10 Industrial Avenue,
Suite 3
Mahwah, NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

July 19, 2019

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

Notice of Exempt Modification
6 Fairfield Drive, Newtown, CT
Latitude: 41.42530556
Longitude: -73.37411111
T-Mobile site: CT11105F / L600

Dear Ms. Bachman:

T-Mobile currently maintains (6) antennas at the 134 foot level of the existing 152-foot monopole at 6 Fairfield Drive in Newtown, CT. The monopole is owned by American Tower and the property is owned by Phototronics, Inc T-Mobile now intends to replace (3) of its existing antennas with (3) 600/700 MHz antennas. The new antennas would be installed at the 134 -foot level of the tower.

Planned Modifications:

Remove:
Coax
(6) "1-5/8

Remove and Replace:
Antennas:
3 Commscope SBNH-1D65C (REMOVE) - APXVAARR24_43-U-NA20 (REPLACE) 2100 MHz / 600 MHz / 700 MHz
RRUs:
Ericsson RRUS-11 B12 (REMOVE) - Ericsson RADIO 4449 B12/71 (REPLACE)

Existing to Remain:
Antennas/TMAs/RRUs:
(3) Ericsson AIR 21 1.3M B2A B4P
(3) TMAs- AWS TMA Dual 700 bypass
Coax Cables:
(12) 1-5/8" coax cables

Install New:
Coax Cables: (2) 1-5/8" Hybriflex

This facility was approved by Docket 275 by the Siting Council May 13, 1987, with no record of conditions that would restrict exempt modifications. Therefore, this modification complies with the aforementioned approval.

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 The Honorable Daniel Rosenthal, First Selectman and George Benson, Director of Planning.
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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,

Elizabeth Jamieson

Elizabeth Jamieson
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
860-605-7808
EJamieson@TranscendWireless.com

cc:
The Honorable Daniel Rosenthal, First Selectman
George Benson, Director of Planning
American Tower, Tower Owner
Phototronics Inc., Property Owner

Exhibit A

Original Facility Approval

DOCKET NO. 75

AN APPLICATION OF THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR CELLULAR TELEPHONE FACILITIES IN THE CITY OF DANBURY AND EITHER THE TOWN OF BROOKFIELD OR TOWN OF NEWTOWN, CONNECTICUT.	:	CONNECTICUT SITING COUNCIL
	:	MAY 13, 1987

D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Connecticut Siting Council (Council) hereby directs that a Certificate of Environmental Compatibility and Public Need, as provided by Section 16-50k of the General Statutes of Connecticut (CGS), be issued to Southern New England Telephone Cellular, Inc., (SNET) for the construction, operation, and maintenance of cellular mobile telephone facilities in the City of Danbury and Town of Newtown, Connecticut. The proposed Brookfield site is rejected.

The facilities shall be constructed, operated, and maintained as specified in the Council's record on this matter, and subject to the following conditions.

1. The Danbury tower, including antennas, shall be no taller than necessary to provide the proposed service, and in no event shall exceed 37 feet.

2. Unless necessary to comply with condition number three, below, no lights shall be installed on these towers.

3. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations.

4. The Newtown tower, including antennas, shall be no taller than necessary to provide the proposed service, and in no event shall exceed 167 feet.

5. The certificate holder shall prepare a development and management (D&M) plan for the Newtown site in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M plan shall provide for evergreen screening around the outside perimeter of the eight-foot chain link fence which will surround this site.

6. No construction activities shall take place outside the hours of 7:00 A.M. to 7:00 P.M., Monday through Saturday.

7. The certificate holder or its successor shall notify the Council if and when directional antennas or any equipment other than that listed in this application is added to these facilities.

8. The certificate holder or it successor shall permit public or private entities to share space on the Newtown tower, for due consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

9. If these facilities do not provide or permanently cease to provide cellular service following the completion of construction, this Decision and Order shall be void, and the tower and all associated equipment in this application shall be dismantled and removed or reapplication for any new use shall be made to the Council before any such new use is made.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the issuance of this Decision and Order, or within three years of the completion of any appeal taken in this Decision.

11. The certificate holder shall comply with any future radio frequency (RF) standards promulgated by state or federal regulatory agencies. Upon the establishment of any new govermental RF standards, the Certificate holder shall bring the facilities granted approval in this Decision into compliance with such standards.

Pursuant to CGS section 16-50p, we hereby direct that a copy of the Decision and Order be served on each person listed below. A notice of the issuance shall be published in the Danbury News-Times, the Brookfield Journal, and the Newtown Bee.

The parties to the proceeding are:

SNET Cellular, Inc. (Applicant)
c/o Peter J. Tyrrell
Senior Attorney
Room 1021
227 Church Street
New Haven, Connecticut 06506

Town of Newtown
Planning and Zoning Commission

represented by:
Theodore G. Whippie, Chairman
Chairman
Planning and Zoning
Commission
Edmond Town Hall
45 Main Street
Newtown, Connecticut 06470

Metro Mobile CTS of Fairfield
County
(INTERVENOR)

represented by:

Howard L. Slater
Jennifer Young Gaudet
Byrne, Slater, Sandler,
Shulman & Rouse, P.C.
330 Main Street
P.O. Box 3216
Hartford, Connecticut 06103
its attorneys

Fergus W. O'Donnell
28 Whisconier Road
Brookfield, Center, Connecticut 06805

C E R T I F I C A T I O N

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut, this 13th day of May 1987.

Council Members	Vote Cast
Gloria Dibble Pond Gloria Dibble Pond Chairperson	Yes
Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
Brian J. Emerick Acting Commissioner John Anderson Designee: Brian Emerick	Yes
Owen L. Clark Owen L. Clark	Yes
Fred J. Doocy Fred J. Doocy	Yes
Mortimer A. Gelston	Absent
James R. Horsfall James G. Horsfall	Yes
William H. Smith William Smith	Yes
Colin C. Tait	Absent

Exhibit B

Property card

6 FAIRFIELD DR

Location	6 FAIRFIELD DR	**Mblu**	G17/ / 034/ /
Acct#	04243000	**Owner**	PHOTRONICS INC
Assessment	$1,394,290	**Appraisal**	$1,991,840
PID	6084	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,742,200	$249,640	$1,991,840
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,219,540	$174,750	$1,394,290

Owner of Record

Owner	PHOTRONICS INC	**Sale Price**	$2,200,000
Co-Owner		**Certificate**	
Address	15 SECOR RD BROOKFIELD, CT 06804	**Book & Page**	417/0853
		Sale Date	07/26/2002
		Instrument	25

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PHOTRONICS INC	$2,200,000		417/0853	25	07/26/2002
MACRICOSTAS GEORGE & STEPHEN	$0		417/0850	29	07/26/2002
MAYO ASSOCIATES	$0		160/ 639		08/10/1984

Building Information

Building 1 : Section 1

Year Built: 1985
Living Area: 20,608

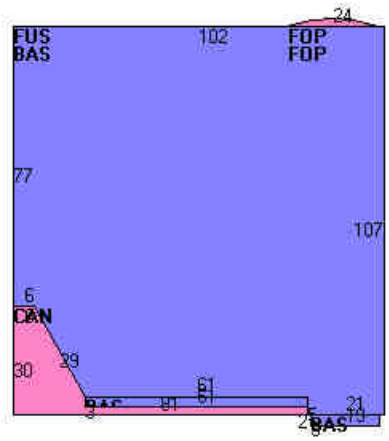
Building Attributes	
Field	**Description**
STYLE	Office Bldg

MODEL	Comm/Ind
Stories:	2
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T+G/Rubber
Interior Wall 1	Drywall/Sheetr
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Forced Air
AC Type	Central
Bldg Use	Ind Office
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	300C
Heat/AC	Heat/AC Pkgs
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Wall	Sus-Ceil & WL
Rooms/Prtns	Average
Wall Height	12
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos2/BrookfieldCTPhotos//\01\02\09

Building Layout



Building Sub-Areas (sq ft)			
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	10,424	10,424
FUS	Finished Upper Story	10,184	10,184
CAN	Canopy	547	0
FOP	Porch, Open	64	0
		21,219	20,608

Extra Features

Extra Features				
Code	**Description**	**Size**	**Value**	**Bldg #**
LDL1	Load Lvr Elec.	1 Units	$2,810	1
ELV1	Elevator Commercial	2 Units	$36,000	1

Land

Land Use

Land Line Valuation

Use Code	402	**Size (Acres)**	1.9
Description	Ind Office	**Depth**	
Zone	IR80SE	**Assessed Value**	$174,750
		Appraised Value	$249,640

Outbuildings

Outbuildings						
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving Asph.			40000 S.F.	$54,000	1
LT1	Light 1			2 Units	$2,090	1

Valuation History

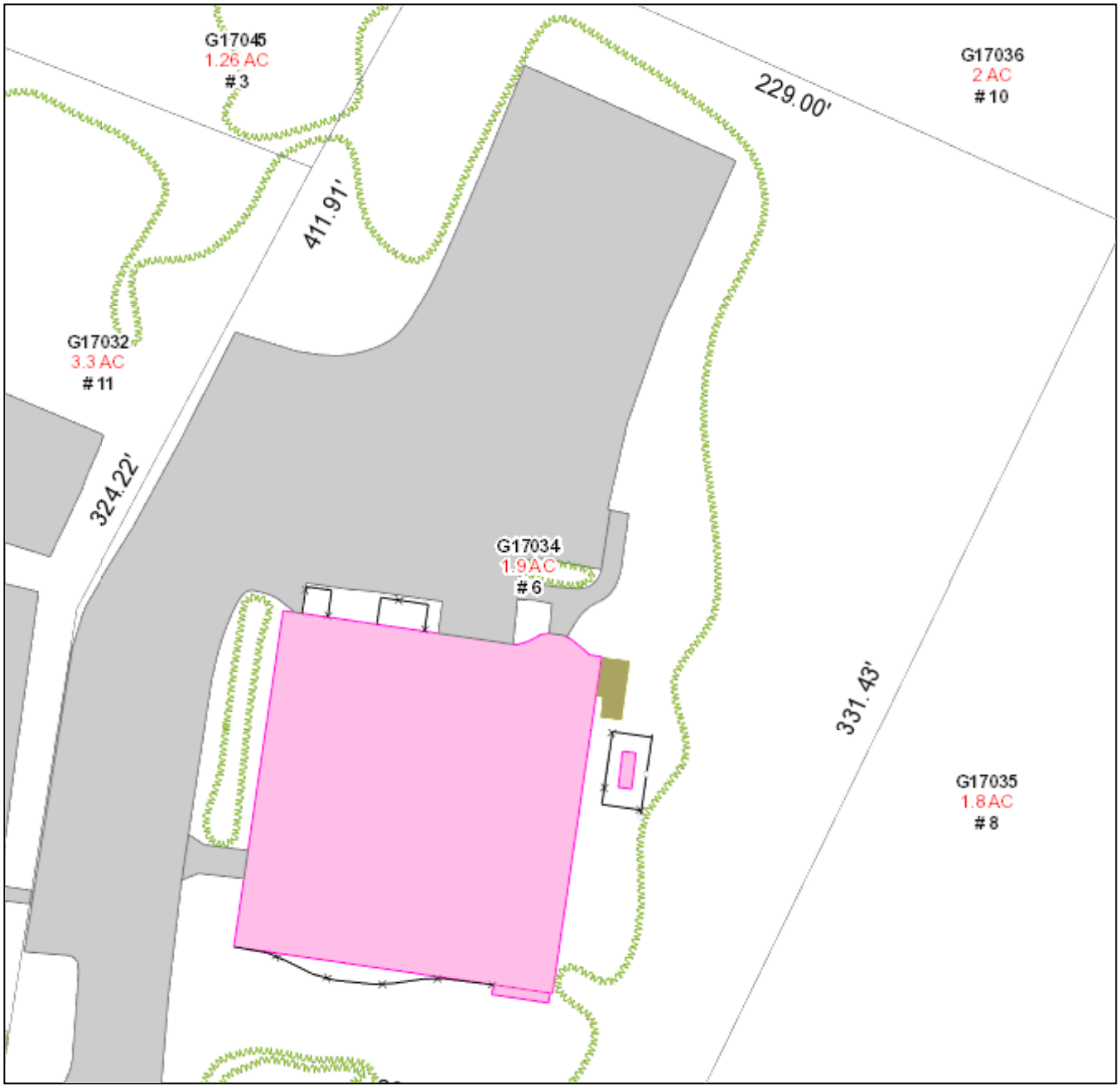
Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,742,200	$249,640	$1,991,840
2017	$1,742,200	$249,640	$1,991,840
2015	$1,882,710	$249,640	$2,132,350

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$1,219,540	$174,750	$1,394,290
2017	$1,219,540	$174,750	$1,394,290
2015	$1,317,900	$174,750	$1,492,650

Town of Brookfield

Geographic Information System (GIS)

Date Printed: 7/16/2019



MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Brookfield and its mapping contractors assume no legal responsibility for the information contained herein.

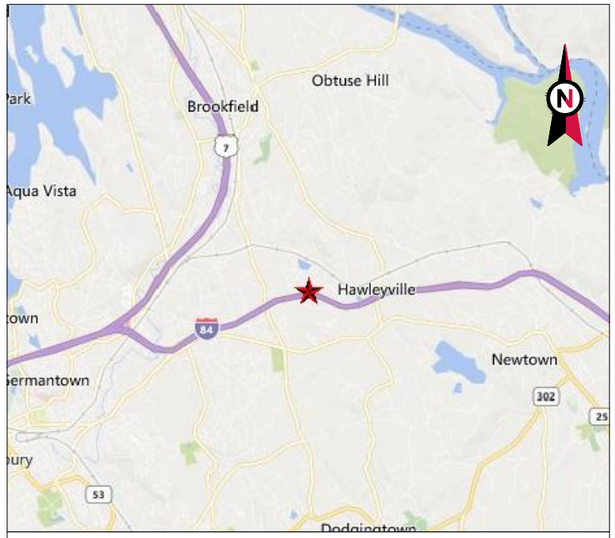
Approximate Scale: 1 inch = 50 feet

0 50 Feet

N W E S

Exhibit C

Construction Drawings



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: NEWTOWN CT 3
ATC SITE NUMBER: 302518
T-MOBILE SITE ID: CT11105F
SITE ADDRESS: 6 FAIRFIELD DR NEWTOWN, CT 06470

T-MOBILE L600 ANTENNA AMENDMENT 67D01D CONFIGURATION

LOCATION MAP

COMPLIANCE CODE

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

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: EVER SOURCE
PHONE: (877) 659-6326

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
PHONE: (800) 376-6843

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

PROJECT SUMMARY

SITE ADDRESS:

6 FAIRFIELD DR
NEWTOWN, CT 06470
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.42552778
LONGITUDE: -73.37404722
GROUND ELEVATION: 426' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

ENGINEER:

ATC TOWER SERVICES, LLC
3500 REGENCY PKWY STE 100
CARY, NC 27518

PROPERTY OWNER:

CONSTANTINE MACRICOSTAS
5509 PENNOCK POINT RD
JUPITER, FL 33458

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (3) PANELS, (3) RRUs, AND (6) 1-5/8" COAX CABLE

INSTALL (3) NEW PANELS, (3) RRUs, (2) 1-5/8" HYBRID CABLES, AND MOUNT MODIFICATIONS

EXISTING (3) PANELS, (3) TTAs, (1) 1-5/8" HYBRID CABLE AND (6) 1-5/8" COAX TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

PROJECT LOCATION DIRECTIONS

I-84 W TO EXIT 9. TURN RIGHT OFF EXIT THEN LEFT ON OLD HAWLEYVILLE RD. AT FORK STAY TO THE RIGHT ONTO SECOR RD. AFTER BRIDGE TURN RIGHT ON FAIRFIELD DR. TOWER IS AHEAD ON RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	1	07/03/19	LG
G-002	GENERAL NOTES	1	07/03/19	LG
C-101	DETAILED SITE PLAN & TOWER ELEVATION	1	07/03/19	LG
C-501	ANTENNA INFORMATION & SCHEDULE	1	07/03/19	LG
E-501	GROUNDING DETAILS	1	07/03/19	LG
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			
R-604	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

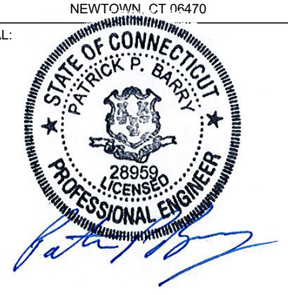
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LG	07/03/19
1	FOR CONSTRUCTION	LG	07/15/19

ATC SITE NUMBER:
302518

ATC SITE NAME:
NEWTOWN CT 3

SITE ADDRESS:
6 FAIRFIELD DR
NEWTOWN, CT 06470

SEAL:



Authorized by "EOR"
Jul 16 2019 8:36 AM

T-Mobile cosign

DRAWN BY:	LG
APPROVED BY:	PB
DATE DRAWN:	07/03/19
ATC JOB NO:	12969998

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	1

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH T-MOBILE WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY T-MOBILE WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
   A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
   B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
   C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
   D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
   E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
   A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
   B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
   C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
   D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
   E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
   F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
   G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING ½" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

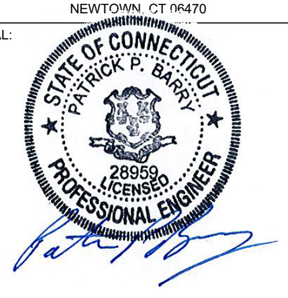
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LG	07/03/19
1	FOR CONSTRUCTION	LG	07/15/19

ATC SITE NUMBER:
302518

ATC SITE NAME:
NEWTOWN CT 3

SITE ADDRESS:
6 FAIRFIELD DR
NEWTOWN, CT 06470

SEAL:



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Jul 16 2019 8:36 AM

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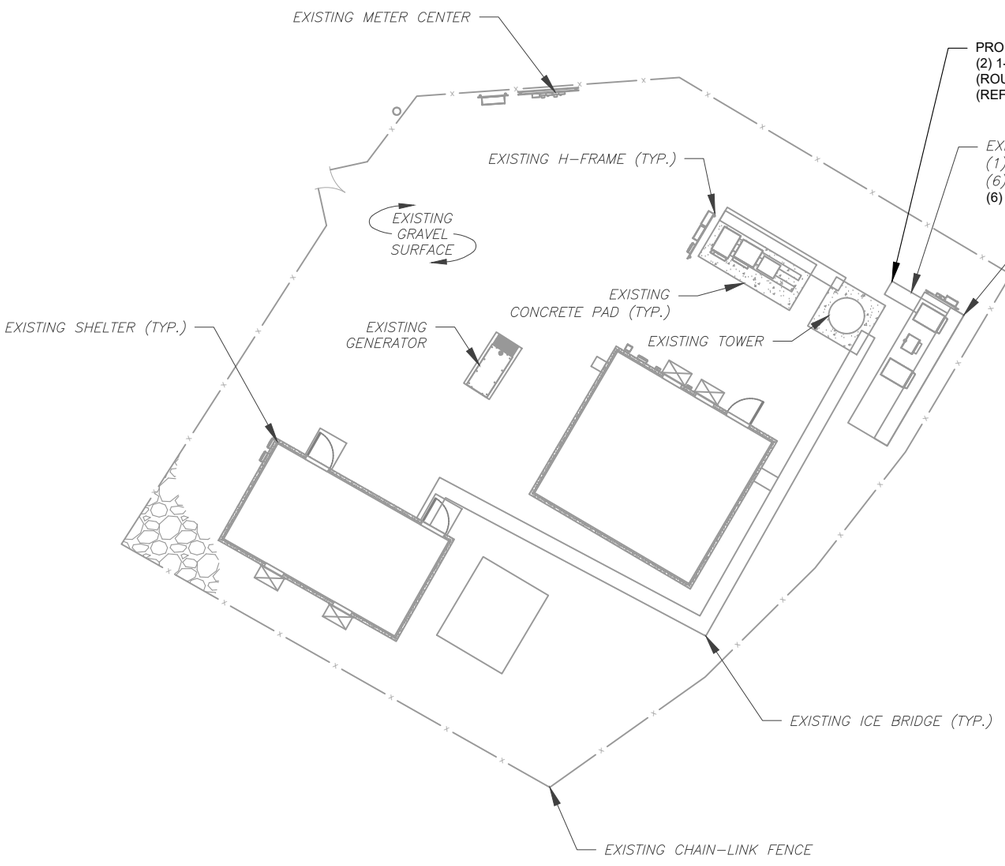
DRAWN BY:	LG
APPROVED BY:	PB
DATE DRAWN:	07/03/19
ATC JOB NO:	12969998

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	1

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

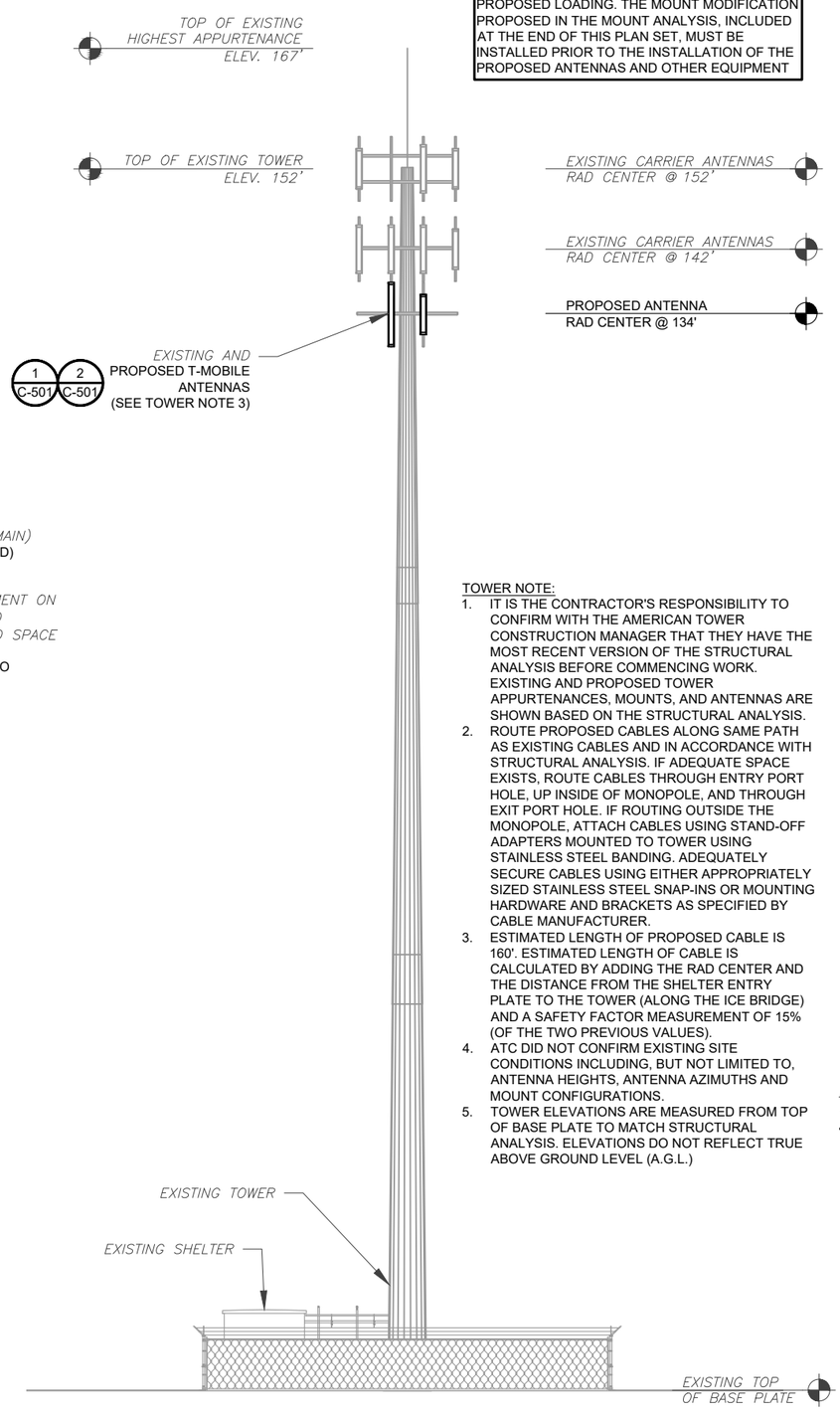


1 DETAILED SITE PLAN

0 20' 40'

SCALE: 1"=20' (11X17)
1"=10' (22X34)

PER MOUNT ANALYSIS COMPLETED BY CLS ENGINEERING, DATED 06/21/19, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT



2 TOWER ELEVATION

SCALE: NOT TO SCALE

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
3. ESTIMATED LENGTH OF PROPOSED CABLE IS 160'. ESTIMATED LENGTH OF CABLE IS CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES).
4. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
5. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

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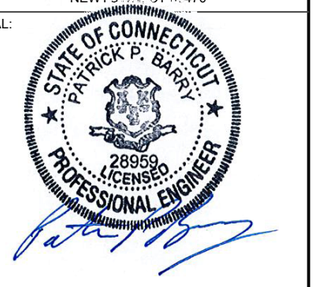
1	FOR CONSTRUCTION	LG	07/15/19

ATC SITE NUMBER:
302518

ATC SITE NAME:
NEWTOWN CT 3

SITE ADDRESS:
6 FAIRFIELD DR
NEWTOWN, CT 06470

SEAL:



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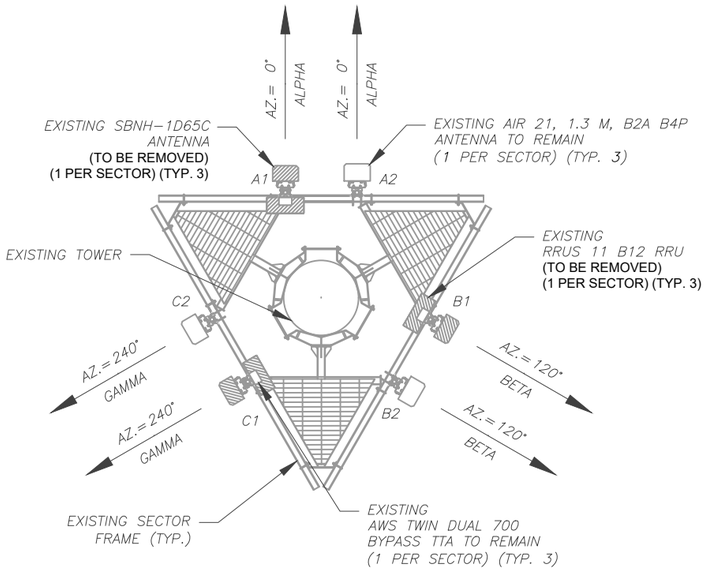
T-Mobile

DRAWN BY:	LG
APPROVED BY:	PB
DATE DRAWN:	07/03/19
ATC JOB NO:	12969998

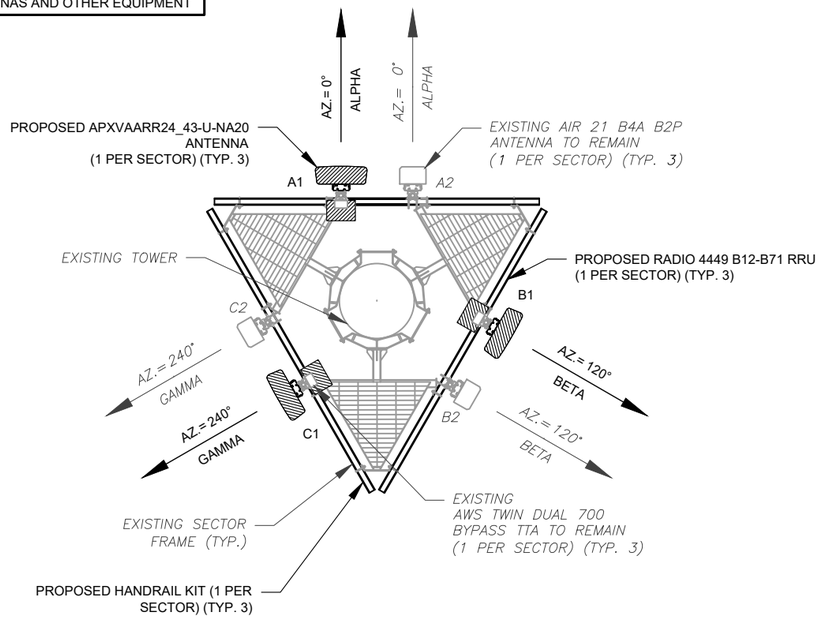
DETAILED SITE PLAN & TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-501	1



1 EXISTING ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY CLS ENGINEERING, DATED 06/21/19, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT



2 FINAL ANTENNA PLAN

EXISTING ANTENNA / EQUIPMENT SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	SBNH–1D65C	134'–0"	0°	0°	2°	RRUS11 B12 & AWS TWIN DUAL 700 BYPASS
ALPHA	A2	AIR 21, 1.3 M, B2A B4P	134'–0"	0°	0°	2°	–
BETA	B1	SBNH–1D65C	134'–0"	120°	0°	2°	RRUS11 B12 & AWS TWIN DUAL 700 BYPASS
BETA	B2	AIR 21, 1.3 M, B2A B4P	134'–0"	120°	0°	2°	–
GAMMA	C1	SBNH–1D65C	134'–0"	240°	0°	2°	RRUS11 B12 & AWS TWIN DUAL 700 BYPASS
GAMMA	C2	AIR 21, 1.3 M, B2A B4P	134'–0"	240°	0°	2°	–

NOTES

1. BASED ON APPROVED ATC APPLICATION 12927118, DATED 03/11/19. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.
3. ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
4. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
5. POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA / EQUIPMENT SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	A1	APXVAARR24_43-U-NA20	134'-0"	0°	0°	2°	RADIO 4449 B12-B71 & AWS TWIN DUAL 700 BYPASS
ALPHA	A2	AIR 21, 1.3 M, B2A B4P	134'–0"	0°	0°	2°	–
BETA	B1	APXVAARR24_43-U-NA20	134'-0"	120°	0°	2°	RADIO 4449 B12-B71 & AWS TWIN DUAL 700 BYPASS
BETA	B2	AIR 21, 1.3 M, B2A B4P	134'–0"	120°	0°	2°	–
GAMMA	C1	APXVAARR24_43-U-NA20	134'-0"	240°	0°	2°	RADIO 4449 B12-B71 & AWS TWIN DUAL 700 BYPASS
GAMMA	C2	AIR 21, 1.3 M, B2A B4P	134'–0"	240°	0°	2°	–

CURRENT FIBER DISTRIBUTION/OVP BOX		CURRENT CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
–	–	(6) 1–5/8"	(1) 1–5/8"	RMN
–	–	(6) 1-5/8"	-	RMV

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
DSC: TO BE DISCONNECTED & REMAIN
ADD: TO BE ADDED

3 ANTENNA SCHEDULE

PROPOSED FIBER DISTRIBUTION/OVP BOX		PROPOSED CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1–5/8"	(1) 1–5/8"	RMN
-	-	-	(2) 1-5/8"	ADD

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

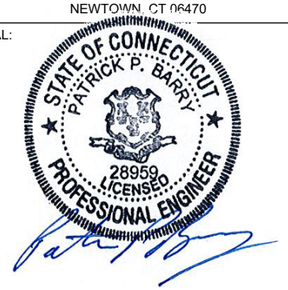
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LG	07/03/19
1	FOR CONSTRUCTION	LG	07/15/19

ATC SITE NUMBER:
302518

ATC SITE NAME:
NEWTOWN CT 3

SITE ADDRESS:
6 FAIRFIELD DR
NEWTOWN, CT 06470

SEAL:



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Jul 16 2019 8:37 AM

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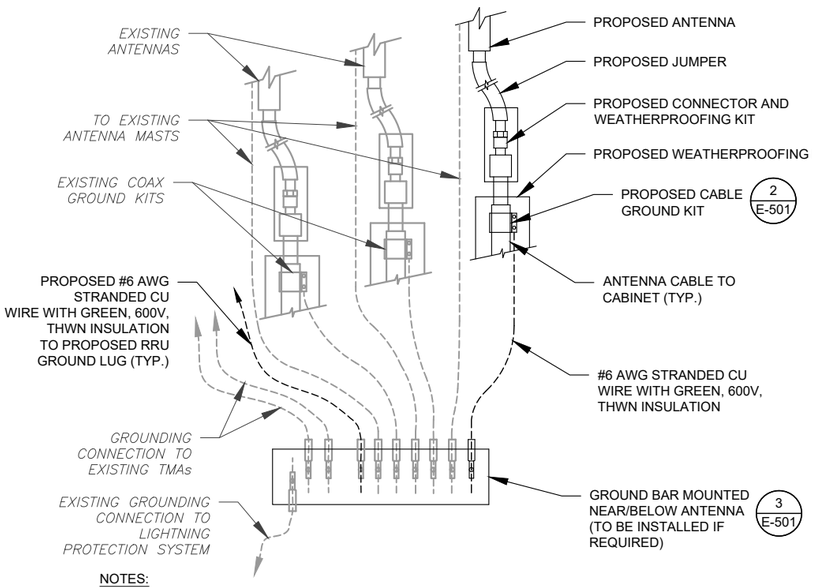
DRAWN BY:	LG
APPROVED BY:	PB
DATE DRAWN:	07/03/19
ATC JOB NO:	12969998

