



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

January 7, 2022

Eric Breun
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
ebreun@transcendwireless.com

RE: **EM-T-MOBILE-162-211130** – T-Mobile notice of intent to modify an existing telecommunications facility located at 428 Platt Hill Road, Winchester, Connecticut.

Dear Mr. Breun:

The Connecticut Siting Council (Council) is in receipt of your correspondence of January 6, 2022 submitted in response to the Council's January 3, 2022 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/FOC/emr

10 INDUSTRIAL AVE,
SUITE 3
MAHWAH NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066



January 11, 2021

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

RE: Notice of Exempt Modification
428 Platt Hill Road, Winsted, CT 06098
Latitude: 41.89828611
Longitude: -73.11601111
T-Mobile Site#: CTNH702A - Sprint Keep Project - **EM-T-Mobile-162-211130 Response**

Dear Ms. Bachman:

T-Mobile/Sprint currently maintains six (6) antennas at the 196-foot level of the existing 226-foot Guyed Tower at 428 Platt Hill Road, Winsted, Connecticut. The 226-foot Guyed Tower is owned and operated by American Tower Corporation. The ground space is also owned by American Tower Corporation. T-Mobile now intends to remove all Sprint equipment including antennas, cables, and ground equipment. T-Mobile will be adding six (6) antennas. The new antennas will be installed at the same 196-foot level. The new antennas support 5G services.

Planned Modifications:

Tower:

Remove

(6) Sprint Antennas
(9) Sprint RRHs
All Sprint Cables

Install New:

(3) APXVAALL24 43-U-NA20 Antennas
(3) AIR6449 Antennas
(3) Ericsson Radio 4480 B71+B85
(3) Ericsson 4460 B25+B66
(3) 6/24 Hybrid Cables

Ground:

Install New:

(1) 19" Rack
(1) RBS6601
(3) BB 6648s
(1) DUG20
(1) PSU 4813

To Be Removed:

All Sprint Ground Equipment

The Siting Council did not originally approve the construction of this cell site. One of the town zoning officials said they do not have the original approval on file. Please see included email conversation between said official and Centerline Communications in September of 2021.

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, Elected Official, and Pamela Colombie, Zoning Enforcement Officer, as well as the tower and property 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,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Todd Arcelaschi - Mayor of Winsted

Pamela Colombie - Zoning Enforcement Officer

American Tower - Land/Tower Owner

ERIC BREJUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
PAMELA COLOMBIE
338 MAIN STREET
WINSTED CT 06098



CT 067 9-02



UPS GROUND

TRACKING #: 1Z V25 742 03 9376 9427



BILLING: P/P

Reference #1: CTNH702A

XOL 21.11.24 NV49-48.0A 11/2021*



TM

ERIC BREJUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801

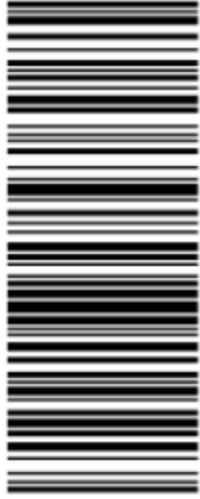


MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9574 6626



BILLING: P/P

Reference #1: CTNH702A

XOL 21.11.24 NV49-48.0A 11/2021*



TM

<p>ERIC BREJUN 2016587728 10 INDUSTRIAL AVE MAHWAH NJ 07430</p> <p>SHIP TO: TODD ARCELASCHI 338 MAIN STREET WINSTED CT 06098</p>	<p>1 LBS</p> <p>1 OF 1</p>	<p>CT 067 9-02</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z V25 742 03 9901 6630</p> 	<p>BILLING: P/P</p> <p>Reference #1: CTNH702A</p> <p><small>XOL 21.11.24 NV45-48.0A 11/2021*</small></p> 
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Hello, your package has been delivered.

Delivery Date: Monday, 11/29/2021

Delivery Time: 11:22 AM

Left At: FRONT DESK

Signed by: ANCRI

TRANSCEND WIRELESS

Tracking Number: [1ZV257420395746626](#)

Ship To: AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN, MA 01801
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH702A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 11/24/2021

Delivery Time: 10:11 AM

Left At: FRONT DESK

Signed by: SEDLACK

TRANSCEND WIRELESS

Tracking Number: [1ZV257420393769427](#)

Ship To: PAMELA COLOMBIE
338 MAIN STREET
WINSTED, CT 06098
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH702A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 11/24/2021

Delivery Time: 10:11 AM

Left At: FRONT DESK

Signed by: SEDLACK

TRANSCEND WIRELESS

Tracking Number: [1ZV257420399016630](#)

Ship To: TODD ARCELASCHI
338 MAIN STREET
WINSTED, CT 06098
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH702A](#)

428 PLATT HILL RD

Location 428 PLATT HILL RD **Mblu** 037/ 154/ 026C/ /
Acct# 000553 **Owner** AMERICAN TOWERS INC
Assessment \$85,960 **Appraisal** \$122,800
PID 5318 **Building Count** 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2018	\$52,800	\$70,000	\$122,800

Assessment			
Valuation Year	Improvements	Land	Total
2018	\$36,960	\$49,000	\$85,960

Owner of Record

Owner AMERICAN TOWERS INC **Sale Price** \$167,879
Co-Owner **Certificate**
Address C/O AMERICAN TOWER CORP **Book & Page** 00290/00818
 PO BOX 723597 **Sale Date** 02/16/2000
 ATLANTA, GA 31139

Ownership History

Ownership History				
Owner	Sale Price	Certificate	Book & Page	Sale Date
AMERICAN TOWERS INC	\$167,879		00290/00818	02/16/2000

Building Information

Building 1 : Section 1

Year Built: 1965
Living Area: 1,275
Replacement Cost
Less Depreciation: \$51,100

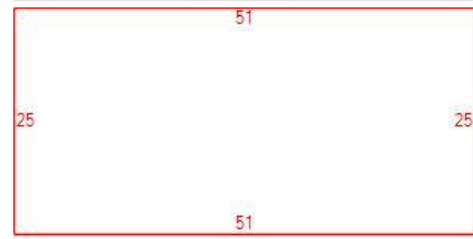
Building Attributes	
Field	Description
Style:	Telephone Bldg
Model	Ind/Comm
Grade	Low Quality
Stories:	1
Occupancy	1.00
Exterior Wall 1	Vinyl Siding

Building Photo



Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall/Plaste
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Struct Class	
Bldg Use	Rad/TV TR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4310
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	14.00
% Comn Wall	0.00

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,275	1,275
		1,275	1,275

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 4330
Description Rad/TV TR ⓘ
Zone RR
Alt Land Appr Category No

Land Line Valuation

Size (Acres) 3.5
Depth
Assessed Value \$49,000
Appraised Value \$70,000

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN6	W/O Top RL-4'			300.00 L.F.	\$1,700	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$52,800	\$70,000	\$122,800
2017	\$52,800	\$70,000	\$122,800
2016	\$50,900	\$70,000	\$120,900

Assessment			
Valuation Year	Improvements	Land	Total
2020	\$36,960	\$49,000	\$85,960
2017	\$36,960	\$49,000	\$85,960
2016	\$35,630	\$49,000	\$84,630

Select Parcels

Print PDF

Bookmarks

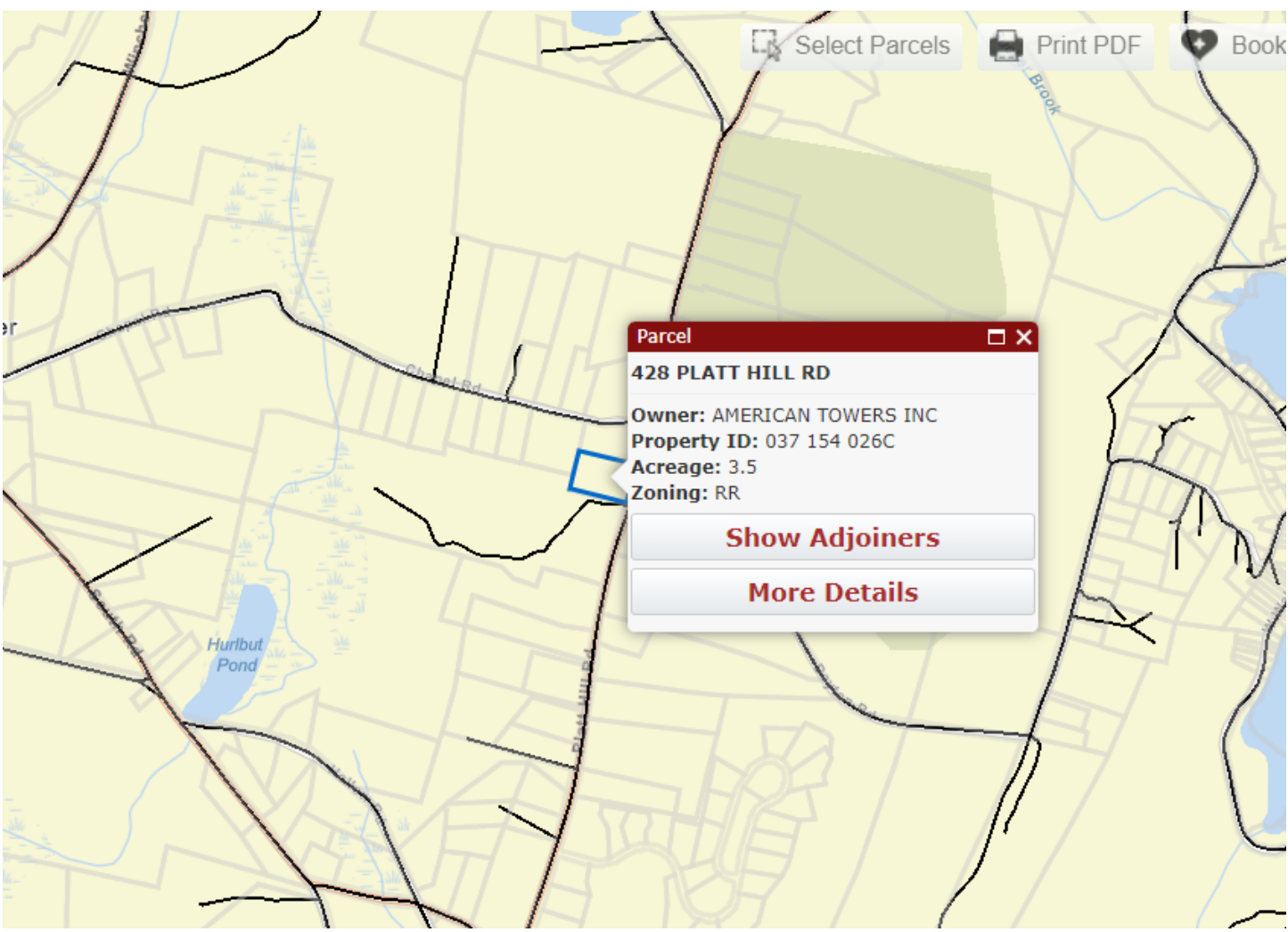
Parcel □ ×

428 PLATT HILL RD

Owner: AMERICAN TOWERS INC
Property ID: 037 154 026C
Acreage: 3.5
Zoning: RR

[Show Adjainers](#)

[More Details](#)



Kimberly Revak

To: Kimberly Revak
Subject: FW: Town Permit for Tower at 428 Platt Hill Road

Email from Town of Winchester Zoning Enforcement Officer below about documents for the original approval of the Telecommunications Tower located at 428 Platt Hill Road:

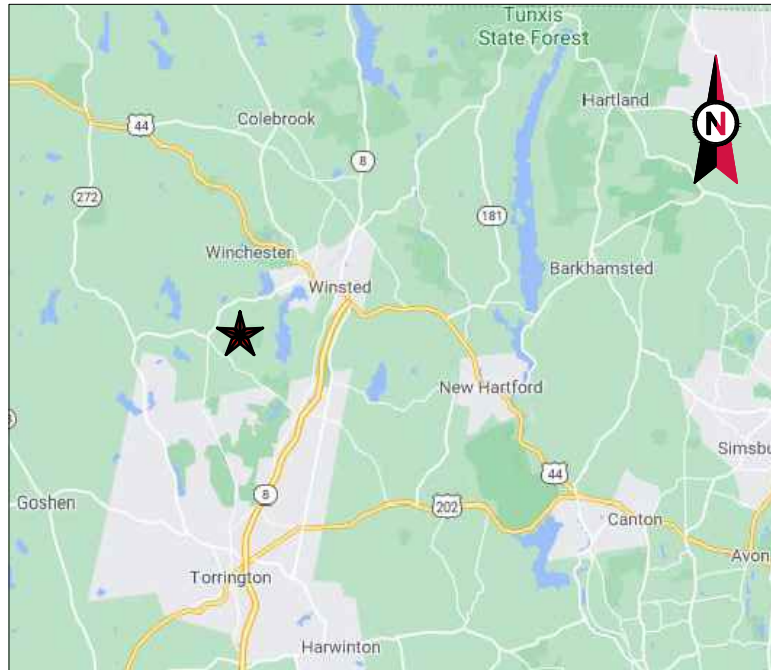


Kimberly Revak | Site Acquisition Consultant
38 Treeline Court, Fishkill, New York, 12524
Phone: 845.242.6152 | krevak@clinellc.com
www.centerlinecommunications.com

From: Marc Melanson <mmelanson@townofwinchester.org>
Sent: Thursday, September 9, 2021 12:43 PM
To: Kimberly Revak <krevak@clinellc.com>
Subject: RE:

Kimberly,
I cannot locate the original permit for the cell tower. I only can locate permits for modifications to it.

Marc Melanson
Building Official
Zoning Enforcement Officer
Town of Winchester
City of Winsted
338 Main St.
Winsted, CT 06098
860-379-3818



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: WINSTEAD
 ATC SITE NUMBER: 88019
 T-MOBILE SITE NAME: CT3XC001
 T-MOBILE SITE NUMBER: CTNH702A
 SITE ADDRESS: 428 PLATT HILL RD
 WINSTEAD, CT 06098



LOCATION MAP

**T-MOBILE SPRINT RETAIN ANTENNA AMENDMENT PLAN
 67E5A998E 6160 CONFIGURATION**

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. 2015 INTERNATIONAL BUILDING CODE (IBC) 2. 2017 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 428 PLATT HILL RD WINSTEAD, CT 06098 COUNTY: LITCHFIELD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.89828611° LONGITUDE: -73.11601111° GROUND ELEVATION: 1446' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) APXVTM14-C-I20 ANTENNA(s), (3) APXVSP18-C-A20 ANTENNA(s), (3) 800MHZ 2X50W RRH(s), (3) 1900MHZ 4X45 RRH(s), AND (3) TD-RHH8x20-25 RRH(s) INSTALL (3) APXVAALL24_43-U-NA20 ANTENNA(s), (3) AIR6449 B41 ANTENNA(s), (3) RADIO 4480 B71+B85A RRHS(s), (3) RADIO 4460 B25 RRH(s), AND (3) 6/24 4AWG (1-5/8") HYBRID CABLE(s), AND MOUNT MODIFICATION(s) <u>GROUND WORK:</u> INSTALL (1) 19" RACK, (1) RBS 6601, (3) BB 6648(s), (1) DUG20, AND (1) PSU 4813 EXISTING SPRINT EQUIPMENT 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> KIMLEY-HORN & ASSOCIATES, INC. 421 FAYETTEVILLE ST, STE 600 RALEIGH, NC 27601 COA: PEC.0000738 <u>PROPERTY OWNER:</u> AMERICAN TOWER PO BOX 723597 ATLANTA, GA 31139	THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE					
<u>UTILITY COMPANIES</u> POWER COMPANY: UTILITY COMPANY DIRECT PHONE: (855) 461-9824 TELEPHONE COMPANY: TBD PHONE: N/A	<u>APPLICANT:</u> T-MOBILE KYLE RICHERS KRICHERS@ TRANSCENDWIRELESS.COM	<u>PROJECT NOTES</u> 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.					
		<u>PROJECT LOCATION DIRECTIONS</u> PROCEED FROM NEW HARTFORD, CT HEAD SOUTHWEST ON CT-219 / RESERVOIR RD TOWARD COTTAGE ST TURN RIGHT ONTO US-44 W / MAIN ST TURN LEFT ONTO CT-263 / LAKE ST BEAR RIGHT ONTO BOYD ST KEEP STRAIGHT TO GET ONTO CT-263 / WINCHESTER RD KEEP LEFT TO GET ONTO PLATT HILL RD ARRIVE AT PLATT HILL RD ON THE RIGHT THE LAST INTERSECTION BEFORE YOUR DESTINATION IS CHAPEL RD					

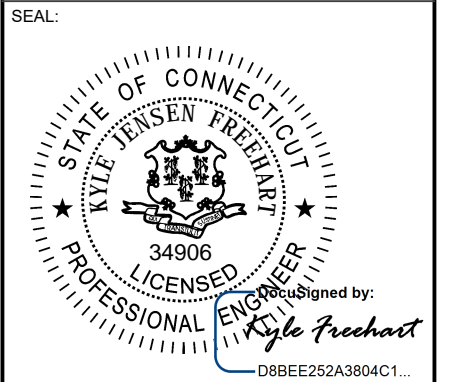


Kimley»Horn

COA: PEC.0000738
 421 FAYETTEVILLE ST, SUITE 600
 RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
0	ISSUED FOR CONSTRUCTION	NJ	07/09/21
1	REVISED PER CLIENT	FAQ	09/13/21
2	REVISED PER CLIENT	CH	10/07/21

ATC SITE NUMBER:
88019
 ATC SITE NAME:
WINSTEAD
 T-MOBILE SITE NAME:
CT3XC001
 SITE ADDRESS:
 428 PLATT HILL RD
 WINSTEAD, CT 06098



DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

TITLE SHEET

SHEET NUMBER: **G-001** REVISION: **2**

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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 ANSII/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.

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 ANTENNA 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:
 - i. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
 - ii. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

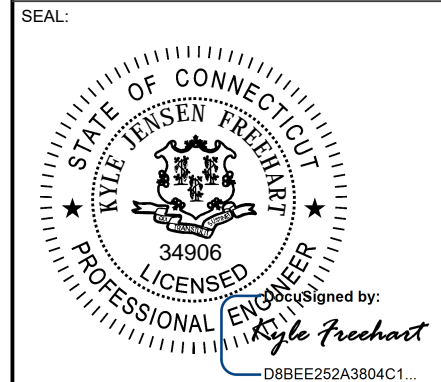
ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE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



COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
0	ISSUED FOR CONSTRUCTION	NJ	07/09/21
1	REVISED PER CLIENT	FAQ	09/13/21
2	REVISED PER CLIENT	CH	10/07/21
A			

ATC SITE NUMBER:
88019
 ATC SITE NAME:
WINSTEAD
 T-MOBILE SITE NAME:
CT3XC001
 SITE ADDRESS:
 428 PLATT HILL RD
 WINSTEAD, CT 06098



DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

GENERAL NOTES

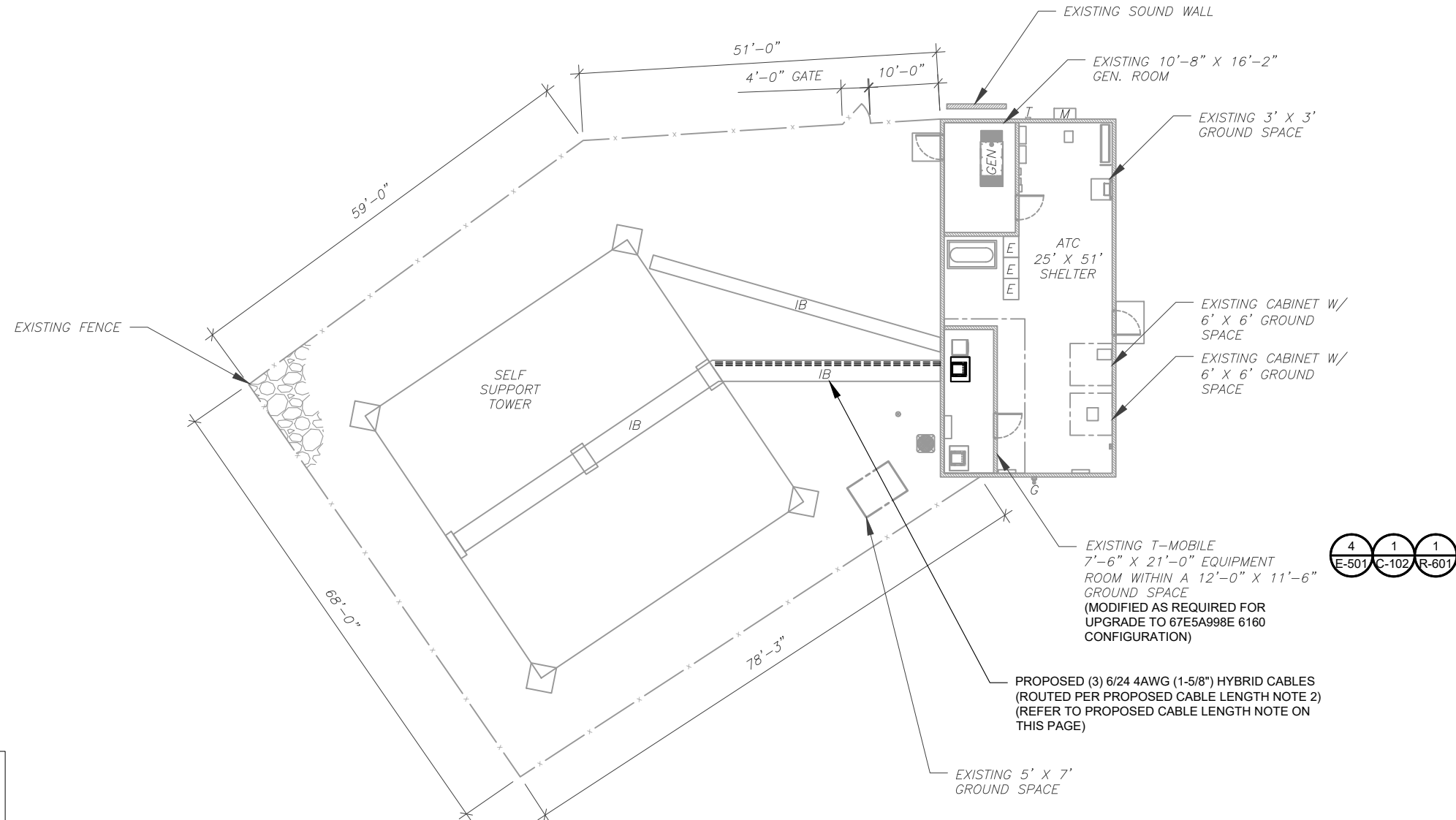
SHEET NUMBER: G-002	REVISION: 2
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SITE PLAN NOTES:

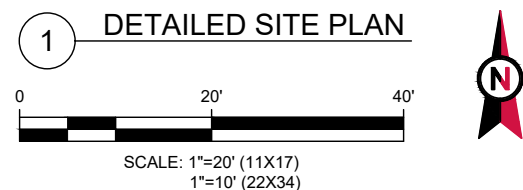
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE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

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
— x —	CHAINLINK FENCE



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **262'**. 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.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

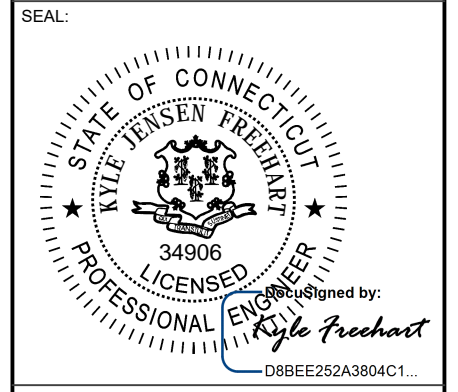


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REV.	DESCRIPTION	BY	DATE
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ATC SITE NUMBER:
88019
ATC SITE NAME:
WINSTEAD
T-MOBILE SITE NAME:
CT3XC001
SITE ADDRESS:
428 PLATT HILL RD
WINSTEAD, CT 06098



DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

DETAILED SITE PLAN

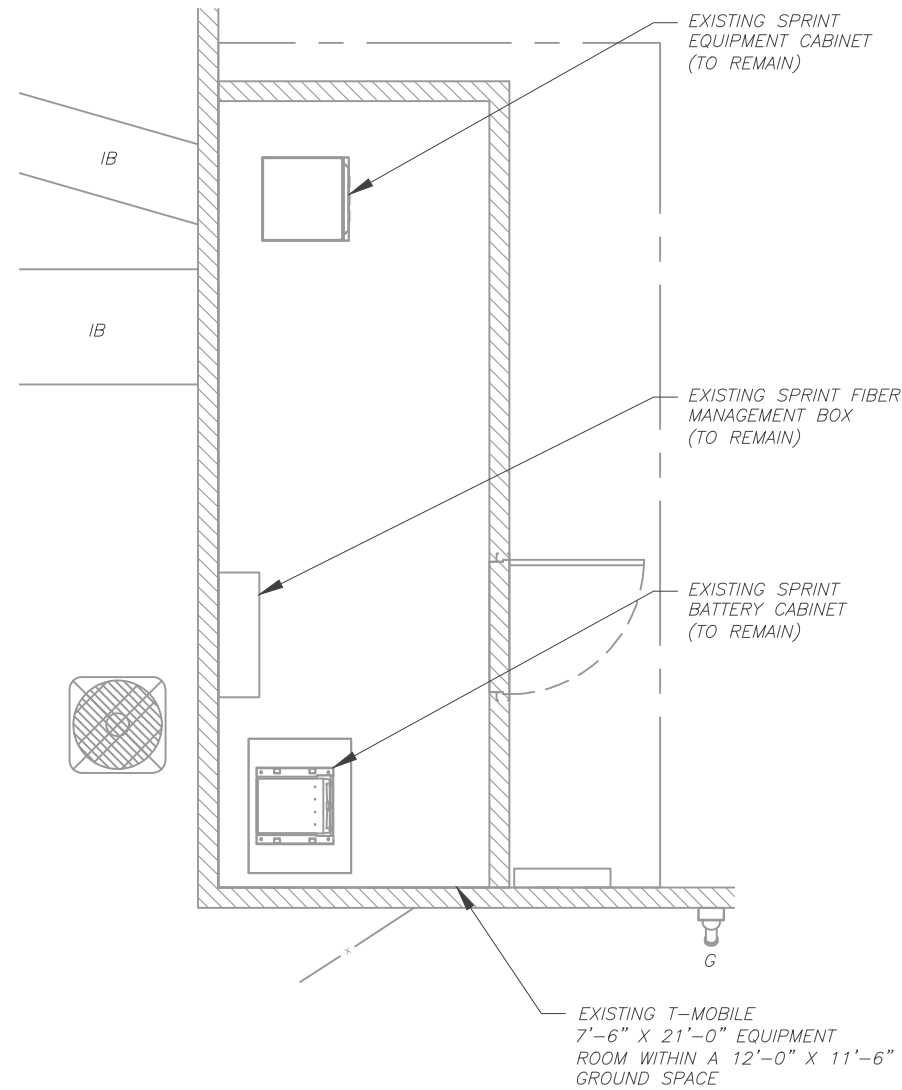
SHEET NUMBER:	REVISION:
C-101	2

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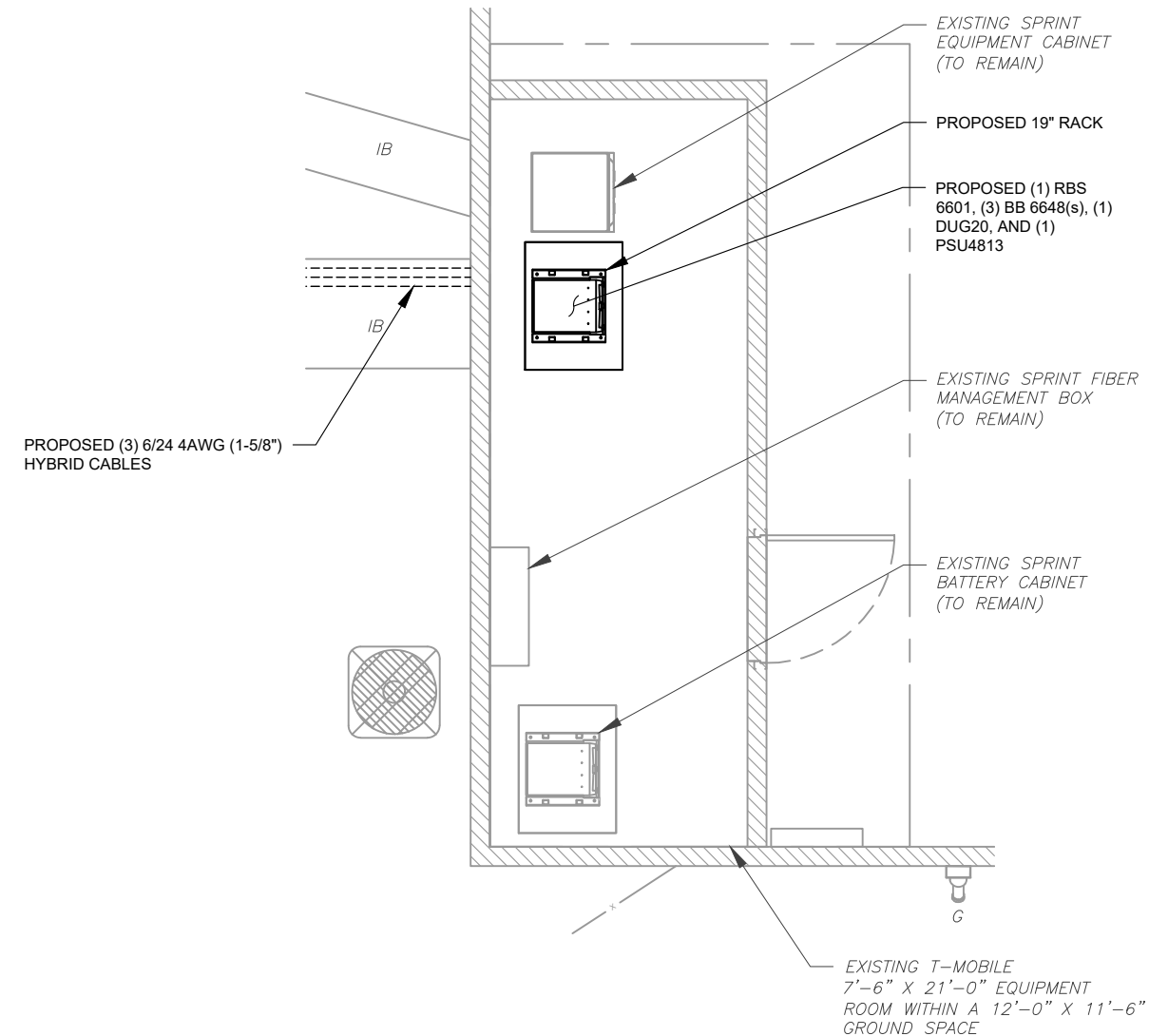
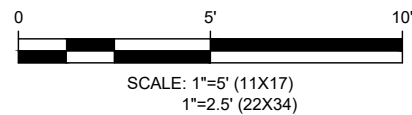
SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
4. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.

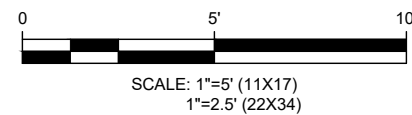
T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



1 EXISTING GROUND EQUIPMENT LAYOUT



2 PROPOSED GROUND EQUIPMENT LAYOUT



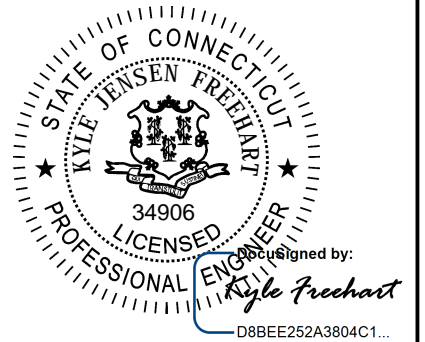
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
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WINSTEAD
T-MOBILE SITE NAME:
CT3XC001
SITE ADDRESS:
428 PLATT HILL RD
WINSTEAD, CT 06098

SEAL:

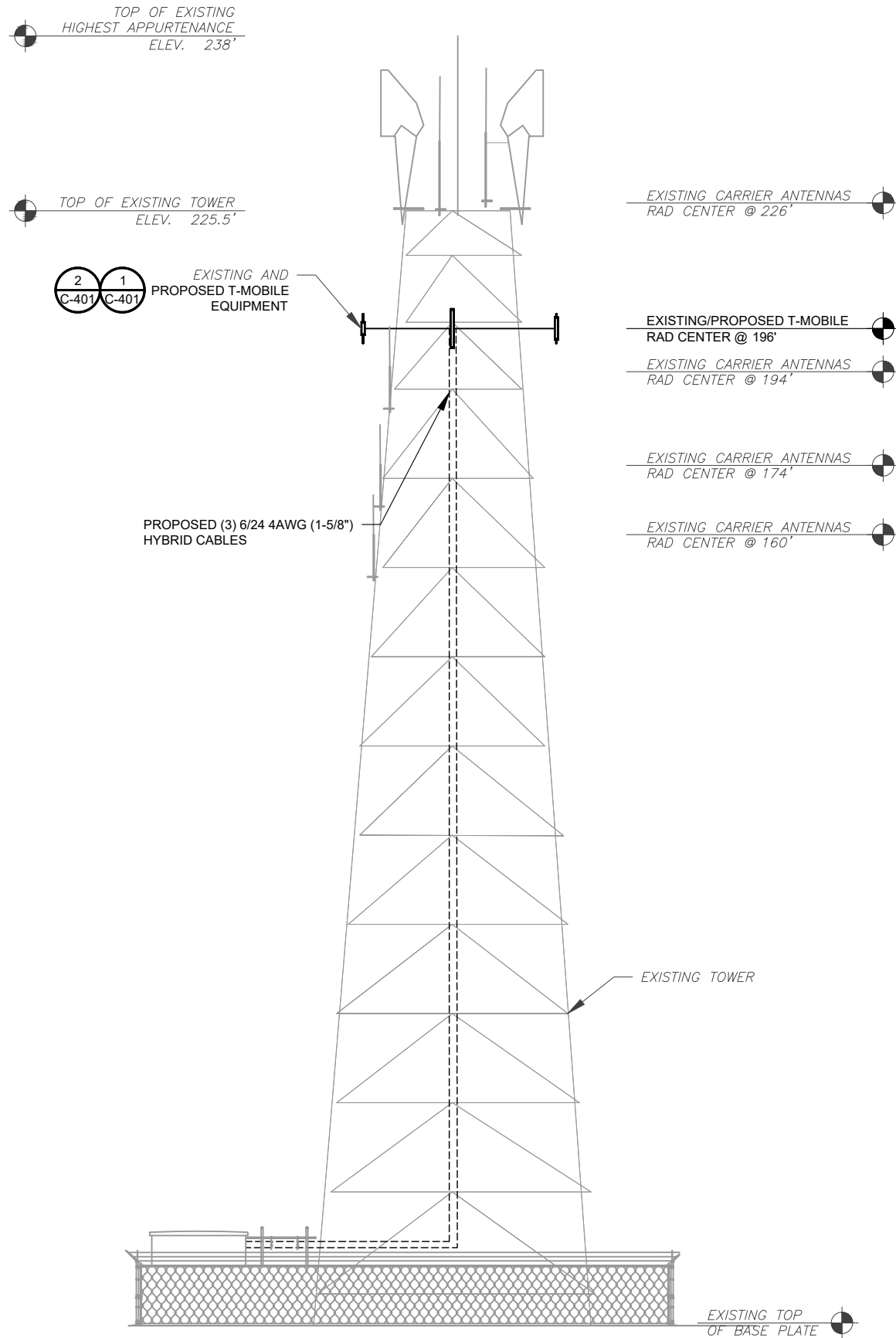


T-Mobile

DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	2



PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 08/19/21, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

- 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. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

1 TOWER ELEVATION
SCALE: N.T.S.

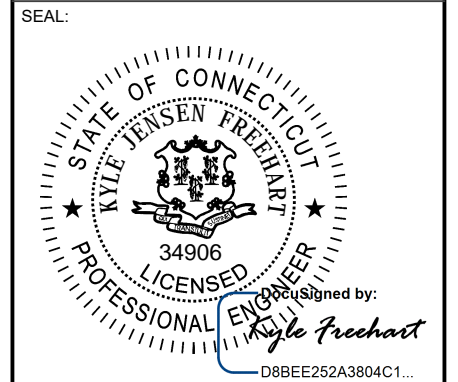


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RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
0	ISSUED FOR CONSTRUCTION	NJ	07/09/21
1	REVISED PER CLIENT	FAQ	09/13/21
2	REVISED PER CLIENT	CH	10/07/21

ATC SITE NUMBER:
88019
ATC SITE NAME:
WINSTEAD
T-MOBILE SITE NAME:
CT3XC001
SITE ADDRESS:
428 PLATT HILL RD
WINSTEAD, CT 06098



DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

TOWER ELEVATION

SHEET NUMBER: C-201	REVISION: 2
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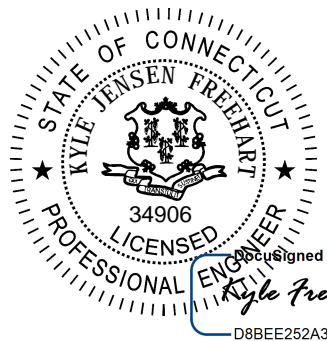
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SITE ADDRESS:
428 PLATT HILL RD
WINSTEAD, CT 06098

SEAL:



Designed by:
Kyle Freechart
D8BEE252A3804C1...

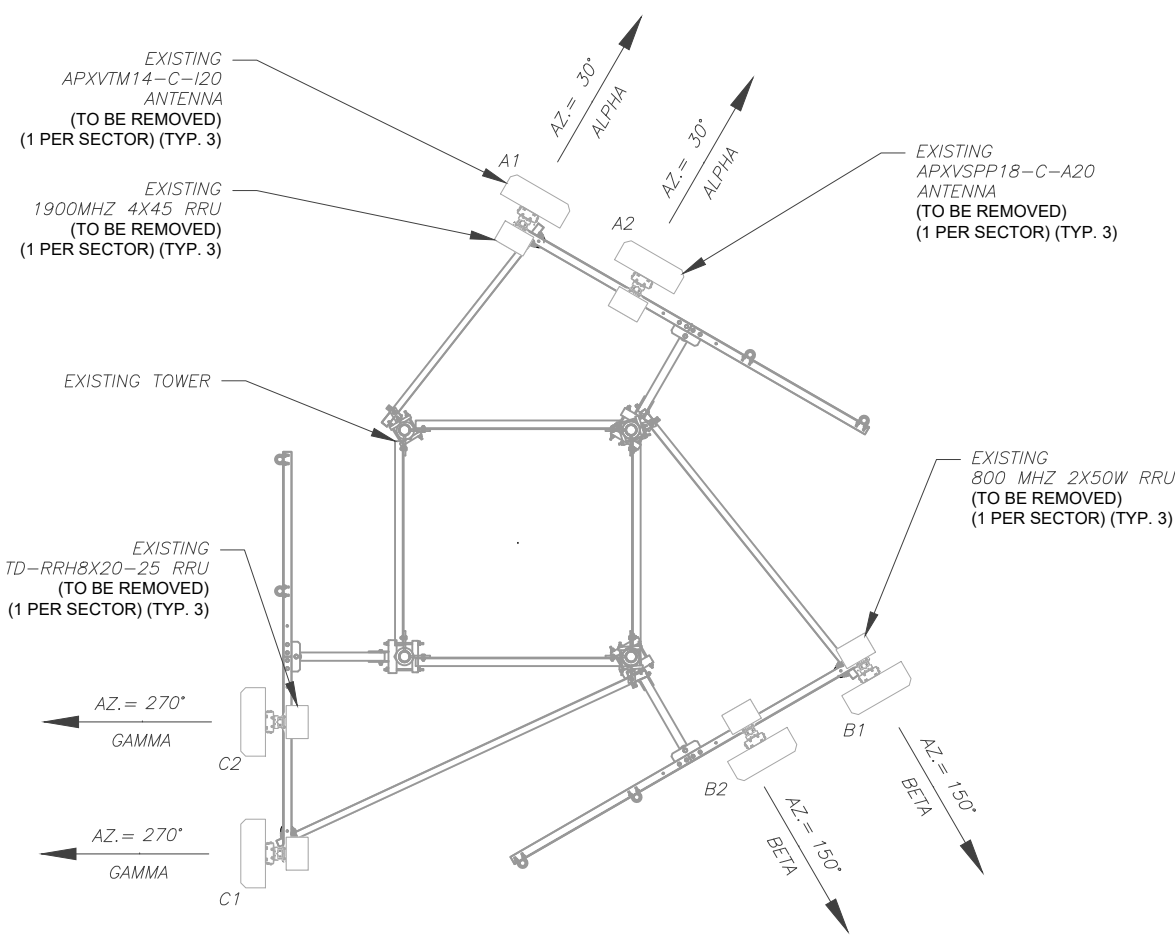


DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

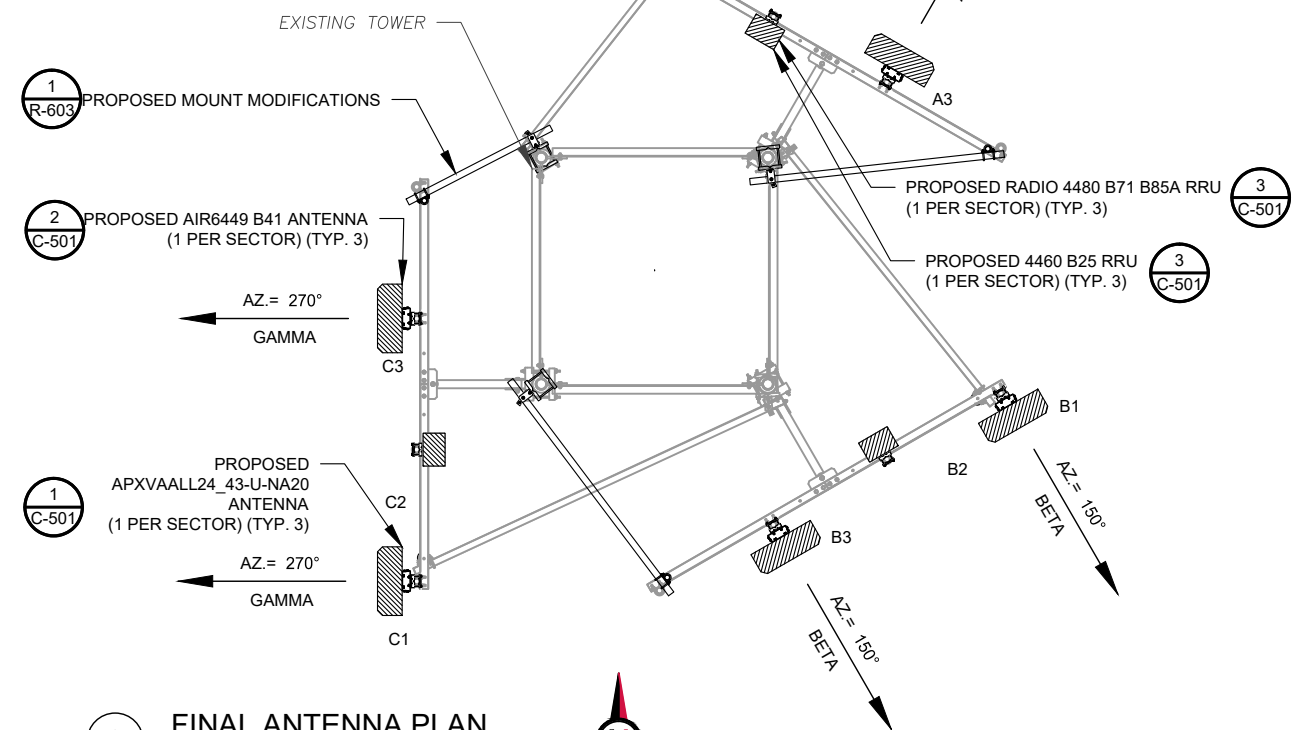
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401
REVISION:
2

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 08/19/21, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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



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

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	196'	30°	A1	APXVTM14-C-I20	-	-	RMV	800 MHZ 2X50W 1900MHZ 4X45	RMV
			A2	APXVSP18-C-A20	-	-	RMV	TD-RRH8X20-25	RMV
BETA	196'	150°	B1	APXVTM14-C-I20	-	-	RMV	800 MHZ 2X50W 1900MHZ 4X45	RMV
			B2	APXVSP18-C-A20	-	-	RMV	TD-RRH8X20-25	RMV
GAMMA	196'	270°	C1	APXVTM14-C-I20	-	-	RMV	800 MHZ 2X50W 1900MHZ 4X45	RMV
			C2	APXVSP18-C-A20	-	-	RMV	TD-RRH8X20-25	RMV

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.
- ROUTE HYBRID JUMPERS TO AVOID DAMAGE FROM BEING STEPPED UPON.

