

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



September 17, 2021

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

RE: Notice of Exempt Modification
15 Oakdale Avenue, Winsted, CT 06098 (AKA 108 Oakdale Ave)
Latitude: 41.912690000
Longitude: -73.0495000
T-Mobile Site#: CTNH403A - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 166' level of the 180' monopole located at 15 Oakdale Avenue, Winsted, CT. The monopole is owned by American Tower. The property is owned by William P. Stow Revocable Trust % American Tower. T-Mobile now intends to remove three (3) antennas and replace three (3) of its existing antennas with three (3) L2500/N2500 antennas. The new antennas would be installed at the same 166' level of the tower. The new antennas support 5G services.

Planned Modifications:

Tower:

Install New:

- (3) Ericsson AIR6449 B41 Antennas
- (3) Radio 4449 B71 + B85
- (3) Radio 4460 B25/B66
- 1) 6 x 24 HCS Cables

Existing to Remain:

- (3) APXVAARR24-43-U-NA20 Antennas
- (3) 1 ¼" Fiber Cables

To Be Removed:

- (6) Ericsson AIR 21 Antennas
- (3) Radio 4449 B12, B71
- (6) 1 ⅝" Coax Cables

Ground Work:

Install (1) 6160 Equipment Cabinet, (1) Battery Cabinet B160

Remove (1) Nortel Cabinet

This tower was originally approved by the Siting Council in Docket No. 138 dated November 26, 1990. The proposed modification complies with the original approval.

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 Althea Candy Perez, Elected Official, and Pamela Colombie, Zoning Enforcement Officer, as well as the property and tower owner.

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

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

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

Sincerely,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Althea Candy Perez - Mayor of Winchester

Pamela Colombie - Zoning Enforcement Officer

American Tower - Tower Owner

William P. Stow Revocable Trust (American Tower represents Owner) - Property Owner

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
MAYOR ALTHEA CANDY PEREZ
338 MAIN STREET
WINSTED CT 06098

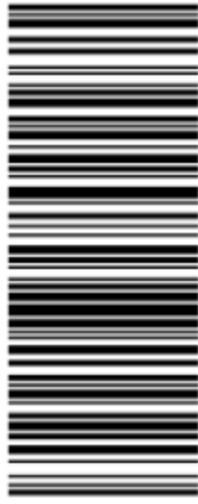


CT 067 9-02



UPS GROUND

TRACKING #: 1Z V25 742 03 9621 5457



BILLING: P/P

Reference #1: CTNH403A

XOL 21.09.06 NV49 37.6A 09/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
PAMELA COLOMBIE
338 MAIN STREET
WINSTED CT 06098

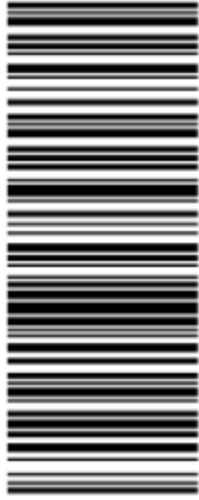


CT 067 9-02



UPS GROUND

TRACKING #: 1Z V25 742 03 9530 5441



BILLING: P/P

Reference #1: CTNH403A

XOL 21.09.06 NV49 37.6A 09/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

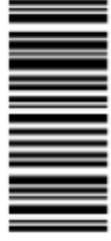
1 LBS

1 OF 1

SHIP TO:
CONTACTS MANAGEMENT
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBBURN MA 01801



MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9714 5469



BILLING: P/P

Reference #1: CTNH403A



TM

XOL 21.09.06 NV45 37.0A 09/2021*

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/15/2021

Delivery Time: 11:47 AM

Left At: FRONT DESK

Signed by: ID Verified

TRANSCEND WIRELESS

Tracking Number: [1ZV257420397145469](#)
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: [CTNH403A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/15/2021

Delivery Time: 12:23 PM

Left At: FRONT DESK

Signed by: SEDLACK

TRANSCEND WIRELESS

Tracking Number: [1ZV257420395305441](#)
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: [CTNH403A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/15/2021

Delivery Time: 2:06 PM

Left At: FRONT DESK

Signed by: FRACASSO

TRANSCEND WIRELESS

Tracking Number: [1ZV257420396215457](#)

Ship To:

MAYOR ALTHEA CANDY PEREZ
338 MAIN STREET
WINSTED, CT 06098
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CTNH403A

108 OAKDALE AVE

[Sales](#)
[Print](#)
[Map It](#)

Location	108 OAKDALE AVE	Mblu	028/ 151/ 002-1/ /
Acct#	103466	Owner	STOW WILLIAM P TRUSTEE
Assessment	\$101,150	Appraisal	\$144,500
PID	4991	Building Count	1

Current Value

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

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

Owner of Record

Owner	STOW WILLIAM P TRUSTEE	Sale Price	\$0
Co-Owner		Certificate	
Address	C/O AMERICAN TOWER #302506	Book & Page	0411/0779
	PO BOX 723597	Sale Date	03/12/2013
	ATLANTA, GA 31139	Instrument	29

Ownership History

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

Building Information

Building 1 : Section 1

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

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

Building Photo



Building Layout



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

Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	12.00
% Conn Wall	

Extra Features

Extra Features					<u>Legend</u>
Code	Description	Size	Value	Bldg #	
		0.00			1

Land

Land Use

Use Code 4310
 Description Tele Tower ⓘ
 Zone RR
 Alt Land Appr No
 Category

Land Line Valuation

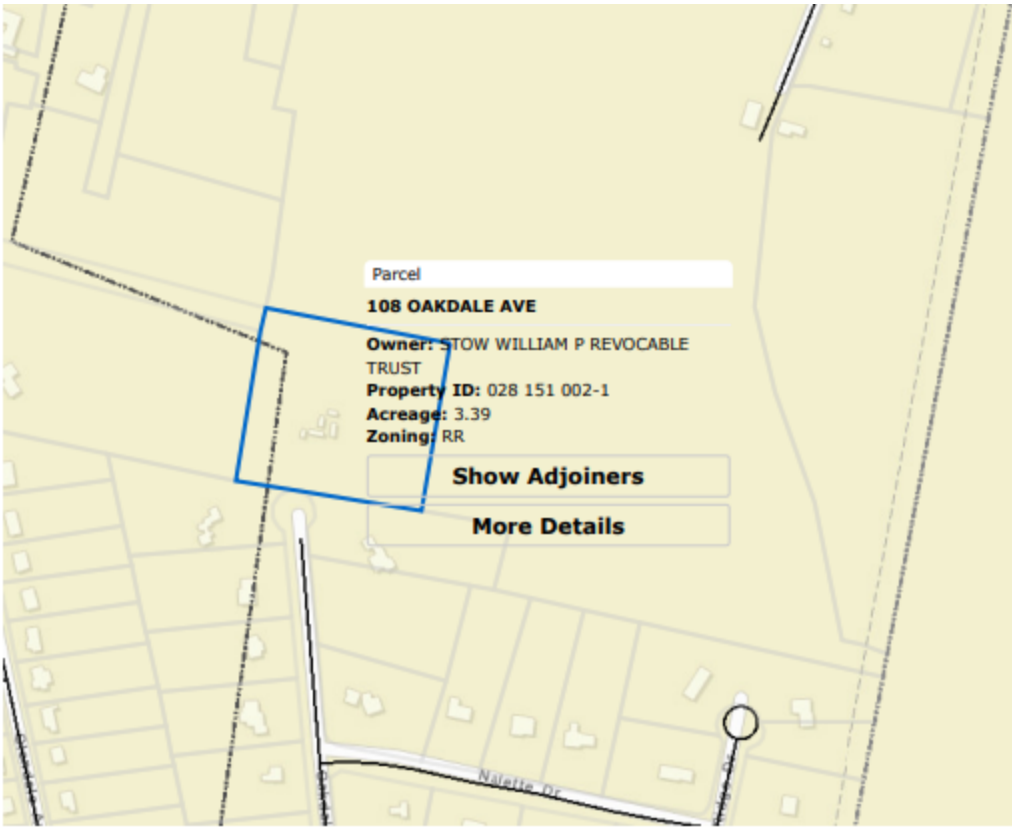
Size (Acres) 3.39
 Depth
 Assessed Value \$76,720
 Appraised Value \$109,600

Outbuildings

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

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$34,900	\$109,600	\$144,500
2017	\$25,900	\$109,600	\$135,500
2016	\$19,900	\$109,600	\$129,500



Town of Winchester

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

Connecticut

Siting

Council

November 26, 1990

DECISION AND ORDER

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

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

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

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

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

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

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

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

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

The parties to this proceeding are:

(PARTIES)

SNET Cellular, Inc.

(ITS REPRESENTATIVES)

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

(INTERVENORS)

Pikeville Cellular Partnership

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

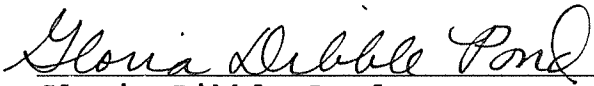
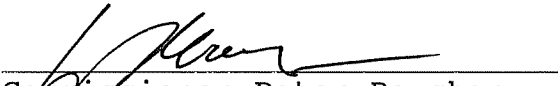


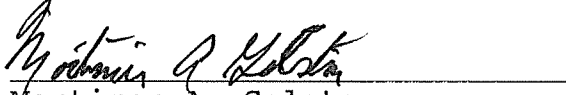
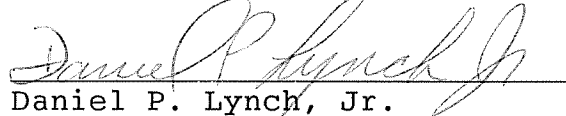
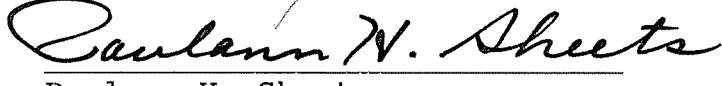
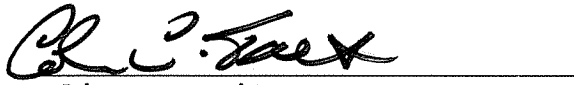
TEF:bw

4886E-1-3

CERTIFICATION

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

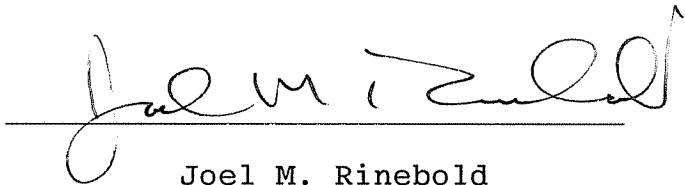
Dated at New Britain, Connecticut the 26 day of November, 1990.

