214e-3	6	4.223e-3	4	1.923e-3	10
10		min	-0.311	11	-0.159	5	-1.75	23	-7.07e-3	12	-1.085e-2	10	-1.937e-3	4
11	N6	max	0.305	3	0.11	3	-0.385	9	3.234e-3	8	1.087e-2	15	1.994e-3	11
12		min	-0.402	9	-0.166	9	-1.75	15	-7.076e-3	2	-4.207e-3	10	-1.98e-3	5
13	N7	max	0	43	0	43	0	43	0	43	0	43	0	43
14		min	0	1	0	1	0	1	0	1	0	1	0	1
15	N8	max	0	5	0	11	0	11	0	18	0	17	0	10
16		min	0	11	0	5	0	17	0	12	0	11	0	4
17	N9	max	0	3	0	3	0	3	0	20	0	3	0	10
18		min	0	9	0	9	0	21	0	2	0	21	0	4
19	N10	max	0	4	0	1	0	7	0	7	0	4	0	10
20		min	0	10	0	7	0	13	0	13	0	10	0	4
21	N11	max	0.198	4	0.003	1	-0.217	7	-2.517e-3	7	7.932e-3	4	2.998e-3	10
22		min	-0.198	10	-0.003	7	-2.045	13	-2.879e-2	13	-7.946e-3	10	-2.998e-3	4
23	N12	max	0.089	10	0.16	4	-0.183	3	1.528e-2	19	-5.239e-4	4	2.833e-3	10
24		min	-0.089	4	-0.16	10	-2.047	21	-1.643e-3	1	-2.518e-2	22	-2.842e-3	4
25	N13	max	0.089	10	0.16	10	-0.184	11	1.521e-2	19	2.523e-2	16	2.842e-3	10
26		min	-0.089	4	-0.16	4	-2.047	17	-1.822e-3	1	6.311e-4	10	-2.834e-3	4
27	N14	max	0.066	10	0.274	1	-0.328	12	1.293e-2	19	3.393e-3	4	5.259e-3	8
28		min	-0.066	4	-0.203	7	-1.668	18	-3.149e-3	1	-6.431e-3	10	-7.154e-3	2

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
29	N15	max	0.066	10	0.426	1	-0.419	12	1.258e-2	19	3.47e-3	4	2.337e-3	8
30		min	-0.066	4	-0.317	7	-1.733	19	-3.484e-3	1	-4.86e-3	10	-3.008e-3	2
31	N16	max	0.066	10	0.42	1	-0.416	2	1.26e-2	19	4.837e-3	4	3.347e-3	12
32		min	-0.066	4	-0.311	7	-1.734	20	-3.434e-3	1	-3.457e-3	10	-2.675e-3	6
33	N17	max	0.066	10	0.259	2	-0.326	3	1.298e-2	19	6.346e-3	4	7.472e-3	1
34		min	-0.066	4	-0.185	8	-1.67	20	-2.999e-3	1	-3.299e-3	10	-5.644e-3	7
35	N18	max	0.066	11	0.426	1	-0.442	12	1.246e-2	19	3.47e-3	4	2.347e-3	8
36		min	-0.059	5	-0.317	7	-1.623	18	-3.524e-3	1	-4.86e-3	10	-3.066e-3	2
37	N19	max	0.09	12	0.274	1	-0.326	11	1.281e-2	19	3.393e-3	4	5.27e-3	8
38		min	-0.073	6	-0.203	7	-1.559	17	-3.188e-3	1	-6.431e-3	10	-7.211e-3	2
39	N20	max	0.052	9	0.42	1	-0.438	2	1.248e-2	19	4.837e-3	4	3.357e-3	12
40		min	-0.059	3	-0.311	7	-1.624	20	-3.474e-3	1	-3.457e-3	10	-2.733e-3	6
41	N21	max	0.062	8	0.259	2	-0.321	3	1.286e-2	19	6.346e-3	4	7.471e-3	12
42		min	-0.079	3	-0.185	8	-1.561	21	-3.038e-3	1	-3.299e-3	10	-5.667e-3	7
43	N22	max	0	43	0	43	0	43	0	43	0	43	0	43
44		min	0	1	0	1	0	1	0	1	0	1	0	1
45	N23	max	0	43	0	43	0	43	0	43	0	43	0	43
46		min	0	1	0	1	0	1	0	1	0	1	0	1
47	N24	max	0	43	0	43	0	43	0	43	0	43	0	43
48		min	0	1	0	1	0	1	0	1	0	1	0	1
49	N25	max	0.19	4	0.279	2	-0.177	3	8.45e-3	7	9.462e-3	4	9.756e-3	11
50		min	-0.209	10	-0.268	8	-1.67	21	-6.822e-3	1	-7.967e-3	10	-1.209e-2	5
51	N26	max	0.46	4	0.236	1	-0.205	7	7.664e-3	7	8.477e-3	4	7.474e-3	4
52		min	-0.442	10	-0.225	7	-1.669	13	-7.183e-3	1	-1.064e-2	10	-9.918e-3	10
53	N27	max	0.194	4	0.266	12	-0.179	11	6.963e-3	7	8.618e-3	4	9.273e-3	8
54		min	-0.194	10	-0.288	6	-1.67	17	-9.071e-3	1	-7.963e-3	10	-1.176e-2	2
