

Centerline Communications  
Ryan Clark  
750 West Center Street, Floor 3  
West Bridgewater, MA 02379  
203-300-7310  
[rclark@clinellc.com](mailto:rclark@clinellc.com)

November 4, 2022

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

Notice of Exempt Modification  
15 Oakdale Avenue Winsted, CT 06098  
Latitude: 41.92158869  
Longitude: -73.04941107  
T-Mobile Site#: CTNH403A

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 166-foot level of the existing 180-foot monopole tower at 15 Oakdale Avenue Winsted, CT 06098. The 180-foot tower is owned by American Tower Corporation and the property is owned by William P. Stow Trustee. T-Mobile now intends to add (1) microwave dish to their existing telecommunications facility. The microwave dish will be installed at the 166-foot level of the tower.

**Planned Modifications:**

Install New:

- (1) VHLP2-11W/A Microwave Dish
- (1) Fibeair IP-20S ODU
- (1) 1.99" Hybrid cable

Existing to Remain:

- (3) AIR6449 Antennas
- (3) APXVAARR24 Antennas
- (3) RRU 4449 B71+B85
- (3) RRU 4460 B25+B66
- (3) 1 ¼" Fiber Hybrid Line
- (4) ½" Coax

This facility was approved by the CT Siting Council in Docket No.138 dated November 26, 1990 with conditions. We used the information from the previous filing. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Todd Arcelaschi, chief elected official, Planning and Zoning Director Lance Hansen for the Town of Winchester, as well as the property owner and the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

*Ryan Clark*

Mobile: 203-300-7310

Fax: 508-819-3017

Office: 750 W. Center Street Suite 301  
West Bridgewater, MA 02379

Email: [rclark@clinellc.com](mailto:rclark@clinellc.com)

Attachments

cc: Mayor Todd Arcelaschi, chief elected official  
Planning and Zoning Director, Town of Winchester  
American Tower Corporation- Tower Owner  
William P. Stow Trustee- Property Owner



**LETTER OF AUTHORIZATION FOR PERMITTING**

**ATC SITE#/NAME/PROJECT: 302506 / WINCHESTER CT 3 / 14156304**  
**SITE ADDRESS: 108 OAKDALE AVE, WINSTED, CT 06098**  
**APN: WINC M:028 B:151 L:002-1**  
**LICENSEE: T-MOBILE NORTHEAST LLC dba T-MOBILE**  
**SITE ACQUISITION VENDOR: CENTERLINE COMMUNICATIONS LLC**

I, Margaret Robinson, Vice President, UST Legal for American Tower\*, owner/operator of the tower facility located at the address identified above (the “Tower Facility”), do hereby authorize **T-MOBILE NORTHEAST LLC dba T-MOBILE, CENTERLINE COMMUNICATIONS LLC** their successors and assigns, and/or their agent, (collectively, the “Licensee”) to act as American Tower’s non-exclusive agent for the sole purpose of filing and consummating any land-use, building, or electrical permit application(s) as may be required by the applicable permitting authorities for Licensee’s telecommunications’ installation on the Tower Facility.

American Tower understands that this application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee’s installation and any such conditions of approval or modifications will be Licensee’s sole responsibility.

Signature:

Print Name: Margaret Robinson  
Vice President, UST Legal  
American Tower\*

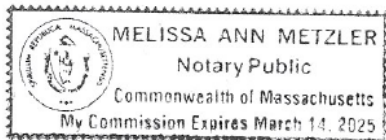
**NOTARY BLOCK**

Commonwealth of MASSACHUSETTS  
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal for American Tower\*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 28<sup>th</sup> day of October, 2022

NOTARY SEAL



Notary Public   
My Commission Expires: March 14, 2025

\* American Tower is defined as American Tower Corporation and any of its affiliates or subsidiaries.

# Exhibit A

Original Facility Approval

DOCKET NO. 138 - An application of SNET Cellular, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of cellular facilities in the Towns of Plymouth, Harwinton, Winchester, and New Milford, Connecticut.

Connecticut

Siting

Council

November 26, 1990

#### DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council finds that the effects associated with the construction, operation, and maintenance of four cellular telecommunications towers and associated equipment at the proposed Plymouth, Harwinton, New Milford, and alternate Winchester sites including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife need not be in conflict either alone or cumulatively with other effects, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need (Certificate), as provided by section 16-50k of the Connecticut General Statutes (CGS), be issued to SNET Cellular Inc., for the construction, operation, and maintenance of a cellular telecommunications tower, associated equipment, and building at the proposed Plymouth, Harwinton, New Milford, and alternate Winchester sites.

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

1. The facilities shall be constructed in accordance with the State of Connecticut Basic Building Code.
2. The self-supporting monopole towers shall be no taller than necessary to provide the proposed communication service and in no event shall the Plymouth, Harwinton, and Winchester tower structures exceed 192-feet or the New Milford tower structure exceed 162 feet above ground level (AGL), including antennas and appurtenances.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan, for approval by the Council, for these sites in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies (RSA). The D&M Plan shall include detailed plans for the towers, tower pedestals, tower foundations, soil boring reports, antenna structures, equipment buildings, access roads, security fences, erosion and sedimentation control plans

consistent with the Connecticut Guidelines of Soil Erosion and Sedimentation Control, and landscaping plans where necessary to screen the equipment building from adjacent land uses.

At the proposed Harwinton site, the accessway shall be designed to avoid a direct sight-line of the entire tower structure from the adjacent Fowler residence. To further mitigate the visibility of the facility, the tower's site shall be moved as close to the electric transmission line right-of-way as safety clearances allow.

At the alternate Winchester site, the Certificate Holder shall design the accessway to avoid a direct sight-line from the northern end of Oakdale Avenue. Prior to construction, the Certificate Holder shall secure all necessary permits and approvals to construct a crossing of the Tennessee Gas Company's underground gas transmission line. Prior to any necessary blasting activities, the Certificate Holder shall secure all necessary permits and shall conduct such blasting in accordance with State regulations. Copies of all permits and approvals shall be forwarded to the Council immediately upon receipt.

4. The Certificate Holder shall comply with any existing and future radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facilities granted in this Decision and Order shall be brought into compliance with such standards.
5. The Certificate Holder shall provide the Council a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power densities above the levels originally calculated and provided in the application.
6. The Certificate Holder shall permit public or private entities to share space on the proposed towers for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. If the facilities do not initially provide, or permanently cease to provide cellular service following completion of construction, this Decision and Order shall be void, and the tower(s) and all associated equipment shall be dismantled and removed or reapplication for any new use shall be made to the Council before any such new use is made.
8. 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 effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to Section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The New Milford Times, The Bristol Press, The Registrar-Citizen, and The Danbury News-Times.

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

The parties to this proceeding are:

(PARTIES)

SNET Cellular, Inc.

(ITS REPRESENTATIVES)

Peter J. Tyrrell  
Senior Attorney  
SNET Cellular, Inc.  
227 Church Street  
Room 1021  
New Haven, CT 06506

(INTERVENORS)

Pikeville Cellular Partnership

Charles Wolf, Esq.  
Robinson & Cole  
One Commercial Plaza  
Hartford, CT 06103-3597

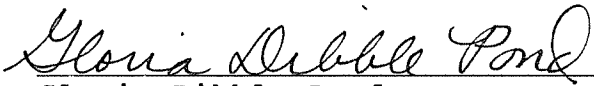
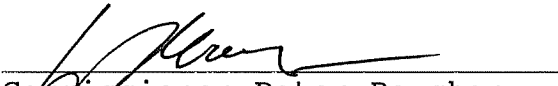


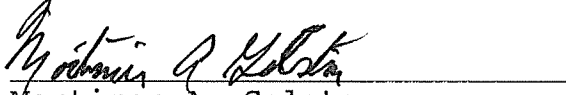

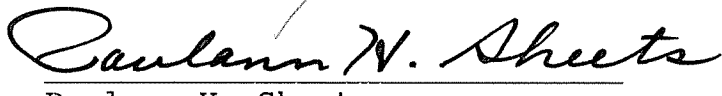
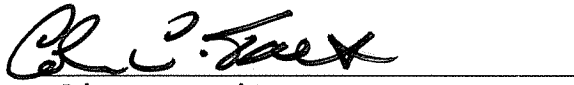
TEF:bw

4886E-1-3

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in Docket No. 138 or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 26 day of November, 1990.

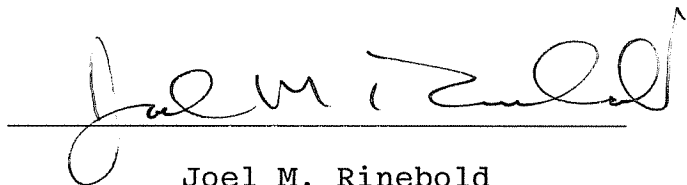
<u>Council Members</u>	<u>Vote Cast</u>
 Gloria Dibble Pond Chairperson	YES
 Commissioner Peter Boucher Designee: Mark Marcus	YES
 Commissioner Leslie Carothers Designee: Brian Emerick	YES
 Harry E. Covey	YES
 Mortimer A. Gelston	YES
 Daniel P. Lynch, Jr.	YES
 Paulann H. Sheets	YES
_____ William H. Smith	ABSENT
 Colin C. Tait	YES



STATE OF CONNECTICUT )  
:  
ss. New Britain, Connecticut  
COUNTY OF HARTFORD )

I hereby certify that the foregoing is a true and correct copy of the Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

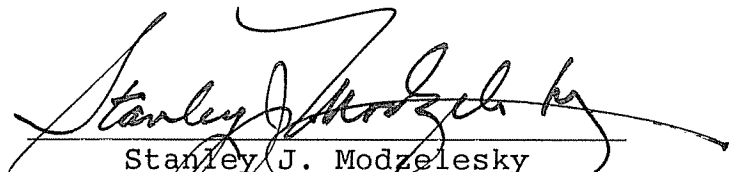
ATTEST:



Joel M. Rinebold  
Executive Director  
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 138 have been forwarded by Certified First Class Return Receipt Requested mail on December 3, 1990, to all parties of record as listed on the attached service list, dated August 22, 1990.

ATTEST:



Stanley J. Modzelesky  
Executive Assistant  
Connecticut Siting Council

Date: August 22, 1990

Docket No. 138

LIST OF PARTIES AND INTERVENORS - SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Party <input checked="" type="checkbox"/>  Intervenor <input type="checkbox"/>	SNET Cellular, Inc.	Peter J. Tyrrell Senior Attorney SNET Cellular, Inc. 227 Church Street Room 1021 New Haven, CT 06506
Party <input type="checkbox"/>  Intervenor <input checked="" type="checkbox"/>	Pikeville Cellular Partnership	Charles Wolf, Esq. Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597
Party <input type="checkbox"/>  Intervenor <input type="checkbox"/>		

# Exhibit B

Property Card

# 108 OAKDALE AVE

**Location** 108 OAKDALE AVE

**Mblu** 028/ 151/ 002-1/ /

**Acct#** 103466

**Owner** STOW WILLIAM P TRUSTEE

**Assessment** \$101,150

**Appraisal** \$144,500

**PID** 4991

**Building Count** 1

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$34,900	\$109,600	\$144,500

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$24,430	\$76,720	\$101,150

## Owner of Record

**Owner** STOW WILLIAM P TRUSTEE  
**Co-Owner**  
**Address** C/O AMERICAN TOWER #302506  
PO BOX 723597  
ATLANTA, GA 31139

**Sale Price** \$0  
**Certificate**  
**Book & Page** 0411/0779  
**Sale Date** 03/12/2013  
**Instrument** 29

## Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
STOW WILLIAM P TRUSTEE	\$0		0411/0779	29	03/12/2013
STOW WILLIAM P & RICHARD D	\$0		00260/0171		11/16/1995

## Building Information

### Building 1 : Section 1

**Year Built:** 2004  
**Living Area:** 360  
**Replacement Cost**  
**Less Depreciation:** \$13,500

**Building Attributes**

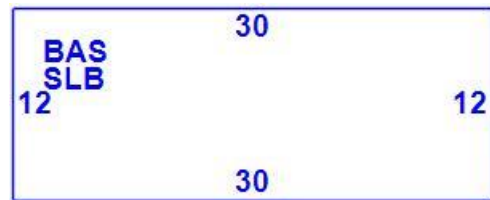
Field	Description
Style:	Warehse Prefab
Model	Ind/Comm
Grade	Average
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-cast Concr
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal/Tin
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Concrete Slab
Interior Floor 2	
Heating Fuel	Gas/Oil
Heating Type	Hot Air-no Duc
AC Type	None
Struct Class	
Bldg Use	Tele Tower
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	106I
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	12.00
% Comn Wall	

### Building Photo



([https://images.vgsi.com/photos/WinchesterCTPhotos/A0005\IMG\\_1557\\_5](https://images.vgsi.com/photos/WinchesterCTPhotos/A0005\IMG_1557_5))

### Building Layout



(ParcelSketch.ashx?pid=4991&bid=5553)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	360	360
SLB	Slab	360	0
		720	360

### Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
		0.00		1

### Land

#### Land Use

Use Code 4310

#### Land Line Valuation

Size (Acres) 3.39

**Description** Tele Tower  
**Zone** RR  
**Alt Land Appr** No  
**Category**

**Depth**  
**Assessed Value** \$76,720  
**Appraised Value** \$109,600

**Outbuildings**

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD8	Shd Com Mas			252.00 S.F.	\$6,200	1
SHD8	Shd Com Mas			252.00 S.F.	\$6,200	1
FN4	Fence-8' Chain			380.00 L.F.	\$9,000	1
				0.00		1

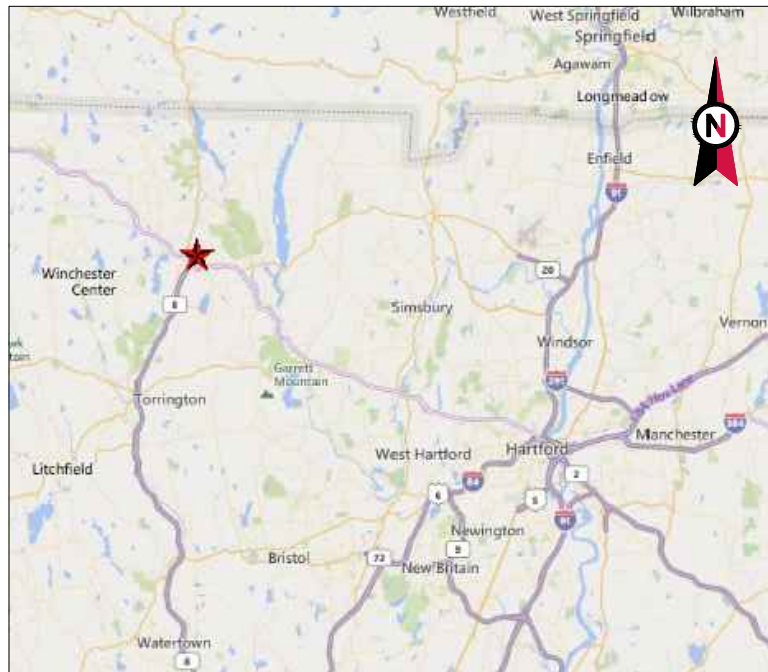
**Valuation History**

Appraisal			
Valuation Year	Improvements	Land	Total
2021	\$34,900	\$109,600	\$144,500
2020	\$34,900	\$109,600	\$144,500
2017	\$25,900	\$109,600	\$135,500

Assessment			
Valuation Year	Improvements	Land	Total
2021	\$24,430	\$76,720	\$101,150
2020	\$24,430	\$76,720	\$101,150
2017	\$18,130	\$76,720	\$94,850

# Exhibit C

Construction Drawings



VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: WINCHESTER CT 3  
 ATC SITE NUMBER: 302506  
 T-MOBILE SITE NAME: CTNH403A  
 T-MOBILE SITE NUMBER: CTNH403A  
 SITE ADDRESS: 15 OAKDALE AVENUE  
 WINSTED, CT 06098  
 SITE CLASS: MONOPOLE



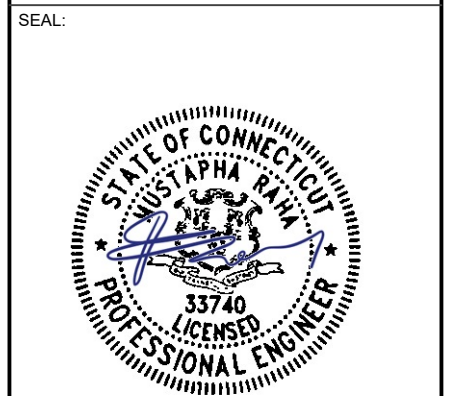
LOCATION MAP

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

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	HD	11/02/22

ATC SITE NUMBER:  
**302506**  
 ATC SITE NAME:  
**WINCHESTER CT 3**  
 T-MOBILE SITE NAME:  
**CTNH403A**  
 SITE ADDRESS:  
 15 OAKDALE AVENUE  
 WINSTED, CT 06098



ATC PROJ. #: 14156304\_D1  
 CUST. ID: CTNH403A  
 CUST. #: CTNH403A

**TITLE SHEET**

SHEET NUMBER:  
**G-001**  
 REVISION:  
**0**

**T-MOBILE MICROWAVE PLAN**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
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	<u>SITE ADDRESS:</u> 15 OAKDALE AVENUE WINSTED, CT 06098 COUNTY: LITCHFIELD  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.92158869 LONGITUDE: -73.04941107 GROUND ELEVATION: 1073' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:  INSTALL (1) MICROWAVE DISH(es), (1) ODU(s), (4) 1/2" COAX CABLE(s)  EXISTING (6) ANTENNA(s), (6) RRU(s) AND (3) 1-1/4" FIBER AND (1) 1.99" HYBRID CABLE(s) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518  <u>PROPERTY OWNER:</u> WILLIAM P STOW IRREVOCABLE TRUST 15 OAKDALE AVENUE WINSTED, CT 06098  <u>APPLICANT:</u> T-MOBILE	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. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001	TITLE SHEET	0	11/02/22	HD
<u>UTILITY COMPANIES</u>  POWER COMPANY: EVER SOURCE PHONE: (877) 659-6326  TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	<u>PROJECT LOCATION DIRECTIONS</u>  FROM HARTFORD TAKE RT 44 TO WINCHESTER. JUST BEFORE JUNCTION FOR RT 8 TURN RIGHT AT LIGHT. TAKE SECOND LEFT ONTO OAKDALE AVENUE. GO TO END OF STREET AND THROUGH ACCESS ROAD GATE TO SITE.	G-002	GENERAL NOTES	0	11/02/22	HD	
			C-101	DETAILED SITE PLAN	0	11/02/22	HD
			C-201	TOWER ELEVATION	0	11/02/22	HD
			C-401	ANTENNA INFORMATION & SCHEDULE	0	11/02/22	HD
			C-501	CONSTRUCTION DETAILS	0	11/02/22	HD
			E-501	GROUNDING DETAILS	0	11/02/22	HD
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			

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**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
  - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
  - B. AC/TELCO INTERFACE BOX (PPC)
  - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
  - D. TOWERS, MONOPOLES
  - E. TOWER LIGHTING
  - F. GENERATORS & LIQUID PROPANE TANK
  - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
  - H. ANTENNAS (INSTALLED BY OTHERS)
  - I. TRANSMISSION LINE
  - J. TRANSMISSION LINE JUMPERS
  - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
  - L. TRANSMISSION LINE GROUND KITS
  - M. HANGERS
  - N. HOISTING GRIPS
  - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. 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.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE 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.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. 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.
27. CONTRACTOR SHALL NOTIFY T-MOBILE 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.
28. 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.
29. 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 NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE 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.
30. 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 REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. 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.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

COAXIAL CABLE (NOT WITHIN BENDS)

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
  - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
  - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
  - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
  - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



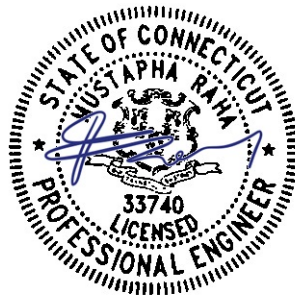
**AMERICAN TOWER®**  
**A.T. ENGINEERING SERVICES LLC**  
 3500 REGENCY PARKWAY  
 SUITE 100  
 CARY, NC 27518  
 PHONE: (919) 468-0112  
 PEC.0001553

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REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	HD	11/02/22
△			
△			
△			
△			

ATC SITE NUMBER:  
**302506**  
 ATC SITE NAME:  
**WINCHESTER CT 3**  
 T-MOBILE SITE NAME:  
**CTNH403A**  
 SITE ADDRESS:  
 15 OAKDALE AVENUE  
 WINSTED, CT 06098

SEAL:



ATC PROJ. #:	14156304_D1
CUST. ID:	CTNH403A
CUST. #:	CTNH403A

**GENERAL NOTES**

SHEET NUMBER:  
**G-002**

REVISION:  
**0**

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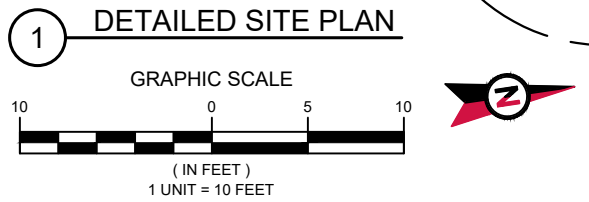
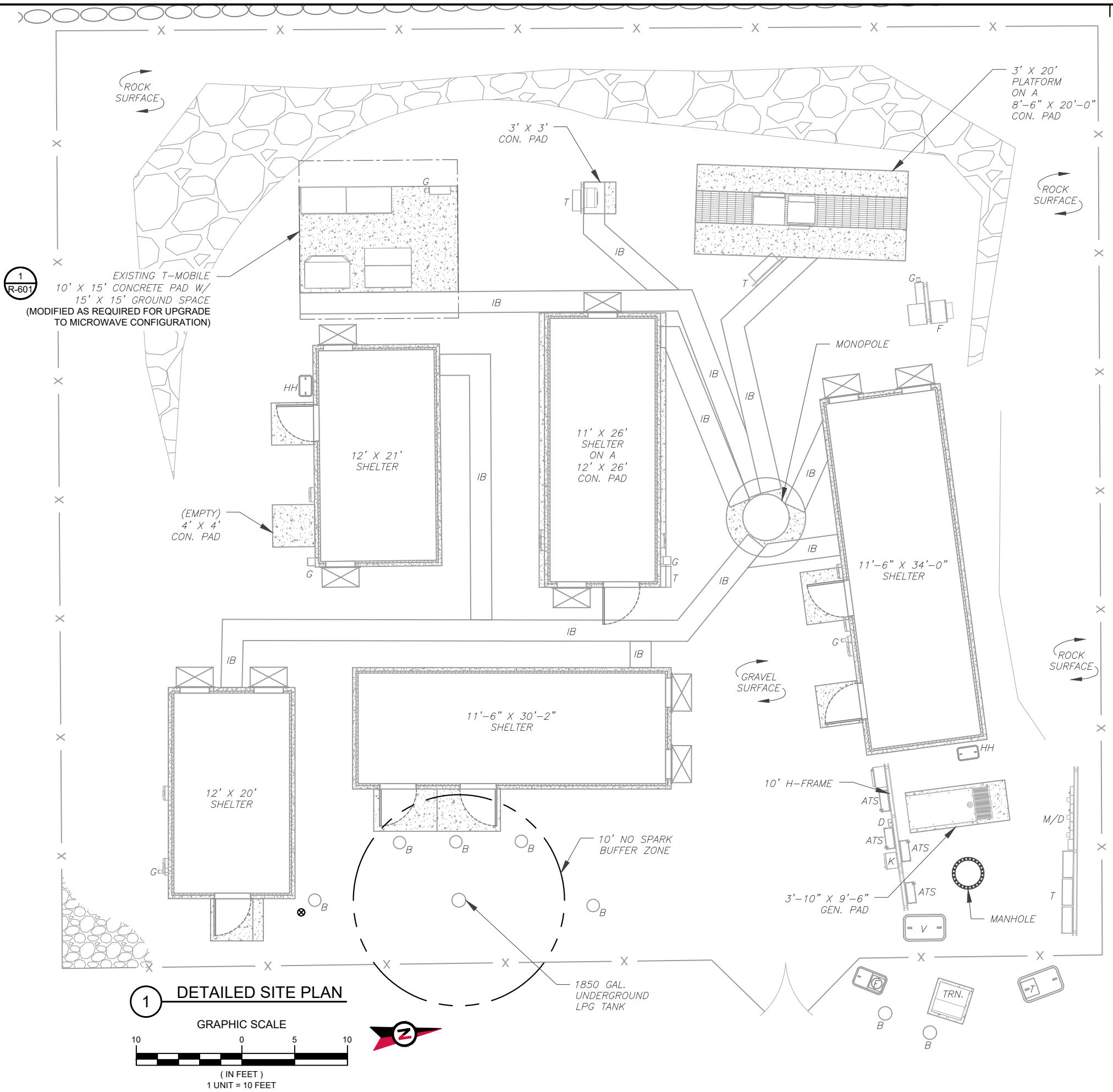
**SITE PLAN NOTES:**

- 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.
- 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.
- THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—	CHAINLINK FENCE

**PROPOSED CABLE NOTES:**

- ESTIMATED LENGTH OF PROPOSED CABLE IS **260'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR 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). CDS DEFER TO GREATEST CABLE LENGTH.
- 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.





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0	FOR CONSTRUCTION	HD	11/02/22

ATC SITE NUMBER:  
**302506**  
 ATC SITE NAME:  
**WINCHESTER CT 3**  
 T-MOBILE SITE NAME:  
**CTNH403A**  
 SITE ADDRESS:  
 15 OAKDALE AVENUE  
 WINSTED, CT 06098

SEAL:

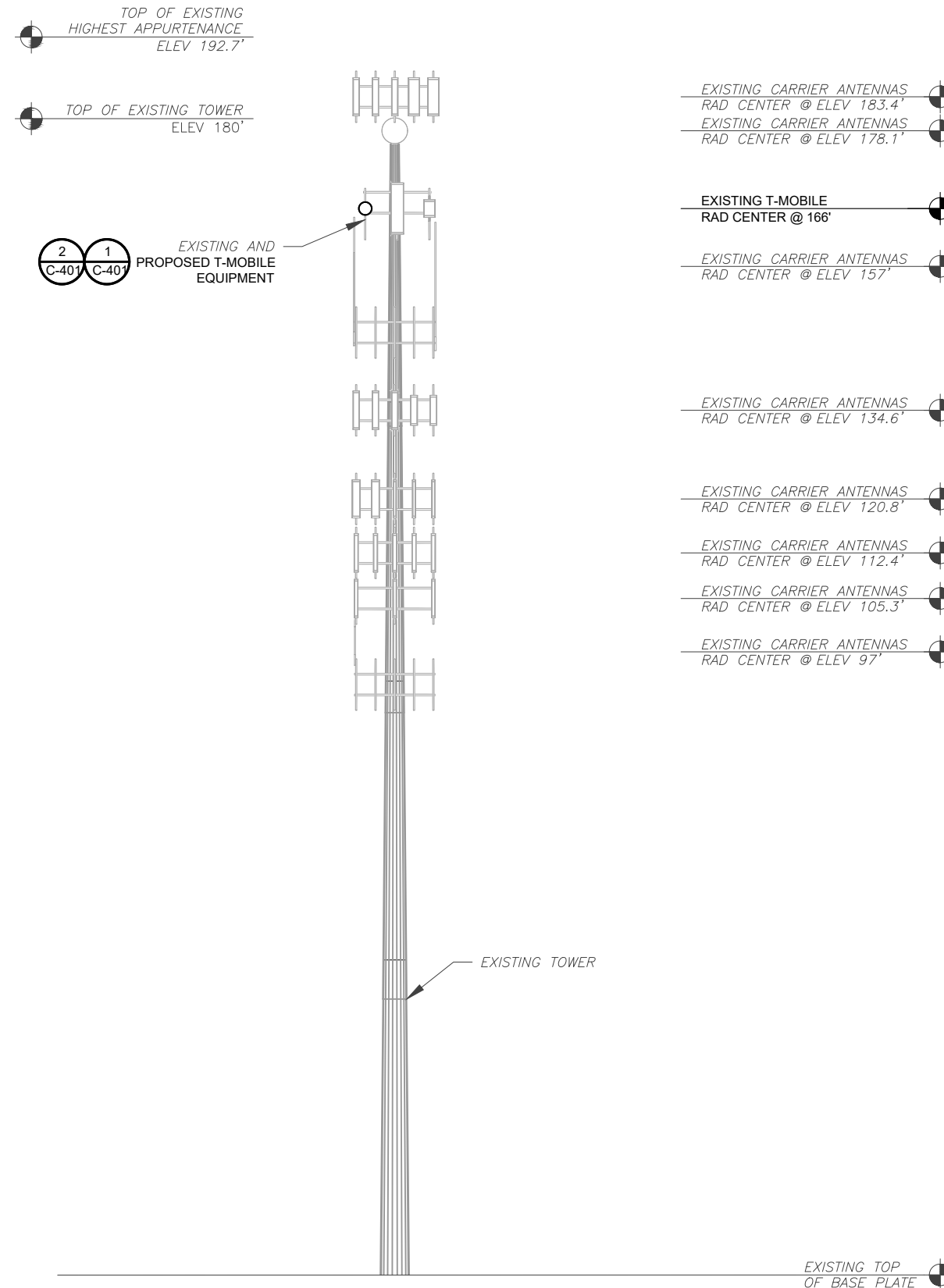



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CUST. ID:	CTNH403A
CUST. #:	CTNH403A

<b>DETAILED SITE PLAN</b>	
SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

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PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 10/07/22, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



**1 TOWER ELEVATION**  
SCALE: N.T.S.

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT 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. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
  - 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.
  - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
  - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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SITE ADDRESS:  
15 OAKDALE AVENUE  
WINSTED, CT 06098

SEAL:

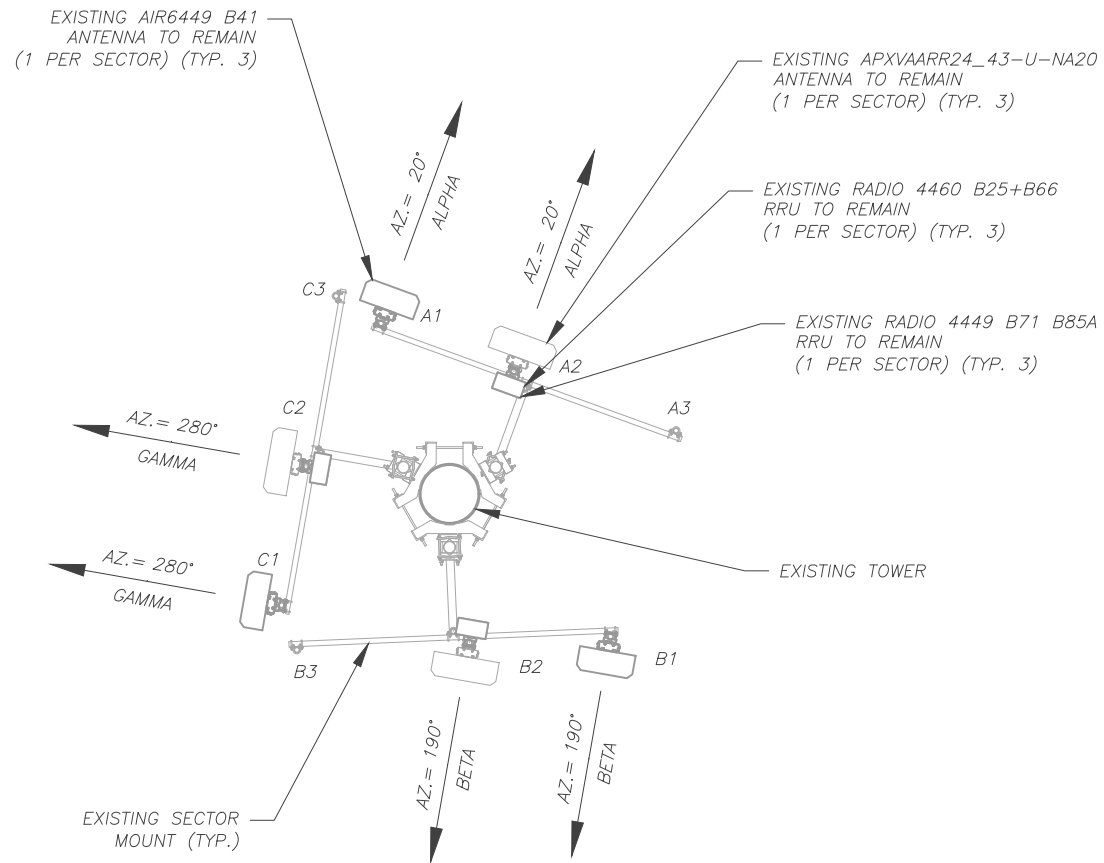


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CUST. ID: CTNH403A  
CUST. #: CTNH403A

**TOWER ELEVATION**

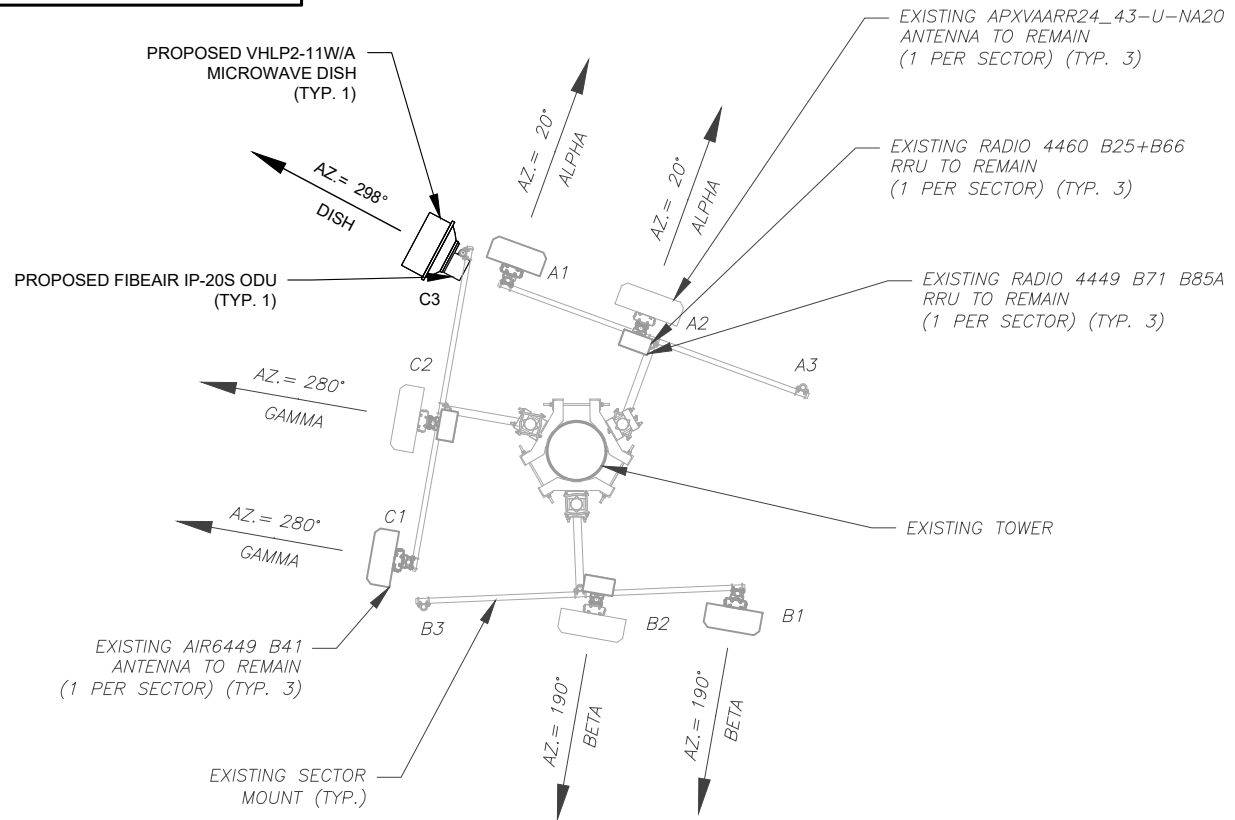
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REVISION:  
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**1** EXISTING ANTENNA PLAN  
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 10/07/22, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



**2** FINAL ANTENNA PLAN  
SCALE: N.T.S.

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ATC SITE NUMBER:  
**302506**

ATC SITE NAME:  
**WINCHESTER CT 3**

T-MOBILE SITE NAME:  
**CTNH403A**

SITE ADDRESS:  
15 OAKDALE AVENUE  
WINSTED, CT 06098

SEAL:

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	166'	20°	A1	AIR6449 B41	-	-	RMN	-	-
			A2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			A3	-	-	-	-	-	-
BETA	166'	190°	B1	AIR6449 B41	-	-	RMN	-	-
			B2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			B3	-	-	-	-	-	-
GAMMA	166'	280°	C1	AIR6449 B41	-	-	RMN	-	-
			C2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			C3	-	-	-	-	-	-

**NOTES**

- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

**STATUS ABBREVIATIONS**

RMV: TO BE REMOVED  
RMN: TO REMAIN  
REL: TO BE RELOCATED  
ADD: TO BE ADDED

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	166'	20°	A1	AIR6449 B41	-	-	RMN	-	-
			A2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			A3	-	-	-	-	-	-
BETA	166'	190°	B1	AIR6449 B41	-	-	RMN	-	-
			B2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			B3	-	-	-	-	-	-
GAMMA	166'	280°	C1	AIR6449 B41	-	-	RMN	-	-
			C2	APXVAARR24_43-U-NA 20	-	-	RMN	RADIO 4449 B71 B85A RADIO 4460 B25+B66	RMN RMN
			298° C3	VHLP2-11W/A	-	-	ADD	FIBEAIR IP-20S	ADD

**CABLE LENGTHS FOR JUMPERS**

JUNCTION BOX TO RRU: 15'  
RRU TO ANTENNA: 10'

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(3) 1-1/4" FIBER AND (1) 1.99" HYBRID	RMN
-	RMV	----	RMV

**3** EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(3) 1-1/4" FIBER AND (1) 1.99" HYBRID	RMN
-	ADD	(4) 1/2" COAX	ADD

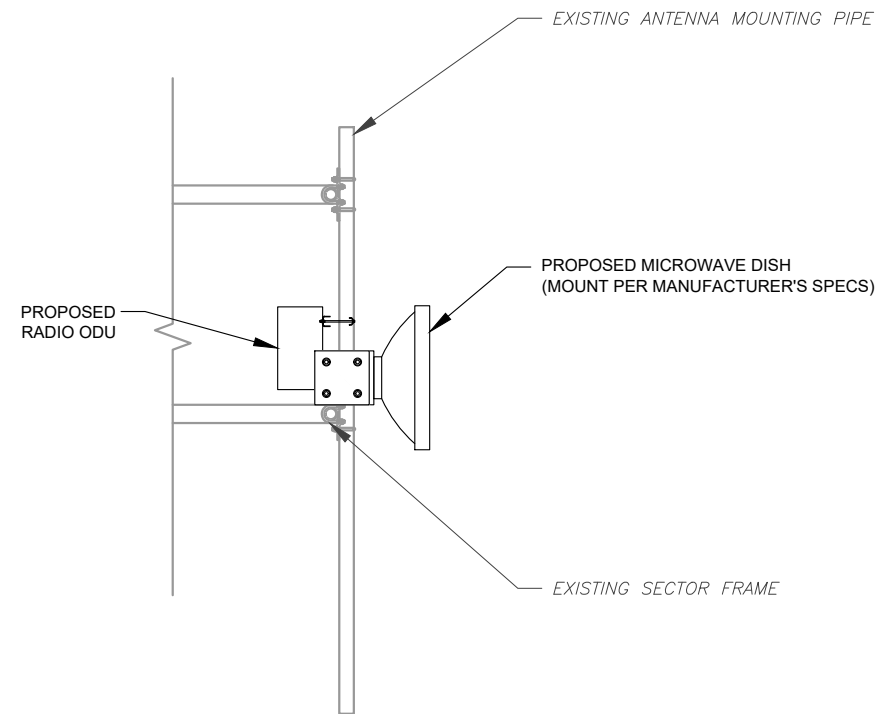
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CUST. ID: CTNH403A  
CUST. #: CTNH403A

**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER:  
**C-401**

REVISION:  
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1 PROPOSED MICROWAVE DISH DETAIL  
SCALE: N.T.S.



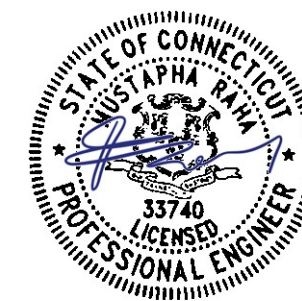
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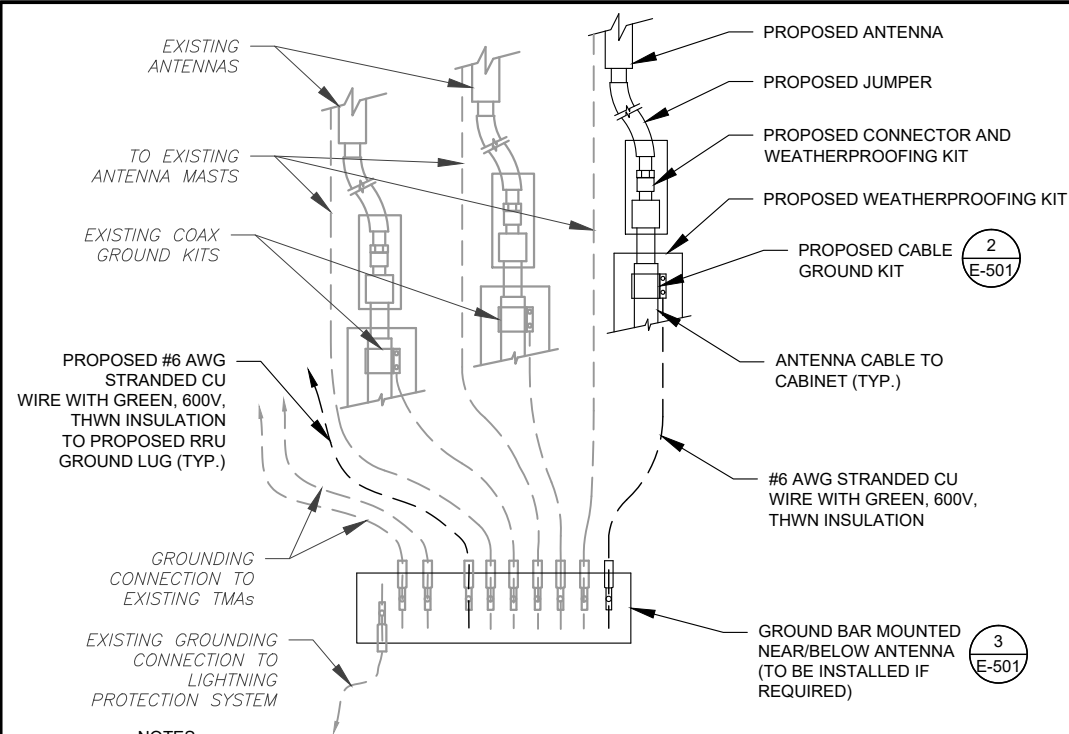


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 CUST. ID: CTNH403A  
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**CONSTRUCTION  
 DETAILS**

SHEET NUMBER: **C-501**      REVISION: **0**

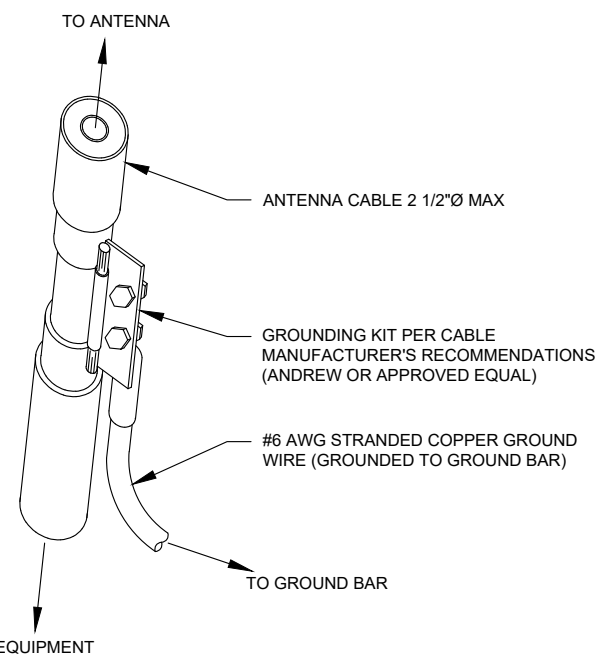
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**NOTES:**

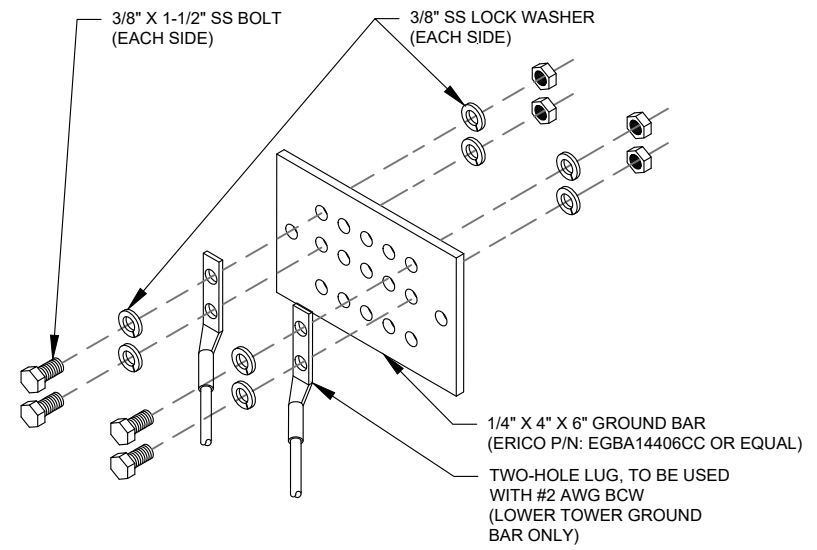
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING 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: N.T.S.



- 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: N.T.S.



**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: N.T.S.

**ELECTRICAL NOTES:**

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW IN CHART.
3. FOR SPECIFIC CABINET / ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD REFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

VOLTS	OCPD SIZE	WIRE SIZE	GROUND	CONDUIT
120/240V OR 120/208V	80A/2P	3-#3 AWG	#8 AWG	1-1/4"
	100/2P	3-#2 AWG	#8 AWG	1-1/4"
	125A/2P	3-#3/0 AWG	#6 AWG	2"
	150A/2P	3-#3/0 AWG	#6 AWG	2"
240V OR 208V	200A/2P	3-#3/0 AWG	#6 AWG	2"
	80A/2P	2-#3 AWG	#8 AWG	1-1/4"
	100/2P	2-#2 AWG	#8 AWG	1-1/4"
	125A/2P	2-#3/0 AWG	#6 AWG	2"
	150A/2P	2-#3/0 AWG	#6 AWG	2"
	200A/2P	2-#3/0 AWG	#6 AWG	2"

**5 ELECTRICAL NOTES**

CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
RMC (METALLIC)	AC, DC COMM	ABOVE GROUND	ABOVE GROUND PPC TO SSC
PVC	AC POWER	UNDERGROUND	UNDERGROUND PPC TO SSC OR BACKHAUL TRANSPORT HUB TO SSC
LFMC	AC, DC, COMM	MAX 6' PER CONDUIT RUN, ABOVE GROUND ONLY	TIGHT LOCATIONS BETWEEN HUB AND CONDUIT BUT NOT TO BE USED WHERE IT CAN BE STEPPED ON
EMT	INDOOR AC, DC COMM	INDOOR NOT EXPOSED TO THE OUTDOOR ENVIRONMENT (MUST BE DRY)	CIRCUIT PANEL TO JUNCTION BOX
LFNC	GROUND WIRE	CONCEALING AND PROTECTING BTCW RISERS ONLY	GROUND RING TO MGB OR SSC

CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
EMT (NOT PREFERRED)	OUTDOOR DC, COMM	OUTDOOR WHEN USED WITH WATERTIGHT HUBS ONLY	BETWEEN EQUIPMENT AND BATTERY CABINET OR EQUIPMENT TO EQUIPMENT CABINETS FOR INTER CABINET CONNECTION
RMC NONMETALLIC (ALUMINUM)	OUTDOOR/INDOOR PER NEC GUIDELINES	ABOVE GROUND	MAY BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WW-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

**4 CONDUIT USE TABLES**

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

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	HD	11/02/22

ATC SITE NUMBER:  
**302506**

ATC SITE NAME:  
**WINCHESTER CT 3**

T-MOBILE SITE NAME:  
**CTNH403A**

SITE ADDRESS:  
15 OAKDALE AVENUE  
WINSTED, CT 06098

SEAL:

**T-Mobile**

ATC PROJ. #: 14156304\_D1  
CUST. ID: CTNH403A  
CUST. #: CTNH403A

**GROUNDING DETAILS**

SHEET NUMBER:  
**E-501**

REVISION:  
**0**

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# Microwave Path Datasheet

PCN Date: September 01, 2022  
Job Number: 220901COMSAN01

New Path  
RCN Number: 220901C3

## ADMINISTRATIVE INFORMATION

<b>Site Name</b>	<b>CTNH403A</b>	<b>CTNH392A</b>
<b>County / State</b>	Litchfield County / CT	Litchfield County / CT
<b>Status / License Basis</b>	Engineering Proposal / Primary	Engineering Proposal / Primary
<b>Radio Service</b>	CF-Common Carrier Fixed	CF-Common Carrier Fixed
<b>Station Class</b>	FXO-Fixed	FXO-Fixed
<b>Call Sign</b>		
<b>Licensee Name</b>	T-Mobile License LLC	T-Mobile License LLC

## SITE INFORMATION

<b>Latitude (NAD 83)</b>	41 55 18.08 N	41 56 24.68 N
<b>Longitude (NAD 83)</b>	73 02 58.2 W	73 05 45.24 W
<b>Ground Elevation (AMSL)</b>	328.00 m / 1076.1 ft	348.00 m / 1141.7 ft
<b>Antenna Structure Registration #</b>		
<b>Path Azimuth</b>	298.115°	118.084°
<b>Path Length / Atmospheric Loss / Free Space Loss</b>	4.363 km (2.711 mi) / 0.1 dB / 126.2 dB	

## PRIMARY ANTENNA INFORMATION

<b>Antenna Code</b>	77205A	77205A
<b>Manufacturer</b>	Commscope	Commscope
<b>Model / Diameter</b>	VHLP2-11WA / 2.0 ft	VHLP2-11WA / 2.0 ft
<b>Gain / Beamwidth / Tilt</b>	34.70 dBi / 3.30° / 0.1°	34.70 dBi / 3.30° / -0.1°
<b>Centerline (AGL)</b>	50.60 m / 166.0 ft	38.71 m / 127.0 ft
<b>Transmit Mode</b>	Tx/Rx	Tx/Rx

## RADIO INFORMATION

<b>Radio Code</b>	M11HK7-1	M11HK7-1
<b>Manufacturer</b>	Ceragon Networks	Ceragon Networks
<b>Model Description</b>	IP-20 SP	IP-20 SP
<b>Stability</b>	0.0005%	0.0005%
<b>Coordinated Power / RSL</b>	28.0 / -37.3 dBm	28.0 / -37.3 dBm
<b>Fixed Loss: Common / TX / RX</b>	0.0 / 4.2 / 4.2 dB	0.0 / 4.2 / 4.2 dB

Radio Model	Modulation	Emission Designator	Data Rate (kbps)	Power (dBm)	EIRP (dBm)	RSL (dBm)	Power (dBm)	EIRP (dBm)	RSL (dBm)
IP20D-D11-80X-2048Q-Y	2048 QAM	80M0D7W	722000	24.0	54.5	-41.3	24.0	54.5	-41.3
IP20D-D11-80X-1024Q-X	1024 QAM	80M0D7W	682000	25.0	55.5	-40.3	25.0	55.5	-40.3
IP20D-D11-80X-1024Q-9	1024 QAM	80M0D7W	642000	25.0	55.5	-40.3	25.0	55.5	-40.3
IP20D-D11-80X-512Q-8	512 QAM	80M0D7W	590000	26.0	56.5	-39.3	26.0	56.5	-39.3
IP20D-D11-80X-256Q-7	256 QAM	80M0D7W	537000	26.0	56.5	-39.3	26.0	56.5	-39.3
IP20D-D11-80X-128Q-6	128 QAM	80M0D7W	466000	26.0	56.5	-39.3	26.0	56.5	-39.3
IP20D-D11-80X-64Q-5	64 QAM	80M0D7W	394000	27.0	57.5	-38.3	27.0	57.5	-38.3
IP20D-D11-80X-32Q-4	32 QAM	80M0D7W	321000	28.0	58.5	-37.3	28.0	58.5	-37.3
IP20D-D11-80X-16Q-3	16 QAM	80M0D7W	244000	28.0	58.5	-37.3	28.0	58.5	-37.3
IP20D-D11-80X-8Q-2	8 QAM	80M0D7W	170000	28.0	58.5	-37.3	28.0	58.5	-37.3
IP20D-D11-80X-4Q-1	4 QAM	80M0G7W	119000	28.0	58.5	-37.3	28.0	58.5	-37.3

## TRANSMIT FREQUENCIES (MHz)

80.0 MHz Channel Bandwidth      10755.0 S (1)    10915.0 S (3)    11245.0 S (1)    11405.0 S (3)

## PRIMARY ANTENNA INFORMATION

<b>Antenna Code</b>	77205A
<b>Manufacturer</b>	Commscope
<b>Model / Diameter</b>	VHLP2-11WA / 2.0 ft
<b>Gain / Beamwidth / Tilt</b>	34.70 dBi / 3.30° / 0.1°
<b>Centerline (AGL)</b>	50.60 m / 166.0 ft
<b>Transmit Mode</b>	Tx/Rx

## RADIO INFORMATION

<b>Radio Code</b>	M11HK7-1
<b>Manufacturer</b>	Ceragon Networks
<b>Model Description</b>	IP-20 SP
<b>Stability</b>	0.0005%
<b>Coordinated Power / RSL</b>	28.0 / -37.3 dBm
<b>Fixed Loss: Common / TX / RX</b>	0.0 / 4.2 / 4.2 dB

SUPPLEMENTAL

SHEET NUMBER:

R-601

REVISION:

0

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

# Product Specifications

COMMSCOPE®



VHLP2-11W/A

0.6 m | 2 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.0–11.700 GHz

## General Specifications

Antenna Type	VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized
Diameter, nominal	0.6 m   2 ft
Polarization	Single

## Electrical Specifications

Beamwidth, Horizontal	3.3 °
Beamwidth, Vertical	3.3 °
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	Brazil Anatel Class 2   ETSI 302 217 Class 3   US FCC Part 101A @ 10.55–10.7 GHz   US FCC Part 101B @ 10.7–11.7 GHz
Front-to-Back Ratio	61 dB
Gain, Low Band	33.7 dBi
Gain, Mid Band	34.5 dBi
Gain, Top Band	35.2 dBi
Operating Frequency Band	10.0 – 11.700 GHz
Radiation Pattern Envelope Reference (RPE)	7200A   7201A
Return Loss	17.7 dB
VSWR	1.30

## Mechanical Specifications

Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±15°
Mounting Pipe Diameter	50 mm–120 mm   2.0 in–4.7 in
Net Weight	8 kg   17 lb
Side Struts, Included	0
Side Struts, Optional	0
Wind Velocity Operational	180 km/h   112 mph
Wind Velocity Survival Rating	250 km/h   155 mph

## Wind Forces At Wind Velocity Survival Rating

Axial Force (FA)	1290 N   290 lbf
Side Force (FS)	639 N   144 lbf
Twisting Moment (MT)	395 N•m
Weight with 1/2 in (12 mm) Radial Ice	21 kg   46 lb
Zcg with 1/2 in (12 mm) Radial Ice	106 mm   4 in

FibeAir IP-20S

Technical Description

## 2.2 Unique IP-20S Feature Set

The following table summarizes the basic IP-20S feature set.

IP-20S Feature Set

Extended Modulation Range	ACM 4-2048 QAM (11 ACM points)
Frequency Bands	6-38 GHz
Wide Range of Channels	30, 40, 50, 60, 80 MHz
Power over Ethernet (PoE)	Proprietary
Small Form Factor	(H)9.05inches x (W)9.07inches x (D)3.86inches
Antennas	Ceragon proprietary RFU-C interface Direct and remote mount – standard flange
Durable All-Outdoor System	IP66-compliant

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SUPPLEMENTAL

SHEET NUMBER:

R-602

REVISION:

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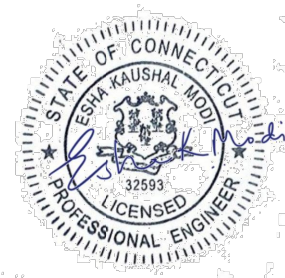
Eng. Number 14156304\_C8\_01  
 October 7, 2022  
 Page 1

## Mount Analysis Report

**ATC Site Name** : Winchester CT 3, CT  
**ATC Site Number** : 302506  
**Engineering Number** : 14156304\_C8\_01  
**Mount Elevation** : 167 ft  
**Carrier** : T-Mobile  
**Carrier Site Name** : CTNH403A  
**Carrier Site Number** : CTNH403A  
**Site Location** : 15 Oakdale Avenue  
 Winsted, CT 06098-1862  
 41.92158869 , -73.04941107  
**County** : Litchfield  
**Date** : October 7, 2022  
**Max Usage** : 49%  
**Result** : Pass

Prepared By:  
 Sarah Abdallah  
 Structural Engineer

Reviewed By:



Authorized by "EOR"  
 07 Oct 2022 01:59:48 cosign

COA: PEC.0001553

### Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 167 ft.

### Supporting Documents

Previous Analysis	ATC Project #13711886_C8_04, dated August 12, 2021
Radio Frequency Data Sheet	RFDS ID #CTNH403A, dated July 26, 2021
Reference Photos	Site photos from 2021

### Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	124 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	III
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.169, S1 = 0.054
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

### Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount 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](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

SUPPLEMENTAL

SHEET NUMBER: R-603  
 REVISION: 0

# Exhibit D

Structural Analysis Report



**AMERICAN TOWER®**  
CORPORATION

This report was prepared for American Tower Corporation by



**TOWER  
ENGINEERING  
PROFESSIONALS**

## Structural Analysis Report

**Structure** : 180 ft Monopole  
**ATC Asset Name** : Winchester CT 3  
**ATC Asset Number** : 302506  
**Engineering Number** : 14156304\_C3\_02  
**Proposed Carrier** : T-MOBILE  
**Carrier Site Name** : CTNH403A  
**Carrier Site Number** : CTNH403A  
**Site Location** : 15 Oakdale Avenue  
Winsted, CT 06098-1862  
41.9216, -73.0494  
**County** : Litchfield  
**Date** : October 13, 2022  
**Max Usage** : 88%  
**Analysis Result** : Pass

Prepared By:

Peter Laird  
TEP

Reviewed By:



**COA: PEC.0001553**



## **Table of Contents**

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Antenna Deflection, Twist, and Sway.....	6
Standard Conditions .....	7
Calculations.....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft Monopole tower to reflect the change in loading by T-MOBILE.