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

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

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

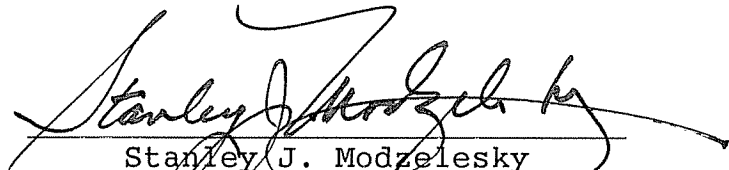
ATTEST:



Joel M. Rinebold
Executive Director
Connecticut Siting Council

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

ATTEST:



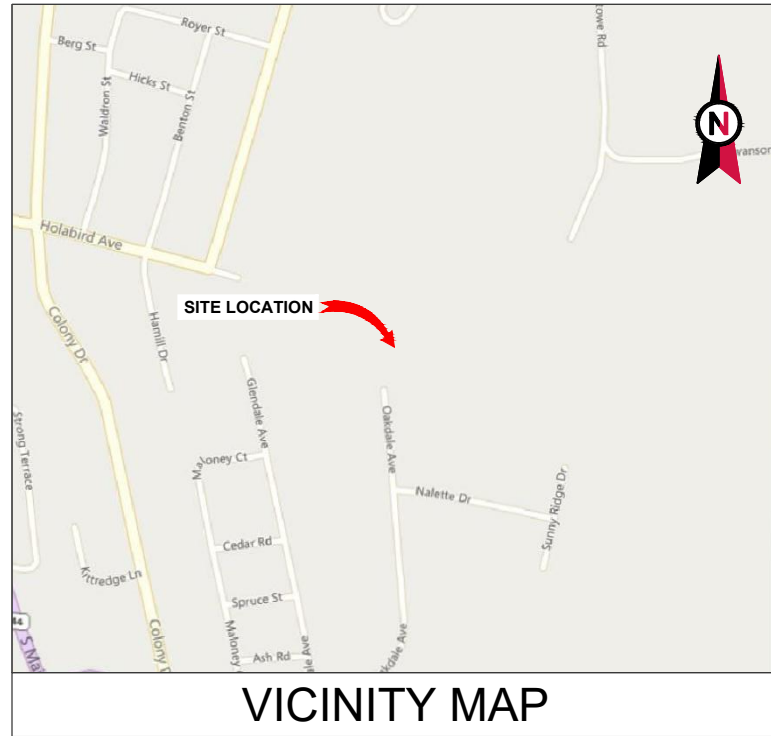
Stanley J. Modzelesky
Executive Assistant
Connecticut Siting Council

Date: August 22, 1990

Docket No. 138

LIST OF PARTIES AND INTERVENORS - SERVICE LIST

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

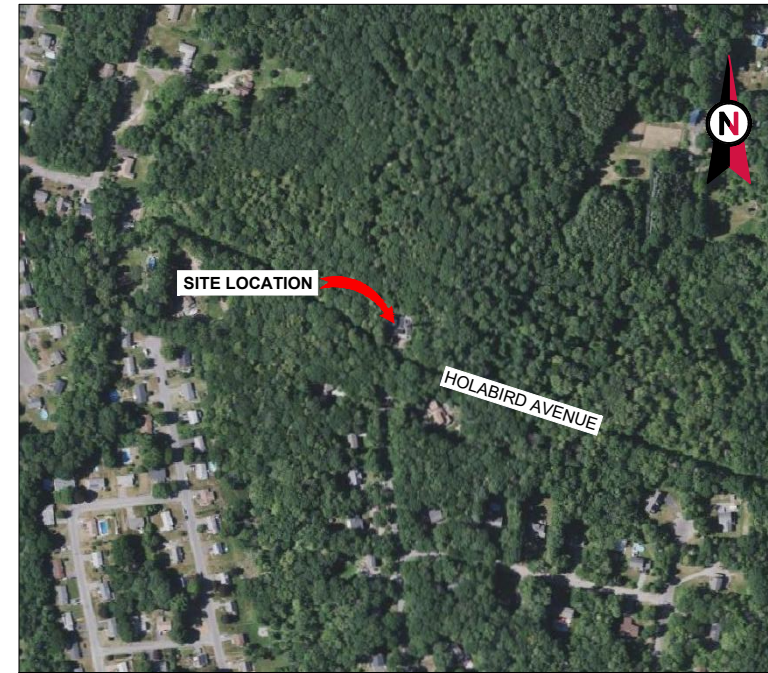


VICINITY MAP



AMERICAN TOWER®

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



LOCATION MAP

**T-MOBILE ANCHOR ANTENNA AMENDMENT PLAN
 67D5998E 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. 2018 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE IBC 2. 2017 NATIONAL ELECTRIC CODE - NFPA 70 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 15 OAKDALE AVENUE WINSTED, CT 06098 COUNTY: LITCHFIELD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.92160298 LONGITUDE: -73.04941959 GROUND ELEVATION: 1073' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (6) ANTENNA(S), (3) RRH(S) AND (6) COAX CABLE(S) INSTALL (3) ANTENNA(S), (6) RRH(S) AND (1) HYBRID CABLE(S) EXISTING (3) ANTENNA(S) AND (3) FIBER CABLE(S) TO REMAIN <u>GROUND WORK:</u> REMOVE (1) NORTEL CABINET INSTALL (1) ENCLOSURE 6160 AND (1) B160 EXISTING (1) RBS 6131 CABINET 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> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 135 NEW ROAD MADISON, CT 06443 PROJECT #: 21904282A <u>PROPERTY OWNER:</u> WILLIAM P STOW 15 OAKDALE AVENUE, WINSTED, CT 06098	<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. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001	TITLE SHEET	0	09/10/21	MPT
<u>UTILITY COMPANIES</u> POWER COMPANY: EVER SOURCE PHONE: (877) 659-6326 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 135 NEW ROAD MADISON, CT 06443 PROJECT #: 21904282A <u>PROPERTY OWNER:</u> WILLIAM P STOW 15 OAKDALE AVENUE, WINSTED, CT 06098	<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. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-002	GENERAL NOTES	0	09/10/21	MPT
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 135 NEW ROAD MADISON, CT 06443 PROJECT #: 21904282A <u>PROPERTY OWNER:</u> WILLIAM P STOW 15 OAKDALE AVENUE, WINSTED, CT 06098	<u>PROJECT LOCATION DIRECTIONS</u> FROM HARTFORD TAKE RT 44 TO WINCHESTER. JUST BEFORE JUNCTION FOR RT 8 TURN RIGHT AT LIGHT. TAKE SECOND LEFT ONTO OAKDALE AVENUE. GO TO END OF STREET AND THROUGH ACCESS ROAD GATE TO SITE.	C-101	DETAILED SITE PLAN	0	09/10/21	MPT
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 135 NEW ROAD MADISON, CT 06443 PROJECT #: 21904282A <u>PROPERTY OWNER:</u> WILLIAM P STOW 15 OAKDALE AVENUE, WINSTED, CT 06098	<u>PROJECT LOCATION DIRECTIONS</u> FROM HARTFORD TAKE RT 44 TO WINCHESTER. JUST BEFORE JUNCTION FOR RT 8 TURN RIGHT AT LIGHT. TAKE SECOND LEFT ONTO OAKDALE AVENUE. GO TO END OF STREET AND THROUGH ACCESS ROAD GATE TO SITE.	C-102	DETAILED GROUND PLAN	0	09/10/21	MPT
			C-201	TOWER ELEVATION	0	09/10/21	MPT
			C-401	ANTENNA INFORMATION & SCHEDULE	0	09/10/21	MPT
			C-501	CONSTRUCTION DETAILS	0	09/10/21	MPT
			E-501	GROUNDING DETAILS	0	09/10/21	MPT
			E-502	ELECTRICAL DETAILS	0	09/10/21	MPT
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			
			R-604	SUPPLEMENTAL			
			R-605	SUPPLEMENTAL			



Colliers Engineering & Design
 www.colliersengineering.com
 Doing Business as **MASER CONSULTING**
 MADISON
 135 New Road
 Madison, CT 06443
 Phone: 860.395.0055
 COLLIERS ENGINEERING & DESIGN CT, P.C.
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	08/12/21
0	FOR CONSTRUCTION	RMD	09/10/21

ATC SITE NUMBER:
302506

 ATC SITE NAME:
WINCHESTER CT 3

 T-MOBILE SITE NAME:
LITCHFIELD ATC

 SITE ADDRESS:
 15 OAKDALE AVENUE
 WINSTED, CT 06098

SEAL:

Petros Tsoukalas
 CONNECTICUT LICENSED PROFESSIONAL ENGINEER
 LICENSE NUMBER: 32577
 Digitally signed by Petros Tsoukalas
 Date: 2021.09.16 17:08:36 -0400
 C.T. JPC.0000131



DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

TITLE SHEET

 SHEET NUMBER:
G-001
 REVISION:
0

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

3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ELECTRICAL NOTES:

1. ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

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.