55	N28	max	0.441	4	0.236	1	-0.202	7	8.101e-3	7	1.097e-2	4	9.926e-3	4
56		min	-0.461	10	-0.226	7	-1.671	13	-7.633e-3	1	-8.839e-3	10	-7.48e-3	10
57	N29	max	0.21	4	0.307	12	-0.174	11	8.901e-3	7	8.414e-3	4	1.193e-2	9
58		min	-0.191	10	-0.295	6	-1.672	17	-7.301e-3	1	-9.874e-3	10	-9.599e-3	3
59	N30	max	0.194	4	0.239	2	-0.176	3	7.278e-3	7	8.375e-3	4	1.206e-2	12
60		min	-0.194	10	-0.262	8	-1.671	21	-9.347e-3	1	-9.016e-3	10	-9.577e-3	6
61	N31	max	0.066	10	0.134	3	-0.205	3	1.326e-2	19	7.402e-3	4	9.316e-3	12
62		min	-0.066	4	-0.107	9	-1.613	21	-2.691e-3	1	-4.268e-3	10	-6.724e-3	7
63	N32	max	0.066	10	0.146	11	-0.207	11	1.318e-2	19	4.454e-3	4	6.373e-3	8
64		min	-0.066	4	-0.119	5	-1.611	17	-2.911e-3	1	-7.554e-3	10	-9.035e-3	2
65	N33	max	0.069	10	0.445	1	-0.414	1	1.242e-2	19	4.147e-3	4	1.107e-3	10
66		min	-0.069	4	-0.332	7	-1.782	19	-3.649e-3	1	-4.152e-3	10	-1.107e-3	4
67	N34	max	0.069	10	0.146	11	-0.209	11	1.318e-2	19	4.454e-3	4	6.373e-3	8
68		min	-0.077	4	-0.119	5	-1.648	17	-2.911e-3	1	-7.554e-3	10	-9.035e-3	2
69	N35	max	0.083	11	0.134	3	-0.208	3	1.326e-2	19	7.402e-3	4	9.316e-3	12
70		min	-0.074	5	-0.107	9	-1.65	21	-2.691e-3	1	-4.268e-3	10	-6.724e-3	7
71	N36	max	0.158	11	0.283	17	-0.208	3	1.323e-2	19	7.335e-3	4	9.316e-3	12
72		min	-0.209	5	-0.029	11	-1.65	21	-2.617e-3	1	-4.202e-3	10	-6.724e-3	7
73	N37	max	0.1	10	0.498	13	-0.414	1	1.113e-2	19	2.75e-3	32	1.107e-3	10
74		min	-0.1	4	-0.187	7	-1.782	19	2.761e-3	26	-2.759e-3	30	-1.107e-3	4
75	N38	max	0.256	10	0.352	21	-0.209	11	1.314e-2	19	4.372e-3	4	6.373e-3	8
76		min	-0.187	4	-0.014	3	-1.648	17	-2.828e-3	1	-7.471e-3	10	-9.035e-3	2
77	N39	max	0.959	4	2.792	1	-0.414	1	5.408e-2	7	2.236e-2	4	9.717e-4	4
78		min	-0.958	10	-2.894	7	-1.784	19	-5.201e-2	1	-2.235e-2	10	-9.663e-4	10
79	N40	max	0.322	4	0.472	1	-0.209	11	7.163e-3	7	8.72e-3	4	9.275e-3	8
80		min	-0.318	10	-0.444	7	-1.648	17	-9.272e-3	1	-8.066e-3	10	-1.176e-2	2
81	N41	max	0.388	4	0.516	1	-0.208	3	8.164e-3	7	9.104e-3	4	1.206e-2	12
82		min	-0.394	10	-0.478	7	-1.65	21	-1.023e-2	1	-9.744e-3	10	-9.579e-3	6
83	N48	max	0.194	4	0.953	1	-0.499	1	3.05e-2	7	9.86e-3	4	9.717e-4	4
84		min	-0.194	10	-0.97	7	-1.755	19	-2.844e-2	1	-9.85e-3	10	-9.663e-4	10
85	N49	max	0.183	4	0.287	1	-0.208	3	7.278e-3	7	8.375e-3	4	1.206e-2	12
86		min	-0.174	10	-0.296	7	-1.65	21	-9.347e-3	1	-9.015e-3	10	-9.579e-3	6
87	N50	max	0.194	4	0.315	1	-0.222	11	6.963e-3	7	8.618e-3	4	9.275e-3	8
88		min	-0.194	10	-0.323	7	-1.654	17	-9.071e-3	1	-7.963e-3	10	-1.176e-2	2
89	N51	max	0.194	4	0.287	1	-0.221	3	7.278e-3	7	8.375e-3	4	1.206e-2	12
90		min	-0.194	10	-0.296	7	-1.655	21	-9.347e-3	1	-9.015e-3	10	-9.579e-3	6
91	N52	max	0.197	4	0.953	1	-0.414	1	3.05e-2	7	9.86e-3	4	9.717e-4	4
92		min	-0.197	10	-0.97	7	-1.783	19	-2.844e-2	1	-9.85e-3	10	-9.663e-4	10
93	N53	max	0.174	4	0.315	1	-0.209	11	6.963e-3	7	8.618e-3	4	9.275e-3	8