STATUS ABBREVIATIONS

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

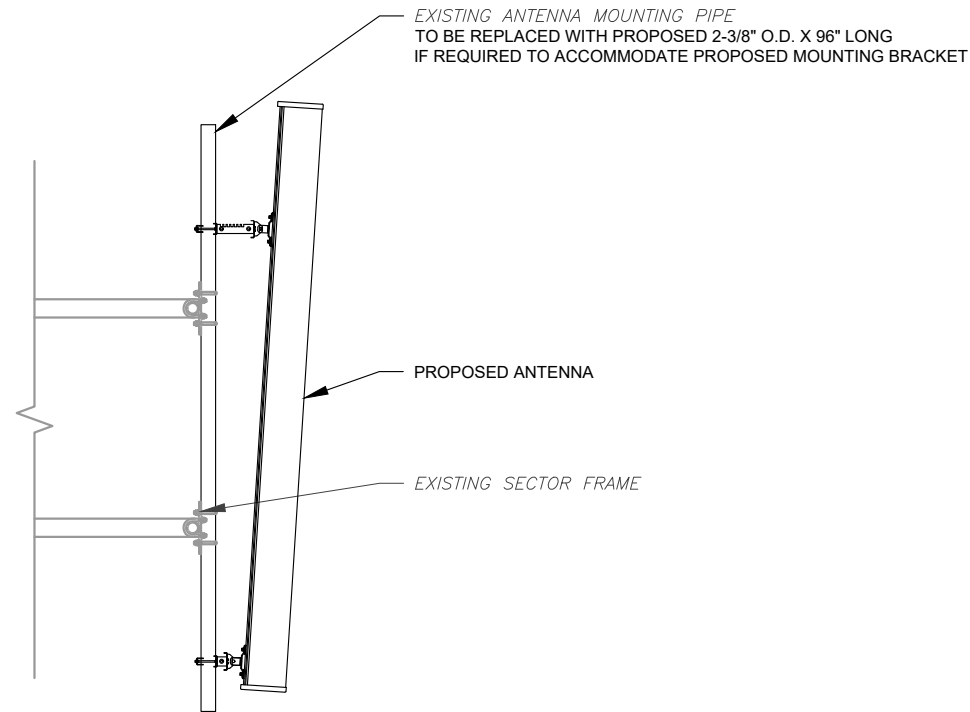
CABLE LENGTHS FOR JUMPERS

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

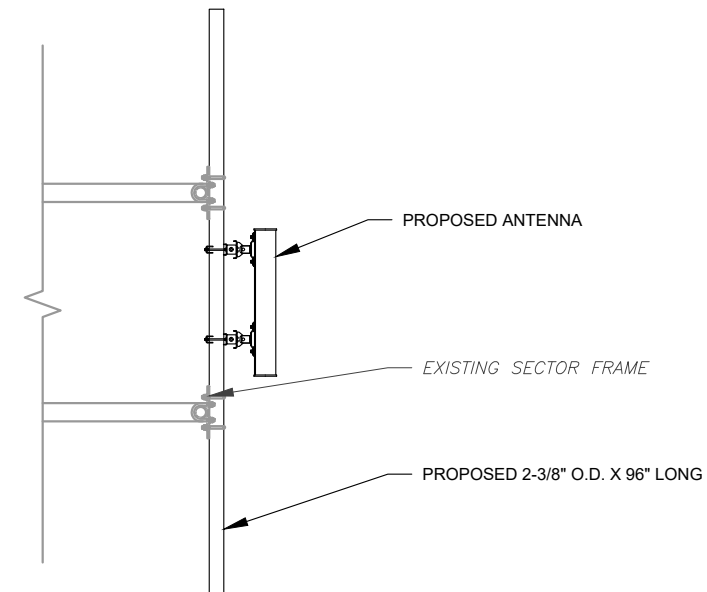
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	196'	30°	A1	APXVAALL24_43-U-NA20	L2100	0°/2°	ADD	-	-
			A2	-	-	-	-	4480 B71+B85 4460 B25	ADD
			A3	AIR6449 B41	L2500, N2500	0°/2°	ADD	-	-
BETA	196'	150°	B1	APXVAALL24_43-U-NA20	L2100	0°/2°	ADD	-	-
			B2	-	-	-	-	4480 B71+B85 4460 B25	ADD
			B3	AIR6449 B41	L2500, N2500	0°/2°	ADD	-	-
GAMMA	196'	270°	C1	APXVAALL24_43-U-NA20	L2100	0°/2°	ADD	-	-
			C2	-	-	-	-	4480 B71+B85 4460 B25	ADD
			C3	AIR6449 B41	L2500, N2500	0°/2°	ADD	-	-

3 EQUIPMENT SCHEDULES

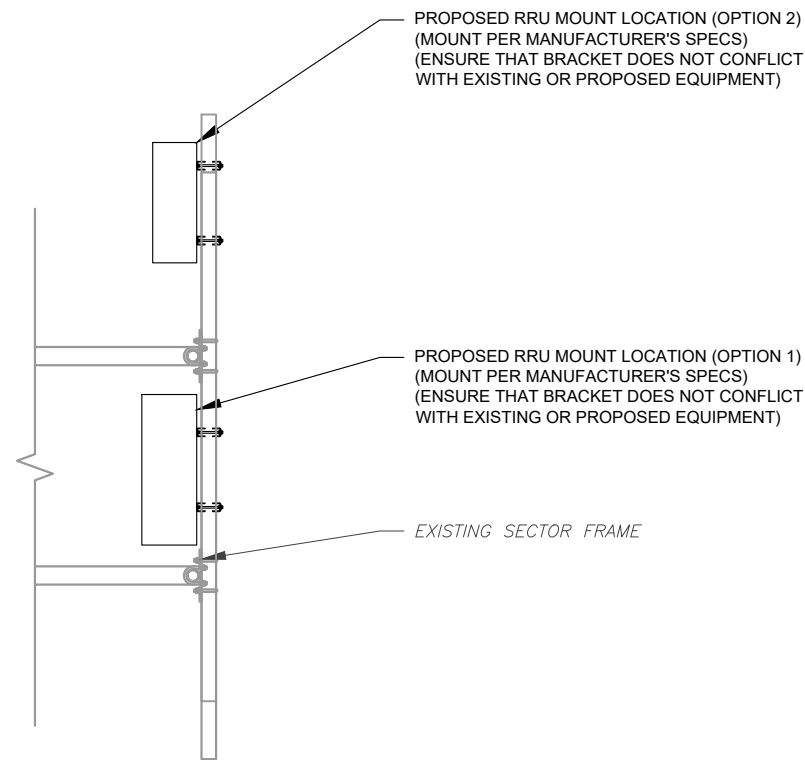
FINAL FIBER DISTRIBUTION / OVP BOX			FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS	
-	-	-	(3) 6/24 4AWG (1-5/8")	ADD	



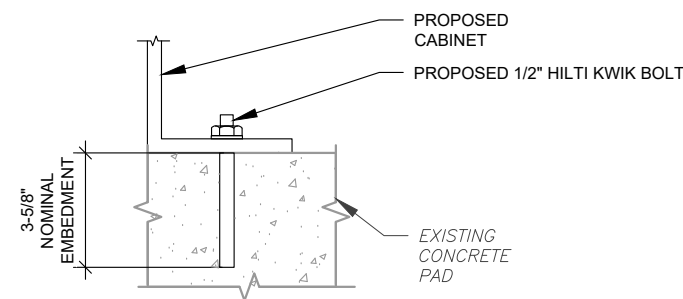
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



NOTE:
INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER
INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR
FOUND ONLINE AT WWW.US.HILTI.COM. PROPER
INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

4 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE



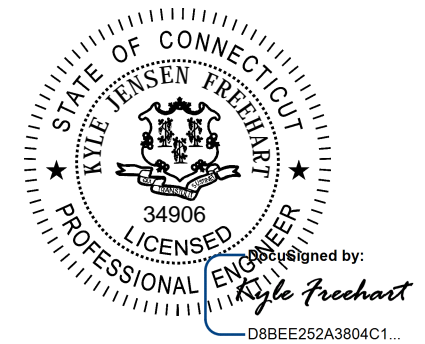
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421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
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T-MOBILE SITE NAME:
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SITE ADDRESS:
428 PLATT HILL RD
WINSTEAD, CT 06098

SEAL:

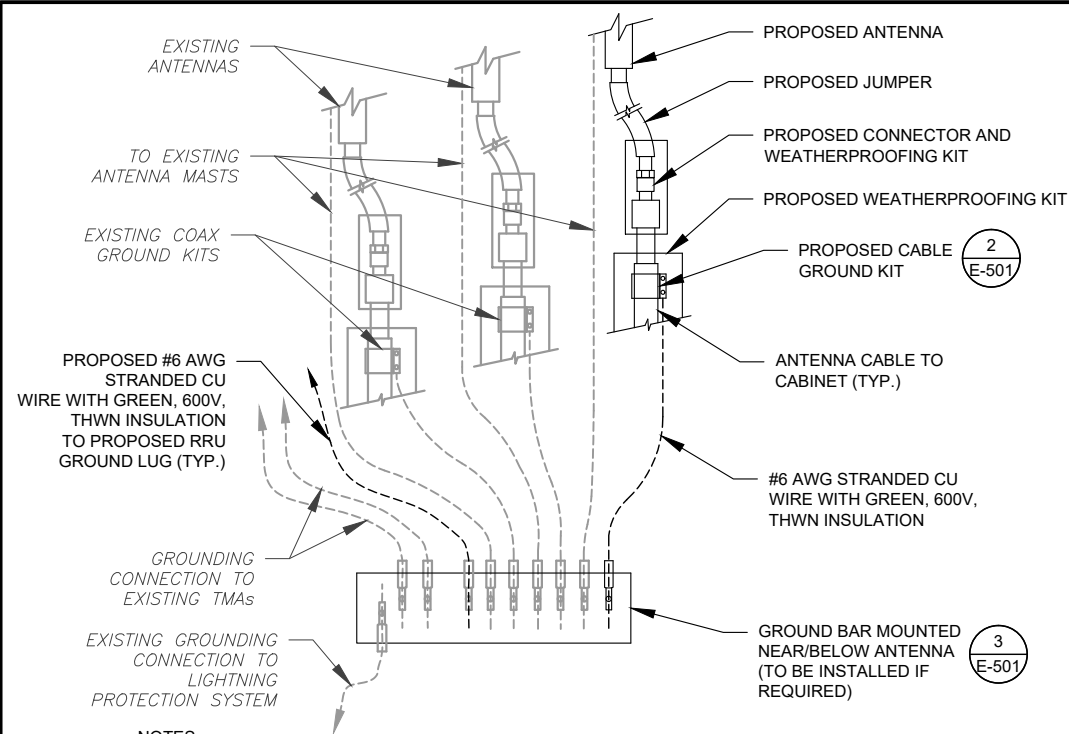


DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

CONSTRUCTION
DETAILS

SHEET NUMBER:
C-501

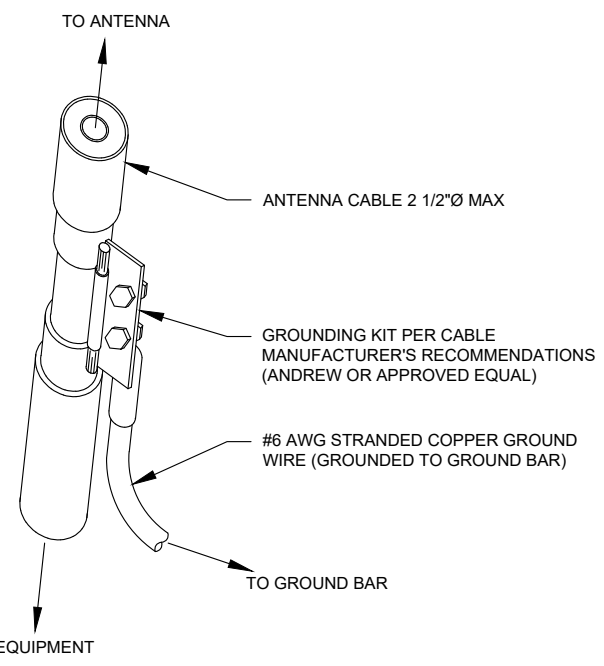
REVISION:
2



NOTES:

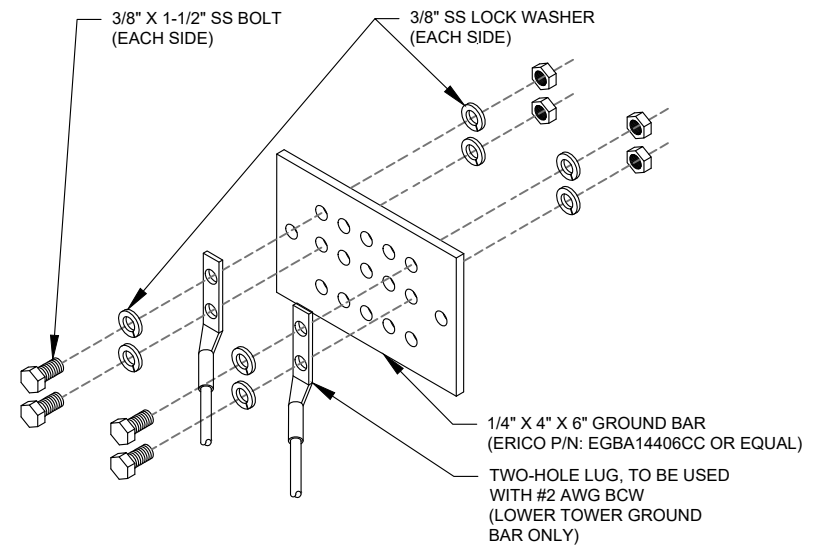
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING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

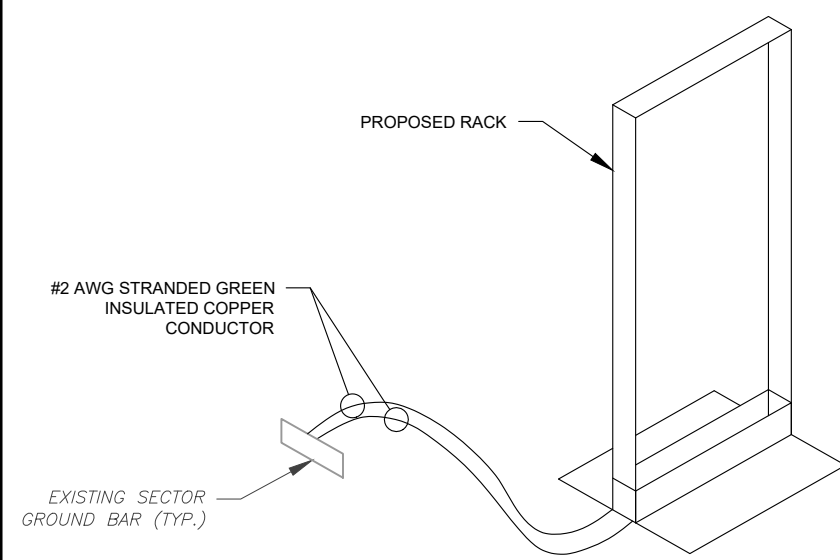
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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.

OCPD SIZE	WIRE SIZE	GROUND SIZE	CONDUIT SIZE
80A/2P	2#3 AWG	#8 AWG	1-1/4"
100/2P	2#2 AWG	#8 AWG	1-1/4"
125A/2P	2#1 AWG	#8 AWG	1-1/2"
150A/2P	2#1/0 AWG	#8 AWG	1-1/2"



4 EQUIPMENT RACK GROUNDING DETAIL
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	KC	5/8/21
0	ISSUED FOR CONSTRUCTION	NJ	07/09/21
1	REVISED PER CLIENT	FAQ	09/13/21
2	REVISED PER CLIENT	CH	10/07/21

ATC SITE NUMBER:

88019

ATC SITE NAME:

WINSTEAD

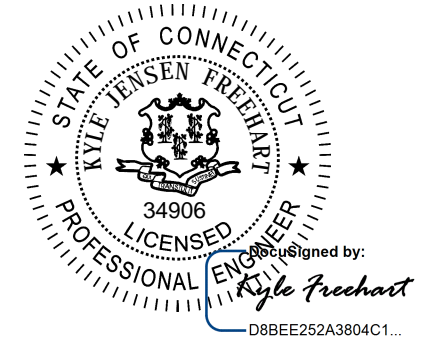
T-MOBILE SITE NAME:

CT3XC001

SITE ADDRESS:

428 PLATT HILL RD
WINSTEAD, CT 06098

SEAL:



DATE DRAWN:	10/07/21
ATC JOB NO:	13653963
CUSTOMER ID:	CT3XC001
CUSTOMER #:	CTNH702A

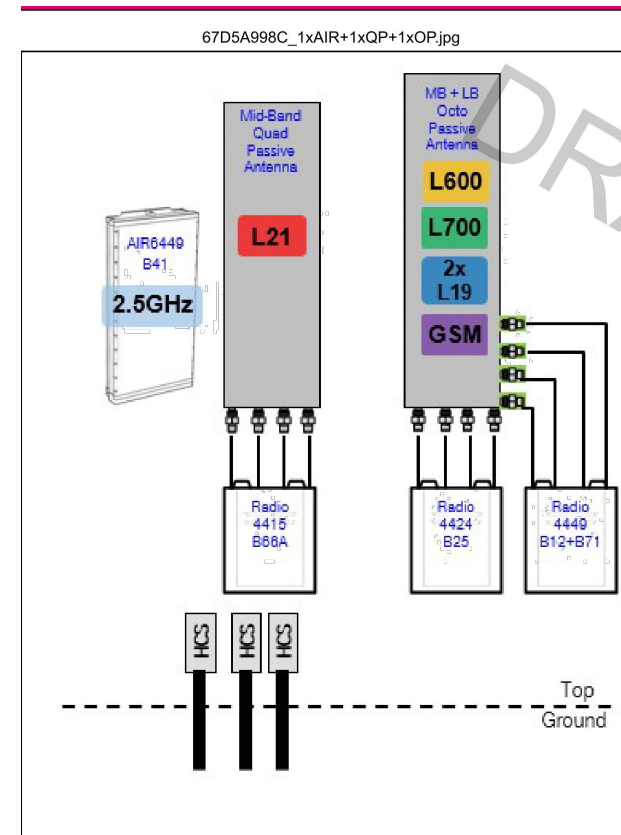
GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	2

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Proposed RAN Equipment			
Template: 67D5A998C Indoor (GSM only)			
Enclosure	1	2	3
Enclosure Type	Ancillary Equipment (Ericsson)	19 Inch Rack (Ericsson)	RBS 6601
Baseband		BB 6648 L2500 L2100 L700 N2500 L1900 L600 N600	DUG20 (G1900)
Hybrid Cable System	Ericsson Hybrid Trunk 6/24 4AWG 100m (x 3) PSU 4813		
RAN Scope of Work:			
200A service upgrade			

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

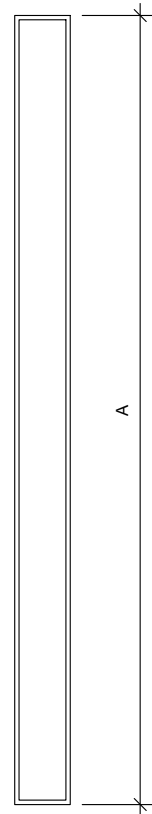


2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

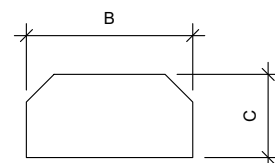
SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: 2

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



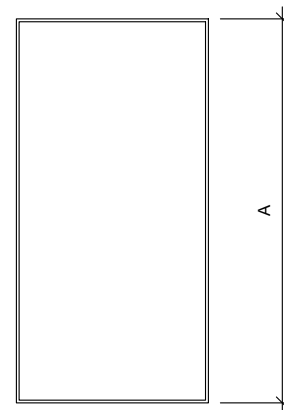
FRONT VIEW



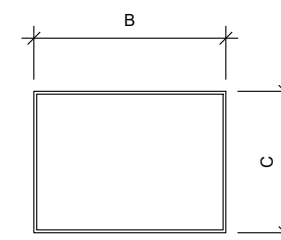
TOP VIEW

1 ANTENNA SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0
APXVAALL_43-U-NA20	95.9	24.0"	8.5"	122.8



FRONT VIEW



TOP VIEW

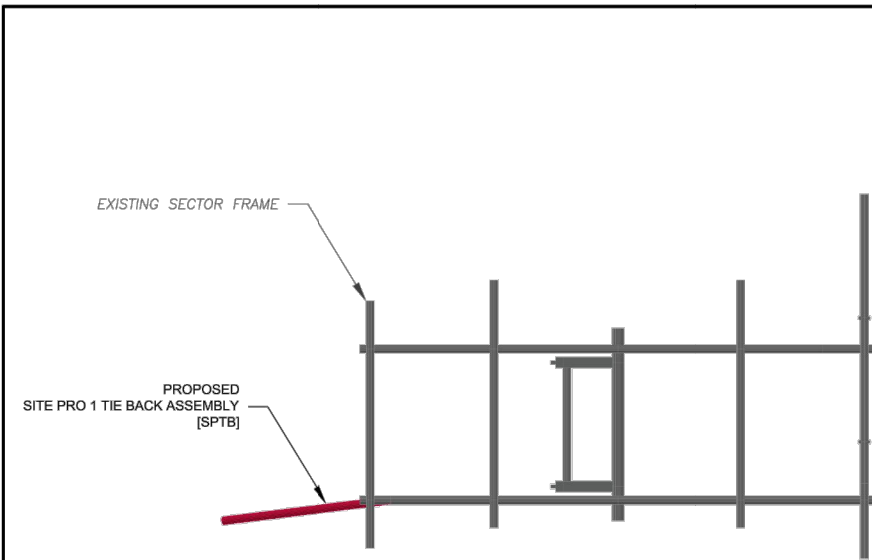
2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4460 B25	17.1"	14.4"	11.3"	86
RADIO 4480 B71 B85A	15.0"	13.2"	10.5"	75