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Phone: 860.395.0055
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DOING BUSINESS AS MASER CONSULTING

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	08/12/21
0	FOR CONSTRUCTION	RMD	09/10/21

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

T-MOBILE SITE NAME:
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SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

Petros Tsoukalas
CONNECTICUT LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 32577
COLLIERS ENGINEERING & DESIGN
C.T. JPC.0000131

Digitally signed by Petros Tsoukalas
Date: 2021.09.16 17:08:36 -0400



DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

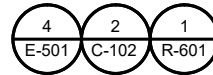
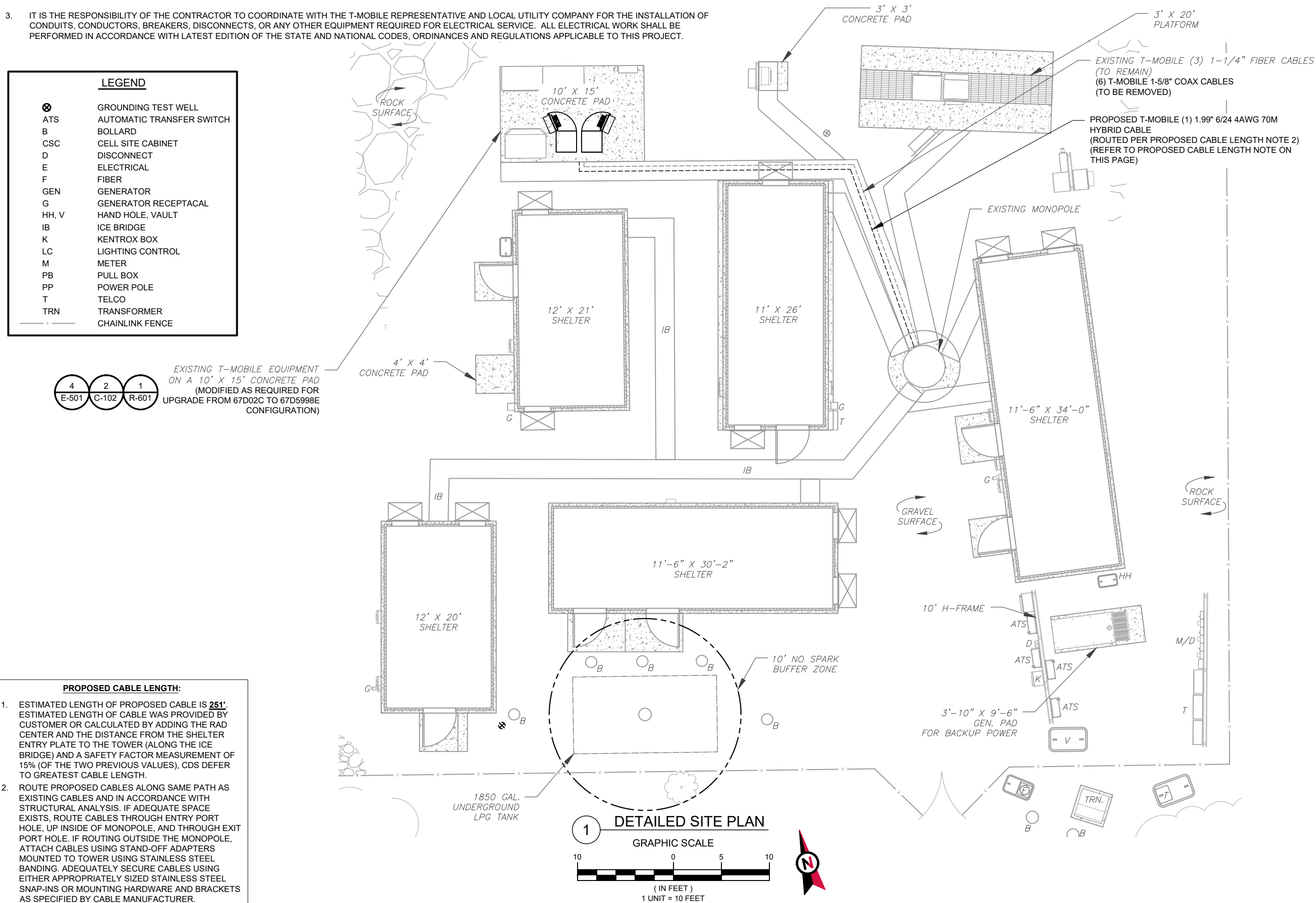
GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

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SITE PLAN NOTES:

- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
- 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.

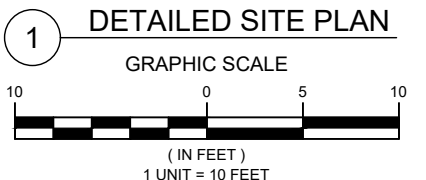
LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK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



EXISTING T-MOBILE EQUIPMENT ON A 10' X 15' CONCRETE PAD (MODIFIED AS REQUIRED FOR UPGRADE FROM 67D02C TO 67D5998E CONFIGURATION)

PROPOSED CABLE LENGTH:

- ESTIMATED LENGTH OF PROPOSED CABLE IS **251'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.



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SITE ADDRESS:
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WINSTED, CT 06098

SEAL:

Petros Tsoukalas
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 LICENSE NUMBER: 32577
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T-Mobile

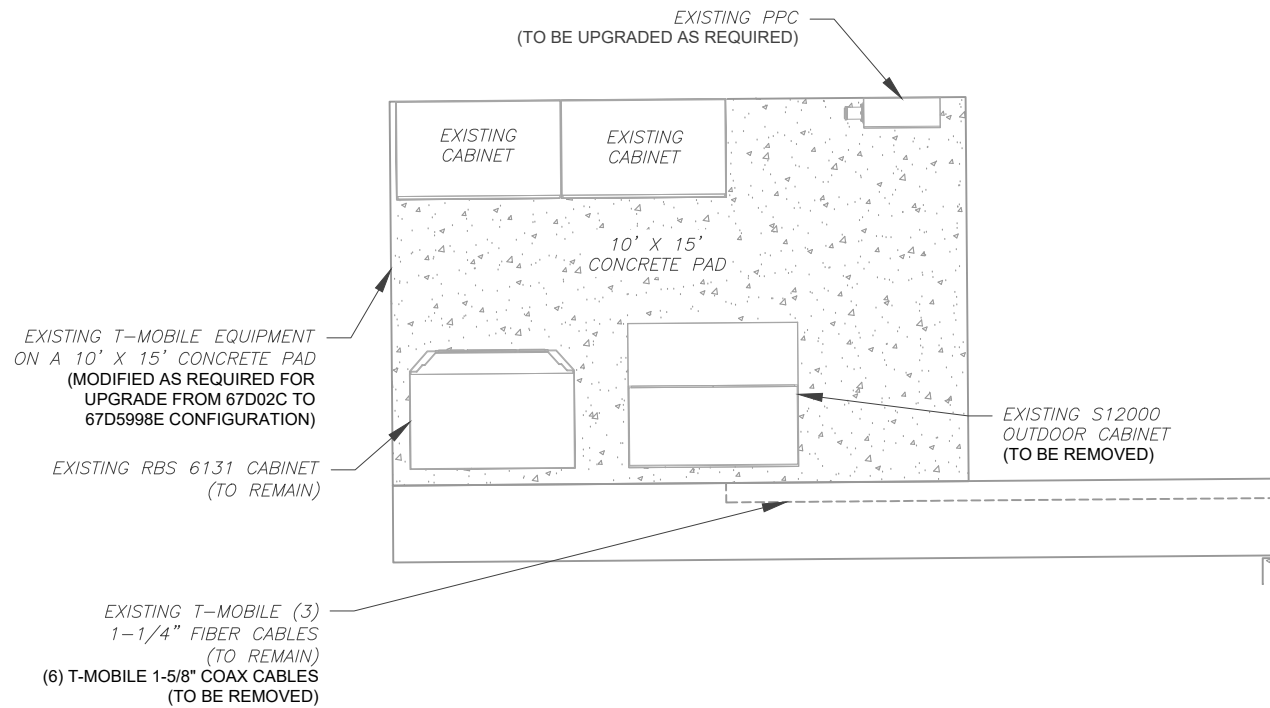
DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

DETAILED SITE PLAN	
SHEET NUMBER: C-101	REVISION: 0

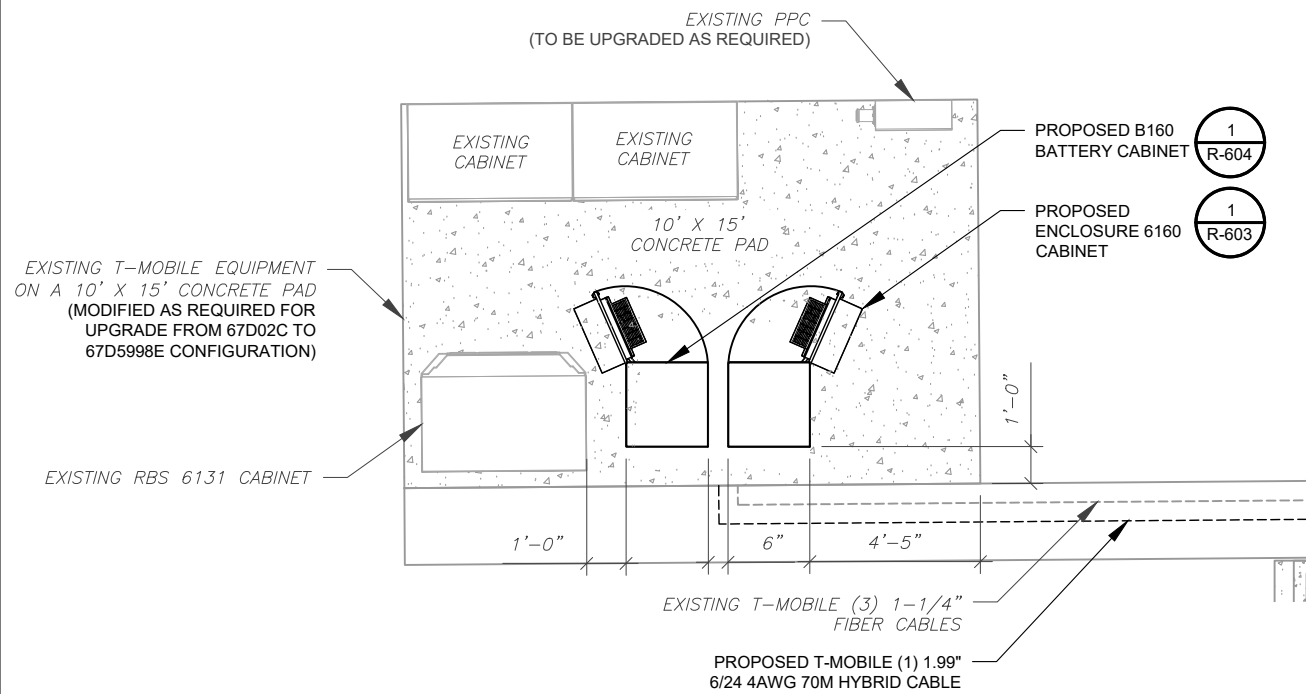
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SITE PLAN NOTES:

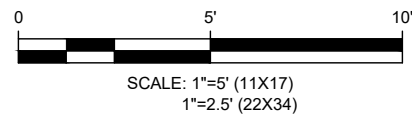
1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL 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.