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	1

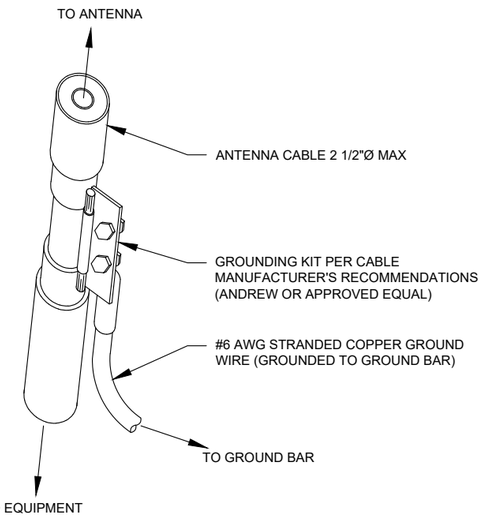


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: NOT TO SCALE

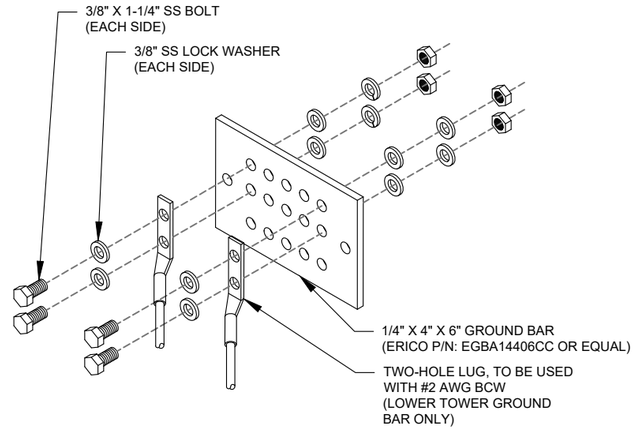


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: NOT TO SCALE



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
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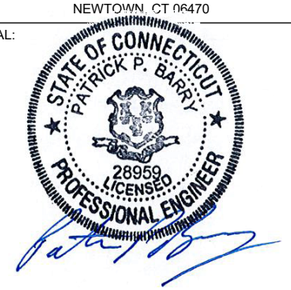
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	LG	07/03/19
1	FOR CONSTRUCTION	LG	07/15/19

ATC SITE NUMBER:
302518

ATC SITE NAME:
NEWTOWN CT 3

SITE ADDRESS:
6 FAIRFIELD DR
NEWTOWN, CT 06470

SEAL:



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DRAWN BY:	LG
APPROVED BY:	PB
DATE DRAWN:	07/03/19
ATC JOB NO:	12969998

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1

RAN Template:	A&L Template:	Power System Template:
67D01D	67D01D_1xAIR+1OP	Custom

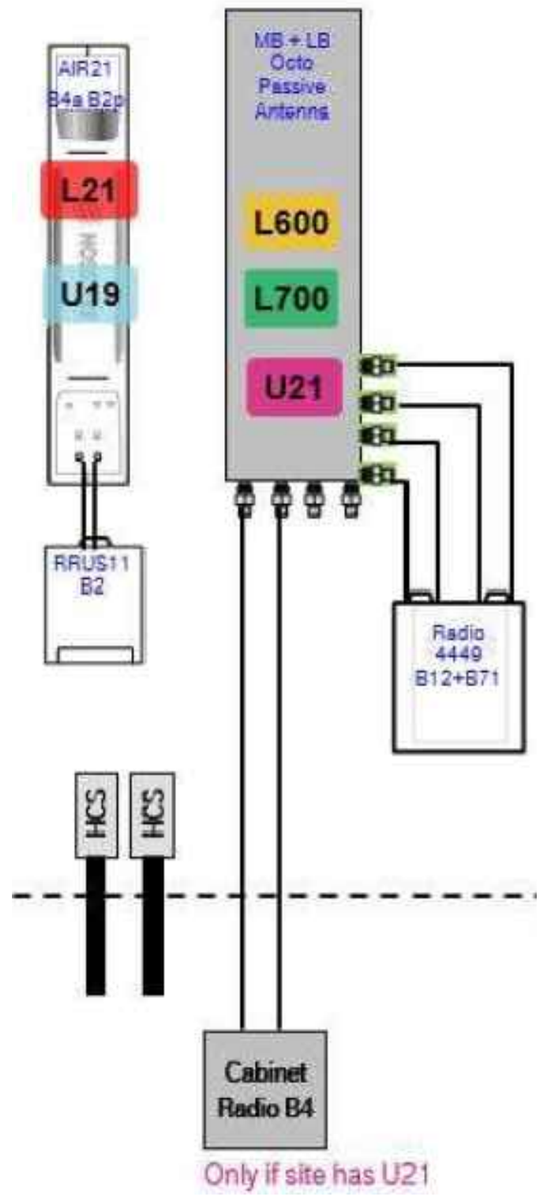
CT11105F_L600_1.1

Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 701D_WU21		
Enclosure	1	2
Enclosure Type	RBS 6131	Tower Top Mount
Baseband	DUW30 (U2100); DUS41 (L2100, L700)	
Hybrid Cable System		Ericsson 9x18 HCS *Select Length*
Multiplexer	XMU	
Radio	RU22 (x6) (U2100)	

Proposed RAN Equipment		
Template: 67D01D		
Enclosure	1	2
Enclosure Type	RBS 6131	Tower Top Mount
Baseband	DUW30 (U2100); BB 6630 (N600 (DARK)); BB 6630 (L2100, L700, L600)	
Hybrid Cable System		Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select AWG & Length* (x2)
Radio	RU22 (x6) (U2100)	
RAN Scope of Work:		

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	1

Mount Analysis of Existing Low Profile Platform for American Tower on behalf of T-Mobile
302518 - Newtown CT 3
Project #: 12927118
T-Mobile Site ID: CT11105F
Program: L600

CLS Engineering PLLC Project #41124-12927118-01-MA-R1
June 21, 2019

MOUNT DESCRIPTION	Existing Low Profile Platform at 132 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 134 ft AGL (Eccentricity of ~2 ft)
SITE DESCRIPTION	152 ft Monopole
SITE ADDRESS	6 Fairfield Drive (Brkfld), Newtown, CT 06470-1216, Fairfield County
GPS COORDINATES	41.42552778, -73.37404722
ANALYSIS STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
LOADING CRITERIA	120 mph, V_{ult} / 93 mph, V_{asd} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 0.75" Ice

■ **ANALYSIS RESULT:** **Pass (Conditional)**

MEMBER USAGE	44%	Pass

Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
A.J. Ingalls, E.I.

Reviewed and Approved by:
Tyler M. Barker, P.E.

STATE OF CONNECTICUT · TYLER M BARKER · No. 32402 · LICENSED PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019

IdenTrust part of HID Global
Digitally signed by Tyler Barker
DN: c=US, o=Telamon Corporation, ou=A01427E000 0016A4525ADF 800001D17, cn=Tyler Barker
Date: 2019.06.21 18:04:02 -04'00'

■ RESULTS SUMMARY

Existing Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Platform Base	139%	**Fail**
Mount Pipes	83%	Pass
Grating Support	24%	Pass

Modified Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Mount Pipes	44%	Pass
Support Rail	33%	Pass
Platform Base	30%	Pass
Support Rail Corner	25%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- **Install Site Pro 1 HRK12 Support Rail kit at 3'-0" above the existing platform base horizontal channel. Connect to (2) existing mount pipes per sector of the mount (6 total) using Site Pro 1 SCX1 Crossover Plate kits included in the Support Rail kit. Field-cut proposed pipes as required.**

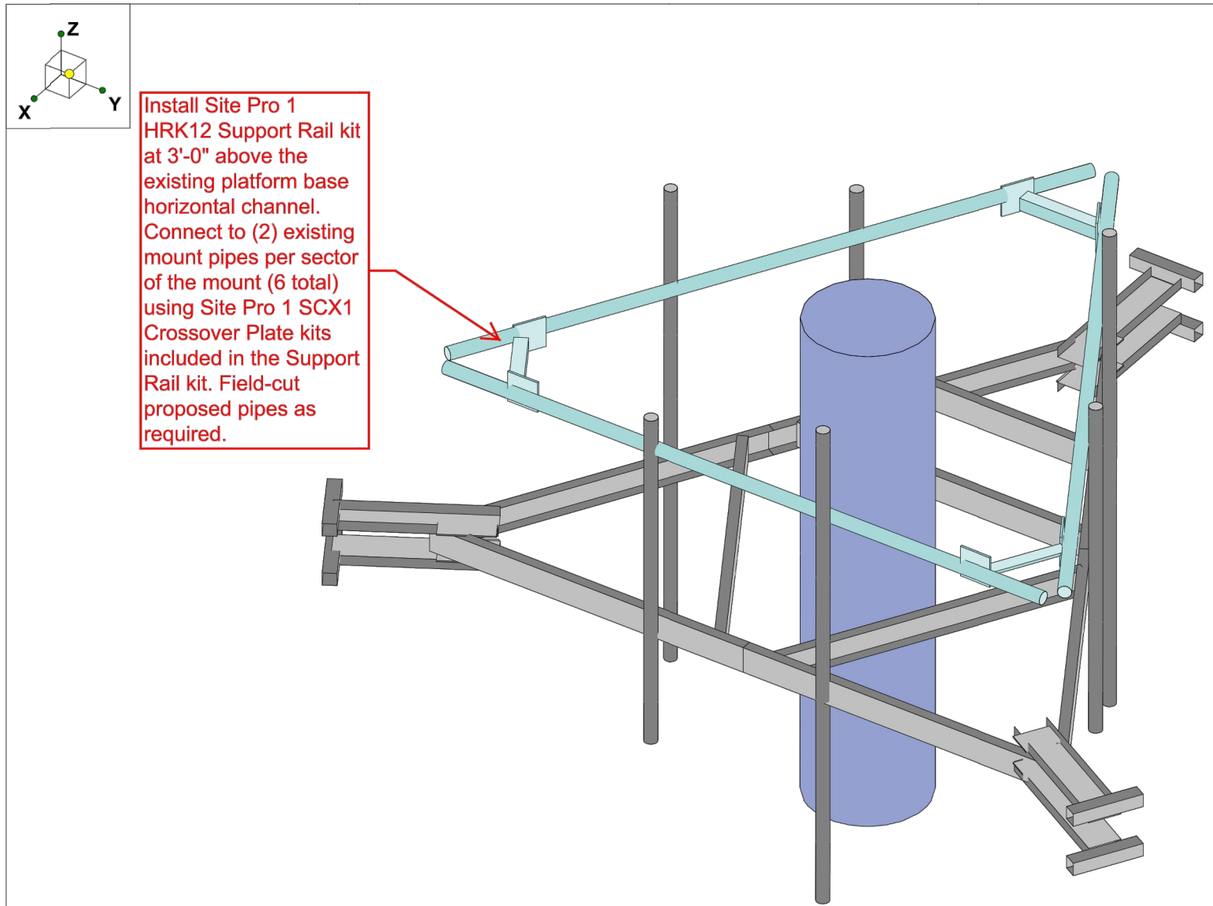
See following sketches and Site Pro 1 drawings for additional details.

1 MOUNT ANALYSIS
SCALE: NOT TO SCALE

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERYIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONTRUCTION.

SUPPLEMENTAL

SHEET NUMBER: R-602
REVISION: 1



CLS	41124-12927118-Newtown CT 3	IN - 1
AJI		June 21, 2019 at 4:33 PM
41124-12927118-01-MA-R1	Recommended Modifications - Rendered	41124-12927118-01-MA-R1.r3d

1 MOUNT ANALYSIS
SCALE: NOT TO SCALE

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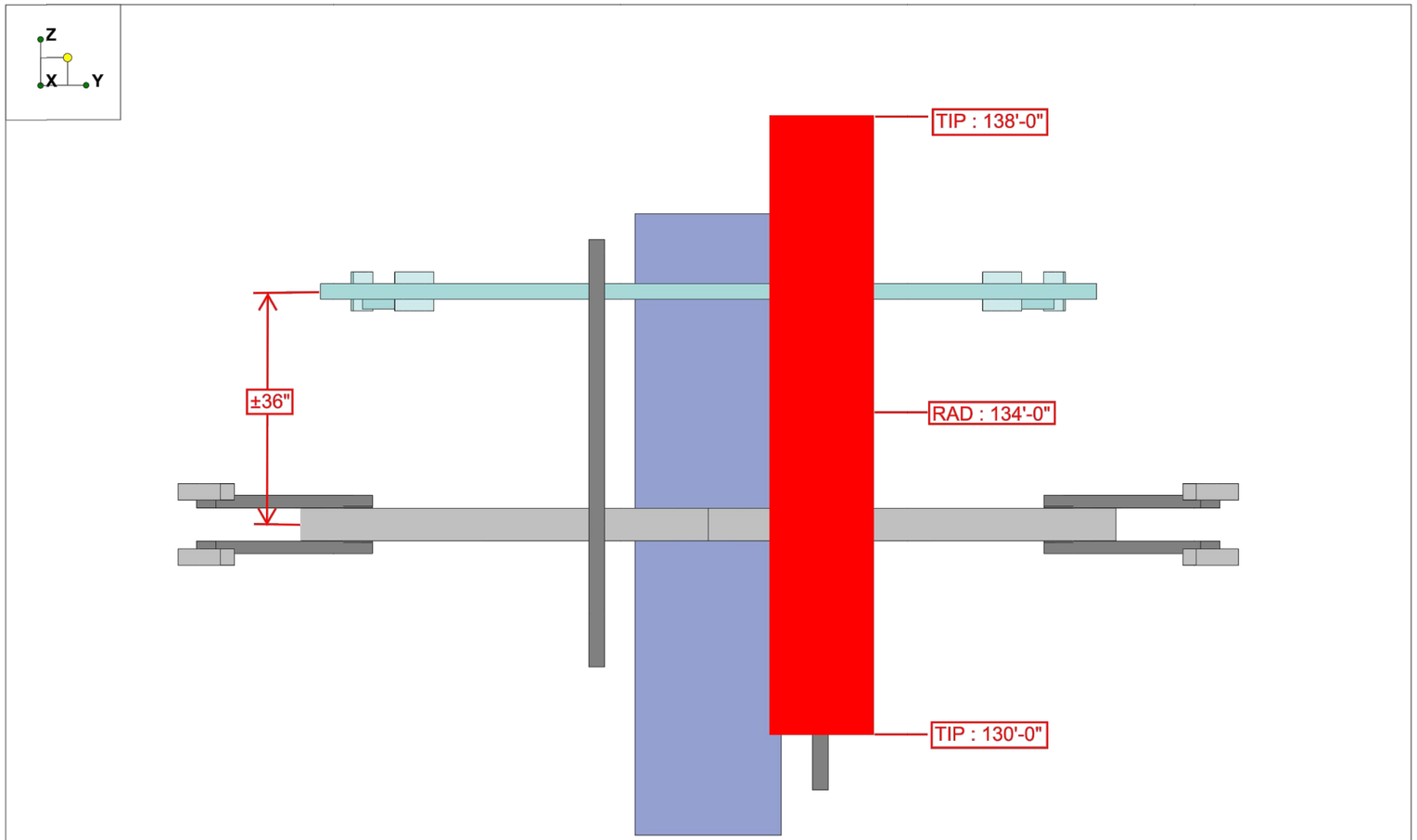
SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-603	1



CLS	41124-12927118-Newtown CT 3	IN - 2
AJI		June 21, 2019 at 4:34 PM
41124-12927118-01-MA-R1	Recommended Modifications - Front View	41124-12927118-01-MA-R1.r3d

1 MOUNT ANALYSIS
SCALE: NOT TO SCALE

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SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-604	1

Exhibit D

Structural Analysis Report

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**152 ft Monopole**
ATC Site Name	:	**Newtown CT 3, CT**
ATC Site Number	:	**302518**
Engineering Number	:	**12927118_C3_02**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**CT11105F**
Carrier Site Number	:	**CT11105F**
Site Location	:	**6 Fairfield Dr (Brkfld)** **Newtown, CT 06470-1216** **41.425500,-73.374000**
County	:	**Fairfield**
Date	:	**July 17, 2019**
Max Usage	:	**59%**
Result	:	**Pass**

Prepared By:
Robert D. Barrett, E.I.
Structural Engineer II

Robert D. Barrett

Reviewed By:

Authorized by "EOR"
Jul 18 2019 12:01 PM cosign

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 152 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	EEI Job #8238 Rev 2, dated January 30, 2001
Foundation Drawing	EEI Job #8238, dated November 17, 2000
Geotechnical Report	Soiltesting Project #G128-5268-98, dated September 8, 1999
Mount Analysis	CLS Engineering PLLC Project #41124-12927118-01-MA-R1, dated June 21, 2019

Analysis

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

Basic Wind Speed:	93 mph (3-Second Gust, V_{asd}) / 120 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.21, S_1 = 0.07
Site Class:	D - Stiff Soil

Conclusion

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

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
152.0	6	Kathrein Scala 80010965	Platform with Handrails	(2) 0.39" Fiber Trunk (6) 0.78" 8 AWG 6 (12) 1 5/8" Coax (3) 2" Conduit	AT&T Mobility
	3	Powerwave Allgon 7770.00			
	6	Powerwave Allgon LGP21901			
	12	Powerwave Allgon 7020.00 Dual Band RET			
	3	CCI DTMABP7819VG12A			
	6	Powerwave Allgon LGP21401			
	1	Raycap DC6-48-60-18-8F			
	3	Ericsson RRUS 4415 B30			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	1	Raycap DC6-48-60-18-8C			
	1	Raycap DC6-48-60-18-8C-EV			
	3	Ericsson RRUS-12 1900 MHz			
151.0	1	Generic 15' Omni		(1) 7/8" Coax	Spok Holdings, Inc.
142.0	6	Andrew DB846H80E-SX	Low Profile Platform	(12) 1 5/8" Coax (1) 1/2" Coax	Verizon Wireless
	3	Powerwave Allgon P65-16-XL-2			
	3	Rymsa MGD3-800T0			
	6	RFS FD9R6004/1C-3L			
141.0	1	Generic 2" x 4" GPS			
134.0	3	KMW AWS Twin Dual 700 Bypass	Low Profile Platform	(6) 1 5/8" Coax (1) 1.58" Hybrid	T-Mobile

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
134.0	3	Ericsson RRUS 11 B12	-	(6) 1 5/8" Coax	T-Mobile
	3	Commscope SBNH-1D65C			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
134.0	3	Ericsson AIR 21	Low Profile Platform with Site Pro 1 HRK12 Support Rail kit	(2) 1.58" Hybrid	T-Mobile
	3	Ericsson Radio 4449 B12,B71			
	3	RFS APXVAARR24_43-U-NA20			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	51%	Pass
Shaft	59%	Pass
Base Plate	58%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,859.3	5,210.1	2,870.8	55%
Shear (Kips)	34.7	46.8	25.4	54%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
134.0	Ericsson Radio 4449 B12,B71	T-Mobile	1.188	1.147
	Ericsson AIR 21			
	RFS APXVAARR24_43-U-NA20			

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

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CORPORATION

Standard Conditions

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

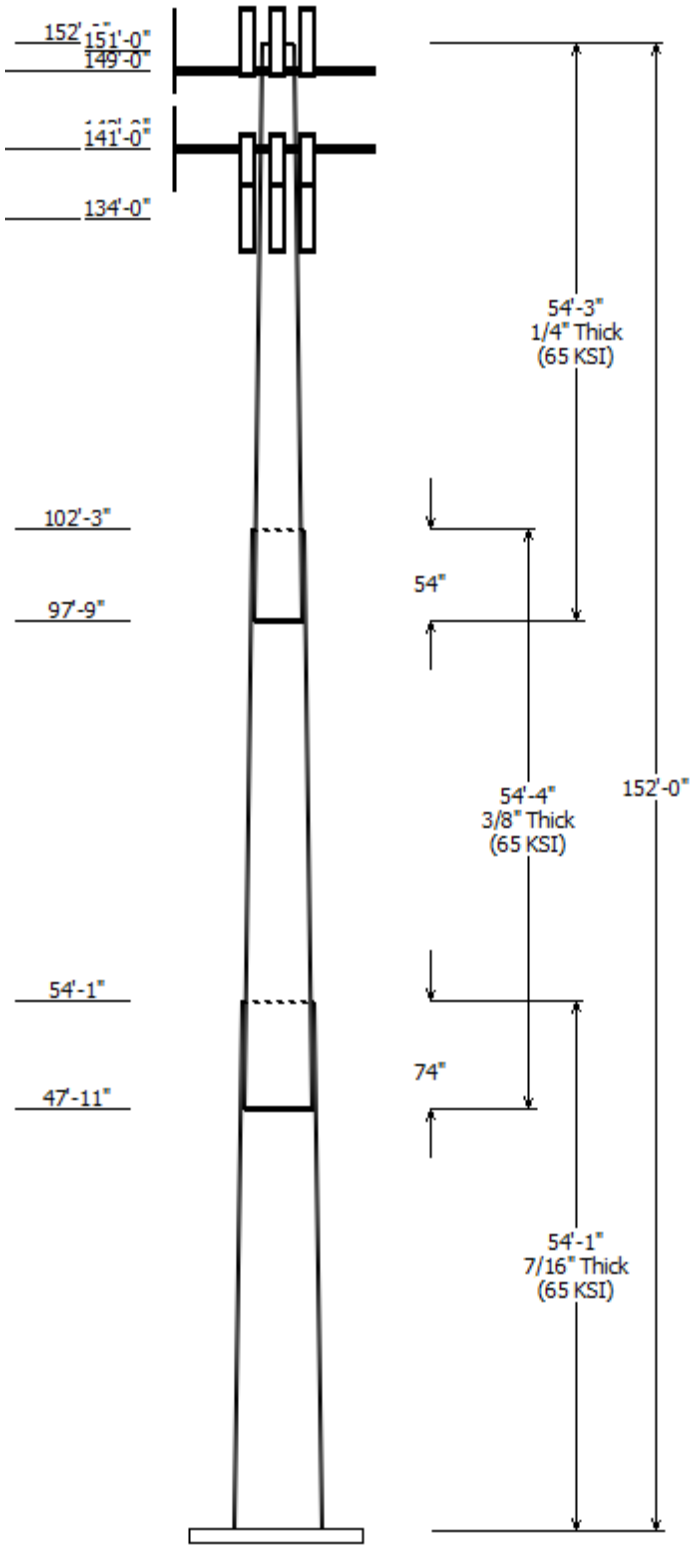
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Job Information

Client :	T-MOBILE		
Pole :	302518	Code:	ANSI/TIA-222-G
Location :	Newtown CT 3, CT		
Description :		Struct Class :	II
Shape :	18 Sides	Exposure :	B
Height :	152.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.268092 (in/ft)		

Sections Properties

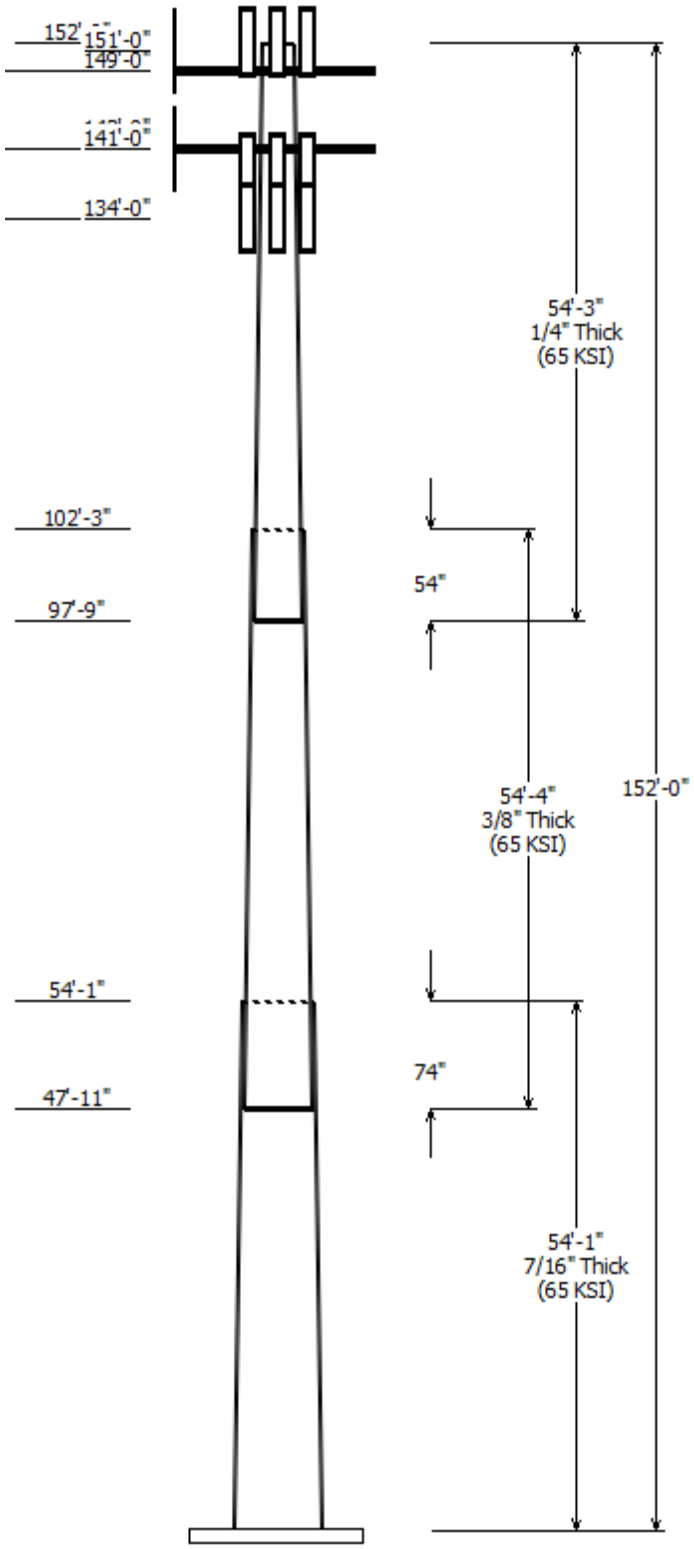
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Steel Grade Shape	(ksi)
1	54.083	42.25	56.75	0.438		0.000	18 Sides	65
2	54.333	30.08	44.65	0.375	Slip Joint	74.000	18 Sides	65
3	54.250	17.25	31.79	0.250	Slip Joint	54.000	18 Sides	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
152.000	152.000	6	Kathrein Scala 80010965
152.000	152.000	3	Powerwave Allgon 7770.00
152.000	152.000	1	Raycap DC6-48-60-18-8C-EV
152.000	152.000	3	Ericsson RRUS-12 1900 MHz
152.000	152.000	1	Raycap DC6-48-60-18-8C
152.000	152.000	3	Ericsson RRUS 4478 B14
152.000	152.000	3	Ericsson RRUS 4449 B5, B12
152.000	152.000	3	Ericsson RRUS 4415 B30
152.000	152.000	1	Raycap DC6-48-60-18-8F
152.000	152.000	6	Powerwave Allgon LGP21401
152.000	152.000	3	CCI DTMABP7819VG12A
152.000	152.000	12	Powerwave Allgon 7020.00
152.000	152.000	6	Powerwave Allgon LGP21901
151.000	151.000	1	Generic 15' Omni
149.000	149.000	1	Site Pro1 RMQP-496-HK
142.000	141.000	3	Powerwave Allgon P65-16-XL-
142.000	141.000	6	Andrew DB846H80E-SX
142.000	141.000	3	Rymsa MGD3-800T0
142.000	142.000	6	RFS FD9R6004/1C-3L
141.000	141.000	1	Flat Low Profile Platform
141.000	141.000	1	Generic 2" x 4" GPS
134.000	134.000	1	Flat Platform with Round
134.000	134.000	3	RFS APXVAARR24_43-U-NA20
134.000	134.000	3	Ericsson AIR 21
134.000	134.000	3	Ericsson Radio 4449 B12,B71
134.000	132.000	3	KMW AWS Twin Dual 700

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	134.0	1 5/8" Coax	Yes
0.000	134.0	1.58" (40.1mm)	No
0.000	134.0	1.58" (40.1mm)	No
0.000	141.0	1/2" Coax	No
0.000	142.0	1 5/8" Coax	No
0.000	151.0	7/8" Coax	No
0.000	152.0	0.39" (10mm)	No
0.000	152.0	0.78" (19.7mm) 8	No
0.000	152.0	1 5/8" Coax	Yes
0.000	152.0	2" conduit	No



Load Cases

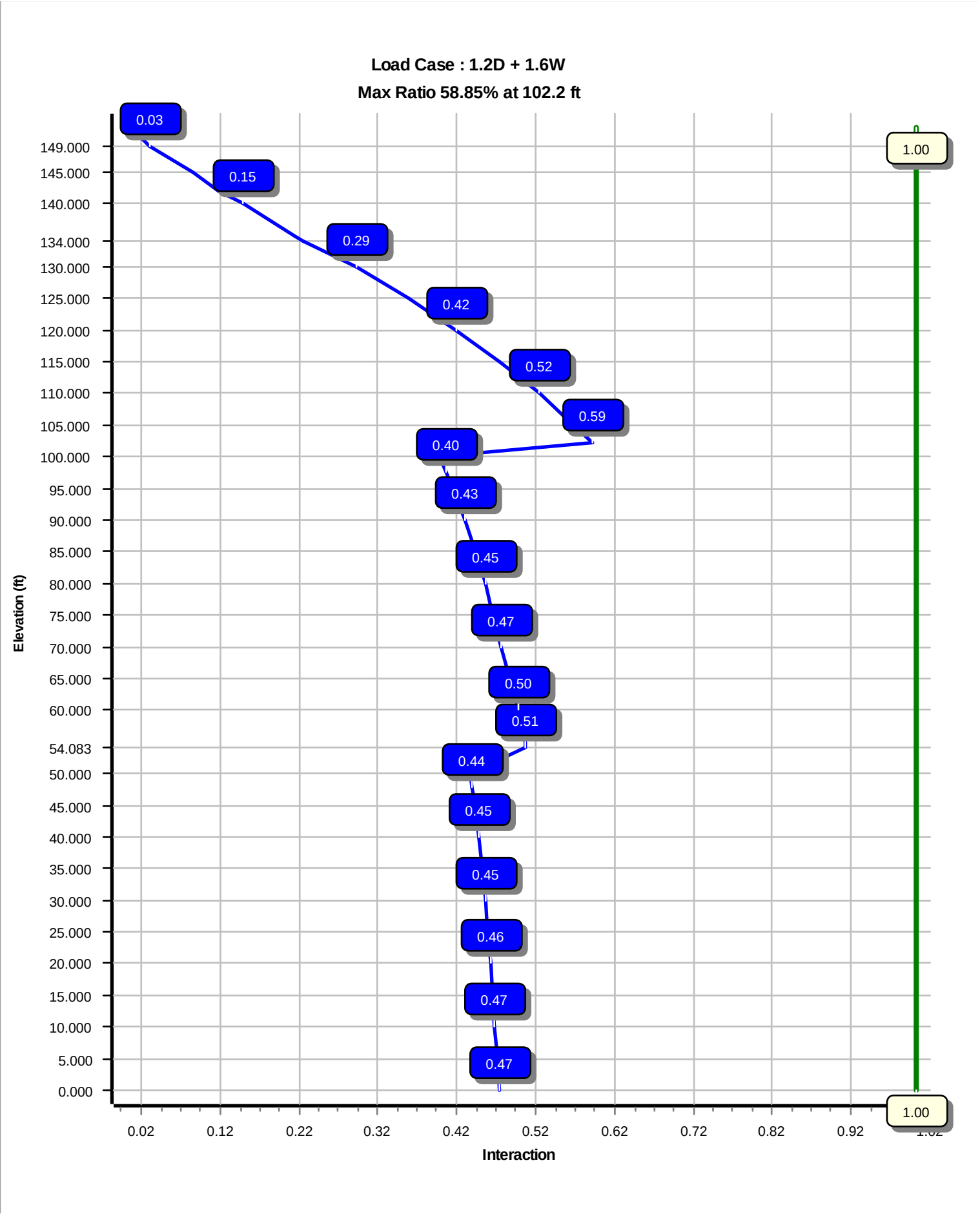
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2870.84	25.39	47.46
0.9D + 1.6W	2772.35	24.47	35.59
1.2D + 1.0Di + 1.0Wi	1111.89	11.64	71.23
(1.2 + 0.2Sds) * DL + E ELFM	161.65	1.27	47.35
(1.2 + 0.2Sds) * DL + E EMAM	314.36	2.53	47.35
(0.9 - 0.2Sds) * DL + E ELFM	159.43	1.27	32.53
(0.9 - 0.2Sds) * DL + E EMAM	309.72	2.53	32.53
1.0D + 1.0W	648.10	5.70	39.57