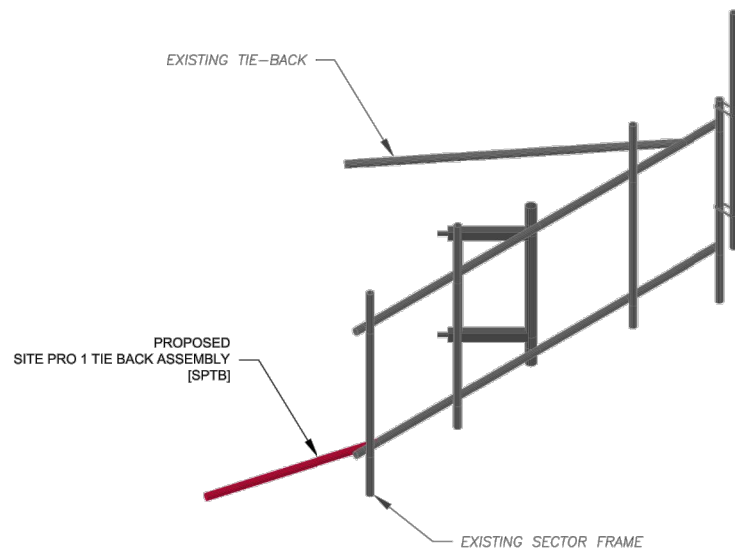
SUPPLEMENTAL

SHEET NUMBER:
R-602

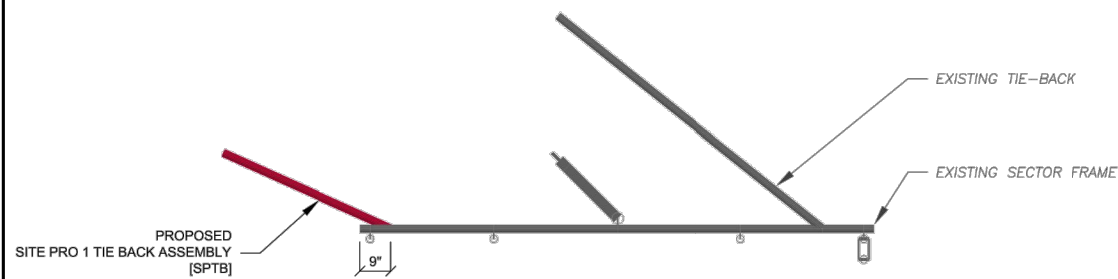
REVISION:
2



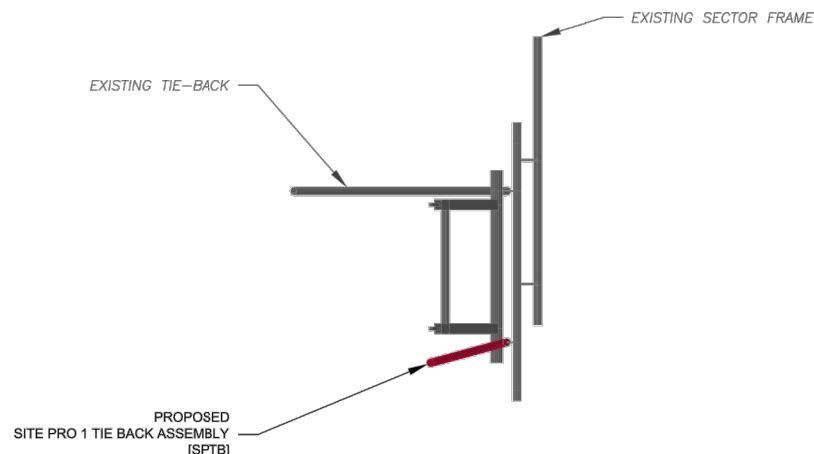
TYPICAL MOUNT MODIFICATION
FRONT VIEW



TYPICAL MOUNT MODIFICATION
ISOMETRIC VIEW



TYPICAL MOUNT MODIFICATION
TOP VIEW



TYPICAL MOUNT MODIFICATION
SIDE VIEW

REINFORCEMENT MATERIALS LIST (ALL SECTORS)

QUANTITY REQUIRED	MANUFACTURER	PART NUMBER	DESCRIPTION	LENGTH	PART WEIGHT (lb)	WEIGHT (lb)	NOTES
3	SITEPRO 1	SPTB	SLIDING PIPE TIE BACK ASSEMBLY	----	88.5	265	
TOTAL WEIGHT (lb)						265	

NOTES:

- CONTRACTOR TO ATTACH TIEBACK TOWER END TO TOWER HORIZONTAL APPROX. 6" FROM CENTER BRACING POINT.
- IN THE EVENT A PROPOSED MODIFICATION PART LISTED IN THE DRAWINGS IS NOT AVAILABLE, AN APPROVED EQUIVALENT CAN BE SUBSTITUTED. FOR APPROVAL OF EQUIVALENT PART OR QUESTIONS PLEASE CONTACT AMERICAN TOWER PMI INBOX AT PMI@AMERICANTOWER.COM.

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	RJS	09/07/21

ATC SITE NUMBER:

88019

ATC SITE NAME:

WINSTEAD

CONNECTICUT

SITE ADDRESS:

428 PLATT HILL ROAD
WINSTEAD, CT 06098



Authorized by "EOR"

08 Sep 2021 09:03:14



DRAWN BY:	RJS
APPROVED BY:	MCC
DATE DRAWN:	09/07/21
ATC JOB NO:	13653963_C9_08

MODIFICATION PROFILE

SHEET NUMBER:

S-101

REVISION:

0

SUPPLEMENTAL

SHEET NUMBER:

R-603

REVISION:

2

1 MOUNT MODIFICATION

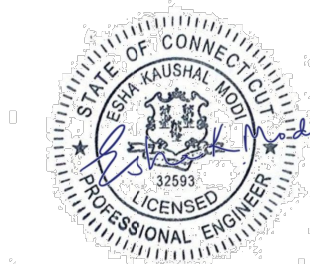


Mount Analysis Report

ATC Site Name : WINSTEAD, CT
ATC Site Number : 88019
Engineering Number : 13653963_C8_07
Mount Elevation : 194.75 ft
Carrier : Sprint Nextel
Carrier Site Name : CTNH702A
Carrier Site Number : CTNH702A
Site Location : 428 Platt Hill Road
 Winsted, CT 06098-2522
 41.89828611, -73.11601111
County : Litchfield
Date : August 19, 2021
Max Usage : 188%
Result : Fail

Prepared By:
Garrett Williams
Structural Engineer

Reviewed By:



Authorized by "EOR"
19 Aug 2021 10:27:26

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the mount analysis performed for Sprint Nextel at 194.75 ft.

Supporting Documents

Previous Analysis	POD Project #13653963_C8_02, dated May 5, 2021
Radio Frequency Data Sheet	RFDS ID #CTNH702A, dated July 9, 2021
Reference Photos	Site photos from 2018

Analysis

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

Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
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
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount does not meet the requirements per the applicable codes listed above. Modifications to be designed in subsequent service to address below failures:

- Horizontals (H008)

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.



AMERICAN TOWER®
CORPORATION

Post Modification Mount Analysis Report

ATC Site Name : WINSTEAD, CT
ATC Site Number : 88019
Engineering Number : 13653963_C9_08
Mount Elevation : 194.75 ft
Carrier : Sprint Nextel
Carrier Site Name : CTNH702A
Carrier Site Number : CTNH702A
Site Location : 428 Platt Hill Road
Winsted, CT 06098-2522
41.89828611 , -73.11601111
County : Litchfield
Date : August 23, 2021
Max Usage : 88%
Result : Contingent Pass

Prepared By:
Mitchell Chen
Structural Engineer I

Reviewed By:



Authorized by "EOR"
Jan 6 2022 2:23 PM

COA: PEC.0001553



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Introduction 1

Supporting Documents 1

Analysis 1

Conclusion 1

Application Loading 2

Structure Usages 2

Mount Layout 3

Equipment Layout 4

Standard Conditions 6

Calculations Attached



Introduction

The purpose of this report is to summarize results of the mount analysis performed for Sprint Nextel at 194.75 ft.

Supporting Documents

Previous Analysis	POD Project #13653963_C8_02, dated May 5, 2021
Radio Frequency Data Sheet	RFDS ID #CTNH702A, dated July 9, 2021
Reference Photos	Site photos from 2018

Analysis

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

Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
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
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 provided the modifications listed below are completed:

- Install modification per ATC Drawing #13653963_C9_08

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.



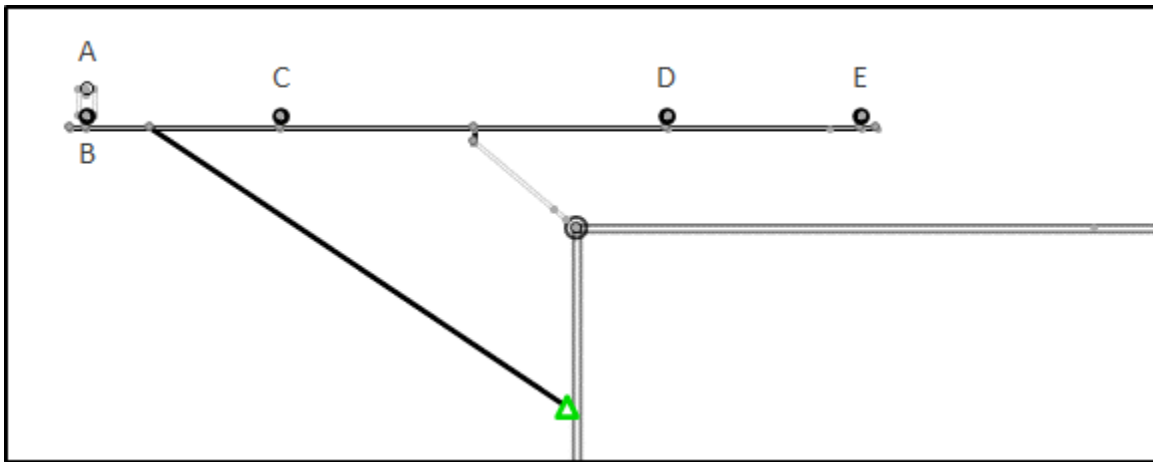
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
194.8	196.0	3	Ericsson Air6449 B41
		3	RFS APXVAALL24 43-U-NA20
		3	Ericsson Radio 4460 B25+B66
		3	Ericsson Radio 4480 B71+B85A

Structure Usages

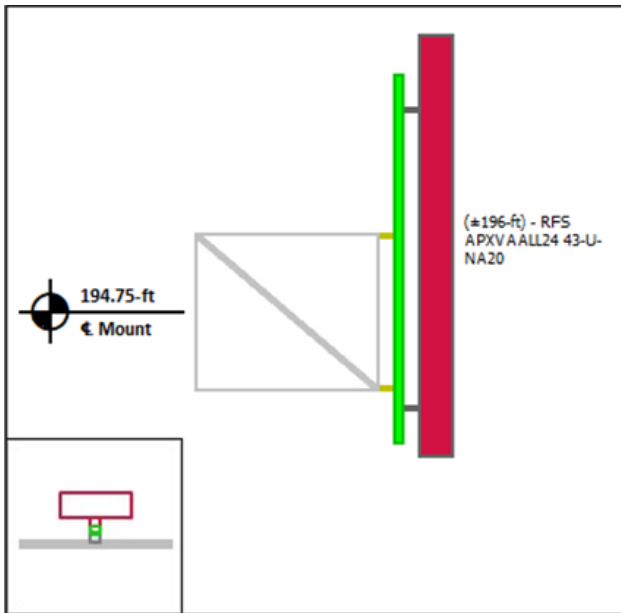
Structural Component	Controlling Usage	Pass/Fail
Horizontals	88%	Pass
Verticals	34%	Pass
Tie-Backs	17%	Pass
Mount Pipes	73%	Pass
Connection	55%	Pass

Mount Layout

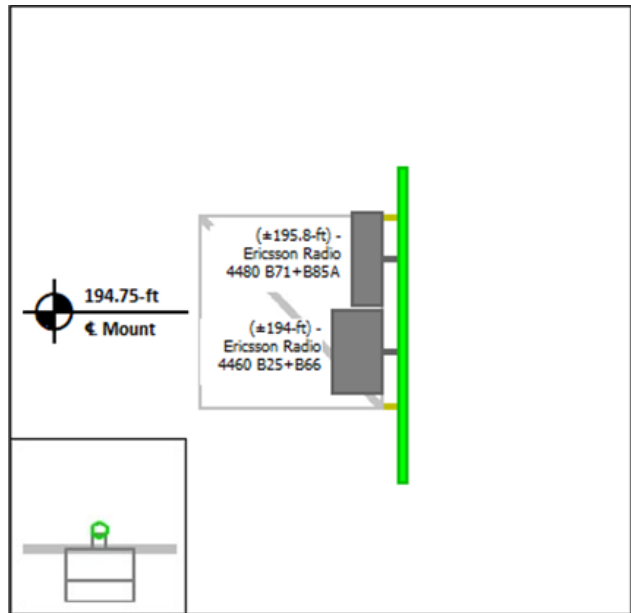


Equipment Layout

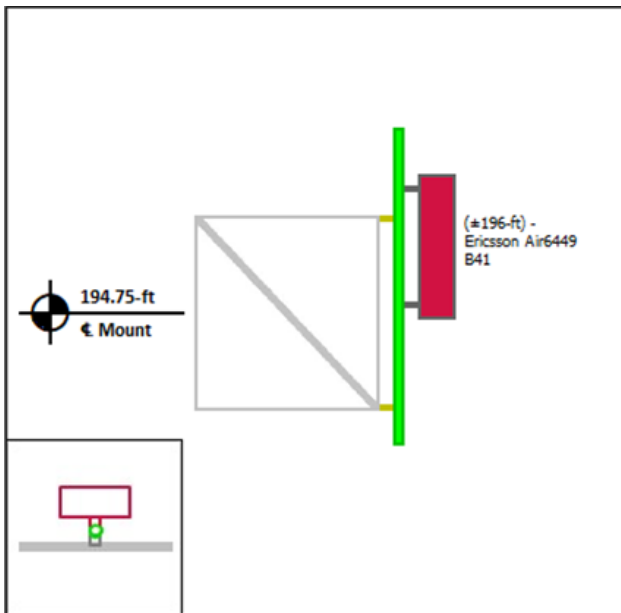
Mount Pipe A



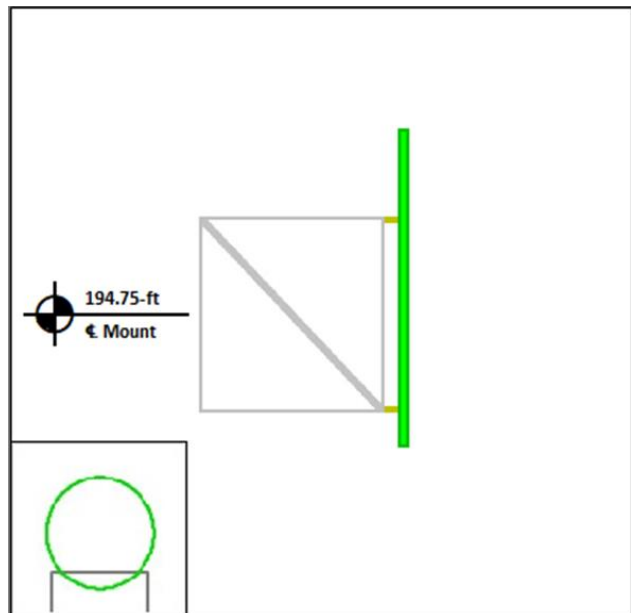
Mount Pipe B



Mount Pipe C

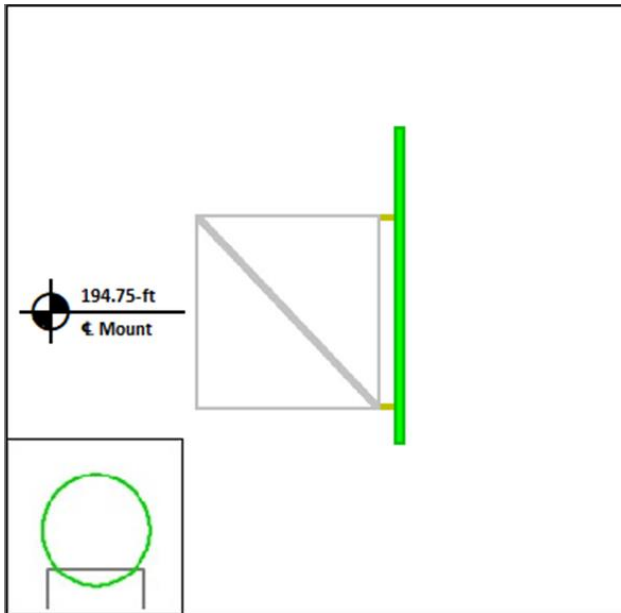


Mount Pipe D



Equipment Layout Cont'd.

Mount Pipe E





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: 88019
Project Number: 13653963_C9_08
Carrier: Sprint Nextel
Mount Elevation: 194.75 ft
Date: 8/23/2021

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.20	
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	0.95	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	114	mph
Velocity Pressure	q_z	35.9	psf
Height Escalation Factor	K_{iz}	1.19	
Thickness of Radial Glaze Ice	T_{iz}	1.19	in

Seismic Load Calculations			
Short Period DSRAP	S_{Ds}	0.180	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.090	
Amplification Factor	A	1.0	
Total Weight	W	770.2	lbs
Total Shear Force	V_s	69.4	lbs
Horizontal Seismic Load	E_h	69.4	lbs
Vertical Seismic Load	E_v	27.8	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	6.80	2.14
RFS APXVAALL24 43-U-NA20	95.9	24.0	8.5	122.8	20.24	3.40	22.81	4.46
Ericsson Radio 4460 B25+B66	19.6	15.7	12.1	109.0	2.56	0.82	3.31	1.11
Ericsson Radio 4480 B71+B85A	21.8	15.7	7.5	84.0	2.85	1.38	3.65	2.02

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

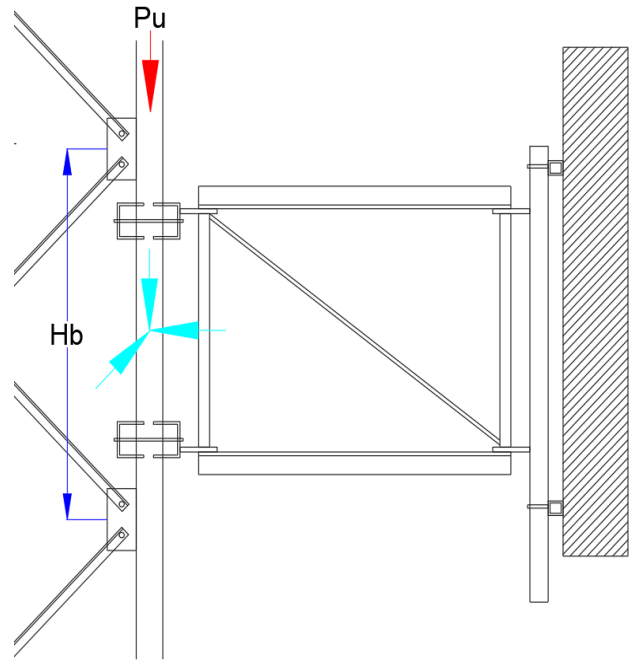
Tower Leg Reaction Analysis

Applied Loads from RISA 3D

Controlling Load Combination		78	-
Leg Node Label(s)	N001	N004	
Force in X	F_x	-96.3	lbs
Force in Y	F_y	1636.1	lbs
Force in Z	F_z	30.0	lbs
Moment about X	M_x	263.8	lb-ft
Moment about Y	M_y	0.0	lb-ft
Moment about Z	M_z	3795.9	lb-ft