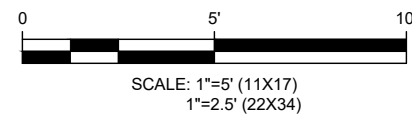
T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



1 EXISTING GROUND EQUIPMENT LAYOUT



2 PROPOSED GROUND EQUIPMENT LAYOUT



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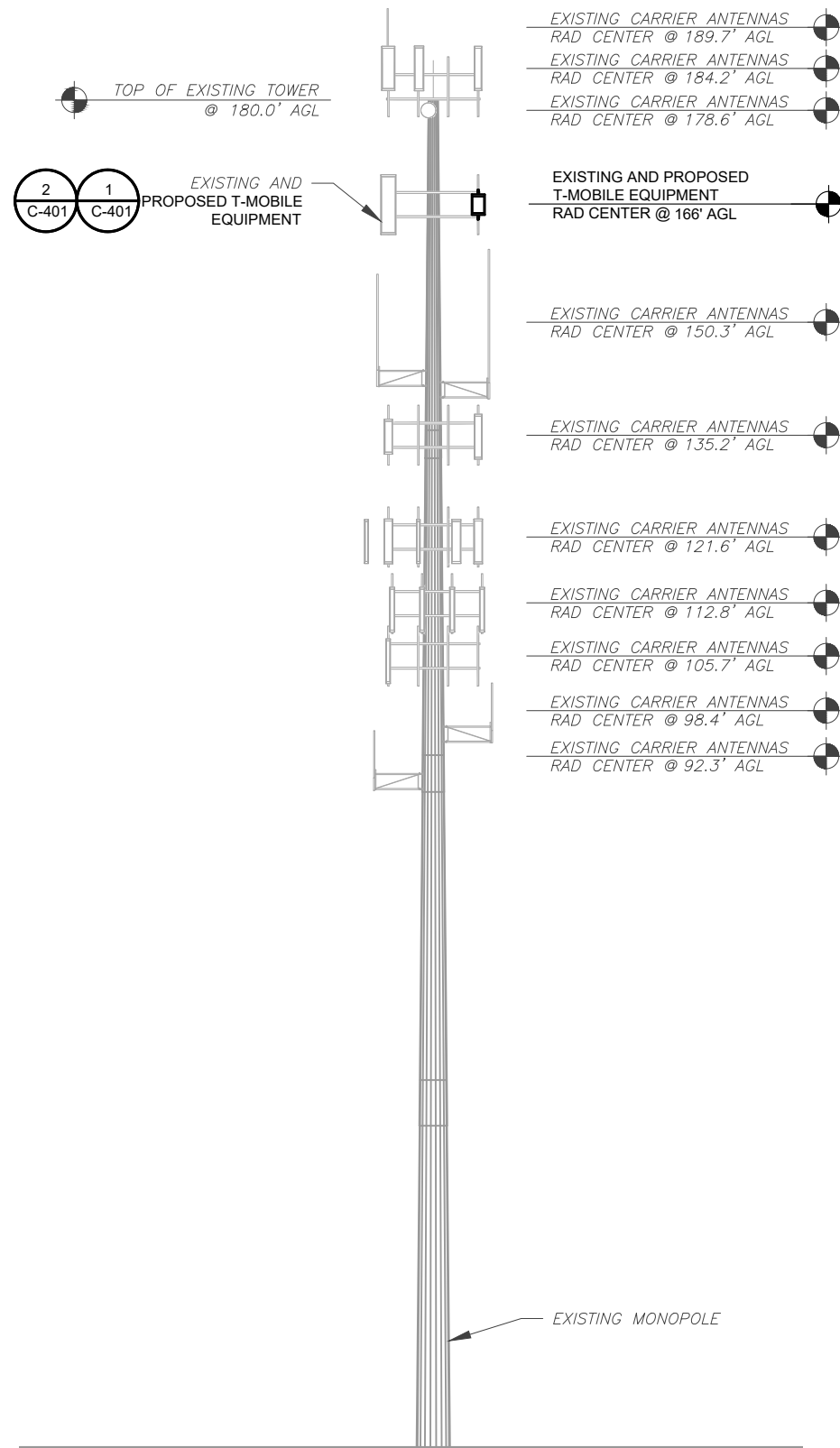


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CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	0

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PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED 08/12/21, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

- TOWER NOTE:**
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
 - WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
 - ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

1 TOWER ELEVATION
SCALE: N.T.S.



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Digitally signed by Petros Tsoukalas
Date: 2021.09.16 17:08:37 -0400



DATE DRAWN:	08/12/21
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TOWER ELEVATION	
SHEET NUMBER: C-201	REVISION: 0

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	08/12/21
0	FOR CONSTRUCTION	RMD	09/10/21

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

T-MOBILE SITE NAME:
LITCHFIELD ATC

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

(Signature)
Petros Tsoukalas
CONNECTICUT LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 32577
COLLIERS ENGINEERING & DESIGN
C.T. JPC.0000131



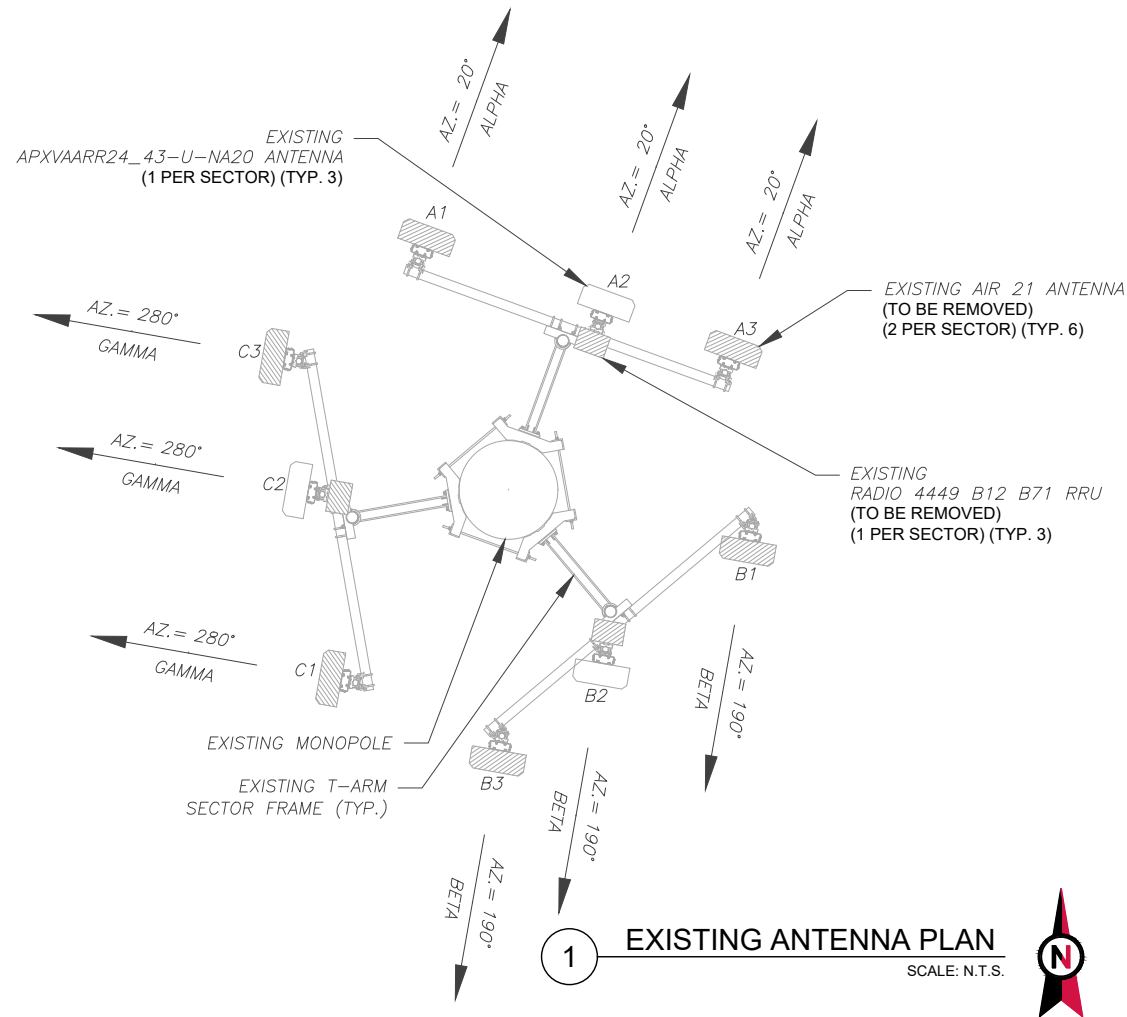
DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401