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.6W
Max Ratio 58.85% at 102.2 ft
0.03
0.15
0.29
0.42
0.52
0.59
0.40
0.43
0.45
0.47
0.50
0.51
0.44
0.45
0.45
0.46
0.47
0.47
1.00
1.00
149.000
145.000
140.000
134.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
54.083
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 302518 | Code: ANSI/TIA-222-G |

Site Name: Newtown CT 3, CT | Engineering Number:12927118_C3_02 | 7/17/2019 4:07:11 PM

Customer: T-MOBILE

Analysis Parameters

Location :	Fairfield County, CT	Height (ft) :	152
Code :	ANSI/TIA-222-G	Base Diameter (in) :	56.75
Shape :	18 Sides	Top Diameter (in) :	17.25
Pole Type :	Taper	Taper (in/ft) :	0.268
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	2.33				
T_L (sec):	6	p:	1	C_s:	0.032
S_s:	0.210	S_1:	0.070	C_s Max:	0.032
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.224	S_{d1}:	0.112		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	54.083	0.4375	65		0.00	12,538	56.75	0.00	78.19	31328.3	21.46	129.71	42.25	54.08	58.06	12825.1	15.62	96.57	0.268092
2-18	54.333	0.3750	65	Slip	74.00	8,141	44.65	47.92	52.70	13054.7	19.59	119.08	30.08	102.25	35.36	3944.5	12.74	80.23	0.268092
3-18	54.250	0.2500	65	Slip	54.00	3,555	31.79	97.75	25.03	3146.6	21.01	127.18	17.25	152.00	13.49	492.5	10.76	69.00	0.268092
				Shaft Weight		24,234													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
152.00	Powerwave Allgon LGP21901	6	0.75	0.000	5.50	0.200	0.50	13.20	0.520	0.50
152.00	Powerwave Allgon 7020.00 Dual	12	0.75	0.000	2.20	0.340	0.50	12.45	0.752	0.50
152.00	CCI DTMABP7819VG12A	3	0.75	0.000	19.20	0.970	0.50	44.75	1.625	0.50
152.00	Powerwave Allgon LGP21401	6	0.75	0.000	14.10	1.100	0.50	39.13	1.813	0.50
152.00	Raycap DC6-48-60-18-8F	1	0.75	0.000	20.00	1.260	1.00	72.81	1.920	1.00
152.00	Ericsson RRUS 4415 B30	3	0.75	0.000	46.00	1.840	0.50	95.18	2.739	0.50
152.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.970	0.50	135.65	2.906	0.50
152.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.40	2.020	0.67	120.96	2.966	0.67
152.00	Raycap DC6-48-60-18-8C	1	0.75	0.000	16.00	2.030	1.00	74.40	2.792	1.00
152.00	Ericsson RRUS-12 1900 MHz	3	0.75	0.000	60.00	2.700	0.67	134.38	3.777	0.67
152.00	Raycap DC6-48-60-18-8C-EV	1	0.75	0.000	16.00	4.790	1.00	145.53	6.266	1.00
152.00	Powerwave Allgon 7770.00	3	0.75	0.000	35.00	5.510	0.65	170.34	6.566	0.65
152.00	Kathrein Scala 80010965	6	0.75	0.000	97.60	13.810	0.62	365.02	16.869	0.62
151.00	Generic 15' Omni	1	0.75	0.000	40.00	4.500	1.00	153.41	9.855	1.00
149.00	Site Pro1 RMQP-496-HK	1	1.00	0.000	2,448.70	42.400	1.00	4,188.77	63.373	1.00
142.00	RFS FD9R6004/1C-3L	6	0.80	0.000	3.10	0.310	0.50	11.08	0.690	0.50
142.00	Rymsa MGD3-800T0	3	0.80	-1.000	19.80	3.450	0.69	108.49	4.409	0.69
142.00	Andrew DB846H80E-SX	6	0.80	-1.000	16.00	5.870	0.73	174.36	6.217	0.73
142.00	Powerwave Allgon P65-16-XL-2	3	0.80	-1.000	33.00	8.130	0.65	187.53	10.906	0.65
141.00	Generic 2" x 4" GPS	1	0.80	0.000	5.00	0.040	1.00	7.56	0.161	1.00
141.00	Flat Low Profile Platform	1	1.00	0.000	1,500.00	26.100	1.00	2,144.99	45.106	1.00
134.00	KMW AWS Twin Dual 700 Bypass	3	0.75	-2.000	17.40	0.990	0.50	42.14	1.655	0.50
134.00	Ericsson Radio 4449 B12,B71	3	0.75	0.000	74.00	1.640	0.50	129.39	2.475	0.50
134.00	Ericsson AIR 21	3	0.75	0.000	91.00	6.050	0.70	234.63	8.189	0.70
134.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.240	0.63	516.29	23.909	0.63
134.00	Flat Platform with Round	1	1.00	0.000	2,000.00	34.800	1.00	3,378.44	58.785	1.00
Totals	Num Loadings:26	86			8,851.00			19,691.09		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	152.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	152.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	152.00	12	1 5/8" Coax	1.98	0.82	N	6	0.00	0.00	270	0.00	Y	AT&T MOBILITY
0.00	152.00	3	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	151.00	1	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	SPOK HOLDINGS,
0.00	142.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	141.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	VERIZON WIRELESS
0.00	134.00	6	1 5/8" Coax	1.98	0.82	N	3	0.00	0.00	115	0.00	Y	T-MOBILE
0.00	134.00	1	1.58" (40.1mm) Hybrid	1.58	1.61	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	134.00	2	1.58" (40.1mm) Hybrid	1.58	1.61	N	0	0.00	0.00	0	0.00	N	T-MOBILE

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	56.750	78.194	31,328.3	21.46	129.71	76.2	1087.	0.0	0.0
5.00		0.4375	55.410	76.333	29,143.9	20.92	126.65	76.8	1036.	0.0	1,314.6
10.00		0.4375	54.069	74.471	27,063.5	20.38	123.59	77.4	985.9	0.0	1,282.9
15.00		0.4375	52.729	72.610	25,084.5	19.84	120.52	78.1	937.0	0.0	1,251.2
20.00		0.4375	51.388	70.749	23,204.5	19.30	117.46	78.7	889.4	0.0	1,219.5
25.00		0.4375	50.048	68.887	21,420.8	18.76	114.39	79.3	843.0	0.0	1,187.9
30.00		0.4375	48.707	67.026	19,730.9	18.22	111.33	80.0	797.9	0.0	1,156.2
35.00		0.4375	47.367	65.165	18,132.3	17.68	108.27	80.6	754.0	0.0	1,124.5
40.00		0.4375	46.026	63.303	16,622.5	17.14	105.20	81.2	711.3	0.0	1,092.9
45.00		0.4375	44.686	61.442	15,199.0	16.60	102.14	81.9	669.9	0.0	1,061.2
47.92	Bot - Section 2	0.4375	43.904	60.356	14,407.3	16.28	100.35	82.2	646.3	0.0	604.4
50.00		0.4375	43.345	59.581	13,859.1	16.06	99.08	82.5	629.8	0.0	796.4
54.08	Top - Section 1	0.3750	43.001	50.733	11,646.4	18.81	114.67	79.3	533.5	0.0	1,531.3
55.00		0.3750	42.755	50.441	11,446.1	18.69	114.01	79.4	527.3	0.0	157.8
60.00		0.3750	41.414	48.845	10,394.0	18.06	110.44	80.2	494.3	0.0	844.6
65.00		0.3750	40.074	47.250	9,408.4	17.43	106.86	80.9	462.4	0.0	817.5
70.00		0.3750	38.734	45.655	8,487.2	16.80	103.29	81.6	431.6	0.0	790.3
75.00		0.3750	37.393	44.059	7,628.1	16.17	99.71	82.4	401.8	0.0	763.2
80.00		0.3750	36.053	42.464	6,829.1	15.54	96.14	82.6	373.1	0.0	736.0
85.00		0.3750	34.712	40.868	6,087.9	14.91	92.57	82.6	345.4	0.0	708.9
90.00		0.3750	33.372	39.273	5,402.4	14.28	88.99	82.6	318.9	0.0	681.8
95.00		0.3750	32.031	37.677	4,770.4	13.65	85.42	82.6	293.3	0.0	654.6
97.75	Bot - Section 3	0.3750	31.294	36.800	4,444.8	13.30	83.45	82.6	279.8	0.0	348.5
100.0		0.3750	30.691	36.082	4,189.7	13.02	81.84	82.6	268.9	0.0	468.8
102.2	Top - Section 2	0.2500	30.588	24.072	2,799.2	20.16	122.35	77.7	180.2	0.0	459.6
105.0		0.2500	29.850	23.487	2,600.0	19.64	119.40	78.3	171.6	0.0	222.5
110.0		0.2500	28.510	22.423	2,262.5	18.70	114.04	79.4	156.3	0.0	390.6
115.0		0.2500	27.169	21.360	1,955.6	17.75	108.68	80.5	141.8	0.0	372.5
120.0		0.2500	25.829	20.296	1,677.8	16.81	103.32	81.6	127.9	0.0	354.4
125.0		0.2500	24.488	19.233	1,427.6	15.86	97.95	82.6	114.8	0.0	336.3
130.0		0.2500	23.148	18.169	1,203.6	14.92	92.59	82.6	102.4	0.0	318.2
134.0		0.2500	22.076	17.318	1,042.3	14.16	88.30	82.6	93.0	0.0	241.5
135.0		0.2500	21.808	17.105	1,004.3	13.97	87.23	82.6	90.7	0.0	58.6
140.0		0.2500	20.467	16.042	828.4	13.02	81.87	82.6	79.7	0.0	282.0
141.0		0.2500	20.199	15.829	795.9	12.84	80.80	82.6	77.6	0.0	54.2
142.0		0.2500	19.931	15.616	764.2	12.65	79.72	82.6	75.5	0.0	53.5
145.0		0.2500	19.127	14.978	674.3	12.08	76.51	82.6	69.4	0.0	156.2
149.0		0.2500	18.054	14.127	565.8	11.32	72.22	82.6	61.7	0.0	198.1
150.0		0.2500	17.786	13.914	540.6	11.13	71.14	82.6	59.9	0.0	47.7
151.0		0.2500	17.518	13.702	516.2	10.95	70.07	82.6	58.0	0.0	47.0
152.0		0.2500	17.250	13.489	492.5	10.76	69.00	82.6	56.2	0.0	46.3
											24,233.9

Load Case: 1.2D + 1.6W — 93 mph with No Ice — 25 Iterations

Gust Response Factor :1.10 — Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		200.3	0.0					0.0	0.0	200.3	0.0	0.0	0.0
5.00		397.9	1,577.5					0.0	267.1	397.9	1,844.6	0.0	0.0
10.00		392.5	1,539.5					0.0	267.1	392.5	1,806.6	0.0	0.0
15.00		387.1	1,501.5					0.0	267.1	387.1	1,768.6	0.0	0.0
20.00		381.8	1,463.5					0.0	267.1	381.8	1,730.6	0.0	0.0
25.00		376.4	1,425.5					0.0	267.1	376.4	1,692.6	0.0	0.0
30.00		375.4	1,387.5					0.0	267.1	375.4	1,654.6	0.0	0.0
35.00		382.1	1,349.4					0.0	267.1	382.1	1,616.6	0.0	0.0
40.00		391.2	1,311.4					0.0	267.1	391.2	1,578.6	0.0	0.0
45.00		314.5	1,273.4					0.0	267.1	314.5	1,540.6	0.0	0.0
47.92	Bot - Section 2	202.4	725.3					0.0	155.8	202.4	881.1	0.0	0.0
50.00		254.5	955.6					0.0	111.3	254.5	1,066.9	0.0	0.0
54.08	Top - Section 1	206.8	1,837.5					0.0	218.1	206.8	2,055.7	0.0	0.0
55.00		245.3	189.4					0.0	49.0	245.3	238.3	0.0	0.0
60.00		416.7	1,013.5					0.0	267.1	416.7	1,280.7	0.0	0.0
65.00		419.6	981.0					0.0	267.1	419.6	1,248.1	0.0	0.0
70.00		421.7	948.4					0.0	267.1	421.7	1,215.5	0.0	0.0
75.00		423.1	915.8					0.0	267.1	423.1	1,182.9	0.0	0.0
80.00		423.8	883.3					0.0	267.1	423.8	1,150.4	0.0	0.0
85.00		423.9	850.7					0.0	267.1	423.9	1,117.8	0.0	0.0
90.00		508.9	818.1					0.0	267.1	508.9	1,085.2	0.0	0.0
95.00		457.1	785.5					191.1	267.1	648.2	1,052.7	0.0	0.0
97.75	Bot - Section 3	291.2	418.2					106.8	146.9	398.0	565.1	0.0	0.0
100.00		260.7	562.6					72.2	120.2	332.9	682.8	0.0	0.0
102.25	Top - Section 2	285.4	551.6					89.0	120.2	374.5	671.8	0.0	0.0
105.00		432.6	267.0					109.6	146.9	542.2	413.9	0.0	0.0
110.00		544.1	468.7					202.2	267.1	746.3	735.8	0.0	0.0
115.00		525.1	447.0					205.9	267.1	731.0	714.1	0.0	0.0
120.00		505.3	425.2					209.4	267.1	714.8	692.4	0.0	0.0
125.00		484.7	403.5					212.9	267.1	697.6	670.6	0.0	0.0
130.00		419.0	381.8					216.3	267.1	635.3	648.9	0.0	0.0
134.00	Appurtenance(s)	211.4	289.8	3,021.9	0.0	-88.2	3,517.1	175.5	213.7	3,408.7	4,020.6	0.0	0.0
135.00		174.9	70.3					0.0	41.7	174.9	112.0	0.0	0.0
140.00		174.0	338.4					0.0	208.6	174.0	547.0	0.0	0.0
141.00	Appurtenance(s)	57.1	65.1	1,054.6	0.0	0.0	1,806.0	0.0	41.7	1,111.8	1,912.8	0.0	0.0
142.00	Appurtenance(s)	113.0	64.2	1,602.6	0.0	-1,572.5	327.6	0.0	41.5	1,715.6	433.3	0.0	0.0
145.00		238.7	187.4					0.0	89.2	238.7	276.6	0.0	0.0
149.00	Appurtenance(s)	191.5	237.7	1,738.4	0.0	0.0	2,938.4	126.1	118.9	2,056.1	3,295.1	0.0	0.0
150.00		74.2	57.3					31.6	29.7	105.8	87.0	0.0	0.0
151.00	Appurtenance(s)	73.2	56.4	138.9	0.0	0.0	48.0	31.7	29.7	243.8	134.1	0.0	0.0
152.00	Appurtenance(s)	36.4	55.5	2,869.7	0.0	0.0	1,984.1	31.7	29.3	2,937.8	2,068.9	0.0	0.0
								Totals:		25,534.0	47,491.3	0.00	0.00

Load Case: 1.2D + 1.6W 93 mph with No Ice 25 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.46	-25.39	0.00	-2,870.84	0.00	2,870.84	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.471
5.00	-45.56	-25.09	0.00	-2,743.91	0.00	2,743.91	5,275.68	2,637.84	11,915.5	5,966.65	0.07	-0.13	0.469
10.00	-43.70	-24.79	0.00	-2,618.46	0.00	2,618.46	5,189.62	2,594.81	11,433.1	5,725.08	0.27	-0.26	0.466
15.00	-41.87	-24.50	0.00	-2,494.50	0.00	2,494.50	5,101.44	2,550.72	10,955.7	5,485.99	0.62	-0.39	0.463
20.00	-40.09	-24.20	0.00	-2,372.02	0.00	2,372.02	5,011.12	2,505.56	10,483.5	5,249.58	1.10	-0.53	0.460
25.00	-38.34	-23.90	0.00	-2,251.04	0.00	2,251.04	4,918.68	2,459.34	10,017.1	5,016.02	1.73	-0.67	0.457
30.00	-36.63	-23.60	0.00	-2,131.54	0.00	2,131.54	4,824.11	2,412.05	9,556.78	4,785.49	2.52	-0.82	0.453
35.00	-34.96	-23.28	0.00	-2,013.56	0.00	2,013.56	4,727.41	2,363.70	9,102.80	4,558.17	3.45	-0.97	0.449
40.00	-33.32	-22.95	0.00	-1,897.15	0.00	1,897.15	4,628.58	2,314.29	8,655.58	4,334.22	4.55	-1.12	0.445
45.00	-31.74	-22.68	0.00	-1,782.39	0.00	1,782.39	4,527.62	2,263.81	8,215.47	4,113.84	5.81	-1.28	0.440
47.92	-30.83	-22.50	0.00	-1,716.25	0.00	1,716.25	4,467.74	2,233.87	7,962.16	3,987.00	6.62	-1.37	0.437
50.00	-29.73	-22.27	0.00	-1,669.38	0.00	1,669.38	4,424.53	2,212.27	7,782.82	3,897.19	7.23	-1.44	0.435
54.08	-27.65	-22.05	0.00	-1,578.45	0.00	1,578.45	3,619.86	1,809.93	6,334.27	3,171.85	8.53	-1.58	0.505
55.00	-27.38	-21.85	0.00	-1,558.23	0.00	1,558.23	3,605.16	1,802.58	6,271.86	3,140.59	8.83	-1.61	0.504
60.00	-26.04	-21.48	0.00	-1,448.98	0.00	1,448.98	3,523.72	1,761.86	5,934.59	2,971.70	10.62	-1.80	0.495
65.00	-24.73	-21.11	0.00	-1,341.57	0.00	1,341.57	3,440.15	1,720.07	5,602.88	2,805.61	12.61	-1.99	0.486
70.00	-23.46	-20.72	0.00	-1,236.05	0.00	1,236.05	3,354.45	1,677.22	5,277.11	2,642.48	14.79	-2.18	0.475
75.00	-22.23	-20.33	0.00	-1,132.45	0.00	1,132.45	3,266.62	1,633.31	4,957.62	2,482.50	17.19	-2.38	0.463
80.00	-21.03	-19.93	0.00	-1,030.81	0.00	1,030.81	3,154.85	1,577.42	4,612.87	2,309.86	19.79	-2.58	0.453
85.00	-19.86	-19.52	0.00	-931.17	0.00	931.17	3,036.31	1,518.16	4,271.03	2,138.69	22.61	-2.79	0.442
90.00	-18.73	-19.03	0.00	-833.55	0.00	833.55	2,917.78	1,458.89	3,942.34	1,974.10	25.64	-2.99	0.429
95.00	-17.67	-18.37	0.00	-738.40	0.00	738.40	2,799.25	1,399.62	3,626.81	1,816.10	28.89	-3.20	0.413
97.75	-17.09	-17.98	0.00	-687.87	0.00	687.87	2,734.06	1,367.03	3,458.88	1,732.01	30.76	-3.32	0.404
100.00	-16.40	-17.63	0.00	-647.42	0.00	647.42	2,680.72	1,340.36	3,324.44	1,664.69	32.35	-3.41	0.395
102.25	-15.72	-17.25	0.00	-607.75	0.00	607.75	1,683.04	841.52	2,097.24	1,050.18	33.98	-3.51	0.588
105.00	-15.28	-16.73	0.00	-560.32	0.00	560.32	1,655.06	827.53	2,011.86	1,007.42	36.04	-3.63	0.566
110.00	-14.52	-16.01	0.00	-476.65	0.00	476.65	1,602.55	801.28	1,859.07	930.92	39.99	-3.91	0.521
115.00	-13.79	-15.30	0.00	-396.59	0.00	396.59	1,547.92	773.96	1,709.77	856.15	44.23	-4.18	0.473
120.00	-13.09	-14.59	0.00	-320.11	0.00	320.11	1,491.15	745.57	1,564.29	783.31	48.75	-4.45	0.418
125.00	-12.42	-13.89	0.00	-247.16	0.00	247.16	1,428.88	714.44	1,419.66	710.88	53.54	-4.69	0.357
130.00	-11.78	-13.24	0.00	-177.71	0.00	177.71	1,349.86	674.93	1,266.22	634.05	58.56	-4.90	0.289
134.00	-8.06	-9.51	0.00	-124.76	0.00	124.76	1,286.64	643.32	1,149.79	575.75	62.72	-5.04	0.223
135.00	-7.95	-9.33	0.00	-115.25	0.00	115.25	1,270.84	635.42	1,121.56	561.61	63.78	-5.07	0.212
140.00	-7.41	-9.12	0.00	-68.58	0.00	68.58	1,191.82	595.91	985.67	493.57	69.16	-5.20	0.145
141.00	-5.60	-7.84	0.00	-59.46	0.00	59.46	1,176.01	588.01	959.54	480.48	70.25	-5.23	0.129
142.00	-5.32	-6.10	0.00	-51.62	0.00	51.62	1,160.21	580.10	933.77	467.58	71.35	-5.25	0.115
145.00	-5.07	-5.84	0.00	-33.33	0.00	33.33	1,112.80	556.40	858.55	429.91	74.66	-5.29	0.082
149.00	-1.97	-3.49	0.00	-9.98	0.00	9.98	1,049.58	524.79	763.17	382.15	79.10	-5.33	0.028
150.00	-1.90	-3.37	0.00	-6.49	0.00	6.49	1,033.78	516.89	740.20	370.65	80.22	-5.33	0.019
151.00	-1.79	-3.12	0.00	-3.12	0.00	3.12	1,017.97	508.99	717.59	359.33	81.33	-5.34	0.010
152.00	0.00	-2.94	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	82.45	-5.34	0.000

Load Case: 0.9D + 1.6W — 93 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60

Wind Importance Factor 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		199.8	0.0					0.0	0.0	199.8	0.0	0.0	0.0
5.00		394.9	1,183.1					0.0	200.3	394.9	1,383.4	0.0	0.0
10.00		385.3	1,154.6					0.0	200.3	385.3	1,354.9	0.0	0.0
15.00		375.8	1,126.1					0.0	200.3	375.8	1,326.4	0.0	0.0
20.00		366.2	1,097.6					0.0	200.3	366.2	1,297.9	0.0	0.0
25.00		356.7	1,069.1					0.0	200.3	356.7	1,269.4	0.0	0.0
30.00		351.2	1,040.6					0.0	200.3	351.2	1,240.9	0.0	0.0
35.00		352.8	1,012.1					0.0	200.3	352.8	1,212.4	0.0	0.0
40.00		356.2	983.6					0.0	200.3	356.2	1,183.9	0.0	0.0
45.00		283.1	955.1					0.0	200.3	283.1	1,155.4	0.0	0.0
47.92	Bot - Section 2	180.3	544.0					0.0	116.9	180.3	660.8	0.0	0.0
50.00		224.3	716.7					0.0	83.5	224.3	800.2	0.0	0.0
54.08	Top - Section 1	181.7	1,378.1					0.0	163.6	181.7	1,541.8	0.0	0.0
55.00		214.0	142.0					0.0	36.7	214.0	178.7	0.0	0.0
60.00		360.0	760.2					0.0	200.3	360.0	960.5	0.0	0.0
65.00		356.4	735.7					0.0	200.3	356.4	936.1	0.0	0.0
70.00		351.8	711.3					0.0	200.3	351.8	911.6	0.0	0.0
75.00		346.4	686.9					0.0	200.3	346.4	887.2	0.0	0.0
80.00		340.2	662.4					0.0	200.3	340.2	862.8	0.0	0.0
85.00		333.3	638.0					0.0	200.3	333.3	838.4	0.0	0.0
90.00		461.9	613.6					0.0	200.3	461.9	813.9	0.0	0.0
95.00		457.1	589.2					191.1	200.3	648.2	789.5	0.0	0.0
97.75	Bot - Section 3	291.2	313.6					106.8	110.2	398.0	423.8	0.0	0.0
100.00		260.7	421.9					72.2	90.2	332.9	512.1	0.0	0.0
102.25	Top - Section 2	285.4	413.7					89.0	90.2	374.5	503.8	0.0	0.0
105.00		432.6	200.3					109.6	110.2	542.2	310.5	0.0	0.0
110.00		544.1	351.5					202.2	200.3	746.3	551.8	0.0	0.0
115.00		525.1	335.2					205.9	200.3	731.0	535.6	0.0	0.0
120.00		505.3	318.9					209.4	200.3	714.8	519.3	0.0	0.0
125.00		484.7	302.6					212.9	200.3	697.6	503.0	0.0	0.0
130.00		419.0	286.4					216.3	200.3	635.3	486.7	0.0	0.0
134.00	Appurtenance(s)	205.9	217.4	3,021.9	0.0	-88.2	2,637.8	175.5	160.3	3,403.3	3,015.4	0.0	0.0
135.00		140.5	52.7					0.0	31.3	140.5	84.0	0.0	0.0
140.00		139.0	253.8					0.0	156.5	139.0	410.2	0.0	0.0
141.00	Appurtenance(s)	44.8	48.8	1,054.6	0.0	0.0	1,354.5	0.0	31.3	1,099.5	1,434.6	0.0	0.0
142.00	Appurtenance(s)	87.6	48.2	1,602.6	0.0	-1,572.5	245.7	0.0	31.2	1,690.3	325.0	0.0	0.0
145.00		219.5	140.5					0.0	66.9	219.5	207.4	0.0	0.0
149.00	Appurtenance(s)	191.5	178.3	1,738.4	0.0	0.0	2,203.8	126.1	89.2	2,056.1	2,471.3	0.0	0.0
150.00		74.2	42.9					31.6	22.3	105.8	65.2	0.0	0.0
151.00	Appurtenance(s)	73.2	42.3	138.9	0.0	0.0	36.0	31.7	22.3	243.8	100.6	0.0	0.0
152.00	Appurtenance(s)	36.4	41.6	2,869.7	0.0	0.0	1,488.1	31.7	22.0	2,937.8	1,551.7	0.0	0.0
									Totals:	24,628.8	35,618.4	0.00	0.00

Load Case: 0.9D + 1.6W 93 mph with No Ice (Reduced DL) 25 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :0.90
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.59	-24.47	0.00	-2,772.35	0.00	2,772.35	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.453
5.00	-34.16	-24.15	0.00	-2,650.01	0.00	2,650.01	5,275.68	2,637.84	11,915.5	5,966.65	0.07	-0.12	0.451
10.00	-32.75	-23.83	0.00	-2,529.28	0.00	2,529.28	5,189.62	2,594.81	11,433.1	5,725.08	0.26	-0.25	0.448
15.00	-31.37	-23.52	0.00	-2,410.14	0.00	2,410.14	5,101.44	2,550.72	10,955.7	5,485.99	0.59	-0.38	0.446
20.00	-30.02	-23.21	0.00	-2,292.55	0.00	2,292.55	5,011.12	2,505.56	10,483.5	5,249.58	1.06	-0.51	0.443
25.00	-28.70	-22.91	0.00	-2,176.48	0.00	2,176.48	4,918.68	2,459.34	10,017.1	5,016.02	1.67	-0.65	0.440
30.00	-27.41	-22.61	0.00	-2,061.92	0.00	2,061.92	4,824.11	2,412.05	9,556.78	4,785.49	2.43	-0.79	0.437
35.00	-26.14	-22.31	0.00	-1,948.85	0.00	1,948.85	4,727.41	2,363.70	9,102.80	4,558.17	3.34	-0.93	0.433
40.00	-24.91	-22.00	0.00	-1,837.30	0.00	1,837.30	4,628.58	2,314.29	8,655.58	4,334.22	4.39	-1.08	0.429
45.00	-23.71	-21.74	0.00	-1,727.31	0.00	1,727.31	4,527.62	2,263.81	8,215.47	4,113.84	5.61	-1.24	0.425
47.92	-23.03	-21.58	0.00	-1,663.89	0.00	1,663.89	4,467.74	2,233.87	7,962.16	3,987.00	6.40	-1.33	0.423
50.00	-22.19	-21.38	0.00	-1,618.93	0.00	1,618.93	4,424.53	2,212.27	7,782.82	3,897.19	6.99	-1.40	0.421
54.08	-20.63	-21.18	0.00	-1,531.65	0.00	1,531.65	3,619.86	1,809.93	6,334.27	3,171.85	8.24	-1.53	0.489
55.00	-20.41	-21.00	0.00	-1,512.23	0.00	1,512.23	3,605.16	1,802.58	6,271.86	3,140.59	8.54	-1.56	0.487
60.00	-19.40	-20.68	0.00	-1,407.21	0.00	1,407.21	3,523.72	1,761.86	5,934.59	2,971.70	10.27	-1.74	0.479
65.00	-18.41	-20.35	0.00	-1,303.82	0.00	1,303.82	3,440.15	1,720.07	5,602.88	2,805.61	12.19	-1.93	0.470
70.00	-17.44	-20.03	0.00	-1,202.06	0.00	1,202.06	3,354.45	1,677.22	5,277.11	2,642.48	14.31	-2.12	0.460
75.00	-16.50	-19.70	0.00	-1,101.93	0.00	1,101.93	3,266.62	1,633.31	4,957.62	2,482.50	16.63	-2.31	0.449
80.00	-15.59	-19.38	0.00	-1,003.42	0.00	1,003.42	3,154.85	1,577.42	4,612.87	2,309.86	19.15	-2.50	0.439
85.00	-14.70	-19.06	0.00	-906.51	0.00	906.51	3,036.31	1,518.16	4,271.03	2,138.69	21.88	-2.70	0.429
90.00	-13.84	-18.61	0.00	-811.21	0.00	811.21	2,917.78	1,458.89	3,942.34	1,974.10	24.82	-2.90	0.416
95.00	-13.04	-17.96	0.00	-718.17	0.00	718.17	2,799.25	1,399.62	3,626.81	1,816.10	27.97	-3.11	0.400
97.75	-12.61	-17.56	0.00	-668.79	0.00	668.79	2,734.06	1,367.03	3,458.88	1,732.01	29.79	-3.22	0.391
100.00	-12.09	-17.22	0.00	-629.29	0.00	629.29	2,680.72	1,340.36	3,324.44	1,664.69	31.33	-3.31	0.383
102.25	-11.58	-16.83	0.00	-590.56	0.00	590.56	1,683.04	841.52	2,097.24	1,050.18	32.92	-3.41	0.570
105.00	-11.24	-16.31	0.00	-544.27	0.00	544.27	1,655.06	827.53	2,011.86	1,007.42	34.91	-3.52	0.547
110.00	-10.67	-15.58	0.00	-462.71	0.00	462.71	1,602.55	801.28	1,859.07	930.92	38.74	-3.79	0.504
115.00	-10.11	-14.86	0.00	-384.80	0.00	384.80	1,547.92	773.96	1,709.77	856.15	42.86	-4.06	0.456
120.00	-9.59	-14.15	0.00	-310.49	0.00	310.49	1,491.15	745.57	1,564.29	783.31	47.25	-4.31	0.403
125.00	-9.09	-13.45	0.00	-239.72	0.00	239.72	1,428.88	714.44	1,419.66	710.88	51.89	-4.55	0.344
130.00	-8.62	-12.81	0.00	-172.46	0.00	172.46	1,349.86	674.93	1,266.22	634.05	56.76	-4.75	0.279
134.00	-5.89	-9.17	0.00	-121.23	0.00	121.23	1,286.64	643.32	1,149.79	575.75	60.80	-4.89	0.215
135.00	-5.80	-9.03	0.00	-112.07	0.00	112.07	1,270.84	635.42	1,121.56	561.61	61.83	-4.92	0.204
140.00	-5.39	-8.86	0.00	-66.91	0.00	66.91	1,191.82	595.91	985.67	493.57	67.05	-5.05	0.140
141.00	-4.06	-7.64	0.00	-58.05	0.00	58.05	1,176.01	588.01	959.54	480.48	68.11	-5.07	0.124
142.00	-3.88	-5.93	0.00	-50.40	0.00	50.40	1,160.21	580.10	933.77	467.58	69.18	-5.09	0.111
145.00	-3.69	-5.70	0.00	-32.61	0.00	32.61	1,112.80	556.40	858.55	429.91	72.39	-5.14	0.079
149.00	-1.41	-3.43	0.00	-9.81	0.00	9.81	1,049.58	524.79	763.17	382.15	76.70	-5.17	0.027
150.00	-1.36	-3.32	0.00	-6.38	0.00	6.38	1,033.78	516.89	740.20	370.65	77.78	-5.18	0.019
151.00	-1.28	-3.07	0.00	-3.07	0.00	3.07	1,017.97	508.99	717.59	359.33	78.87	-5.18	0.010
152.00	0.00	-2.94	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	79.95	-5.18	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 24 Iterations