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
94		min	-0.182	10	-0.323	7	-1.648	17	-9.071e-3	1	-7.963e-3	10	-1.176e-2	2
95	N54	max	0.478	4	0.236	1	-0.229	7	8.102e-3	7	1.097e-2	4	9.928e-3	4
96		min	-0.488	10	-0.24	7	-1.649	13	-7.633e-3	1	-8.839e-3	10	-7.482e-3	10
97	N55	max	0.196	4	0.037	11	-0.229	7	4.5e-3	7	4.034e-3	4	7.432e-3	5
98		min	-0.178	10	-0.056	5	-1.649	13	-5.966e-3	1	-1.374e-2	22	-4.889e-3	11
99	N56	max	0.038	19	0.077	4	-0.204	3	2.903e-3	7	4.268e-3	4	7.867e-3	11
100		min	-0.01	1	-0.089	10	-1.611	21	-1.036e-2	13	-9.892e-3	10	-1.04e-2	5
101	N57	max	0.256	4	0.279	2	-0.205	3	8.449e-3	7	9.462e-3	4	9.758e-3	11
102		min	-0.26	10	-0.269	8	-1.648	21	-6.823e-3	1	-7.967e-3	10	-1.209e-2	5
103	N58	max	0.493	4	0.236	1	-0.242	7	8.102e-3	7	1.097e-2	4	9.928e-3	4
104		min	-0.499	10	-0.233	7	-1.655	13	-7.633e-3	1	-8.839e-3	10	-7.482e-3	10
105	N59	max	0.276	22	0.119	6	-0.205	3	2.82e-3	7	4.185e-3	4	7.867e-3	11
106		min	-0.079	4	-0.297	12	-1.648	21	-1.032e-2	13	-9.809e-3	10	-1.04e-2	5
107	N60	max	0.866	4	0.44	12	-0.454	5	1.371e-2	6	2.547e-2	4	3.793e-3	9
108		min	-0.88	10	-0.432	6	-1.761	23	-1.477e-2	12	-2.727e-2	10	-3.83e-3	3
109	N61	max	0.207	4	0.024	11	-0.227	7	4.5e-3	7	4.034e-3	4	7.432e-3	5
110		min	-0.185	10	-0.036	5	-1.612	13	-5.966e-3	1	-1.374e-2	22	-4.889e-3	11
111	N62	max	0.41	5	0.099	11	-0.372	5	3.214e-3	6	4.223e-3	4	1.923e-3	10
112		min	-0.313	11	-0.155	5	-1.787	23	-7.07e-3	12	-1.085e-2	10	-1.937e-3	4
113	N63	max	0.047	18	0.102	4	-0.205	3	2.903e-3	7	4.268e-3	4	7.867e-3	11
114		min	-0.017	12	-0.108	10	-1.648	21	-1.036e-2	13	-9.892e-3	10	-1.04e-2	5
115	N64	max	0.254	17	0.062	8	-0.229	7	4.434e-3	7	3.96e-3	4	7.432e-3	5
116		min	0.063	11	-0.111	2	-1.649	13	-5.899e-3	1	-1.371e-2	22	-4.889e-3	11
117	N65	max	0.433	17	-0.018	11	-0.372	5	2.692e-4	5	-1.36e-3	7	1.923e-3	10
118		min	-0.162	11	-0.228	16	-1.787	23	-5.904e-3	23	-9.731e-3	23	-1.937e-3	4
119	N66	max	2.586	4	1.356	12	-0.372	5	2.457e-2	6	4.901e-2	4	3.793e-3	9
120		min	-2.676	10	-1.305	6	-1.789	23	-2.564e-2	12	-5.083e-2	10	-3.83e-3	3
121	N67	max	0.42	4	0.386	2	-0.205	3	8.552e-3	7	9.663e-3	4	9.758e-3	11
122		min	-0.398	10	-0.404	8	-1.648	21	-6.926e-3	1	-8.167e-3	10	-1.209e-2	5
123	N68	max	0.745	4	0.424	1	-0.229	7	8.831e-3	7	1.186e-2	4	9.928e-3	4
124		min	-0.706	10	-0.438	7	-1.65	13	-8.361e-3	1	-9.726e-3	10	-7.482e-3	10
125	N69	max	0.242	4	0.28	2	-0.219	3	8.449e-3	7	9.462e-3	4	9.758e-3	11
126		min	-0.248	10	-0.277	8	-1.654	21	-6.823e-3	1	-7.967e-3	10	-1.209e-2	5
127	N70	max	0.871	4	0.44	12	-0.372	5	1.371e-2	6	2.547e-2	4	3.793e-3	9
128		min	-0.885	10	-0.432	6	-1.788	23	-1.477e-2	12	-2.727e-2	10	-3.83e-3	3
129	N71	max	0.318	5	0.071	11	-0.316	6	4.032e-3	7	3.749e-3	4	5.533e-3	5
130		min	-0.257	11	-0.106	5	-1.673	24	-5.464e-3	1	-1.322e-2	22	-3.734e-3	11
131	N72	max	0.343	5	0.042	11	-0.334	7	4.067e-3	7	3.774e-3	4	5.499e-3	5
132		min	-0.274	11	-0.063	5	-1.561	13	-5.459e-3	1	-1.312e-2	22	-3.747e-3	11
133	N73	max	0.41	5	0.106	11	-0.384	5	3.53e-3	6	3.917e-3	4	1.456e-3	6
134		min	-0.317	11	-0.16	5	-1.738	23	-6.249e-3	12	-1.177e-2	23	-7.739e-4	12
135	N74	max	0.415	5	0.102	11	-0.423	6	3.56e-3	6	3.943e-3	4	1.397e-3	6
136		min	-0.32	11	-0.15	5	-1.627	24	-6.239e-3	12	-1.167e-2	23	-7.614e-4	12
137	N75	max	0.369	5	0.083	11	-0.381	5	2.668e-3	6	4.304e-3	4	3.799e-3	10
138		min	-0.276	11	-0.137	5	-1.738	23	-7.924e-3	24	-1.036e-2	10	-4.466e-3	4
139	N76	max	0.349	5	0.112	11	-0.417	4	2.699e-3	6	4.33e-3	4	3.759e-3	10
140		min	-0.259	11	-0.171	5	-1.625	22	-7.869e-3	24	-1.031e-2	10	-4.473e-3	4
141	N77	max	0.197	5	0.021	1	-0.296	4	2.337e-3	6	4.361e-3	4	6.761e-3	11
142		min	-0.136	11	-0.065	19	-1.671	22	-9.89e-3	24	-9.835e-3	10	-8.556e-3	5
143	N78	max	0.158	5	0.056	12	-0.323	3	2.367e-3	6	4.387e-3	4	6.75e-3	11
144		min	-0.106	11	-0.108	6	-1.559	21	-9.835e-3	24	-9.793e-3	10	-8.589e-3	5
145	N79	max	0.185	4	0.025	3	-0.229	7	4.638e-3	7	1.363e-2	16	5.052e-3	3
146		min	-0.207	10	-0.037	9	-1.611	13	-6.114e-3	1	-4.191e-3	10	-7.592e-3	9
147	N80	max	0.882	4	0.452	2	-0.453	9	1.374e-2	8	2.73e-2	4	4.036e-3	11
148		min	-0.868	10	-0.444	8	-1.761	15	-1.482e-2	2	-2.55e-2	10	-3.989e-3	5
149	N81	max	0.024	1	0.083	11	-0.203	11	2.805e-3	7	9.735e-3	16	1.017e-2	9
150		min	-0.047	7	-0.096	5	-1.613	17	-1.048e-2	13	-4.081e-3	10	-7.643e-3	3
151	N82	max	0.179	4	0.038	3	-0.231	7	4.638e-3	7	1.363e-2	16	5.052e-3	3
152		min	-0.197	10	-0.057	9	-1.647	13	-6.114e-3	1	-4.191e-3	10	-7.592e-3	9
153	N83	max	0.268	3	0.307	12	-0.204	11	8.9e-3	7	8.414e-3	4	1.193e-2	9
154		min	-0.264	9	-0.296	6	-1.65	17	-7.301e-3	1	-9.874e-3	10	-9.601e-3	3
155	N84	max	0.028	2	0.102	10	-0.204	11	2.805e-3	7	9.735e-3	16	1.017e-2	9
156		min	-0.054	8	-0.108	4	-1.65	17	-1.048e-2	13	-4.081e-3	10	-7.643e-3	3
157	N85	max	0.488	4	0.237	1	-0.231	7	7.664e-3	7	8.478e-3	4	7.476e-3	4
158		min	-0.478	10	-0.24	7	-1.648	13	-7.183e-3	1	-1.064e-2	10	-9.92e-3	10