## Supporting Documents

<b>Tower Drawing:</b>	EEl Job #7676, dated August 21, 2000
<b>Foundation Drawing:</b>	SNET Project #F301804.10/F04, dated August 23, 2000
<b>Geotechnical Report:</b>	WELTI Project: Whalen's Hill, dated February 8, 2000
<b>Modification:</b>	ATC Job #42523432, dated October 24, 2008 ATC Job #50492933, dated October 15, 2012
<b>Mount Analysis:</b>	ATC Job #14156304_C8_01, dated October 7, 2022

## 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.

<b>Basic Wind Speed:</b>	124 mph (3-second gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-second gust) w/ 1.00" radial ice concurrent
<b>Code(s):</b>	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	III
<b>Topographic Factor Procedure:</b>	Method 1
<b>Topographic Category:</b>	1
<b>Spectral Response:</b>	$S_s = 0.17$ , $S_i = 0.05$
<b>Site Class:</b>	D - Stiff Soil - Default

*\*Per IBC Section 1609.1.1 Exception (5), the Vult wind speed is converted for analysis using TIA-222-G. In TIA-222-G, Risk Category is achieved by using Structure Class III with Risk Category II wind speeds, whereas IBC achieves Risk Category III/IV by elevating the base wind speed and not changing Structure Class. This analysis was analyzed in accordance with the latter approach using elevated wind speeds for Risk Category III/IV with a Structure Class II in order to meet IBC Risk Category III-IV.*

## 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/Reserved Loading**

Elev.*	Qty	Equipment	Lines	Carrier
189.2'	1	7' Omni	-	SPOK HOLDINGS, INC.
184.0'	3	CCI DMP65R-BU6DA	(2) 0.39" (10mm) Fiber Trunk (1) 0.40" (10.3mm) Fiber (8) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (5) 2" conduit	AT&T MOBILITY
	3	CCI HPA-65R-BUU-H6		
	3	CCI OPA65R-BU6B		
	3	Ericsson RRUS 32 B30		
	3	Ericsson RRUS 4449 B5, B12		
	3	Ericsson RRUS 8843 B2, B66A		
	3	Ericsson RRUS E2 B29		
	3	Raycap DC6-48-60-18-8F (23.5" Height)		
180.0'	1	Low Profile Platform		
178.1'	1	Kathrein Scala MF-900B	-	UNKNOWN
150.0'	1	Sinclair SD210-SF2P4SNM	(1) 1 5/8" Coax	LITCHFIELD COUNTY DISPATCH INC
	1	Side Arm		
140.0'	1	Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	(8) 1 5/8" Coax (1) 7/8" Coax (1) 1/2" Coax	CONNECTICUT STATE POLICE DEPT OF PUBLIC
	1	Sinclair SC479-HF1LDF(E5765)		
	2	Decibel DB809DK-XT		
	1	Telewave ANT150D (5 lbs)		
	3	Side Arm		
	1	Bird 432-83H-01-T		
134.0'	1	Platform w/ Handrails	(3) 1 1/4" Hybriflex Cable (1) 7/8" (0.88"- 22.2mm) Fiber	SPRINT NEXTEL
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield		
	3	RFS APXVSP18-C-A20		
	3	RFS APXVTM14-C-I20		
	3	Alcatel-Lucent 1900MHz RRH		
	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter		
125.0'	1	Low Profile Platform	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS
	1	Raycap RCMDC-6627-PF-48		
	3	Alcatel-Lucent B25 RRH4x30		
	3	Nokia AHCA AirScale RRH 4T4R B5 160W		
	6	Commscope JAHH-65B-R3B		
	6	Nokia B66a RRH4x45 (UHIE)		
	2	Antel LPA-80063/6CF		
	4	Antel LPA-80080/6CF		
115.0'	1	Low Profile Platform	(12) 1 1/4" Coax	SPRINT NEXTEL
	12	72" x 8" Panel		
105.0'	3	RFS APXV18-206517S-C	(6) 1 5/8" Coax	METRO PCS INC
95.0'	1	Andrew DB586	(2) 7/8" Coax (1) 1/2" Coax	EVERSOURCE ENERGY
	1	Bird 429-83H-01-T		
	3	Side Arm		
	1	Andrew DB586		
80.0'	1	RFS PA6-65AC	(1) EW63	CONNECTICUT STATE POLICE DEPT OF PUBLIC
78.0'	1	PCTEL GPS-TMG-HR-26N	(1) 1/2" Coax	SPRINT NEXTEL
30.0'	1	GPS	-	VERIZON WIRELESS

*(If table breaks across pages, please see previous page for data in merged cells)*

**\*Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.**



**Proposed Carrier Final Loading**

Elev.*	Qty	Equipment	Lines	Carrier
166.0'	1	Ceragon FibeAir IP-20S	(3) 1 1/4" (1.25"- 31.8mm) Fiber (1) 1.99" (50.7mm) Hybrid (4) 1/2" Coax	T-MOBILE
	1	Commscope VHLP2-11W/A		
	3	Ericsson Air6449 B41		
	3	Ericsson Radio 4449 B71 B85A		
	3	Ericsson Radio 4460 B25+B66		
	3	Sector Frames		
	3	RFS APXVAARR24_43-U-NA20		

*(If table breaks across pages, please see previous page for data in merged cells)*

*\*Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.*

**Install proposed lines outside the pole shaft.**

### Structure Usages

Structural Component	Usage	Pass/Fail
Anchor Rods	77%	Pass
Base Plate	56%	Pass
Shaft	88%	Pass
Reinforcement	79%	Pass

### Foundation Reactions & Usages

Reaction Component	Analysis Reactions	Usage
Moment (k-ft)	4958.4	45%
Axial (k)	70.4	7%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

### Antenna Deflection, Twist, and Sway

Elev.	Antenna	Carrier	Deflection	Twist	Sway [Rotation]
178.1'	Kathrein Scala MF-900B	Unknown	2.847'	N/A	2.060°
166.0'	Ceragon FibeAir IP-20S	T-MOBILE	2.420'	N/A	1.960°
	Commscope VHLP2-11W/A				
80.0'	RFS PA6-65AC	CONNECTICUT STATE POLICE DEPT OF PUBLIC	0.498'	N/A	0.730°

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





## **Standard Conditions**

All engineering services performed by A.T. Engineering Services LLC 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 Services LLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Services LLC 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 Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

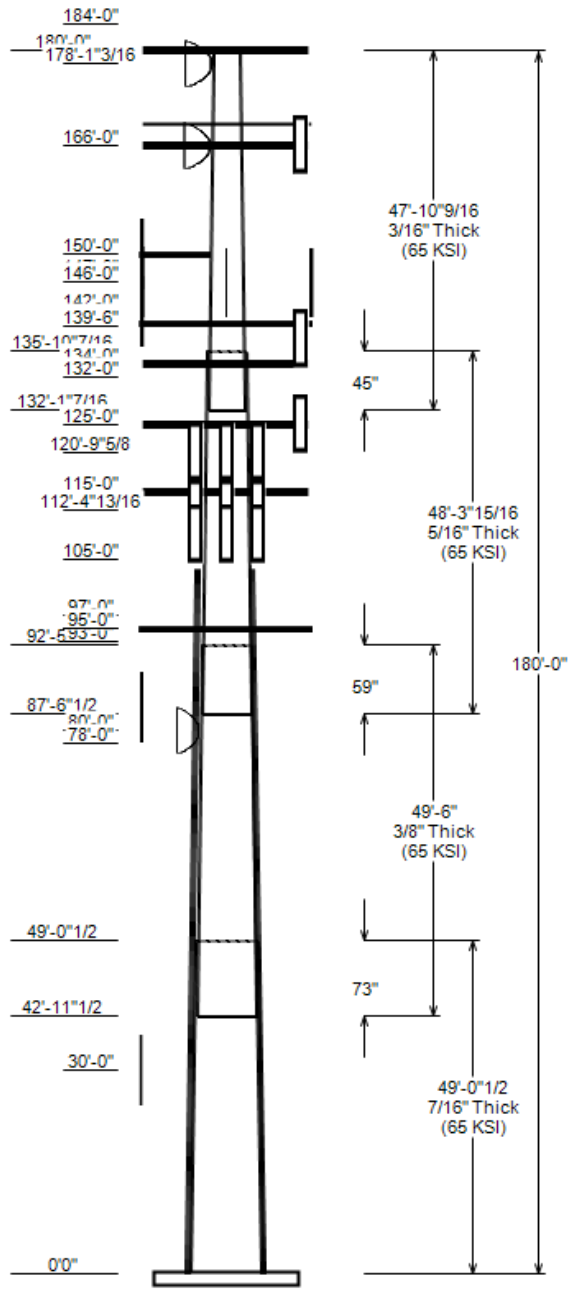
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

**ANALYSIS PARAMETERS**

Nominal Wind: 124 mph	Ice Wind: 50 mph w/ 1" ice	Service Wind: 60 mph
Risk Category: III	Exposure: B	S <sub>s</sub> : 0.169 S <sub>i</sub> : 0.054
Topo Category: 1	Topo Factor: Method 1	Topo Feature:
Structure Height: 180 ft	Base Elevation: 0.00 ft	Structure Type: Taper
Base Diameter: 52.75 in	Base Rotation: 0°	Taper: 0.2190 (in/ft)

**POLE SECTION PROPERTIES**

Section	Length (ft)	Flat Diameter (in)		Thick (in)	Joint Type	Joint Length (in)	Pole Shape	Yield Strength (ksi)
		Top	Bottom					
1	49.040	41.99	52.75	0.438		0.000	18 Sides	65
2	49.500	33.21	44.07	0.375	Slip Joint	73.000	18 Sides	65
3	48.330	24.31	34.92	0.312	Slip Joint	59.000	18 Sides	65
4	47.880	15.00	25.51	0.188	Slip Joint	45.000	18 Sides	65



**DISCRETE APPURTENANCE**

Elev (ft)	Description
189.2	(1) Generic 7" Omni
184.0	(3) Raycap DC6-48-60-18-8F (23.5"
184.0	(3) Ericsson RRUS 8843 B2, B66A
184.0	(3) Ericsson RRUS 4449 B5, B12
184.0	(3) Ericsson RRUS 32 B30
184.0	(3) Ericsson RRUS E2 B29
184.0	(3) CCI OPA65R-BU6B
184.0	(3) CCI HPA-65R-BUU-H6
184.0	(3) CCI DMP65R-BU6DA
180.0	(1) Flat Low Profile Platform
178.1	(1) Kathrein Scala MF-900B
166.0	(1) Ceragon FibeAir IP-20S
166.0	(3) Ericsson Radio 4449 B71 B85A
166.0	(3) Ericsson Radio 4460 B25+B66
166.0	(1) Commscope VHLP2-11W/A
166.0	(3) Ericsson Air6449 B41
166.0	(1) Generic Mount Reinforcement
166.0	(3) Generic Round Sector Frame
166.0	(3) RFS APXVAARR24_43-U-NA20
150.0	(1) Sinclair SD210-SF2P4SNM
150.0	(1) Round Side Arm
147.0	(1) Sinclair SC442D-HF1LDF(DXX-I30
146.0	(1) Sinclair SC479-HF1LDF(E5765)
146.0	(2) Decibel DB809DK-XT
142.0	(1) Telewave ANT150D (5 lbs)
140.0	(3) Round Side Arm
139.5	(1) Bird 432-83H-01-T
134.0	(3) Alcatel-Lucent TD-RRH8x20-25 w
134.0	(3) RFS APXVTM14-C-I20
134.0	(3) RFS APXVSP18-C-A20
134.0	(1) Flat Platform w/ Handrails
132.0	(3) Alcatel-Lucent 800 MHz RRH w/
132.0	(3) Alcatel-Lucent 1900MHz RRH
125.0	(3) Nokia AHCA AirScale RRH 4T4R B
125.0	(3) Alcatel-Lucent B25 RRH4x30
125.0	(6) Nokia B66a RRH4x45 (UHIE)
125.0	(1) Raycap RCMD-6627-PF-48
125.0	(6) Commscope JAHH-65B-R3B
125.0	(1) Round Low Profile Platform
120.8	(4) Antel LPA-80080/6CF
120.8	(2) Antel LPA-80063/6CF
115.0	(1) Round Low Profile Platform
112.4	(12) Generic 72" x 8" Panel
105.0	(3) RFS APXV18-206517S-C
97.0	(1) Andrew DB586
95.0	(1) Bird 429-83H-01-T
95.0	(3) Flat Side Arm
93.0	(1) Andrew DB586
80.0	(1) RFS PA6-65AC
78.0	(1) PCTEL GPS-TMG-HR-26N
30.0	(1) Generic GPS

**LINEAR APPURTENANCE**

Elev To (ft)	Description
185.0	(2) 2" conduit
185.0	(2) 0.78" (19.7mm) 8 AWG 6
184.0	(3) 2" conduit
184.0	(6) 1 5/8" Coax
184.0	(6) 0.78" (19.7mm) 8 AWG 6
184.0	(1) 0.40" (10.3mm) Fiber
184.0	(2) 0.39" (10mm) Fiber Trunk
166.0	(4) 1/2" Coax
166.0	(1) 1.99" (50.7mm) Hybrid
166.0	(3) 1 1/4" (1.25"-31.8mm) Fiber
150.0	(1) 1 5/8" Coax
147.0	(2) 1 5/8" Coax
146.0	(5) 1 5/8" Coax
142.0	(1) 7/8" Coax
141.0	(1) 1 5/8" Coax
139.0	(1) 1/2" Coax
134.0	(1) 7/8" (0.88"-22.2mm) Fiber
134.0	(3) 1 1/4" Hybriflex Cable
125.0	(1) 1 5/8" Hybriflex
125.0	(6) 1 5/8" Coax
112.0	(12) 1 1/4" Coax
112.0	(1) #20 Dywidag Bar
112.0	(1) #20 Dywidag Bar
112.0	(1) #20 Dywidag Bar
112.0	(1) #20 Dywidag Bar
105.0	(6) 1 5/8" Coax
97.0	(1) 7/8" Coax
95.0	(1) 1/2" Coax
93.0	(1) 7/8" Coax
80.0	(1) EW63
78.0	(1) 1/2" Coax

**GLOBAL BASE REACTIONS**

Load Case	Moment (kip-ft)	Axial (kip)	Shear (kip)
1.2D + 1.0W	4958.44	70.41	42.85
0.9D + 1.0W	4884.64	52.79	42.82
1.2D + 1.0Di + 1.0Wi	1178.88	102.27	9.20
1.2D + 1.0Ev + 1.0Eh	248.65	70.16	1.77
0.9D - 1.0Ev + 1.0Eh	243.84	49.04	1.77
1.0D + 1.0W	1030.77	58.73	8.97

**DISH SERVICEABILITY**

Load Case	Elevation (ft)	Deflection (in)	Rotation (°)
1.0D + 1.0W	80.00	5.982	0.729
1.0D + 1.0W	166.00	29.042	1.963
1.0D + 1.0W	178.10	34.162	2.063

**LOAD CASE KEY**

<b>1.2D + 1.0W</b>	124 mph Wind with No Ice
<b>0.9D + 1.0W</b>	124 mph Wind with No Ice (Reduced)
<b>1.2D + 1.0Di + 1.0Wi</b>	50 mph Wind with 1" Radial Ice
<b>1.2D + 1.0Ev + 1.0Eh</b>	Seismic

ASSET: 302506, Winchester CT 3  
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H  
PROJECT: 14156304

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**0.9D - 1.0Ev + 1.0Eh**  
**1.0D + 1.0W**

Seismic (Reduced DL)  
60 mph Wind with No Ice

ANALYSIS PARAMETERS

<b>Location:</b>	Litchfield County,CT	<b>Height:</b>	180 ft
<b>Type and Shape:</b>	Taper, 18 Sides	<b>Base Diameter:</b>	52.75 in
<b>Manufacturer:</b>	EEL	<b>Top Diameter:</b>	15.00 in
<b>K<sub>d</sub> (non-service):</b>	0.95	<b>Taper:</b>	0.2190 in/ft
<b>K<sub>e</sub>:</b>	0.96	<b>Rotation:</b>	0.000°

ICE & WIND PARAMETERS

<b>Risk Category:</b>	III	<b>Design Wind Speed:</b>	124 mph
<b>Exposure Category:</b>	B	<b>Design Wind Speed w/ Ice:</b>	50 mph
<b>Topo Factor Procedure:</b>	Method 1	<b>Design Ice Thickness:</b>	1.00 in
<b>Topographic Category:</b>	1	<b>Service Wind Speed:</b>	60 mph
<b>Crest Height:</b>	0 ft	<b>HMSL:</b>	1073.00 ft

SEISMIC PARAMETERS

<b>Analysis Method:</b>	Equivalent Lateral Force Method		
<b>Site Class:</b>	D - Stiff Soil	<b>Period Based on Rayleigh Method (sec):</b>	2.88
<b>T<sub>L</sub> (sec):</b>	6	<b>P:</b>	1
<b>S<sub>s</sub>:</b>	0.169	<b>S<sub>1</sub>:</b>	0.054
<b>F<sub>a</sub>:</b>	1.600	<b>F<sub>v</sub>:</b>	2.400
<b>S<sub>ds</sub>:</b>	0.180	<b>S<sub>d1</sub>:</b>	0.086
		<b>C<sub>s</sub>:</b>	0.030
		<b>C<sub>s</sub> Max:</b>	0.030
		<b>C<sub>s</sub> Min:</b>	0.030

LOAD CASES

1.2D + 1.0W	124 mph Wind with No Ice
0.9D + 1.0W	124 mph Wind with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph Wind with 1" Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Section	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	49.04	0.4375	65		0.00	10,875	52.75	0.000	72.64	25,115.3	19.85	120.57	41.99	49.04	57.70	12,585.	15.51	95.97	0.2194	
2-18	49.50	0.3750	65	Slip	73.00	7,672	44.07	42.960	52.01	12,548.1	19.31	117.53	33.21	92.46	39.08	5,324.0	14.21	88.56	0.2194	
3-18	48.33	0.3125	65	Slip	59.00	4,779	34.92	87.540	34.32	5,191.9	18.29	111.73	24.31	135.87	23.80	1,731.7	12.31	77.79	0.2194	
4-18	47.88	0.1875	65	Slip	45.00	1,946	25.51	132.120	15.07	1,220.5	22.58	136.04	15.00	180.00	8.82	244.4	12.70	80.01	0.2194	
<b>Total Shaft Weight</b>						<b>25,272</b>														

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor
189.20	Generic 7' Omni	1	1.00	0.000	25.00	2.100	1.00	66.88	3.562	1.00
184.00	CCI HPA-65R-BUU-H6	3	0.80	-2.000	51.00	9.658	0.69	222.56	11.826	0.69
184.00	CCI DMP65R-BU6DA	3	0.80	0.000	79.40	12.709	0.63	280.83	14.890	0.63
184.00	CCI OPA65R-BU6B	3	0.80	0.000	55.00	7.851	0.72	197.98	10.007	0.72
184.00	Ericsson RRUS E2 B29	3	0.80	0.000	60.00	3.145	0.62	123.25	4.051	0.62
184.00	Ericsson RRUS 32 B30	3	0.80	0.000	60.00	2.743	0.67	117.53	3.657	0.67
184.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	121.40	2.698	0.50
184.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.639	0.50	119.93	2.300	0.50
184.00	Raycap DC6-48-60-18-8F (23.5")	3	0.80	0.000	20.00	1.260	1.00	61.17	1.775	1.00
180.00	Flat Low Profile Platform	1	1.00	0.000	1500.00	26.100	1.00	2006.63	41.029	1.00
178.10	Kathrein Scala MF-900B	1	1.00	0.000	13.00	2.610	1.00	97.29	11.468	1.00
166.00	Generic Round Sector Frame	3	0.75	0.000	300.00	14.400	0.75	585.38	27.242	0.75
166.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	432.48	23.121	0.63
166.00	Generic Mount Reinforcement	1	1.00	0.000	200.00	7.500	1.00	350.15	13.309	1.00
166.00	Ericsson Air6449 B41	3	0.80	0.000	104.00	5.682	0.63	209.73	6.913	0.63
166.00	Commscope VHLP2-11W/A	1	1.00	0.000	17.00	4.650	1.00	86.75	5.635	1.00
166.00	Ericsson Radio 4460 B25+B66	3	0.80	0.000	109.00	2.564	0.67	177.57	3.382	0.67
166.00	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	121.66	2.309	0.50
166.00	Ceragon FibeAir IP-20S	1	0.80	0.000	13.20	0.570	1.00	21.75	0.927	1.00
150.00	Sinclair SD210-SF2P4SNM	1	1.00	0.000	8.30	1.370	1.00	43.87	4.854	1.00
150.00	Round Side Arm	1	1.00	0.000	150.00	5.200	1.00	206.14	7.285	1.00
147.00	Sinclair SC442D-HF1LDF(DXX-I30)	1	1.00	-1.000	79.00	10.479	1.00	269.45	16.208	1.00
146.00	Sinclair SC479-HF1LDF(E5765)	1	1.00	0.000	34.00	5.030	1.00	129.08	8.965	1.00
146.00	Decibel DB809DK-XT	2	1.00	0.000	64.00	6.350	1.00	185.81	12.086	1.00
142.00	Telewave ANT150D (5 lbs)	1	1.00	0.000	5.00	1.090	1.00	7.66	1.670	1.00
140.00	Round Side Arm	3	1.00	0.000	150.00	5.200	0.67	205.80	7.273	0.67
139.50	Bird 432-83H-01-T	1	0.80	0.000	25.00	1.400	1.00	58.02	1.997	1.00
134.00	Flat Platform w/ Handrails	1	1.00	0.000	2000.00	31.600	1.00	3078.80	43.465	1.00
134.00	RFS APXVSP18-C-A20	3	0.75	1.000	57.00	8.024	0.69	187.94	10.141	0.69
134.00	RFS APXVTM14-C-I20	3	0.75	1.000	52.90	6.342	0.66	157.41	7.995	0.66
134.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.75	1.000	70.00	4.046	0.50	141.74	5.054	0.50
132.00	Alcatel-Lucent 1900MHz RRH	3	0.75	3.000	44.00	3.258	0.50	126.57	4.159	0.50
132.00	Alcatel-Lucent 800 MHz RRH w/	3	0.75	3.000	61.80	2.495	0.50	130.32	3.284	0.50
125.00	Commscope JAHH-65B-R3B	6	0.80	0.000	60.60	9.113	0.69	212.95	11.202	0.69
125.00	Round Low Profile Platform	1	1.00	0.000	1500.00	21.700	1.00	1987.92	36.159	1.00
125.00	Nokia AHCA AirScale RRH 4T4R B	3	0.80	-2.800	35.30	1.286	0.50	64.91	1.853	0.50
125.00	Alcatel-Lucent B25 RRH4x30	3	0.80	-2.400	53.00	2.120	0.67	98.46	2.867	0.67
125.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	0.50	127.71	5.084	0.50
125.00	Nokia B66a RRH4x45 (UHIE)	6	0.80	-2.100	56.80	2.537	0.67	109.58	3.381	0.67
120.80	Antel LPA-80080/6CF ____	4	0.80	0.000	21.00	8.628	0.62	160.12	5.192	0.62
120.80	Antel LPA-80063/6CF	2	0.80	0.000	27.00	9.593	0.82	235.26	10.598	0.82
115.00	Round Low Profile Platform	1	1.00	0.000	1500.00	21.700	1.00	1984.13	36.046	1.00
112.40	Generic 72" x 8" Panel	12	0.80	0.000	40.00	5.860	0.68	122.57	7.650	0.68
105.00	RFS APXV18-206517S-C	3	1.00	1.000	26.40	5.160	0.68	95.05	6.912	0.68
97.00	Andrew DB586	1	1.00	0.000	8.30	0.740	1.00	12.55	1.119	1.00
95.00	Bird 429-83H-01-T	1	0.80	1.000	20.00	0.917	0.50	43.42	1.459	0.50
95.00	Flat Side Arm	3	1.00	0.000	150.00	6.300	0.67	203.63	8.102	0.67
93.00	Andrew DB586	1	1.00	0.000	8.30	0.740	1.00	12.53	1.117	1.00
80.00	RFS PA6-65AC	1	1.00	0.000	278.00	47.050	1.00	618.49	50.356	1.00

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor
78.00	PCTEL GPS-TMG-HR-26N	1	1.00	1.000	0.60	0.090	1.00	4.08	0.219	1.00
30.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	28.97	1.315	1.00
<b>Totals</b>		<b>Row Count: 51</b>			<b>123</b>	<b>14,531.20</b>		<b>28,680.81</b>		

LINEAR APPURTENANCE PROPERTIES

Elev From (ft)	Elev To (ft)	Qty	Description	Diameter (in)	Weight (lb/ft)	Flat	Max/Row	Distance Between Rows (in)	Distance Between Cols (in)	Azimuth (deg)	Distance From Face (in)	Exposed To Wind	Carrier
0.00	185.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	185.00	2	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	1	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	166.00	4	1/2" Coax	0.63	0.15	N	4	1	1	60	1	Y	T-MOBILE
0.00	166.00	3	1 1/4" (1.25"- 31.8mm	1.25	1.05	N	3	1	1	40	1	Y	T-MOBILE
0.00	166.00	1	1.99" (50.7mm) Hybrid	1.99	1.9	N	1	1	1	50	1	Y	T-MOBILE
0.00	150.00	1	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	LITCHFIELD COUNTY DIS
0.00	147.00	2	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	146.00	5	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	142.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	141.00	1	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	139.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	134.00	3	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	134.00	1	7/8" (0.88"- 22.2mm)	0.88	0.7	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	125.00	6	1 5/8" Coax	1.98	0.82	N	3	1	1	210	1	Y	VERIZON WIRELESS
0.00	125.00	1	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIRELESS
0.00	112.00	12	1 1/4" Coax	1.55	0.63	N	6	1	1	270	1	Y	SPRINT NEXTEL
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	190	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	280	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	100	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	10	0	Y	
0.00	105.00	6	1 5/8" Coax	1.98	0.82	N	3	1	1	50	1	Y	METRO PCS INC
0.00	97.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	EVERSOURCE ENERGY
0.00	95.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	EVERSOURCE ENERGY
0.00	93.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	EVERSOURCE ENERGY
0.00	80.00	1	EW63	2.01	0.51	N	0	0	0	0	0	N	CONNECTICUT STATE P
0.00	78.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	SPRINT NEXTEL

ADDITIONAL STEEL

Elev From (ft)	Elev To (ft)	Qty	Description	Intermediate Connectors					Length (in)	Connectors	Continuation?
				Fy (ksi)	Offset (in)	Bracket Type	Spacing (in)	Length (in)			
0.00	103.75	4	SOL #20 All Thread Bar	80	2.19	6" Angle Bracket	30.00	3.13	5/8" A36 U-Bolt	N	

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	(Max Length: 5 ft)	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)	Additional Reinforcing		
													Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Weight (lb)
0.00			0.4375	52.750	72.640	25,115.3	19.85	120.57	78.1	937.8	0.0	0.0	19.640	8,737.00	0.0
5.00			0.4375	51.653	71.116	23,567.9	19.41	118.06	78.6	898.7	0.0	1,222.9	19.640	8,418.70	334.0
10.00			0.4375	50.556	69.593	22,085.4	18.96	115.56	79.1	860.4	0.0	1,197.0	19.640	8,106.30	334.0
15.00			0.4375	49.458	68.069	20,666.5	18.52	113.05	79.6	823.0	0.0	1,171.1	19.640	7,799.90	334.0
20.00			0.4375	48.361	66.546	19,309.6	18.08	110.54	80.1	786.4	0.0	1,145.2	19.640	7,499.30	334.0
25.00			0.4375	47.264	65.022	18,013.5	17.64	108.03	80.7	750.7	0.0	1,119.2	19.640	7,204.70	334.0
30.00			0.4375	46.167	63.499	16,776.7	17.20	105.52	81.2	715.7	0.0	1,093.3	19.640	6,916.00	334.0
35.00			0.4375	45.070	61.975	15,597.8	16.75	103.02	81.7	681.7	0.0	1,067.4	19.640	6,633.10	334.0

SEGMENT PROPERTIES

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)	Additional Reinforcing		
												Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	Weight (lb)
40.00		0.4375	43.972	60.451	14,475.6	16.31	100.51	82.2	648.4	0.0	1,041.5	19.640	6,356.20	334.0
42.96	Bot - Section 2	0.4375	43.324	59.551	13,838.0	16.05	99.03	82.5	629.1	0.0	603.6	19.640	6,195.30	197.5
45.00		0.4375	42.875	58.928	13,408.4	15.87	98.00	82.6	616.0	0.0	771.7	19.640	6,269.80	136.5
49.04	Top - Section 1	0.3750	42.739	50.422	11,432.9	18.69	113.97	79.4	526.9	0.0	1,502.0	19.640	6,051.90	269.9
50.00		0.3750	42.528	50.171	11,263.2	18.59	113.41	79.5	521.6	0.0	164.3	19.640	6,000.70	64.1
55.00		0.3750	41.431	48.865	10,406.4	18.07	110.48	80.1	494.7	0.0	842.5	19.640	5,737.50	334.0
60.00		0.3750	40.334	47.559	9,594.10	17.55	107.56	80.8	468.5	0.0	820.3	19.640	5,480.20	334.0
65.00		0.3750	39.236	46.253	8,825.30	17.04	104.63	81.4	443.0	0.0	798.1	19.640	5,228.80	334.0
70.00		0.3750	38.139	44.947	8,098.70	16.52	101.70	82	418.2	0.0	775.8	19.640	4,983.30	334.0
75.00		0.3750	37.042	43.641	7,413.10	16.01	98.78	82.6	394.2	0.0	753.6	19.640	4,743.70	334.0
78.00		0.3750	36.384	42.858	7,021.00	15.70	97.02	82.6	380.1	0.0	441.5	19.640	4,602.80	200.4
80.00		0.3750	35.945	42.335	6,767.40	15.49	95.85	82.6	370.8	0.0	289.9	19.640	4,510.10	133.6
85.00		0.3750	34.848	41.030	6,160.20	14.97	92.93	82.6	348.2	0.0	709.2	19.640	4,282.30	334.0
87.54	Bot - Section 3	0.3750	34.290	40.366	5,866.20	14.71	91.44	82.6	337.0	0.0	351.7	19.640	4,168.90	169.7
90.00		0.3750	33.750	39.724	5,590.60	14.46	90.00	82.6	326.3	0.0	620.3	19.640	4,186.10	164.3
92.46	Top - Section 2	0.3125	33.836	33.250	4,721.20	17.68	108.28	80.6	274.8	0.0	609.6	19.640	4,077.60	164.1
93.00		0.3125	33.717	33.132	4,671.00	17.61	107.89	80.7	272.9	0.0	61.4	19.640	4,053.80	36.3
95.00		0.3125	33.278	32.697	4,489.30	17.37	106.49	81	265.7	0.0	224.0	19.640	3,966.80	133.6
97.00		0.3125	32.839	32.261	4,312.40	17.12	105.09	81.3	258.6	0.0	221.0	19.640	3,880.70	133.6
100.00		0.3125	32.181	31.608	4,055.80	16.75	102.98	81.7	248.2	0.0	326.0	19.640	3,753.40	200.4
103.75	Reinf. Top	0.3125	31.358	30.792	3,749.70	16.28	100.35	82.2	235.5	0.0	398.1	19.640	3,597.30	250.5
105.00		0.3125	31.084	30.520	3,651.20	16.13	99.47	82.4	231.4	0.0	130.4			
110.00		0.3125	29.987	29.432	3,274.40	15.51	95.96	82.6	215.1	0.0	510.0			
112.40		0.3125	29.460	28.910	3,103.10	15.21	94.27	82.6	207.5	0.0	238.2			
115.00		0.3125	28.889	28.344	2,924.40	14.89	92.45	82.6	199.4	0.0	253.3			
120.00		0.3125	27.792	27.255	2,600.30	14.27	88.94	82.6	184.3	0.0	473.0			
120.80		0.3125	27.617	27.081	2,550.80	14.17	88.37	82.6	181.9	0.0	74.0			
125.00		0.3125	26.695	26.167	2,301.10	13.65	85.42	82.6	169.8	0.0	380.5			
130.00		0.3125	25.598	25.079	2,025.80	13.03	81.91	82.6	155.9	0.0	435.9			
132.00		0.3125	25.159	24.644	1,922.10	12.79	80.51	82.6	150.5	0.0	169.2			
132.12	Bot - Section 4	0.3125	25.133	24.618	1,916.00	12.77	80.42	82.6	150.2	0.0	10.0			
134.00		0.3125	24.720	24.208	1,822.10	12.54	79.10	82.6	145.2	0.0	251.8			
135.00		0.3125	24.501	23.991	1,773.40	12.41	78.40	82.6	142.6	0.0	132.2			
135.87	Top - Section 3	0.1875	24.685	14.578	1,105.30	21.80	131.65	75.8	88.2	0.0	114.0			
139.50		0.1875	23.888	14.104	1,001.00	21.05	127.40	76.6	82.5	0.0	177.2			
140.00		0.1875	23.778	14.039	987.10	20.95	126.82	76.8	81.8	0.0	23.9			
142.00		0.1875	23.340	13.778	933.10	20.54	124.48	77.2	78.7	0.0	94.7			
145.00		0.1875	22.681	13.386	855.70	19.92	120.97	78	74.3	0.0	138.6			
146.00		0.1875	22.462	13.255	830.90	19.71	119.80	78.2	72.9	0.0	45.3			
147.00		0.1875	22.242	13.125	806.60	19.51	118.63	78.5	71.4	0.0	44.9			
150.00		0.1875	21.584	12.733	736.50	18.89	115.11	79.2	67.2	0.0	132.0			
155.00		0.1875	20.487	12.080	628.90	17.86	109.26	80.4	60.5	0.0	211.1			
160.00		0.1875	19.390	11.427	532.30	16.82	103.41	81.6	54.1	0.0	200.0			
165.00		0.1875	18.292	10.774	446.20	15.79	97.56	82.6	48.0	0.0	188.9			
166.00		0.1875	18.073	10.644	430.20	15.59	96.39	82.6	46.9	0.0	36.4			
170.00		0.1875	17.195	10.121	369.90	14.76	91.71	82.6	42.4	0.0	141.3			
175.00		0.1875	16.098	9.468	302.80	13.73	85.86	82.6	37.1	0.0	166.6			
178.10		0.1875	15.418	9.064	265.60	13.09	82.23	82.6	33.9	0.0	97.7			
180.00		0.1875	15.001	8.815	244.40	12.70	80.00	82.6	32.1	0.0	57.8			
<b>Totals:</b>											<b>25,271.1</b>	<b>6,930.5</b>		