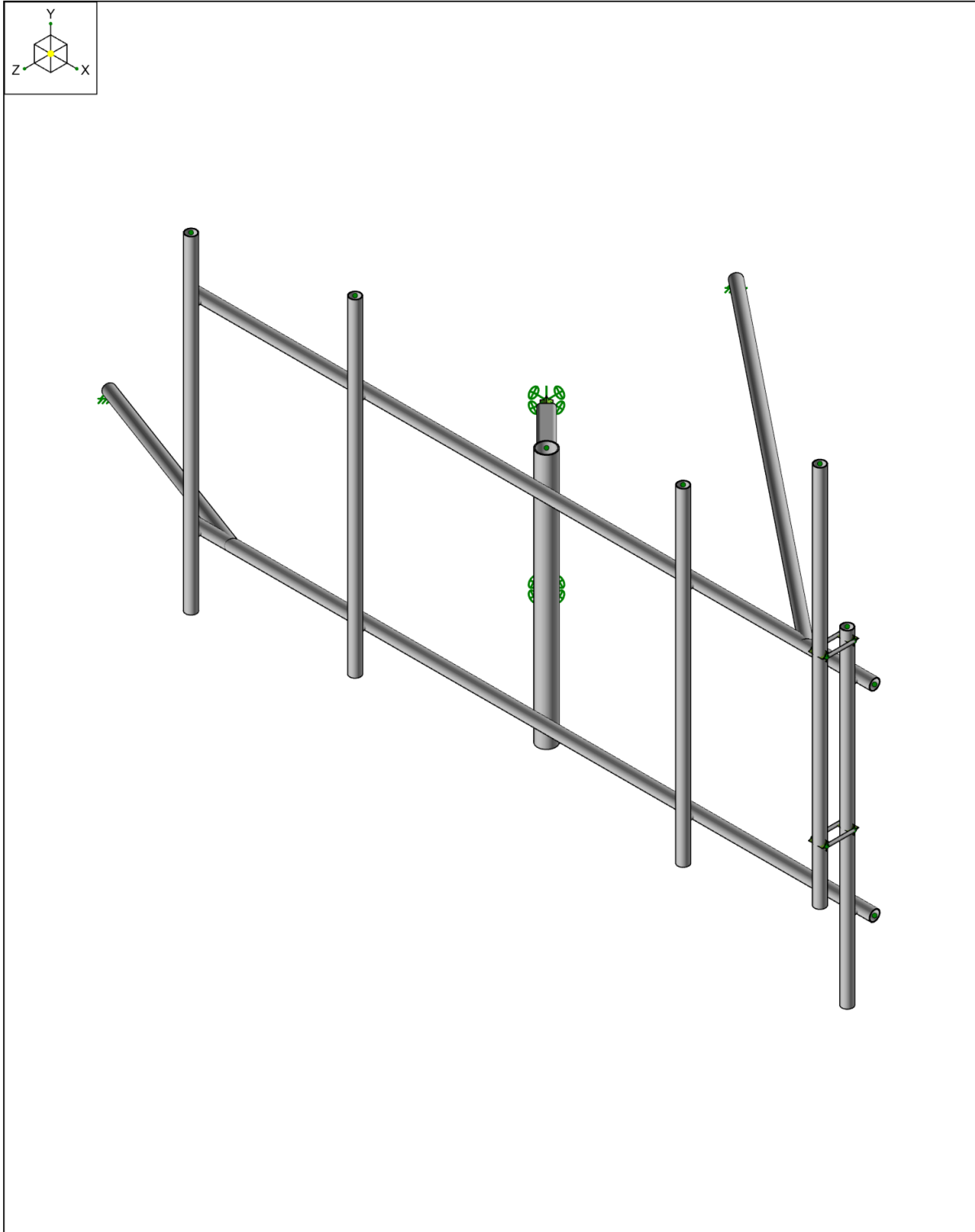
Tower Leg Properties

Leg Type		Single Angle	
Leg Member		L6x6x5/8	
Leg Bay Height	H_b	6.28	ft
Tower Axial Load	P_{uT}	40.684	k
Leg Grade		A36	
Leg Yield Strength	F_y	36	ksi
Leg Tensile Strength	F_u	58	ksi
Cross Sectional Area	A_g	7.130	in ²
Radius of Gyration	r	1.170	in
Moment of Inertia	I	9.810	in ⁴
Section Modulus	S_{min}	4.040	in ³
Torsional Constant	J	0.955	in ⁴
Elastic Modulus	E	29,000	ksi
Shear Modulus	G	11,200	ksi
Slenderness Limit	$4.71 \sqrt{E/F_y}$	133.7	-
Member Slenderness	KL/r	64.4	-
Rotation of Leg	θ	0.0000	rads
Leg Torsional Stiffness	k	1251.6	k-in/rad

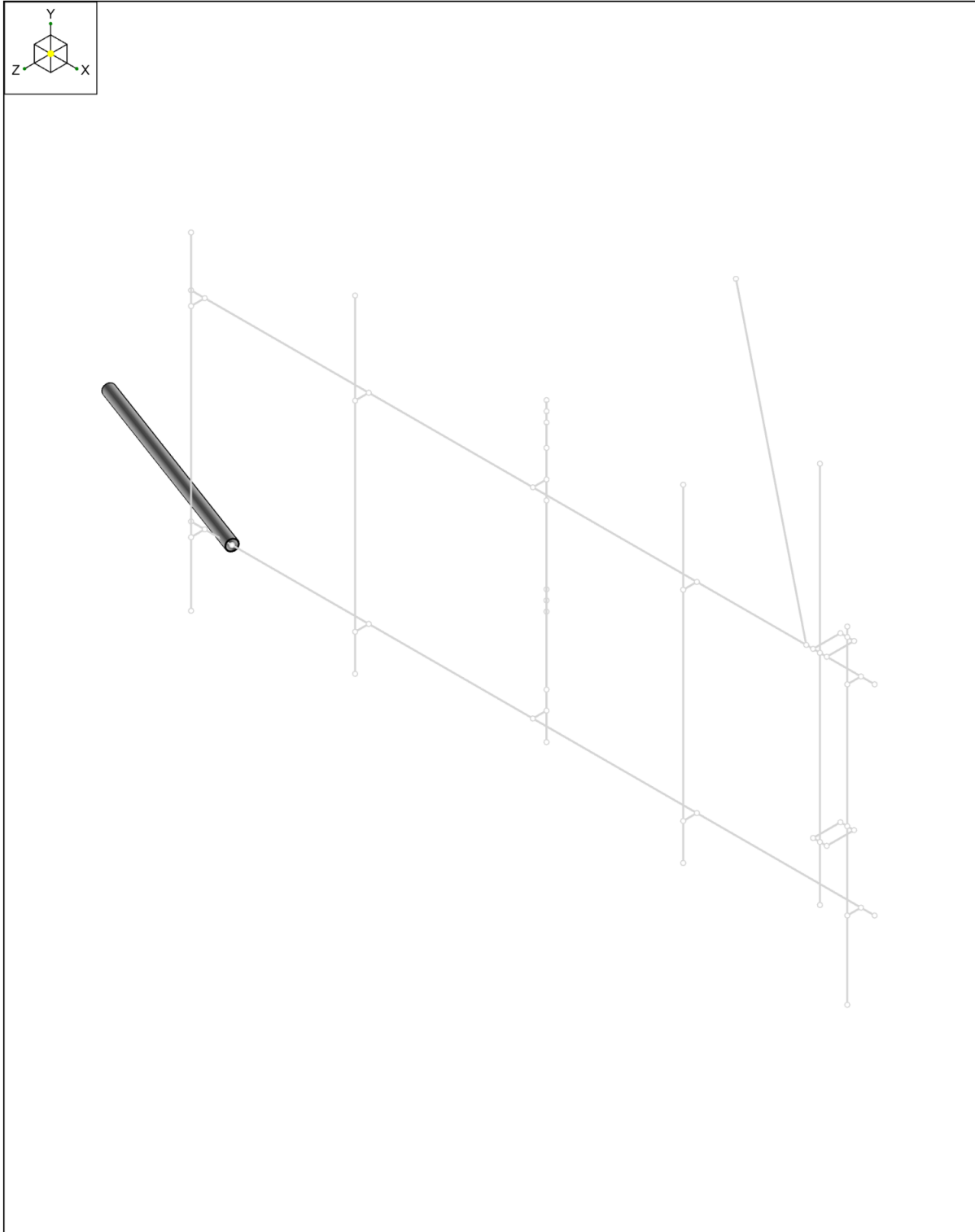


Tower Leg Analysis

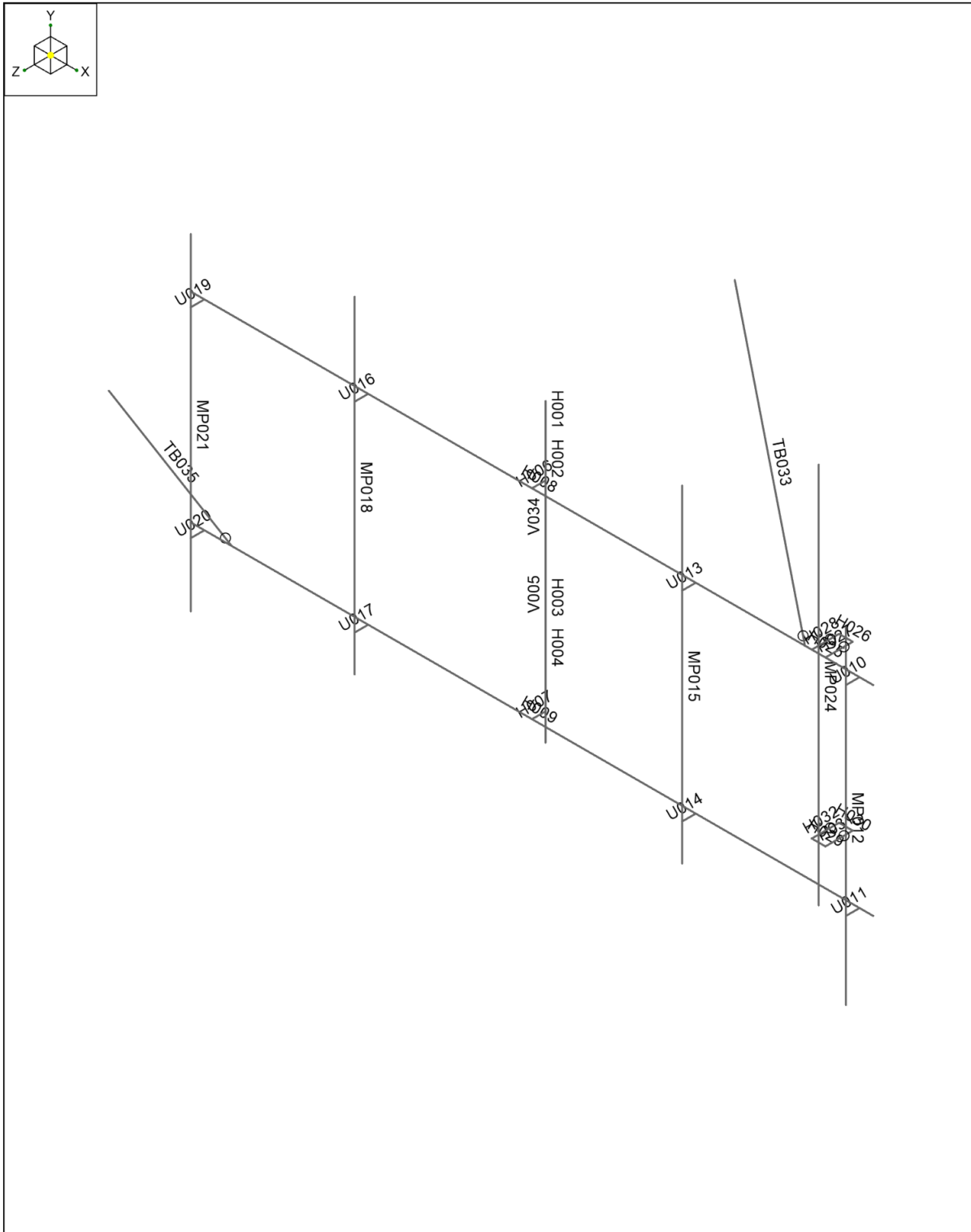
Critical Stress	F_{cr}	31.3	ksi
Axial Stress	σ_a	5.94	ksi
Shear Stress	τ_b	0.02	ksi
Bending Stress	σ_b	11.41	ksi
Torsional Stress	τ_t	0.00	ksi
Normal Stress Limit State	f_{un}	32.4	ksi
Shear Stress Limit State	f_{uv}	19.4	ksi
Buckling Limit State	$f_{un} \& f_{uv}$	31.3	ksi
Torsional/Shear Capacity	$\Sigma \tau / f_{uv}$	0%	Pass
Buckling/Axial Capacity	$\Sigma \sigma / f_{un}$	55%	Pass



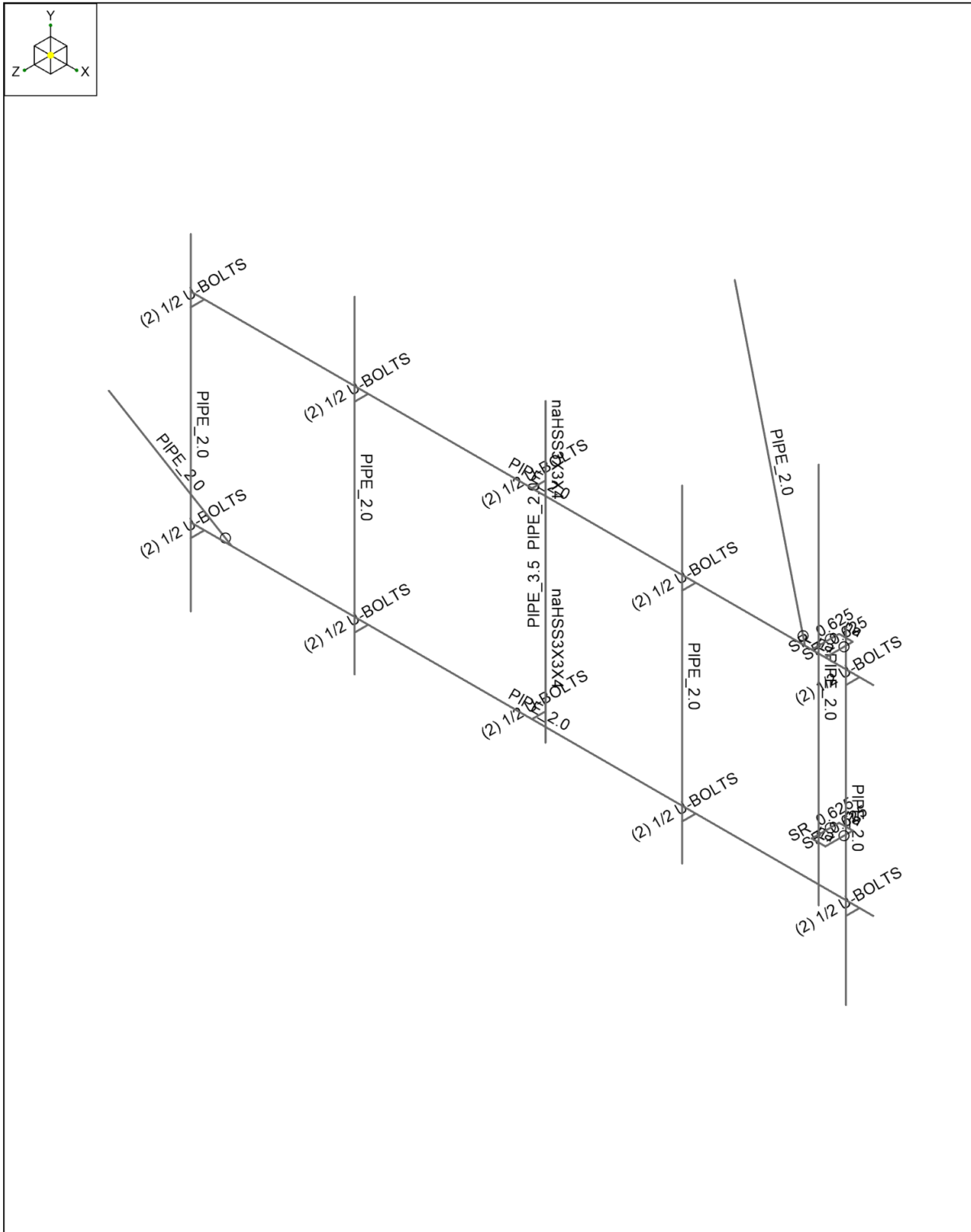
American Tower Corp.	88019, WINSTEAD	SK-1
Mitchell.Chen		Aug 23, 2021
13653963_C9_08	3D Rendering (Final Configuration)	R3D. SPRINT NEXTEL @ 88019, WINST...



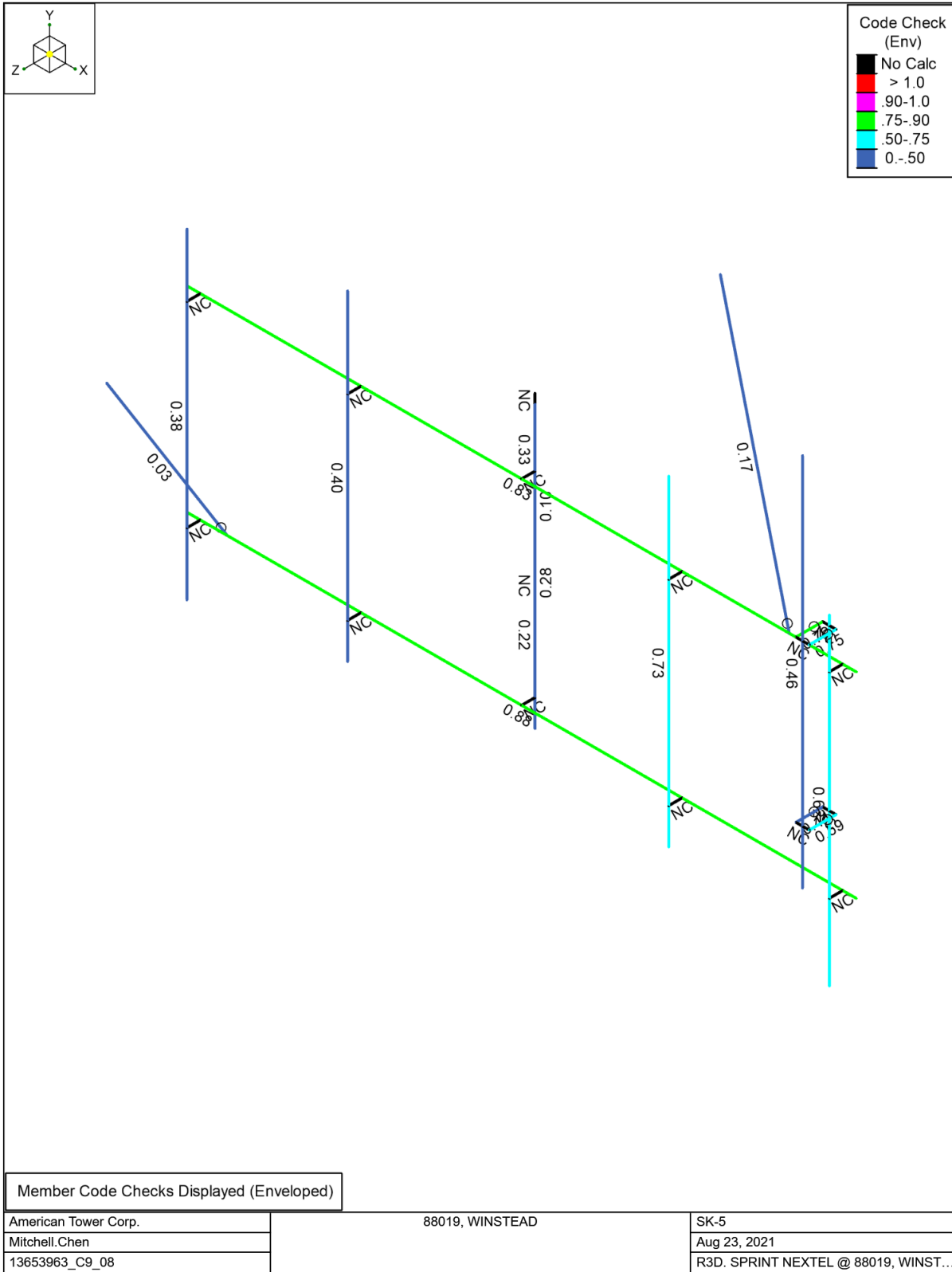
American Tower Corp.	88019, WINSTEAD	SK-2
Mitchell.Chen		Aug 23, 2021
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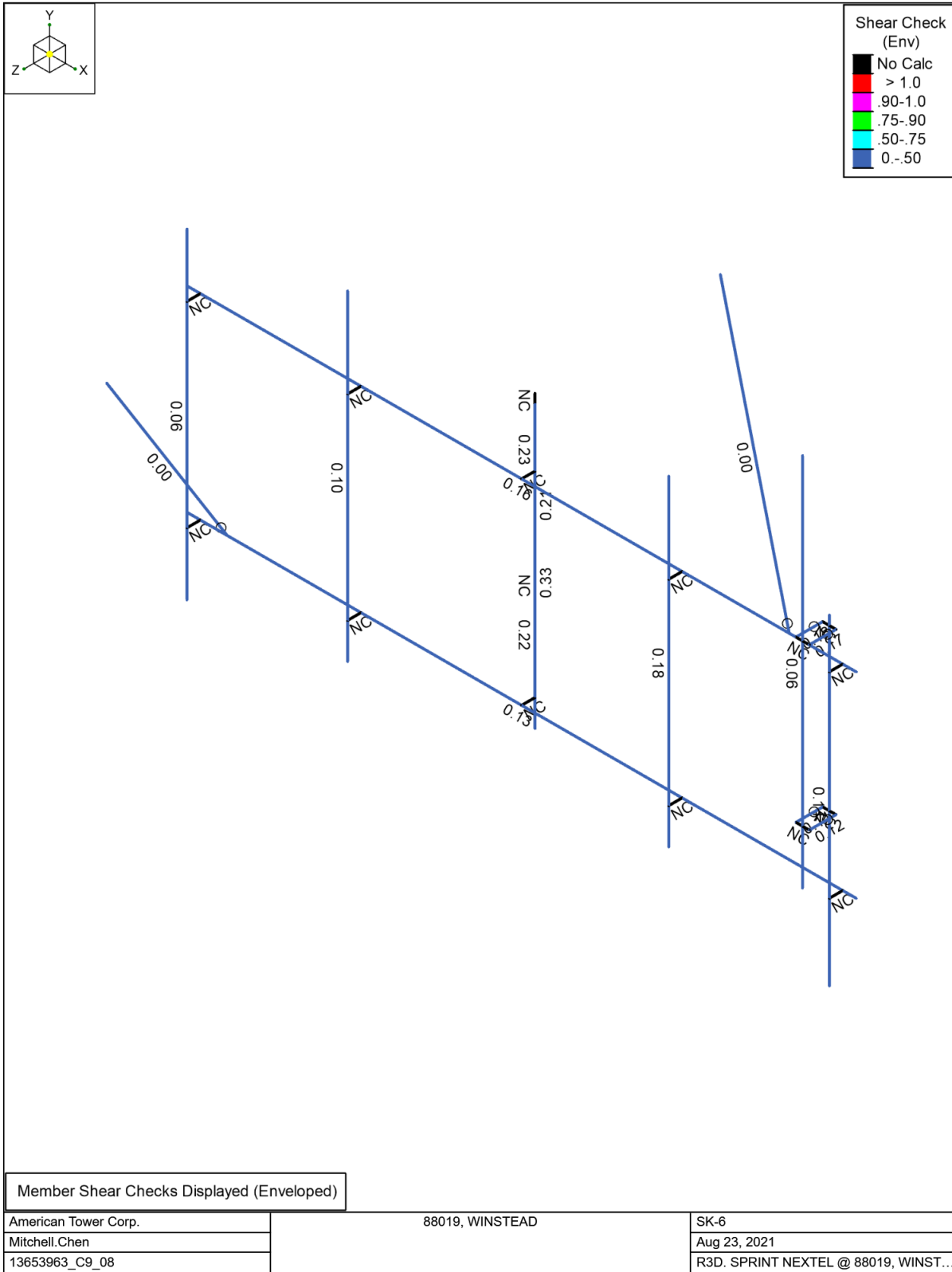


American Tower Corp.	88019, WINSTEAD	SK-3
Mitchell.Chen		Aug 23, 2021
13653963_C9_08		R3D. SPRINT NEXTEL @ 88019, WINST...