REVISION:
0

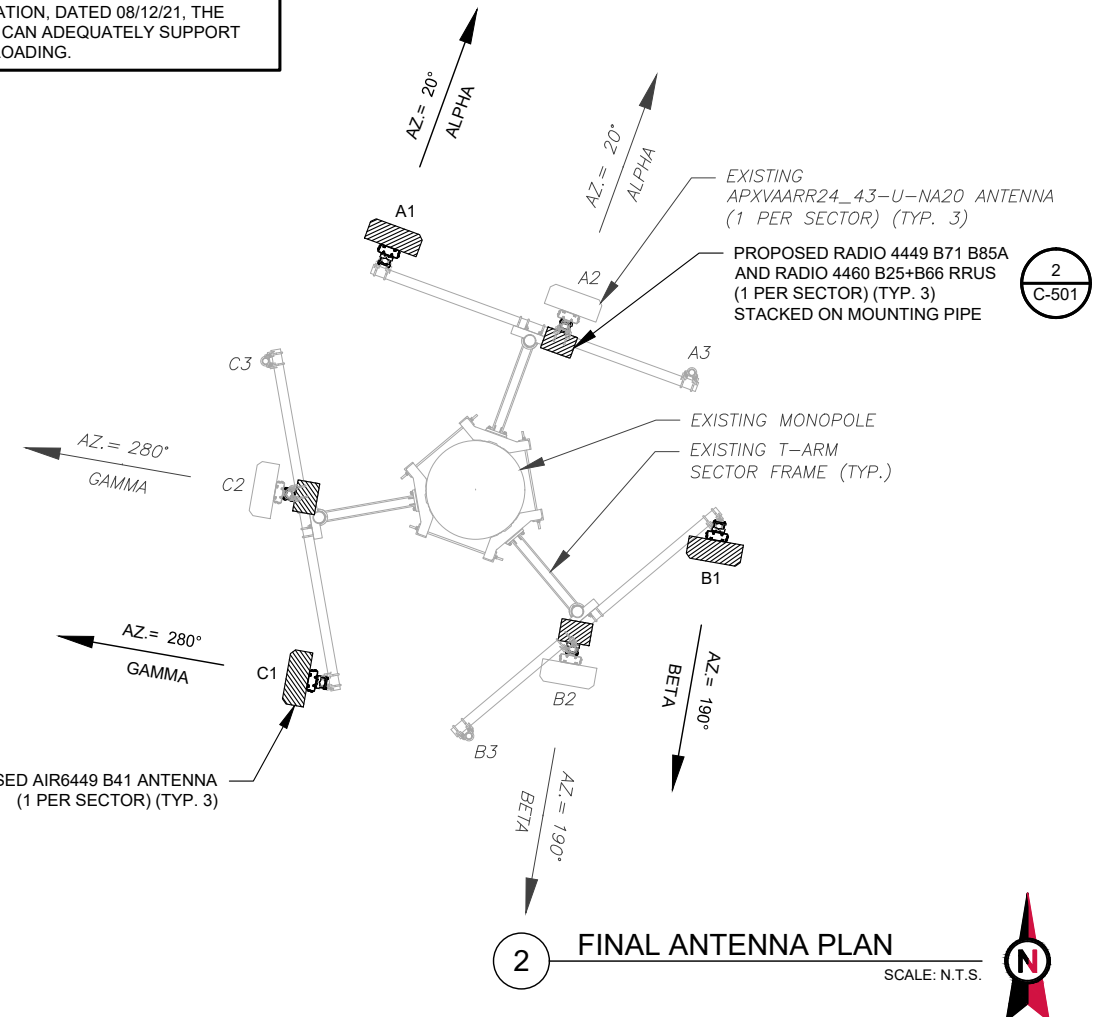
PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED 08/12/21. THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



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

1
C-501

PROPOSED AIR6449 B41 ANTENNA
(1 PER SECTOR) (TYP. 3)



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	166'	20°	A1	AIR 21 B2A B4P	U1900/G1900	0/2/2	RMV	-	-
			A2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2/2	RMN	RADIO 4449 B12, B71	RMV
			A3	AIR 21 B4A B2P	L2100	0/2	RMV	-	-
BETA	166'	190°	B1	AIR 21 B2A B4P	U1900, G1900	0/2/2	RMV	-	-
			B2	APXVAARR24_43-U-NA20	L700, L600, N600	0/2/2	RMN	RADIO 4449 B12, B71	RMV
			B3	AIR 21 B4A B2P	L2100	0/2	RMV	-	-
GAMMA	166'	280°	C1	AIR 21 B2A B4P	U1900, G1900	0/2/2	RMV	-	-
			C2	APXVAARR24_43-U-NA20	L700, L600, N600	0/2/2	RMN	RADIO 4449 B12, B71	RMV
			C3	AIR 21 B4A B2P	L2100	0/2	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.

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'

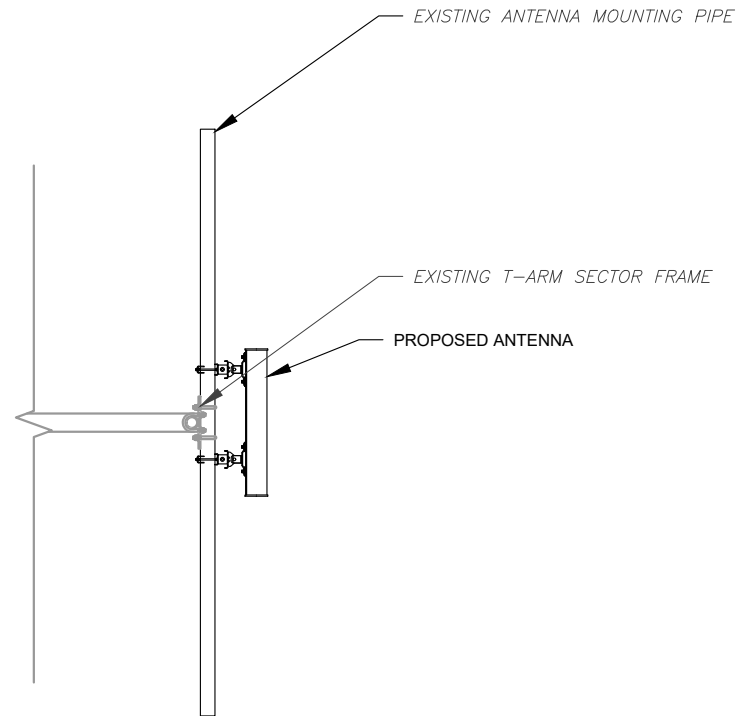
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	166'	20°	A1	AIR6449 B41	L2500/N2500	0/2	ADD	-	-
			A2	APXVAARR24_43-U-NA20	L700/L600/N600/U1900/L1900/L2100/L1900	0/2/2/2/2	REL	RADIO 4449 B71 B85A RADIO 4460 B25+B66	ADD ADD
			A3	-	-	-	-	-	-
BETA	166'	190°	B1	AIR6449 B41	L2500/N2500	0/2	ADD	-	-
			B2	APXVAARR24_43-U-NA20	L700/L600/N600/U1900/L1900/L2100/L1900	0/2/2/2/2	REL	RADIO 4449 B71 B85A RADIO 4460 B25+B66	ADD ADD
			B3	-	-	-	-	-	-
GAMMA	166'	280°	C1	AIR6449 B41	L2500/N2500	0/2	ADD	-	-
			C2	APXVAARR24_43-U-NA20	L700/L600/N600/U1900/L1900/L2100/L1900	0/2/2/2/2	REL	RADIO 4449 B71 B85A RADIO 4460 B25+B66	ADD ADD
			C3	-	-	-	-	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1-5/8"	-	RMV
-	-	-	(3) 1-1/4" FIBER	RMN

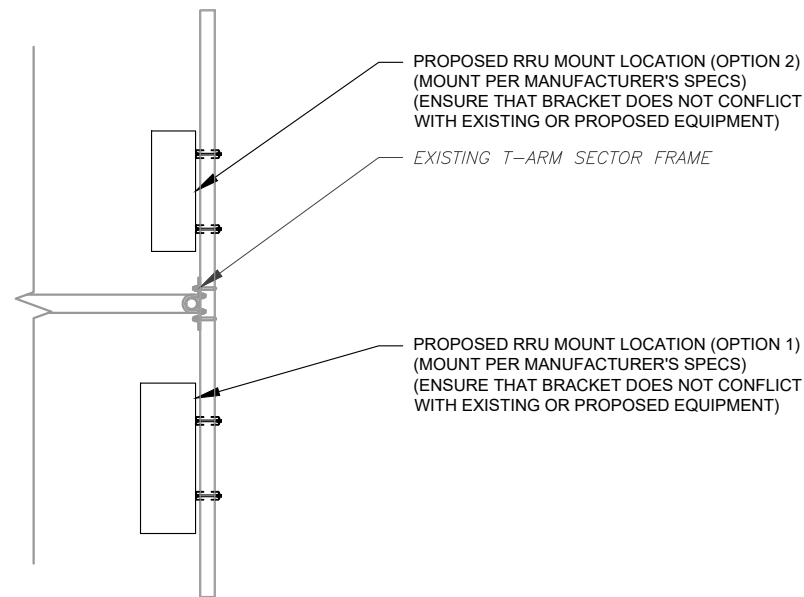
3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(3) 1-1/4" FIBER	RMN
-	-	-	(1) 1.99" 6/24 4AWS 70M	ADD

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



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



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 135 New Road
 Madison, CT 06443
 Phone: 860.395.0055
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 DOING BUSINESS AS MASER CONSULTING

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0	FOR CONSTRUCTION	RMD	09/10/21

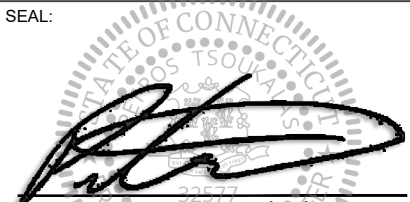
ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

T-MOBILE SITE NAME:
LITCHFIELD ATC

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:



Petros Tsoukalas
 CONNECTICUT LICENSED PROFESSIONAL ENGINEER
 LICENSE NUMBER: 32577
 COLLIERS ENGINEERING & DESIGN
 C.T. JPC.0000131

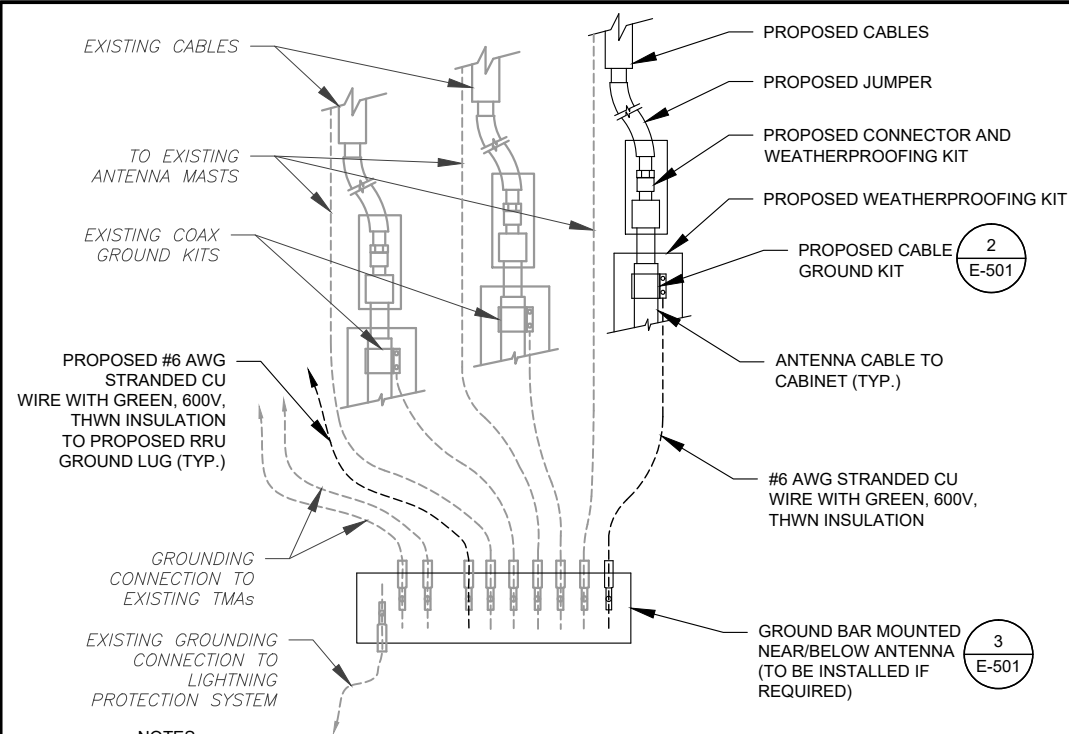


DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

**CONSTRUCTION
DETAILS**

SHEET NUMBER: C-501	REVISION: 0
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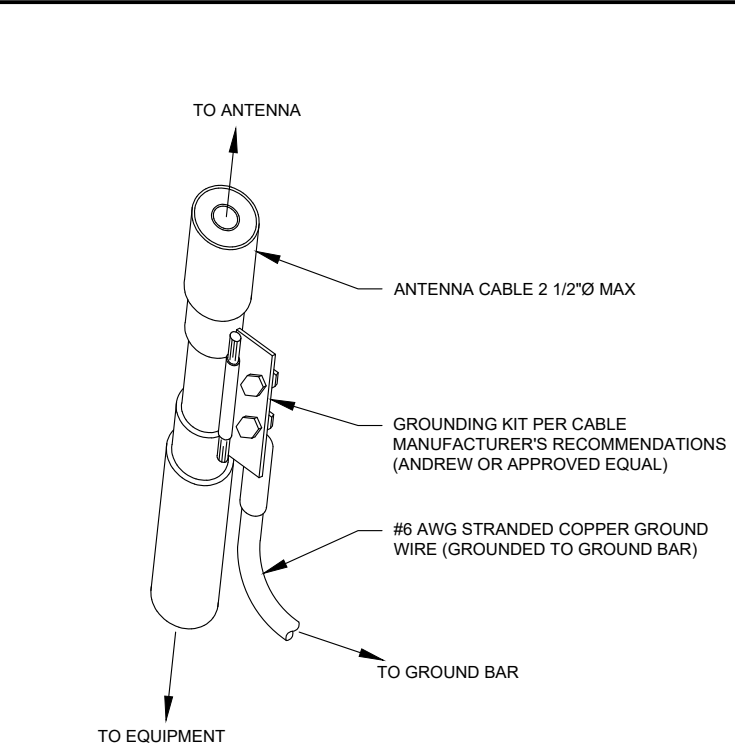
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NOTES:

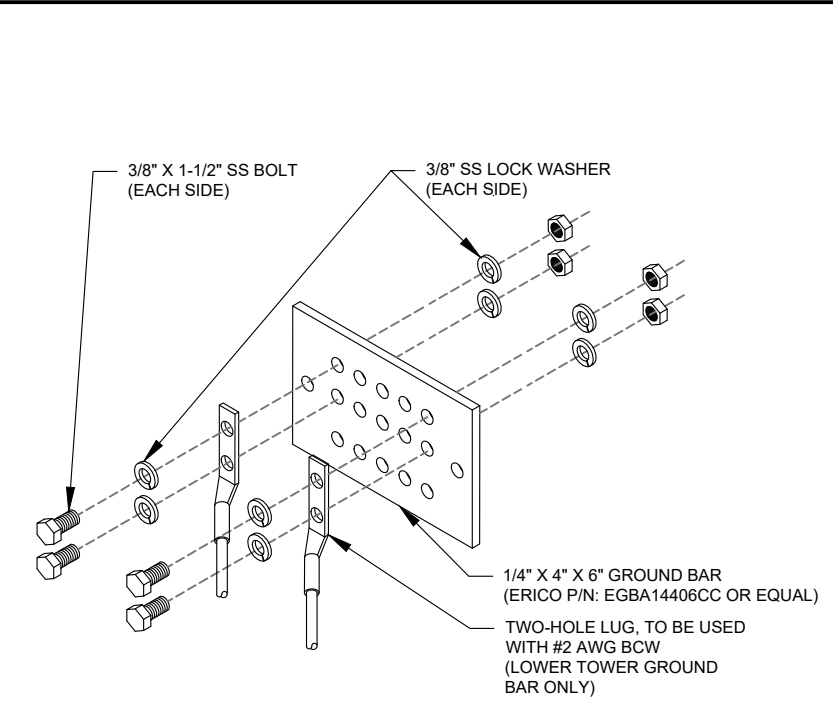
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING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

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



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

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

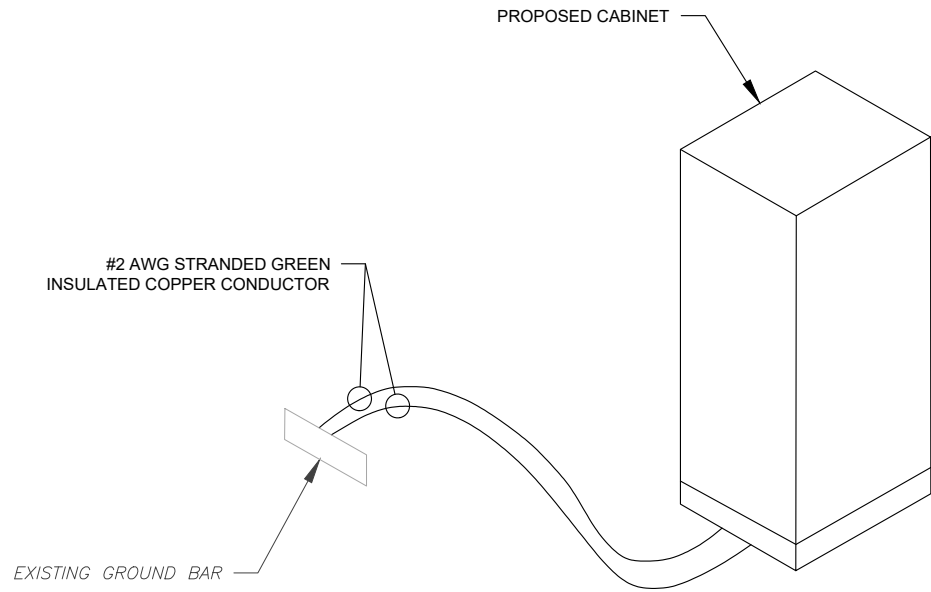
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.

ELECTRICAL NOTES:

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

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 CABINET GROUNDING DETAIL
SCALE: N.T.S.