CALCULATED FORCES

Load Case: 1.2D + 1.0W 124 mph Wind with No Ice 28 Iterations

Gust Response Factor: 1.10  
 Dead load Factor: 1.20  
 Wind Load Factor: 1.00

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	-70.41	-42.85	0.00	-4,958.4	0.00	4,958.44	5,102.86	1,274.83	6,023.66	5,489.79	0	0	0.682
5.00	-67.88	-42.46	0.00	-4,744.2	0.00	4,744.20	5,029.12	1,248.09	5,773.66	5,296.04	0.11	-0.2	0.672

CALCULATED FORCES

10.00	-65.39	-42.05	0.00	-4,531.9	0.00	4,531.91	4,953.96	1,221.35	5,528.96	5,104.17	0.43	-0.41	0.661
15.00	-62.93	-41.64	0.00	-4,321.6	0.00	4,321.64	4,877.37	1,194.61	5,289.56	4,914.29	0.98	-0.62	0.650
20.00	-60.51	-41.21	0.00	-4,113.5	0.00	4,113.46	4,799.35	1,167.88	5,055.46	4,726.50	1.74	-0.83	0.638
25.00	-58.12	-40.76	0.00	-3,907.4	0.00	3,907.44	4,719.91	1,141.14	4,826.65	4,540.87	2.72	-1.04	0.625
30.00	-55.75	-40.27	0.00	-3,703.6	0.00	3,703.63	4,639.04	1,114.40	4,603.14	4,357.53	3.93	-1.26	0.612
35.00	-53.43	-39.77	0.00	-3,502.3	0.00	3,502.26	4,556.74	1,087.66	4,384.94	4,176.56	5.36	-1.47	0.599
40.00	-51.17	-39.34	0.00	-3,303.4	0.00	3,303.40	4,473.02	1,060.92	4,172.03	3,998.06	7.02	-1.69	0.584
42.96	-49.85	-39.05	0.00	-3,187.1	0.00	3,187.10	4,422.84	1,045.11	4,048.62	3,893.71	8.11	-1.82	0.575
45.00	-48.48	-38.70	0.00	-3,107.3	0.00	3,107.30	4,378.05	1,034.19	3,964.41	3,813.57	8.91	-1.91	0.565
49.04	-45.89	-38.24	0.00	-2,951.0	0.00	2,950.97	4,304.18	884.90	3,386.08	3,138.53	10.61	-2.09	0.626
50.00	-45.44	-37.89	0.00	-2,914.3	0.00	2,914.26	3,591.52	880.50	3,352.48	3,111.81	11.03	-2.13	0.622
55.00	-43.41	-37.15	0.00	-2,724.8	0.00	2,724.80	3,524.72	857.58	3,180.26	2,973.74	13.39	-2.37	0.601
60.00	-41.41	-36.40	0.00	-2,539.0	0.00	2,539.04	3,456.50	834.66	3,012.57	2,837.55	16	-2.6	0.580
65.00	-39.44	-35.62	0.00	-2,357.1	0.00	2,357.07	3,386.84	811.74	2,849.42	2,703.31	18.84	-2.83	0.558
70.00	-37.51	-34.85	0.00	-2,179.0	0.00	2,178.96	3,315.77	788.82	2,690.82	2,571.14	21.93	-3.06	0.534
75.00	-35.64	-34.16	0.00	-2,004.7	0.00	2,004.74	3,242.33	765.91	2,536.75	2,440.43	25.25	-3.29	0.510
78.00	-34.52	-33.74	0.00	-1,902.2	0.00	1,902.24	3,184.12	752.15	2,446.49	2,353.15	27.36	-3.42	0.498
80.00	-33.53	-31.51	0.00	-1,834.8	0.00	1,834.77	3,145.31	742.99	2,387.23	2,295.85	28.81	-3.51	0.489
85.00	-31.73	-30.84	0.00	-1,677.2	0.00	1,677.20	3,048.29	720.07	2,242.25	2,155.68	32.61	-3.74	0.468
87.54	-30.82	-30.43	0.00	-1,598.9	0.00	1,598.87	2,999.00	708.43	2,170.34	2,086.17	34.63	-3.85	0.457
90.00	-29.61	-30.00	0.00	-1,524.0	0.00	1,524.01	2,951.27	697.15	2,101.81	2,019.93	36.64	-3.96	0.440
92.46	-28.42	-29.67	0.00	-1,450.3	0.00	1,450.32	2,412.09	583.54	1,767.02	1,661.39	38.7	-4.06	0.478
93.00	-28.23	-29.48	0.00	-1,434.2	0.00	1,434.19	2,405.87	581.47	1,754.47	1,651.16	39.17	-4.09	0.475
95.00	-27.05	-28.61	0.00	-1,375.2	0.00	1,375.23	2,382.84	573.83	1,708.68	1,613.66	40.9	-4.18	0.462
97.00	-26.39	-28.20	0.00	-1,318.0	0.00	1,318.01	2,359.57	566.19	1,663.49	1,576.43	42.67	-4.27	0.449
100.00	-25.44	-27.66	0.00	-1,233.4	0.00	1,233.42	2,324.24	554.73	1,596.85	1,521.10	45.39	-4.4	0.430
103.75	-24.27	-27.18	0.00	-1,129.7	0.00	1,129.68	2,279.36	540.40	1,515.46	1,452.84	48.91	-4.56	0.406
103.75	-24.27	-27.18	0.00	-1,129.7	0.00	1,129.68	2,279.36	540.40	1,515.46	1,452.84	48.91	-4.56	0.791
105.00	-23.86	-26.40	0.00	-1,095.3	0.00	1,095.29	2,264.22	535.63	1,488.80	1,430.31	50.12	-4.62	0.779
110.00	-22.71	-25.80	0.00	-963.3	0.00	963.30	2,186.65	516.53	1,384.54	1,331.56	55.16	-5.02	0.736
112.40	-21.72	-23.92	0.00	-901.4	0.00	901.37	2,147.84	507.36	1,335.84	1,284.47	57.73	-5.21	0.714
115.00	-19.45	-22.66	0.00	-839.2	0.00	839.17	2,105.79	497.43	1,284.06	1,234.41	60.63	-5.42	0.691
120.00	-18.52	-22.43	0.00	-725.9	0.00	725.87	2,024.94	478.33	1,187.37	1,140.95	66.5	-5.8	0.648
120.80	-18.29	-21.07	0.00	-707.9	0.00	707.92	2,012.01	475.28	1,172.25	1,126.34	67.48	-5.86	0.640
125.00	-14.81	-17.69	0.00	-619.4	0.00	619.43	1,944.09	459.23	1,094.46	1,051.17	72.77	-6.18	0.598
130.00	-13.97	-17.43	0.00	-531.0	0.00	530.99	1,863.24	440.14	1,005.33	965.06	79.42	-6.53	0.559
132.00	-13.30	-17.02	0.00	-495.3	0.00	495.31	1,830.90	432.50	970.74	931.65	82.18	-6.68	0.540
132.12	-13.27	-16.97	0.00	-493.3	0.00	493.27	1,828.96	432.04	968.69	929.67	82.35	-6.68	0.539
134.00	-10.12	-14.03	0.00	-460.2	0.00	460.24	1,798.56	424.86	936.76	898.83	85	-6.82	0.519
135.00	-9.90	-13.96	0.00	-446.2	0.00	446.20	1,782.39	421.04	919.99	882.64	86.43	-6.89	0.512
135.87	-9.71	-13.82	0.00	-434.1	0.00	434.06	993.96	255.85	566.11	501.11	87.69	-6.95	0.879
139.50	-9.27	-13.61	0.00	-383.9	0.00	383.89	972.83	247.53	529.89	474.38	93.06	-7.19	0.822
140.00	-8.72	-13.04	0.00	-377.1	0.00	377.08	969.86	246.38	525.00	470.72	93.81	-7.25	0.813
142.00	-8.47	-12.84	0.00	-351.0	0.00	351.01	957.83	241.80	505.65	456.17	96.88	-7.46	0.781
145.00	-8.13	-12.71	0.00	-312.5	0.00	312.48	939.37	234.93	477.30	434.56	101.66	-7.76	0.731
146.00	-7.93	-11.86	0.00	-299.8	0.00	299.77	933.10	232.63	468.04	427.41	103.29	-7.86	0.712
147.00	-7.78	-11.29	0.00	-287.9	0.00	287.91	926.77	230.34	458.86	420.30	104.94	-7.96	0.696
150.00	-7.32	-10.75	0.00	-254.0	0.00	254.04	907.46	223.47	431.88	399.15	110.02	-8.25	0.647
155.00	-6.83	-10.46	0.00	-200.3	0.00	200.27	874.12	212.01	388.73	364.59	118.87	-8.69	0.560
160.00	-6.37	-10.17	0.00	-148.0	0.00	147.97	839.35	200.55	347.85	331.00	128.15	-9.08	0.457
165.00	-5.94	-9.96	0.00	-97.1	0.00	97.13	800.48	189.09	309.24	297.46	137.81	-9.41	0.337
166.00	-3.66	-5.70	0.00	-87.2	0.00	87.17	790.77	186.80	301.79	290.25	139.78	-9.47	0.306
170.00	-3.38	-5.45	0.00	-64.4	0.00	64.36	751.97	177.63	272.90	262.32	147.76	-9.67	0.251
175.00	-3.04	-5.21	0.00	-37.1	0.00	37.11	703.45	166.17	238.83	229.40	157.95	-9.86	0.167
178.10	-2.84	-4.95	0.00	-21.0	0.00	20.95	673.38	159.07	218.85	210.09	164.35	-9.95	0.105
180.00	0.00	-4.38	0.00	-11.6	0.00	11.56	654.94	154.71	207.03	198.68	168.3	-9.98	0.059



CALCULATED FORCES

Load Case: 0.9D + 1.0W

124 mph Wind with No Ice (Reduced DL)

28 Iterations

Gust Response Factor: 1.10  
 Dead load Factor: 0.90  
 Wind Load Factor: 1.00

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	-52.79	-42.82	0.00	-4,884.6	0.00	4,884.64	5,102.86	1,274.83	6,023.66	5,489.79	0	0	0.669
5.00	-50.86	-42.36	0.00	-4,670.6	0.00	4,670.56	5,029.12	1,248.09	5,773.66	5,296.04	0.11	-0.2	0.659
10.00	-48.96	-41.90	0.00	-4,458.8	0.00	4,458.76	4,953.96	1,221.35	5,528.96	5,104.17	0.43	-0.4	0.648
15.00	-47.08	-41.43	0.00	-4,249.3	0.00	4,249.27	4,877.37	1,194.61	5,289.56	4,914.29	0.96	-0.61	0.636
20.00	-45.23	-40.94	0.00	-4,042.1	0.00	4,042.14	4,799.35	1,167.88	5,055.46	4,726.50	1.71	-0.82	0.624
25.00	-43.40	-40.45	0.00	-3,837.4	0.00	3,837.42	4,719.91	1,141.14	4,826.65	4,540.87	2.68	-1.03	0.612
30.00	-41.60	-39.92	0.00	-3,635.2	0.00	3,635.17	4,639.04	1,114.40	4,603.14	4,357.53	3.87	-1.24	0.599
35.00	-39.83	-39.38	0.00	-3,435.6	0.00	3,435.58	4,556.74	1,087.66	4,384.94	4,176.56	5.27	-1.45	0.585
40.00	-38.11	-38.92	0.00	-3,238.7	0.00	3,238.69	4,473.02	1,060.92	4,172.03	3,998.06	6.91	-1.66	0.571
42.96	-37.10	-38.61	0.00	-3,123.6	0.00	3,123.64	4,422.84	1,045.11	4,048.62	3,893.71	7.98	-1.79	0.562
45.00	-36.06	-38.24	0.00	-3,044.7	0.00	3,044.74	4,378.05	1,034.19	3,964.41	3,813.57	8.76	-1.88	0.552
49.04	-34.10	-37.78	0.00	-2,890.2	0.00	2,890.25	3,604.18	884.90	3,386.08	3,138.53	10.43	-2.05	0.611
50.00	-33.75	-37.41	0.00	-2,854.0	0.00	2,853.98	3,591.52	880.50	3,352.48	3,111.81	10.85	-2.1	0.607
55.00	-32.20	-36.64	0.00	-2,667.0	0.00	2,666.95	3,524.72	857.58	3,180.26	2,973.74	13.16	-2.32	0.586
60.00	-30.68	-35.86	0.00	-2,483.8	0.00	2,483.75	3,456.50	834.66	3,012.57	2,837.55	15.72	-2.55	0.565
65.00	-29.19	-35.06	0.00	-2,304.5	0.00	2,304.47	3,386.84	811.74	2,849.42	2,703.31	18.51	-2.78	0.543
70.00	-27.72	-34.27	0.00	-2,129.2	0.00	2,129.15	3,315.77	788.82	2,690.82	2,571.14	21.54	-3	0.520
75.00	-26.30	-33.58	0.00	-1,957.8	0.00	1,957.80	3,242.33	765.91	2,536.75	2,440.43	24.8	-3.22	0.497
78.00	-25.45	-33.15	0.00	-1,857.0	0.00	1,857.04	3,184.12	752.15	2,446.49	2,353.15	26.87	-3.36	0.484
80.00	-24.72	-30.92	0.00	-1,790.7	0.00	1,790.73	3,145.31	742.99	2,387.23	2,295.85	28.29	-3.45	0.475
85.00	-23.37	-30.25	0.00	-1,636.1	0.00	1,636.12	3,048.29	720.07	2,242.25	2,155.68	32.01	-3.66	0.455
87.54	-22.68	-29.84	0.00	-1,559.3	0.00	1,559.29	2,999.00	708.43	2,170.34	2,086.17	33.99	-3.77	0.444
90.00	-21.76	-29.42	0.00	-1,485.9	0.00	1,485.88	2,951.27	697.15	2,101.81	2,019.93	35.96	-3.88	0.427
92.46	-20.87	-29.10	0.00	-1,413.6	0.00	1,413.62	2,412.09	583.54	1,767.02	1,661.39	37.98	-3.98	0.464
93.00	-20.72	-28.90	0.00	-1,397.8	0.00	1,397.81	2,405.87	581.47	1,754.47	1,651.16	38.44	-4	0.461
95.00	-19.84	-28.04	0.00	-1,340.0	0.00	1,339.99	2,382.84	573.83	1,708.68	1,613.66	40.14	-4.09	0.448
97.00	-19.34	-27.63	0.00	-1,283.9	0.00	1,283.91	2,359.57	566.19	1,663.49	1,576.43	41.87	-4.18	0.436
100.00	-18.62	-27.10	0.00	-1,201.0	0.00	1,201.02	2,324.24	554.73	1,596.85	1,521.10	44.54	-4.31	0.417
103.75	-17.75	-26.62	0.00	-1,099.4	0.00	1,099.42	2,279.36	540.40	1,515.46	1,452.84	47.99	-4.47	0.393
103.75	-17.75	-26.62	0.00	-1,099.4	0.00	1,099.42	2,279.36	540.40	1,515.46	1,452.84	47.99	-4.47	0.767
105.00	-17.43	-25.82	0.00	-1,065.7	0.00	1,065.73	2,264.22	535.63	1,488.80	1,430.31	49.16	-4.52	0.755
110.00	-16.55	-25.22	0.00	-936.6	0.00	936.62	2,186.65	516.53	1,384.54	1,331.56	54.1	-4.91	0.713
112.40	-15.83	-23.34	0.00	-876.1	0.00	876.10	2,147.84	507.36	1,335.84	1,284.47	56.62	-5.1	0.692
115.00	-14.13	-22.10	0.00	-815.4	0.00	815.42	2,105.79	497.43	1,284.06	1,234.41	59.45	-5.3	0.669
120.00	-13.42	-21.88	0.00	-704.9	0.00	704.91	2,024.94	478.33	1,187.37	1,140.95	65.19	-5.67	0.627
120.80	-13.27	-20.50	0.00	-687.4	0.00	687.41	2,012.01	475.28	1,172.25	1,126.34	66.15	-5.73	0.619
125.00	-10.71	-17.20	0.00	-601.3	0.00	601.30	1,944.09	459.23	1,094.46	1,051.17	71.32	-6.03	0.579
130.00	-10.07	-16.94	0.00	-515.3	0.00	515.31	1,863.24	440.14	1,005.33	965.06	77.81	-6.38	0.541
132.00	-9.58	-16.55	0.00	-480.6	0.00	480.59	1,830.90	432.50	970.74	931.65	80.51	-6.52	0.523
132.12	-9.55	-16.50	0.00	-478.6	0.00	478.61	1,828.96	432.04	968.69	929.67	80.68	-6.53	0.521
134.00	-7.25	-13.66	0.00	-446.5	0.00	446.47	1,798.56	424.86	936.76	898.83	83.27	-6.66	0.502
135.00	-7.09	-13.59	0.00	-432.8	0.00	432.80	1,782.39	421.04	919.99	882.64	84.67	-6.73	0.495
135.87	-6.93	-13.45	0.00	-421.0	0.00	420.98	993.96	255.85	566.11	501.11	85.89	-6.79	0.850
139.50	-6.61	-13.25	0.00	-372.1	0.00	372.14	972.83	247.53	529.89	474.38	91.13	-7.02	0.794
140.00	-6.20	-12.69	0.00	-365.5	0.00	365.52	969.86	246.38	525.00	470.72	91.87	-7.07	0.786
142.00	-6.01	-12.49	0.00	-340.2	0.00	340.15	957.83	241.80	505.65	456.17	94.87	-7.28	0.755
145.00	-5.75	-12.36	0.00	-302.7	0.00	302.67	939.37	234.93	477.30	434.56	99.53	-7.57	0.705
146.00	-5.62	-11.51	0.00	-290.3	0.00	290.32	933.10	232.63	468.04	427.41	101.12	-7.67	0.688
147.00	-5.52	-10.94	0.00	-278.8	0.00	278.80	926.77	230.34	458.86	420.30	102.73	-7.77	0.672
150.00	-5.18	-10.41	0.00	-246.0	0.00	245.98	907.46	223.47	431.88	399.15	107.69	-8.05	0.624
155.00	-4.81	-10.12	0.00	-193.9	0.00	193.93	874.12	212.01	388.73	364.59	116.32	-8.47	0.540
160.00	-4.46	-9.83	0.00	-143.3	0.00	143.34	839.35	200.55	347.85	331.00	125.37	-8.85	0.441
165.00	-4.14	-9.64	0.00	-94.2	0.00	94.19	800.48	189.09	309.24	297.46	134.78	-9.17	0.324
166.00	-2.56	-5.50	0.00	-84.6	0.00	84.55	790.77	186.80	301.79	290.25	136.7	-9.23	0.295
170.00	-2.35	-5.26	0.00	-62.5	0.00	62.54	751.97	177.63	272.90	262.32	144.48	-9.42	0.242

CALCULATED FORCES

175.00	-2.10	-5.03	0.00	-36.2	0.00	36.24	703.45	166.17	238.83	229.40	154.41	-9.61	0.162
178.10	-1.96	-4.78	0.00	-20.6	0.00	20.64	673.38	159.07	218.85	210.09	160.65	-9.69	0.102
180.00	0.00	-4.38	0.00	-11.6	0.00	11.56	654.94	154.71	207.03	198.68	164.5	-9.73	0.059

CALCULATED FORCES

Load Case: 1.2D + 1.0Di + 1.0Wi													50 mph Wind with 1" Radial Ice		27 Iterations
Gust Response Factor:		1.10	Ice Dead Load Factor			1.00	Ice Importance Factor							1.15	
Dead load Factor:		1.20													
Wind Load Factor:		1.00													
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	-102.27	-9.20	0.00	-1,178.9	0.00	1,178.88	5,102.86	1,274.83	6,023.66	5,489.79	0	0	0.175		
5.00	-99.24	-9.16	0.00	-1,132.9	0.00	1,132.90	5,029.12	1,248.09	5,773.66	5,296.04	0.03	-0.05	0.173		
10.00	-96.18	-9.12	0.00	-1,087.1	0.00	1,087.11	4,953.96	1,221.35	5,528.96	5,104.17	0.1	-0.1	0.171		
15.00	-93.14	-9.07	0.00	-1,041.5	0.00	1,041.53	4,877.37	1,194.61	5,289.56	4,914.29	0.23	-0.15	0.169		
20.00	-90.11	-9.03	0.00	-996.2	0.00	996.16	4,799.35	1,167.88	5,055.46	4,726.50	0.42	-0.2	0.166		
25.00	-87.10	-8.99	0.00	-951.0	0.00	951.00	4,719.91	1,141.14	4,826.65	4,540.87	0.65	-0.25	0.164		
30.00	-84.09	-8.93	0.00	-906.1	0.00	906.08	4,639.04	1,114.40	4,603.14	4,357.53	0.94	-0.3	0.161		
35.00	-81.14	-8.88	0.00	-861.4	0.00	861.43	4,556.74	1,087.66	4,384.94	4,176.56	1.29	-0.36	0.158		
40.00	-78.22	-8.82	0.00	-817.0	0.00	817.05	4,473.02	1,060.92	4,172.03	3,998.06	1.69	-0.41	0.155		
42.96	-76.51	-8.79	0.00	-791.0	0.00	790.97	4,422.84	1,045.11	4,048.62	3,893.71	1.95	-0.44	0.153		
45.00	-74.90	-8.75	0.00	-773.0	0.00	773.01	4,378.05	1,034.19	3,964.41	3,813.57	2.15	-0.46	0.151		
49.04	-71.74	-8.70	0.00	-737.7	0.00	737.66	3,604.18	884.90	3,386.08	3,138.53	2.56	-0.51	0.168		
50.00	-71.22	-8.66	0.00	-729.3	0.00	729.32	3,591.52	880.50	3,352.48	3,111.81	2.67	-0.52	0.167		
55.00	-68.53	-8.59	0.00	-686.0	0.00	686.00	3,524.72	857.58	3,180.26	2,973.74	3.24	-0.58	0.163		
60.00	-65.88	-8.51	0.00	-643.1	0.00	643.06	3,456.50	834.66	3,012.57	2,837.55	3.88	-0.64	0.158		
65.00	-63.25	-8.42	0.00	-600.5	0.00	600.53	3,386.84	811.74	2,849.42	2,703.31	4.58	-0.7	0.153		
70.00	-60.65	-8.33	0.00	-558.4	0.00	558.43	3,315.77	788.82	2,690.82	2,571.14	5.34	-0.75	0.147		
75.00	-58.09	-8.24	0.00	-516.8	0.00	516.79	3,242.33	765.91	2,536.75	2,440.43	6.16	-0.81	0.142		
78.00	-56.56	-8.19	0.00	-492.1	0.00	492.06	3,184.12	752.15	2,446.49	2,353.15	6.68	-0.85	0.139		
80.00	-54.95	-7.82	0.00	-475.7	0.00	475.68	3,145.31	742.99	2,387.23	2,295.85	7.04	-0.87	0.136		
85.00	-52.45	-7.68	0.00	-436.6	0.00	436.59	3,048.29	720.07	2,242.25	2,155.68	7.98	-0.93	0.131		
87.54	-51.19	-7.60	0.00	-417.1	0.00	417.08	2,999.00	708.43	2,170.34	2,086.17	8.49	-0.96	0.128		
90.00	-49.64	-7.52	0.00	-398.4	0.00	398.38	2,951.27	697.15	2,101.81	2,019.93	8.99	-0.99	0.124		
92.46	-48.10	-7.44	0.00	-379.9	0.00	379.92	2,412.09	583.54	1,767.02	1,661.39	9.5	-1.01	0.135		
93.00	-47.84	-7.41	0.00	-375.9	0.00	375.87	2,405.87	581.47	1,754.47	1,651.16	9.62	-1.02	0.135		
95.00	-46.20	-7.23	0.00	-361.0	0.00	361.05	2,382.84	573.83	1,708.68	1,613.66	10.05	-1.05	0.131		
97.00	-45.27	-7.14	0.00	-346.6	0.00	346.60	2,359.57	566.19	1,663.49	1,576.43	10.5	-1.07	0.128		
100.00	-43.90	-7.04	0.00	-325.2	0.00	325.16	2,324.24	554.73	1,596.85	1,521.10	11.18	-1.1	0.123		
103.75	-42.20	-6.93	0.00	-298.8	0.00	298.78	2,279.36	540.40	1,515.46	1,452.84	12.06	-1.15	0.116		
103.75	-42.20	-6.93	0.00	-298.8	0.00	298.78	2,279.36	540.40	1,515.46	1,452.84	12.06	-1.15	0.224		
105.00	-41.48	-6.78	0.00	-290.0	0.00	290.03	2,264.22	535.63	1,488.80	1,430.31	12.37	-1.16	0.221		
110.00	-39.77	-6.68	0.00	-256.1	0.00	256.14	2,186.65	516.53	1,384.54	1,331.56	13.64	-1.27	0.211		
112.40	-37.62	-6.26	0.00	-240.1	0.00	240.12	2,147.84	507.36	1,335.84	1,284.47	14.29	-1.32	0.205		
115.00	-34.75	-5.91	0.00	-223.8	0.00	223.84	2,105.79	497.43	1,284.06	1,234.41	15.02	-1.37	0.198		
120.00	-33.46	-5.81	0.00	-194.3	0.00	194.31	2,024.94	478.33	1,187.37	1,140.95	16.52	-1.48	0.187		
120.80	-32.12	-5.59	0.00	-189.7	0.00	189.66	2,012.01	475.28	1,172.25	1,126.34	16.77	-1.49	0.184		
125.00	-26.44	-4.73	0.00	-166.2	0.00	166.19	1,944.09	459.23	1,094.46	1,051.17	18.12	-1.58	0.172		
130.00	-25.34	-4.65	0.00	-142.6	0.00	142.56	1,863.24	440.14	1,005.33	965.06	19.82	-1.67	0.161		
132.00	-24.17	-4.55	0.00	-133.1	0.00	133.08	1,830.90	432.50	970.74	931.65	20.53	-1.71	0.156		
132.12	-24.14	-4.54	0.00	-132.5	0.00	132.54	1,828.96	432.04	968.69	929.67	20.57	-1.71	0.156		
134.00	-18.97	-3.83	0.00	-123.8	0.00	123.77	1,798.56	424.86	936.76	898.83	21.25	-1.75	0.148		
135.00	-18.71	-3.81	0.00	-119.9	0.00	119.94	1,782.39	421.04	919.99	882.64	21.62	-1.77	0.146		
135.87	-18.47	-3.77	0.00	-116.6	0.00	116.63	993.96	255.85	566.11	501.11	21.95	-1.78	0.252		
139.50	-17.82	-3.72	0.00	-102.9	0.00	102.93	972.83	247.53	529.89	474.38	23.33	-1.85	0.236		
140.00	-17.06	-3.58	0.00	-101.1	0.00	101.07	969.86	246.38	525.00	470.72	23.52	-1.86	0.233		
142.00	-16.73	-3.53	0.00	-93.9	0.00	93.92	957.83	241.80	505.65	456.17	24.31	-1.92	0.224		
145.00	-16.25	-3.49	0.00	-83.3	0.00	83.34	939.37	234.93	477.30	434.56	25.55	-2	0.209		
146.00	-15.63	-3.22	0.00	-79.8	0.00	79.85	933.10	232.63	468.04	427.41	25.97	-2.03	0.204		
147.00	-15.23	-3.07	0.00	-76.6	0.00	76.63	926.77	230.34	458.86	420.30	26.4	-2.06	0.199		
150.00	-14.52	-2.91	0.00	-67.4	0.00	67.42	907.46	223.47	431.88	399.15	27.71	-2.13	0.185		
155.00	-13.81	-2.83	0.00	-52.8	0.00	52.85	874.12	212.01	388.73	364.59	30.01	-2.25	0.161		
160.00	-13.12	-2.73	0.00	-38.7	0.00	38.72	839.35	200.55	347.85	331.00	32.42	-2.35	0.133		
165.00	-12.45	-2.66	0.00	-25.1	0.00	25.06	800.48	189.09	309.24	297.46	34.93	-2.44	0.100		
166.00	-7.33	-1.53	0.00	-22.4	0.00	22.39	790.77	186.80	301.79	290.25	35.44	-2.45	0.086		
170.00	-6.91	-1.45	0.00	-16.3	0.00	16.28	751.97	177.63	272.90	262.32	37.52	-2.5	0.071		