American Tower Corp.	88019, WINSTEAD	SK-4
Mitchell.Chen		Aug 23, 2021
13653963_C9_08		R3D. SPRINT NEXTEL @ 88019, WINST...







AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 225.5 ft Self Supported Tower
ATC Site Name : Winstead, CT
ATC Asset Number : 88019
Engineering Number : 13714292_C3_01
Proposed Carrier : SPRINT NEXTEL
Carrier Site Name : CTNH702A
Carrier Site Number : CTNH702A
Site Location : 428 Platt Hill Road
Winsted, CT 06098-2522
41.898300,-73.116000
County : Litchfield
Date : October 8, 2021
Max Usage : 81%
Result : Pass

Prepared By:
Timothy Kassakatis
Structural Engineer II

Reviewed By:



Authorized by "EOR"
08 Oct 2021 05:35:11

COA: PEC.0001553



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Proposed Equipment	2
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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 225.5 ft self supported tower to reflect the change in loading by SPRINT NEXTEL.

Supporting Documents

Tower Drawings	TEP Mapping: Job #070513, dated April 5, 2007
Foundation Drawing	TEP Mapping: Job #070513, dated April 5, 2007
Geotechnical Report	TEP Project #070513.02, dated April 4, 2007
Mount Analysis	ATC Project #13653963_C8_07, dated August 19, 2021
Mount Modifications	ATC Project #13653963_C9_08, dated September 7, 2021

Analysis

The tower was analyzed using Power Line Systems, Inc. tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" concurrent ice
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1

Conclusion

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

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



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
226.0	4	Generic KS15676	Triangular Platform with Handrails	-	AT&T MOBILITY
198.0	-	-	-	(4) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
196.0	3	Ericsson Air6449 B41	Leg		
	3	RFS APXVAALL24 43-U-NA20			
194.0	1	Andrew DB616E-BC	Leg/Flush	(1) 1 1/4" Coax	US DEPT OF HOMELAND SECURITY
185.0	1	Comprod 872F-70SM	Side Arm	(1) 7/8" Coax	ALL-STAR TRANSPORTATION, LLC
170.0	3	CCI TPA65R-BU8D	Sector Frame	(1) 0.39" (9.8mm) Cable (3) 0.92" (23.4mm) Cable	AT&T MOBILITY
	3	CCI DMP65R-BU8D			
	2	Raycap DC9-48-60-24-8C-EV			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Ericsson RRUS 4478 B14			



Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
196.0	3	RFS APX16DWV-16DWVS-E-A20	-	(3) 1 5/8" Hybriflex	SPRINT NEXTEL
	3	Ericsson 4424 B25			
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson RRUS 4415 B66			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
196.0	3	Ericsson Radio 4480 B71+B85A	Leg	(3) 1.99" (50.7mm) Hybrid	SPRINT NEXTEL
	3	Ericsson Radio 4460 B25+B66			

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

Install proposed coax in place of the existing coax.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	42%	Pass
Diagonals	81%	Pass
Lower Diagonals	63%	Pass
Horizontals	38%	Pass
Lower Horizontals	34%	Pass
Anchor Bolts	31%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	155.6	29%
Axial (Kips)	245.6	6%

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.



Standard Conditions

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

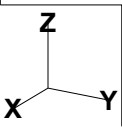
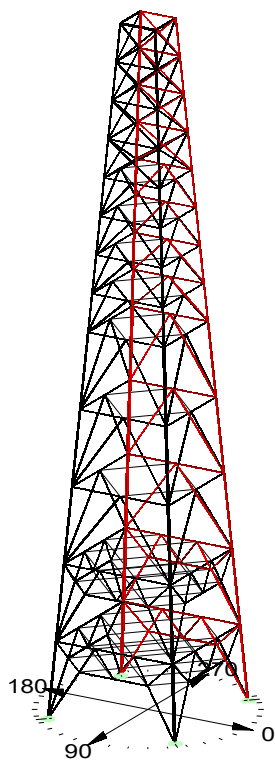
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Project Name : 88019 - Winstead, CT
 Project Notes: 225' Type 'A' AT&T Tag Tower
 Project File : X:\W-2\Winstead, CT (88019)\Structural Info\88019.tow
 Date run : 2:01:44 PM Friday, October 8, 2021
 By : Tower Version 16.01
 Licensed to : American Tower Corp.

Successfully performed nonlinear analysis

Member check option: ANSI/TIA 222-G-1
 Connection rupture check: Not Checked
 Crossing diagonal check: Fixed
 Included angle check: None
 Climbing load check: None
 Redundant members checked with: Actual Force
 Loads from file: X:\W-2\Winstead, CT (88019)\Structural Info\88019.eia

*** Analysis Results:

Maximum element usage is 81.00% for Angle 'D 4X' in load case 'W -90'

Foundation Design Forces For All Load Cases:

Note: loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
W 0	OP	180.56	30.31	2.18	0.00
W 0	OX	175.05	29.46	2.02	0.00
W 0	OXY	-91.36	18.13	2.53	0.00
W 0	OY	-92.35	18.70	2.67	0.00
W 180	OP	-89.57	18.48	2.73	0.00
W 180	OX	-89.55	18.14	2.60	0.00
W 180	OXY	173.24	29.44	2.08	0.00
W 180	OY	177.78	30.11	2.22	0.00
W 45	OP	245.58	40.87	2.26	0.00
W 45	OX	40.89	10.69	2.35	0.00
W 45	OXY	-155.43	28.47	2.90	0.00
W 45	OY	40.86	10.69	2.35	0.00
W -45	OP	45.60	11.50	2.52	0.00
W -45	OX	240.88	40.30	2.27	0.00
W -45	OXY	41.04	10.60	2.27	0.00
W -45	OY	-155.61	28.76	2.98	0.00
W 90	OP	180.62	30.32	2.18	0.00
W 90	OX	-92.37	18.70	2.67	0.00
W 90	OXY	-91.30	18.12	2.53	0.00
W 90	OY	174.96	29.45	2.01	0.00
W -90	OP	-89.62	18.49	2.73	0.00
W -90	OX	177.87	30.12	2.23	0.00
W -90	OXY	173.18	29.43	2.08	0.00
W -90	OY	-89.53	18.13	2.60	0.00
W 0 Ice	OP	96.42	12.72	1.45	0.00
W 0 Ice	OX	92.26	12.24	1.39	0.00
W 0 Ice	OXY	23.30	1.55	2.19	0.00
W 0 Ice	OY	24.84	1.49	2.25	0.00
W 180 Ice	OP	28.33	1.80	2.31	0.00
W 180 Ice	OX	25.58	1.76	2.26	0.00
W 180 Ice	OXY	89.98	12.20	1.34	0.00
W 180 Ice	OY	92.93	12.43	1.42	0.00
W 45 Ice	OP	113.58	15.62	1.16	0.00
W 45 Ice	OX	58.42	6.66	1.87	0.00
W 45 Ice	OXY	6.43	2.44	2.38	0.00
W 45 Ice	OY	58.39	6.65	1.87	0.00
W -45 Ice	OP	62.38	7.15	1.93	0.00
W -45 Ice	OX	109.63	15.21	1.13	0.00
W -45 Ice	OXY	56.64	6.70	1.81	0.00
W -45 Ice	OY	8.18	2.46	2.45	0.00
W 90 Ice	OP	96.44	12.73	1.45	0.00
W 90 Ice	OX	24.86	1.50	2.25	0.00
W 90 Ice	OXY	23.31	1.55	2.19	0.00
W 90 Ice	OY	92.22	12.24	1.39	0.00
W -90 Ice	OP	28.32	1.80	2.31	0.00
W -90 Ice	OX	92.98	12.43	1.43	0.00
W -90 Ice	OXY	89.97	12.19	1.34	0.00
W -90 Ice	OY	25.56	1.75	2.26	0.00
1.2D+E 0	OP	57.17	8.00	0.32	0.00
1.2D+E 0	OX	54.50	7.74	0.29	0.00
1.2D+E 0	OXY	28.05	4.04	0.37	0.00
1.2D+E 0	OY	29.56	4.06	0.42	0.00
1.2D+E 45	OP	62.36	8.77	0.29	0.00
1.2D+E 45	OX	42.01	5.90	0.35	0.00
1.2D+E 45	OXY	22.91	3.28	0.40	0.00
1.2D+E 45	OY	42.00	5.90	0.35	0.00
1.2D+E 90	OP	57.17	8.00	0.32	0.00
1.2D+E 90	OX	29.57	4.06	0.42	0.00
1.2D+E 90	OXY	28.05	4.04	0.37	0.00
1.2D+E 90	OY	54.49	7.74	0.29	0.00
0.9D+E 0	OP	46.23	6.37	0.32	0.00
0.9D+E 0	OX	44.14	6.16	0.29	0.00
0.9D+E 0	OXY	17.98	2.46	0.39	0.00
0.9D+E 0	OY	19.10	2.47	0.42	0.00
0.9D+E 45	OP	51.45	7.14	0.29	0.00
0.9D+E 45	OX	31.59	4.31	0.36	0.00
0.9D+E 45	OXY	12.82	1.69	0.41	0.00
0.9D+E 45	OY	31.59	4.31	0.36	0.00
0.9D+E 90	OP	46.23	6.37	0.32	0.00
0.9D+E 90	OX	19.10	2.47	0.42	0.00
0.9D+E 90	OXY	17.98	2.46	0.39	0.00
0.9D+E 90	OY	44.14	6.16	0.29	0.00

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
W 0	OP	-25.47	-16.45	-180.56	30.31	-0.20	-2.17	2.18	-0.79	0.00
W 0	OX	-24.43	16.47	-175.05	29.46	0.05	-2.01	2.02	0.79	0.00
W 0	OXY	-16.38	-7.94	-91.36	18.13	0.19	2.50	2.53	0.79	0.00
W 0	OY	-16.94	7.91	92.35	18.70	-0.36	-2.64	2.67	-0.78	0.00
W 180	OP	16.84	7.61	89.57	18.48	-0.35	2.71	2.73	0.79	0.00
W 180	OX	16.38	-7.79	-89.55	18.14	0.39	-2.57	-2.60	-0.80	0.00
W 180	OXY	24.16	16.33	-173.24	29.44	-0.21	2.01	2.08	0.80	0.00
W 180	OY	25.41	-16.15	-177.78	30.11	-0.21	2.21	2.22	0.80	0.00
W 45	OP	-28.89	-28.91	-245.58	40.87	1.60	-1.60	2.26	-0.00	0.00
W 45	OX	-10.43	-2.37	-40.89	6.69	1.91	-1.38	2.35	-1.17	0.00
W 45	OXY	-20.13	-20.13	-155.43	28.47	2.05	-2.05	2.90	-0.00	0.00
W 45	OY	-2.36	-10.42	-40.86	10.68	1.38	-1.90	2.35	-1.17	0.00
W -45	OP	-11.25	2.35	-45.60	11.50	-2.03	-1.49	2.52	-1.18	0.00
W -45	OX	-28.07	28.92	-240.88	40.30	-1.71	1.49	2.27	-0.00	0.00
W -45	OXY	-1.95	10.42	-41.04	10.60	-1.38	-1.80	2.27	1.18	0.00
W -45	OY	-20.54	20.13	-155.61	28.76	-2.05	-2.16	2.98	0.01	0.00
W 90	OP	-16.44	-25.48	-180.62	30.32	2.17	0.21	2.18	0.79	0.00
W 90	OX	7.91	-16.95	92.37	18.70	2.65	0.36	2.67	0.78	0.00
W 90	OXY	-7.94	-16.29	91.30	18.12	2.50	-0.39	2.53	-0.79	0.00
W 90	OY	16.47	-24.41	-174.96	29.45	2.01	-0.05	2.01	-0.79	0.00
W -90	OP	7.61	16.85	89.62	18.49	-2.71	0.35	2.73	-0.79	0.00
W -90	OX	-16.15	25.42	-177.87	30.12	-2.22	0.21	2.23	-0.80	0.00
W -90	OXY	16.33	24.49	-173.18	29.43	-2.08	-0.05	2.08	0.80	0.00
W -90	OY	-7.80	16.37	89.53	18.13	-2.57	-0.39	2.60	0.80	0.00
W 0 Ice	OP	-10.06	-7.79	-96.42	12.72	-1.27	0.69	1.45	-0.19	0.00
W 0 Ice	OX	-9.50	7.73	-92.26	12.24	1.18	0.73	1.39	0.19	0.00
W 0 Ice	OXY	-0.66	-1.40	-23.30	1.55	1.26	-1.79	2.19	-0.20	0.00
W 0 Ice	OY	-0.67	-1.33	-24.84	1.49	-1.32	-1.83	2.25	-0.19	0.00
W 180 Ice	OP	0.57	-1.71	-28.33	1.80	-1.31	1.90	2.31	0.19	0.00
W 180 Ice	OX	0.75	1.59	-25.58	1.76	1.27	1.87	2.26	-0.20	0.00
W 180 Ice	OXY	9.59	7.54	-89.98	12.20	1.18	-0.65	1.34	-0.20	0.00
W 180 Ice	OY	9.97	-7.42	-92.93	12.43	-1.28	-0.62	1.42	0.20	0.00
W 45 Ice	OP	-11.04	-11.05	-113.58	15.62	-0.82	0.82	1.16	0.00	0.00
W 45 Ice	OX	-5.97	2.95	-58.42	6.66	1.65	0.88	1.87	0.28	0.00
W 45 Ice	OXY	-1.72	-1.72	-6.43	2.44	1.68	-1.68	2.38	-0.00	0.00
W 45 Ice	OY	2.95	-5.97	-58.39	6.65	-0.88	-1.65	1.87	-0.29	0.00
W -45 Ice	OP	-6.48	-3.03	-62.38	7.15	-1.74	0.85	1.93	-0.30	0.00
W -45 Ice	OX	-10.54	10.87	-109.63	15.21	0.73	0.85	1.13	0.01	0.00
W -45 Ice	OXY	2.91	6.04	-56.64	6.70	0.82	-1.62	1.81	0.30	0.00
W -45 Ice	OY	-1.68	1.80	-8.18	2.46	-1.75	-1.71	2.45	0.01	0.00
W 90 Ice	OP	-7.80	10.06	-96.44	12.73	-0.69	1.28	1.45	0.19	0.00
W 90 Ice	OX	-1.34	-0.67	-24.86	1.50	1.83	1.32	2.25	0.19	0.00
W 90 Ice	OXY	1.40	-0.66	-23.31	1.55	1.79	-1.26	2.19	-0.20	0.00
W 90 Ice	OY	7.72	-9.49	-92.22	12.24	-0.73	-1.18	1.39	-0.19	0.00
W -90 Ice	OP	-1.71	0.58	-28.32	1.80	-1.90	0.31	2.31	-0.19	0.00
W -90 Ice	OX	-7.42	9.97	-92.98	12.43	0.62	1.28	1.43	-0.20	0.00
W -90 Ice	OXY	7.54	9.58	-89.97	12.19	0.65	-1.18	1.34	0.20	0.00
W -90 Ice	OY	1.59	7.5	-25.56	1.75	-1.87	1.27	2.26	0.21	0.00
1.2D+E 0	OP	-5.83	-5.49	-57.17	8.00	-0.26	0.19	0.32	-0.02	0.00
1.2D+E 0	OX	-5.52	5.43	-54.50	7.74	0.21	0.20	0.29	0.01	0.00
1.2D+E 0	OXY	2.70	-0.30	-28.05	4.04	0.23	-0.30	0.37	0.02	0.00
1.2D+E 0	OY	2.80	-2.94	-29.56	4.06	-0.28	-0.30	0.42	-0.01	0.00
1.2D+E 45	OP	-6.20	-6.20	-62.36	8.77	-0.21	0.21	0.29	0.00	0.00
1.2D+E 45	OX	-4.30	4.05	-42.01	5.90	0.27	0.23	0.35	0.02	0.00
1.2D+E 45	OXY	2.32	2.32	-22.91	3.28	0.28	-0.28	0.40	-0.00	0.00

1.2D+E 45	OY	4.05	-4.30	-42.00	5.90	-0.23	-0.27	0.35	-0.02	0.00										
1.2D+E 90	OP	-5.49	-5.83	-57.17	8.00	-0.19	0.26	0.32	0.02	0.00										
1.2D+E 90	OX	-2.94	2.80	-29.57	4.06	0.30	0.29	0.42	0.01	0.00										
1.2D+E 90	OXY	3.00	2.70	-28.05	4.04	0.30	-0.23	0.37	-0.02	0.00										
1.2D+E 90	OY	5.43	-5.52	-54.49	7.74	-0.20	-0.21	0.29	-0.01	0.00										
0.9D+E 0	OP	-4.67	-4.31	-46.23	6.37	-0.26	0.18	0.32	0.02	0.00										
0.9D+E 0	OX	-4.43	4.29	-44.14	6.16	0.22	0.19	0.29	0.01	0.00										
0.9D+E 0	OXY	1.58	1.88	-17.98	2.46	0.24	-0.30	0.39	0.02	0.00										
0.9D+E 0	OY	-1.41	-1.98	-2.47	0.22	-0.21	0.21	0.21	-0.01	0.00										
0.9D+E 45	OP	-5.05	-5.05	-51.45	7.14	-0.20	0.20	0.29	0.00	0.00										
0.9D+E 45	OX	-3.20	2.90	-31.59	4.31	0.28	0.22	0.36	0.02	0.00										
0.9D+E 45	OXY	1.19	1.19	-12.82	1.69	0.29	-0.29	0.41	-0.00	0.00										
0.9D+E 45	OY	2.90	4.31	-6.50	0.31	-0.36	0.36	0.02	0.00	0.00										
0.9D+E 90	OP	-4.33	-4.67	-46.23	6.37	-0.18	0.26	0.32	0.02	0.00										
0.9D+E 90	OX	-1.84	1.65	-19.10	2.47	0.31	0.28	0.42	0.01	0.00										
0.9D+E 90	OXY	1.98	2.46	0.20	0.34	0.29	-0.32	0.39	0.02	0.00										
0.9D+E 90	OY	4.28	-4.43	-44.14	6.16	-0.19	-0.22	0.29	-0.01	0.00										