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Madison, CT 06443
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COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	08/12/21
0	FOR CONSTRUCTION	RMD	09/10/21

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

T-MOBILE SITE NAME:
LITCHFIELD ATC

SITE ADDRESS:
15 OAKDALE AVENUE
WINSTED, CT 06098

SEAL:

Petros Tsoukalas
CONNECTICUT LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 32577
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C.T. JPC.0000131

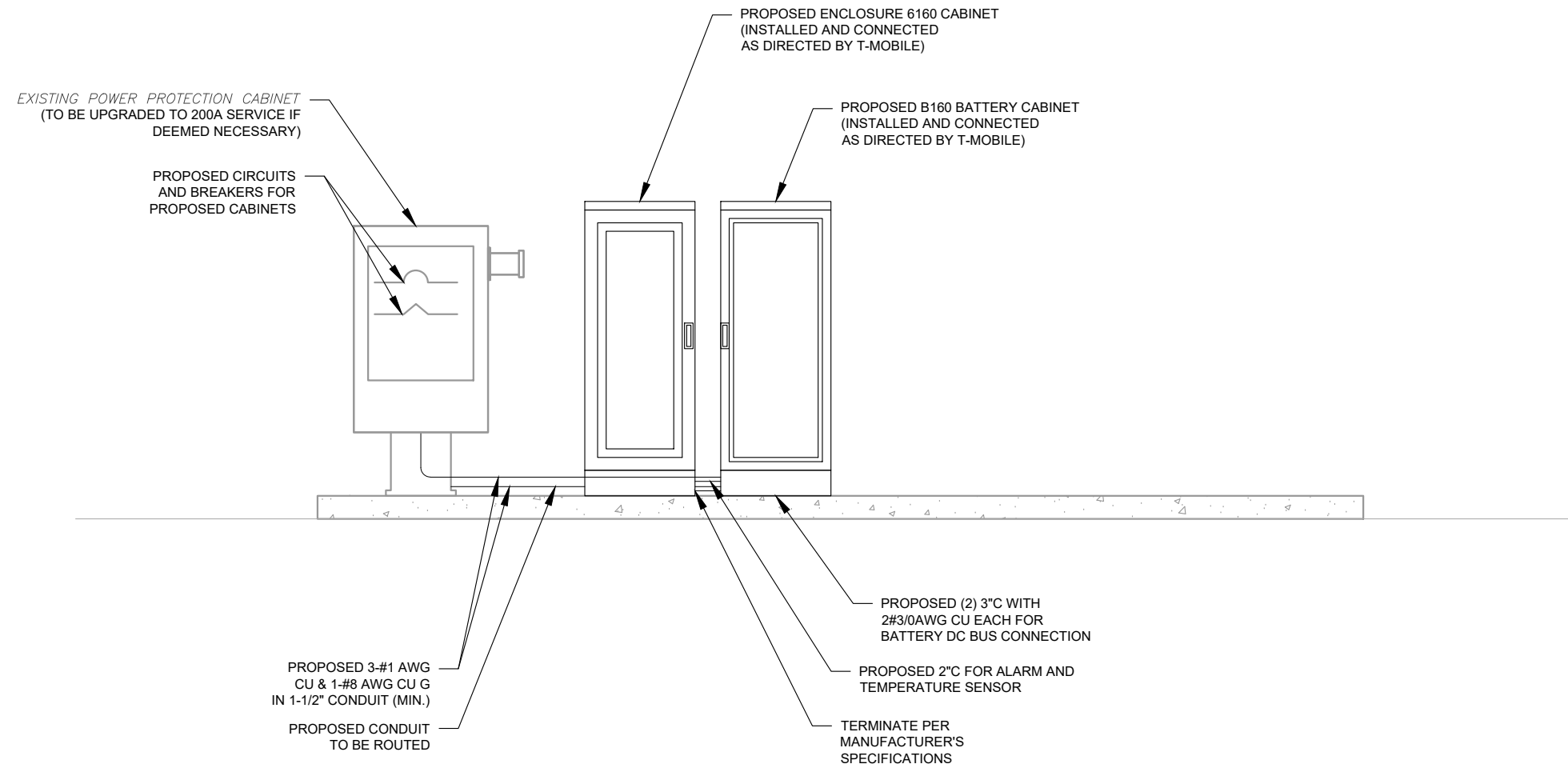
DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
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- NOTES:
1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2017 EDITION OF NATIONAL ELECTRICAL CODE (NEC), NATIONAL ELECTRICAL SAFETY CODE, NAPA, NETA, OSHA, AND ALL OTHER EXISTING CODES AND REGULATIONS OF AUTHORITIES WHICH WOULD HAVE JURISDICTION.
 2. ALL NEW WIRING SHALL BE WITH THWN-2 OR XHHW-2 INSULATION AND RATED FOR 75 DEG CELSIUS.
 3. ALL UNDERGROUND CONDUIT SHALL BE PVC SCH40. ALL ABOVE GROUND CONDUIT SHALL BE PVC SCH80 OR RMC.



- ELECTRICAL NOTES:
1. THIS DIAGRAM 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. 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.
 3. ATC HAS NOT YET 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.

1 ELECTRICAL UPGRADE DIAGRAM
SCALE: NOT TO SCALE



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	MPT	08/12/21
0	FOR CONSTRUCTION	RMD	09/10/21

ATC SITE NUMBER:
302506

ATC SITE NAME:
WINCHESTER CT 3

T-MOBILE SITE NAME:
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SITE ADDRESS:
**15 OAKDALE AVENUE
WINSTED, CT 06098**

SEAL:

Petros Tsoukalas
CONNECTICUT LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 32577
COLLIERS ENGINEERING & DESIGN
C.T. JPC.0000131

Digitally signed by Petros Tsoukalas
Date: 2021.09.16 17:08:26 -0400



DATE DRAWN:	08/12/21
ATC JOB NO:	13711886_G3
CUSTOMER ID:	LITCHFIELD ATC
CUSTOMER #:	CTNH403A

ELECTRICAL DETAILS

SHEET NUMBER: E-502	REVISION: 0
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Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 67D02C Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 DUW30 U1900 DUG20 G1900 BB 6630 L2100 BB 6630 L700 L600 N600	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG* (x 3)	
Radio	RU22 (x 6)	

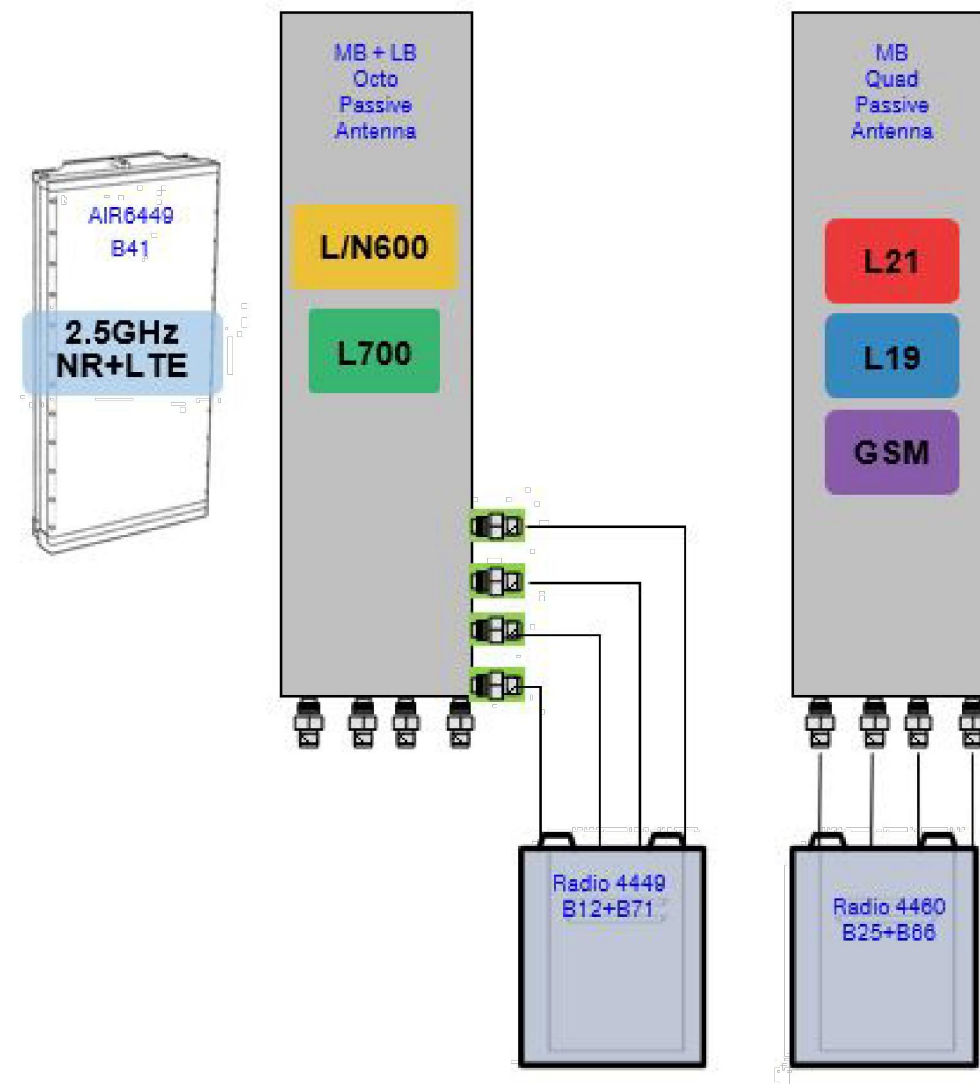
Proposed RAN Equipment			
Template: 67D5A998E Outdoor			
Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUG20 G1900 BB 6630 L2100 BB 6630 L700 DUW30 U1900	BB 6648 L2500 N2500	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	Ericsson Hybrid Trunk 6/24 4AWG 70m PSU 4813	
Transport System		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

- Remove Nortel Cabinet.
- Remove and return all cabinet radios from existing base station cabinet.
- Add (1) Enclosure 6160.
- Add (1) iXRe Router to new Enclosure 6160.
- Add (1) BB6648 for L2500 and N2500 (MMBB - Mixed Mode Baseband) to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6449 B41 to the PSU4813 Voltage Booster.
- Remove 1 - 9x18

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

67D5998E_1xAIR+1OP+1QP.JPG

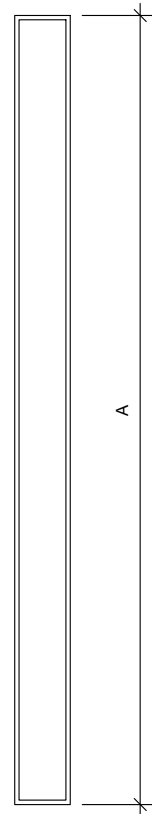


2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

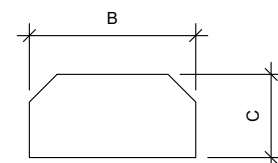
SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: -

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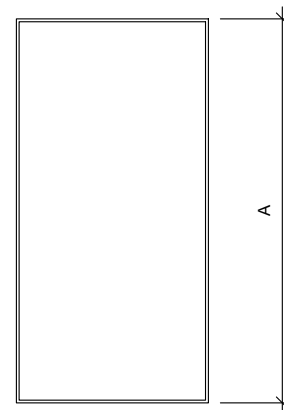
FRONT VIEW



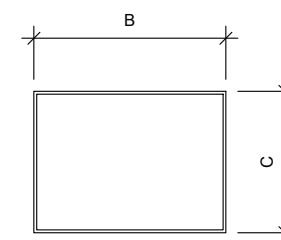
TOP VIEW

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



FRONT VIEW



TOP VIEW

2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RADIO 4449 B71 B85A	15.0"	13.2"	10.5"	75.0
RADIO 4460 B25+B66	19.6"	15.7"	12.1"	109.0

SUPPLEMENTAL

SHEET NUMBER:
R-602

REVISION:
-



Enclosure 6160 AC

The Enclosure 6160 is a multi-purpose site cabinet designed to support a multitude of equipment such as ERS Baseband, Transport, Li-Ion battery and 3PP vendor equipment. It also provides a highly capable power system and battery back-up - all in a streamlined design and minimized footprint to support cost efficient expansion of mobile broadband.