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
159	N86	max	0.254	3	0.306	12	-0.219	11	8.9e-3	7	8.414e-3	4	1.193e-2	9
160		min	-0.246	9	-0.302	6	-1.656	17	-7.301e-3	1	-9.874e-3	10	-9.601e-3	3
161	N87	max	-0.08	38	0.085	6	-0.231	7	4.555e-3	7	1.358e-2	16	5.052e-3	3
162		min	-0.323	15	-0.143	12	-1.647	13	-6.031e-3	1	-4.109e-3	10	-7.592e-3	9
163	N88	max	0.307	3	0.106	3	-0.371	9	3.234e-3	8	1.087e-2	15	1.994e-3	11
164		min	-0.404	9	-0.162	9	-1.788	15	-7.076e-3	2	-4.207e-3	10	-1.98e-3	5
165	N89	max	0.05	10	0.093	9	-0.204	11	2.738e-3	7	9.707e-3	16	1.017e-2	9
166		min	-0.218	16	-0.231	3	-1.65	17	-1.045e-2	13	-4.007e-3	10	-7.643e-3	3
167	N90	max	0.161	4	-0.012	3	-0.371	9	3.141e-4	10	9.758e-3	15	1.994e-3	11
168		min	-0.433	21	-0.228	21	-1.787	15	-5.856e-3	15	1.402e-3	7	-1.98e-3	5
169	N91	max	2.679	4	1.371	2	-0.371	9	2.461e-2	8	5.086e-2	4	4.036e-3	11
170		min	-2.59	10	-1.319	8	-1.789	15	-2.569e-2	2	-4.904e-2	10	-3.989e-3	5
171	N92	max	0.635	4	0.36	1	-0.231	7	7.767e-3	7	8.678e-3	4	7.476e-3	4
172		min	-0.662	10	-0.371	7	-1.648	13	-7.285e-3	1	-1.084e-2	10	-9.92e-3	10
173	N93	max	0.47	4	0.47	12	-0.204	11	9.629e-3	7	9.3e-3	4	1.193e-2	9
174		min	-0.5	10	-0.496	6	-1.65	17	-8.03e-3	1	-1.076e-2	10	-9.601e-3	3
175	N94	max	0.499	4	0.236	1	-0.243	7	7.664e-3	7	8.478e-3	4	7.476e-3	4
176		min	-0.493	10	-0.233	7	-1.653	13	-7.183e-3	1	-1.064e-2	10	-9.92e-3	10
177	N95	max	0.887	4	0.453	2	-0.371	9	1.374e-2	8	2.73e-2	4	4.036e-3	11
178		min	-0.873	10	-0.445	8	-1.788	15	-1.482e-2	2	-2.55e-2	10	-3.989e-3	5
179	N96	max	0.273	3	0.092	3	-0.38	9	2.679e-3	8	1.032e-2	4	4.479e-3	10
180		min	-0.366	9	-0.145	9	-1.739	15	-7.882e-3	14	-4.253e-3	10	-3.812e-3	4
181	N97	max	0.258	3	0.119	3	-0.413	10	2.689e-3	8	1.03e-2	4	4.438e-3	10
182		min	-0.347	9	-0.177	9	-1.627	16	-7.815e-3	14	-4.296e-3	10	-3.819e-3	4
183	N98	max	0.256	4	0.073	3	-0.317	8	4.098e-3	7	1.318e-2	16	3.908e-3	3
184		min	-0.318	10	-0.108	9	-1.67	14	-5.522e-3	1	-3.84e-3	10	-5.705e-3	9
185	N99	max	0.271	4	0.043	3	-0.338	7	4.102e-3	7	1.308e-2	16	3.875e-3	3
186		min	-0.341	10	-0.064	9	-1.559	13	-5.487e-3	1	-3.883e-3	10	-5.717e-3	9
187	N100	max	0.139	3	0.044	1	-0.294	10	2.321e-3	8	9.728e-3	4	8.338e-3	9
188		min	-0.199	9	-0.083	7	-1.674	16	-9.923e-3	14	-4.232e-3	10	-6.545e-3	3
189	N101	max	0.109	3	0.073	2	-0.318	11	2.331e-3	8	9.703e-3	4	8.325e-3	9
190		min	-0.162	9	-0.124	8	-1.561	17	-9.857e-3	14	-4.275e-3	10	-6.579e-3	3
191	N102	max	0.309	3	0.111	3	-0.383	9	3.561e-3	8	1.178e-2	16	1.104e-3	2
192		min	-0.402	9	-0.165	9	-1.738	15	-6.262e-3	2	-3.932e-3	10	-1.784e-3	8
193	N103	max	0.312	3	0.106	3	-0.424	9	3.57e-3	8	1.168e-2	16	1.045e-3	2
194		min	-0.408	9	-0.154	9	-1.626	14	-6.232e-3	2	-3.975e-3	10	-1.771e-3	8
195	N104	max	0.363	4	0.489	1	-0.208	3	8.164e-3	7	9.104e-3	4	1.206e-2	12
196		min	-0.368	10	-0.456	7	-1.65	21	-1.023e-2	1	-9.744e-3	10	-9.579e-3	6
197	N105	max	0.1	11	0.137	3	-0.208	3	1.324e-2	19	7.352e-3	4	9.316e-3	12
198		min	-0.105	5	-0.074	9	-1.65	21	-2.634e-3	1	-4.218e-3	10	-6.724e-3	7
199	N106	max	0.892	4	2.636	1	-0.414	1	5.408e-2	7	2.236e-2	4	9.717e-4	4
200		min	-0.891	10	-2.731	7	-1.784	19	-5.201e-2	1	-2.235e-2	10	-9.663e-4	10
201	N107	max	0.1	10	0.48	1	-0.414	1	1.113e-2	19	2.75e-3	32	1.107e-3	10
202		min	-0.1	4	-0.198	7	-1.782	19	2.761e-3	26	-2.759e-3	30	-1.107e-3	4
203	N108	max	0.257	4	0.403	1	-0.209	11	7.161e-3	7	8.718e-3	4	9.275e-3	8
204		min	-0.258	10	-0.391	7	-1.648	17	-9.269e-3	1	-8.064e-3	10	-1.176e-2	2
205	N109	max	0.018	9	0.161	12	-0.209	11	9.435e-3	7	7.145e-3	4	6.997e-3	8
206		min	-0.039	3	-0.175	6	-1.648	17	-5.306e-3	1	-8.221e-3	10	-9.621e-3	2
207	N110	max	0.348	4	0.339	2	-0.205	3	8.55e-3	7	9.661e-3	4	9.758e-3	11
208		min	-0.337	10	-0.345	8	-1.648	21	-6.923e-3	1	-8.165e-3	10	-1.209e-2	5
209	N111	max	0.069	5	0.122	3	-0.205	3	6.225e-3	7	6.214e-3	4	8.273e-3	11
210		min	-0.072	11	-0.098	9	-1.648	21	-9.231e-3	1	-9.233e-3	10	-1.076e-2	5
211	N112	max	0.57	4	0.306	1	-0.231	7	7.765e-3	7	8.676e-3	4	7.476e-3	4
212		min	-0.581	10	-0.314	7	-1.648	13	-7.283e-3	1	-1.084e-2	10	-9.92e-3	10
213	N113	max	0.258	4	0.07	2	-0.231	7	6.025e-3	7	1.163e-2	4	5.474e-3	3
214		min	-0.236	10	-0.081	8	-1.647	13	-7.161e-3	1	-7.523e-3	10	-7.972e-3	9
215	N114	max	2.439	4	1.279	12	-0.372	5	2.457e-2	6	4.901e-2	4	3.793e-3	9
216		min	-2.523	10	-1.231	6	-1.789	23	-2.564e-2	12	-5.083e-2	10	-3.83e-3	3
217	N115	max	0.418	5	-0.006	11	-0.372	5	2.693e-4	5	-1.36e-3	7	1.923e-3	10
218		min	-0.174	11	-0.214	17	-1.787	23	-5.904e-3	23	-9.732e-3	23	-1.937e-3	4
219	N116	max	2.526	4	1.294	2	-0.371	9	2.461e-2	8	5.086e-2	4	4.036e-3	11
220		min	-2.443	10	-1.245	8	-1.789	15	-2.569e-2	2	-4.904e-2	10	-3.989e-3	5
221	N117	max	0.171	4	0.001	3	-0.371	9	3.141e-4	10	9.758e-3	15	1.994e-3	11
222		min	-0.416	10	-0.215	21	-1.787	15	-5.856e-3	15	1.402e-3	7	-1.98e-3	5
223	N118	max	0.713	4	0.402	1	-0.229	7	8.831e-3	7	1.186e-2	4	9.928e-3	4