Gust Response Factor :1.10 | Ice Dead Load Factor :1.00 | Wind Importance Factor :1.00
Dead Load Factor :1.20 | Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		69.4	0.0					0.0	0.0	69.4	0.0	0.0	0.0
5.00		137.4	1,988.1					195.8	382.9	333.2	2,371.0	0.0	0.0
10.00		134.7	1,988.0					193.6	394.2	328.3	2,382.3	0.0	0.0
15.00		131.8	1,962.7					190.6	400.1	322.4	2,362.8	0.0	0.0
20.00		128.8	1,929.0					187.4	404.1	316.2	2,333.2	0.0	0.0
25.00		125.8	1,891.1					184.0	407.3	309.8	2,298.3	0.0	0.0
30.00		124.2	1,850.4					180.6	409.8	304.8	2,260.3	0.0	0.0
35.00		125.0	1,807.9					181.3	412.0	306.4	2,219.9	0.0	0.0
40.00		126.6	1,763.9					185.1	414.0	311.7	2,177.9	0.0	0.0
45.00		100.8	1,718.9					188.0	415.7	288.8	2,134.5	0.0	0.0
47.92	Bot - Section 2	64.3	983.1					110.6	243.2	174.9	1,226.3	0.0	0.0
50.00		80.1	1,141.6					79.3	174.0	159.4	1,315.6	0.0	0.0
54.08	Top - Section 1	64.9	2,195.4					156.1	341.8	221.0	2,537.2	0.0	0.0
55.00		76.7	269.6					35.6	76.8	112.2	346.5	0.0	0.0
60.00		129.1	1,440.6					194.5	419.9	323.6	1,860.5	0.0	0.0
65.00		128.2	1,398.3					194.7	421.1	322.9	1,819.4	0.0	0.0
70.00		127.0	1,355.5					194.4	422.2	321.4	1,777.7	0.0	0.0
75.00		125.5	1,312.4					193.8	423.3	319.2	1,735.6	0.0	0.0
80.00		123.6	1,268.8					192.7	424.2	316.3	1,693.1	0.0	0.0
85.00		121.6	1,225.0					191.3	425.2	312.8	1,650.1	0.0	0.0
90.00		119.3	1,180.8					189.5	426.1	308.8	1,606.9	0.0	0.0
95.00		90.9	1,136.4					187.5	426.9	278.5	1,563.3	0.0	0.0
97.75	Bot - Section 3	58.1	607.7					102.2	235.1	160.3	842.9	0.0	0.0
100.00		52.1	717.6					83.0	192.6	135.1	910.1	0.0	0.0
102.25	Top - Section 2	57.2	704.1					82.5	192.7	139.7	896.8	0.0	0.0
105.00		86.9	449.7					101.2	235.8	188.2	685.4	0.0	0.0
110.00		109.8	787.8					181.9	429.2	291.6	1,217.1	0.0	0.0
115.00		106.6	753.4					178.9	429.9	285.4	1,183.3	0.0	0.0
120.00		103.2	718.8					175.6	430.6	278.8	1,149.4	0.0	0.0
125.00		99.6	684.0					172.2	431.2	271.8	1,115.3	0.0	0.0
130.00		86.7	649.1					168.6	431.9	255.3	1,081.0	0.0	0.0
134.00	Appurtenance(s)	47.0	495.2	791.9	0.0	-26.6	5,799.4	132.2	345.9	971.1	6,640.5	0.0	0.0
135.00		54.4	121.1					26.7	61.3	81.1	182.4	0.0	0.0
140.00		53.9	578.8					130.7	306.5	184.6	885.3	0.0	0.0
141.00	Appurtenance(s)	17.5	112.7	329.8	0.0	0.0	2,152.6	25.6	61.3	372.9	2,326.6	0.0	0.0
142.00	Appurtenance(s)	34.3	111.3	348.2	0.0	-336.1	1,907.9	25.4	61.2	407.9	2,080.4	0.0	0.0
145.00		58.6	323.5					74.9	148.2	133.5	471.7	0.0	0.0
149.00	Appurtenance(s)	41.0	410.3	469.4	0.0	0.0	4,188.8	97.1	197.7	607.5	4,796.8	0.0	0.0
150.00		16.0	99.9					23.8	49.5	39.8	149.4	0.0	0.0
151.00	Appurtenance(s)	15.8	98.5	55.0	0.0	0.0	129.2	23.6	49.5	94.3	277.1	0.0	0.0
152.00	Appurtenance(s)	7.9	97.1	684.4	0.0	0.0	4,523.8	23.4	49.1	715.7	4,670.0	0.0	0.0
									Totals:	11,676.5	71,233.5	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 24 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-71.23	-11.64	0.00	-1,111.89	0.00	1,111.89	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.192
5.00	-68.85	-11.36	0.00	-1,053.71	0.00	1,053.71	5,275.68	2,637.84	11,915.5	5,966.65	0.03	-0.05	0.190
10.00	-66.46	-11.09	0.00	-996.89	0.00	996.89	5,189.62	2,594.81	11,433.1	5,725.08	0.11	-0.10	0.187
15.00	-64.08	-10.82	0.00	-941.44	0.00	941.44	5,101.44	2,550.72	10,955.7	5,485.99	0.24	-0.15	0.184
20.00	-61.74	-10.55	0.00	-887.34	0.00	887.34	5,011.12	2,505.56	10,483.5	5,249.58	0.42	-0.20	0.181
25.00	-59.44	-10.29	0.00	-834.58	0.00	834.58	4,918.68	2,459.34	10,017.1	5,016.02	0.66	-0.25	0.178
30.00	-57.17	-10.03	0.00	-783.13	0.00	783.13	4,824.11	2,412.05	9,556.78	4,785.49	0.96	-0.31	0.176
35.00	-54.94	-9.76	0.00	-732.99	0.00	732.99	4,727.41	2,363.70	9,102.80	4,558.17	1.31	-0.36	0.172
40.00	-52.76	-9.49	0.00	-684.19	0.00	684.19	4,628.58	2,314.29	8,655.58	4,334.22	1.72	-0.42	0.169
45.00	-50.62	-9.22	0.00	-636.76	0.00	636.76	4,527.62	2,263.81	8,215.47	4,113.84	2.19	-0.48	0.166
47.92	-49.39	-9.06	0.00	-609.86	0.00	609.86	4,467.74	2,233.87	7,962.16	3,987.00	2.49	-0.51	0.164
50.00	-48.07	-8.92	0.00	-590.99	0.00	590.99	4,424.53	2,212.27	7,782.82	3,897.19	2.72	-0.53	0.163
54.08	-45.53	-8.70	0.00	-554.57	0.00	554.57	3,619.86	1,809.93	6,334.27	3,171.85	3.20	-0.58	0.187
55.00	-45.18	-8.61	0.00	-546.59	0.00	546.59	3,605.16	1,802.58	6,271.86	3,140.59	3.31	-0.59	0.187
60.00	-43.31	-8.32	0.00	-503.53	0.00	503.53	3,523.72	1,761.86	5,934.59	2,971.70	3.97	-0.66	0.182
65.00	-41.49	-8.02	0.00	-461.95	0.00	461.95	3,440.15	1,720.07	5,602.88	2,805.61	4.69	-0.72	0.177
70.00	-39.70	-7.72	0.00	-421.84	0.00	421.84	3,354.45	1,677.22	5,277.11	2,642.48	5.49	-0.79	0.171
75.00	-37.96	-7.42	0.00	-383.23	0.00	383.23	3,266.62	1,633.31	4,957.62	2,482.50	6.35	-0.86	0.166
80.00	-36.27	-7.12	0.00	-346.11	0.00	346.11	3,154.85	1,577.42	4,612.87	2,309.86	7.29	-0.93	0.161
85.00	-34.61	-6.82	0.00	-310.49	0.00	310.49	3,036.31	1,518.16	4,271.03	2,138.69	8.30	-1.00	0.157
90.00	-33.01	-6.53	0.00	-276.37	0.00	276.37	2,917.78	1,458.89	3,942.34	1,974.10	9.37	-1.06	0.151
95.00	-31.44	-6.25	0.00	-243.74	0.00	243.74	2,799.25	1,399.62	3,626.81	1,816.10	10.53	-1.13	0.145
97.75	-30.60	-6.09	0.00	-226.56	0.00	226.56	2,734.06	1,367.03	3,458.88	1,732.01	11.19	-1.17	0.142
100.00	-29.69	-5.95	0.00	-212.86	0.00	212.86	2,680.72	1,340.36	3,324.44	1,664.69	11.75	-1.20	0.139
102.25	-28.79	-5.81	0.00	-199.47	0.00	199.47	1,683.04	841.52	2,097.24	1,050.18	12.32	-1.23	0.207
105.00	-28.10	-5.64	0.00	-183.49	0.00	183.49	1,655.06	827.53	2,011.86	1,007.42	13.05	-1.27	0.199
110.00	-26.89	-5.36	0.00	-155.29	0.00	155.29	1,602.55	801.28	1,859.07	930.92	14.43	-1.36	0.184
115.00	-25.70	-5.09	0.00	-128.48	0.00	128.48	1,547.92	773.96	1,709.77	856.15	15.91	-1.45	0.167
120.00	-24.55	-4.81	0.00	-103.04	0.00	103.04	1,491.15	745.57	1,564.29	783.31	17.48	-1.54	0.148
125.00	-23.44	-4.54	0.00	-78.98	0.00	78.98	1,428.88	714.44	1,419.66	710.88	19.13	-1.62	0.128
130.00	-22.36	-4.28	0.00	-56.27	0.00	56.27	1,349.86	674.93	1,266.22	634.05	20.86	-1.68	0.105
134.00	-15.75	-3.11	0.00	-39.17	0.00	39.17	1,286.64	643.32	1,149.79	575.75	22.29	-1.73	0.080
135.00	-15.57	-3.04	0.00	-36.06	0.00	36.06	1,270.84	635.42	1,121.56	561.61	22.65	-1.74	0.076
140.00	-14.69	-2.83	0.00	-20.88	0.00	20.88	1,191.82	595.91	985.67	493.57	24.49	-1.78	0.055
141.00	-12.38	-2.39	0.00	-18.05	0.00	18.05	1,176.01	588.01	959.54	480.48	24.87	-1.78	0.048
142.00	-10.31	-1.92	0.00	-15.66	0.00	15.66	1,160.21	580.10	933.77	467.58	25.24	-1.79	0.042
145.00	-9.84	-1.77	0.00	-9.92	0.00	9.92	1,112.80	556.40	858.55	429.91	26.37	-1.81	0.032
149.00	-5.07	-1.01	0.00	-2.84	0.00	2.84	1,049.58	524.79	763.17	382.15	27.89	-1.82	0.012
150.00	-4.92	-0.97	0.00	-1.83	0.00	1.83	1,033.78	516.89	740.20	370.65	28.27	-1.82	0.010
151.00	-4.64	-0.86	0.00	-0.86	0.00	0.86	1,017.97	508.99	717.59	359.33	28.65	-1.82	0.007
152.00	0.00	-0.72	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	29.03	-1.82	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		46.5	0.0					0.0	0.0	46.5	0.0	0.0	0.0
5.00		91.9	1,314.6					0.0	222.6	91.9	1,537.2	0.0	0.0
10.00		89.7	1,282.9					0.0	222.6	89.7	1,505.5	0.0	0.0
15.00		87.5	1,251.2					0.0	222.6	87.5	1,473.8	0.0	0.0
20.00		85.2	1,219.5					0.0	222.6	85.2	1,442.1	0.0	0.0
25.00		83.0	1,187.9					0.0	222.6	83.0	1,410.5	0.0	0.0
30.00		81.8	1,156.2					0.0	222.6	81.8	1,378.8	0.0	0.0
35.00		82.1	1,124.5					0.0	222.6	82.1	1,347.1	0.0	0.0
40.00		82.9	1,092.9					0.0	222.6	82.9	1,315.5	0.0	0.0
45.00		65.9	1,061.2					0.0	222.6	65.9	1,283.8	0.0	0.0
47.92	Bot - Section 2	42.0	604.4					0.0	129.8	42.0	734.3	0.0	0.0
50.00		52.2	796.4					0.0	92.8	52.2	889.1	0.0	0.0
54.08	Top - Section 1	42.3	1,531.3					0.0	181.8	42.3	1,713.1	0.0	0.0
55.00		49.8	157.8					0.0	40.8	49.8	198.6	0.0	0.0
60.00		83.8	844.6					0.0	222.6	83.8	1,067.2	0.0	0.0
65.00		83.0	817.5					0.0	222.6	83.0	1,040.1	0.0	0.0
70.00		81.9	790.3					0.0	222.6	81.9	1,012.9	0.0	0.0
75.00		80.6	763.2					0.0	222.6	80.6	985.8	0.0	0.0
80.00		79.2	736.0					0.0	222.6	79.2	958.6	0.0	0.0
85.00		77.6	708.9					0.0	222.6	77.6	931.5	0.0	0.0
90.00		107.5	681.8					0.0	222.6	107.5	904.4	0.0	0.0
95.00		106.4	654.6					44.5	222.6	150.9	877.2	0.0	0.0
97.75	Bot - Section 3	67.8	348.5					24.9	122.4	92.6	470.9	0.0	0.0
100.00		60.7	468.8					16.8	100.2	77.5	569.0	0.0	0.0
102.25	Top - Section 2	66.4	459.6					20.7	100.2	87.2	559.8	0.0	0.0
105.00		100.7	222.5					25.5	122.4	126.2	345.0	0.0	0.0
110.00		126.6	390.6					47.1	222.6	173.7	613.2	0.0	0.0
115.00		122.2	372.5					47.9	222.6	170.1	595.1	0.0	0.0
120.00		117.6	354.4					48.7	222.6	166.4	577.0	0.0	0.0
125.00		112.8	336.3					49.6	222.6	162.4	558.9	0.0	0.0
130.00		97.5	318.2					50.4	222.6	147.9	540.8	0.0	0.0
134.00	Appurtenance(s)	47.9	241.5	703.4	0.0	-20.5	2,930.9	40.8	178.1	792.1	3,350.5	0.0	0.0
135.00		32.7	58.6					0.0	34.8	32.7	93.3	0.0	0.0
140.00		32.4	282.0					0.0	173.9	32.4	455.8	0.0	0.0
141.00	Appurtenance(s)	10.4	54.2	245.5	0.0	0.0	1,505.0	0.0	34.8	255.9	1,594.0	0.0	0.0
142.00	Appurtenance(s)	20.4	53.5	373.0	0.0	-366.0	273.0	0.0	34.6	393.4	361.1	0.0	0.0
145.00		51.1	156.2					0.0	74.3	51.1	230.5	0.0	0.0
149.00	Appurtenance(s)	44.6	198.1	404.6	0.0	0.0	2,448.7	29.4	99.1	478.6	2,745.9	0.0	0.0
150.00		17.3	47.7					7.4	24.8	24.6	72.5	0.0	0.0
151.00	Appurtenance(s)	17.0	47.0	32.3	0.0	0.0	40.0	7.4	24.8	56.7	111.8	0.0	0.0
152.00	Appurtenance(s)	8.5	46.3	668.0	0.0	0.0	1,653.4	7.4	24.5	683.8	1,724.1	0.0	0.0
								Totals:		5,732.65	39,576.0	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 23 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.57	-5.70	0.00	-648.10	0.00	648.10	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.112
5.00	-38.03	-5.62	0.00	-619.63	0.00	619.63	5,275.68	2,637.84	11,915.5	5,966.65	0.02	-0.03	0.111
10.00	-36.53	-5.55	0.00	-591.52	0.00	591.52	5,189.62	2,594.81	11,433.1	5,725.08	0.06	-0.06	0.110
15.00	-35.05	-5.48	0.00	-563.77	0.00	563.77	5,101.44	2,550.72	10,955.7	5,485.99	0.14	-0.09	0.110
20.00	-33.60	-5.41	0.00	-536.37	0.00	536.37	5,011.12	2,505.56	10,483.5	5,249.58	0.25	-0.12	0.109
25.00	-32.19	-5.34	0.00	-509.31	0.00	509.31	4,918.68	2,459.34	10,017.1	5,016.02	0.39	-0.15	0.108
30.00	-30.81	-5.27	0.00	-482.60	0.00	482.60	4,824.11	2,412.05	9,556.78	4,785.49	0.57	-0.18	0.107
35.00	-29.46	-5.21	0.00	-456.23	0.00	456.23	4,727.41	2,363.70	9,102.80	4,558.17	0.78	-0.22	0.106
40.00	-28.14	-5.13	0.00	-430.20	0.00	430.20	4,628.58	2,314.29	8,655.58	4,334.22	1.03	-0.25	0.105
45.00	-26.86	-5.08	0.00	-404.53	0.00	404.53	4,527.62	2,263.81	8,215.47	4,113.84	1.31	-0.29	0.104
47.92	-26.12	-5.04	0.00	-389.73	0.00	389.73	4,467.74	2,233.87	7,962.16	3,987.00	1.50	-0.31	0.104
50.00	-25.23	-4.99	0.00	-379.23	0.00	379.23	4,424.53	2,212.27	7,782.82	3,897.19	1.64	-0.33	0.103
54.08	-23.51	-4.95	0.00	-358.85	0.00	358.85	3,619.86	1,809.93	6,334.27	3,171.85	1.93	-0.36	0.120
55.00	-23.31	-4.91	0.00	-354.31	0.00	354.31	3,605.16	1,802.58	6,271.86	3,140.59	2.00	-0.36	0.119
60.00	-22.24	-4.83	0.00	-329.78	0.00	329.78	3,523.72	1,761.86	5,934.59	2,971.70	2.40	-0.41	0.117
65.00	-21.20	-4.76	0.00	-305.62	0.00	305.62	3,440.15	1,720.07	5,602.88	2,805.61	2.85	-0.45	0.115
70.00	-20.18	-4.68	0.00	-281.84	0.00	281.84	3,354.45	1,677.22	5,277.11	2,642.48	3.35	-0.50	0.113
75.00	-19.20	-4.61	0.00	-258.42	0.00	258.42	3,266.62	1,633.31	4,957.62	2,482.50	3.89	-0.54	0.110
80.00	-18.23	-4.53	0.00	-235.38	0.00	235.38	3,154.85	1,577.42	4,612.87	2,309.86	4.48	-0.59	0.108
85.00	-17.30	-4.46	0.00	-212.70	0.00	212.70	3,036.31	1,518.16	4,271.03	2,138.69	5.12	-0.63	0.105
90.00	-16.39	-4.36	0.00	-190.40	0.00	190.40	2,917.78	1,458.89	3,942.34	1,974.10	5.81	-0.68	0.102
95.00	-15.52	-4.21	0.00	-168.61	0.00	168.61	2,799.25	1,399.62	3,626.81	1,816.10	6.55	-0.73	0.098
97.75	-15.04	-4.11	0.00	-157.04	0.00	157.04	2,734.06	1,367.03	3,458.88	1,732.01	6.98	-0.75	0.096
100.00	-14.48	-4.03	0.00	-147.79	0.00	147.79	2,680.72	1,340.36	3,324.44	1,664.69	7.34	-0.78	0.094
102.25	-13.91	-3.94	0.00	-138.71	0.00	138.71	1,683.04	841.52	2,097.24	1,050.18	7.71	-0.80	0.140
105.00	-13.57	-3.82	0.00	-127.87	0.00	127.87	1,655.06	827.53	2,011.86	1,007.42	8.18	-0.82	0.135
110.00	-12.95	-3.66	0.00	-108.74	0.00	108.74	1,602.55	801.28	1,859.07	930.92	9.08	-0.89	0.125
115.00	-12.36	-3.49	0.00	-90.46	0.00	90.46	1,547.92	773.96	1,709.77	856.15	10.04	-0.95	0.114
120.00	-11.78	-3.33	0.00	-73.01	0.00	73.01	1,491.15	745.57	1,564.29	783.31	11.07	-1.01	0.101
125.00	-11.22	-3.16	0.00	-56.39	0.00	56.39	1,428.88	714.44	1,419.66	710.88	12.16	-1.07	0.087
130.00	-10.68	-3.01	0.00	-40.57	0.00	40.57	1,349.86	674.93	1,266.22	634.05	13.30	-1.11	0.072
134.00	-7.35	-2.16	0.00	-28.52	0.00	28.52	1,286.64	643.32	1,149.79	575.75	14.25	-1.15	0.055
135.00	-7.25	-2.12	0.00	-26.37	0.00	26.37	1,270.84	635.42	1,121.56	561.61	14.49	-1.15	0.053
140.00	-6.80	-2.09	0.00	-15.74	0.00	15.74	1,191.82	595.91	985.67	493.57	15.72	-1.18	0.038
141.00	-5.21	-1.80	0.00	-13.66	0.00	13.66	1,176.01	588.01	959.54	480.48	15.97	-1.19	0.033
142.00	-4.86	-1.40	0.00	-11.86	0.00	11.86	1,160.21	580.10	933.77	467.58	16.22	-1.19	0.030
145.00	-4.63	-1.34	0.00	-7.67	0.00	7.67	1,112.80	556.40	858.55	429.91	16.97	-1.21	0.022
149.00	-1.89	-0.81	0.00	-2.30	0.00	2.30	1,049.58	524.79	763.17	382.15	17.99	-1.21	0.008
150.00	-1.82	-0.78	0.00	-1.50	0.00	1.50	1,033.78	516.89	740.20	370.65	18.24	-1.21	0.006
151.00	-1.71	-0.72	0.00	-0.72	0.00	0.72	1,017.97	508.99	717.59	359.33	18.50	-1.22	0.004
152.00	0.00	-0.68	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	18.75	-1.22	0.000

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.21	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	2.33	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.92	
Total Unfactored Dead Load:	39.58	k
Seismic Base Shear (E):	1.27	k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	151.50	71	1,070	0.005	6	88
39	150.50	72	1,072	0.005	6	89
38	149.50	72	1,069	0.005	6	90
37	147.00	297	4,245	0.019	24	370
36	143.50	230	3,143	0.014	17	287
35	141.50	88	1,170	0.005	6	110
34	140.50	89	1,165	0.005	6	111
33	137.50	456	5,727	0.025	32	567
32	134.50	93	1,124	0.005	6	116
31	132.00	420	4,875	0.021	27	522
30	127.50	541	5,879	0.026	33	673
29	122.50	559	5,627	0.025	31	696
28	117.50	577	5,363	0.024	30	718
27	112.50	595	5,089	0.022	28	741
26	107.50	613	4,806	0.021	27	763
25	103.63	345	2,520	0.011	14	429
24	101.13	560	3,903	0.017	22	697
23	98.88	569	3,799	0.017	21	708
22	96.38	471	2,994	0.013	17	586
21	92.50	877	5,155	0.023	29	1,092
20	87.50	904	4,778	0.021	27	1,126
19	82.50	932	4,396	0.019	24	1,160
18	77.50	959	4,013	0.018	22	1,193

17	72.50	986	3,631	0.016	20	1,227
16	67.50	1,013	3,254	0.014	18	1,261
15	62.50	1,040	2,883	0.013	16	1,295
14	57.50	1,067	2,521	0.011	14	1,328
13	54.54	199	424	0.002	2	247
12	52.04	1,713	3,342	0.015	19	2,132
11	48.96	889	1,543	0.007	9	1,107
10	46.46	734	1,152	0.005	6	914
9	42.50	1,284	1,699	0.007	9	1,598
8	37.50	1,315	1,369	0.006	8	1,638
7	32.50	1,347	1,066	0.005	6	1,677
6	27.50	1,379	792	0.003	4	1,716
5	22.50	1,410	551	0.002	3	1,756
4	17.50	1,442	348	0.002	2	1,795
3	12.50	1,474	187	0.001	1	1,835
2	7.50	1,505	72	0.000	0	1,874
1	2.50	1,537	9	0.000	0	1,913
Powerwave Allgon LGP	152.00	33	503	0.002	3	41
Powerwave Allgon 702	152.00	26	402	0.002	2	33
CCI DTMABP7819VG12A	152.00	58	877	0.004	5	72
Powerwave Allgon LGP	152.00	85	1,288	0.006	7	105
Raycap DC6-48-60-18-	152.00	20	305	0.001	2	25
Ericsson RRUS 4415 B	152.00	138	2,101	0.009	12	172
Ericsson RRUS 4449 B	152.00	213	3,243	0.014	18	265
Ericsson RRUS 4478 B	152.00	178	2,714	0.012	15	222
Raycap DC6-48-60-18-	152.00	16	244	0.001	1	20
Ericsson RRUS-12 190	152.00	180	2,741	0.012	15	224
Raycap DC6-48-60-18-	152.00	16	244	0.001	1	20
Powerwave Allgon 777	152.00	105	1,599	0.007	9	131
Kathrein Scala 80010	152.00	586	8,917	0.039	50	729
Generic 15' Omni	151.00	40	601	0.003	3	50
Site Pro1 RMQP-496-H	149.00	2,449	35,890	0.157	199	3,048
RFS FD9R6004/1C-3L	142.00	19	249	0.001	1	23
Rymsa MGD3-800T0	142.00	59	794	0.003	4	74
Andrew DB846H80E-SX	142.00	96	1,283	0.006	7	120
Powerwave Allgon P65	142.00	99	1,323	0.006	7	123
Generic 2" x 4" GPS	141.00	5	66	0.000	0	6
Flat Low Profile Pla	141.00	1,500	19,778	0.087	110	1,867
KMW AWS Twin Dual 70	134.00	52	624	0.003	3	65
Ericsson Radio 4449	134.00	222	2,655	0.012	15	276
Ericsson AIR 21	134.00	273	3,265	0.014	18	340
RFS APXVAARR24_43-U-	134.00	384	4,589	0.020	25	478
Flat Platform with R	134.00	2,000	23,918	0.105	133	2,490
		39,576	228,040	1.000	1,266	49,264

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	151.50	71	1,070	0.005	6	60
39	150.50	72	1,072	0.005	6	61
38	149.50	72	1,069	0.005	6	62
37	147.00	297	4,245	0.019	24	254
36	143.50	230	3,143	0.014	17	197
35	141.50	88	1,170	0.005	6	75
34	140.50	89	1,165	0.005	6	76
33	137.50	456	5,727	0.025	32	390
32	134.50	93	1,124	0.005	6	80
31	132.00	420	4,875	0.021	27	359
30	127.50	541	5,879	0.026	33	462

29	122.50	559	5,627	0.025	31	478
28	117.50	577	5,363	0.024	30	493
27	112.50	595	5,089	0.022	28	509
26	107.50	613	4,806	0.021	27	524
25	103.63	345	2,520	0.011	14	295
24	101.13	560	3,903	0.017	22	479
23	98.88	569	3,799	0.017	21	487
22	96.38	471	2,994	0.013	17	403
21	92.50	877	5,155	0.023	29	750
20	87.50	904	4,778	0.021	27	773
19	82.50	932	4,396	0.019	24	797
18	77.50	959	4,013	0.018	22	820
17	72.50	986	3,631	0.016	20	843
16	67.50	1,013	3,254	0.014	18	866
15	62.50	1,040	2,883	0.013	16	889
14	57.50	1,067	2,521	0.011	14	913
13	54.54	199	424	0.002	2	170
12	52.04	1,713	3,342	0.015	19	1,465
11	48.96	889	1,543	0.007	9	760
10	46.46	734	1,152	0.005	6	628
9	42.50	1,284	1,699	0.007	9	1,098
8	37.50	1,315	1,369	0.006	8	1,125
7	32.50	1,347	1,066	0.005	6	1,152
6	27.50	1,379	792	0.003	4	1,179
5	22.50	1,410	551	0.002	3	1,206
4	17.50	1,442	348	0.002	2	1,233
3	12.50	1,474	187	0.001	1	1,260
2	7.50	1,505	72	0.000	0	1,287
1	2.50	1,537	9	0.000	0	1,315
Powerwave Allgon LGP	152.00	33	503	0.002	3	28
Powerwave Allgon 702	152.00	26	402	0.002	2	23
CCI DTMABP7819VG12A	152.00	58	877	0.004	5	49
Powerwave Allgon LGP	152.00	85	1,288	0.006	7	72
Raycap DC6-48-60-18-	152.00	20	305	0.001	2	17
Ericsson RRUS 4415 B	152.00	138	2,101	0.009	12	118
Ericsson RRUS 4449 B	152.00	213	3,243	0.014	18	182
Ericsson RRUS 4478 B	152.00	178	2,714	0.012	15	152
Raycap DC6-48-60-18-	152.00	16	244	0.001	1	14
Ericsson RRUS-12 190	152.00	180	2,741	0.012	15	154
Raycap DC6-48-60-18-	152.00	16	244	0.001	1	14
Powerwave Allgon 777	152.00	105	1,599	0.007	9	90
Kathrein Scala 80010	152.00	586	8,917	0.039	50	501
Generic 15' Omni	151.00	40	601	0.003	3	34
Site Pro1 RMQP-496-H	149.00	2,449	35,890	0.157	199	2,094
RFS FD9R6004/1C-3L	142.00	19	249	0.001	1	16
Rymsa MGD3-800T0	142.00	59	794	0.003	4	51
Andrew DB846H80E-SX	142.00	96	1,283	0.006	7	82
Powerwave Allgon P65	142.00	99	1,323	0.006	7	85
Generic 2" x 4" GPS	141.00	5	66	0.000	0	4
Flat Low Profile Pla	141.00	1,500	19,778	0.087	110	1,283
KMW AWS Twin Dual 70	134.00	52	624	0.003	3	45
Ericsson Radio 4449	134.00	222	2,655	0.012	15	190
Ericsson AIR 21	134.00	273	3,265	0.014	18	233
RFS APXVAARR24_43-U-	134.00	384	4,589	0.020	25	328
Flat Platform with R	134.00	2,000	23,918	0.105	133	1,710
		39,576	228,040	1.000	1,266	33,845