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support	Joint	Origin	Leg Force In Member	Residual	Shear		Residual Shear		Residual Shear		Residual Shear		Total Long. Force	Total Trans. Force	Total Vert. Force
						Perpendicular	Parallel	Horizontal	Vertical	Horizontal	Vertical	Horizontal	Vertical			
					To Leg	To Leg	Res.	To Leg	Long.	To Leg	Tran.	Long.	Tran.			
					(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)			
W 0	OP	IP	L	IP	182.640	12.833	12.883	12.425	3.406	-25.47	-16.45	-180.56				
W 0	OX	IX	L	IX	177.081	12.339	12.390	11.783	-3.832	-24.43	16.47	-175.05				
W 0	OXY	IXY	L	IXY	176.828	9.761	9.793	9.701	-1.341	-16.30	-7.94	-91.36				
W 0	OY	LY	L	LY	-93.655	10.311	10.344	10.269	-1.243	-16.94	7.91	92.35				
W 180	OP	IP	L	IP	-90.861	10.405	10.438	-10.375	-1.146	16.84	7.61	89.57				
W 180	OX	IX	L	IX	90.861	9.965	9.997	-9.909	1.327	16.38	-7.79	89.55				
W 180	OXY	IXY	L	IXY	175.278	12.529	12.581	-11.988	-3.816	24.50	16.33	-173.24				
W 180	OY	LY	L	LY	179.848	12.947	12.998	-12.569	3.309	25.41	-16.15	-177.78				
W 45	OP	IP	L	IP	248.462	15.705	15.767	11.157	-11.169	-28.89	-28.91	-245.58				
W 45	OX	IX	L	IX	248.259	9.174	9.175	-9.177	5.319	-10.43	-2.37	-40.89				
W 45	OXY	IXY	L	IXY	-157.514	12.528	12.593	8.909	8.900	-20.13	-20.13	155.43				
W 45	OY	LY	L	LY	41.226	9.160	9.161	5.307	7.467	-2.36	-10.42	-40.86				
W 45	OP	IP	L	IP	176.991	9.755	9.756	-9.757	-5.642	-11.25	2.35	-45.60				
W 45	OX	IX	L	IX	243.725	15.623	15.704	10.673	-11.519	-28.07	28.92	-240.88				
W 45	OXY	IXY	L	IXY	41.434	8.926	8.928	4.911	-7.456	-1.95	10.42	-41.04				
W 45	OY	LY	L	LY	175.220	12.522	12.574	-12.574	8.891	-20.54	20.13	155.61				
W 90	OP	IP	L	IP	182.697	12.840	12.891	3.398	12.435	-16.44	-25.48	-180.62				
W 90	OX	IX	L	IX	-93.680	10.320	10.353	-1.237	10.279	7.91	-16.95	92.37				
W 90	OXY	IXY	L	IXY	-92.570	9.755	9.787	1.346	9.694	-7.94	-16.29	91.30				
W 90	OY	LY	L	LY	176.931	12.334	12.384	-1.339	-11.775	16.47	-24.41	-174.96				
W 90	OP	IP	L	IP	-90.918	10.411	10.444	-1.141	-10.381	7.61	16.85	89.62				
W 90	OX	IX	L	IX	179.938	12.953	13.003	3.301	-12.577	-16.15	25.42	-177.87				
W 90	OXY	IXY	L	IXY	179.938	12.953	13.003	3.301	-12.577	-16.15	25.42	-177.87				
W 90	OY	LY	L	LY	-90.800	9.956	9.989	1.332	-9.900	-7.80	16.37	89.53				
W 0 Ice	OP	IP	L	IP	97.205	3.190	3.203	3.093	0.829	-10.06	-7.79	-96.42				
W 0 Ice	OX	IX	L	IX	93.023	3.011	3.024	2.832	-1.062	-9.50	7.73	-92.26				
W 0 Ice	OXY	IXY	L	IXY	2.349	2.349	2.356	2.349	2.349	-6.66	1.40	-30.30				
W 0 Ice	OY	LY	L	LY	24.763	2.500	2.509	2.466	-0.460	-0.67	-1.33	-24.84				
W 180 Ice	OP	IP	L	IP	28.268	2.633	2.642	-2.620	-0.339	0.57	-1.71	-28.33				
W 180 Ice	OX	IX	L	IX	28.268	2.603	2.611	-2.598	0.260	0.75	1.59	-25.58				
W 180 Ice	OXY	IXY	L	IXY	90.746	3.246	3.260	-3.089	-1.041	9.59	7.54	-89.98				
W 180 Ice	OY	LY	L	LY	93.701	3.321	3.333	-3.257	0.708	9.97	-7.42	-92.93				
W 45 Ice	OP	IP	L	IP	114.581	3.997	4.017	2.839	-2.843	-11.04	-11.05	-113.58				
W 45 Ice	OX	IX	L	IX	114.581	3.997	4.017	2.839	-2.843	-11.04	-11.05	-113.58				
W 45 Ice	OXY	IXY	L	IXY	6.149	3.079	3.095	2.189	2.188	-1.72	-1.72	-6.43				
W 45 Ice	OY	LY	L	LY	58.729	2.160	2.161	1.269	1.749	2.95	-5.97	-58.39				
W 45 Ice	OP	IP	L	IP	114.581	3.997	4.017	2.839	-2.843	-11.04	-11.05	-113.58				
W 45 Ice	OX	IX	L	IX	110.608	4.004	4.025	2.618	-3.057	-10.54	10.97	-109.63				
W 45 Ice	OXY	IXY	L	IXY	56.986	2.281	2.282	1.185	-1.950	2.91	6.04	-56.64				
W 45 Ice	OY	LY	L	LY	7.991	2.281	2.282	1.185	-1.950	2.91	6.04	-56.64				
W 90 Ice	OP	IP	L	IP	97.220	3.193	3.205	3.026	3.097	-7.79	-10.06	-96.44				
W 90 Ice	OX	IX	L	IX	24.781	2.503	2.512	-0.460	2.469	-1.34	-0.67	-24.86				
W 90 Ice	OXY	IXY	L	IXY	23.244	2.348	2.356	0.282	2.339	1.40	-0.66	-23.31				
W 90 Ice	OY	LY	L	LY	90.591	3.021	3.024	-3.024	2.830	7.72	4.99	-92.22				
W 90 Ice	OP	IP	L	IP	28.252	2.634	2.642	-2.639	-2.620	-1.71	0.58	-28.32				
W 90 Ice	OX	IX	L	IX	93.749	3.322	3.334	3.075	-3.258	-7.42	9.97	-92.98				
W 90 Ice	OXY	IXY	L	IXY	90.746	3.244	3.257	-3.044	-1.044	9.59	7.54	-89.97				
W 90 Ice	OY	LY	L	LY	25.609	2.600	2.608	-2.608	-2.595	1.59	0.75	-25.56				
1.2D+E 0	OP	IP	L	IP	57.685	2.164	2.175	1.698	1.359	-5.83	-5.49	-57.17				
1.2D+E 0	OX	IX	L	IX	55.003	2.167	2.178	1.587	-1.492	-5.52	5.43	-54.50				
1.2D+E 0	OXY	IXY	L	IXY	31.812	1.802	1.808	-1.808	0.976	-2.70	3.00	-28.05				
1.2D+E 0	OY	LY	L	LY	29.823	1.042	1.047	-0.669	0.806	2.80	-2.94	-29.56				
1.2D+E 45	OP	IP	L	IP	62.926	2.385	2.398	1.695	1.696	-6.20	-6.20	-62.36				
1.2D+E 45	OX	IX	L	IX	62.926	2.385	2.398	1.695	-1.014	-4.30	4.05	-42.01				
1.2D+E 45	OXY	IXY	L	IXY	23.124	0.930	0.935	-0.661	-0.661	2.32	2.32	-22.91				
1.2D+E 45	OY	LY	L	LY	42.382	1.611	1.619	-1.014	1.262	4.05	-4.30	-42.00				
1.2D+E 90	OP	IP	L	IP	57.685	2.164	2.175	1.359	1.699	-5.49	-5.83	-57.17				
1.2D+E 90	OX	IX	L	IX	55.003	2.167	2.178	1.587	-1.492	-5.52	5.43	-54.50				
1.2D+E 90	OXY	IXY	L	IXY	31.812	1.802	1.808	-1.808	0.976	-2.70	3.00	-28.05				
1.2D+E 90	OY	LY	L	LY	28.252	1.182	1.188	-0.976	-0.678	3.00	2.70	-28.05				
1.2D+E 90	OP	IP	L	IP	54.996	2.167	2.178	-1.492	1.587	5.43	-5.52	-54.49				
0.9D+E 0	OP	IP	L	IP	44.541	1.648	1.656	1.241	0.992	-4.67	-4.33	-46.23				
0.9D+E 0	OX	IX	L	IX	44.541	1.648	1.656	1.241	-1.097	-4.43	4.29	-44.14				
0.9D+E 0	OXY	IXY	L	IXY	18.137	0.645	0.648	-0.283	-0.582	1.58	1.88	-17.98				
0.9D+E 0	OY	LY	L	LY	19.248	0.527	0.529	-0.268	0.456	1.65	-1.84	-19.10				
0.9D+E 45	OP	IP	L	IP	31.877	1.881	1.881	-1.881	1.330	-5.05	0.55	-45.05				
0.9D+E 45	OX	IX	L	IX	31.869	1.097	1.103	0.915	-0.616	-3.20	2.90	-31.59				
0.9D+E 45	OXY	IXY	L	IXY	12.929	0.375	0.377	-0.266	-0.266	1.19	1.19	-12.82				
0.9D+E 45	OY	LY	L	LY	31.862	1.097	1.103	0.915	0.915	2.90	-3.20	-31.59				
0.9D+E 90	OP	IP	L	IP	46.642	1.654	1.662	0.991	1.334	-4.33	-4.67	-46.23				
0.9D+E 90	OX	IX	L	IX	19.254	0.527	0.529	0.456	-0.268	-1.84	1.65	-19.10				
0.9D																

Leg S6	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	37.27	Comp	37.27	L 6P	-105.476	W 45	282.986	0.000	0.000	0.500	0.500	0.500	64.44	64.44	12.565	1	0
Leg S7	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	32.65	Comp	32.65	L 7P	-92.392	W 45	282.986	0.000	0.000	0.500	0.500	0.500	64.44	64.44	12.565	1	0
Leg S8	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	27.80	Comp	27.80	8P	-78.478	W 45	282.986	0.000	0.000	0.500	0.500	0.500	64.44	64.44	12.565	1	0
Leg S9	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	22.65	Comp	22.65	L 9P	-64.083	W 45	282.986	0.000	0.000	0.500	0.500	0.500	64.44	64.44	12.565	1	0
Leg S10	L 6' x 6' x 0.625"	SAE	6X6X0.63	33.0	25.91	Comp	25.91	L 10P	-53.655	W 45	207.070	0.000	0.000	0.500	0.500	0.500	63.89	63.89	12.565	1	0
Leg S11	L 6' x 6' x 0.625"	SAE	6X6X0.63	33.0	19.62	Comp	19.62	L 11P	-40.628	W 45	207.070	0.000	0.000	0.500	0.500	0.500	63.89	63.89	12.565	1	0
Leg S12	L 6' x 6' x 0.5"	SAE	6X6X0.5	33.0	15.26	Comp	15.26	L 12X	-25.588	W 45	167.717	0.000	0.000	0.500	0.500	0.500	63.89	63.89	12.565	1	0
Diag S1	B/B L3'x3'x0.25"	DAE	3X3X0.25	33.0	6.50	Comp	6.50	L 13X	-10.896	W 45	167.717	0.000	0.000	0.500	0.500	0.500	63.89	63.89	12.565	1	0
Diag S2	B/B L3'x3'x0.25"	DAE	3X3X0.25	33.0	80.92	Comp	80.92	D 2X	-26.660	W 45	32.947	0.000	0.000	0.333	1.000	0.333	166.37	155.37	19.271	5	0
Diag S3	B/B L2.5'x3'x0.25"	DAS	3X2.5X0.25	33.0	51.30	Comp	51.30	D 4X	-27.629	W 45	34.110	0.000	0.000	0.333	1.000	0.333	166.37	155.37	19.271	5	0
Diag S4	B/B L2.5'x3'x0.25"	DAS	3X2.5X0.25	33.0	60.91	Comp	60.91	D 7X	-18.809	W 45	30.882	0.000	0.000	0.333	1.000	0.333	167.36	156.13	30.333	5	0
Diag S5	B/B L2.5'x3'x0.25"	DAE	2.5X2.5X0.25	33.0	58.28	Comp	58.28	D 9X	-18.988	W 45	26.598	0.000	0.000	0.500	1.000	0.500	172.66	152.02	29.354	5	0
Diag S6	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	50.18	Comp	50.18	D 11X	-11.788	W 45	23.494	0.000	0.000	0.500	1.000	0.500	185.55	169.99	18.400	5	0
Diag S7	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	47.38	Comp	47.38	D 13X	-11.818	W 45	24.942	0.000	0.000	0.500	1.000	0.500	178.99	164.99	17.750	5	0
Diag S8	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	45.39	Comp	45.39	D 15X	-12.016	W 45	26.471	0.000	0.000	0.500	1.000	0.500	172.66	160.17	17.122	5	0
Diag S9	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	44.13	Comp	44.13	D 17X	-12.389	W 45	28.073	0.000	0.000	0.500	1.000	0.500	166.59	155.54	16.520	5	0
Diag S10	L 4' x 3' x 0.25"	SAU	4X3X0.25	33.0	61.64	Comp	61.64	D 19Y	-7.947	W 180	12.894	0.000	0.000	0.520	0.520	0.520	216.73	193.75	22.611	5	0
Diag S11	L 4' x 3' x 0.25"	SAU	4X3X0.25	33.0	55.36	Comp	55.36	D 21P	-8.007	W 0	14.464	0.000	0.000	0.520	0.520	0.520	202.55	182.94	21.131	5	0
Diag S12	L 3.5' x 3.5' x 0.25"	SAE	3.5X3.5X0.25	33.0	41.08	Comp	41.08	D 24XY	-7.417	W 45	18.057	0.000	0.000	0.520	0.520	0.520	177.19	163.62	19.707	5	0
Diag S13	L 3.5' x 3.5' x 0.25"	SAE	3.5X3.5X0.25	33.0	32.42	Comp	32.42	D 26XY	-6.583	W 45	20.304	0.000	0.000	0.520	0.520	0.520	164.99	154.32	18.349	5	0
Horiz 1	B/B L3'x3'x0.25"	DAL	3.5X3X0.25	33.0	32.26	Comp	32.26	H 2Y	-17.335	W 45	53.736	0.000	0.000	1.000	1.000	1.000	150.51	143.28	13.796	5	0
Horiz 2	B/B L3'x3'x0.25"	DAE	3X3X0.31	33.0	37.33	Comp	37.33	H 3P	-15.115	W 45	43.163	0.000	0.000	1.000	1.000	1.000	163.89	153.49	12.593	5	0
Horiz 3	B/B L3'x3'x0.25"	DAL	3.5X2.5X0.25	33.0	35.44	Comp	35.44	H 5P	-9.833	W 45	27.744	0.000	0.000	1.000	1.000	1.000	188.07	171.91	17.083	5	0
Horiz 4	B/B L3'x3'x0.25"	DAL	3.5X2.5X0.25	33.0	37.87	Comp	37.87	H 7P	-9.147	W 45	24.155	0.000	0.000	1.000	1.000	1.000	194.00	176.43	15.278	5	0
Horiz 5	B/B L3'x3'x0.25"	DAL	3X2.5X0.25	33.0	30.12	Comp	30.12	H 9P	-8.963	W 45	23.755	0.000	0.000	1.000	1.000	1.000	171.08	158.96	13.472	5	0
Horiz 6	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	35.45	Comp	35.45	H 11P	-7.609	W 45	21.463	0.000	0.000	1.000	1.000	1.000	196.14	178.06	12.659	5	0
Horiz 7	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	30.63	Comp	30.63	H 13P	-7.444	W 45	24.305	0.000	0.000	1.000	1.000	1.000	182.05	167.33	11.667	5	0
Horiz 8	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	26.47	Comp	26.47	H 15P	-7.345	W 45	27.761	0.000	0.000	1.000	1.000	1.000	167.97	156.59	10.764	5	0
Horiz 9	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	22.84	Comp	22.84	H 17P	-7.305	W 45	31.966	0.000	0.000	1.000	1.000	1.000	153.88	145.86	9.861	5	0
Horiz 10	B/B L3'x3'x0.25"	DAL	3X2.5X0.25	33.0	5.88	Comp	5.88	H 19Y	-1.084	W 0	18.433	0.000	0.000	1.000	1.000	1.000	227.51	201.97	17.917	5	0
Horiz 11	B/B L3'x3'x0.25"	DAL	3.5X2.5X0.25	33.0	3.10	Tens	2.95	H 21P	-0.651	W 180	20.089	0.000	0.000	1.000	1.000	1.000	204.59	184.49	16.111	5	0
Horiz 12	B/B L3'x3'x0.25"	DAL	3.5X3X0.31	33.0	6.25	Tens	6.10	H 23P	-0.655	W 180	15.028	0.000	0.000	1.000	1.000	1.000	162.33	147.62	14.305	5	0
Horiz 13	C8x11.5	CHN	C8x11.5	33.0	1.38	Comp	1.38	H 25Y	-0.236	W 0	17.073	0.000	0.000	1.000	1.000	1.000	240.00	211.48	12.500	5	0
LD 1	B/B L2.5'x2.5'x0.25"	DAL	2.5X2X0.25	33.0	58.18	Comp	58.18	LD 1X	-12.509	W 45	21.502	0.000	0.000	1.000	1.000	1.000	183.48	168.41	11.987	5	0
LD 2	B/B L2.5'x2.5'x0.25"	DAE	2.5X2.5X0.25	33.0	54.06	Comp	54.06	LD 3X	-17.402	W 45	32.188	0.000	0.000	1.000	1.000	1.000	153.57	145.62	9.841	5	0
LD 3	B/B L2.5'x2.5'x0.25"	DAL	2.5X2.5X0.25	33.0	61.25	Comp	61.25	LD 5X	-16.860	W 45	27.526	0.000	0.000	1.000	1.000	1.000	169.07	157.43	10.834	5	0
LD 4	B/B L2.5'x2.5'x0.25"	DAL	2.5X2X0.25	33.0	54.84	Comp	54.84	LD 7X	-12.768	W 45	23.282	0.000	0.000	1.000	1.000	1.000	174.88	161.86	11.425	5	0
LD 5	B/B L2.5'x2.5'x0.25"	DAL	2.5X2X0.25	33.0	57.76	Comp	57.76	LD 9X	-17.740	W 45	30.715	0.000	0.000	1.000	1.000	1.000	147.47	140.98	9.635	5	0
LD 6	B/B L2.5'x2.5'x0.25"	DAL	2.5X2X0.25	33.0	57.76	Comp	57.76	LD 11X	-17.997	W 45	32.997	0.000	0.000	1.000	1.000	1.000	162.33	150.69	9.861	5	0
LH 1	B/B L3.5'x3.5'x0.3125"	DAE	3.5X3.5X0.31	33.0	33.70	Comp	33.70	LH 1X	-14.472	W 45	42.941	0.000	0.000	1.000	2.000	1.000	181.48	166.89	12.099	5	0
LH 2	B/B L3.5'x3.5'x0.3125"	DAE	3.5X3.5X0.31	33.0	28.42	Comp	28.42	LH 3X	-14.070	W 45	49.511	0.000	0.000	1.000	2.000	1.000	166.43	155.42	11.095	5	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00	0.00	0.00	BR 7XY	-0.665	W 45	0.324	0.000	0.000	1.000	1.000	1.000	2.59	2.59	21.606	1	0

Group Summary (Tension Portion):

Group Label	Group Angle Desc. Type	Group Steel Strength (ksi)	Max Usage %	Max Tension Tens. %	Tension Force (kips)	Net Section Load Capacity (kips)	Tension Connect. Capacity (kips)	Tension Connect. Capacity (kips)	Tension Rupture Capacity (kips)	Length (ft)	No. Of Bolts	No. Of Holes	Hole Diameter (in)					
Leg S1	L 8' x 8' x 1.125"	SAE	8X8X1.13	33.0	42.67	Comp	25.35	L 1XY	125.935	W 45	496.880	0.000	0.000	0.000	25.130	0	0	0
Leg S2	L 8' x 8' x 1.125"	SAE	8X8X1.13	33.0	36.63	Comp	22.72	L 2XY	119.915	W 45	496.880	0.000	0.000	0.000	25.130	0	0	0
Leg S3	L 8' x 8' x 1.125"	SAE	8X8X1.13	33.0	49.23	Comp	24.98	L 3XY	111.293	W 45	445.459	0.000	0.000	0.000	25.130	0	0	0
Leg S4	L 8' x 8' x 0.875"	SAE	8X8X0.88	33.0	38.29	Comp	23.90	L 4XY	93.899	W 45	392.930	0.000	0.000	0.000	25.130	0	0	0
Leg S5	L 8' x 8' x 0.75"	SAE	8X8X0.75	33.0	36.62	Comp	22.10	L 5XY	75.096	W 45	339.767	0.000	0.000	0.000	25.130	0	0	0
Leg S6	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	37.27	Comp	22.86	L 6XY	66.052	W 45	288.981	0.000	0.000	0.000	12.565	0	0	0
Leg S7	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	32.65	Comp	19.48	L 7XY	56.308	W 45	288.981	0.000	0.000	0.000	12.565	0	0	0
Leg S8	L 6' x 6' x 0.875"	SAE	6X6X0.88	33.0	27.80	Comp	15.97	L 8XY	46.138	W 45	288.981	0.000	0.000	0.000	12.565	0	0	0
Leg S9	L 6' x 6' x 0.875"	SAE	6															

Site #: 88019
Name: Winstead, CT

Engineer: mothy.Kassakatis
Date: 10/08/21

Windspeed: No Ice: 114 mph Ice: 50 mph
Carrier: Sprint Nextel

Taper: -0.144444
FW @ Base: 45.00 ft

Taper Change: 225 ft
FW @ Top: 12.5 ft

Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.
0	XY-Symmetry	22.5	22.5	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
1	XY-Symmetry	20.69444444	20.69444444	25	Free	Free	Free	Free	Free	Free
2	XY-Symmetry	18.88888889	18.88888889	50	Free	Free	Free	Free	Free	Free
3	XY-Symmetry	17.08333333	17.08333333	75	Free	Free	Free	Free	Free	Free
4	XY-Symmetry	15.27777778	15.27777778	100	Free	Free	Free	Free	Free	Free
5	XY-Symmetry	13.47222222	13.47222222	125	Free	Free	Free	Free	Free	Free
6	XY-Symmetry	12.56944444	12.56944444	137.5	Free	Free	Free	Free	Free	Free
7	XY-Symmetry	11.66666667	11.66666667	150	Free	Free	Free	Free	Free	Free
8	XY-Symmetry	10.76388889	10.76388889	162.5	Free	Free	Free	Free	Free	Free
9	XY-Symmetry	9.861111111	9.861111111	175	Free	Free	Free	Free	Free	Free
10	XY-Symmetry	8.958333333	8.958333333	187.5	Free	Free	Free	Free	Free	Free
11	XY-Symmetry	8.055555556	8.055555556	200	Free	Free	Free	Free	Free	Free
12	XY-Symmetry	7.152777778	7.152777778	212.5	Free	Free	Free	Free	Free	Free
13	XY-Symmetry	6.25	6.25	225	Free	Free	Free	Free	Free	Free

Drop		Spreadsheet Version Last Updated: 11/12/2014									
Sub-Brace (Y or Blank)	# Vert	Drop (ft)	Height (ft)	Type	Count	Z-Elev. (ft)	FW (ft)	# Sub-Brace			
		8.333	25	2	1	0	45	3			
		8.333	25	2	2	25	41.38888889	3			
			25	A	3	50	37.77777778	2			
			25	A	4	75	34.16666667	2			
			25	A	5	100	30.55555556	2			
			12.5	A	6	125	26.94444444	1			
			12.5	A	7	137.5	25.13888889	1			
			12.5	A	8	150	23.33333333	1			
			12.5	A	9	162.5	21.52777778	1			
		1	12.5	X	10	175	19.72222222	1			
		1	12.5	X	11	187.5	17.91666667	1			
		1	12.5	X	12	200	16.11111111	1			
			12.5	X	13	212.5	14.30555556	1			
					14	225	12.5				

NOTES	
Types:	
1:	Built up Horiz. w/ A
2:	Built up Horiz. w/ M
A:	Typical A brace
X:	Typical X brace
Drop:	Use only for types 1 & 2
# Sections:	13

A1	XY-Symmetry	20.69444444	6.898148148	25	Free	Free	Free	Free	Free	Free
A2	XY-Symmetry	6.898148148	20.69444444	25	Free	Free	Free	Free	Free	Free
A3	XY-Symmetry	18.88888889	6.296296296	50	Free	Free	Free	Free	Free	Free
A4	XY-Symmetry	6.296296296	18.88888889	50	Free	Free	Free	Free	Free	Free
A5	Y-Symmetry	17.08333333	0	75	Free	Free	Free	Free	Free	Free
A6	X-Symmetry	0	17.08333333	75	Free	Free	Free	Free	Free	Free
A7	Y-Symmetry	15.27777778	0	100	Free	Free	Free	Free	Free	Free
A8	X-Symmetry	0	15.27777778	100	Free	Free	Free	Free	Free	Free
A9	Y-Symmetry	13.47222222	0	125	Free	Free	Free	Free	Free	Free
A10	X-Symmetry	0	13.47222222	125	Free	Free	Free	Free	Free	Free
A11	Y-Symmetry	12.56944444	0	137.5	Free	Free	Free	Free	Free	Free
A12	X-Symmetry	0	12.56944444	137.5	Free	Free	Free	Free	Free	Free
A13	Y-Symmetry	11.66666667	0	150	Free	Free	Free	Free	Free	Free
A14	X-Symmetry	0	11.66666667	150	Free	Free	Free	Free	Free	Free
A15	Y-Symmetry	10.76388889	0	162.5	Free	Free	Free	Free	Free	Free
A16	X-Symmetry	0	10.76388889	162.5	Free	Free	Free	Free	Free	Free
A17	Y-Symmetry	9.861111111	0	175	Free	Free	Free	Free	Free	Free
A18	X-Symmetry	0	9.861111111	175	Free	Free	Free	Free	Free	Free
H1	XY-Symmetry	21.29627222	12.09855741	16.667	Free	Free	Free	Free	Free	Free
H2	XY-Symmetry	12.09855741	21.29627222	16.667	Free	Free	Free	Free	Free	Free
H3	Y-Symmetry	21.29627222	0	16.667	Free	Free	Free	Free	Free	Free
H4	X-Symmetry	0	21.29627222	16.667	Free	Free	Free	Free	Free	Free
H5	XY-Symmetry	19.49071667	11.09548704	41.667	Free	Free	Free	Free	Free	Free
H6	XY-Symmetry	11.09548704	19.49071667	41.667	Free	Free	Free	Free	Free	Free
H7	Y-Symmetry	19.49071667	0	41.667	Free	Free	Free	Free	Free	Free
H8	X-Symmetry	0	19.49071667	41.667	Free	Free	Free	Free	Free	Free

Legs

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/2021
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter or Length (in)	Thickness ^[2] (in)	F _y (ksi)
1	0.000-25.00	L	8	1.125	33
2	25.00-50.00	L	8	1.125	33
3	50.00-75.00	L	8	1	33
4	75.00-100.0	L	8	0.875	33
5	100.0-125.0	L	8	0.75	33
6	125.0-137.5	L	6	0.875	33
7	137.5-150.0	L	6	0.875	33
8	150.0-162.5	L	6	0.875	33
9	162.5-175.0	L	6	0.875	33
10	175.0-187.5	L	6	0.625	33
11	187.5-200.0	L	6	0.625	33
12	200.0-212.5	L	6	0.5	33
13	212.5-225.0	L	6	0.5	33

Notes:

^[1] Type of Leg Shape: **R** = Round or **P** = Bent Plate or **S** = Schifferized Angle. **L** = Even Leg

^[2] For Solid Round Leg Shapes Thickness Equals Zero.