CALCULATED FORCES

175.00	-6.39	-1.37	0.00	-9.0	0.00	9.03	703.45	166.17	238.83	229.40	40.17	-2.55	0.049
178.10	-6.00	-1.24	0.00	-4.8	0.00	4.77	673.38	159.07	218.85	210.09	41.83	-2.57	0.032
180.00	0.00	-0.97	0.00	-2.4	0.00	2.42	654.94	154.71	207.03	198.68	42.85	-2.58	0.012

CALCULATED FORCES

Load Case: 1.0D + 1.0W

60 mph Wind with No Ice

27 Iterations

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

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	-58.73	-8.97	0.00	-1,030.8	0.00	1,030.77	5,102.86	1,274.83	6,023.66	5,489.79	0	0	0.148
5.00	-56.75	-8.88	0.00	-985.9	0.00	985.91	5,029.12	1,248.09	5,773.66	5,296.04	0.02	-0.04	0.146
10.00	-54.79	-8.79	0.00	-941.5	0.00	941.49	4,953.96	1,221.35	5,528.96	5,104.17	0.09	-0.09	0.144
15.00	-52.86	-8.69	0.00	-897.6	0.00	897.55	4,877.37	1,194.61	5,289.56	4,914.29	0.2	-0.13	0.141
20.00	-50.95	-8.60	0.00	-854.1	0.00	854.07	4,799.35	1,167.88	5,055.46	4,726.50	0.36	-0.17	0.138
25.00	-49.07	-8.50	0.00	-811.1	0.00	811.08	4,719.91	1,141.14	4,826.65	4,540.87	0.57	-0.22	0.136
30.00	-47.21	-8.39	0.00	-768.6	0.00	768.59	4,639.04	1,114.40	4,603.14	4,357.53	0.82	-0.26	0.133
35.00	-45.38	-8.28	0.00	-726.6	0.00	726.64	4,556.74	1,087.66	4,384.94	4,176.56	1.11	-0.31	0.130
40.00	-43.58	-8.19	0.00	-685.2	0.00	685.23	4,473.02	1,060.92	4,172.03	3,998.06	1.46	-0.35	0.127
42.96	-42.53	-8.12	0.00	-661.0	0.00	661.03	4,422.84	1,045.11	4,048.62	3,893.71	1.68	-0.38	0.125
45.00	-41.44	-8.05	0.00	-644.4	0.00	644.42	4,378.05	1,034.19	3,964.41	3,813.57	1.85	-0.4	0.122
49.04	-39.33	-7.95	0.00	-611.9	0.00	611.91	3,604.18	884.90	3,386.08	3,138.53	2.2	-0.43	0.135
50.00	-39.02	-7.88	0.00	-604.3	0.00	604.27	3,591.52	880.50	3,352.48	3,111.81	2.29	-0.44	0.135
55.00	-37.41	-7.72	0.00	-564.9	0.00	564.89	3,524.72	857.58	3,180.26	2,973.74	2.78	-0.49	0.130
60.00	-35.83	-7.56	0.00	-526.3	0.00	526.29	3,456.50	834.66	3,012.57	2,837.55	3.32	-0.54	0.125
65.00	-34.28	-7.40	0.00	-488.5	0.00	488.50	3,386.84	811.74	2,849.42	2,703.31	3.91	-0.59	0.121
70.00	-32.74	-7.23	0.00	-451.5	0.00	451.52	3,315.77	788.82	2,690.82	2,571.14	4.55	-0.63	0.116
75.00	-31.23	-7.09	0.00	-415.4	0.00	415.36	3,242.33	765.91	2,536.75	2,440.43	5.24	-0.68	0.111
78.00	-30.33	-7.00	0.00	-394.1	0.00	394.10	3,184.12	752.15	2,446.49	2,353.15	5.68	-0.71	0.108
80.00	-29.47	-6.53	0.00	-380.1	0.00	380.10	3,145.31	742.99	2,387.23	2,295.85	5.98	-0.73	0.106
85.00	-28.00	-6.39	0.00	-347.4	0.00	347.43	3,048.29	720.07	2,242.25	2,155.68	6.77	-0.77	0.101
87.54	-27.27	-6.31	0.00	-331.2	0.00	331.20	2,999.00	708.43	2,170.34	2,086.17	7.19	-0.8	0.099
90.00	-26.28	-6.22	0.00	-315.7	0.00	315.68	2,951.27	697.15	2,101.81	2,019.93	7.61	-0.82	0.095
92.46	-25.30	-6.15	0.00	-300.4	0.00	300.41	2,412.09	583.54	1,767.02	1,661.39	8.04	-0.84	0.104
93.00	-25.14	-6.11	0.00	-297.1	0.00	297.06	2,405.87	581.47	1,754.47	1,651.16	8.13	-0.85	0.103
95.00	-24.15	-5.93	0.00	-284.8	0.00	284.84	2,382.84	573.83	1,708.68	1,613.66	8.49	-0.87	0.100
97.00	-23.62	-5.84	0.00	-273.0	0.00	272.98	2,359.57	566.19	1,663.49	1,576.43	8.86	-0.89	0.097
100.00	-22.85	-5.73	0.00	-255.4	0.00	255.45	2,324.24	554.73	1,596.85	1,521.10	9.42	-0.91	0.093
103.75	-21.89	-5.63	0.00	-234.0	0.00	233.95	2,279.36	540.40	1,515.46	1,452.84	10.16	-0.95	0.088
103.75	-21.89	-5.63	0.00	-234.0	0.00	233.95	2,279.36	540.40	1,515.46	1,452.84	10.16	-0.95	0.171
105.00	-21.57	-5.47	0.00	-226.8	0.00	226.82	2,264.22	535.63	1,488.80	1,430.31	10.4	-0.96	0.168
110.00	-20.67	-5.34	0.00	-199.5	0.00	199.48	2,186.65	516.53	1,384.54	1,331.56	11.45	-1.04	0.159
112.40	-19.78	-4.95	0.00	-186.6	0.00	186.65	2,147.84	507.36	1,335.84	1,284.47	11.99	-1.08	0.155
115.00	-17.89	-4.69	0.00	-173.8	0.00	173.78	2,105.79	497.43	1,284.06	1,234.41	12.59	-1.12	0.149
120.00	-17.16	-4.64	0.00	-150.3	0.00	150.34	2,024.94	478.33	1,187.37	1,140.95	13.81	-1.2	0.140
120.80	-16.91	-4.36	0.00	-146.6	0.00	146.62	2,012.01	475.28	1,172.25	1,126.34	14.01	-1.22	0.139
125.00	-13.82	-3.66	0.00	-128.3	0.00	128.32	1,944.09	459.23	1,094.46	1,051.17	15.11	-1.28	0.129
130.00	-13.16	-3.60	0.00	-110.0	0.00	110.04	1,863.24	440.14	1,005.33	965.06	16.49	-1.35	0.121
132.00	-12.58	-3.52	0.00	-102.6	0.00	102.65	1,830.90	432.50	970.74	931.65	17.06	-1.38	0.117
132.12	-12.56	-3.51	0.00	-102.2	0.00	102.23	1,828.96	432.04	968.69	929.67	17.1	-1.39	0.117
134.00	-9.70	-2.91	0.00	-95.4	0.00	95.39	1,798.56	424.86	936.76	898.83	17.65	-1.41	0.112
135.00	-9.53	-2.89	0.00	-92.5	0.00	92.49	1,782.39	421.04	919.99	882.64	17.95	-1.43	0.110
135.87	-9.38	-2.86	0.00	-90.0	0.00	89.97	993.96	255.85	566.11	501.11	18.21	-1.44	0.189
139.50	-9.02	-2.82	0.00	-79.6	0.00	79.58	972.83	247.53	529.89	474.38	19.32	-1.49	0.177
140.00	-8.53	-2.70	0.00	-78.2	0.00	78.17	969.86	246.38	525.00	470.72	19.48	-1.5	0.175
142.00	-8.35	-2.66	0.00	-72.8	0.00	72.76	957.83	241.80	505.65	456.17	20.12	-1.55	0.168
145.00	-8.08	-2.64	0.00	-64.8	0.00	64.77	939.37	234.93	477.30	434.56	21.11	-1.61	0.158
146.00	-7.84	-2.46	0.00	-62.1	0.00	62.14	933.10	232.63	468.04	427.41	21.45	-1.63	0.154
147.00	-7.68	-2.34	0.00	-59.7	0.00	59.68	926.77	230.34	458.86	420.30	21.79	-1.65	0.150
150.00	-7.29	-2.23	0.00	-52.7	0.00	52.67	907.46	223.47	431.88	399.15	22.85	-1.71	0.140
155.00	-6.91	-2.17	0.00	-41.5	0.00	41.54	874.12	212.01	388.73	364.59	24.69	-1.8	0.122
160.00	-6.54	-2.11	0.00	-30.7	0.00	30.70	839.35	200.55	347.85	331.00	26.62	-1.88	0.101
165.00	-6.18	-2.07	0.00	-20.2	0.00	20.16	800.48	189.09	309.24	297.46	28.63	-1.95	0.076
166.00	-3.76	-1.18	0.00	-18.1	0.00	18.10	790.77	186.80	301.79	290.25	29.04	-1.96	0.067
170.00	-3.51	-1.13	0.00	-13.4	0.00	13.37	751.97	177.63	272.90	262.32	30.71	-2	0.056

CALCULATED FORCES

175.00	-3.20	-1.08	0.00	-7.7	0.00	7.72	703.45	166.17	238.83	229.40	32.83	-2.05	0.038
178.10	-3.01	-1.03	0.00	-4.4	0.00	4.37	673.38	159.07	218.85	210.09	34.16	-2.06	0.025
180.00	0.00	-0.92	0.00	-2.4	0.00	2.42	654.94	154.71	207.03	198.68	34.98	-2.07	0.012

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period ( $S_s$ ):	0.169
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.054
Long-Period Transition Period ( $T_L$ – Seconds):	6
Importance Factor ( $I_e$ ):	1.250
Site Coefficient $F_a$ :	1.600
Site Coefficient $F_v$ :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.180
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.086
Seismic Response Coefficient ( $C_s$ ):	0.030
Upper Limit $C_s$ :	0.030
Lower Limit $C_s$ :	0.030
Period based on Rayleigh Method (sec):	2.880
Redundancy Factor ( $\rho$ ):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	58.740 k
Seismic Base Shear (E):	1.760 k

SEISMIC FORCES

Segment	1.2D + 1.0Ev + 1.0Eh	Seismic	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
56			179.05	111	3,565	0.006	11	137
55			176.55	185	5,762	0.010	18	228
54			172.5	307	9,140	0.016	28	380
53			168	254	7,161	0.012	22	314
52			165.5	70	1,923	0.003	6	87
51			162.5	358	9,443	0.016	29	442
50			157.5	369	9,147	0.016	28	456
49			152.5	380	8,834	0.016	27	469
48			148.5	236	5,198	0.009	16	291
47			146.5	81	1,740	0.003	5	100
46			145.5	86	1,813	0.003	6	106
45			143.5	260	5,345	0.009	16	321
44			141	177	3,514	0.006	11	218
43			139.75	45	872	0.002	3	55
42			137.6849	328	6,220	0.011	19	406
41			135.4349	150	2,756	0.005	9	186
40			134.5	174	3,145	0.006	10	215
39			133.0599	337	5,967	0.010	18	417
38			132.0599	15	270	0.000	1	19
37			131	260	4,459	0.008	14	321
36			127.5	662	10,770	0.019	33	819
35			122.9	597	9,016	0.016	28	738
34			120.4	115	1,670	0.003	5	142
33			117.5	731	10,087	0.018	31	903
32			113.7	387	5,006	0.009	15	479
31			111.2	414	5,125	0.009	16	512
30			107.5	899	10,390	0.018	32	1,111
29			104.375	234	2,547	0.004	8	289
28			101.875	959	9,952	0.017	31	1,185
27			98.5	775	7,515	0.013	23	957
26			96	521	4,799	0.008	15	644
25			94	524	4,630	0.008	14	648
24			92.7283	143	1,230	0.002	4	177
23			91.2283	979	8,147	0.014	25	1,210
22			88.77	990	7,802	0.014	24	1,224
21			86.27	734	5,460	0.010	17	907
20			82.5	1,461	9,943	0.017	31	1,806
19			79	592	3,692	0.006	11	731

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
18	76.5	895	5,235	0.009	16	1,106
17	72.5	1,509	7,930	0.014	24	1,865
16	67.5	1,531	6,975	0.012	22	1,892
15	62.5	1,553	6,067	0.011	19	1,920
14	57.5	1,575	5,208	0.009	16	1,947
13	52.5	1,597	4,403	0.008	14	1,975
12	49.52	309	758	0.001	2	382
11	47.02	2,112	4,669	0.008	14	2,611
10	43.9783	1,080	2,089	0.004	6	1,335
9	41.4783	1,050	1,807	0.003	6	1,298
8	37.5	1,796	2,526	0.004	8	2,221
7	32.5	1,822	1,925	0.003	6	2,253
6	27.5	1,848	1,398	0.002	4	2,285
5	22.5	1,874	949	0.002	3	2,317
4	17.5	1,900	582	0.001	2	2,349
3	12.5	1,926	301	0.000	1	2,381
2	7.5	1,952	110	0.000	0	2,413
1	2.5	1,978	12	0.000	0	2,445
Generic 7' Omni	180	25	810	0.001	2	31
Raycap DC6-48-60-18-8F (23.5" Height)	180	60	1,944	0.003	6	74
Ericsson RRUS 8843 B2, B66A	180	216	6,998	0.012	22	267
Ericsson RRUS 4449 B5, B12	180	213	6,901	0.012	21	263
Ericsson RRUS 32 B30	180	180	5,832	0.010	18	222
Ericsson RRUS E2 B29	180	180	5,832	0.010	18	222
CCI OPA65R-BU6B	180	165	5,346	0.009	16	204
CCI HPA-65R-BUU-H6	180	153	4,957	0.009	15	189
CCI DMP65R-BU6DA	180	238	7,718	0.014	24	294
Flat Low Profile Platform	180	1,500	48,600	0.085	150	1,854
Kathrein Scala MF-900B	178.1	13	412	0.001	1	16
Ceragon FibeAir IP-20S	166	13	364	0.001	1	16
Ericsson Radio 4449 B71 B85A	166	225	6,200	0.011	19	278
Ericsson Radio 4460 B25+B66	166	327	9,011	0.016	28	404
Commscope VHLP2-11W/A	166	17	468	0.001	1	21
Ericsson Air6449 B41	166	312	8,597	0.015	27	386
Generic Mount Reinforcement	166	200	5,511	0.010	17	247
Generic Round Sector Frame	166	900	24,800	0.043	77	1,112
RFS APXVAARR24_43-U-NA20	166	384	10,573	0.018	33	474
Sinclair SD210-SF2P4SNM	150	8	187	0.000	1	10
Round Side Arm	150	150	3,375	0.006	10	185
Round Side Arm	140	450	8,820	0.015	27	556
Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	147	79	1,707	0.003	5	98
Sinclair SC479-HF1LDF(E5765)	146	34	725	0.001	2	42
Decibel DB809DK-XT	146	128	2,728	0.005	8	158
Telewave ANT150D (5 lbs)	142	5	101	0.000	0	6
Bird 432-83H-01-T	139.5	25	487	0.001	2	31
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	134	210	3,771	0.007	12	260
RFS APXVTM14-C-I20	134	159	2,850	0.005	9	196
RFS APXVSPP18-C-A20	134	171	3,070	0.005	9	211
Flat Platform w/ Handrails	134	2,000	35,912	0.063	111	2,472
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	132	185	3,230	0.006	10	229
Alcatel-Lucent 1900MHz RRH	132	132	2,300	0.004	7	163
Nokia AHCA AirScale RRH 4T4R B5 160W	125	106	1,655	0.003	5	131
Alcatel-Lucent B25 RRH4x30	125	159	2,484	0.004	8	197
Nokia B66a RRH4x45 (UHIE)	125	341	5,325	0.009	16	421
Raycap RCMDC-6627-PF-48	125	32	500	0.001	2	40
Commscope JAHH-65B-R3B	125	364	5,681	0.010	18	449
Round Low Profile Platform	125	1,500	23,438	0.041	72	1,854
Round Low Profile Platform	115	1,500	19,838	0.035	61	1,854
Antel LPA-80080/6CF ____	120.8	84	1,226	0.002	4	104
Antel LPA-80063/6CF	120.8	54	788	0.001	2	67
Generic 72" x 8" Panel	112.4	480	6,064	0.011	19	593



SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
RFS APXV18-206517S-C	105	79	873	0.002	3	98
Andrew DB586	97	8	78	0.000	0	10
Andrew DB586	93	8	72	0.000	0	10
Bird 429-83H-01-T	95	20	180	0.000	1	25
Flat Side Arm	95	450	4,061	0.007	13	556
RFS PA6-65AC	80	278	1,779	0.003	5	344
PCTEL GPS-TMG-HR-26N	78	1	4	0.000	0	1
Generic GPS	30	10	9	0.000	0	12
<b>Totals:</b>		<b>58,738</b>	<b>571,191</b>	<b>1.000</b>	<b>1,762</b>	<b>72,603</b>

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
56	179.05	111	3,565	0.006	11	96
55	176.55	185	5,762	0.010	18	160
54	172.5	307	9,140	0.016	28	265
53	168	254	7,161	0.012	22	219
52	165.5	70	1,923	0.003	6	61
51	162.5	358	9,443	0.016	29	309
50	157.5	369	9,147	0.016	28	319
49	152.5	380	8,834	0.016	27	328
48	148.5	236	5,198	0.009	16	204
47	146.5	81	1,740	0.003	5	70
46	145.5	86	1,813	0.003	6	74
45	143.5	260	5,345	0.009	16	224
44	141	177	3,514	0.006	11	153
43	139.75	45	872	0.002	3	39
42	137.6849	328	6,220	0.011	19	283
41	135.4349	150	2,756	0.005	9	130
40	134.5	174	3,145	0.006	10	150
39	133.0599	337	5,967	0.010	18	291
38	132.0599	15	270	0.000	1	13
37	131	260	4,459	0.008	14	224
36	127.5	662	10,770	0.019	33	572
35	122.9	597	9,016	0.016	28	516
34	120.4	115	1,670	0.003	5	100
33	117.5	731	10,087	0.018	31	631
32	113.7	387	5,006	0.009	15	335
31	111.2	414	5,125	0.009	16	358
30	107.5	899	10,390	0.018	32	777
29	104.375	234	2,547	0.004	8	202
28	101.875	959	9,952	0.017	31	828
27	98.5	775	7,515	0.013	23	669
26	96	521	4,799	0.008	15	450
25	94	524	4,630	0.008	14	453
24	92.7283	143	1,230	0.002	4	124
23	91.2283	979	8,147	0.014	25	846
22	88.77	990	7,802	0.014	24	855
21	86.27	734	5,460	0.010	17	634
20	82.5	1,461	9,943	0.017	31	1,262
19	79	592	3,692	0.006	11	511
18	76.5	895	5,235	0.009	16	773
17	72.5	1,509	7,930	0.014	24	1,303
16	67.5	1,531	6,975	0.012	22	1,323
15	62.5	1,553	6,067	0.011	19	1,342
14	57.5	1,575	5,208	0.009	16	1,361
13	52.5	1,597	4,403	0.008	14	1,380
12	49.52	309	758	0.001	2	267
11	47.02	2,112	4,669	0.008	14	1,825
10	43.9783	1,080	2,089	0.004	6	933

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
9	41.4783	1,050	1,807	0.003	6	907
8	37.5	1,796	2,526	0.004	8	1,552
7	32.5	1,822	1,925	0.003	6	1,574
6	27.5	1,848	1,398	0.002	4	1,597
5	22.5	1,874	949	0.002	3	1,619
4	17.5	1,900	582	0.001	2	1,642
3	12.5	1,926	301	0.000	1	1,664
2	7.5	1,952	110	0.000	0	1,686
1	2.5	1,978	12	0.000	0	1,709
Generic 7' Omni	180	25	810	0.001	2	22
Raycap DC6-48-60-18-8F (23.5" Height)	180	60	1,944	0.003	6	52
Ericsson RRUS 8843 B2, B66A	180	216	6,998	0.012	22	187
Ericsson RRUS 4449 B5, B12	180	213	6,901	0.012	21	184
Ericsson RRUS 32 B30	180	180	5,832	0.010	18	156
Ericsson RRUS E2 B29	180	180	5,832	0.010	18	156
CCI OPA65R-BU6B	180	165	5,346	0.009	16	143
CCI HPA-65R-BUJ-H6	180	153	4,957	0.009	15	132
CCI DMP65R-BU6DA	180	238	7,718	0.014	24	206
Flat Low Profile Platform	180	1,500	48,600	0.085	150	1,296
Kathrein Scala MF-900B	178.1	13	412	0.001	1	11
Ceragon FibeAir IP-20S	166	13	364	0.001	1	11
Ericsson Radio 4449 B71 B85A	166	225	6,200	0.011	19	194
Ericsson Radio 4460 B25+B66	166	327	9,011	0.016	28	283
Commscope VHLP2-11W/A	166	17	468	0.001	1	15
Ericsson Air6449 B41	166	312	8,597	0.015	27	270
Generic Mount Reinforcement	166	200	5,511	0.010	17	173
Generic Round Sector Frame	166	900	24,800	0.043	77	778
RFS APXVAARR24_43-U-NA20	166	384	10,573	0.018	33	331
Sinclair SD210-SF2P4SNM	150	8	187	0.000	1	7
Round Side Arm	150	150	3,375	0.006	10	130
Round Side Arm	140	450	8,820	0.015	27	389
Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	147	79	1,707	0.003	5	68
Sinclair SC479-HF1LDF(E5765)	146	34	725	0.001	2	29
Decibel DB809DK-XT	146	128	2,728	0.005	8	111
Telewave ANT150D (5 lbs)	142	5	101	0.000	0	4
Bird 432-83H-01-T	139.5	25	487	0.001	2	22
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	134	210	3,771	0.007	12	181
RFS APXVTM14-C-I20	134	159	2,850	0.005	9	137
RFS APXVSPP18-C-A20	134	171	3,070	0.005	9	148
Flat Platform w/ Handrails	134	2,000	35,912	0.063	111	1,728
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	132	185	3,230	0.006	10	160
Alcatel-Lucent 1900MHz RRH	132	132	2,300	0.004	7	114
Nokia AHCA AirScale RRH 4T4R B5 160W	125	106	1,655	0.003	5	91
Alcatel-Lucent B25 RRH4x30	125	159	2,484	0.004	8	137
Nokia B66a RRH4x45 (UHIE)	125	341	5,325	0.009	16	294
Raycap RCMDC-6627-PF-48	125	32	500	0.001	2	28
Commscope JAHH-65B-R3B	125	364	5,681	0.010	18	314
Round Low Profile Platform	125	1,500	23,438	0.041	72	1,296
Round Low Profile Platform	115	1,500	19,838	0.035	61	1,296
Antel LPA-80080/6CF ____	120.8	84	1,226	0.002	4	73
Antel LPA-80063/6CF	120.8	54	788	0.001	2	47
Generic 72" x 8" Panel	112.4	480	6,064	0.011	19	415
RFS APXV18-206517S-C	105	79	873	0.002	3	68
Andrew DB586	97	8	78	0.000	0	7
Andrew DB586	93	8	72	0.000	0	7
Bird 429-83H-01-T	95	20	180	0.000	1	17
Flat Side Arm	95	450	4,061	0.007	13	389
RFS PA6-65AC	80	278	1,779	0.003	5	240
PCTEL GPS-TMG-HR-26N	78	1	4	0.000	0	1
Generic GPS	30	10	9	0.000	0	9
<b>Totals:</b>		<b>58,738</b>	<b>571,191</b>	<b>1.000</b>	<b>1,762</b>	<b>50,746</b>

SEISMIC FORCES

0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
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1.2D + 1.0Ev + 1.0Eh

Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.16	-1.77	0.00	-248.65	0.00	248.65	5,102.86	1,274.83	6,024	5,489.79	0.00	0.00	0.04
5.00	-67.74	-1.78	0.00	-239.82	0.00	239.82	5,029.12	1,248.09	5,774	5,296.04	0.01	-0.01	0.04
10.00	-65.36	-1.79	0.00	-230.92	0.00	230.92	4,953.96	1,221.35	5,529	5,104.17	0.02	-0.02	0.04
15.00	-63.01	-1.80	0.00	-221.98	0.00	221.98	4,877.37	1,194.61	5,290	4,914.29	0.05	-0.03	0.04
20.00	-60.70	-1.81	0.00	-212.98	0.00	212.98	4,799.35	1,167.88	5,055	4,726.50	0.09	-0.04	0.04
25.00	-58.41	-1.81	0.00	-203.96	0.00	203.96	4,719.91	1,141.14	4,827	4,540.87	0.14	-0.05	0.04
30.00	-56.15	-1.81	0.00	-194.90	0.00	194.90	4,639.04	1,114.40	4,603	4,357.53	0.20	-0.06	0.04
35.00	-53.93	-1.81	0.00	-185.84	0.00	185.84	4,556.74	1,087.66	4,385	4,176.56	0.27	-0.08	0.04
40.00	-52.63	-1.81	0.00	-176.77	0.00	176.77	4,473.02	1,060.92	4,172	3,998.06	0.36	-0.09	0.04
42.96	-51.29	-1.81	0.00	-171.40	0.00	171.40	4,422.84	1,045.11	4,049	3,893.71	0.42	-0.09	0.04
45.00	-48.68	-1.80	0.00	-167.70	0.00	167.70	4,378.05	1,034.19	3,964	3,813.57	0.46	-0.10	0.04
49.04	-48.30	-1.80	0.00	-160.43	0.00	160.43	3,604.18	884.90	3,386	3,138.53	0.55	-0.11	0.04
50.00	-46.32	-1.79	0.00	-158.70	0.00	158.70	3,591.52	880.50	3,352	3,111.81	0.57	-0.11	0.04
55.00	-44.38	-1.78	0.00	-149.76	0.00	149.76	3,524.72	857.58	3,180	2,973.74	0.69	-0.12	0.04
60.00	-42.46	-1.77	0.00	-140.86	0.00	140.86	3,456.50	834.66	3,013	2,837.55	0.83	-0.14	0.04
65.00	-40.56	-1.75	0.00	-132.03	0.00	132.03	3,386.84	811.74	2,849	2,703.31	0.98	-0.15	0.04
70.00	-38.70	-1.73	0.00	-123.29	0.00	123.29	3,315.77	788.82	2,691	2,571.14	1.14	-0.16	0.04
75.00	-37.59	-1.72	0.00	-114.65	0.00	114.65	3,242.33	765.91	2,537	2,440.43	1.32	-0.18	0.04
78.00	-36.86	-1.71	0.00	-109.50	0.00	109.50	3,184.12	752.15	2,446	2,353.15	1.43	-0.18	0.04
80.00	-34.71	-1.67	0.00	-106.09	0.00	106.09	3,145.31	742.99	2,387	2,295.85	1.51	-0.19	0.04
85.00	-33.81	-1.65	0.00	-97.75	0.00	97.75	3,048.29	720.07	2,242	2,155.68	1.72	-0.20	0.03
87.54	-32.58	-1.63	0.00	-93.54	0.00	93.54	2,999.00	708.43	2,170	2,086.17	1.83	-0.21	0.03
90.00	-31.37	-1.60	0.00	-89.54	0.00	89.54	2,951.27	697.15	2,102	2,019.93	1.94	-0.21	0.03
92.46	-31.19	-1.60	0.00	-85.60	0.00	85.60	2,412.09	583.54	1,767	1,661.39	2.05	-0.22	0.04
93.00	-30.54	-1.59	0.00	-84.73	0.00	84.73	2,405.87	581.47	1,754	1,651.16	2.07	-0.22	0.04
95.00	-29.31	-1.56	0.00	-81.56	0.00	81.56	2,382.84	573.83	1,709	1,613.66	2.17	-0.23	0.04
97.00	-28.34	-1.53	0.00	-78.45	0.00	78.45	2,359.57	566.19	1,663	1,576.43	2.26	-0.23	0.03
100.00	-27.16	-1.50	0.00	-73.85	0.00	73.85	2,324.24	554.73	1,597	1,521.10	2.41	-0.24	0.03
103.75	-26.87	-1.49	0.00	-68.22	0.00	68.22	2,279.36	540.40	1,515	1,452.84	2.61	-0.25	0.03
103.75	-26.87	-1.49	0.00	-68.22	0.00	68.22	2,279.36	540.40	1,515	1,452.84	2.61	-0.25	0.06
105.00	-25.66	-1.46	0.00	-66.36	0.00	66.36	2,264.22	535.63	1,489	1,430.31	2.67	-0.25	0.06
110.00	-25.15	-1.45	0.00	-59.05	0.00	59.05	2,186.65	516.53	1,385	1,331.56	2.95	-0.28	0.06
112.40	-24.08	-1.42	0.00	-55.57	0.00	55.57	2,147.84	507.36	1,336	1,284.47	3.09	-0.29	0.05
115.00	-21.32	-1.32	0.00	-51.89	0.00	51.89	2,105.79	497.43	1,284	1,234.41	3.26	-0.30	0.05
120.00	-21.18	-1.32	0.00	-45.31	0.00	45.31	2,024.94	478.33	1,187	1,140.95	3.59	-0.33	0.05
120.80	-20.27	-1.28	0.00	-44.26	0.00	44.26	2,012.01	475.28	1,172	1,126.34	3.64	-0.33	0.05
125.00	-16.36	-1.11	0.00	-38.88	0.00	38.88	1,944.09	459.23	1,094	1,051.17	3.94	-0.35	0.05
130.00	-16.04	-1.10	0.00	-33.33	0.00	33.33	1,863.24	440.14	1,005	965.06	4.32	-0.37	0.04
132.00	-15.62	-1.08	0.00	-31.14	0.00	31.14	1,830.90	432.50	971	931.65	4.48	-0.38	0.04
132.12	-15.21	-1.06	0.00	-31.01	0.00	31.01	1,828.96	432.04	969	929.67	4.49	-0.38	0.04
134.00	-11.85	-0.89	0.00	-29.02	0.00	29.02	1,798.56	424.86	937	898.83	4.64	-0.39	0.04
135.00	-11.67	-0.88	0.00	-28.13	0.00	28.13	1,782.39	421.04	920	882.64	4.72	-0.40	0.04
135.87	-11.26	-0.86	0.00	-27.37	0.00	27.37	993.96	255.85	566	501.11	4.80	-0.40	0.07
139.50	-11.18	-0.86	0.00	-24.25	0.00	24.25	972.83	247.53	530	474.38	5.10	-0.41	0.06
140.00	-10.40	-0.81	0.00	-23.83	0.00	23.83	969.86	246.38	525	470.72	5.15	-0.42	0.06
142.00	-10.08	-0.80	0.00	-22.20	0.00	22.20	957.83	241.80	506	456.17	5.33	-0.43	0.06
145.00	-9.97	-0.79	0.00	-19.81	0.00	19.81	939.37	234.93	477	434.56	5.60	-0.45	0.06
146.00	-9.67	-0.78	0.00	-19.02	0.00	19.02	933.10	232.63	468	427.41	5.70	-0.46	0.06
147.00	-9.28	-0.75	0.00	-18.24	0.00	18.24	926.77	230.34	459	420.30	5.79	-0.46	0.05
150.00	-8.62	-0.71	0.00	-15.98	0.00	15.98	907.46	223.47	432	399.15	6.09	-0.48	0.05
155.00	-8.16	-0.68	0.00	-12.42	0.00	12.42	874.12	212.01	389	364.59	6.61	-0.51	0.04
160.00	-7.72	-0.65	0.00	-9.00	0.00	9.00	839.35	200.55	348	331.00	7.16	-0.53	0.04
165.00	-7.63	-0.65	0.00	-5.73	0.00	5.73	800.48	189.09	309	297.46	7.73	-0.55	0.03
166.00	-4.38	-0.39	0.00	-5.08	0.00	5.08	790.77	186.80	302	290.25	7.84	-0.56	0.02