Envelope Node Displacements (Continued)

	Node Label		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [rad]	LC	Y Rotation [rad]	LC	Z Rotation [rad]	LC
224		min	-0.68	10	-0.415	7	-1.65	13	-8.361e-3	1	-9.726e-3	10	-7.482e-3	10
225	N119	max	0.179	4	0.028	10	-0.229	7	4.451e-3	7	3.977e-3	4	7.432e-3	5
226		min	-0.123	10	-0.053	4	-1.649	13	-5.916e-3	1	-1.372e-2	22	-4.889e-3	11
227	N120	max	0.445	4	0.451	12	-0.204	11	9.629e-3	7	9.3e-3	4	1.193e-2	9
228		min	-0.471	10	-0.473	6	-1.65	17	-8.03e-3	1	-1.076e-2	10	-9.601e-3	3
229	N121	max	0.013	12	0.094	10	-0.204	11	2.755e-3	7	9.717e-3	16	1.017e-2	9
230		min	-0.082	18	-0.13	4	-1.65	17	-1.046e-2	13	-4.024e-3	10	-7.643e-3	3
231	N122	max	0.194	4	0.347	1	-0.243	11	7.526e-3	7	6.951e-3	4	1.017e-2	8
232		min	-0.194	10	-0.348	7	-1.648	17	-9.279e-3	1	-7.06e-3	10	-1.201e-2	2
233	N123	max	0.194	4	0.319	1	-0.243	3	7.74e-3	7	7.365e-3	4	1.236e-2	12
234		min	-0.194	10	-0.321	7	-1.649	21	-9.451e-3	1	-7.243e-3	10	-1.053e-2	6
235	N124	max	0.519	4	0.237	1	-0.262	7	7.307e-3	7	8.129e-3	4	8.383e-3	4
236		min	-0.52	10	-0.237	7	-1.648	13	-6.339e-3	1	-9.591e-3	10	-1.018e-2	10
237	N125	max	0.28	3	0.306	12	-0.24	11	7.022e-3	7	8.487e-3	4	1.221e-2	9
238		min	-0.277	9	-0.306	6	-1.649	17	-6.264e-3	1	-1.002e-2	10	-1.053e-2	3
239	N126	max	0.27	5	0.28	2	-0.239	3	6.73e-3	7	9.713e-3	4	1.064e-2	11
240		min	-0.271	11	-0.281	8	-1.648	21	-5.946e-3	1	-8.138e-3	10	-1.232e-2	5
241	N127	max	0.519	4	0.237	1	-0.261	7	7.657e-3	7	9.79e-3	4	1.022e-2	4
242		min	-0.52	10	-0.237	7	-1.649	13	-6.704e-3	1	-8.36e-3	10	-8.418e-3	10
243	N130	max	0.042	10	0.077	4	-0.106	3	1.536e-2	19	-1.48e-3	4	2.661e-3	10
244		min	-0.042	4	-0.077	10	-1.051	21	-2.357e-4	1	-2.579e-2	22	-2.665e-3	4
245	N131	max	0.042	10	0.077	10	-0.106	11	1.531e-2	19	2.582e-2	16	2.665e-3	10
246		min	-0.042	4	-0.077	4	-1.051	17	-3.635e-4	1	1.554e-3	10	-2.662e-3	4
247	N128	max	0.097	4	0.002	1	-0.124	7	-3.144e-3	7	5.977e-3	4	2.824e-3	10
248		min	-0.097	10	-0.002	7	-1.05	13	-2.959e-2	13	-5.988e-3	10	-2.824e-3	4

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M1	HSS4X4X4	0.944	0	21	0.11	0	z	12	110828.526	139518	16.181	16.181	2.009	H1-1b
2	M2	HSS4X4X4	0.233	75	1	0.253	0	y	14	72549.721	139518	16.181	16.181	1.215	H1-1b
3	M3	HSS4X4X4	0.23	75	9	0.255	0	y	22	72549.721	139518	16.181	16.181	1.206	H1-1b
4	M4	HSS4X4X4	0.23	75	5	0.254	0	y	18	72549.721	139518	16.181	16.181	1.206	H1-1b
5	M5	HSS4X4X4	0.933	0	24	0.122	0	z	10	110828.526	139518	16.181	16.181	2.189	H1-1b
6	M6	HSS4X4X4	0.946	0	17	0.111	0	z	2	110828.526	139518	16.181	16.181	2.003	H1-1b
7	M7	L1.5x1.5x3	0.021	0	19	0.003	0	z	18	16247.398	17074.8	0.292	0.667	1.5	H2-1
8	M8	L1.5x1.5x3	0.021	0	13	0.003	0	z	20	16247.398	17074.8	0.292	0.667	1.5	H2-1
9	M9	L1.5x1.5x3	0.022	0	24	0.003	0	z	20	16247.398	17074.8	0.292	0.667	1.5	H2-1
10	M10	L1.5x1.5x3	0.021	0	19	0.003	0	z	18	16247.398	17074.8	0.292	0.667	1.5	H2-1
11	M11	L1.5x1.5x3	0.022	0	19	0.003	0	z	18	16247.398	17074.8	0.292	0.667	1.5	H2-1
12	M12	L1.5x1.5x3	0.022	0	19	0.003	0	z	18	16247.398	17074.8	0.292	0.667	1.5	H2-1
13	M13	L1.5x1.5x3	0.021	0	24	0.003	0	z	20	16247.398	17074.8	0.292	0.667	1.5	H2-1
14	M14	L1.5x1.5x3	0.022	0	16	0.003	0	z	17	16247.398	17074.8	0.292	0.667	1.5	H2-1
15	M15	L1.5x1.5x3	0.022	0	13	0.003	0	z	20	16247.398	17074.8	0.292	0.667	1.5	H2-1
16	M16	L1.5x1.5x3	0.022	0	16	0.003	0	z	17	16247.398	17074.8	0.292	0.667	1.5	H2-1
17	M17	L1.5x1.5x3	0.022	0	16	0.003	0	z	23	16247.398	17074.8	0.292	0.667	1.5	H2-1
18	M18	L1.5x1.5x3	0.022	0	16	0.003	0	z	18	16247.398	17074.8	0.292	0.667	1.5	H2-1
19	M19	L2.5x2.5x4	0.483	0	12	0.103	12	y	12	37318.211	38556	1.114	2.537	1.5	H2-1
20	M20	L2.5x2.5x4	0.488	0	8	0.104	0	y	2	37318.211	38556	1.114	2.537	1.5	H2-1
21	M21	L2.5x2.5x4	0.568	0	4	0.122	12	y	4	37318.211	38556	1.114	2.537	1.5	H2-1
22	M22	PIPE_2.5	0.886	25.5	16	0.165	25.5		3	37773.818	50715	3.596	3.596	2.454	H1-1b
23	M23	PIPE_2.0	0.837	55	10	0.094	55		11	14916.096	32130	1.872	1.872	2.006	H1-1b
24	M24	PIPE_2.5	0.886	19.5	22	0.155	19.5		11	37773.818	50715	3.596	3.596	3	H1-1b
25	M25	PIPE_2.0	0.818	55	7	0.087	25		4	14916.096	32130	1.872	1.872	1.633	H1-1b
26	M26	PIPE_2.5	0.891	25.5	20	0.158	25.5		7	37773.818	50715	3.596	3.596	2.368	H1-1b
27	M27	PIPE_2.5	0.892	19.5	18	0.151	19.5		7	37773.818	50715	3.596	3.596	3	H1-1b
28	M28	PIPE_2.0	0.665	9	8	0.357	9		8	6830.97	32130	1.872	1.872	2.016	H3-6
29	M29	PIPE_2.0	0.68	135	6	0.364	135		6	6830.97	32130	1.872	1.872	1.991	H3-6
30	M30	PIPE_2.5	0.887	25.5	24	0.165	25.5		11	37773.818	50715	3.596	3.596	1.433	H1-1b
31	M31	PIPE_2.5	0.886	19.5	14	0.153	19.5		3	37773.818	50715	3.596	3.596	1.919	H1-1b
32	M32	PIPE_2.0	0.836	55	4	0.094	55		3	14916.096	32130	1.872	1.872	1.993	H1-1b
33	M33	PIPE_2.0	0.624	9	5	0.36	135		7	6830.97	32130	1.872	1.872	1.725	H3-6