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.35	-1.27	0.00	-161.65	0.00	161.65	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.035
5.00	-45.48	-1.27	0.00	-155.31	0.00	155.31	5,275.68	2,637.84	11,915.5	5,966.65	0.00	-0.01	0.035
10.00	-43.64	-1.28	0.00	-148.95	0.00	148.95	5,189.62	2,594.81	11,433.1	5,725.08	0.02	-0.01	0.034
15.00	-41.85	-1.28	0.00	-142.56	0.00	142.56	5,101.44	2,550.72	10,955.7	5,485.99	0.03	-0.02	0.034
20.00	-40.09	-1.28	0.00	-136.15	0.00	136.15	5,011.12	2,505.56	10,483.5	5,249.58	0.06	-0.03	0.034
25.00	-38.37	-1.28	0.00	-129.74	0.00	129.74	4,918.68	2,459.34	10,017.1	5,016.02	0.10	-0.04	0.034
30.00	-36.70	-1.28	0.00	-123.33	0.00	123.33	4,824.11	2,412.05	9,556.78	4,785.49	0.14	-0.05	0.033
35.00	-35.06	-1.28	0.00	-116.92	0.00	116.92	4,727.41	2,363.70	9,102.80	4,558.17	0.20	-0.06	0.033
40.00	-33.46	-1.27	0.00	-110.54	0.00	110.54	4,628.58	2,314.29	8,655.58	4,334.22	0.26	-0.06	0.033
45.00	-32.55	-1.27	0.00	-104.18	0.00	104.18	4,527.62	2,263.81	8,215.47	4,113.84	0.33	-0.07	0.033
47.92	-31.44	-1.26	0.00	-100.48	0.00	100.48	4,467.74	2,233.87	7,962.16	3,987.00	0.38	-0.08	0.032
50.00	-29.31	-1.24	0.00	-97.85	0.00	97.85	4,424.53	2,212.27	7,782.82	3,897.19	0.41	-0.08	0.032
54.08	-29.06	-1.24	0.00	-92.78	0.00	92.78	3,619.86	1,809.93	6,334.27	3,171.85	0.49	-0.09	0.037
55.00	-27.73	-1.23	0.00	-91.64	0.00	91.64	3,605.16	1,802.58	6,271.86	3,140.59	0.51	-0.09	0.037
60.00	-26.44	-1.22	0.00	-85.50	0.00	85.50	3,523.72	1,761.86	5,934.59	2,971.70	0.61	-0.10	0.036
65.00	-25.18	-1.20	0.00	-79.42	0.00	79.42	3,440.15	1,720.07	5,602.88	2,805.61	0.72	-0.12	0.036
70.00	-23.95	-1.18	0.00	-73.41	0.00	73.41	3,354.45	1,677.22	5,277.11	2,642.48	0.85	-0.13	0.035
75.00	-22.75	-1.16	0.00	-67.50	0.00	67.50	3,266.62	1,633.31	4,957.62	2,482.50	0.99	-0.14	0.034
80.00	-21.59	-1.14	0.00	-61.69	0.00	61.69	3,154.85	1,577.42	4,612.87	2,309.86	1.14	-0.15	0.034
85.00	-20.47	-1.11	0.00	-55.99	0.00	55.99	3,036.31	1,518.16	4,271.03	2,138.69	1.31	-0.16	0.033
90.00	-19.38	-1.09	0.00	-50.42	0.00	50.42	2,917.78	1,458.89	3,942.34	1,974.10	1.48	-0.18	0.032
95.00	-18.79	-1.07	0.00	-44.98	0.00	44.98	2,799.25	1,399.62	3,626.81	1,816.10	1.68	-0.19	0.031
97.75	-18.08	-1.05	0.00	-42.03	0.00	42.03	2,734.06	1,367.03	3,458.88	1,732.01	1.79	-0.20	0.031
100.00	-17.39	-1.03	0.00	-39.67	0.00	39.67	2,680.72	1,340.36	3,324.44	1,664.69	1.88	-0.20	0.030
102.25	-16.96	-1.01	0.00	-37.36	0.00	37.36	1,683.04	841.52	2,097.24	1,050.18	1.98	-0.21	0.046
105.00	-16.19	-0.99	0.00	-34.57	0.00	34.57	1,655.06	827.53	2,011.86	1,007.42	2.10	-0.21	0.044
110.00	-15.45	-0.96	0.00	-29.63	0.00	29.63	1,602.55	801.28	1,859.07	930.92	2.33	-0.23	0.041
115.00	-14.73	-0.93	0.00	-24.81	0.00	24.81	1,547.92	773.96	1,709.77	856.15	2.58	-0.25	0.039
120.00	-14.04	-0.90	0.00	-20.15	0.00	20.15	1,491.15	745.57	1,564.29	783.31	2.85	-0.27	0.035
125.00	-13.36	-0.87	0.00	-15.63	0.00	15.63	1,428.88	714.44	1,419.66	710.88	3.14	-0.28	0.031
130.00	-12.84	-0.84	0.00	-11.28	0.00	11.28	1,349.86	674.93	1,266.22	634.05	3.44	-0.29	0.027
134.00	-9.08	-0.62	0.00	-7.90	0.00	7.90	1,286.64	643.32	1,149.79	575.75	3.69	-0.30	0.021
135.00	-8.51	-0.59	0.00	-7.28	0.00	7.28	1,270.84	635.42	1,121.56	561.61	3.75	-0.30	0.020
140.00	-8.40	-0.58	0.00	-4.33	0.00	4.33	1,191.82	595.91	985.67	493.57	4.08	-0.31	0.016
141.00	-6.42	-0.46	0.00	-3.74	0.00	3.74	1,176.01	588.01	959.54	480.48	4.14	-0.31	0.013
142.00	-5.79	-0.42	0.00	-3.29	0.00	3.29	1,160.21	580.10	933.77	467.58	4.21	-0.32	0.012
145.00	-5.42	-0.39	0.00	-2.04	0.00	2.04	1,112.80	556.40	858.55	429.91	4.41	-0.32	0.010
149.00	-2.28	-0.17	0.00	-0.48	0.00	0.48	1,049.58	524.79	763.17	382.15	4.68	-0.32	0.003
150.00	-2.20	-0.16	0.00	-0.31	0.00	0.31	1,033.78	516.89	740.20	370.65	4.74	-0.32	0.003
151.00	-2.06	-0.15	0.00	-0.15	0.00	0.15	1,017.97	508.99	717.59	359.33	4.81	-0.32	0.002
152.00	0.00	-0.14	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	4.88	-0.32	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.53	-1.27	0.00	-159.43	0.00	159.43	5,359.60	2,679.80	12,402.6	6,210.55	0.00	0.00	0.032
5.00	-31.24	-1.27	0.00	-153.10	0.00	153.10	5,275.68	2,637.84	11,915.5	5,966.65	0.00	-0.01	0.032
10.00	-29.98	-1.27	0.00	-146.74	0.00	146.74	5,189.62	2,594.81	11,433.1	5,725.08	0.02	-0.01	0.031
15.00	-28.75	-1.27	0.00	-140.38	0.00	140.38	5,101.44	2,550.72	10,955.7	5,485.99	0.03	-0.02	0.031
20.00	-27.54	-1.27	0.00	-134.00	0.00	134.00	5,011.12	2,505.56	10,483.5	5,249.58	0.06	-0.03	0.031
25.00	-26.36	-1.27	0.00	-127.63	0.00	127.63	4,918.68	2,459.34	10,017.1	5,016.02	0.10	-0.04	0.031
30.00	-25.21	-1.27	0.00	-121.26	0.00	121.26	4,824.11	2,412.05	9,556.78	4,785.49	0.14	-0.05	0.031
35.00	-24.09	-1.27	0.00	-114.91	0.00	114.91	4,727.41	2,363.70	9,102.80	4,558.17	0.19	-0.05	0.030
40.00	-22.99	-1.26	0.00	-108.58	0.00	108.58	4,628.58	2,314.29	8,655.58	4,334.22	0.26	-0.06	0.030
45.00	-22.36	-1.25	0.00	-102.29	0.00	102.29	4,527.62	2,263.81	8,215.47	4,113.84	0.33	-0.07	0.030
47.92	-21.60	-1.25	0.00	-98.63	0.00	98.63	4,467.74	2,233.87	7,962.16	3,987.00	0.37	-0.08	0.030
50.00	-20.13	-1.23	0.00	-96.03	0.00	96.03	4,424.53	2,212.27	7,782.82	3,897.19	0.41	-0.08	0.029
54.08	-19.96	-1.23	0.00	-91.02	0.00	91.02	3,619.86	1,809.93	6,334.27	3,171.85	0.48	-0.09	0.034
55.00	-19.05	-1.21	0.00	-89.90	0.00	89.90	3,605.16	1,802.58	6,271.86	3,140.59	0.50	-0.09	0.034
60.00	-18.16	-1.20	0.00	-83.83	0.00	83.83	3,523.72	1,761.86	5,934.59	2,971.70	0.60	-0.10	0.033
65.00	-17.30	-1.18	0.00	-77.83	0.00	77.83	3,440.15	1,720.07	5,602.88	2,805.61	0.71	-0.11	0.033
70.00	-16.45	-1.16	0.00	-71.91	0.00	71.91	3,354.45	1,677.22	5,277.11	2,642.48	0.84	-0.12	0.032
75.00	-15.63	-1.14	0.00	-66.09	0.00	66.09	3,266.62	1,633.31	4,957.62	2,482.50	0.97	-0.14	0.031
80.00	-14.84	-1.12	0.00	-60.37	0.00	60.37	3,154.85	1,577.42	4,612.87	2,309.86	1.12	-0.15	0.031
85.00	-14.06	-1.09	0.00	-54.77	0.00	54.77	3,036.31	1,518.16	4,271.03	2,138.69	1.29	-0.16	0.030
90.00	-13.31	-1.07	0.00	-49.29	0.00	49.29	2,917.78	1,458.89	3,942.34	1,974.10	1.46	-0.17	0.030
95.00	-12.91	-1.05	0.00	-43.96	0.00	43.96	2,799.25	1,399.62	3,626.81	1,816.10	1.65	-0.18	0.029
97.75	-12.42	-1.03	0.00	-41.07	0.00	41.07	2,734.06	1,367.03	3,458.88	1,732.01	1.75	-0.19	0.028
100.00	-11.94	-1.01	0.00	-38.75	0.00	38.75	2,680.72	1,340.36	3,324.44	1,664.69	1.85	-0.20	0.028
102.25	-11.65	-0.99	0.00	-36.48	0.00	36.48	1,683.04	841.52	2,097.24	1,050.18	1.94	-0.20	0.042
105.00	-11.12	-0.97	0.00	-33.75	0.00	33.75	1,655.06	827.53	2,011.86	1,007.42	2.06	-0.21	0.040
110.00	-10.61	-0.94	0.00	-28.91	0.00	28.91	1,602.55	801.28	1,859.07	930.92	2.29	-0.23	0.038
115.00	-10.12	-0.91	0.00	-24.20	0.00	24.20	1,547.92	773.96	1,709.77	856.15	2.54	-0.24	0.035
120.00	-9.64	-0.88	0.00	-19.64	0.00	19.64	1,491.15	745.57	1,564.29	783.31	2.80	-0.26	0.032
125.00	-9.18	-0.85	0.00	-15.23	0.00	15.23	1,428.88	714.44	1,419.66	710.88	3.08	-0.27	0.028
130.00	-8.82	-0.82	0.00	-10.99	0.00	10.99	1,349.86	674.93	1,266.22	634.05	3.37	-0.29	0.024
134.00	-6.24	-0.61	0.00	-7.70	0.00	7.70	1,286.64	643.32	1,149.79	575.75	3.62	-0.30	0.018
135.00	-5.85	-0.58	0.00	-7.09	0.00	7.09	1,270.84	635.42	1,121.56	561.61	3.68	-0.30	0.017
140.00	-5.77	-0.57	0.00	-4.22	0.00	4.22	1,191.82	595.91	985.67	493.57	4.00	-0.31	0.013
141.00	-4.41	-0.44	0.00	-3.65	0.00	3.65	1,176.01	588.01	959.54	480.48	4.06	-0.31	0.011
142.00	-3.98	-0.41	0.00	-3.20	0.00	3.20	1,160.21	580.10	933.77	467.58	4.13	-0.31	0.010
145.00	-3.72	-0.38	0.00	-1.99	0.00	1.99	1,112.80	556.40	858.55	429.91	4.32	-0.31	0.008
149.00	-1.57	-0.16	0.00	-0.47	0.00	0.47	1,049.58	524.79	763.17	382.15	4.59	-0.31	0.003
150.00	-1.51	-0.16	0.00	-0.30	0.00	0.30	1,033.78	516.89	740.20	370.65	4.65	-0.31	0.002
151.00	-1.41	-0.15	0.00	-0.15	0.00	0.15	1,017.97	508.99	717.59	359.33	4.72	-0.31	0.002
152.00	0.00	-0.14	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	4.78	-0.31	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.21
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.22
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	2.33
Redundancy Factor (p):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
40	151.50	71	1.878	1.915	1.117	0.416	20	88
39	150.50	72	1.853	1.790	1.071	0.397	19	89
38	149.50	72	1.828	1.670	1.027	0.379	18	90
37	147.00	297	1.768	1.396	0.923	0.336	67	370
36	143.50	230	1.685	1.064	0.791	0.280	43	287
35	141.50	88	1.638	0.901	0.723	0.249	15	110
34	140.50	89	1.615	0.825	0.690	0.235	14	111
33	137.50	456	1.547	0.623	0.600	0.193	59	567
32	134.50	93	1.480	0.453	0.519	0.155	10	116
31	132.00	420	1.425	0.334	0.458	0.126	35	522
30	127.50	541	1.330	0.164	0.363	0.079	28	673
29	122.50	559	1.228	0.032	0.276	0.035	13	696
28	117.50	577	1.129	-0.052	0.205	0.000	0	718
27	112.50	595	1.035	-0.099	0.150	-0.026	-10	741
26	107.50	613	0.945	-0.119	0.106	-0.044	-18	763
25	103.63	345	0.878	-0.121	0.079	-0.051	-12	429
24	101.13	560	0.837	-0.118	0.065	-0.053	-20	697
23	98.88	569	0.800	-0.112	0.054	-0.053	-20	708
22	96.38	471	0.760	-0.103	0.043	-0.051	-16	586
21	92.50	877	0.700	-0.087	0.030	-0.045	-26	1,092
20	87.50	904	0.626	-0.062	0.018	-0.030	-18	1,126
19	82.50	932	0.557	-0.037	0.010	-0.011	-7	1,160
18	77.50	959	0.491	-0.013	0.007	0.009	6	1,193
17	72.50	986	0.430	0.008	0.006	0.028	18	1,227
16	67.50	1,013	0.373	0.026	0.008	0.042	28	1,261
15	62.50	1,040	0.320	0.041	0.011	0.052	36	1,295
14	57.50	1,067	0.270	0.052	0.015	0.058	41	1,328
13	54.54	199	0.243	0.056	0.018	0.060	8	247
12	52.04	1,713	0.222	0.060	0.020	0.061	70	2,132
11	48.96	889	0.196	0.063	0.024	0.061	36	1,107
10	46.46	734	0.177	0.065	0.026	0.061	30	914
9	42.50	1,284	0.148	0.068	0.030	0.061	52	1,598
8	37.50	1,315	0.115	0.070	0.035	0.059	52	1,638
7	32.50	1,347	0.086	0.071	0.039	0.058	52	1,677

6	27.50	1,379	0.062	0.072	0.041	0.057	52	1,716
5	22.50	1,410	0.041	0.070	0.042	0.055	51	1,756
4	17.50	1,442	0.025	0.066	0.039	0.052	50	1,795
3	12.50	1,474	0.013	0.058	0.034	0.047	46	1,835
2	7.50	1,505	0.005	0.043	0.024	0.037	37	1,874
1	2.50	1,537	0.001	0.018	0.010	0.017	18	1,913
Powerwave Allgon LGP	152.00	33	1.890	1.980	1.140	0.425	9	41
Powerwave Allgon 702	152.00	26	1.890	1.980	1.140	0.425	7	33
CCI DTMABP7819VG12A	152.00	58	1.890	1.980	1.140	0.425	16	72
Powerwave Allgon LGP	152.00	85	1.890	1.980	1.140	0.425	24	105
Raycap DC6-48-60-18-	152.00	20	1.890	1.980	1.140	0.425	6	25
Ericsson RRUS 4415 B	152.00	138	1.890	1.980	1.140	0.425	39	172
Ericsson RRUS 4449 B	152.00	213	1.890	1.980	1.140	0.425	60	265
Ericsson RRUS 4478 B	152.00	178	1.890	1.980	1.140	0.425	51	222
Raycap DC6-48-60-18-	152.00	16	1.890	1.980	1.140	0.425	5	20
Ericsson RRUS-12 190	152.00	180	1.890	1.980	1.140	0.425	51	224
Raycap DC6-48-60-18-	152.00	16	1.890	1.980	1.140	0.425	5	20
Powerwave Allgon 777	152.00	105	1.890	1.980	1.140	0.425	30	131
Kathrein Scala 80010	152.00	586	1.890	1.980	1.140	0.425	166	729
Generic 15' Omni	151.00	40	1.865	1.852	1.094	0.407	11	50
Site Pro1 RMQP-496-H	149.00	2,449	1.816	1.613	1.005	0.371	605	3,048
RFS FD9R6004/1C-3L	142.00	19	1.649	0.940	0.739	0.257	3	23
Rymsa MGD3-800T0	142.00	59	1.649	0.940	0.739	0.257	10	74
Andrew DB846H80E-SX	142.00	96	1.649	0.940	0.739	0.257	16	120
Powerwave Allgon P65	142.00	99	1.649	0.940	0.739	0.257	17	123
Generic 2" x 4" GPS	141.00	5	1.626	0.862	0.706	0.242	1	6
Flat Low Profile Pla	141.00	1,500	1.626	0.862	0.706	0.242	242	1,867
KMW AWS Twin Dual 70	134.00	52	1.469	0.427	0.507	0.149	5	65
Ericsson Radio 4449	134.00	222	1.469	0.427	0.507	0.149	22	276
Ericsson AIR 21	134.00	273	1.469	0.427	0.507	0.149	27	340
RFS APXVAARR24_43-U-	134.00	384	1.469	0.427	0.507	0.149	38	478
Flat Platform with R	134.00	2,000	1.469	0.427	0.507	0.149	199	2,490
		39,576	76.204	47.978	33.568	11.951	2,542	49,264

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
40	151.50	71	1.878	1.915	1.117	0.416	20	60
39	150.50	72	1.853	1.790	1.071	0.397	19	61
38	149.50	72	1.828	1.670	1.027	0.379	18	62
37	147.00	297	1.768	1.396	0.923	0.336	67	254
36	143.50	230	1.685	1.064	0.791	0.280	43	197
35	141.50	88	1.638	0.901	0.723	0.249	15	75
34	140.50	89	1.615	0.825	0.690	0.235	14	76
33	137.50	456	1.547	0.623	0.600	0.193	59	390
32	134.50	93	1.480	0.453	0.519	0.155	10	80
31	132.00	420	1.425	0.334	0.458	0.126	35	359
30	127.50	541	1.330	0.164	0.363	0.079	28	462
29	122.50	559	1.228	0.032	0.276	0.035	13	478
28	117.50	577	1.129	-0.052	0.205	0.000	0	493
27	112.50	595	1.035	-0.099	0.150	-0.026	-10	509
26	107.50	613	0.945	-0.119	0.106	-0.044	-18	524
25	103.63	345	0.878	-0.121	0.079	-0.051	-12	295
24	101.13	560	0.837	-0.118	0.065	-0.053	-20	479
23	98.88	569	0.800	-0.112	0.054	-0.053	-20	487
22	96.38	471	0.760	-0.103	0.043	-0.051	-16	403
21	92.50	877	0.700	-0.087	0.030	-0.045	-26	750
20	87.50	904	0.626	-0.062	0.018	-0.030	-18	773

19	82.50	932	0.557	-0.037	0.010	-0.011	-7	797
18	77.50	959	0.491	-0.013	0.007	0.009	6	820
17	72.50	986	0.430	0.008	0.006	0.028	18	843
16	67.50	1,013	0.373	0.026	0.008	0.042	28	866
15	62.50	1,040	0.320	0.041	0.011	0.052	36	889
14	57.50	1,067	0.270	0.052	0.015	0.058	41	913
13	54.54	199	0.243	0.056	0.018	0.060	8	170
12	52.04	1,713	0.222	0.060	0.020	0.061	70	1,465
11	48.96	889	0.196	0.063	0.024	0.061	36	760
10	46.46	734	0.177	0.065	0.026	0.061	30	628
9	42.50	1,284	0.148	0.068	0.030	0.061	52	1,098
8	37.50	1,315	0.115	0.070	0.035	0.059	52	1,125
7	32.50	1,347	0.086	0.071	0.039	0.058	52	1,152
6	27.50	1,379	0.062	0.072	0.041	0.057	52	1,179
5	22.50	1,410	0.041	0.070	0.042	0.055	51	1,206
4	17.50	1,442	0.025	0.066	0.039	0.052	50	1,233
3	12.50	1,474	0.013	0.058	0.034	0.047	46	1,260
2	7.50	1,505	0.005	0.043	0.024	0.037	37	1,287
1	2.50	1,537	0.001	0.018	0.010	0.017	18	1,315
Powerwave Allgon LGP	152.00	33	1.890	1.980	1.140	0.425	9	28
Powerwave Allgon 702	152.00	26	1.890	1.980	1.140	0.425	7	23
CCI DTMABP7819VG12A	152.00	58	1.890	1.980	1.140	0.425	16	49
Powerwave Allgon LGP	152.00	85	1.890	1.980	1.140	0.425	24	72
Raycap DC6-48-60-18-	152.00	20	1.890	1.980	1.140	0.425	6	17
Ericsson RRUS 4415 B	152.00	138	1.890	1.980	1.140	0.425	39	118
Ericsson RRUS 4449 B	152.00	213	1.890	1.980	1.140	0.425	60	182
Ericsson RRUS 4478 B	152.00	178	1.890	1.980	1.140	0.425	51	152
Raycap DC6-48-60-18-	152.00	16	1.890	1.980	1.140	0.425	5	14
Ericsson RRUS-12 190	152.00	180	1.890	1.980	1.140	0.425	51	154
Raycap DC6-48-60-18-	152.00	16	1.890	1.980	1.140	0.425	5	14
Powerwave Allgon 777	152.00	105	1.890	1.980	1.140	0.425	30	90
Kathrein Scala 80010	152.00	586	1.890	1.980	1.140	0.425	166	501
Generic 15' Omni	151.00	40	1.865	1.852	1.094	0.407	11	34
Site Pro1 RMQP-496-H	149.00	2,449	1.816	1.613	1.005	0.371	605	2,094
RFS FD9R6004/1C-3L	142.00	19	1.649	0.940	0.739	0.257	3	16
Rymsa MGD3-800T0	142.00	59	1.649	0.940	0.739	0.257	10	51
Andrew DB846H80E-SX	142.00	96	1.649	0.940	0.739	0.257	16	82
Powerwave Allgon P65	142.00	99	1.649	0.940	0.739	0.257	17	85
Generic 2" x 4" GPS	141.00	5	1.626	0.862	0.706	0.242	1	4
Flat Low Profile Pla	141.00	1,500	1.626	0.862	0.706	0.242	242	1,283
KMW AWS Twin Dual 70	134.00	52	1.469	0.427	0.507	0.149	5	45
Ericsson Radio 4449	134.00	222	1.469	0.427	0.507	0.149	22	190
Ericsson AIR 21	134.00	273	1.469	0.427	0.507	0.149	27	233
RFS APXVAARR24_43-U-	134.00	384	1.469	0.427	0.507	0.149	38	328
Flat Platform with R	134.00	2,000	1.469	0.427	0.507	0.149	199	1,710
		39,576	76.204	47.978	33.568	11.951	2,542	33,845

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.35	-2.53	0.00	-314.36	0.00	314.36	5,359.60	2,679.80	12,402.66	6,210.55	0.00	0.00	0.059
5.00	-45.48	-2.50	0.00	-301.72	0.00	301.72	5,275.68	2,637.84	11,915.59	5,966.65	0.01	-0.01	0.059
10.00	-43.64	-2.47	0.00	-289.20	0.00	289.20	5,189.62	2,594.81	11,433.16	5,725.08	0.03	-0.03	0.059
15.00	-41.84	-2.43	0.00	-276.86	0.00	276.86	5,101.44	2,550.72	10,955.70	5,485.99	0.07	-0.04	0.059
20.00	-40.09	-2.39	0.00	-264.72	0.00	264.72	5,011.12	2,505.56	10,483.58	5,249.58	0.12	-0.06	0.058
25.00	-38.37	-2.34	0.00	-252.78	0.00	252.78	4,918.68	2,459.34	10,017.16	5,016.02	0.19	-0.07	0.058
30.00	-36.69	-2.30	0.00	-241.07	0.00	241.07	4,824.11	2,412.05	9,556.78	4,785.49	0.28	-0.09	0.058
35.00	-35.06	-2.25	0.00	-229.57	0.00	229.57	4,727.41	2,363.70	9,102.80	4,558.17	0.38	-0.11	0.058
40.00	-33.46	-2.21	0.00	-218.30	0.00	218.30	4,628.58	2,314.29	8,655.58	4,334.22	0.50	-0.13	0.058
45.00	-32.54	-2.19	0.00	-207.25	0.00	207.25	4,527.62	2,263.81	8,215.47	4,113.84	0.65	-0.14	0.058
47.92	-31.44	-2.15	0.00	-200.87	0.00	200.87	4,467.74	2,233.87	7,962.16	3,987.00	0.74	-0.15	0.057
50.00	-29.30	-2.08	0.00	-196.39	0.00	196.39	4,424.53	2,212.27	7,782.82	3,897.19	0.81	-0.16	0.057
54.08	-29.06	-2.08	0.00	-187.88	0.00	187.88	3,619.86	1,809.93	6,334.27	3,171.85	0.95	-0.18	0.067
55.00	-27.73	-2.04	0.00	-185.98	0.00	185.98	3,605.16	1,802.58	6,271.86	3,140.59	0.99	-0.18	0.067
60.00	-26.43	-2.01	0.00	-175.78	0.00	175.78	3,523.72	1,761.86	5,934.59	2,971.70	1.19	-0.21	0.067
65.00	-25.17	-1.99	0.00	-165.72	0.00	165.72	3,440.15	1,720.07	5,602.88	2,805.61	1.42	-0.23	0.066
70.00	-23.94	-1.97	0.00	-155.79	0.00	155.79	3,354.45	1,677.22	5,277.11	2,642.48	1.67	-0.25	0.066
75.00	-22.75	-1.97	0.00	-145.91	0.00	145.91	3,266.62	1,633.31	4,957.62	2,482.50	1.95	-0.28	0.066
80.00	-21.59	-1.98	0.00	-136.05	0.00	136.05	3,154.85	1,577.42	4,612.87	2,309.86	2.26	-0.30	0.066
85.00	-20.46	-2.01	0.00	-126.12	0.00	126.12	3,036.31	1,518.16	4,271.03	2,138.69	2.59	-0.33	0.066
90.00	-19.37	-2.04	0.00	-116.09	0.00	116.09	2,917.78	1,458.89	3,942.34	1,974.10	2.95	-0.36	0.065
95.00	-18.78	-2.06	0.00	-105.92	0.00	105.92	2,799.25	1,399.62	3,626.81	1,816.10	3.34	-0.39	0.065
97.75	-18.07	-2.08	0.00	-100.27	0.00	100.27	2,734.06	1,367.03	3,458.88	1,732.01	3.57	-0.41	0.065
100.00	-17.37	-2.09	0.00	-95.60	0.00	95.60	2,680.72	1,340.36	3,324.44	1,664.69	3.77	-0.42	0.064
102.25	-16.94	-2.11	0.00	-90.88	0.00	90.88	1,683.04	841.52	2,097.24	1,050.18	3.97	-0.43	0.097
105.00	-16.18	-2.13	0.00	-85.09	0.00	85.09	1,655.06	827.53	2,011.86	1,007.42	4.23	-0.45	0.094
110.00	-15.44	-2.14	0.00	-74.45	0.00	74.45	1,602.55	801.28	1,859.07	930.92	4.72	-0.50	0.090
115.00	-14.72	-2.15	0.00	-63.72	0.00	63.72	1,547.92	773.96	1,709.77	856.15	5.27	-0.54	0.084
120.00	-14.02	-2.14	0.00	-52.98	0.00	52.98	1,491.15	745.57	1,564.29	783.31	5.85	-0.58	0.077
125.00	-13.35	-2.11	0.00	-42.28	0.00	42.28	1,428.88	714.44	1,419.66	710.88	6.49	-0.62	0.069
130.00	-12.82	-2.08	0.00	-31.71	0.00	31.71	1,349.86	674.93	1,266.22	634.05	7.16	-0.66	0.060
134.00	-9.06	-1.74	0.00	-23.40	0.00	23.40	1,286.64	643.32	1,149.79	575.75	7.72	-0.68	0.048
135.00	-8.49	-1.67	0.00	-21.66	0.00	21.66	1,270.84	635.42	1,121.56	561.61	7.87	-0.69	0.045
140.00	-8.38	-1.66	0.00	-13.30	0.00	13.30	1,191.82	595.91	985.67	493.57	8.60	-0.72	0.034
141.00	-6.40	-1.38	0.00	-11.64	0.00	11.64	1,176.01	588.01	959.54	480.48	8.75	-0.72	0.030
142.00	-5.78	-1.28	0.00	-10.26	0.00	10.26	1,160.21	580.10	933.77	467.58	8.91	-0.72	0.027
145.00	-5.41	-1.21	0.00	-6.41	0.00	6.41	1,112.80	556.40	858.55	429.91	9.36	-0.73	0.020
149.00	-2.28	-0.55	0.00	-1.57	0.00	1.57	1,049.58	524.79	763.17	382.15	9.98	-0.74	0.006
150.00	-2.19	-0.53	0.00	-1.02	0.00	1.02	1,033.78	516.89	740.20	370.65	10.14	-0.74	0.005
151.00	-2.05	-0.50	0.00	-0.50	0.00	0.50	1,017.97	508.99	717.59	359.33	10.29	-0.74	0.003
152.00	0.00	-0.47	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	10.45	-0.74	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.53	-2.53	0.00	-309.72	0.00	309.72	5,359.60	2,679.80	12,402.66	6,210.55	0.00	0.00	0.056
5.00	-31.24	-2.50	0.00	-297.08	0.00	297.08	5,275.68	2,637.84	11,915.59	5,966.65	0.01	-0.01	0.056
10.00	-29.98	-2.46	0.00	-284.59	0.00	284.59	5,189.62	2,594.81	11,433.16	5,725.08	0.03	-0.03	0.055
15.00	-28.75	-2.42	0.00	-272.30	0.00	272.30	5,101.44	2,550.72	10,955.70	5,485.99	0.07	-0.04	0.055
20.00	-27.54	-2.37	0.00	-260.21	0.00	260.21	5,011.12	2,505.56	10,483.58	5,249.58	0.12	-0.06	0.055
25.00	-26.36	-2.33	0.00	-248.36	0.00	248.36	4,918.68	2,459.34	10,017.16	5,016.02	0.19	-0.07	0.055
30.00	-25.21	-2.28	0.00	-236.73	0.00	236.73	4,824.11	2,412.05	9,556.78	4,785.49	0.27	-0.09	0.055
35.00	-24.08	-2.23	0.00	-225.34	0.00	225.34	4,727.41	2,363.70	9,102.80	4,558.17	0.38	-0.11	0.055
40.00	-22.98	-2.18	0.00	-214.18	0.00	214.18	4,628.58	2,314.29	8,655.58	4,334.22	0.50	-0.12	0.054
45.00	-22.36	-2.16	0.00	-203.26	0.00	203.26	4,527.62	2,263.81	8,215.47	4,113.84	0.64	-0.14	0.054
47.92	-21.60	-2.12	0.00	-196.96	0.00	196.96	4,467.74	2,233.87	7,962.16	3,987.00	0.72	-0.15	0.054
50.00	-20.13	-2.05	0.00	-192.54	0.00	192.54	4,424.53	2,212.27	7,782.82	3,897.19	0.79	-0.16	0.054
54.08	-19.96	-2.05	0.00	-184.15	0.00	184.15	3,619.86	1,809.93	6,334.27	3,171.85	0.94	-0.18	0.064
55.00	-19.05	-2.01	0.00	-182.27	0.00	182.27	3,605.16	1,802.58	6,271.86	3,140.59	0.97	-0.18	0.063
60.00	-18.16	-1.98	0.00	-172.22	0.00	172.22	3,523.72	1,761.86	5,934.59	2,971.70	1.17	-0.20	0.063
65.00	-17.29	-1.95	0.00	-162.33	0.00	162.33	3,440.15	1,720.07	5,602.88	2,805.61	1.39	-0.22	0.063
70.00	-16.45	-1.94	0.00	-152.56	0.00	152.56	3,354.45	1,677.22	5,277.11	2,642.48	1.64	-0.25	0.063
75.00	-15.63	-1.94	0.00	-142.87	0.00	142.87	3,266.62	1,633.31	4,957.62	2,482.50	1.92	-0.27	0.062
80.00	-14.83	-1.95	0.00	-133.19	0.00	133.19	3,154.85	1,577.42	4,612.87	2,309.86	2.22	-0.30	0.062
85.00	-14.05	-1.97	0.00	-123.47	0.00	123.47	3,036.31	1,518.16	4,271.03	2,138.69	2.54	-0.33	0.062
90.00	-13.30	-1.99	0.00	-113.64	0.00	113.64	2,917.78	1,458.89	3,942.34	1,974.10	2.90	-0.35	0.062
95.00	-12.90	-2.01	0.00	-103.67	0.00	103.67	2,799.25	1,399.62	3,626.81	1,816.10	3.28	-0.38	0.062
97.75	-12.41	-2.03	0.00	-98.13	0.00	98.13	2,734.06	1,367.03	3,458.88	1,732.01	3.51	-0.40	0.061
100.00	-11.93	-2.05	0.00	-93.56	0.00	93.56	2,680.72	1,340.36	3,324.44	1,664.69	3.70	-0.41	0.061
102.25	-11.64	-2.06	0.00	-88.94	0.00	88.94	1,683.04	841.52	2,097.24	1,050.18	3.90	-0.43	0.092
105.00	-11.11	-2.08	0.00	-83.26	0.00	83.26	1,655.06	827.53	2,011.86	1,007.42	4.15	-0.44	0.089
110.00	-10.60	-2.10	0.00	-72.84	0.00	72.84	1,602.55	801.28	1,859.07	930.92	4.64	-0.49	0.085
115.00	-10.11	-2.10	0.00	-62.35	0.00	62.35	1,547.92	773.96	1,709.77	856.15	5.17	-0.53	0.079
120.00	-9.63	-2.09	0.00	-51.84	0.00	51.84	1,491.15	745.57	1,564.29	783.31	5.74	-0.57	0.073
125.00	-9.16	-2.06	0.00	-41.38	0.00	41.38	1,428.88	714.44	1,419.66	710.88	6.36	-0.61	0.065
130.00	-8.80	-2.03	0.00	-31.06	0.00	31.06	1,349.86	674.93	1,266.22	634.05	7.02	-0.65	0.056
134.00	-6.22	-1.70	0.00	-22.94	0.00	22.94	1,286.64	643.32	1,149.79	575.75	7.57	-0.67	0.045
135.00	-5.83	-1.64	0.00	-21.24	0.00	21.24	1,270.84	635.42	1,121.56	561.61	7.71	-0.68	0.042
140.00	-5.75	-1.63	0.00	-13.04	0.00	13.04	1,191.82	595.91	985.67	493.57	8.44	-0.70	0.031
141.00	-4.39	-1.35	0.00	-11.42	0.00	11.42	1,176.01	588.01	959.54	480.48	8.59	-0.71	0.028
142.00	-3.96	-1.26	0.00	-10.07	0.00	10.07	1,160.21	580.10	933.77	467.58	8.73	-0.71	0.025
145.00	-3.71	-1.19	0.00	-6.29	0.00	6.29	1,112.80	556.40	858.55	429.91	9.18	-0.72	0.018
149.00	-1.56	-0.54	0.00	-1.54	0.00	1.54	1,049.58	524.79	763.17	382.15	9.79	-0.73	0.006
150.00	-1.50	-0.52	0.00	-1.00	0.00	1.00	1,033.78	516.89	740.20	370.65	9.94	-0.73	0.004
151.00	-1.41	-0.49	0.00	-0.49	0.00	0.49	1,017.97	508.99	717.59	359.33	10.09	-0.73	0.003
152.00	0.00	-0.47	0.00	0.00	0.00	0.00	1,002.17	501.08	695.32	348.18	10.24	-0.73	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	25.39	0.00	47.46	0.00	0.00	2870.84	102.25	0.59
0.9D + 1.6W	24.47	0.00	35.59	0.00	0.00	2772.35	102.25	0.57
1.2D + 1.0Di + 1.0Wi	11.64	0.00	71.23	0.00	0.00	1111.89	102.25	0.21
(1.2 + 0.2Sds) * DL + E ELFM	1.27	0.00	47.35	0.00	0.00	161.65	102.25	0.05
(1.2 + 0.2Sds) * DL + E EMAM	2.53	0.00	47.35	0.00	0.00	314.36	102.25	0.10
(0.9 - 0.2Sds) * DL + E ELFM	1.27	0.00	32.53	0.00	0.00	159.43	102.25	0.04
(0.9 - 0.2Sds) * DL + E EMAM	2.53	0.00	32.53	0.00	0.00	309.72	102.25	0.09
1.0D + 1.0W	5.70	0.00	39.57	0.00	0.00	648.10	102.25	0.14