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
170.00	-4.00	-0.36	0.00	-3.50	0.00	3.50	751.97	177.63	273	262.32	8.31	-0.57	0.02
175.00	-3.77	-0.34	0.00	-1.69	0.00	1.69	703.45	166.17	239	229.40	8.91	-0.58	0.01
178.10	-3.62	-0.33	0.00	-0.63	0.00	0.63	673.38	159.07	219	210.09	9.29	-0.58	0.01
180.00	0.00	-0.29	0.00	0.00	0.00	0.00	654.94	154.71	207	198.68	9.52	-0.58	0.00

0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.04	-1.77	0.00	-243.84	0.00	243.84	5,102.86	1,274.83	6,024	5,489.79	0.00	0.00	0.04
5.00	-47.35	-1.77	0.00	-235.01	0.00	235.01	5,029.12	1,248.09	5,774	5,296.04	0.01	-0.01	0.04
10.00	-45.69	-1.78	0.00	-226.15	0.00	226.15	4,953.96	1,221.35	5,529	5,104.17	0.02	-0.02	0.04
15.00	-44.04	-1.79	0.00	-217.25	0.00	217.25	4,877.37	1,194.61	5,290	4,914.29	0.05	-0.03	0.04
20.00	-42.42	-1.79	0.00	-208.32	0.00	208.32	4,799.35	1,167.88	5,055	4,726.50	0.09	-0.04	0.04
25.00	-40.83	-1.79	0.00	-199.37	0.00	199.37	4,719.91	1,141.14	4,827	4,540.87	0.14	-0.05	0.04
30.00	-39.24	-1.79	0.00	-190.41	0.00	190.41	4,639.04	1,114.40	4,603	4,357.53	0.20	-0.06	0.04
35.00	-37.69	-1.79	0.00	-181.45	0.00	181.45	4,556.74	1,087.66	4,385	4,176.56	0.27	-0.07	0.04
40.00	-36.78	-1.79	0.00	-172.51	0.00	172.51	4,473.02	1,060.92	4,172	3,998.06	0.35	-0.09	0.04
42.96	-35.85	-1.78	0.00	-167.22	0.00	167.22	4,422.84	1,045.11	4,049	3,893.71	0.41	-0.09	0.04
45.00	-34.03	-1.77	0.00	-163.57	0.00	163.57	4,378.05	1,034.19	3,964	3,813.57	0.45	-0.10	0.04
49.04	-33.76	-1.77	0.00	-156.42	0.00	156.42	3,604.18	884.90	3,386	3,138.53	0.53	-0.11	0.04
50.00	-32.38	-1.76	0.00	-154.72	0.00	154.72	3,591.52	880.50	3,352	3,111.81	0.56	-0.11	0.04
55.00	-31.02	-1.75	0.00	-145.92	0.00	145.92	3,524.72	857.58	3,180	2,973.74	0.68	-0.12	0.04
60.00	-29.67	-1.73	0.00	-137.18	0.00	137.18	3,456.50	834.66	3,013	2,837.55	0.81	-0.13	0.04
65.00	-28.35	-1.71	0.00	-128.52	0.00	128.52	3,386.84	811.74	2,849	2,703.31	0.96	-0.15	0.04
70.00	-27.05	-1.69	0.00	-119.95	0.00	119.95	3,315.77	788.82	2,691	2,571.14	1.12	-0.16	0.04
75.00	-26.27	-1.68	0.00	-111.49	0.00	111.49	3,242.33	765.91	2,537	2,440.43	1.29	-0.17	0.03
78.00	-25.76	-1.67	0.00	-106.46	0.00	106.46	3,184.12	752.15	2,446	2,353.15	1.40	-0.18	0.03
80.00	-24.26	-1.63	0.00	-103.12	0.00	103.12	3,145.31	742.99	2,387	2,295.85	1.48	-0.18	0.03
85.00	-23.63	-1.62	0.00	-94.97	0.00	94.97	3,048.29	720.07	2,242	2,155.68	1.68	-0.20	0.03
87.54	-22.77	-1.59	0.00	-90.86	0.00	90.86	2,999.00	708.43	2,170	2,086.17	1.78	-0.20	0.03
90.00	-21.93	-1.57	0.00	-86.95	0.00	86.95	2,951.27	697.15	2,102	2,019.93	1.89	-0.21	0.03
92.46	-21.80	-1.56	0.00	-83.10	0.00	83.10	2,412.09	583.54	1,767	1,661.39	2.00	-0.22	0.03
93.00	-21.34	-1.55	0.00	-82.25	0.00	82.25	2,405.87	581.47	1,754	1,651.16	2.02	-0.22	0.03
95.00	-20.49	-1.52	0.00	-79.16	0.00	79.16	2,382.84	573.83	1,709	1,613.66	2.12	-0.22	0.03
97.00	-19.81	-1.49	0.00	-76.12	0.00	76.12	2,359.57	566.19	1,663	1,576.43	2.21	-0.23	0.03
100.00	-18.98	-1.46	0.00	-71.64	0.00	71.64	2,324.24	554.73	1,597	1,521.10	2.36	-0.24	0.03
103.75	-18.78	-1.46	0.00	-66.15	0.00	66.15	2,279.36	540.40	1,515	1,452.84	2.54	-0.24	0.03
103.75	-18.78	-1.46	0.00	-66.15	0.00	66.15	2,279.36	540.40	1,515	1,452.84	2.54	-0.24	0.05
105.00	-17.93	-1.42	0.00	-64.33	0.00	64.33	2,264.22	535.63	1,489	1,430.31	2.61	-0.25	0.05
110.00	-17.58	-1.41	0.00	-57.22	0.00	57.22	2,186.65	516.53	1,385	1,331.56	2.88	-0.27	0.05
112.40	-16.83	-1.38	0.00	-53.83	0.00	53.83	2,147.84	507.36	1,336	1,284.47	3.02	-0.28	0.05
115.00	-14.90	-1.28	0.00	-50.25	0.00	50.25	2,105.79	497.43	1,284	1,234.41	3.18	-0.30	0.05
120.00	-14.80	-1.28	0.00	-43.86	0.00	43.86	2,024.94	478.33	1,187	1,140.95	3.50	-0.32	0.05
120.80	-14.16	-1.24	0.00	-42.84	0.00	42.84	2,012.01	475.28	1,172	1,126.34	3.55	-0.32	0.05
125.00	-11.43	-1.08	0.00	-37.62	0.00	37.62	1,944.09	459.23	1,094	1,051.17	3.85	-0.34	0.04
130.00	-11.21	-1.06	0.00	-32.24	0.00	32.24	1,863.24	440.14	1,005	965.06	4.21	-0.36	0.04
132.00	-10.92	-1.05	0.00	-30.11	0.00	30.11	1,830.90	432.50	971	931.65	4.37	-0.37	0.04
132.12	-10.63	-1.03	0.00	-29.99	0.00	29.99	1,828.96	432.04	969	929.67	4.38	-0.37	0.04
134.00	-8.28	-0.86	0.00	-28.06	0.00	28.06	1,798.56	424.86	937	898.83	4.53	-0.38	0.04
135.00	-8.15	-0.85	0.00	-27.20	0.00	27.20	1,782.39	421.04	920	882.64	4.61	-0.38	0.04
135.87	-7.87	-0.83	0.00	-26.46	0.00	26.46	993.96	255.85	566	501.11	4.68	-0.39	0.06
139.50	-7.81	-0.83	0.00	-23.43	0.00	23.43	972.83	247.53	530	474.38	4.98	-0.40	0.06
140.00	-7.27	-0.79	0.00	-23.02	0.00	23.02	969.86	246.38	525	470.72	5.02	-0.41	0.06
142.00	-7.04	-0.77	0.00	-21.44	0.00	21.44	957.83	241.80	506	456.17	5.19	-0.42	0.05
145.00	-6.97	-0.77	0.00	-19.13	0.00	19.13	939.37	234.93	477	434.56	5.46	-0.44	0.05
146.00	-6.76	-0.75	0.00	-18.36	0.00	18.36	933.10	232.63	468	427.41	5.55	-0.44	0.05
147.00	-6.48	-0.73	0.00	-17.61	0.00	17.61	926.77	230.34	459	420.30	5.65	-0.45	0.05
150.00	-6.02	-0.69	0.00	-15.42	0.00	15.42	907.46	223.47	432	399.15	5.93	-0.47	0.05

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
155.00	-5.70	-0.66	0.00	-11.98	0.00	11.98	874.12	212.01	389	364.59	6.44	-0.49	0.04
160.00	-5.39	-0.63	0.00	-8.68	0.00	8.68	839.35	200.55	348	331.00	6.97	-0.52	0.03
165.00	-5.33	-0.63	0.00	-5.52	0.00	5.52	800.48	189.09	309	297.46	7.52	-0.54	0.03
166.00	-3.06	-0.38	0.00	-4.90	0.00	4.90	790.77	186.80	302	290.25	7.63	-0.54	0.02
170.00	-2.80	-0.35	0.00	-3.38	0.00	3.38	751.97	177.63	273	262.32	8.09	-0.55	0.02
175.00	-2.64	-0.33	0.00	-1.63	0.00	1.63	703.45	166.17	239	229.40	8.67	-0.56	0.01
178.10	-2.53	-0.32	0.00	-0.60	0.00	0.60	673.38	159.07	219	210.09	9.04	-0.56	0.01
180.00	0.00	-0.29	0.00	0.00	0.00	0.00	654.94	154.71	207	198.68	9.26	-0.56	0.00

ANALYSIS SUMMARY

Load Case	Base Reactions						Max Usage	
	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 + 1.0W	42.85	0.00	70.41	0.00	0.00	4958.44	135.87	0.88
0.9D + 1.0W	42.82	0.00	52.79	0.00	0.00	4884.64	135.87	0.85
1.2D + 1.0Di + 1.0Wi	9.20	0.00	102.27	0.00	0.00	1178.88	135.87	0.25
1.2D + 1.0Ev + 1.0Eh	1.81	0.00	70.16	0.00	0.00	248.65	135.87	0.07
0.9D - 1.0Ev + 1.0Eh	1.79	0.00	49.04	0.00	0.00	243.84	135.87	0.06
1.0D + 1.0W	8.97	0.00	58.73	0.00	0.00	1030.77	135.87	0.19

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors				Max Member		
			VQ/l (k/in)	Shear Applied (kips)	phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	103.75	SOL #20 All Thread Bar	347.3	10.4	16.8	0.6198	261.1	330.5	0.7899

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors				Lower Termination Connectors					
			MQ/l (kips)	phiVn (kips)	Number Required	Number Actual	Ratio	MQ/l (kips)	phiVn (kip)	Number Required	Number Actual	Ratio
0.00	103.75	SOL #20 All Thread Bar	173.2125	12	15	24	0.6014	0	12	0	0	0.0000

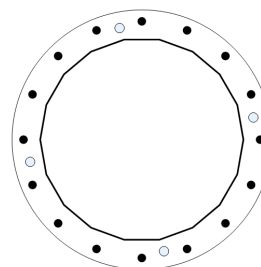
**BASE PLATE ANALYSIS @ 0 FT**

**APPLIED REACTIONS**

Moment (k-ft)	Axial (k)	Shear (k)
4958.44	70.41	42.85

**PLATE PARAMETERS (ID# 21381)**

Width:	68	in
Shape:	Round	
Thickness:	2	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Rod Detail Type:	d	
Clear Distance	3	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Elastic	
Neutral Axis:	155	°



**ANCHOR ROD PARAMETERS**

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	F <sub>y</sub> (ksi)	F <sub>u</sub> (ksi)	Spacing (in)	Offset (°)
Original [ID#21945]	Radial	16	2.25	62	A615-75	75	100	-	-

**DYWIDAG BAR PARAMETERS**

Quantity	Bar Size	Bar Diameter (in)	F <sub>y</sub> (ksi)	F <sub>u</sub> (ksi)	Bracket Type	Bracket Offset (in)	Circle (in)	Offset (°)
4 [ID# 1805]	#20	2.5	80	100	Angle	2.19	59.63	11.25

**COMPONENT PROPERTIES**

Component	ID	Gross Area (in <sup>2</sup> )	Net Area (in <sup>2</sup> )	Individual Inertia (in <sup>4</sup> )	Moment of Inertia (in <sup>4</sup> )	Threads/in
Pole	52.75"ø x 0.4375" (18 Sides)	71.5363	-	-	24475.33	-
Bolt Group	Original (16) 2.25"ø	3.9761	3.2477	0.8393	22912.18	4.5
Dywidag Group	(4) #20	4.9087	4.9087	1.9175	8734.76	-

**REACTION DISTRIBUTION**

Component	ID	Moment M <sub>u</sub> (k-ft)	Axial Load P <sub>u</sub> (k)	Shear V <sub>u</sub> (k)	Moment Factor
Pole	52.75"ø x 0.4375" (18 Sides)	3654.3	70.41	42.85	0.737
Bolt Group	Original (16) 2.25"ø	3654.3	-	42.85	0.737
Dywidag Group	(4) #20	1304.2	-	-	0.263

ASSET: 302506, Winchester CT 3  
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H  
 PROJECT: 14156304

**BASE PLATE BEND LINE ANALYSIS @ 0 FT**

**POLE PROPERTIES**

Flat-to-Flat Diameter: 52.88 in  
 Point-to-Point Diameter: 53.69 in  
 Orientation Offset: - °

Flat Width: 9.323 in  
 Flat Radians: 0.349 rad

**PLATE PROPERTIES**

Neutral Axis: 155 °  
 Bend Line Limits: 3.711 to 4.928 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in <sup>3</sup> )	Applied Moment M <sub>u</sub> (k-in)	Moment Capacity ΦM <sub>n</sub> (k-in)	Flexure Result M <sub>u</sub> /ΦM <sub>n</sub>	
Flats	38.472	0.00	38.472	942.1	2077.5	45.3%	✓
Corners	37.325	0.00	37.325	724.0	2015.6	35.9%	✓
Circumferential	50.366	0.00	50.366	1519.8	2719.8	55.9%	✓

**ELASTIC ANCHOR ROD ANALYSIS**

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load P <sub>u</sub> (k)	Applied Shear Load V <sub>u</sub> (k)	Compressive Capacity ΦP <sub>n</sub> (k)	Compressive Result	Interaction Result	
Original	16	2.25	187.6	0.2	243.6	0.770	77.2%	✓

**DYWIDAG BAR ANALYSIS**

Group Quantity	Bar Size	Bar Circle (in)	Applied Axial Load P <sub>u</sub> (k)	Compressive Capacity ΦP <sub>n</sub> (k)	Compressive Result P <sub>u</sub> / ΦP <sub>n</sub>	
4	#20	59.63	216.1	368.2	58.7%	✓



## PIER FOUNDATION ANALYSIS

### GLOBAL REACTIONS

Moment (k-ft)	Axial (k)	Shear (k)
4,958.44	70.41	42.85

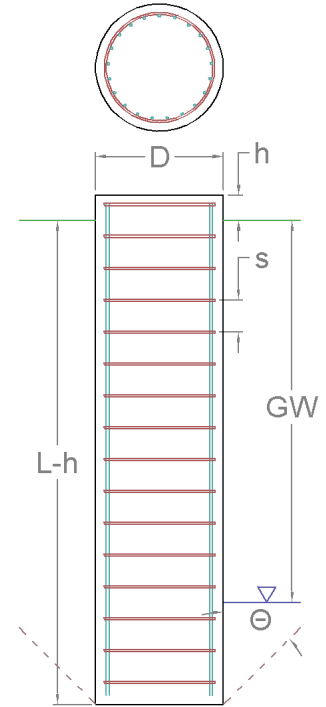
### FOUNDATION PARAMETERS

Pier Diameter:	D	7.50	ft
Pier Embedment Depth:	L-h	18.2	ft
Pier Height above Grade:	h	0.83	ft

### SOIL PARAMETERS

Water Table Depth [BGL]: GW - ft

Layer Depth (ft)	Unit Weight pcf	Cohesion psf	Friction Angle °	Ultimate Skin Friction psf	Ultimate Net Bearing psf
0	105	0	0	0	0
2.5	134	4,741	0	0	0
7.5	135	5,543	0	2,494	24,439



### SOIL STRENGTH ANALYSIS

Volume of Concrete (ft³)	Buoyant Weight of Concrete (k)	Skin Friction Resistance (k)	Inflection Point [BGL] (ft)
838.95	125.84	626.42	11.05

### SOIL MOMENT ANALYSIS

Total Lateral Resistance (k)	Moment at Inflection Point, $M_u$ (k-ft)	Additional Resistance (k-ft)	Nominal Moment Capacity, $\Phi M_n$ (k-ft)	Soil Moment Usage, $M_u / \Phi M_n$
4,441.73	5,467.55	0.00	12,262.87	44.6% <span style="float: right; color: green;">✓</span>

### SOIL COMPRESSION ANALYSIS

Compressive Bearing Resistance (k)	Compressive Force, $P_u$ (k)	Additional Resistance (k)	Nominal Compressive Capacity, $\Phi P_n$ (k)	Soil Compressive Usage, $P_u / \Phi P_n$
1,079.68	89.09	0.00	1,279.58	7.0% <span style="float: right; color: green;">✓</span>

# Exhibit E

Mount Analysis



**AMERICAN TOWER®**  
CORPORATION

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## Mount Analysis Report

**ATC Site Name** : Winchester CT 3, CT  
**ATC Site Number** : 302506  
**Engineering Number** : 14156304\_C8\_01  
**Mount Elevation** : 167 ft  
**Carrier** : T-Mobile  
**Carrier Site Name** : CTNH403A  
**Carrier Site Number** : CTNH403A  
**Site Location** : 15 Oakdale Avenue  
Winsted, CT 06098-1862  
41.92158869 , -73.04941107  
**County** : Litchfield  
**Date** : October 7, 2022  
**Max Usage** : 49%  
**Result** : Pass

Prepared By:  
Sarah Abdallah  
Structural Engineer

Reviewed By:



**COA: PEC.0001553**



**Table of Contents**

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Analysis ..... 1

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Structure Usages ..... 2

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Calculations ..... Attached



## Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 167 ft.

## Supporting Documents

<b>Previous Analysis</b>	ATC Project #13711886_C8_04, dated August 12, 2021
<b>Radio Frequency Data Sheet</b>	RFDS ID #CTNH403A, dated July 26, 2021
<b>Reference Photos</b>	Site photos from 2021

## Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

<b>Basic Wind Speed:</b>	124 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
<b>Codes:</b>	ANSI/TIA-222-H
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	III
<b>Topographic Factor Procedure:</b>	Method 2
<b>Feature:</b>	Flat
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Spectral Response:</b>	Ss = 0.169, S1 = 0.054
<b>Site Class:</b>	D - Stiff Soil - Default
<b>Live Loads:</b>	Lm = 500 lbs, Lv = 250 lbs

## Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount 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](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



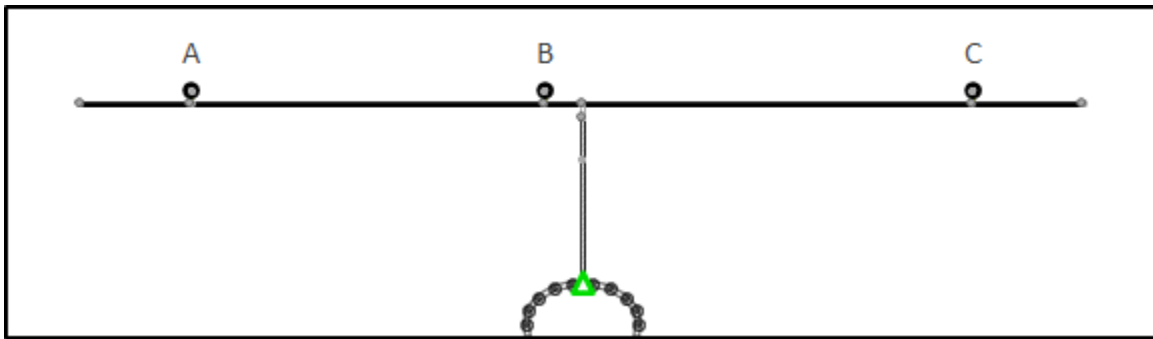
**Application Loading**

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
167.0	166.0	3	Ericsson Air6449 B41
		3	RFS APXVAARR24_43-U-NA20
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson Radio 4460 B25+B66
		1	Commscope VHLP2-11W/A
		1	Ceragon FibeAir IP-20S

**Structure Usages**

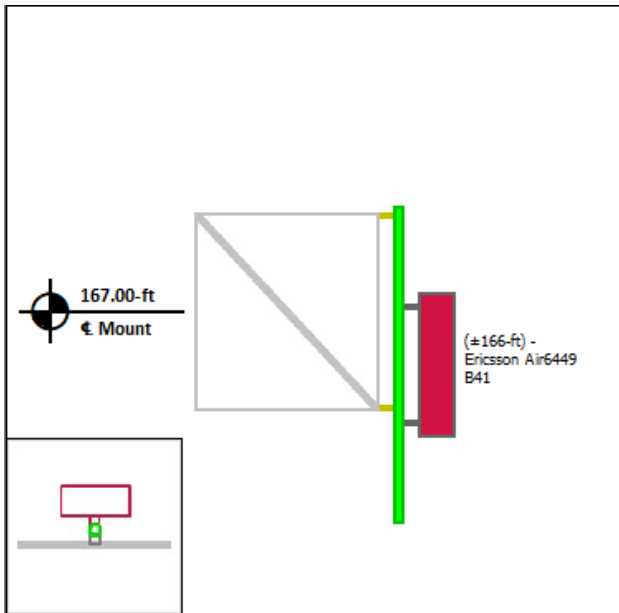
Structural Component	Controlling Usage	Pass/Fail
Horizontals	32%	Pass
Verticals	16%	Pass
Tie-Backs	9%	Pass
Mount Pipes	49%	Pass

**Mount Layout**

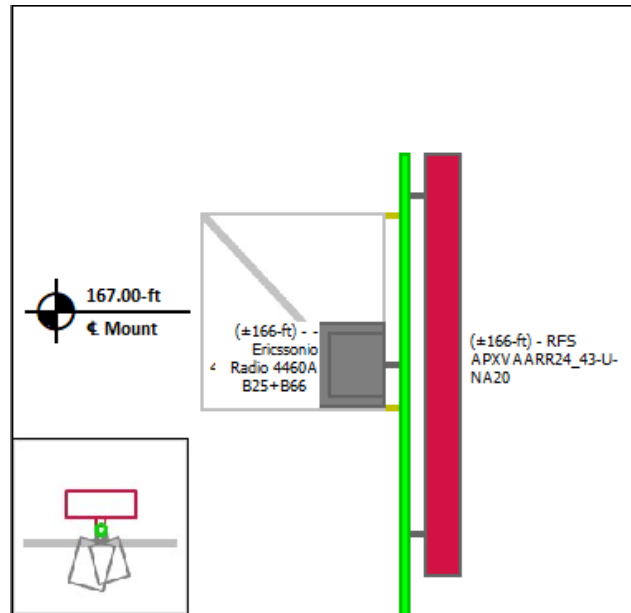


**Equipment Layout**

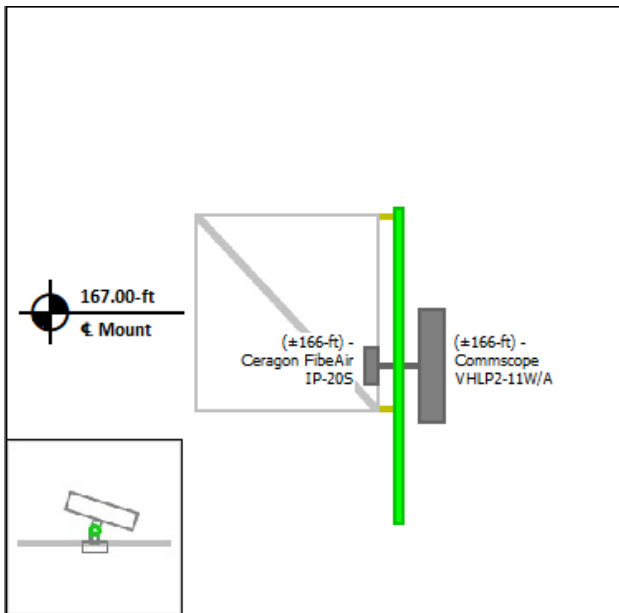
**Mount Pipe A**



**Mount Pipe B**



**Mount Pipe C**







### **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 equipment, 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.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

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.

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

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.