Exhibit F

Power Density/RF Emissions Report

Fox Hill Telecom

Radio Frequency Emissions Analysis Report

T-Mobile

Site ID: CT11636A

Wireless Solutions Old Lyme
72 Boggy Hole Road
Old Lyme, CT 06371

March 23, 2022

Fox Hill Telecom Project Number: 220754

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**13.60 %**

Fox Hill Telecom

March 23, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CT11636A – Wireless Solutions Old Lyme**

Fox Hill Telecom, Inc ("Fox Hill") was directed to analyze the proposed upgrades to the T-MOBILE facility located at **72 Boggy Hole Road, Old Lyme, 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.

General 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 **72 Boggy Hole Road, Old Lyme, 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 / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
UMTS	2100 MHz (AWS)	1	40
LTE / 5G NR	2500 MHz (BRS)	8	20

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	RFS APXVAARR24_43-U-NA20	175
A	2	Commscope VV-65A-R1	175
A	3	Ericsson AIR6449 B41	175
B	1	RFS APXVAARR24_43-U-NA20	175
B	2	Commscope VV-65A-R1	175
B	3	Ericsson AIR6449 B41	175
C	1	RFS APXVAARR24_43-U-NA20	175
C	2	Commscope VV-65A-R1	175
C	3	Ericsson AIR6449 B41	175

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	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna A2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	1.80
Antenna A3	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.84
						Sector A Composite MPE%	**5.37**
Antenna B1	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna B2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	1.80
Antenna B3	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.84
						Sector B Composite MPE%	**5.37**
Antenna C1	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	0.73
Antenna C2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	10	375	14,335.47	1.80
Antenna C3	Ericsson AIR6449 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	2.84
						Sector C Composite MPE%	**5.37**

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	**5.37 %**
Nextel	0.36 %
AT&T	5.76 %
Verizon Wireless	2.11 %
Site Total MPE %:	**13.60 %**

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	5.37 %
T-MOBILE Sector B Total:	5.37 %
T-MOBILE Sector C Total:	5.37 %
Site Total:	13.60 %

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 Power Values Max (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 600 MHz LTE / 5G NR	2	788.97	175	1.99	600 MHz	400	0.50%
T-Mobile 700 MHz LTE	2	432.54	175	1.09	700 MHz	467	0.23%
T-Mobile 1900 MHz (PCS) LTE	4	1,435.69	175	7.23	1900 MHz (PCS)	1000	0.72%
T-Mobile 1900 MHz (PCS) GSM	1	538.38	175	0.68	1900 MHz (PCS)	1000	0.07%
T-Mobile 2100 MHz (AWS) LTE	4	1,610.87	175	8.11	2100 MHz (AWS)	1000	0.81%
T-Mobile 2100 MHz (AWS) UMTS	1	1,610.87	175	2.03	2100 MHz (AWS)	1000	0.20%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	175	28.45	2500 MHz (BRS)	1000	2.84%
						Total:	**5.37%**

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:	5.37 %
Sector B:	5.37 %
Sector C:	5.37 %
T-MOBILE Maximum Total (per sector):	5.37 %
Site Total:	13.60 %
Site Compliance Status:	**COMPLIANT**