Base Plate & Anchor Rod Analysis

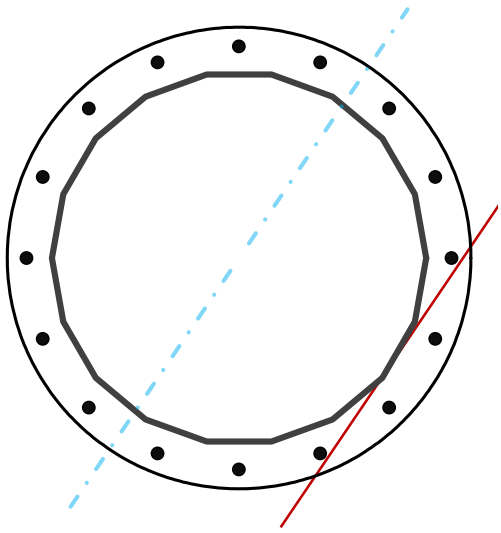
Pole Dimensions		
Number of Sides	18	-
Diameter	56.75	in
Thickness	0.4375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	2870.8	k-ft
Axial, Pu	47.5	k
Shear, Vu	25.4	k
Neutral Axis	236	°

Report Capacities		
Component	Capacity	Result
Base Plate	58%	Pass
Anchor Rods	51%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	72	in
Thickness	2	in
Grade	A572-60	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	979.2	k
Bending Stress, ϕMn	1679.4	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	16	-
Diameter, ø	2 1/4	in
Bolt Circle	66	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	13.0	in
Orientation Offset	0	°
Applied Force, Pu	131.0	k
Anchor Rods, ϕPn	259.8	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	25.4	2870.8	1.00
Anchor Rod Forces	25.4	2870.8	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	77.0062	4.2781	0.2740		30529.20
Bolt	3.9761	3.2477	0.8393	4.5	28307.30
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Round	-
Diameter, D	72	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	44.311	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	66	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	131.0	k
Applied Shear, Vu	0.5	k
Compressive Capacity, ϕPn	259.8	k
Tensile Capacity, ϕRnt	0.504	OK
Interaction Capacity	0.508	OK

External Base Plate		
Chord Length AA	37.612	in
Additional AA	4.000	in
Section Modulus, Z	41.612	in^3
Applied Moment, Mu	979.2	k-ft
Bending Capacity, ϕMn	2247.1	k-ft
Capacity, Mu/ϕMn	0.436	OK
Chord Length AB	36.232	in
Additional AB	4.000	in
Section Modulus, Z	40.232	in^3
Applied Moment, Mu	863.6	k-ft
Bending Capacity, ϕMn	2172.5	k-ft
Capacity, Mu/ϕMn	0.398	OK
Bend Line Length	31.100	in
Additional Bend Line	0.000	in
Section Modulus, Z	31.100	in^3
Applied Moment, Mu	979.2	k-ft
Bending Capacity, ϕMn	1679.4	k-ft
Capacity, Mu/ϕMn	0.583	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Exhibit E

Mount Analysis

Mount Analysis of Existing Low Profile Platform for American Tower on behalf of T-Mobile
302518 - Newtown CT 3
Project #: 12927118
T-Mobile Site ID: CT11105F
Program: L600

CLS Engineering PLLC Project #41124-12927118-01-MA-R1
June 21, 2019

MOUNT DESCRIPTION	Existing Low Profile Platform at 132 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 134 ft AGL (Eccentricity of ~2 ft)
SITE DESCRIPTION	152 ft Monopole
SITE ADDRESS	6 Fairfield Drive (Brkfld), Newtown, CT 06470-1216, Fairfield County
GPS COORDINATES	41.42552778, -73.37404722
ANALYSIS STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
LOADING CRITERIA	120 mph, V_{ult} / 93 mph, V_{asd} (3-Second Gust) w/o ice & 50 mph (3-Second Gust) w/ 0.75" Ice

■ **ANALYSIS RESULT:** **Pass (Conditional)**

MEMBER USAGE	**44%**	**Pass**

Modifications are proposed to bring mounts into compliance; see conclusion for details.

Prepared by:
A.J. Ingalls, E.I.

Reviewed and Approved by:
Tyler M. Barker, P.E.

STATE OF CONNECTICUT
TYLER M BARKER
No. 32402
LICENSED PROFESSIONAL ENGINEER

Tyler M. Barker
CLS Engineering, PLLC
Director of Engineering
PE # 32402 Exp. 1/31/2020
COA # PEC.001833 Exp. 8/14/2019

IdenTrust part of HID Global
Digitally signed by Tyler Barker
DN: c=US, o=Telamon Corporation, ou=A01427E0000016A4525ADF800001D17, cn=Tyler Barker
Date: 2019.06.21 18:04:02 -04'00'

■ INTRODUCTION

The proposed equipment is to be mounted to the existing Low Profile Platform. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

■ STRUCTURAL DOCUMENTS PROVIDED

STRUCTURAL DATA	Site Photos, dated January 22, 2018 Site Pro 1 Drawing #HRK12, Rev. A, dated July 10, 2014
PREVIOUS ANALYSES	Tower SA by American Tower Corp., Engineering #OAA745673_C3_01, dated February 6, 2019
LOADING DATA	American Tower Application, Project #12927118, dated March 11, 2019

■ ANALYSIS CRITERIA

STANDARD	2015 IBC / 2018 Connecticut State Building Code / TIA-222-G
BASIC WIND SPEED	120 mph, V_{ult} / 93 mph, V_{asd} (3-Second Gust)
BASIC WIND SPEED W/ ICE	50 mph (3-Second Gust) w/ 0.75" Radial Ice (Escalating)
EXPOSURE CATEGORY	B
MAX. TOPOGRAPHIC FACTOR, K_{zt}	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M: 500 lb

■ FINAL EQUIPMENT

ELEVATION (ft)		ANTENNAS	
MOUNT	**RAD.**	**#**	**NAME**
132.0	134.0	3	Ericsson AIR 21
		3	Ericsson RADIO 4449 B12/B71
		3	KMW AWS Twin Dual 700 Bypass
		3	RFS Celwave APXVAARR24_43-U-NA20

■ RESULTS SUMMARY

Existing Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Platform Base	139%	**Fail**
Mount Pipes	83%	Pass
Grating Support	24%	Pass

Modified Mount Usages:

COMPONENT	PEAK USAGE	RESULT
Mount Pipes	44%	Pass
Support Rail	33%	Pass
Platform Base	30%	Pass
Support Rail Corner	25%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **CONDITIONALLY PASS**. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- **Install Site Pro 1 HRK12 Support Rail kit at 3'-0" above the existing platform base horizontal channel. Connect to (2) existing mount pipes per sector of the mount (6 total) using Site Pro 1 SCX1 Crossover Plate kits included in the Support Rail kit. Field-cut proposed pipes as required.**

See following sketches and Site Pro 1 drawings for additional details.

■ ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, CLS Engineering PLLC should be notified immediately to revise results.

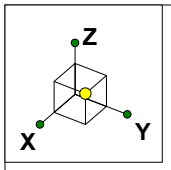
This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

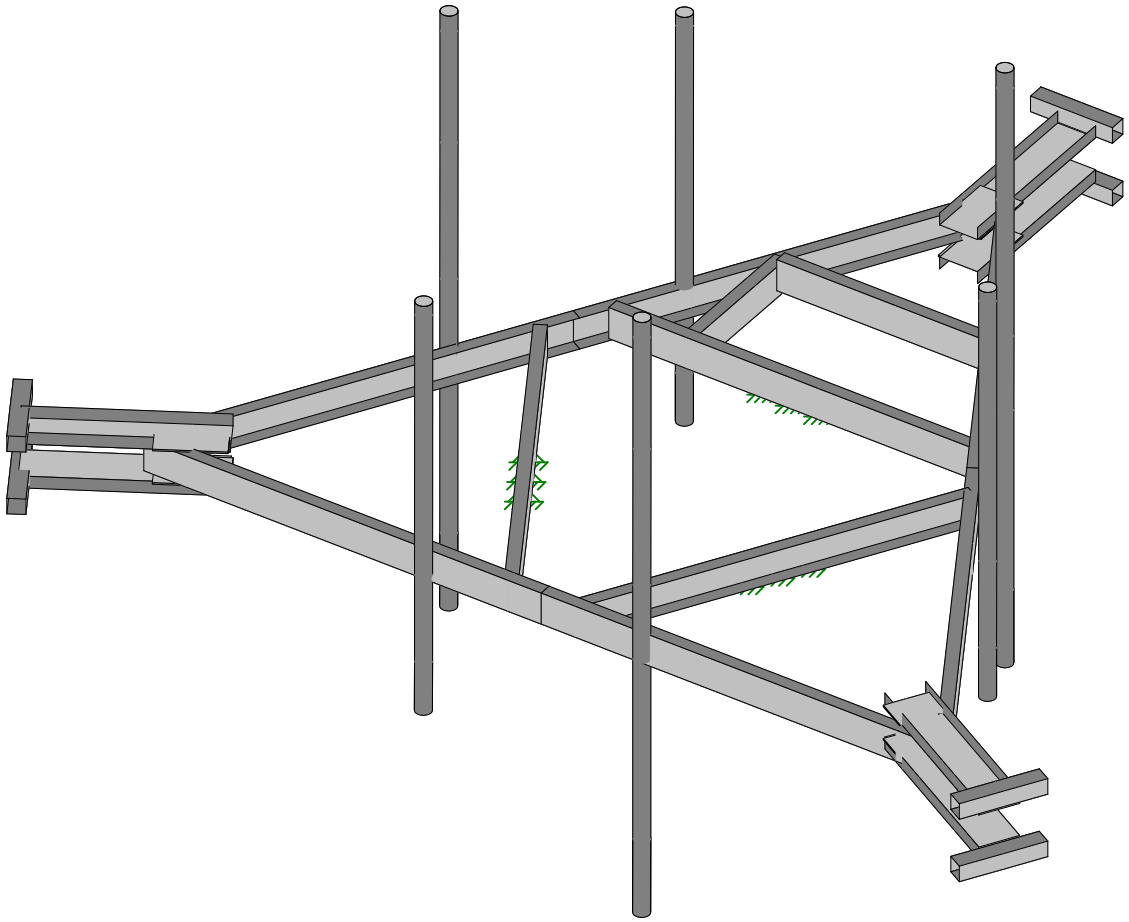
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from CLS Engineering PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. CLS Engineering PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by CLS Engineering PLLC verifies the adequacy of the primary members of the structure. CLS Engineering PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.



Existing Mount - To Be Modified



Envelope Only Solution

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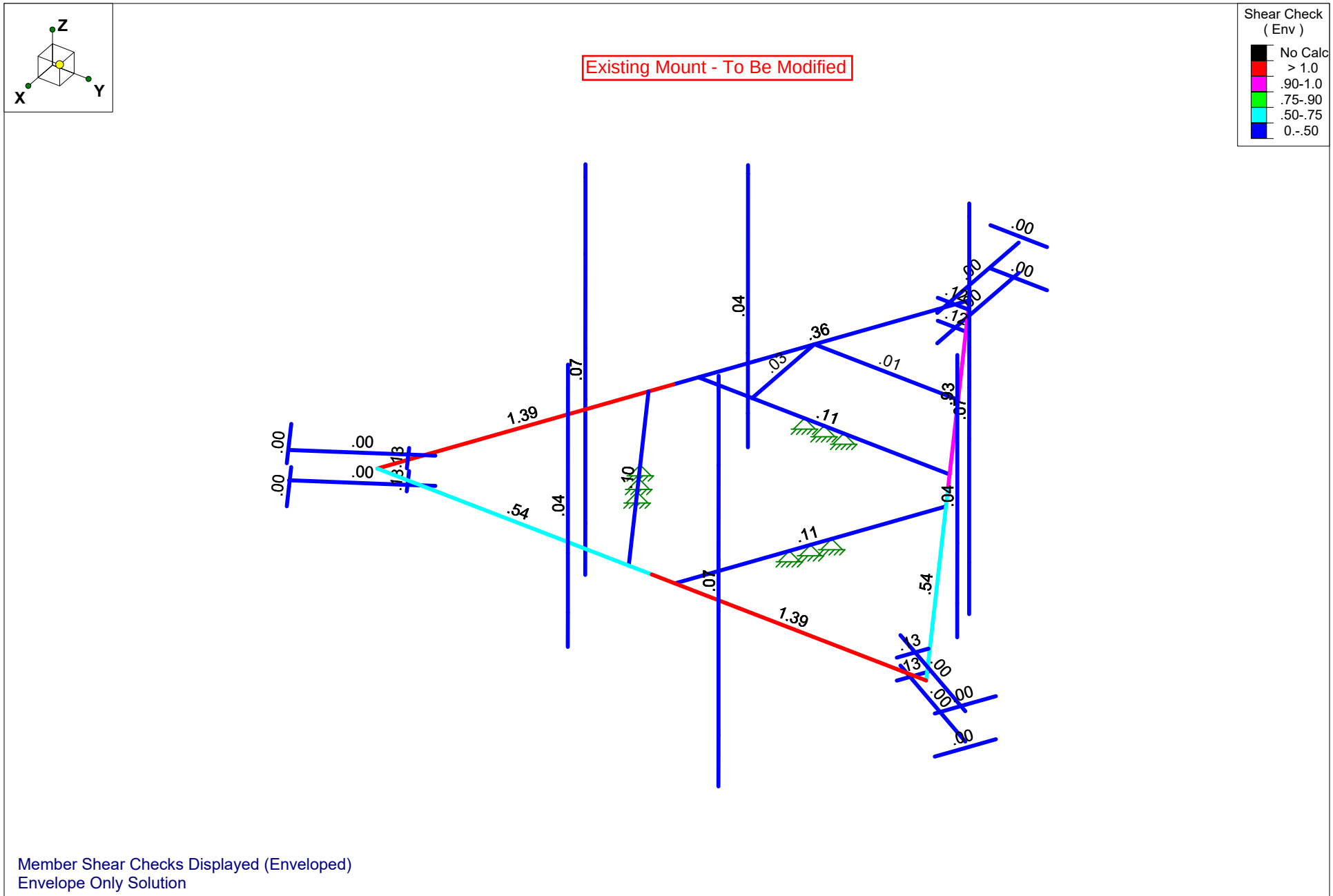

Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	EX - 2
AJI		June 21, 2019 at 4:31 PM
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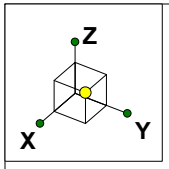
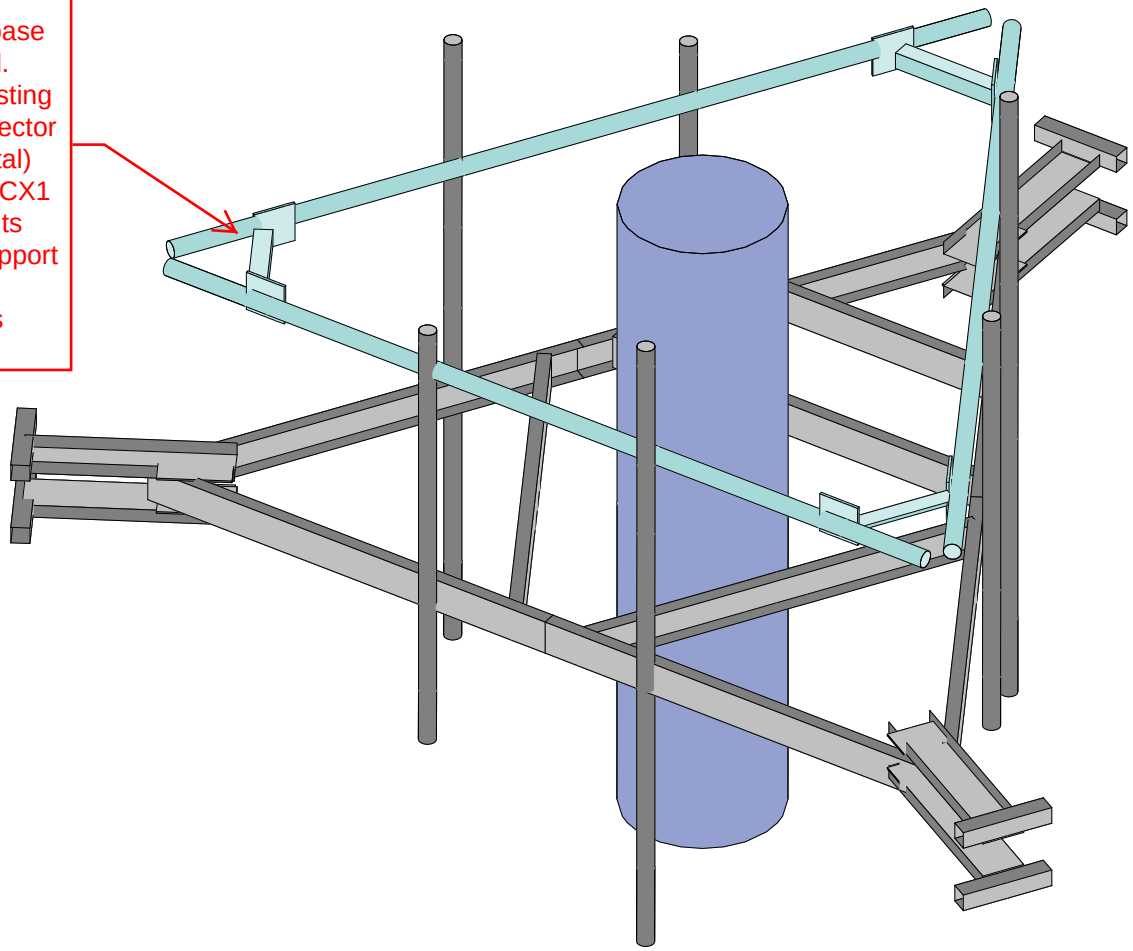


Install Site Pro 1 HRK12 Support Rail kit at 3'-0" above the existing platform base horizontal channel. Connect to (2) existing mount pipes per sector of the mount (6 total) using Site Pro 1 SCX1 Crossover Plate kits included in the Support Rail kit. Field-cut proposed pipes as required.



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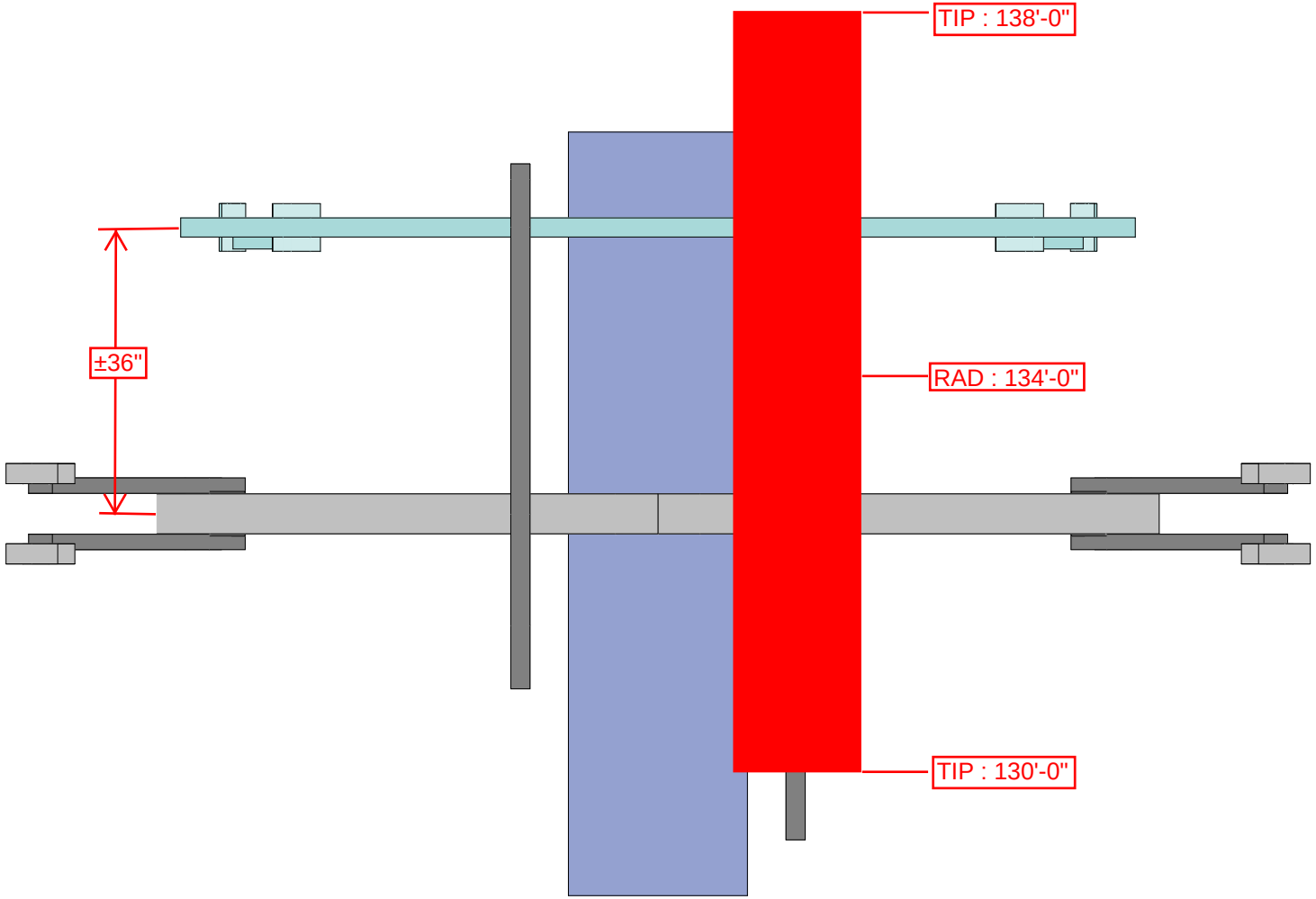

CLS		IN - 2
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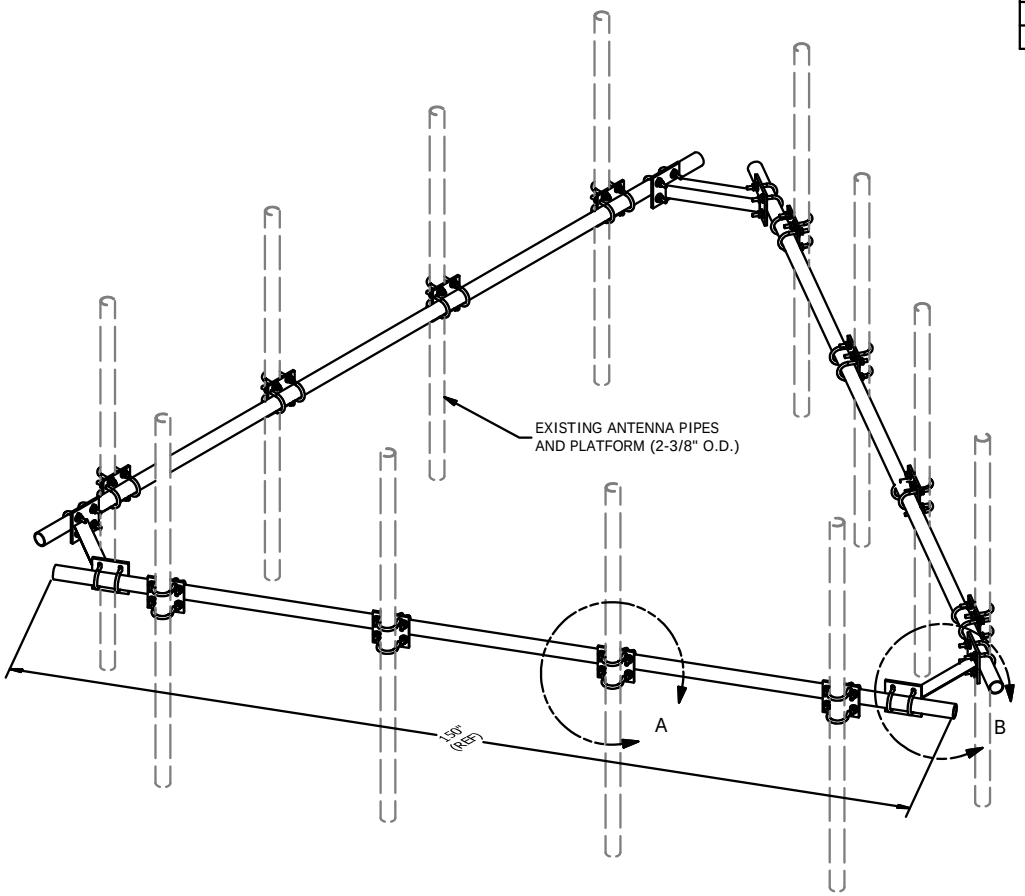
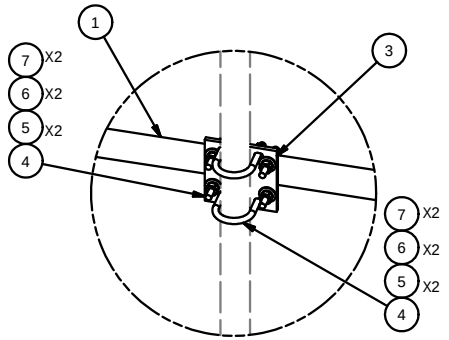
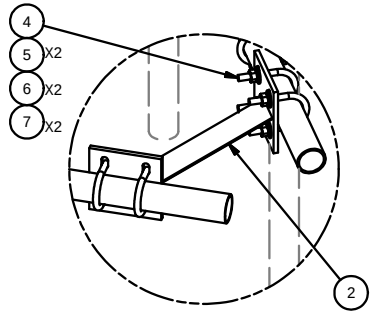
41124-12927118-01-MA-R1	Recommended Modifications - Front View	41124-12927118-01-MA-R1.r3d

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	P2150	2-3/8" OD X 150" SCH 40 GALVANIZED PIPE	150 in	48.06	144.17
2	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
3	12	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"		3.71	44.50
4	120	G12FW	1/2" HDG USS FLATWASHER		0.03	4.08
5	60	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.73	43.90
6	120	G12LW	1/2" HDG LOCKWASHER		0.01	1.67
7	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.58
					TOTAL WT. #	261.72





DETAIL A



DETAIL B

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	REPLACED HCP WITH X-AHCP		CEK	7/10/2014

REVISION HISTORY

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

DESCRIPTION
HANDRAIL KIT
FOR 12'-6" FACE

SITE PRO 1
A valmont COMPANY

Engineering Support Team:
1-888-753-7446

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

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
	KC8 5/30/2012		HRK12

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	01	CUSTOMER	BMC 7/14/2014	HRK12

Wind & Ice Loading

Nominal Mount Elevation (AGL), z_{mount}	132 ft	**K_a**	0.90
Nominal Rad Elevation (AGL), z_{rad}	134 ft	**K_d**	0.95
Elevation AMSL (ft)	-	**K_e**	-
TIA Standard	G	**K_z**	1.07
Basic Wind Speed, V_{ult} (bare)	120 mph	**K_{zt}**	1.00
Basic Wind Speed, V (ice)	50 mph	**K_s**	-
Design Ice Thickness, t_i	3/4 in	**t_{iz}**	1.72 in
Exposure Category	B	**G_h**	1.00
Risk Category	II	**q_z (bare)**	37.5 psf
Seismic Response Coeff., C_s	-	**q_z (ice)**	6.5 psf