**Site Number:** 302506  
**Project Number:** 14156304\_C8\_01  
**Carrier:** T-Mobile  
**Mount Elevation:** 167 ft  
**Date:** 10/7/2022

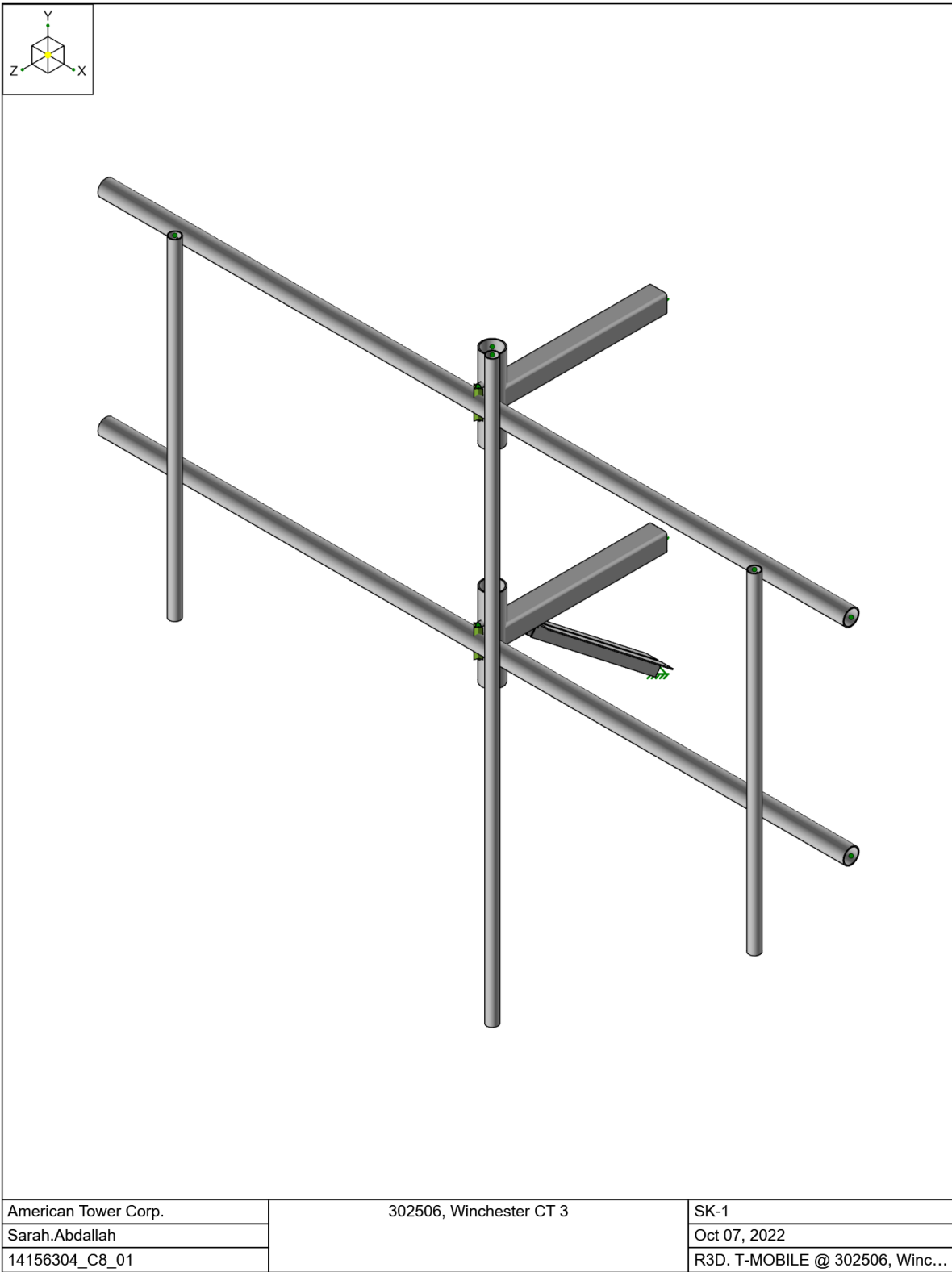
## Mount Analysis Force Calculations

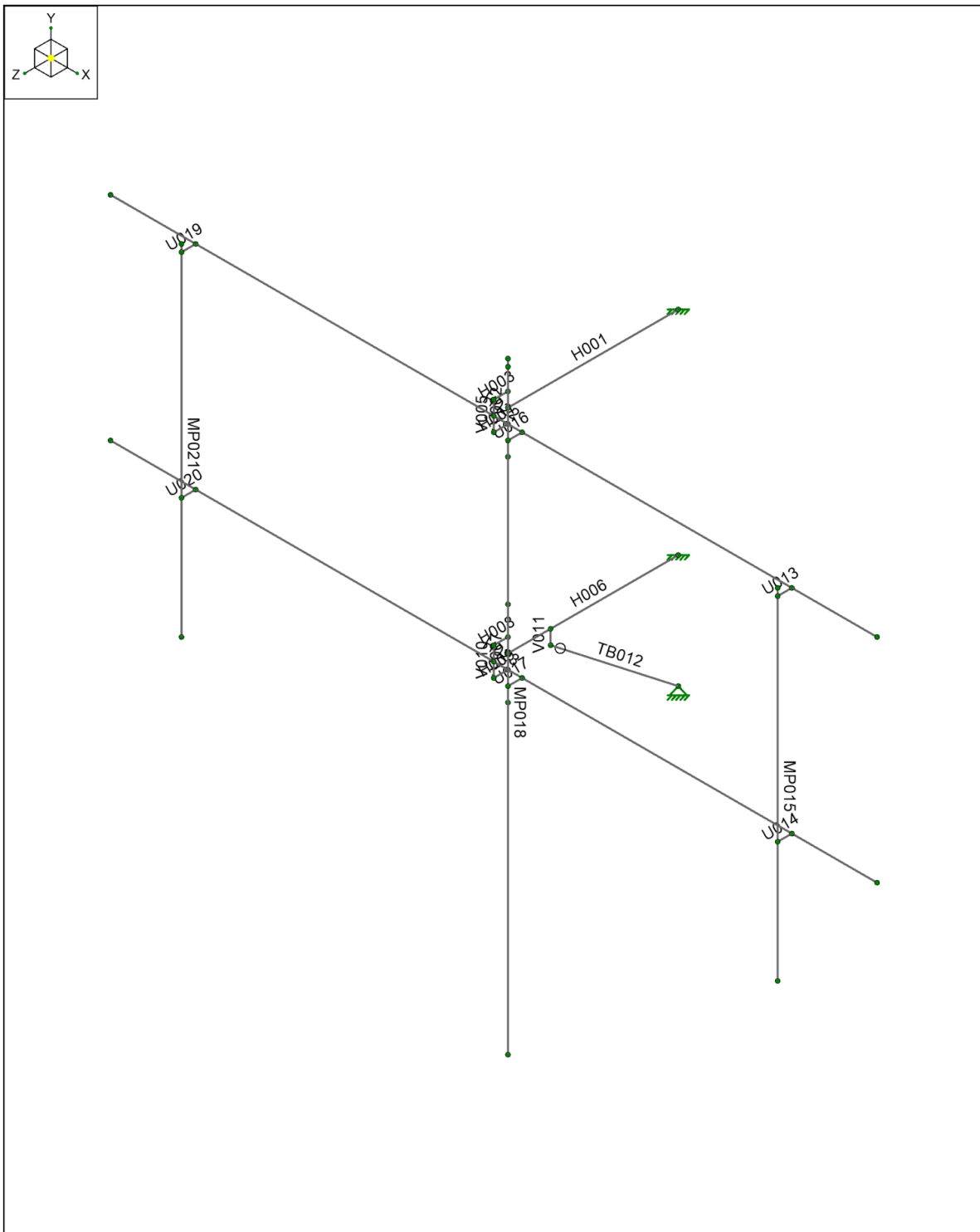
Wind & Ice Load Calculations			
Velocity Pressure Coefficient	$K_z$	1.14	
Topographic Factor	$K_{zt}$	1.00	
Rooftop Wind Speed-up Factor	$K_s$	1.00	
Shielding Factor	$K_a$	0.90	
Ground Elevation Factor	$K_e$	0.96	
Wind Direction Probability Factor	$K_d$	0.95	
Basic Wind Speed	$V$	124	mph
Velocity Pressure	$q_z$	41.2	psf
Height Escalation Factor	$K_{iz}$	1.18	
Thickness of Radial Glaze Ice	$T_{iz}$	1.18	in

Seismic Load Calculations			
Short Period DSRAP	$S_{DS}$	0.135	
1 Second DSRAP	$S_{D1}$	0.086	
Importance Factor	$I$	1.3	
Response Modification Coefficient	$R$	2.0	
Seismic Response Coefficient	$C_s$	0.085	
Amplification Factor	$A$	1.0	
Total Weight	$W$	859.8	lbs
Total Shear Force	$V_s$	72.7	lbs
Horizontal Seismic Load	$E_h$	72.7	lbs
Vertical Seismic Load	$E_v$	23.2	lbs

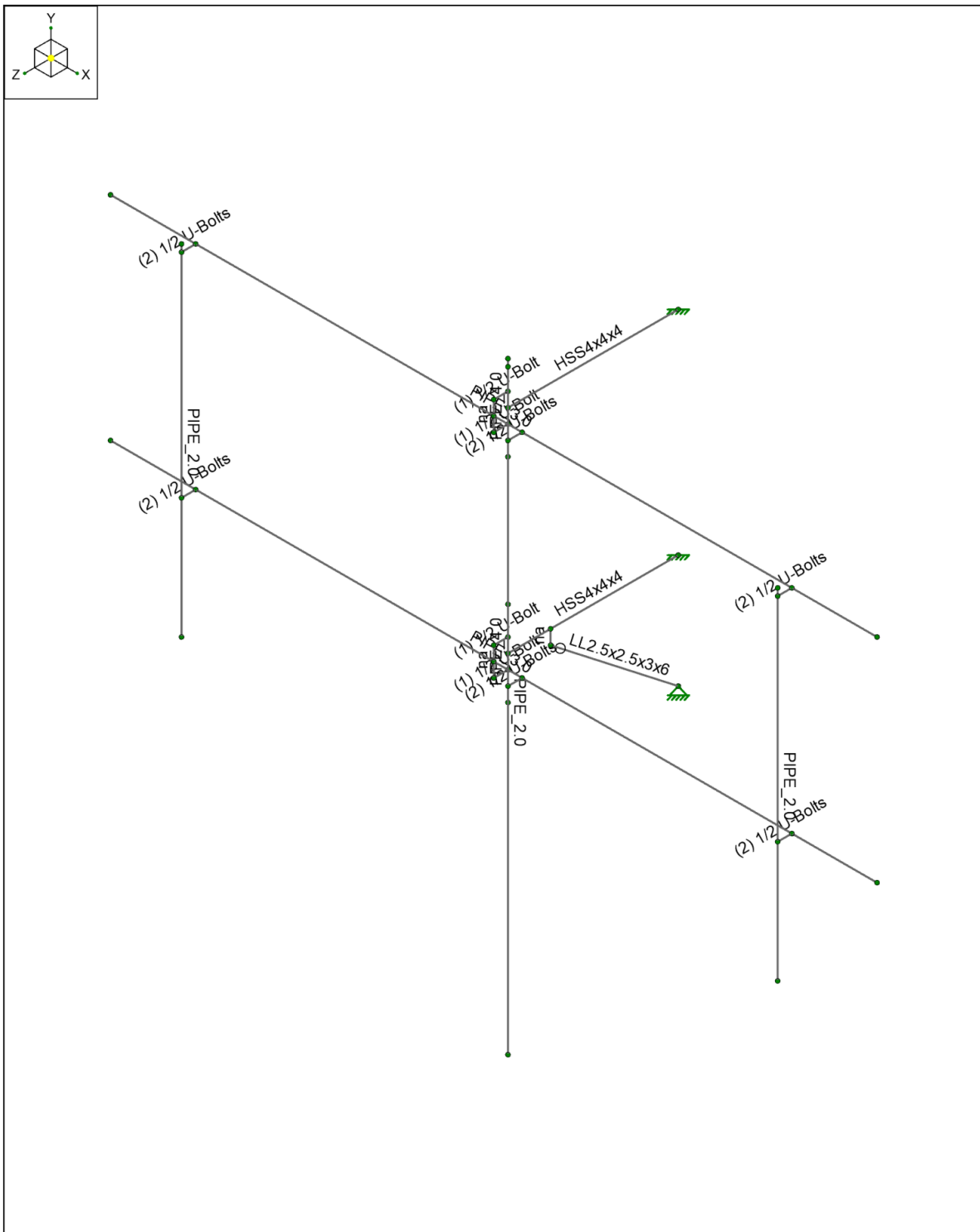
Antenna Calculations (Elevations per Application/RFDS)*								
Equipment	Height	Width	Depth	Weight	$EPA_N$	$EPA_T$	$EPA_{Ni}$	$EPA_{Ti}$
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Ericsson Air6449 B41	33.1	20.6	8.6	104.0	5.68	1.56	6.78	2.13
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.77	4.52
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.25	1.86
Ericsson Radio 4460 B25+B66	19.6	15.7	12.1	109.0	2.56	1.98	3.30	2.64
Commscope VHLP2-11W/A	26.0	26.0	6.5	17.0	2.35	0.66	2.80	0.98
Ceragon FibeAir IP-20S	9.1	9.1	3.9	13.2	0.69	0.30	1.09	0.60

\* Equipment with EPA values N/A were not considered in the mount analysis

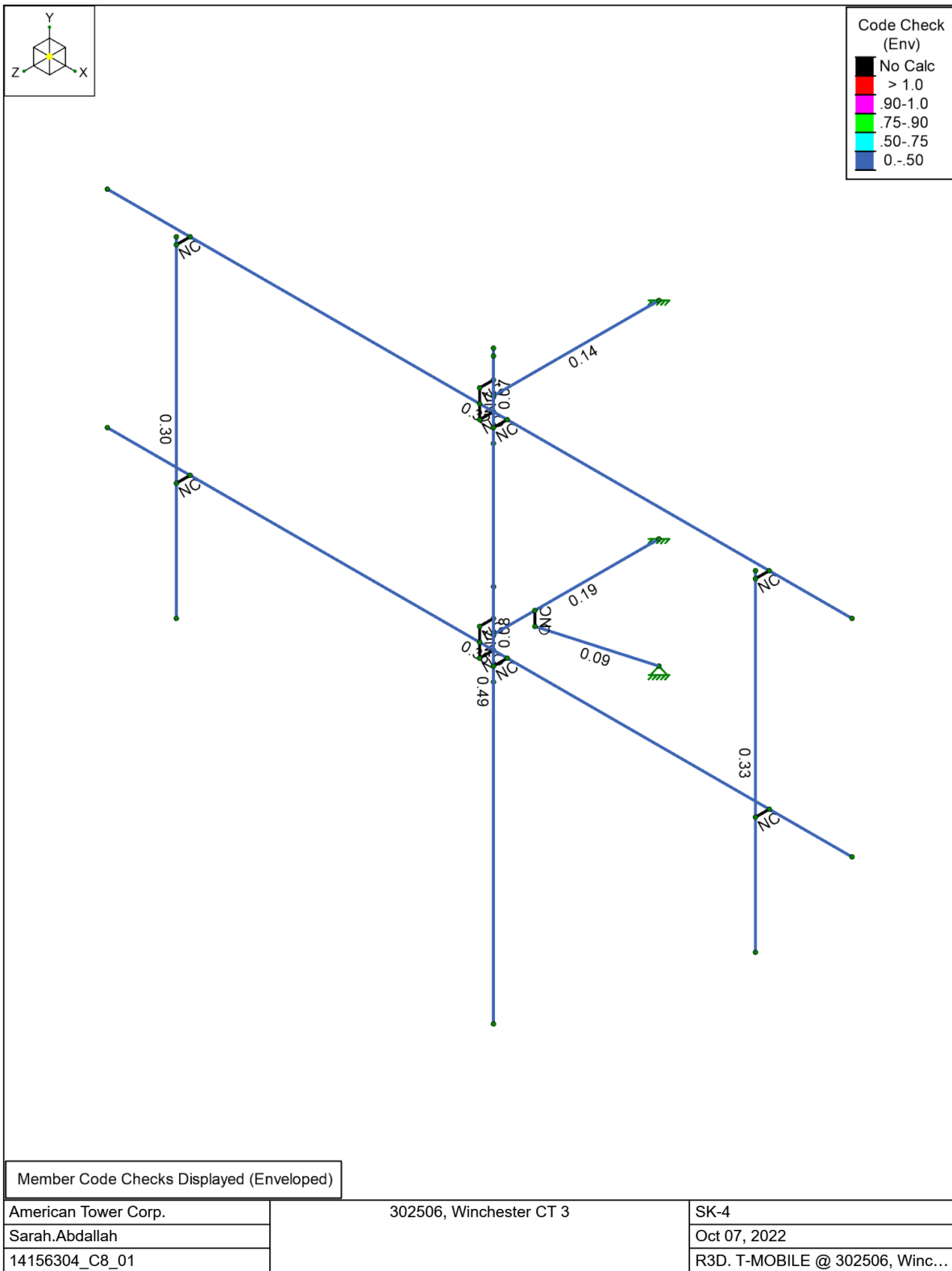


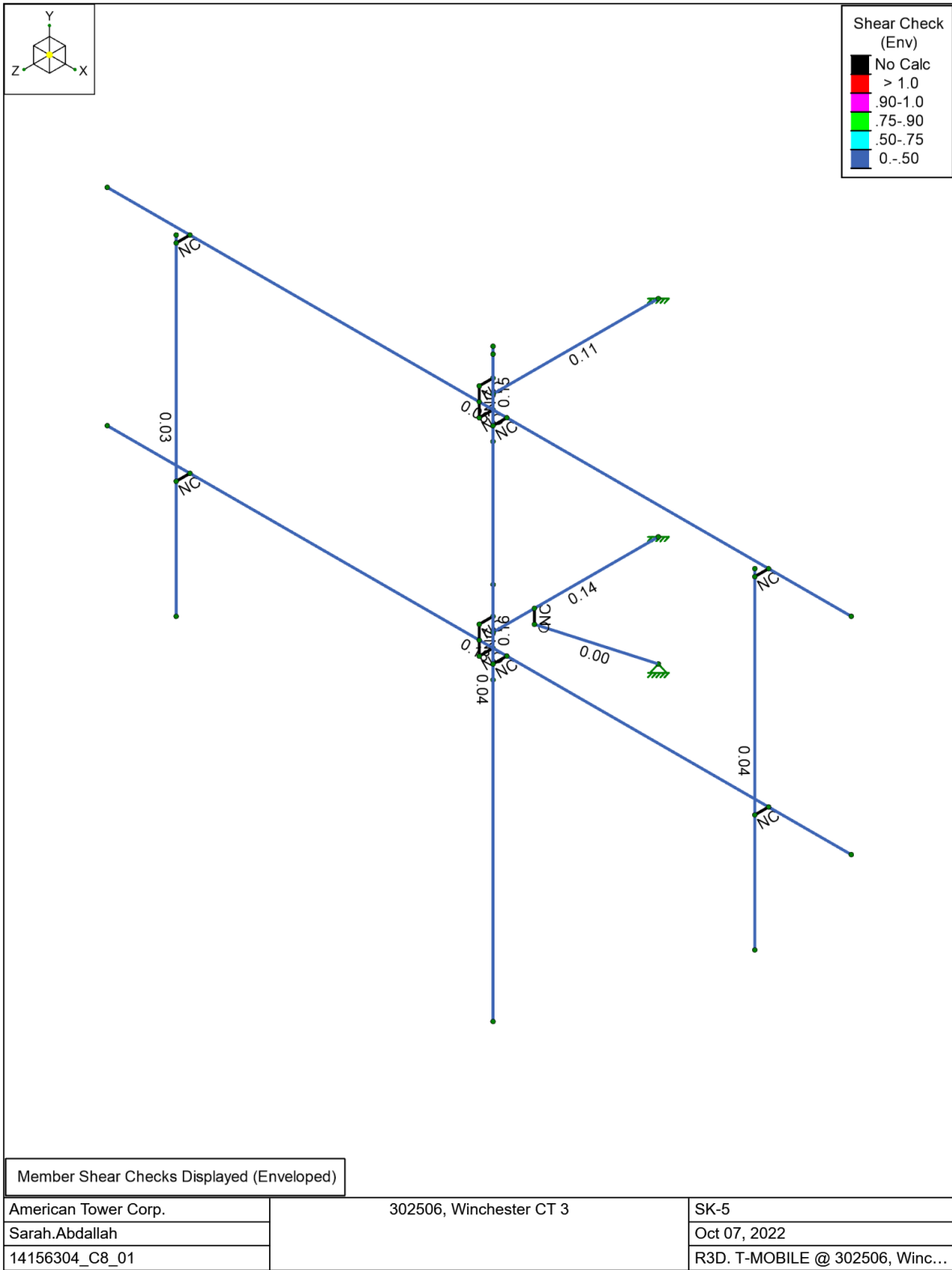


American Tower Corp.	302506, Winchester CT 3	SK-2
Sarah.Abdallah		Oct 07, 2022
14156304_C8_01		R3D. T-MOBILE @ 302506, Winc...



American Tower Corp.	302506, Winchester CT 3	SK-3
Sarah.Abdallah		Oct 07, 2022
14156304_C8_01		R3D. T-MOBILE @ 302506, Winc...







**Basic Load Cases**

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	D	DL	-1		8	
2	Di	IL			8	10
3	W 0	WL			8	22
4	W 30	WL			16	42
5	W 60	WL			16	42
6	W 90	WL			8	20
7	W 120	WL			16	42
8	W 150	WL			16	42
9	W 180	WL			8	22
10	W 210	WL			16	42
11	W 240	WL			16	42
12	W 270	WL			8	20
13	W 300	WL			16	42
14	W 330	WL			16	42
15	Wi 0	WL			8	22
16	Wi 30	WL			16	42
17	Wi 60	WL			16	42
18	Wi 90	WL			8	20
19	Wi 120	WL			16	42
20	Wi 150	WL			16	42
21	Wi 180	WL			8	22
22	Wi 210	WL			16	42
23	Wi 240	WL			16	42
24	Wi 270	WL			8	20
25	Wi 300	WL			16	42
26	Wi 330	WL			16	42
27	Ws 0	WL			8	22
28	Ws 30	WL			16	42
29	Ws 60	WL			16	42
30	Ws 90	WL			8	20
31	Ws 120	WL			16	42
32	Ws 150	WL			16	42
33	Ws 180	WL			8	22
34	Ws 210	WL			16	42
35	Ws 240	WL			16	42
36	Ws 270	WL			8	20
37	Ws 300	WL			16	42
38	Ws 330	WL			16	42
39	Ev -Y	ELY				10
40	Eh -Z	ELZ				10
41	Eh -X	ELX				10
42	Lv (1)	LL			1	
43	Lv (2)	LL			1	
44	Lv (3)	LL			1	
45	Lv (4)	LL			1	
46	Lm (1)	LL		1		
47	Lm (2)	LL		1		
48	Lm (3)	LL		1		

**Load Combinations**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4D	Yes	Y	DL	1.4						
2	1.2D + 1.0W [0°]	Yes	Y	DL	1.2	3	1				
3	1.2D + 1.0W [30°]	Yes	Y	DL	1.2	4	1				





Company : American Tower Corp.  
 Designer : Sarah.Abdallah  
 Job Number : 14156304\_C8\_01  
 Model Name : 302506, Winchester CT 3

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**Load Combinations (Continued)**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
4	1.2D + 1.0W [60°]	Yes	Y	DL	1.2	5	1				
5	1.2D + 1.0W [90°]	Yes	Y	DL	1.2	6	1				
6	1.2D + 1.0W [120°]	Yes	Y	DL	1.2	7	1				
7	1.2D + 1.0W [150°]	Yes	Y	DL	1.2	8	1				
8	1.2D + 1.0W [180°]	Yes	Y	DL	1.2	9	1				
9	1.2D + 1.0W [210°]	Yes	Y	DL	1.2	10	1				
10	1.2D + 1.0W [240°]	Yes	Y	DL	1.2	11	1				
11	1.2D + 1.0W [270°]	Yes	Y	DL	1.2	12	1				
12	1.2D + 1.0W [300°]	Yes	Y	DL	1.2	13	1				
13	1.2D + 1.0W [330°]	Yes	Y	DL	1.2	14	1				
14	0.9D + 1.0W [0°]	Yes	Y	DL	0.9	3	1				
15	0.9D + 1.0W [30°]	Yes	Y	DL	0.9	4	1				
16	0.9D + 1.0W [60°]	Yes	Y	DL	0.9	5	1				
17	0.9D + 1.0W [90°]	Yes	Y	DL	0.9	6	1				
18	0.9D + 1.0W [120°]	Yes	Y	DL	0.9	7	1				
19	0.9D + 1.0W [150°]	Yes	Y	DL	0.9	8	1				
20	0.9D + 1.0W [180°]	Yes	Y	DL	0.9	9	1				
21	0.9D + 1.0W [210°]	Yes	Y	DL	0.9	10	1				
22	0.9D + 1.0W [240°]	Yes	Y	DL	0.9	11	1				
23	0.9D + 1.0W [270°]	Yes	Y	DL	0.9	12	1				
24	0.9D + 1.0W [300°]	Yes	Y	DL	0.9	13	1				
25	0.9D + 1.0W [330°]	Yes	Y	DL	0.9	14	1				
26	1.2D + 1.0Di + 1.0Wi [0°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	15	1		
27	1.2D + 1.0Di + 1.0Wi [30°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	16	1		
28	1.2D + 1.0Di + 1.0Wi [60°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	17	1		
29	1.2D + 1.0Di + 1.0Wi [90°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	18	1		
30	1.2D + 1.0Di + 1.0Wi [120°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	19	1		
31	1.2D + 1.0Di + 1.0Wi [150°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	20	1		
32	1.2D + 1.0Di + 1.0Wi [180°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	21	1		
33	1.2D + 1.0Di + 1.0Wi [210°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	22	1		
34	1.2D + 1.0Di + 1.0Wi [240°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	23	1		
35	1.2D + 1.0Di + 1.0Wi [270°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	24	1		
36	1.2D + 1.0Di + 1.0Wi [300°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	25	1		
37	1.2D + 1.0Di + 1.0Wi [330°] + 1.0Ti	Yes	Y	DL	1.2	IL	1	26	1		
38	1.2D + 1.0Ev + 1.0Eh [0°]	Yes	Y	DL	1.2	ELY	1	ELZ	1	ELX	0.001
39	1.2D + 1.0Ev + 1.0Eh [30°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.866	ELX	0.5
40	1.2D + 1.0Ev + 1.0Eh [60°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.5	ELX	0.866
41	1.2D + 1.0Ev + 1.0Eh [90°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.001	ELX	1
42	1.2D + 1.0Ev + 1.0Eh [120°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.5	ELX	0.866
43	1.2D + 1.0Ev + 1.0Eh [150°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.866	ELX	0.5
44	1.2D + 1.0Ev + 1.0Eh [180°]	Yes	Y	DL	1.2	ELY	1	ELZ	-1	ELX	0.001
45	1.2D + 1.0Ev + 1.0Eh [210°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.866	ELX	-0.5
46	1.2D + 1.0Ev + 1.0Eh [240°]	Yes	Y	DL	1.2	ELY	1	ELZ	-0.5	ELX	-0.866
47	1.2D + 1.0Ev + 1.0Eh [270°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.001	ELX	-1
48	1.2D + 1.0Ev + 1.0Eh [300°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.5	ELX	-0.866
49	1.2D + 1.0Ev + 1.0Eh [330°]	Yes	Y	DL	1.2	ELY	1	ELZ	0.866	ELX	-0.5
50	0.9D + 1.0Ev + 1.0Eh [0°]	Yes	Y	DL	0.9	ELY	1	ELZ	1	ELX	0.001
51	0.9D + 1.0Ev + 1.0Eh [30°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.866	ELX	0.5
52	0.9D + 1.0Ev + 1.0Eh [60°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.5	ELX	0.866
53	0.9D + 1.0Ev + 1.0Eh [90°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.001	ELX	1
54	0.9D + 1.0Ev + 1.0Eh [120°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.5	ELX	0.866
55	0.9D + 1.0Ev + 1.0Eh [150°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.866	ELX	0.5
56	0.9D + 1.0Ev + 1.0Eh [180°]	Yes	Y	DL	0.9	ELY	1	ELZ	-1	ELX	0.001
57	0.9D + 1.0Ev + 1.0Eh [210°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.866	ELX	-0.5
58	0.9D + 1.0Ev + 1.0Eh [240°]	Yes	Y	DL	0.9	ELY	1	ELZ	-0.5	ELX	-0.866



**Load Combinations (Continued)**

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
59	0.9D + 1.0Ev + 1.0Eh [270°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.001	ELX	-1
60	0.9D + 1.0Ev + 1.0Eh [300°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.5	ELX	-0.866
61	0.9D + 1.0Ev + 1.0Eh [330°]	Yes	Y	DL	0.9	ELY	1	ELZ	0.866	ELX	-0.5
62	1.2D + 1.5Lv(1)	Yes	Y	DL	1.2	42	1.5				
63	1.2D + 1.5Lv(2)	Yes	Y	DL	1.2	43	1.5				
64	1.2D + 1.5Lv(3)	Yes	Y	DL	1.2	44	1.5				
65	1.2D + 1.5Lv(4)	Yes	Y	DL	1.2	45	1.5				
66	1.2D + 1.5Lm(1) + 1.0Wm [0°]	Yes	Y	DL	1.2	46	1.5	27	1		
67	1.2D + 1.5Lm(1) + 1.0Wm [30°]	Yes	Y	DL	1.2	46	1.5	28	1		
68	1.2D + 1.5Lm(1) + 1.0Wm [60°]	Yes	Y	DL	1.2	46	1.5	29	1		
69	1.2D + 1.5Lm(1) + 1.0Wm [90°]	Yes	Y	DL	1.2	46	1.5	30	1		
70	1.2D + 1.5Lm(1) + 1.0Wm [120°]	Yes	Y	DL	1.2	46	1.5	31	1		
71	1.2D + 1.5Lm(1) + 1.0Wm [150°]	Yes	Y	DL	1.2	46	1.5	32	1		
72	1.2D + 1.5Lm(1) + 1.0Wm [180°]	Yes	Y	DL	1.2	46	1.5	33	1		
73	1.2D + 1.5Lm(1) + 1.0Wm [210°]	Yes	Y	DL	1.2	46	1.5	34	1		
74	1.2D + 1.5Lm(1) + 1.0Wm [240°]	Yes	Y	DL	1.2	46	1.5	35	1		
75	1.2D + 1.5Lm(1) + 1.0Wm [270°]	Yes	Y	DL	1.2	46	1.5	36	1		
76	1.2D + 1.5Lm(1) + 1.0Wm [300°]	Yes	Y	DL	1.2	46	1.5	37	1		
77	1.2D + 1.5Lm(1) + 1.0Wm [330°]	Yes	Y	DL	1.2	46	1.5	38	1		
78	1.2D + 1.5Lm(2) + 1.0Wm [0°]	Yes	Y	DL	1.2	47	1.5	27	1		
79	1.2D + 1.5Lm(2) + 1.0Wm [30°]	Yes	Y	DL	1.2	47	1.5	28	1		
80	1.2D + 1.5Lm(2) + 1.0Wm [60°]	Yes	Y	DL	1.2	47	1.5	29	1		
81	1.2D + 1.5Lm(2) + 1.0Wm [90°]	Yes	Y	DL	1.2	47	1.5	30	1		
82	1.2D + 1.5Lm(2) + 1.0Wm [120°]	Yes	Y	DL	1.2	47	1.5	31	1		
83	1.2D + 1.5Lm(2) + 1.0Wm [150°]	Yes	Y	DL	1.2	47	1.5	32	1		
84	1.2D + 1.5Lm(2) + 1.0Wm [180°]	Yes	Y	DL	1.2	47	1.5	33	1		
85	1.2D + 1.5Lm(2) + 1.0Wm [210°]	Yes	Y	DL	1.2	47	1.5	34	1		
86	1.2D + 1.5Lm(2) + 1.0Wm [240°]	Yes	Y	DL	1.2	47	1.5	35	1		
87	1.2D + 1.5Lm(2) + 1.0Wm [270°]	Yes	Y	DL	1.2	47	1.5	36	1		
88	1.2D + 1.5Lm(2) + 1.0Wm [300°]	Yes	Y	DL	1.2	47	1.5	37	1		
89	1.2D + 1.5Lm(2) + 1.0Wm [330°]	Yes	Y	DL	1.2	47	1.5	38	1		
90	1.2D + 1.5Lm(3) + 1.0Wm [0°]	Yes	Y	DL	1.2	48	1.5	27	1		
91	1.2D + 1.5Lm(3) + 1.0Wm [30°]	Yes	Y	DL	1.2	48	1.5	28	1		
92	1.2D + 1.5Lm(3) + 1.0Wm [60°]	Yes	Y	DL	1.2	48	1.5	29	1		
93	1.2D + 1.5Lm(3) + 1.0Wm [90°]	Yes	Y	DL	1.2	48	1.5	30	1		
94	1.2D + 1.5Lm(3) + 1.0Wm [120°]	Yes	Y	DL	1.2	48	1.5	31	1		
95	1.2D + 1.5Lm(3) + 1.0Wm [150°]	Yes	Y	DL	1.2	48	1.5	32	1		
96	1.2D + 1.5Lm(3) + 1.0Wm [180°]	Yes	Y	DL	1.2	48	1.5	33	1		
97	1.2D + 1.5Lm(3) + 1.0Wm [210°]	Yes	Y	DL	1.2	48	1.5	34	1		
98	1.2D + 1.5Lm(3) + 1.0Wm [240°]	Yes	Y	DL	1.2	48	1.5	35	1		
99	1.2D + 1.5Lm(3) + 1.0Wm [270°]	Yes	Y	DL	1.2	48	1.5	36	1		
100	1.2D + 1.5Lm(3) + 1.0Wm [300°]	Yes	Y	DL	1.2	48	1.5	37	1		
101	1.2D + 1.5Lm(3) + 1.0Wm [330°]	Yes	Y	DL	1.2	48	1.5	38	1		