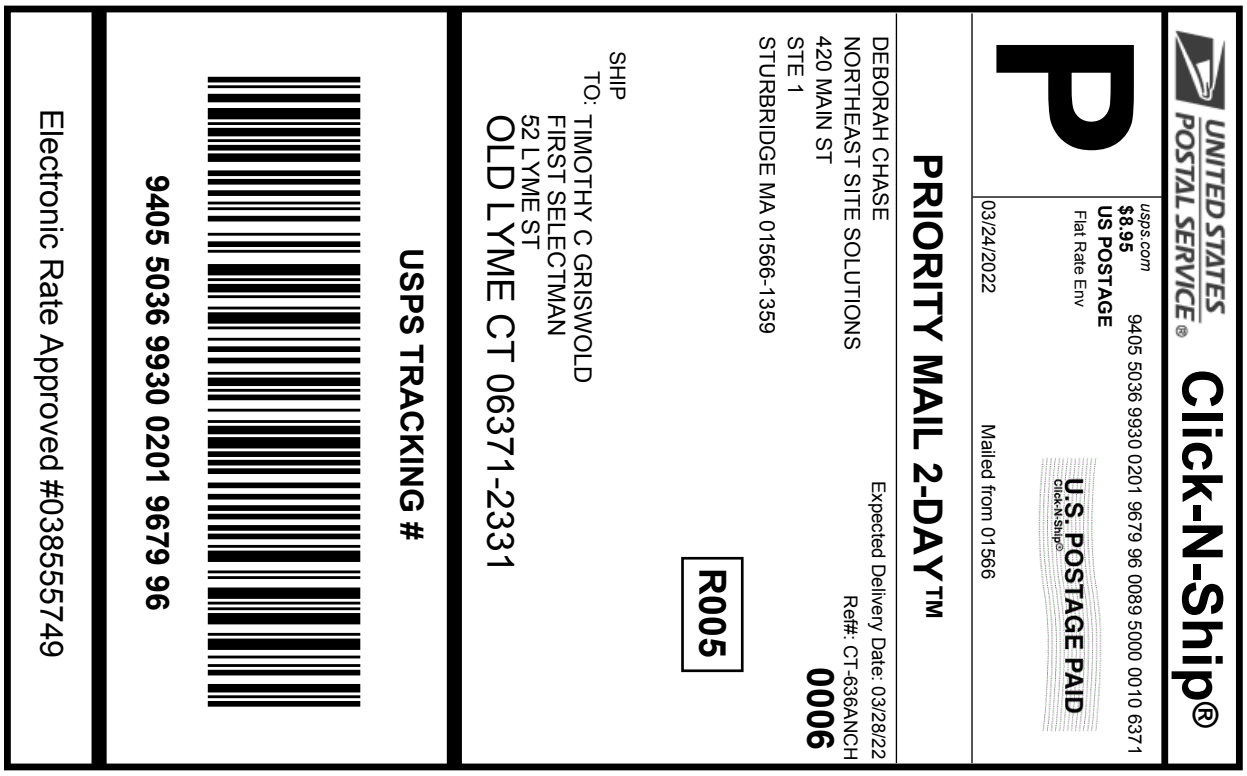
The anticipated composite MPE value for this site assuming all carriers present is **13.60 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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

Exhibit G

Recipient Mailings



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0201 9679 96

Trans. #:	559586592
Print Date:	03/24/2022
Ship Date:	03/24/2022
Expected Delivery Date:	03/28/2022

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

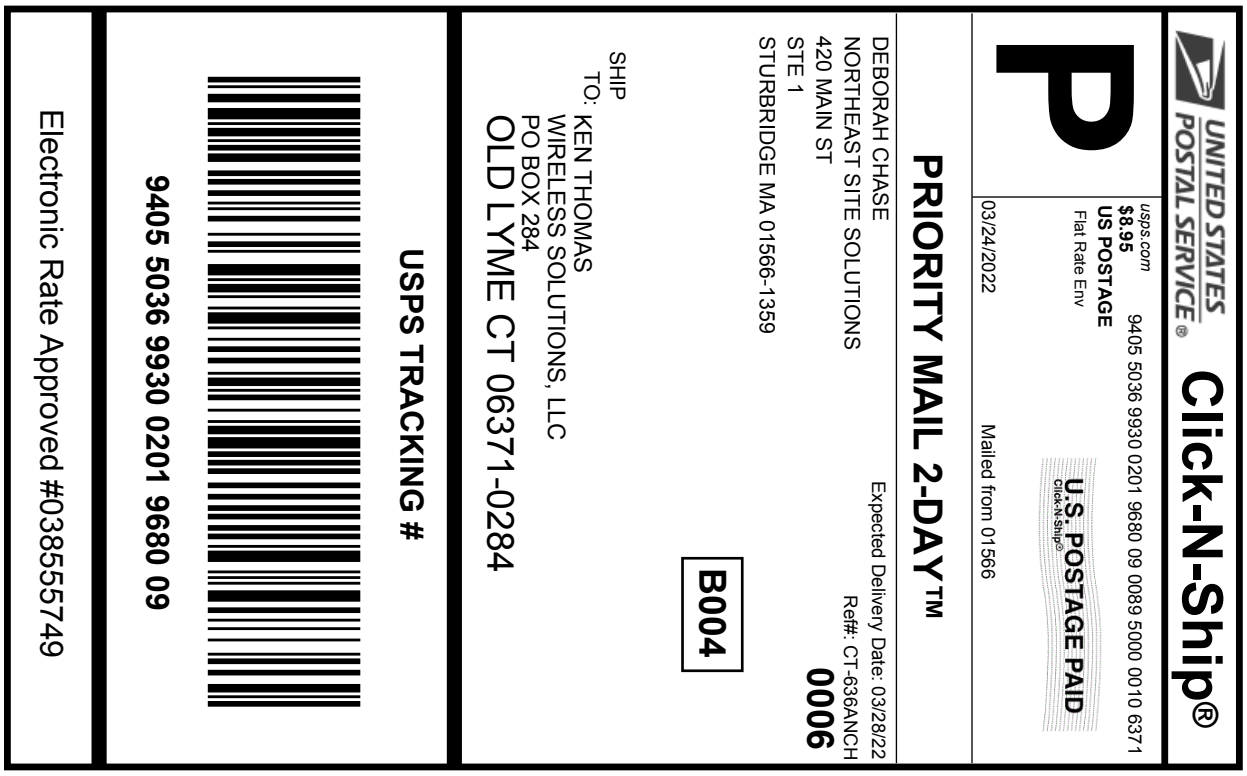
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CT-636ANCH

To: TIMOTHY C GRISWOLD
FIRST SELECTMAN
52 LYME ST
OLD LYME CT 06371-2331

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



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USPS TRACKING # :
9405 5036 9930 0201 9680 09

Trans. #:	559586592
Print Date:	03/24/2022
Ship Date:	03/24/2022
Expected Delivery Date:	03/28/2022