Live Loading

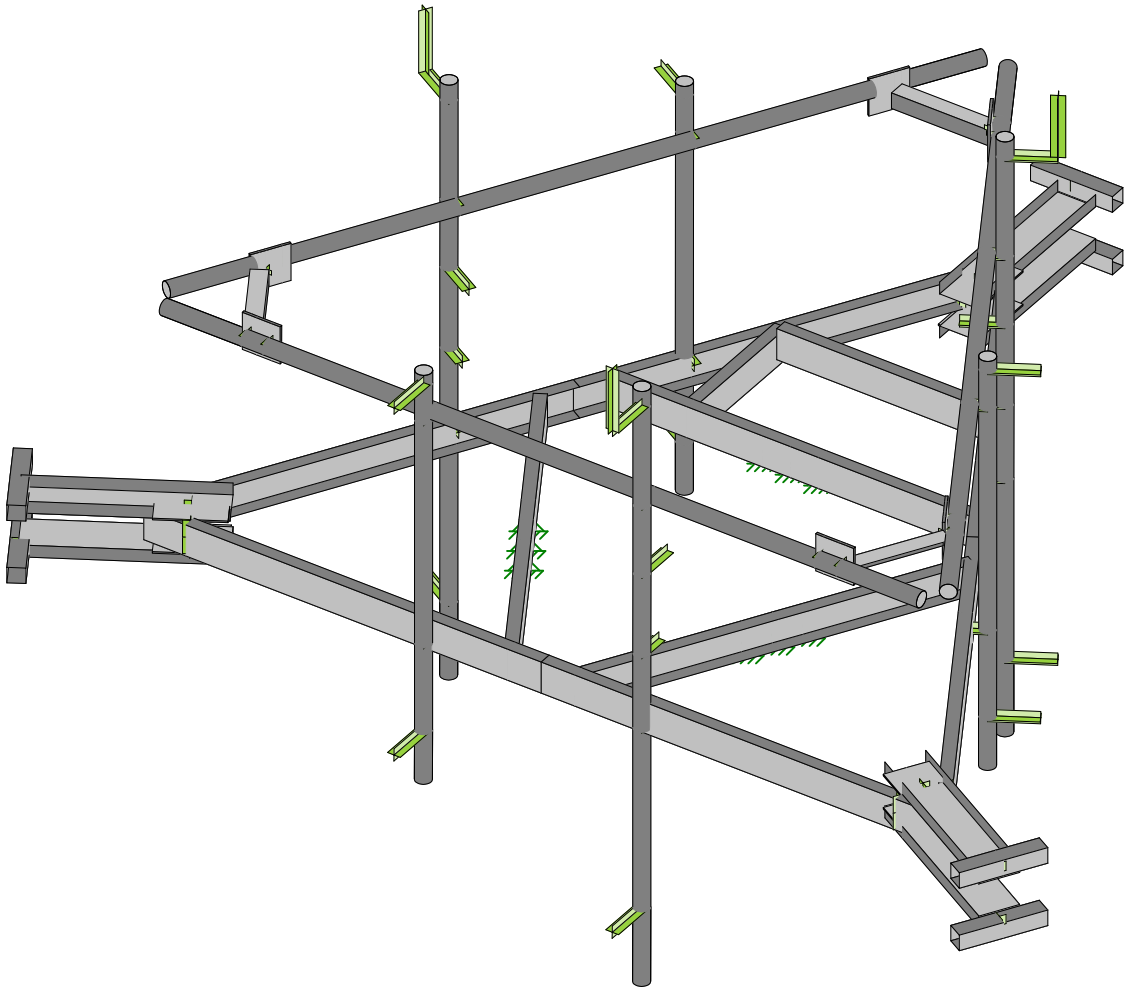
At Mount Pipes, L_M	500 lb
Joint Labels Considered	m1
	m2

Member Distributed Loading

Section Set Label	Shape Label	F_A (lb/ft)		Ice Wt. (lb/ft)
		Bare	Ice	
Corner Plate	PL1/4x10	56.20	7.87	17.36
Grating Channel	C5X9	28.10	2.38	14.46
Standoff arm Channel	C6X8.2	33.72	2.46	16.05
HSS tube	HSS2.5X2.5X4	14.05	2.20	10.33
Mount Pipe	PIPE_2.0	8.01	3.41	8.63
MOD Support Rail	PIPE_2.0	8.01	3.41	8.63
MOD SR Conn Plate	PL6x0.375	33.72	5.54	12.17
MOD SR Conn Angle	L2.5x2.5x4	14.05	2.20	10.08

Appurtenances

Appurtenance Model	Status	Azimuth Offset (°, ↻)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty. per Azimuth			Total Qty. Override	0° Joints		120° Joints		240° Joints		Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA_A (Bare) (ft²)		EPA_A (Ice) (ft²)		F_A (Bare) (lb)		F_A (Ice) (lb)	
					Front	Side	0°	120°	240°		1	2	1	2	1	2							N	T	N	T	N	T	N	T
AIR 21				☐			1	1	1	**3**	a7	a8	a9	a10	a11	a12	56	12	7.9	91	Flat	143.85	6.05	4.31	8.04	6.19	204.86	145.96	47.25	36.42
APXVAARR24_43-U-NA20				☐			1	1	1	**3**	a1	a2	a3	a4	a5	a6	0	0	0	153.3	Generic	388.58	14.67	5.32	17.29	7.63	496.79	180.16	101.67	44.87
AWS Twin Dual 700 Bypass				☐	0.5		1	1	1	**3**	t1		t2		t3		13.1	9.1	3.4	17.4	Flat	32.99	0.50	0.39	0.87	0.94	16.82	13.20	5.09	5.56
RADIO 4449 B12/B71				☐	0.5		1	1	1	**3**	r1		r2		r3		15	13.2	10.4	75	Flat	59.38	0.83	1.30	1.28	2.13	27.94	44.02	7.53	12.52



Envelope Only Solution

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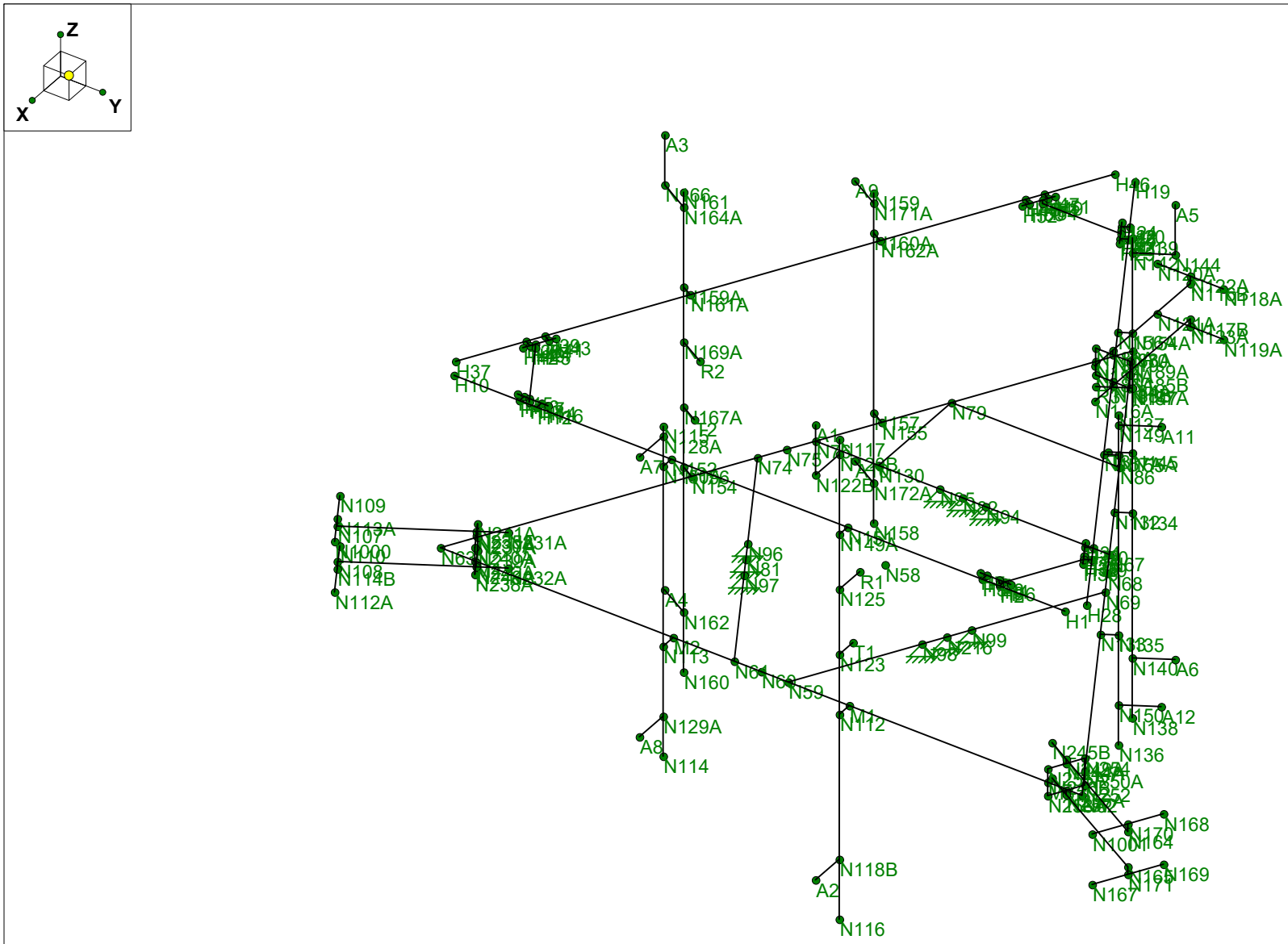
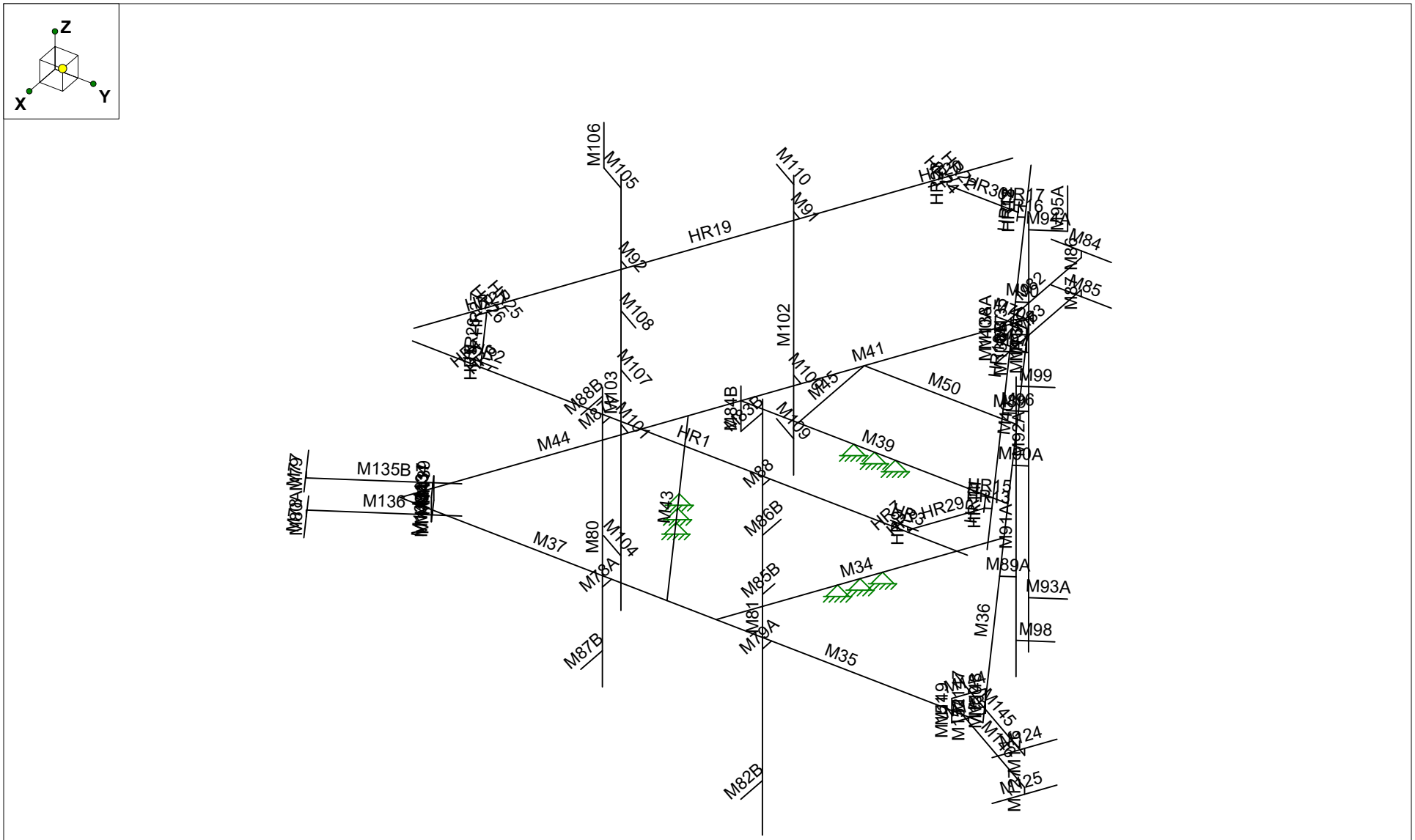


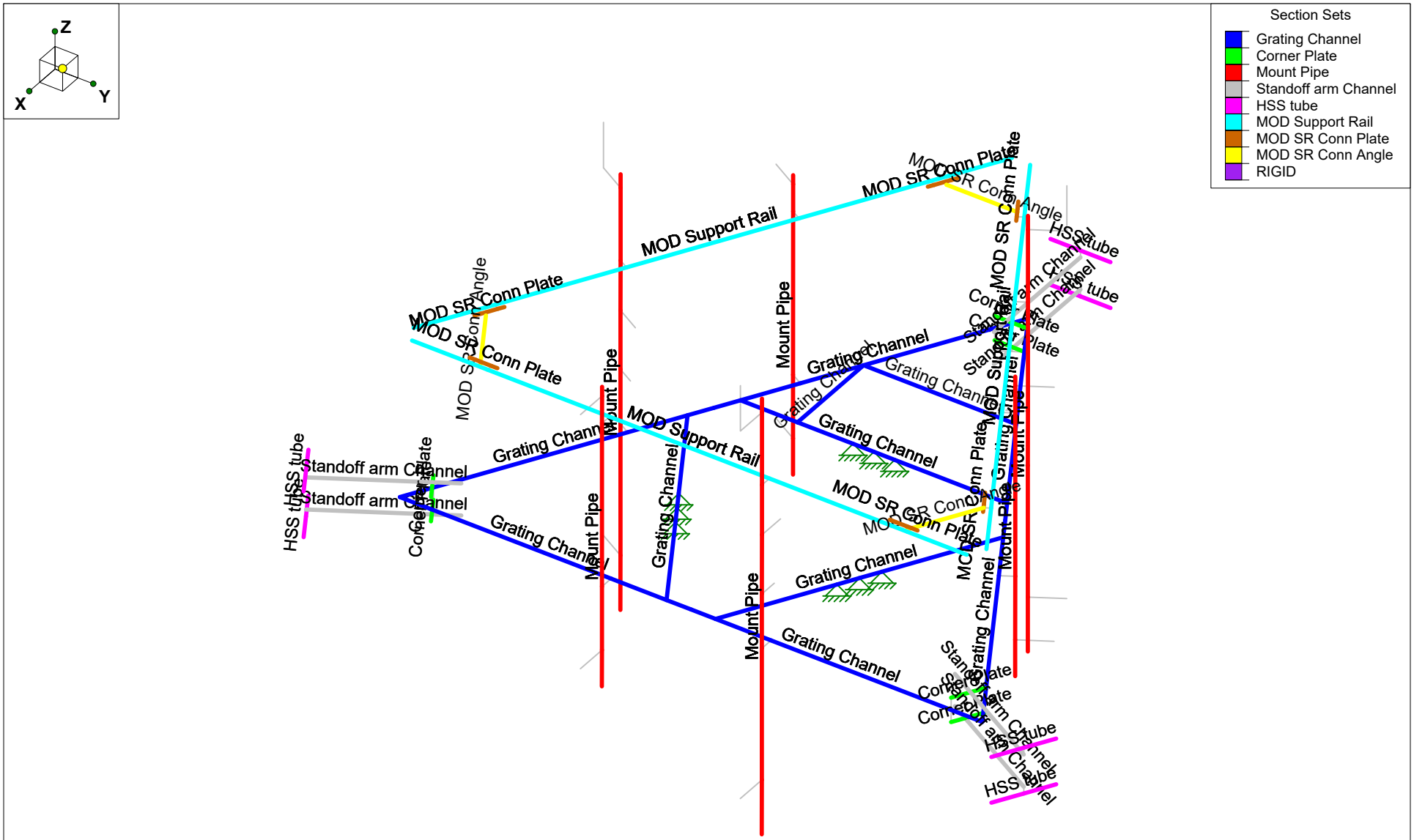
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	SK - 2
AJI		June 21, 2019 at 4:22 PM
41124-12927118-01-MA-R1	Joint Labels	41124-12927118-01-MA-R1.r3d



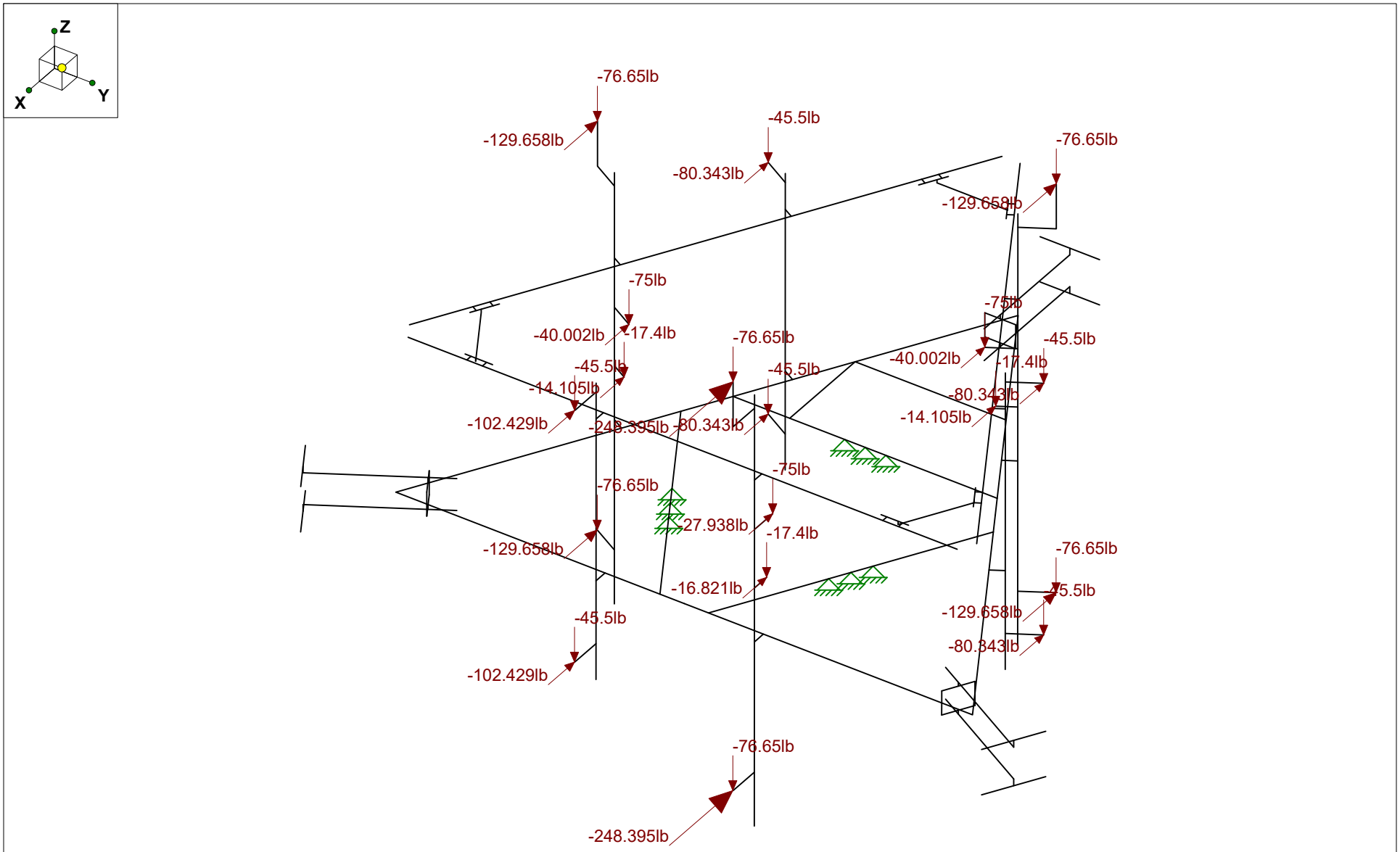
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	SK - 3
AJI		June 21, 2019 at 4:23 PM
41124-12927118-01-MA-R1	Member Labels	41124-12927118-01-MA-R1.r3d



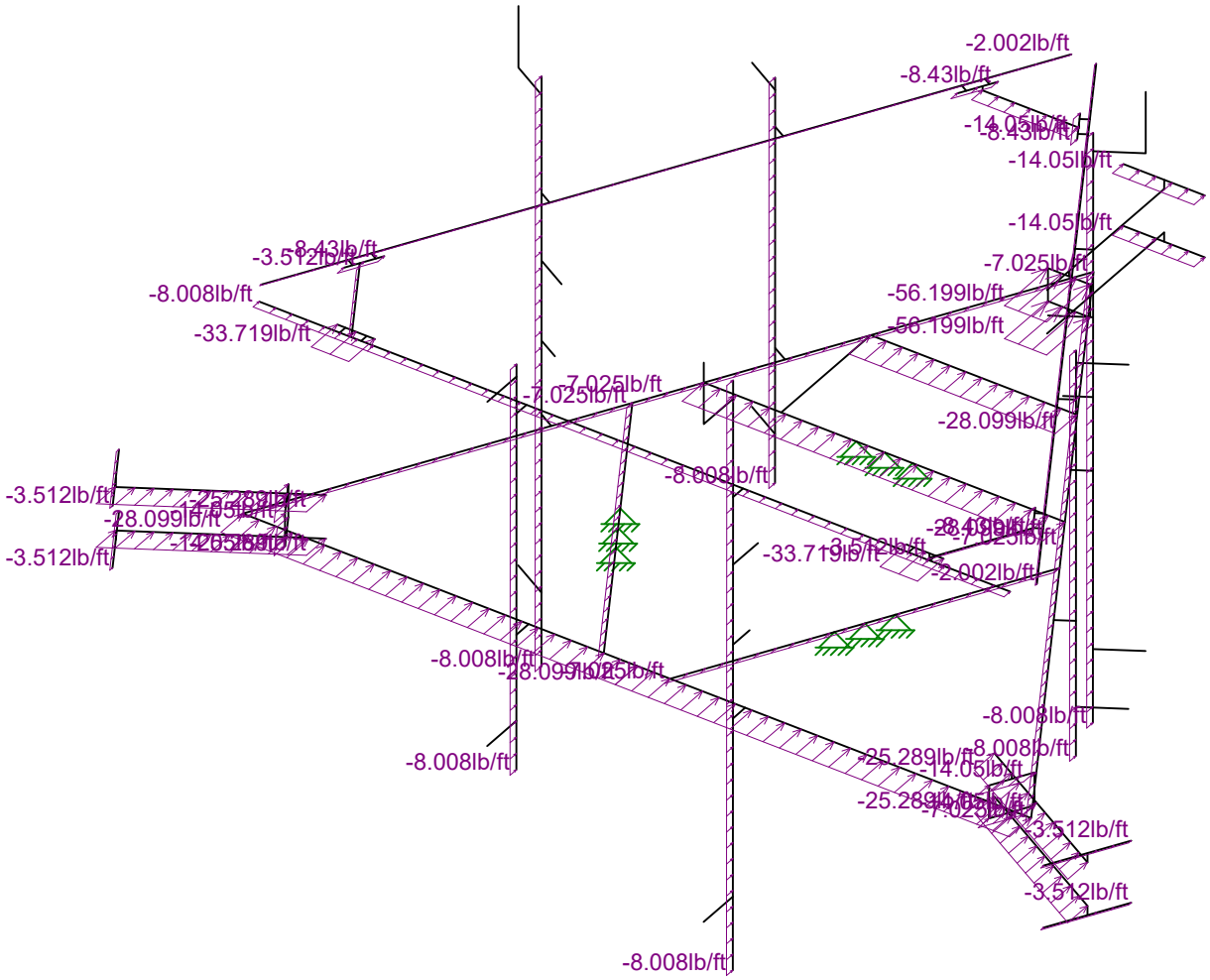
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	SK - 4
AJI		June 21, 2019 at 4:23 PM
41124-12927118-01-MA-R1	Section Sets	41124-12927118-01-MA-R1.r3d



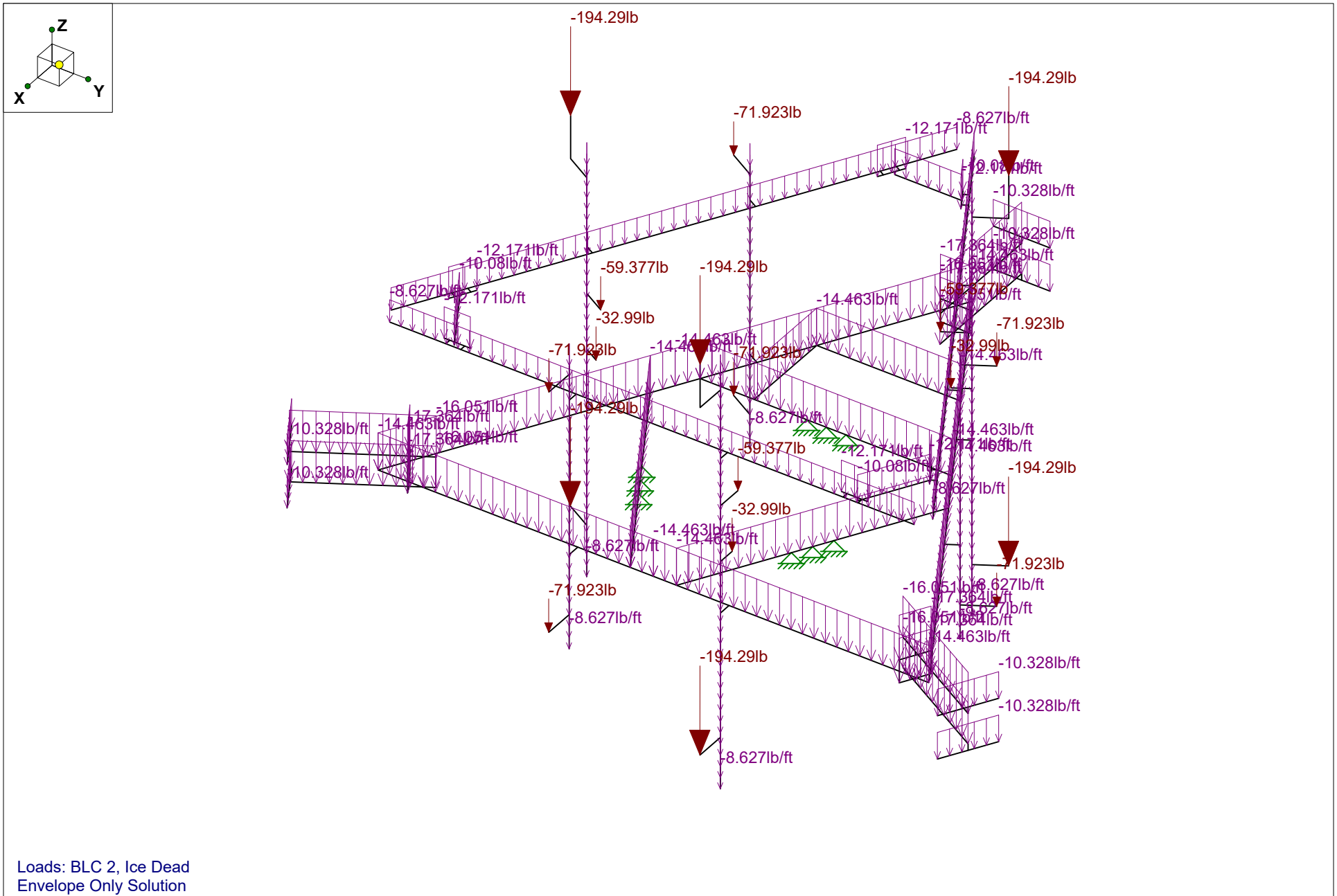
Loads: LC 1, DISPLAY (1.0D + 1.0W_0°)
Envelope Only Solution

CLS		SK - 5
AJI	41124-12927118-Newtown CT 3	June 21, 2019 at 4:23 PM
41124-12927118-01-MA-R1	Joint Loads - Dead and Normal Wind	41124-12927118-01-MA-R1.r3d



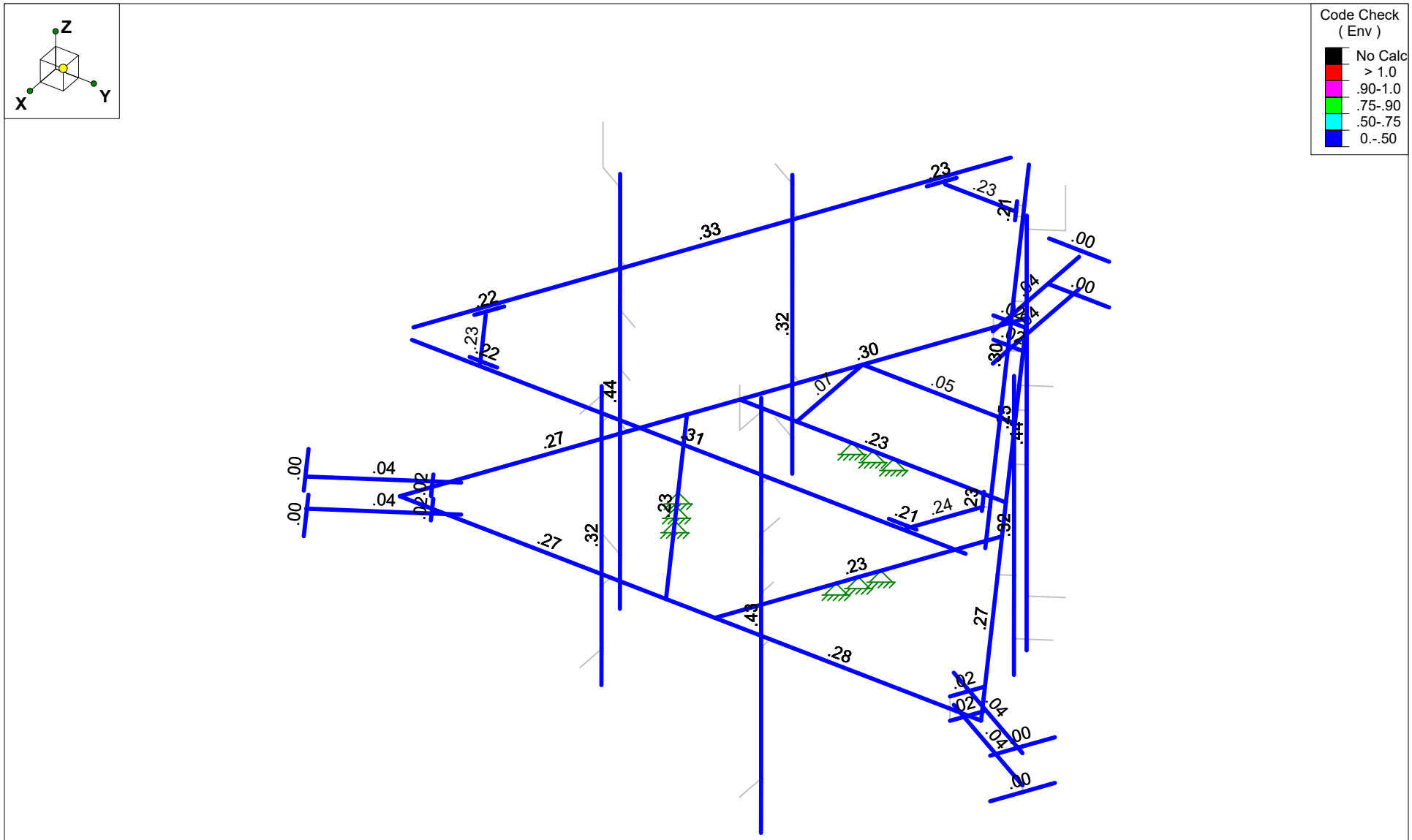
Loads: BLC 4, Structure Wind 0°
Envelope Only Solution

CLS		SK - 6
AJI	41124-12927118-Newtown CT 3	June 21, 2019 at 4:23 PM
41124-12927118-01-MA-R1	Distributed Load - Normal Wind	41124-12927118-01-MA-R1.r3d