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/2021
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-25.00	2L		3	3	0.25	33	
2	25.00-50.00	2L		3	3	0.25	33	
3	50.00-75.00	2L		2.5	3	0.3125	33	
4	75.00-100.0	2L		2.5	3	0.25	33	
5	100.0-125.0	2L		2.5	3	0.25	33	
6	125.0-137.5	2L		2.5	2.5	0.25	33	
7	137.5-150.0	2L		2.5	2.5	0.25	33	
8	150.0-162.5	2L		2.5	2.5	0.25	33	
9	162.5-175.0	2L		2.5	2.5	0.25	33	
10	175.0-187.5	L		4	3	0.25	33	
11	187.5-200.0	L		4	3	0.25	33	
12	200.0-212.5	L		3.5	3.5	0.25	33	
13	212.5-225.0	L		3.5	3.5	0.25	33	

Notes:

- ^[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.
- ^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.
- ^[3] Applies to Single-Angle and Double-Angle Shapes only.
- ^[4] Applies to Double-Angle Shapes only.
- ^[5] Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/2021
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	B/B Spacing (in.)
1	0.000-25.00	2L		3.5	3	0.3125	33	
2	25.00-50.00	2L		3	3	0.3125	33	
3	50.00-75.00	2L		3.5	2.5	0.25	33	
4	75.00-100.0	2L		3	2.5	0.25	33	
5	100.0-125.0	2L		3	2.5	0.25	33	
6	125.0-137.5	2L		2.5	2.5	0.25	33	
7	137.5-150.0	2L		2.5	2.5	0.25	33	
8	150.0-162.5	2L		2.5	2.5	0.25	33	
9	162.5-175.0	2L		2.5	2.5	0.25	33	
10	175.0-187.5	2L		3	2.5	0.25	33	
11	187.5-200.0	2L		3	2.5	0.25	33	
12	200.0-212.5	2L		3.5	3	0.3125	33	
13	212.5-225.0	C		8	11.5		33	

Notes:

^[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle, **2L** = Double-Angle, **C** = Channel, **W** = W Shape

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/2021
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)
1	0.000-25.00	2L		2.5	2	0.25	33
2	0.000-25.00	2L		2.5	2.5	0.25	33
3	0.000-25.00	2L		2.5	2.5	0.25	33
4	25.00-50.00	2L		2.5	2	0.25	33
5	25.00-50.00	2L		2.5	2	0.25	33
6	25.00-50.00	2L		2.5	2	0.25	33

Notes:

^[1] Type of Diagonal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/2021
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-25.00	2L		3.5	3.5	0.3125	33	
2	25.00-50.00	2L		3.5	3.5	0.3125	33	

Notes:

- ^[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.
- ^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.
- ^[3] Applies to Single-Angle and Double-Angle Shapes only.
- ^[4] Applies to Double-Angle Shapes only.
- ^[5] Applies to Single-Angle Shapes only.

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/21
Carrier:	Sprint Nextel

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter** (in)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone? (Yes/No)	Include in Wind Load (Yes/No)
1 Ladder	0	225	1	Flat	2.000	8.0	6	No	Yes
2 1-1/4" Hybriflex Cable	0	198	1	Round	1.540	4.8	1	Yes	Yes
3 1.99" Hybrid	0	196	3	Round	1.990	6.3	1.9	Yes	Yes
4 1 1/4" Coax	0	194	1	Round	1.550	4.9	0.63	Yes	Yes
5 7/8" Coax	0	185	1	Round	1.090	3.4	0.33	Yes	Yes
6 Wave Guide	0	225	1	Flat	2.000	8.0	6	Yes	Yes
7 0.39" (9.8mm) Cable	0	170	1	Round	0.390	1.2	0.07	Yes	Yes
8 0.92" (23.4mm) Cable	0	170	3	Round	0.920	2.9	0.89	Yes	Yes

**Note: Actual block width multiplied by 0.75 (1.5 block drag factor actual divided by 2.0 flat

No.	Elevation (ft)	C ₁ A _c (ft ²)	C ₁ A _c (ice) (ft ²)	Force (lb)	Force (ice) (lb)	Weight (lb)	Weight (ice) (lb)	60 Azi Mult.	Force mean	F (ice) mean	Height Flag	Sum of Forces (No I	
												60 Azi	180 Azi
1	225	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00			
	225	80.00	108.00	2273.747	590.481	10800	14040	1.00	1250.56	324.76	1.5044444	2273.74696	
2	206.25	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5044454		
	206.25	70.00	94.50	1940.678	503.985	9600	12480	1.00	1067.37	277.19	1.5048485	1940.677867	
3	175	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5048495		
	175	15.00	20.25	396.789	103.044	600	780	1.00	218.23	56.67	1.5057143	396.7886762	
4	125	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5057153		
	125	80.00	108.00	1922.238	499.196	10800	14040	1.00	1057.23	274.56	1.5080000	1922.237874	
5	75	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5080010		
	75	15.00	20.25	311.475	80.889	600	780	1.00	171.31	44.49	1.5133333	311.4748928	
6	25	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5133343		
	25	15.00	20.25	239.530	62.205	600	780	1.00	131.74	34.21	1.5400000	239.5296657	
7	225	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5400010		
	225	512.00	691.20	14551.981	3779.081	12000	15600	1.00	8003.59	2078.49	1.5400010	14551.98055	
8	225	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5400020		
	225	0.00	0.00	0.000	0.000	1	2	1.00	0.00	0.00	1.5044444	14551.98055	
9	196	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5044454		
	196	30.21	40.78	618.997	160.751	1440	1872	1.00	340.45	88.41	1.5044454	618.9967638	
10	196	1.98	3.01	54.100	15.845	166	233	1.00	29.75	8.71	1.5044464		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5044464	673.096543	
11	196	1.98	3.01	54.100	15.845	270	364	1.00	29.75	8.71	1.5044474		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5044474	727.1963222	
12	196	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5044484		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5044484	727.1963222	
13	196	10.14	13.76	277.046	72.335	374	563	1.00	152.38	39.78	1.5044494		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5044494	1004.242749	
14	196	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5044504		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5051020	1004.242749	
15	196	34.77	42.51	950.048	223.425	442	904	1.00	522.53	122.88	1.5051030		
	196	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5051030	1954.290986	
16	194	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5051090		
	194	6.73	9.09	183.347	47.614	61	80	1.00	100.84	26.19	1.5051546	183.3465312	
17	174	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5051556		
	174	2.56	3.46	67.608	17.557	25	33	1.00	37.18	9.66	1.5057471	67.60781338	
18	170	1.97	3.00	51.598	15.124	259	350	1.00	28.38	8.32	1.5057481		
	170	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5058824	51.59781565	
19	170	2.21	3.32	58.004	16.774	216	298	1.00	31.90	9.23	1.5058834		
	170	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5058824	109.6020715	
20	170	2.36	3.53	61.987	17.809	256	352	1.00	34.09	9.80	1.5058834		
	170	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5058824	171.5887091	
21	170	5.13	7.07	134.668	35.662	38	146	1.00	74.07	19.61	1.5058834		
	170	0.00	0.00	0.000	0.000	2	3	1.00	0.00	0.00	1.5058824	306.2570141	
22	170	31.19	37.75	818.303	190.507	345	735	1.00	450.07	104.78	1.5058834		
	170	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5058824	1124.560383	
23	170	31.55	38.22	827.608	192.869	297	682	1.00	455.18	106.08	1.5058834		
	170	0.00	0.00	0.000	0.000	4	5	1.00	0.00	0.00	1.5058824	1952.168218	
24	170	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5058834		
	170	30.21	40.78	594.332	154.345	1440	1872	1.00	326.88	84.89	1.5058824	2546.500326	
25	196	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5058834		
	196	10.86	14.66	296.729	77.059	552	717	1.00	163.20	42.38	1.5051020	296.7290921	
26					#VALUE!			1.00	#VALUE!	#VALUE!	1.5051030		
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
27					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
29					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
30					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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31					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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32					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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33					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
34					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
35					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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36					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
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37					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
38					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
39					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
40					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
41					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
42					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
43					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
44					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
45					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
46					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
47					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
48					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
49					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
50					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	

Foundation

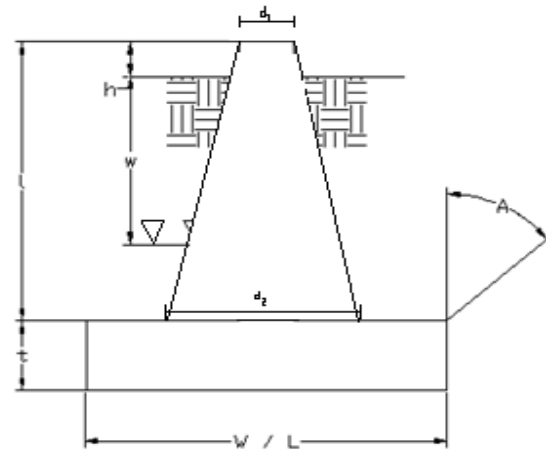
Design Loads (Factored)

Compression/Leg:	245.58	k
Uplift/Leg:	155.61	k
Shear/Leg:	40.87	k

Face Width @ Top of Pier (d_1):	3.50	ft
Face Width @ Bottom of Pier (d_2):	8.50	ft
Total Length of Pier (l):	9.50	ft
Height of Pedestal Above Ground (h):	0.50	ft
Width of Pad (W):	20.50	ft
Length of Pad (L):	20.50	ft
Thickness of Pad (t):	2.00	ft
Water Table Depth (w):	30.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil (Above Water Table):	115.0	pcf
Unit Weight of Soil (Below Water Table):	52.6	pcf
Friction Angle of Uplift (A):	20	°
Ultimate Compressive Bearing Pressure:	12000	psf
Ultimate Skin Friction:	0	psf

Volume Pier (Total):	361.79	ft ³
Volume Pad (Total):	840.50	ft ³
Volume Soil (Total):	4736.93	ft ³
Volume Pier (Buoyant):	0.00	ft ³
Volume Pad (Buoyant):	0.00	ft ³
Volume Soil (Buoyant):	0.00	ft ³
Weight Pier:	54.27	k
Weight Pad:	126.08	k
Weight Soil:	544.75	k
Uplift Skin Friction:	0.00	k

Site No.:	88019
Engineer:	Timothy.Kassakatis
Date:	10/08/21
Carrier:	Sprint Nextel



Uplift Check

ϕ_s Uplift Resistance (k)	Ratio	Result
543.82	0.29	OK

Axial Check

ϕ_s Axial Resistance (k)	Ratio	Result
3782.25	0.06	OK

Anchor Bolt Check

Bolt Diameter (in)	2.5
# of Bolts	4
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	C

Usage Ratio	Result
0.31	OK

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Section 1 - Site Information

Site ID: CTNH702A
Status: Draft
Version: 1
Project Type: Sprint Retain
Approved: Not Approved
Approved By: Not Approved
Last Modified: 7/9/2021 3:58:48 PM
Last Modified By: Farhan.Badar@T-Mobile.com

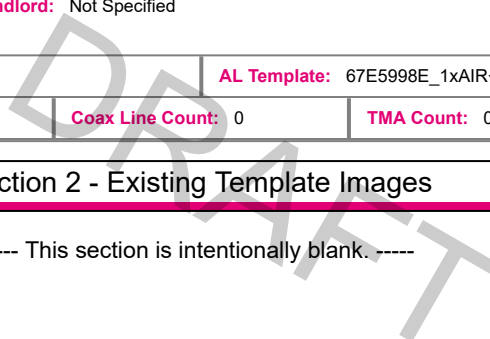
Site Name: CT73XC001
Site Class: Utility Lattice Tower
Site Type: Structure Non Building
Plan Year: 2021
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: Not Specified

Latitude: 41.55861000
Longitude: -73.05973000
Address: 428 Platt Hill Rd
City, State: Winsted, CT
Region: NORTHEAST

RAN Template: 67E5A998E 6160		AL Template: 67E5998E_1xAIR+1OP		
Sector Count: 3	Antenna Count: 6	Coax Line Count: 0	TMA Count: 0	RRU Count: 6

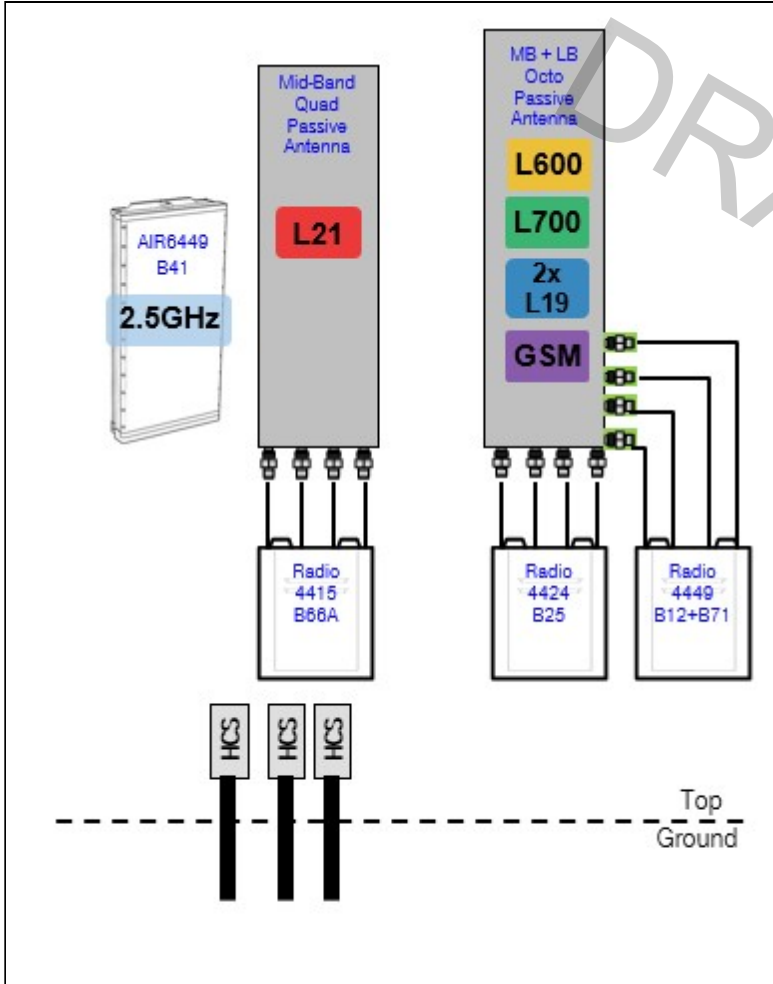
Section 2 - Existing Template Images

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Section 3 - Proposed Template Images

67D5A998C_1xAIR+1xQP+1xOP.jpg



Notes:

Section 4 - Siteplan Images

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DRAFT

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Section 5 - RAN Equipment

Existing RAN Equipment

----- This section is intentionally blank. -----

Proposed RAN Equipment

Template: 67E5A998E 6160

Enclosure	1	2	3
Enclosure Type	Ancillary Equipment (Ericsson)	Enclosure 6160	RBS 6601
Baseband		BB 6648 L2500 N2500 BB 6648 L1900 L2100 BB 6648 L700 L600 N600	DUG20 G1900
Hybrid Cable System	Ericsson Hybrid Trunk 6/24 4AWG 100m (x 3) PSU 4813		

RAN Scope of Work:

200A service upgrade

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Section 6 - A&L Equipment

Existing Template: Custom
Proposed Template: 67E5998E_1xAIR+1OP

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	RFS - APXVAALL24_43-U-NA20 (Octo)			Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		
Azimuth	30			30		
M. Tilt						
Height	196			196		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L700 L600 N600	L700 L600 N600	L2100 L1900 G1900	L2100 L1900 G1900	L2500 N2500	L2500 N2500
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2	2	2	2
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMA's						
Diplexers / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	SHARED Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						

Unconnected Equipment:

Scope of Work:

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Print Name: Standard
PORs: New Build_Sprint Keep

Sector 2 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	RFS - APXVAALL24_43-U-NA20 (Octo)			Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		
Azimuth	150			150		
M. Tilt						
Height	196			196		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L700 L600 N600	L700 L600 N600	L2100 L1900 G1900	L2100 L1900 G1900	L2500 N2500	L2500 N2500
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2		2		2	
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMA's						
Diplexers / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	SHARED Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						
Unconnected Equipment:						
Scope of Work:						

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Print Name: Standard
PORs: New Build_Sprint Keep

Sector 3 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	RFS - APXVAALL24_43-U-NA20 (Octo)			Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		
Azimuth	270			270		
M. Tilt						
Height	196			196		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L700 L600 N600	L700 L600 N600	L2100 L1900 G1900	L2100 L1900 G1900	L2500 N2500	L2500 N2500
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2		2		2	
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)		
TMA's						
Diplexers / Combiners						
Radio	Radio 4480 B71+B85 (At Antenna)	SHARED Radio 4480 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)		
Sector Equipment						
Unconnected Equipment:						
Scope of Work:						

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template: 67E5A998E 6160	A&L Template: 67E5998E_1xAIR+1OP
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Section 7 - Power Systems Equipment

Existing Power Systems Equipment

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Proposed Power Systems Equipment

Enclosure	1
Enclosure Type	Enclosure 6160

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

T-Mobile Existing Facility

Site ID: CTNH702A

CT73XC001

428 Platt Hill Road
Winstead, Connecticut 06098

November 10, 2021

EBI Project Number: 6221006623

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	6.75%

November 10, 2021

T-Mobile

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

Emissions Analysis for Site: CTNH702A - CT73XC001

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **428 Platt Hill Road in Winstead, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 428 Platt Hill Road in Winstead, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 7) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 8) 1 LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 11) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 13) The antennas used in this modeling are the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied

specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 14) The antenna mounting height centerline of the proposed antennas is 196 feet above ground level (AGL).
- 15) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAALL24_43- U-NA20	Make / Model:	RFS APXVAALL24_43- U-NA20	Make / Model:	RFS APXVAALL24_43- U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd
Height (AGL):	196 feet	Height (AGL):	196 feet	Height (AGL):	196 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	17,868.72	ERP (W):	17,868.72	ERP (W):	17,868.72
Antenna A1 MPE %:	2.35%	Antenna B1 MPE %:	2.35%	Antenna C1 MPE %:	2.35%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	196 feet	Height (AGL):	196 feet	Height (AGL):	196 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A2 MPE %:	3.62%	Antenna B2 MPE %:	3.62%	Antenna C2 MPE %:	3.62%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	5.97%
Dish	0.58%
AT&T	0.02%
Dept Homeland Security	0.18%
Site Total MPE % :	6.75%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	5.97%
T-Mobile Sector B Total:	5.97%
T-Mobile Sector C Total:	5.97%
Site Total MPE % :	6.75%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE	2	591.73	196.0	1.18	600 MHz LTE	400	0.29%
T-Mobile 600 MHz NR	1	1577.94	196.0	1.57	600 MHz NR	400	0.39%
T-Mobile 700 MHz LTE	2	695.22	196.0	1.38	700 MHz LTE	467	0.30%
T-Mobile 1900 MHz GSM	4	1052.26	196.0	4.19	1900 MHz GSM	1000	0.42%
T-Mobile 1900 MHz LTE	2	2104.51	196.0	4.19	1900 MHz LTE	1000	0.42%
T-Mobile 2100 MHz LTE	2	2649.42	196.0	5.28	2100 MHz LTE	1000	0.53%
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	11044.63	196.0	11.00	2500 MHz LTE IC & 2C Traffic	1000	1.10%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	1074.06	196.0	1.07	2500 MHz LTE IC & 2C Broadcast	1000	0.11%
T-Mobile 2500 MHz NR Traffic	1	22089.26	196.0	22.00	2500 MHz NR Traffic	1000	2.20%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	196.0	2.14	2500 MHz NR Broadcast	1000	0.21%
						Total:	5.97%

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

Summary

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

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	5.97%
Sector B:	5.97%
Sector C:	5.97%
T-Mobile Maximum MPE % (Sector A):	5.97%
Site Total:	6.75%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.75%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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