**Member Primary Data**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N001	N002	HSS4x4x4	Beam	None	A500 Gr. B [SQR]	Typical
2	V002	N004	N003	PIPE_4.0	Column	None	A53 Gr. B	Typical
3	H003	N005	N006	(1) 1/2 U-Bolt	Beam	None	A36	Typical
4	H004	N007	N008	(1) 1/2 U-Bolt	Beam	None	A36	Typical
5	V005	N008	N006	RIGID	None	None	RIGID	Typical
6	H006	N012	N013	HSS4x4x4	Beam	None	A500 Gr. B [SQR]	Typical
7	V007	N015	N014	PIPE_4.0	Column	None	A53 Gr. B	Typical
8	H008	N018	N019	(1) 1/2 U-Bolt	Beam	None	A36	Typical
9	H009	N020	N021	(1) 1/2 U-Bolt	Beam	None	A36	Typical



Company : American Tower Corp.  
 Designer : Sarah.Abdallah  
 Job Number : 14156304\_C8\_01  
 Model Name : 302506, Winchester CT 3

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**Member Primary Data (Continued)**

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
10	V010	N021	N019	RIGID	None	None	RIGID	Typical
11	V011	N024	N023	RIGID	None	None	RIGID	Typical
12	TB012	N022	N024	LL2.5x2.5x3x6	Column	None	A36	Typical
13	U013	N025	N028	(2) 1/2 U-Bolts	Beam	None	A36	Typical
14	U014	N029	N030	(2) 1/2 U-Bolts	Beam	None	A36	Typical
15	MP015	N031	N032	PIPE 2.0	Column	None	A53 Gr. B	Typical
16	U016	N026	N033	(2) 1/2 U-Bolts	Beam	None	A36	Typical
17	U017	N034	N035	(2) 1/2 U-Bolts	Beam	None	A36	Typical
18	MP018	N036	N037	PIPE 2.0	Column	None	A53 Gr. B	Typical
19	U019	N027	N038	(2) 1/2 U-Bolts	Beam	None	A36	Typical
20	U020	N039	N040	(2) 1/2 U-Bolts	Beam	None	A36	Typical
21	MP021	N041	N042	PIPE 2.0	Column	None	A53 Gr. B	Typical
22	H022	N010	N011	PIPE 3.0	Beam	None	A53 Gr. B	Typical
23	H023	N016	N017	PIPE 3.0	Beam	None	A53 Gr. B	Typical

**Hot Rolled Steel Design Parameters**

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
1	H001	HSS4x4x4	36			Lbyy		1	1	Lateral
2	V002	PIPE 4.0	18			Lbyy		0.65	0.65	Lateral
3	H003	(1) 1/2 U-Bolt	3			Lbyy		0.65	0.65	Lateral
4	H004	(1) 1/2 U-Bolt	3			Lbyy		0.65	0.65	Lateral
5	H006	HSS4x4x4	36			Lbyy		1	1	Lateral
6	V007	PIPE 4.0	18			Lbyy		0.65	0.65	Lateral
7	H008	(1) 1/2 U-Bolt	3			Lbyy		0.65	0.65	Lateral
8	H009	(1) 1/2 U-Bolt	3			Lbyy		0.65	0.65	Lateral
9	TB012	LL2.5x2.5x3x6	34.205			Lbyy		1	1	Lateral
10	U013	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
11	U014	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
12	MP015	PIPE 2.0	72	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
13	U016	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
14	U017	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
15	MP018	PIPE 2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
16	U019	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
17	U020	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
18	MP021	PIPE 2.0	72	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
19	H022	PIPE 3.0	162			Lbyy		1	1	Lateral
20	H023	PIPE 3.0	162			Lbyy		1	1	Lateral

**Node Boundary Conditions**

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Y Rot [k-in/rad]	Z Rot [k-in/rad]
1	N001	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N012	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N022	Reaction	Reaction	Reaction			

**Member Advanced Data**

	Label	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001		Yes	N/A		None
2	V002		Yes	** NA **		None
3	H003		Yes	N/A	Exclude	None
4	H004		Yes	N/A	Exclude	None
5	V005		Yes	** NA **		None
6	H006		Yes	N/A		None



Company : American Tower Corp.  
 Designer : Sarah.Abdallah  
 Job Number : 14156304\_C8\_01  
 Model Name : 302506, Winchester CT 3

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**Member Advanced Data (Continued)**

	Label	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
7	V007		Yes	** NA **		None
8	H008		Yes	N/A	Exclude	None
9	H009		Yes	N/A	Exclude	None
10	V010		Yes	** NA **		None
11	V011		Yes	** NA **		None
12	TB012	BenPIN	Yes	** NA **		None
13	U013		Yes	N/A	Exclude	None
14	U014		Yes	N/A	Exclude	None
15	MP015		Yes	** NA **		None
16	U016		Yes	N/A	Exclude	None
17	U017		Yes	N/A	Exclude	None
18	MP018		Yes	** NA **		None
19	U019		Yes	N/A	Exclude	None
20	U020		Yes	N/A	Exclude	None
21	MP021		Yes	** NA **		None
22	H022		Yes	N/A		None
23	H023		Yes	N/A		None

**Hot Rolled Steel Properties**

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e <sup>-5</sup> F <sup>-1</sup> ]	Density [lb/ft <sup>3</sup> ]	Yield [psi]	Ry	Fu [psi]	Rt
1	A500 Gr. B [SQR]	2.9e+07	1.115e+07	0.3	0.65	490	46000	1.4	58000	1.3
2	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2
3	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2

**Envelope Node Reactions**

Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC		
1	N001	max	376.526	18	484.671	62	610.804	14	-61.491	20	1525.382	18	1328.182	68
2		min	-509.112	76	44.281	20	-715.012	8	-997.197	26	-1828.856	12	-1114.24	98
3	N012	max	946.105	6	140.991	20	-130.568	14	330.55	2	3024.19	6	1483.757	70
4		min	-823.447	24	-557.043	26	-2928.061	32	-170.129	20	-2720.695	24	-966.441	100
5	N022	max	20.664	17	2312.599	26	2943.12	26	0	101	0	101	0	101
6		min	-20.882	23	567.263	20	705.809	20	0	1	0	1	0	1
7	Totals:	max	1319.05	6	2162.739	27	1762.658	2						
8		min	-1319.049	24	752.534	21	-1762.658	20						

**Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks**

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
1	H001	HSS4x4x4	0.143	0	12	0.11	0	z	76	134360.669	139518	16180.5	16180.5	1.841	H1-1b
2	V002	PIPE 4.0	0.069	9	73	0.146	9		71	92956.9	93240	10631.25	10631.25	1.923	H1-1b
3	H006	HSS4x4x4	0.193	0	6	0.145	27	y	70	134360.669	139518	16180.5	16180.5	1.753	H1-1b
4	V007	PIPE 4.0	0.082	9	67	0.162	9		67	92956.9	93240	10631.25	10631.25	1.923	H1-1b
5	TB012	LL2.5x2.5x3x6	0.086	0	26	0.001	34.205	y	32	43696.23	58320	4643.061	2549.586	1	H1-1b*
6	MP015	PIPE 2.0	0.327	1.5	73	0.037	1.5		77	32103.466	32130	1871.625	1871.625	2.315	H1-1b
7	MP018	PIPE 2.0	0.493	59.062	20	0.044	57.75		6	7049.548	32130	1871.625	1871.625	3	H1-1b
8	MP021	PIPE 2.0	0.298	46.5	100	0.035	46.5		101	15275.24	32130	1871.625	1871.625	2.318	H1-1b
9	H022	PIPE 3.0	0.317	74.25	71	0.059	81		2	24533.227	65205	5748.75	5748.75	1.788	H1-1b
10	H023	PIPE 3.0	0.36	81	67	0.182	81		2	24533.227	65205	5748.75	5748.75	1.731	H1-1b

# Exhibit F

Power Density/RF Emissions Report



# Radio Frequency Exposure Analysis Report

October 31, 2022

Centerline on behalf of T-Mobile  
Centerline Communications Project Number: N/A

T-Mobile Site Name: CTNH403A  
Site Number: CTNH403A

Site Address: 15 Oakdale Avenue, Winsted, CT 06098

## Site Compliance Summary

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<b>T-Mobile Compliance Status:</b>	Compliant
<b>Cumulative Calculated Power Density (Ground Level):</b>	20.75342 $\mu\text{W}/\text{cm}^2$
<b>Cumulative General Population % MPE (Ground Level):</b>	2.0753900000000001%



October 31, 2022

Centerline  
Attn: Jessica Meyer, Project Coordinator  
750 W Center St, Suite 301  
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **CTNH403A**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed T-Mobile facility at **15 Oakdale Avenue, Winsted, CT 06098** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ) or microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in  $\text{mW}/\text{cm}^2$ ) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ( $f_{\text{MHz}}/1500$ ). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of  $1 \text{ mW}/\text{cm}^2$  ( $1000 \mu\text{W}/\text{cm}^2$ ). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the 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.

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, 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.



## **Calculation Methodology**

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.





## **Data & Results**

The following table details the antennas and operating parameters for the T-Mobile antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



**Maximum Calculated Cumulative Power Density (Location: approximately 475' southwest of site)**

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
T-Mobile A 1	ERICSSON AIR6449	2500	17.30	166.00	1.00	60.00	3222.19	0.00011	1000.00	0.00001
T-Mobile A 1	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	0.00138	1000.00	0.00014
T-Mobile A 1	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	0.00138	1000.00	0.00014
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	700	13.17	166.00	4.00	40.00	3319.86	0.00000	466.67	0.00000
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	40.00	1629.63	0.00000	400.00	0.00000
T-Mobile A 2	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	30.00	1222.23	0.00000	400.00	0.00000
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	1900	15.29	166.00	2.00	140.00	9465.82	0.00000	1000.00	0.00000
T-Mobile A 2	RFS APXVAARR24_43-U-NA20	2100	17.32	166.00	2.00	140.00	15106.30	0.00000	1000.00	0.00000
T-Mobile B 3	ERICSSON AIR6449	2500	17.30	166.00	1.00	60.00	3222.19	0.36354	1000.00	0.03635
T-Mobile B 3	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	5.63314	1000.00	0.56331
T-Mobile B 3	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	5.63314	1000.00	0.56331
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	700	13.17	166.00	4.00	40.00	3319.86	0.00002	466.67	0.00000
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	40.00	1629.63	0.00001	400.00	0.00000
T-Mobile B 4	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	30.00	1222.23	0.00001	400.00	0.00000
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	1900	15.29	166.00	2.00	140.00	9465.82	0.00004	1000.00	0.00000
T-Mobile B 4	RFS APXVAARR24_43-U-NA20	2100	17.32	166.00	2.00	140.00	15106.30	0.00002	1000.00	0.00000
T-Mobile C 5	ERICSSON AIR6449	2500	17.30	166.00	1.00	60.00	3222.19	0.17729	1000.00	0.01773
T-Mobile C 5	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	4.47127	1000.00	0.44713
T-Mobile C 5	ERICSSON AIR6449	2500	22.35	166.00	1.00	90.00	15461.18	4.47127	1000.00	0.44713
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	700	13.17	166.00	4.00	40.00	3319.86	0.00001	466.67	0.00000
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	40.00	1629.63	0.00001	400.00	0.00000
T-Mobile C 6	RFS APXVAARR24 43-U-NA20	600	13.09	166.00	2.00	30.00	1222.23	0.00001	400.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	1900	15.29	166.00	2.00	140.00	9465.82	0.00003	1000.00	0.00000
T-Mobile C 6	RFS APXVAARR24_43-U-NA20	2100	17.32	166.00	2.00	140.00	15106.30	0.00002	1000.00	0.00000
T-Mobile C 7	COMMSCOPE VHLP2-11 1	11000	32.35	166.00	1.00	0.24	412.30	0.00000	1000.00	0.00000
Spok Holdings 8	GENERIC OMNI 6FT	850	5.96	189.20	1.00	25.00	98.61	0.00000	566.67	0.00000
AT&T A 9	CCI DMP65R-BU6D	1900	14.05	184.00	4.00	40.00	4065.56	0.00000	1000.00	0.00000
AT&T A 9	CCI DMP65R-BU6D	2100	14.75	184.00	4.00	40.00	4776.61	0.00000	1000.00	0.00000
AT&T A 10	CCI HPA-65R-BUU-H6	700	12.35	184.00	4.00	40.00	2748.65	0.00000	466.67	0.00000
AT&T A 10	CCI HPA-65R-BUU-H6	850	12.74	184.00	4.00	40.00	3006.91	0.00000	566.67	0.00000
AT&T A 11	CCI OPA65R-BU6B-	2300	14.35	184.00	4.00	25.00	2722.70	0.00000	1000.00	0.00000
AT&T B 12	CCI DMP65R-BU6D	1900	14.05	184.00	4.00	40.00	4065.56	0.00002	1000.00	0.00000
AT&T B 12	CCI DMP65R-BU6D	2100	14.75	184.00	4.00	40.00	4776.61	0.00002	1000.00	0.00000
AT&T B 13	CCI HPA-65R-BUU-H6	700	12.35	184.00	4.00	40.00	2748.65	0.00001	466.67	0.00000
AT&T B 13	CCI HPA-65R-BUU-H6	850	12.74	184.00	4.00	40.00	3006.91	0.00002	566.67	0.00000



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
AT&T B 14	CCI OPA65R-BU6B-	2300	14.35	184.00	4.00	25.00	2722.70	0.00001	1000.00	0.00000
AT&T C 15	CCI DMP65R-BU6D	1900	14.05	184.00	4.00	40.00	4065.56	0.00001	1000.00	0.00000
AT&T C 15	CCI DMP65R-BU6D	2100	14.75	184.00	4.00	40.00	4776.61	0.00001	1000.00	0.00000
AT&T C 16	CCI HPA-65R-BUU-H6	700	12.35	184.00	4.00	40.00	2748.65	0.00001	466.67	0.00000
AT&T C 16	CCI HPA-65R-BUU-H6	850	12.74	184.00	4.00	40.00	3006.91	0.00001	566.67	0.00000
AT&T C 17	CCI OPA65R-BU6B-	2300	14.35	184.00	4.00	25.00	2722.70	0.00001	1000.00	0.00000
Unknown 18	KATHREIN MF-950B	950	14.00	178.10	1.00	0.10	2.51	0.00000	633.33	0.00000
Litchfield County Dispatch Inc. 19	SINCLAIR SD212-SF2P2SNF	150	5.00	150.00	1.00	25.00	79.06	0.00000	200.00	0.00000
Connecticut State Police Dept of Public 20	SINCLAIR SC476-HF1LDF	850	6.50	140.00	1.00	25.00	111.67	0.00000	566.67	0.00000
Connecticut State Police Dept of Public 21	SINCLAIR SC476-HF1LDF	850	6.50	140.00	1.00	25.00	111.67	0.00000	566.67	0.00000
Connecticut State Police Dept of Public 22	COMMSCOPE DB809	850	8.96	140.00	1.00	25.00	196.76	0.00000	566.67	0.00000
Connecticut State Police Dept of Public 23	COMMSCOPE DB809	850	8.96	140.00	1.00	25.00	196.76	0.00000	566.67	0.00000
Connecticut State Police Dept of Public 24	TELWAVE ANT150F2	150	2.50	140.00	1.00	25.00	44.46	0.00000	200.00	0.00000
Sprint A 25	RFS APXVSP18-C-A20	850	13.35	134.00	2.00	60.00	2595.26	0.00000	566.67	0.00000
Sprint A 25	RFS APXVSP18-C-A20-	1900	15.85	134.00	2.00	60.00	4615.10	0.00000	1000.00	0.00000
Sprint A 26	RFS APXVTM14-C-I20 BC	2500	15.85	134.00	8.00	20.00	6153.47	0.00000	1000.00	0.00000
Sprint B 27	RFS APXVSP18-C-A20	850	13.35	134.00	2.00	60.00	2595.26	0.00002	566.67	0.00000
Sprint B 27	RFS APXVSP18-C-A20-	1900	15.85	134.00	2.00	60.00	4615.10	0.00002	1000.00	0.00000
Sprint B 28	RFS APXVTM14-C-I20 BC	2500	15.85	134.00	8.00	20.00	6153.47	0.00002	1000.00	0.00000
Sprint C 29	RFS APXVSP18-C-A20	850	13.35	134.00	2.00	60.00	2595.26	0.00002	566.67	0.00000
Sprint C 29	RFS APXVSP18-C-A20-	1900	15.85	134.00	2.00	60.00	4615.10	0.00002	1000.00	0.00000
Sprint C 30	RFS APXVTM14-C-I20 BC	2500	15.85	134.00	8.00	20.00	6153.47	0.00001	1000.00	0.00000
Verizon A 31	AMPHENOL LPA-80080-6CF	850	14.00	125.00	7.00	10.00	1758.32	0.00000	566.67	0.00000
Verizon A 32	COMMSCOPE JAHH-65B-R3B	700	12.11	125.00	4.00	40.00	2600.88	0.00000	466.67	0.00000
Verizon A 32	COMMSCOPE JAHH-65B-R3B	1900	15.72	125.00	4.00	30.00	4479.00	0.00000	1000.00	0.00000
Verizon A 33	COMMSCOPE JAHH-65B-R3B	850	12.81	125.00	4.00	40.00	3055.77	0.00000	566.67	0.00000
Verizon A 33	COMMSCOPE JAHH-65B-R3B	2100	15.71	125.00	4.00	45.00	6703.05	0.00000	1000.00	0.00000
Verizon A 34	AMPHENOL LPA-80080-6CF	850	14.00	125.00	7.00	10.00	1758.32	0.00000	566.67	0.00000
Verizon B 35	AMPHENOL LPA-80080-6CF	850	14.00	125.00	7.00	10.00	1758.32	0.00002	566.67	0.00000
Verizon B 36	COMMSCOPE JAHH-65B-R3B	700	12.11	125.00	4.00	40.00	2600.88	0.00005	466.67	0.00001
Verizon B 36	COMMSCOPE JAHH-65B-R3B	1900	15.72	125.00	4.00	30.00	4479.00	0.00003	1000.00	0.00000



Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ( $\mu\text{W}/\text{cm}^2$ )	General Population MPE Limit ( $\mu\text{W}/\text{cm}^2$ )	General Population % MPE
Verizon B 37	COMMSCOPE JAHH-65B-R3B	850	12.81	125.00	4.00	40.00	3055.77	0.00005	566.67	0.00001
Verizon B 37	COMMSCOPE JAHH-65B-R3B	2100	15.71	125.00	4.00	45.00	6703.05	0.00004	1000.00	0.00000
Verizon B 38	AMPHENOL LPA-80080-6CF	850	14.00	125.00	7.00	10.00	1758.32	0.00002	566.67	0.00000
Verizon C 39	AMPHENOL LPA-80063-6CF	850	14.50	125.00	7.00	10.00	1972.87	0.00001	566.67	0.00000
Verizon C 40	COMMSCOPE JAHH-65B-R3B	700	12.11	125.00	4.00	40.00	2600.88	0.00003	466.67	0.00001
Verizon C 40	COMMSCOPE JAHH-65B-R3B	1900	15.72	125.00	4.00	30.00	4479.00	0.00000	1000.00	0.00000
Verizon C 41	COMMSCOPE JAHH-65B-R3B	850	12.81	125.00	4.00	40.00	3055.77	0.00003	566.67	0.00001
Verizon C 41	COMMSCOPE JAHH-65B-R3B	2100	15.71	125.00	4.00	45.00	6703.05	0.00002	1000.00	0.00000
Verizon C 42	AMPHENOL LPA-80063-6CF	850	14.50	125.00	7.00	10.00	1972.87	0.00001	566.67	0.00000
Sprint A 43	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00000	574.67	0.00000
Sprint A 44	GENERIC PANEL 6FT	1900	15.84	115.00	2.00	60.00	4604.49	0.00000	1000.00	0.00000
Sprint A 45	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00000	574.67	0.00000
Sprint A 46	GENERIC PANEL 6FT	2500	14.49	115.00	1.00	34.70	975.73	0.00000	1000.00	0.00000
Sprint B 47	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00002	574.67	0.00000
Sprint B 48	GENERIC PANEL 6FT	1900	15.84	115.00	2.00	60.00	4604.49	0.00003	1000.00	0.00000
Sprint B 49	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00002	574.67	0.00000
Sprint B 50	GENERIC PANEL 6FT	2500	14.49	115.00	1.00	34.70	975.73	0.00001	1000.00	0.00000
Sprint C 51	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00001	574.67	0.00000
Sprint C 52	GENERIC PANEL 6FT	1900	15.84	115.00	2.00	60.00	4604.49	0.00001	1000.00	0.00000
Sprint C 53	GENERIC PANEL 6FT	862	12.62	115.00	2.00	40.00	1462.48	0.00001	574.67	0.00000
Sprint C 54	GENERIC PANEL 6FT	2500	14.49	115.00	1.00	34.70	975.73	0.00000	1000.00	0.00000
Metro PCS A 55	RFS APXV18-206517S-	1900	17.35	105.00	2.00	40.00	4346.00	0.00000	1000.00	0.00000
Metro PCS B 56	RFS APXV18-206517S-	1900	17.35	105.00	2.00	40.00	4346.00	0.00002	1000.00	0.00000
Metro PCS C 57	RFS APXV18-206517S-	1900	17.35	105.00	2.00	40.00	4346.00	0.00002	1000.00	0.00000
Eversource Energy 58	ANDREW DB586-XT	850	6.00	95.00	1.00	25.00	99.53	0.00001	566.67	0.00000
Eversource Energy 59	ANDREW DB586-XT	850	6.00	95.00	1.00	25.00	99.53	0.00001	566.67	0.00000
Connecticut State Police Dept of Public 60	RFS PA6-57N 5725	6000	36.35	80.00	1.00	0.10	431.52	0.00000	1000.00	0.00000
							<b>Cumulative Power Density:</b>	<b>20.75342 <math>\mu\text{W}/\text{cm}^2</math></b>	<b>Cumulative % MPE:</b>	<b>2.07539%</b>



## Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

A handwritten signature in black ink, appearing to read "Katrina Styx", with a long, sweeping flourish extending to the right.

Katrina Styx  
RF EME Technical Writer  
Centerline Communications, LLC

# Exhibit G

Mailing Receipts/Proof of Notice

**UPS CampusShip: 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.
- 3. GETTING YOUR SHIPMENT TO UPS**  
**Customers with a Daily Pickup**  
 Your driver will pickup your shipment(s) as usual.

**Customers without a Daily Pickup**

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 Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.

Hand the package to any UPS driver in your area.

UPS Access Point™  
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146 SOUTH ST  
DANBURY ,CT 06810

UPS Access Point™  
TIENDA ECUADOR  
72 LAKE AVE  
DANBURY ,CT 06810

UPS Access Point™  
THE UPS STORE  
42 LAKE AVENUE EXT  
DANBURY ,CT 06811

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<p><b>1 OF 1</b></p> <p><b>1 LBS</b> DWT: 12.9,1</p> <p>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</p> <p><b>SHIP TO:</b> WILLIAM P. STOW TRUSTEE P.O. BOX 723597 <b>ATLANTA GA 31139-0657</b></p>	<p><b>GA 303 9-02</b></p> 	<p><b>UPS GROUND</b></p> <p>TRACKING #: 1Z 9Y4 503 03 3105 8537</p> 	<p><b>BILLING: P/P</b></p>  <p>CS 23.6.00... WNTNV50 45.DA 10/2022*</p>
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**UPS CampusShip: 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.
- 3. GETTING YOUR SHIPMENT TO UPS**  
**Customers with a Daily Pickup**  
 Your driver will pickup your shipment(s) as usual.

**Customers without a Daily Pickup**

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 Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.




Hand the package to any UPS driver in your area.

UPS Access Point™  
CVS STORE # 629  
146 SOUTH ST  
DANBURY ,CT 06810

UPS Access Point™  
TIENDA ECUADOR  
72 LAKE AVE  
DANBURY ,CT 06810

UPS Access Point™  
THE UPS STORE  
42 LAKE AVENUE EXT  
DANBURY ,CT 06811

FOLD HERE

<p>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</p> <p><b>1 LBS</b>      <b>1 OF 1</b> DWT: 12.9,1</p> <p><b>SHIP TO:</b> LAND MANAGEMENT 7814287250 AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY <b>WOBURN MA 01801-1053</b></p>	<p><b>MA 018 9-04</b></p> 	<p><b>UPS GROUND</b></p> <p>TRACKING #: 1Z 9Y4 503 03 1468 7792</p> 	<p><b>BILLING: P/P</b></p>  <p>CS 23.6.00... WNTNV50 45.DA 10/2022*</p>
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- 3. GETTING YOUR SHIPMENT TO UPS**  
**Customers with a Daily Pickup**  
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Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.


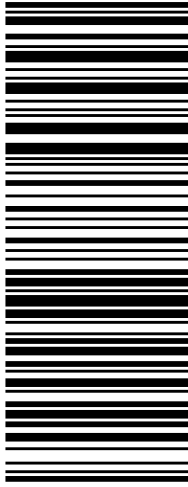

Hand the package to any UPS driver in your area.

UPS Access Point™  
CVS STORE # 629  
146 SOUTH ST  
DANBURY ,CT 06810

UPS Access Point™  
TIENDA ECUADOR  
72 LAKE AVE  
DANBURY ,CT 06810

UPS Access Point™  
THE UPS STORE  
42 LAKE AVENUE EXT  
DANBURY ,CT 06811

FOLD HERE

<p><b>RYAN CLARK CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</b></p> <p><b>SHIP TO: PLANNING AND ZONING TOWN OF WINCHESTER 338 MAIN STREET WINSTED CT 06098-1640</b></p>	<p><b>1 LBS</b> DWT: 12.9,1</p> <p><b>1 OF 1</b></p>	<p><b>CT 067 9-02</b></p> 	<p><b>UPS GROUND</b></p> <p>TRACKING #: 1Z 9Y4 503 03 0892 8784</p> 	<p><b>BILLING: P/P</b></p>  <p>CS 23.6.00... WNTNV50 45.DA 10/2022*</p>
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- 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.
- 3. GETTING YOUR SHIPMENT TO UPS**  
**Customers with a Daily Pickup**  
 Your driver will pickup your shipment(s) as usual.

**Customers without a Daily Pickup**

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 Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.


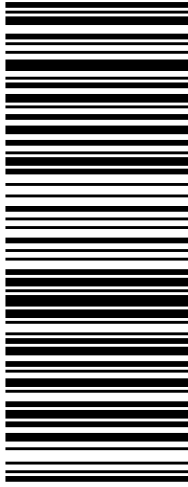

Hand the package to any UPS driver in your area.

UPS Access Point™  
CVS STORE # 629  
146 SOUTH ST  
DANBURY ,CT 06810

UPS Access Point™  
TIENDA ECUADOR  
72 LAKE AVE  
DANBURY ,CT 06810

UPS Access Point™  
THE UPS STORE  
42 LAKE AVENUE EXT  
DANBURY ,CT 06811

FOLD HERE

<p><b>RYAN CLARK</b> CENTERLINE COMMUNICATIONS, LLC 117 CAROL STREET DANBURY CT 06810-8312</p> <p><b>SHIP TO:</b> MAYOR TOWN OF WINCHESTER 338 MAIN STREET <b>WINSTED CT 06098-1640</b></p>	<p><b>1 LBS</b> DWT: 12.9,1</p>	<p><b>1 OF 1</b></p>	<p><b>CT 067 9-02</b></p> 	<p><b>UPS GROUND</b> TRACKING #: 1Z 9Y4 503 03 3524 2928</p> 	<p><b>BILLING: P/P</b></p>	 <p>CS 23.6.00... WNTNV50 45.DA 10/2022*</p>
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Your shipment from  
**CENTERLINE SITE ACQUISITION**

Estimated delivery  
Today, November 07 by 7:00 P.M.



Label Created



On the Way



Out for Delivery

Delivery

Feedback

**Ship To**

TOWN OF WINCHESTER  
MAYOR  
338 MAIN STREET  
WINSTED, CT 060981640 US

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Your shipment from  
**CENTERLINE SITE ACQUISITION**

Estimated delivery

Today, November 07 **between** 10:15 A.M. - 2:15 P.M.



Label Created



On the Way



**Help us improve UPS**

Out for Delivery

Would you like to provide feedback to help improve our site? We have some questions that should take only a few minutes. Thanks in advance for your help!

Feedback

Delivery

Ship To

TOWN OF WINCHESTER  
PLANNING AND ZONING  
338 MAIN STREET  
WINSTED, CT 060981640 US

Yes

No Thanks

Get Updates



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Feedback

Yes

No Thanks

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Your shipment from  
**CENTERLINE SITE ACQUISITION**

Estimated delivery

Today, November 07 **between** 10:15 A.M. - 12:15 P.M.



Label Created



On the Way

Out for Delivery

Delivery

**Ship To**

AMERICAN TOWER CORPORATION  
LAND MANAGEMENT  
10 PRESIDENTIAL WAY  
WOBURN, MA 018011053 US

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Tracking Number  
Your shipment from

1Z9Y45030331058537  
CENTERLINE SITE ACQUISITION

Estimated delivery

Wednesday, November 09 by 7:00 P.M.

CENTERLINE SITE ACQUISITION

750 WEST CENTER ST

WEST BRIDGEWATER, MA, 023791545, US

Service

UPS Ground

Weight

0.50 LBS

Label Created

Shipment Category

Package

On the Way

Shipped / Billed On

11/04/2022

Out for Delivery

Delivery

Ship To

Close

WILLIAM P. STOW TRUSTEE

P.O. BOX 723597

ATLANTA, GA 311390657 US

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**Legal**

Tracking Number

1Z9Y45030331058537

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SHIP FROM  
CENTERLINE SITE ACQUISITION  
CENTERLINE SITE ACQUISITION  
750 WEST CENTER ST  
WEST BRIDGEWATER, MA, 023791545, US

**Service**

UPS Ground

**Weight**

0.50 LBS

**Shipment Category**

Package

**Shipped / Billed On**

11/04/2022

Close

Feedback

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