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

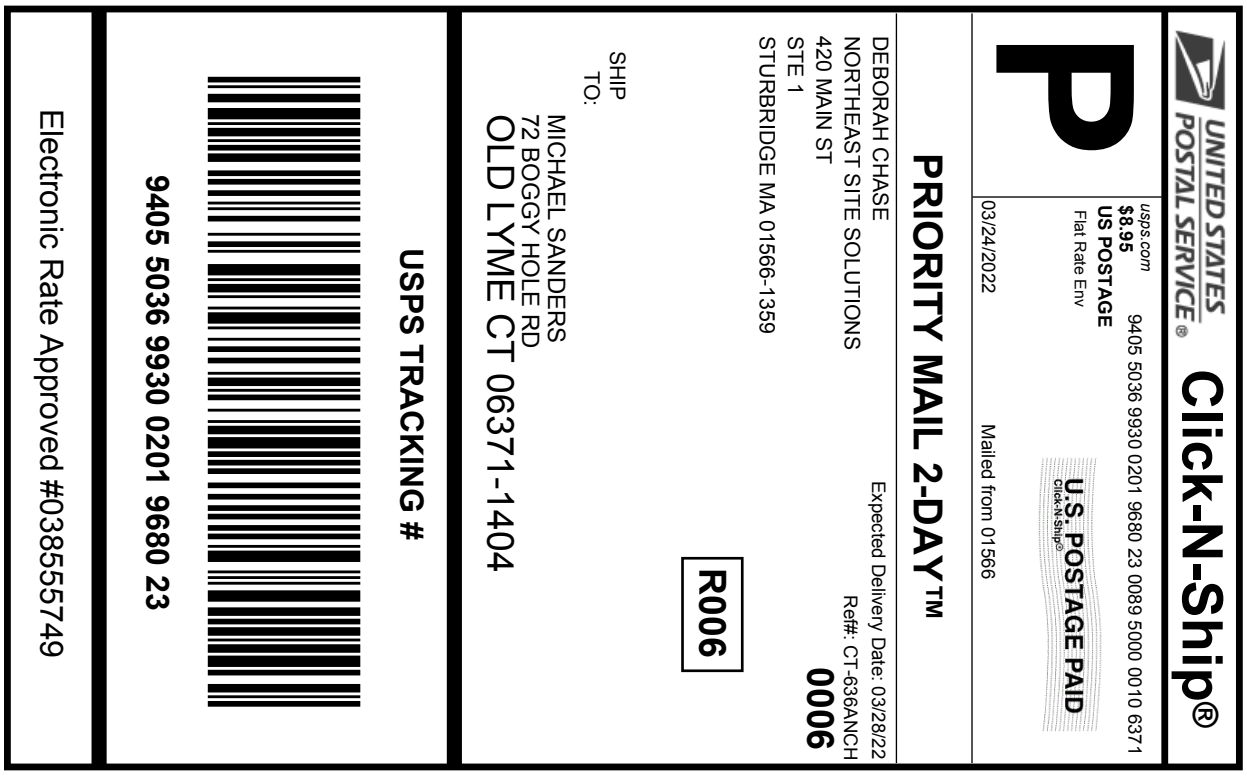
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: CT-636ANCH

To: KEN THOMAS
WIRELESS SOLUTIONS, LLC
PO BOX 284
OLD LYME CT 06371-0284

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0201 9680 23

Trans. #:	559586592
Print Date:	03/24/2022
Ship Date:	03/24/2022
Expected Delivery Date:	03/28/2022

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-636ANCH

To: MICHAEL SANDERS
72 BOGGY HOLE RD
OLD LYME CT 06371-1404

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

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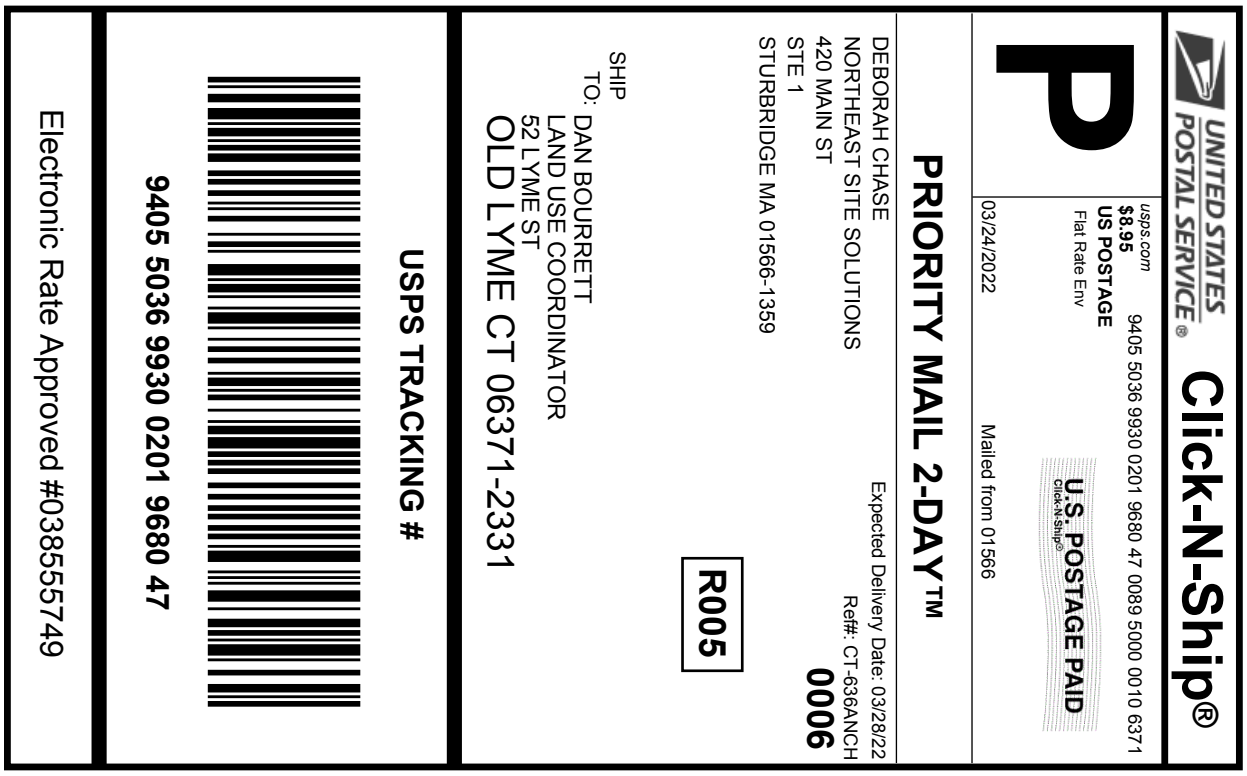

Cut on dotted line.

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0201 9680 47

Trans. #:	559586592
Print Date:	03/24/2022
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Expected Delivery Date:	03/28/2022

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-636ANCH

To: DAN BOURRETT
LAND USE COORDINATOR
52 LYME ST
OLD LYME CT 06371-2331

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

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CT11636A - Anchor

UNITED STATES POSTAL SERVICE.

UNIONVILLE
24 MILL ST
UNIONVILLE, CT 06085-9998
(800)275-8777

03/25/2022 09:39 AM

Product	Qty	Unit Price	Price
Prepaid Mail Old Lyme, CT 06371 Weight: 0 lb 7.40 oz Acceptance Date: Fri 03/25/2022 Tracking #: 9405 5036 9930 0201 9679 96	1		$0.00
Prepaid Mail Old Lyme, CT 06371 Weight: 0 lb 7.40 oz Acceptance Date: Fri 03/25/2022 Tracking #: 9405 5036 9930 0201 9680 09	1		$0.00
Prepaid Mail Old Lyme, CT 06371 Weight: 0 lb 7.40 oz Acceptance Date: Fri 03/25/2022 Tracking #: 9405 5036 9930 0201 9680 23	1		$0.00
Prepaid Mail Old Lyme, CT 06371 Weight: 0 lb 7.40 oz Acceptance Date: Fri 03/25/2022 Tracking #: 9405 5036 9930 0201 9680 47	1		$0.00
Grand Total:			$0.00