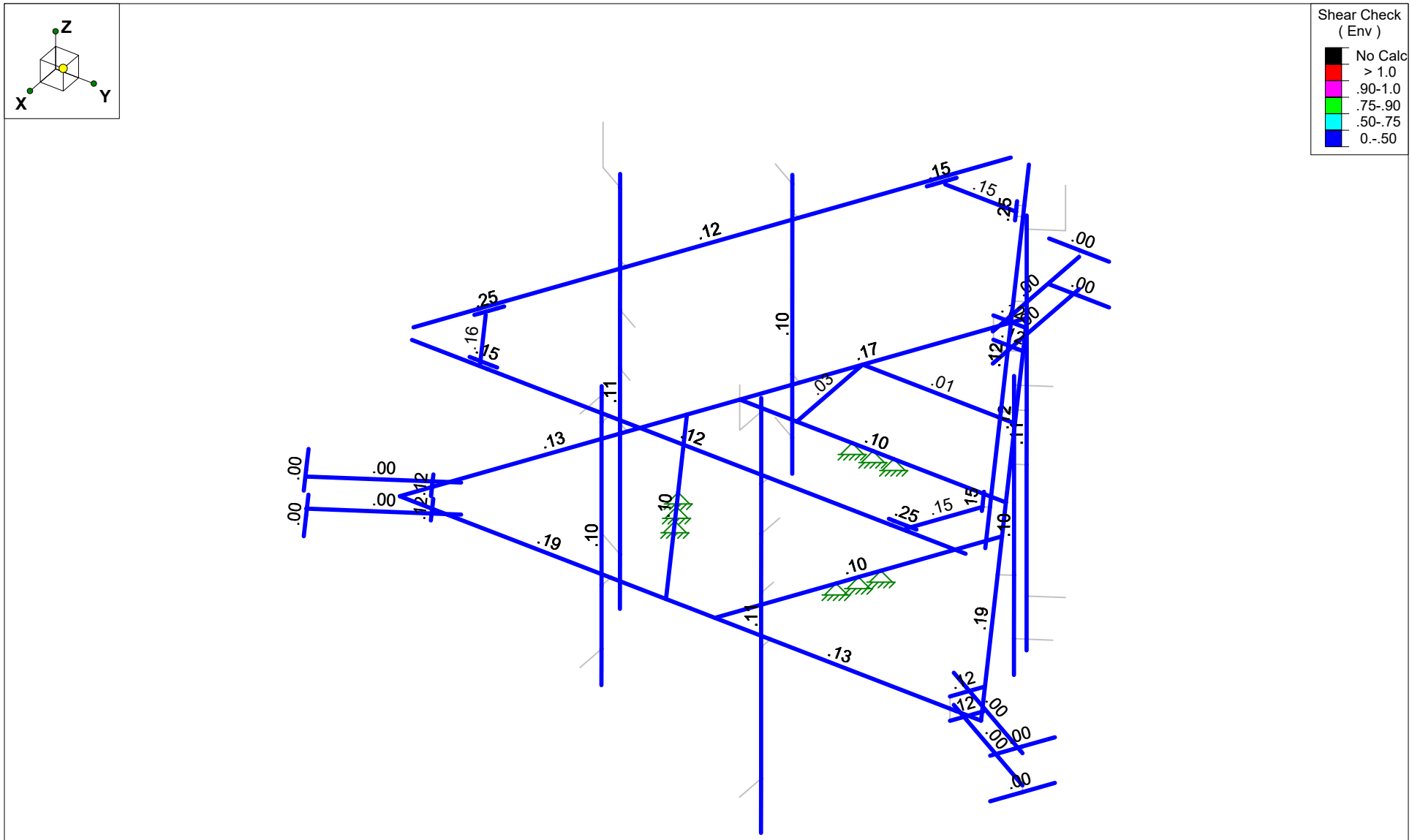
Loads: BLC 2, Ice Dead
Envelope Only Solution

CLS		SK - 7
AJI	41124-12927118-Newtown CT 3	June 21, 2019 at 4:27 PM
41124-12927118-01-MA-R1	Ice Dead Loads	41124-12927118-01-MA-R1.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	SK - 8
AJI		June 21, 2019 at 4:27 PM
41124-12927118-01-MA-R1	Envelope Member Unity Check Results - Bending	41124-12927118-01-MA-R1.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

CLS	41124-12927118-Newtown CT 3	SK - 9
AJI		June 21, 2019 at 4:27 PM
41124-12927118-01-MA-R1	Envelope Member Check Results - Shear	41124-12927118-01-MA-R1.r3d

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	DL			-1	18				
2	Ice Dead	RL				18		47		
4	Structure Wind 0°	None						44		
5	Structure Wind 30°	None						72		
6	Structure Wind 45°	None						94		
7	Structure Wind 60°	None						90		
8	Structure Wind 90°	None						35		
9	Structure Wind 120°	None						90		
10	Structure Wind 135°	None						94		
11	Structure Wind 150°	None						72		
12	Structure Wind w/ Ice ...	None						44		
13	Structure Wind w/ Ice ...	None						72		
14	Structure Wind w/ Ice ...	None						94		
15	Structure Wind w/ Ice ...	None						90		
16	Structure Wind w/ Ice ...	None						35		
17	Structure Wind w/ Ice ...	None						90		
18	Structure Wind w/ Ice ...	None						94		
19	Structure Wind w/ Ice ...	None						72		
20	Antenna Wind 0°	None				18				
21	Antenna Wind 30°	None				36				
22	Antenna Wind 45°	None				36				
23	Antenna Wind 60°	None				36				
24	Antenna Wind 90°	None				18				
25	Antenna Wind 120°	None				36				
26	Antenna Wind 135°	None				36				
27	Antenna Wind 150°	None				36				
28	Antenna Wind w/ Ice 0°	None				18				
29	Antenna Wind w/ Ice ...	None				36				
30	Antenna Wind w/ Ice ...	None				36				
31	Antenna Wind w/ Ice ...	None				36				
32	Antenna Wind w/ Ice ...	None				18				
33	Antenna Wind w/ Ice ...	None				36				
34	Antenna Wind w/ Ice ...	None				36				
35	Antenna Wind w/ Ice ...	None				36				
39	Maintenance Live 50...	OL1				1				
40	Maintenance Live 50...	OL2				1				

Load Combinations

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	DISPLAY ...	Yes	Y		DL	1	20	1																		
2	1.4D	Yes	Y		DL	1.4																				
3	1.2D + 1.0..	Yes	Y		DL	1.2	4	1	20	1																
4	1.2D + 1.0..	Yes	Y		DL	1.2	5	1	21	1																
5	1.2D + 1.0..	Yes	Y		DL	1.2	6	1	22	1																
6	1.2D + 1.0..	Yes	Y		DL	1.2	7	1	23	1																
7	1.2D + 1.0..	Yes	Y		DL	1.2	8	1	24	1																
8	1.2D + 1.0..	Yes	Y		DL	1.2	9	1	25	1																
9	1.2D + 1.0..	Yes	Y		DL	1.2	10	1	26	1																
10	1.2D + 1.0..	Yes	Y		DL	1.2	11	1	27	1																
11	1.2D + 1.0..	Yes	Y		DL	1.2	4	-1	20	-1																
12	1.2D + 1.0..	Yes	Y		DL	1.2	5	-1	21	-1																
13	1.2D + 1.0..	Yes	Y		DL	1.2	6	-1	22	-1																
14	1.2D + 1.0..	Yes	Y		DL	1.2	7	-1	23	-1																
15	1.2D + 1.0..	Yes	Y		DL	1.2	8	-1	24	-1																

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
16	1.2D + 1.0..	Yes	Y		DL	1.2	9	-1	25	-1																
17	1.2D + 1.0..	Yes	Y		DL	1.2	10	-1	26	-1																
18	1.2D + 1.0..	Yes	Y		DL	1.2	11	-1	27	-1																
19	1.2D + 1.0..	Yes	Y		DL	1.2	12	1	28	1	RL	1														
20	1.2D + 1.0..	Yes	Y		DL	1.2	13	1	29	1	RL	1														
21	1.2D + 1.0..	Yes	Y		DL	1.2	14	1	30	1	RL	1														
22	1.2D + 1.0..	Yes	Y		DL	1.2	15	1	31	1	RL	1														
23	1.2D + 1.0..	Yes	Y		DL	1.2	16	1	32	1	RL	1														
24	1.2D + 1.0..	Yes	Y		DL	1.2	17	1	33	1	RL	1														
25	1.2D + 1.0..	Yes	Y		DL	1.2	18	1	34	1	RL	1														
26	1.2D + 1.0..	Yes	Y		DL	1.2	19	1	35	1	RL	1														
27	1.2D + 1.0..	Yes	Y		DL	1.2	12	-1	28	-1	RL	1														
28	1.2D + 1.0..	Yes	Y		DL	1.2	13	-1	29	-1	RL	1														
29	1.2D + 1.0..	Yes	Y		DL	1.2	14	-1	30	-1	RL	1														
30	1.2D + 1.0..	Yes	Y		DL	1.2	15	-1	31	-1	RL	1														
31	1.2D + 1.0..	Yes	Y		DL	1.2	16	-1	32	-1	RL	1														
32	1.2D + 1.0..	Yes	Y		DL	1.2	17	-1	33	-1	RL	1														
33	1.2D + 1.0..	Yes	Y		DL	1.2	18	-1	34	-1	RL	1														
34	1.2D + 1.0..	Yes	Y		DL	1.2	19	-1	35	-1	RL	1														
35	1.2D + 1.5..	Yes	Y		DL	1.2	4	.066	20	.066	OL1	1.5														
36	1.2D + 1.5..	Yes	Y		DL	1.2	5	.066	21	.066	OL1	1.5														
37	1.2D + 1.5..	Yes	Y		DL	1.2	6	.066	22	.066	OL1	1.5														
38	1.2D + 1.5..	Yes	Y		DL	1.2	7	.066	23	.066	OL1	1.5														
39	1.2D + 1.5..	Yes	Y		DL	1.2	8	.066	24	.066	OL1	1.5														
40	1.2D + 1.5..	Yes	Y		DL	1.2	9	.066	25	.066	OL1	1.5														
41	1.2D + 1.5..	Yes	Y		DL	1.2	10	.066	26	.066	OL1	1.5														
42	1.2D + 1.5..	Yes	Y		DL	1.2	11	.066	27	.066	OL1	1.5														
43	1.2D + 1.5..	Yes	Y		DL	1.2	4	-.066	20	-.066	OL1	1.5														
44	1.2D + 1.5..	Yes	Y		DL	1.2	5	-.066	21	-.066	OL1	1.5														
45	1.2D + 1.5..	Yes	Y		DL	1.2	6	-.066	22	-.066	OL1	1.5														
46	1.2D + 1.5..	Yes	Y		DL	1.2	7	-.066	23	-.066	OL1	1.5														
47	1.2D + 1.5..	Yes	Y		DL	1.2	8	-.066	24	-.066	OL1	1.5														
48	1.2D + 1.5..	Yes	Y		DL	1.2	9	-.066	25	-.066	OL1	1.5														
49	1.2D + 1.5..	Yes	Y		DL	1.2	10	-.066	26	-.066	OL1	1.5														
50	1.2D + 1.5..	Yes	Y		DL	1.2	11	-.066	27	-.066	OL1	1.5														
51	1.2D + 1.5..	Yes	Y		DL	1.2	4	.066	20	.066	OL2	1.5														
52	1.2D + 1.5..	Yes	Y		DL	1.2	5	.066	21	.066	OL2	1.5														
53	1.2D + 1.5..	Yes	Y		DL	1.2	6	.066	22	.066	OL2	1.5														
54	1.2D + 1.5..	Yes	Y		DL	1.2	7	.066	23	.066	OL2	1.5														
55	1.2D + 1.5..	Yes	Y		DL	1.2	8	.066	24	.066	OL2	1.5														
56	1.2D + 1.5..	Yes	Y		DL	1.2	9	.066	25	.066	OL2	1.5														
57	1.2D + 1.5..	Yes	Y		DL	1.2	10	.066	26	.066	OL2	1.5														
58	1.2D + 1.5..	Yes	Y		DL	1.2	11	.066	27	.066	OL2	1.5														
59	1.2D + 1.5..	Yes	Y		DL	1.2	4	-.066	20	-.066	OL2	1.5														
60	1.2D + 1.5..	Yes	Y		DL	1.2	5	-.066	21	-.066	OL2	1.5														
61	1.2D + 1.5..	Yes	Y		DL	1.2	6	-.066	22	-.066	OL2	1.5														
62	1.2D + 1.5..	Yes	Y		DL	1.2	7	-.066	23	-.066	OL2	1.5														
63	1.2D + 1.5..	Yes	Y		DL	1.2	8	-.066	24	-.066	OL2	1.5														
64	1.2D + 1.5..	Yes	Y		DL	1.2	9	-.066	25	-.066	OL2	1.5														
65	1.2D + 1.5..	Yes	Y		DL	1.2	10	-.066	26	-.066	OL2	1.5														
66	1.2D + 1.5..	Yes	Y		DL	1.2	11	-.066	27	-.066	OL2	1.5														

Hot Rolled Steel Properties

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Grating Channel	C5X9	Beam	None	A36 Gr.36	Typical	2.64	.624	8.89	.109
2	Corner Plate	PL1/4x10	Beam	None	A36 Gr.36	Typical	2.5	.013	20.833	.051
3	Mount Pipe	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	Standoff arm Channel	C6X8.2	Beam	None	A36 Gr.36	Typical	2.39	.687	13.1	.074
5	HSS tube	HSS2.5X2.5X4	Beam	None	A36 Gr.36	Typical	1.97	1.63	1.63	2.79
6	MOD Support Rail	PIPE_2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	MOD SR Conn Plate	PL6x0.375	Beam	None	A36 Gr.36	Typical	2.25	.026	6.75	.101
8	MOD SR Conn Angle	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M21	Corner Plate	6.738			Lbyy						Lateral
2	M34	Grating Cha...	57.697			Lbyy						Lateral
3	M35	Grating Cha...	63	51		Lbyy						Lateral
4	M36	Grating Cha...	63	51		Lbyy						Lateral
5	M37	Grating Cha...	63	51		Lbyy						Lateral
6	M39	Grating Cha...	57.697			Lbyy						Lateral
7	M40	Grating Cha...	63	51		Lbyy						Lateral
8	M41	Grating Cha...	63	51		Lbyy						Lateral
9	M43	Grating Cha...	57.697			Lbyy						Lateral
10	M44	Grating Cha...	63	51		Lbyy						Lateral
11	M45	Grating Cha...	21.389			Lbyy						Lateral
12	M50	Grating Cha...	33			Lbyy						Lateral
13	M70A	Corner Plate	6.738			Lbyy						Lateral
14	M82	Standoff ar...	28			Lbyy						Lateral
15	M83	Standoff ar...	28			Lbyy						Lateral
16	M84	HSS tube	13			Lbyy			.65	.65		Lateral
17	M85	HSS tube	13			Lbyy			.65	.65		Lateral
18	M77	HSS tube	13			Lbyy			.65	.65		Lateral
19	M78	HSS tube	13			Lbyy			.65	.65		Lateral
20	M124	HSS tube	13			Lbyy			.65	.65		Lateral
21	M125	HSS tube	13			Lbyy			.65	.65		Lateral
22	M133A	Corner Plate	6.738			Lbyy						Lateral
23	M134	Corner Plate	6.738			Lbyy						Lateral
24	M135B	Standoff ar...	28			Lbyy						Lateral
25	M136	Standoff ar...	28			Lbyy						Lateral
26	M143	Corner Plate	6.738			Lbyy						Lateral
27	M144	Corner Plate	6.738			Lbyy						Lateral
28	M145	Standoff ar...	28			Lbyy						Lateral
29	M146	Standoff ar...	28			Lbyy						Lateral
30	M80	Mount Pipe	66			Lbyy						Lateral
31	M81	Mount Pipe	96			Lbyy						Lateral
32	M91A	Mount Pipe	66			Lbyy						Lateral
33	M92A	Mount Pipe	96			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
34	M102	Mount Pipe	66			Lbyy						Lateral
35	M103	Mount Pipe	96			Lbyy						Lateral
36	HR1	MOD Supp...	120									Lateral
37	HR2	MOD SR C...	6									Lateral
38	HR3	MOD SR C...	6									Lateral
39	HR10	MOD Supp...	120									Lateral
40	HR11	MOD SR C...	6									Lateral
41	HR12	MOD SR C...	6									Lateral
42	HR19	MOD Supp...	120									Lateral
43	HR20	MOD SR C...	6									Lateral
44	HR21	MOD SR C...	6									Lateral
45	HR28	MOD SR C...	15.408									Lateral
46	HR29	MOD SR C...	15.408									Lateral
47	HR30	MOD SR C...	15.408									Lateral

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N82	max	1144.14	11	3.951	18	15.993	11	0	66	0	66	0	66
2		min	-1148.535	3	-3.951	4	-5829.905	19	0	1	0	1	0	1
3	N216	max	498.983	9	869.354	9	207.765	16	0	66	0	66	0	66
4		min	-526.653	17	-917.279	17	-5615.719	24	0	1	0	1	0	1
5	N81	max	513.785	14	934.59	6	235.688	6	0	66	0	66	0	66
6		min	-539.586	6	-889.901	14	-5603.608	30	0	1	0	1	0	1
7	N94	max	808.76	3	953.8	16	4273.387	20	0	66	0	66	0	66
8		min	-833.383	11	-939.384	8	-299.532	12	0	1	0	1	0	1
9	N98	max	914.407	4	1051.268	16	4186.559	25	0	66	0	66	0	66
10		min	-834.746	12	-1031.882	8	-350.562	18	0	1	0	1	0	1
11	N96	max	1138.158	6	575.475	16	4087.373	31	0	66	0	66	0	66
12		min	-1180.859	14	-664.524	8	-409.171	7	0	1	0	1	0	1
13	N95	max	892.581	3	1266.867	14	4017.646	34	0	66	0	66	0	66
14		min	-860.878	11	-1272.963	6	-152.986	10	0	1	0	1	0	1
15	N97	max	722.73	17	1024.414	16	3804.283	60	0	66	0	66	0	66
16		min	-666.984	9	-1010.777	8	-197.949	4	0	1	0	1	0	1
17	N99	max	1180.199	3	314.306	15	3627.175	23	0	66	0	66	0	66
18		min	-1231.077	11	-256.399	7	-255.163	15	0	1	0	1	0	1
19	Totals:	max	3315.835	3	3288.54	15	5957.124	25						
20		min	-3315.834	11	-3288.552	7	1932.601	1						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc [...	phi*Pnt [l...	phi*Mn y...	phi*Mn z...	Cb	Eqn
1	M103	PIPE_2.0	.439	41	9	.109	77		15	14916.096	32130	1871.625	1871.625	1....	H1-1b
2	M92A	PIPE_2.0	.435	41	14	.113	77		5	14916.096	32130	1871.625	1871.625	2....	H1-1b
3	M81	PIPE_2.0	.427	41	3	.113	77		10	14916.096	32130	1871.625	1871.625	2....	H1-1b
4	HR19	PIPE_2.0	.325	77.5	17	.121	102.5		16	9836.597	32130	1871.625	1871.625	1....	H1-1b
5	M102	PIPE_2.0	.322	22	14	.098	22		16	22356.067	32130	1871.625	1871.625	2....	H1-1b
6	M91A	PIPE_2.0	.319	22	3	.102	22		5	22356.067	32130	1871.625	1871.625	2....	H1-1b
7	M80	PIPE_2.0	.316	22	8	.102	22		11	22356.067	32130	1871.625	1871.625	2....	H1-1b
8	HR1	PIPE_2.0	.312	77.5	11	.121	102.5		11	9836.597	32130	1871.625	1871.625	1....	H1-1b
9	HR10	PIPE_2.0	.303	77.5	6	.121	102.5		6	9836.597	32130	1871.625	1871.625	1....	H1-1b
10	M41	C5X9	.296	57.75	15	.171	57.094	y	15	47924.451	85536	1909.122	10889.728	1	H1-1b
11	M35	C5X9	.279	5.25	13	.127	5.906	y	12	47924.451	85536	1909.122	10889.728	1	H1-1b
12	M36	C5X9	.266	57.75	4	.194	57.094	y	5	47924.451	85536	1909.122	10889.728	1	H1-1b
13	M44	C5X9	.266	5.25	18	.125	5.906	y	18	47924.451	85536	1909.122	10889.728	1	H1-1b
14	M37	C5X9	.266	57.75	9	.188	57.094	y	10	47924.451	85536	1909.122	10889.728	1	H1-1b

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

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc [...	phi*Pnt [l...	phi*Mn y...	phi*Mn z...	Cb	Eqn
15	M40	C5X9	.254	5.25	7	.116	5.906	y	7	47924.451	85536	1909.122	10889.728	1	H1-1b
16	HR29	L2.5x2.5x4	.235	15.408	10	.154	15.408	z	4	36536.53	38556	1113.554	2537.388	1....	H2-1
17	HR30	L2.5x2.5x4	.234	15.408	5	.153	15.408	z	15	36536.53	38556	1113.554	2537.388	2....	H2-1
18	HR20	PL6x0.375	.231	2.312	5	.149	1.312	y	8	61901.829	72900	569.533	9112.5	1....	H1-1b
19	M43	C5X9	.231	24.041	14	.097	24.642	y	31	40751.069	85536	1909.122	11853	1....	H1-1b
20	HR28	L2.5x2.5x4	.230	15.408	15	.155	15.408	y	9	36536.53	38556	1113.554	2537.388	1....	H2-1
21	M34	C5X9	.228	24.041	9	.100	24.642	y	42	40751.069	85536	1909.122	11853	1....	H1-1b
22	M39	C5X9	.228	24.041	3	.102	24.642	y	21	40751.069	85536	1909.122	11853	1....	H1-1b
23	HR11	PL6x0.375	.228	2.312	10	.148	2.25	y	6	61901.829	72900	569.533	9112.5	1....	H1-1b
24	HR2	PL6x0.375	.222	2.313	15	.150	1.313	y	3	61901.829	72900	569.533	9112.5	1....	H1-1b
25	HR21	PL6x0.375	.219	3.687	11	.245	4.687	y	8	61901.829	72900	569.533	9112.5	1....	H1-1b
26	HR3	PL6x0.375	.214	3.688	6	.249	4.688	y	3	61901.829	72900	569.533	9112.5	1....	H1-1b
27	HR12	PL6x0.375	.214	3.687	17	.251	4.687	y	14	61901.829	72900	569.533	9112.5	1....	H1-1b
28	M45	C5X9	.074	0	20	.027	10.917	y	34	77249.934	85536	1909.122	11853	1....	H1-1b
29	M50	C5X9	.053	33	4	.007	17.875	y	15	67113.701	85536	1909.122	11853	1....	H1-1b
30	M83	C6X8.2	.040	5.25	25	.003	5.25	z	25	67078.702	77436	2107.841	13932	1....	H1-1b
31	M146	C6X8.2	.040	5.25	30	.003	5.25	z	31	67078.702	77436	2107.841	13932	1....	H1-1b
32	M136	C6X8.2	.040	5.25	19	.003	5.25	z	20	67078.702	77436	2107.841	13932	1....	H1-1b
33	M145	C6X8.2	.040	5.25	27	.003	5.25	z	31	67078.702	77436	2107.841	13932	1....	H1-1b
34	M135B	C6X8.2	.040	5.25	32	.003	5.25	z	20	67078.702	77436	2107.841	13932	1....	H1-1b
35	M82	C6X8.2	.040	5.25	22	.003	5.25	z	25	67078.702	77436	2107.841	13932	1....	H1-1b
36	M143	PL1/4x10	.020	0	20	.124	0	y	31	23992.713	81000	421.875	13615.491	1....	H1-1b
37	M133A	PL1/4x10	.020	0	26	.124	0	y	20	23992.713	81000	421.875	13606.018	1....	H1-1b
38	M144	PL1/4x10	.019	0	21	.125	0	y	27	23992.713	81000	421.875	15252.127	1....	H1-1b
39	M134	PL1/4x10	.019	0	26	.125	0	y	32	23992.713	81000	421.875	15425.7	1....	H1-1b
40	M21	PL1/4x10	.017	0	31	.124	0	y	28	23992.713	81000	421.875	15304.649	1....	H1-1b
41	M70A	PL1/4x10	.017	0	30	.124	0	y	20	23992.713	81000	421.875	15737.467	1....	H1-1b
42	M124	HSS2.5X2.5...	.001	6.5	16	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b
43	M77	HSS2.5X2.5...	.001	6.5	14	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b
44	M85	HSS2.5X2.5...	.001	6.5	11	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b
45	M84	HSS2.5X2.5...	.001	6.5	11	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b
46	M125	HSS2.5X2.5...	.001	6.5	16	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b
47	M78	HSS2.5X2.5...	.001	6.5	14	.001	6.5	y	34	63538.686	63828	4401	4401	1....	H1-1b

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11105F

Bethel - SNET Mobility
6 Fairfield Drive
Brookfield, Connecticut 06804

June 19, 2019

EBI Project Number: 6219002476

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**6.53%**

June 19, 2019

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11105F - Bethel - SNET Mobility

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **6 Fairfield Drive** in **Brookfield, Connecticut** 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 ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 6 Fairfield Drive in Brookfield, Connecticut 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation

are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the RFS APXVAARR24_43-U-NA20 for the 2100 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 21 for the 2100 MHz channel(s) in Sector A, the RFS APXVAARR24_43-U-NA20 for the 2100 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 21 for the 2100 MHz channel(s) in Sector B, the RFS APXVAARR24_43-U-NA20 for the 2100 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 21 for the 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerline of the proposed antennas is 134 feet above ground level (AGL).

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

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	2100 MHz / 600 MHz / 700 MHz	Frequency Bands:	2100 MHz / 600 MHz / 700 MHz	Frequency Bands:	2100 MHz / 600 MHz / 700 MHz
Gain:	16.35 dBd / 12.95 dBd / 13.35 dBd	Gain:	16.35 dBd / 12.95 dBd / 13.35 dBd	Gain:	16.35 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	134 feet	Height (AGL):	134 feet	Height (AGL):	134 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts
ERP (W):	5,070.20	ERP (W):	5,070.20	ERP (W):	5,070.20
Antenna A1 MPE %:	**1.67%**	Antenna B1 MPE %:	**1.67%**	Antenna C1 MPE %:	**1.67%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21
Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	15.35 dBd	Gain:	15.35 dBd	Gain:	15.35 dBd
Height (AGL):	134 feet	Height (AGL):	134 feet	Height (AGL):	134 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts
ERP (W):	4,113.21	ERP (W):	4,113.21	ERP (W):	4,113.21
Antenna A2 MPE %:	**0.82%**	Antenna B2 MPE %:	**0.82%**	Antenna C2 MPE %:	**0.82%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	2.49%
AT&T	2.18%
Metro PCS	0.29%
Verizon	1.57%
Site Total MPE % :	6.53%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.49%
T-Mobile Sector B Total:	2.49%
T-Mobile Sector C Total:	2.49%
Site Total MPE % :	6.53%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2100 MHz UMTS	2	1294.56	134.0	5.18	2100 MHz UMTS	1000	0.52%
T-Mobile 600 MHz LTE	2	591.73	134.0	2.37	600 MHz LTE	400	0.59%
T-Mobile 700 MHz LTE	2	648.82	134.0	2.60	700 MHz LTE	467	0.56%
T-Mobile 2100 MHz LTE	2	2056.61	134.0	8.24	2100 MHz LTE	1000	0.82%
						Total:	**2.49%**

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

Summary

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

The anticipated maximum composite contributions from the 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:	2.49%
Sector B:	2.49%
Sector C:	2.49%
T-Mobile Maximum MPE % (Sector A):	2.49%
Site Total:	6.53%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **6.53%** 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.

Exhibit G

Mailing Receipts/Proof of Notice

UPS Internet Shipping: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

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   Your driver will pickup your shipment(s) as usual.

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   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the 'Find Locations' Quick link at ups.com.
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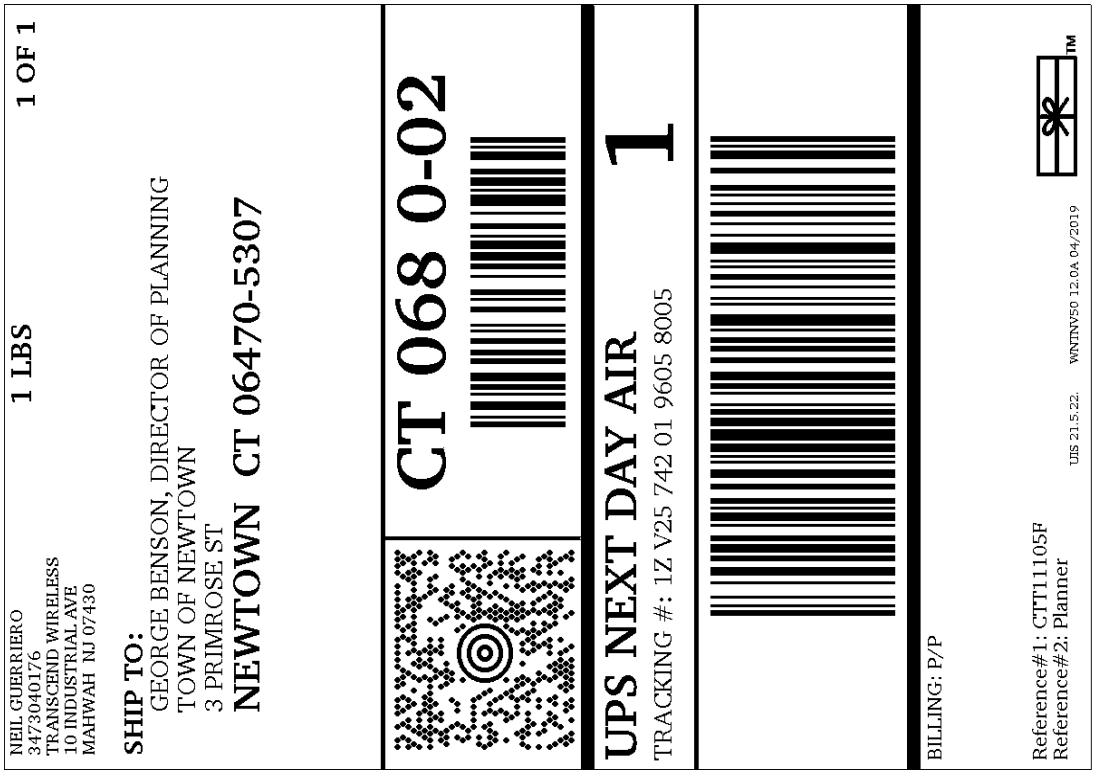

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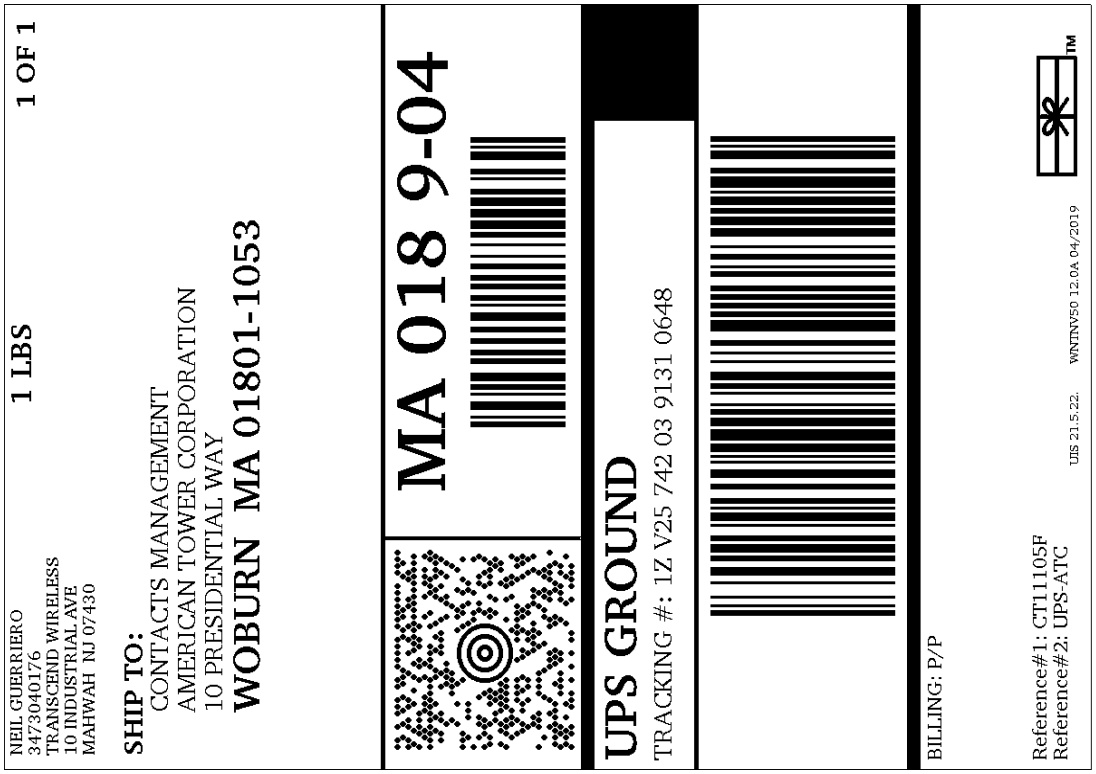

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