Being an all-in-one enclosure, the Enclosure 6160 is a very fitting choice for all types of sites where the capacity need is large or room for future expansion is needed. It is ideally used for modernizing existing sites or in greenfield scenarios to match both current and future needs.

With a robust design, IP65 compliance and a sealed Heat Exchanger (HEX) climate system the Enclosure 6160 ensures optimal environmental protection of the active equipment - enabling them for a long-lasting service. The complete system is also integrated and verified for the entire Ericsson Radio System and ensures best-in-class service.

The power system offers 31,5kW of power in total and provides 24kW of -48V DC power for both internal and external consumers.

The equipment space allows 19U of rack space ensuring well enough capacity for existing need and future expansion.

One of the main advantages of the Enclosure 6160 is its default integration with ENM - allowing for advanced remote monitoring and control such a fault management (alarms), inventory management and performance measurements. The cabinet also provides an open O&M interface for integration to 3PP O&M systems.



Preliminary technical specification for Enclosure 6160 AC

CAPACITY

Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option

MECHANICAL SPECIFICATION

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder

POWER SYSTEM

Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)
PSU capacity	3500W

SUPPLEMENTAL

SHEET NUMBER:

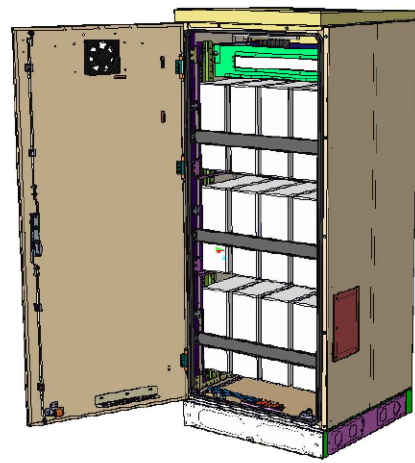
R-603

REVISION:

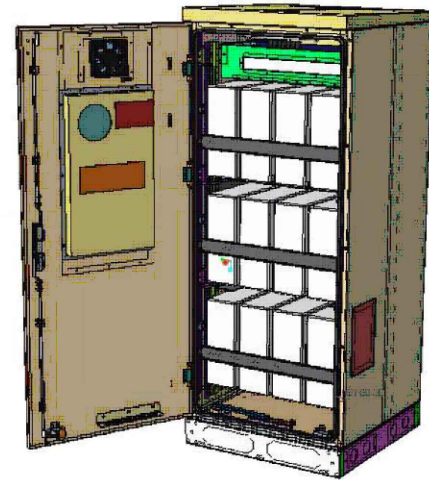
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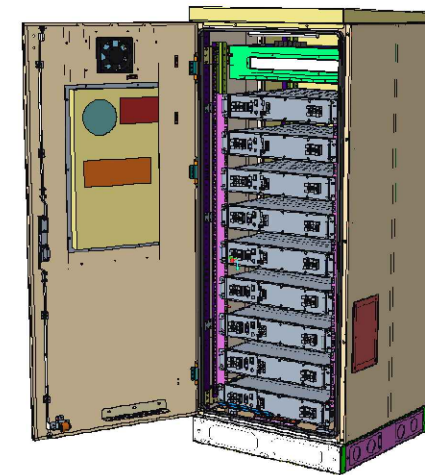
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

PA1 | 2019-02-03 | Ericsson Confidential | Page 1

Enclosure B160

Capacity

- VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah
- Li-Ion: 24U 19" / 23"
- Sodium-Nickel: 3x FIAMM

Electrical specification

- DC Output: -48VDC/200A
- Battery breakers: 2x 125/2p
- Alarms: Door open, Climate failure, MCB Connection

Mechanical specification

- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/m²)
- Color: Powder paint NCS 2002-B
- Door: Front access
- Locking type: Pad lock / cylinder

Environmental specification

- Ingress protection: VRLA/Sodium IP44
Li-Ion IP55
 - Relative humidity: 15-100%
- ## Climate system
- Air Conditioner
 - Fan type: DC
 - Cooling capacity: 500W @L35/L35
 - Convection cooling
 - Emergency fan

PA1 | 2019-02-03 | Ericsson Confidential | Page 2

SUPPLEMENTAL

SHEET NUMBER:

R-604

REVISION:

-

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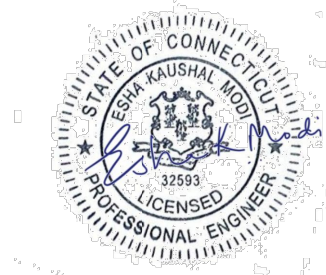
Eng. Number 13711886_C8_04
August 12, 2021
Page 2

Mount Analysis Report

ATC Site Name : Winchester CT 3, CT
ATC Site Number : 302506
Engineering Number : 13711886_C8_04
Mount Elevation : 167 ft
Carrier : T-Mobile
Carrier Site Name : Litchfield ATC
Carrier Site Number : CTNH403A
Site Location : 15 Oakdale Avenue
 Winsted, CT 06098-1862
 41.92160298 , -73.04941959
County : Litchfield
Date : August 12, 2021
Max Usage : 44%
Result : Pass

Prepared By:
Alan Samboy
Structural Engineer

Reviewed By:



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13 Aug 2021 04:36:46
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COA: PEC.0001553

Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
167.0	166.0	3	RFS APXVAARR24_43-U-NA20
		3	Ericsson Air6449 B41
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson Radio 4460 B25+B66

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	35%	Pass
Verticals	18%	Pass
Tie-Backs	8%	Pass
Mount Pipes	44%	Pass

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

SUPPLEMENTAL

SHEET NUMBER: R-605	REVISION: -
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AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Monopole
ATC Site Name : Winchester CT 3,CT
ATC Site Number : 302506
Engineering Number : 13711886_C3_03
Proposed Carrier : T-MOBILE
Carrier Site Name : Litchfield ATC
Carrier Site Number : CTNH403A
Site Location : 15 Oakdale Avenue
Winsted, CT 06098-1862
41.9216, -73.0494
County : Litchfield
Date : August 10, 2021
Max Usage : 93%
Result : Pass

Prepared By:

Reviewed By:



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COA : PEC.0001553



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Introduction

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

Supporting Documents

Tower Drawings	EEI Job #7676, dated August 21, 2000
Foundation Drawing	SNET Project #F301804.10/F04, dated August 23, 2000
Geotechnical Report	Wolti Project: Whalen's Hill, dated February 8, 2000
Modifications	ATC Job #42523432, dated October 24, 2008 ATC Job #50492933, dated October 15, 2012

Analysis

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

Basic Wind Speed:	124 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	III
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.17, S_i = 0.05$
Site Class:	D - Stiff Soil - Default

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
189.7	1	Generic 7' Omni	Leg	-	UNKNOWN
184.0	3	CCI HPA-65R-BUU-H6	Triangular Platform with Handrails	(6) 0.78" (19.7mm) 8 AWG 6 (3) 2" conduit (2) 0.39" (10mm) Fiber Trunk (1) 0.40" (10.3mm) Fiber (6) 1 5/8" Coax (1) 3" conduit	AT&T MOBILITY
	3	CCI DMP65R-BU6DA			
	3	CCI OPA65R-BU6B			
	3	Ericsson RRUS E2 B29			
	3	Ericsson RRUS 32 B30			
	3	Ericsson RRUS 4449 B5, B12			
	2	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 8843 B2, B66A			
	3	Raycap DC6-48-60-18-8F (23.5" Height)			
	3	Powerwave Allgon LGP21401			
	3	Powerwave Allgon TT19-08BP111-001			
	2	Kaelus DBC0061F1V51-2			
178.6	1	Kathrein Scala MF-900B	Leg	-	UNKNOWN
166.0	-	-	T-Arm	(1) 1 1/4" (1.25"-31.8mm) Fiber	T-MOBILE
150.3	2	Decibel DB809DK-XT	Side Arm	-	CONNECTICUT STATE POLICE DEPT OF PUBLIC
150.0	1	Sinclair SD210-SF2P4SNM	Side Arm	(1) 1 5/8" Coax	LITCHFIELD COUNTY DISPATCH INC
147.0	1	Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	Side Arm	(8) 1 5/8" Coax (1) 7/8" Coax (1) 1/2" Coax	CONNECTICUT STATE POLICE DEPT OF PUBLIC
146.0	1	Sinclair SC479-HF1LDF(E5765)			
142.0	1	Telewave ANT150D (5 lbs)			
139.5	1	Bird 432-83H-01-T			
134.0	3	RFS APXV14-C-I20	Triangular Platform with Handrails	(3) 1 1/4" Hybriflex Cable (1) 7/8" (0.88"-22.2mm) Fiber	SPRINT NEXTEL
	3	RFS APXVSP18-C-A20			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 1900MHz RRH			
	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter			
125.0	2	Antel LPA-80063/6CF	Triangular Low Profile Platform	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Commscope JAHH-65B-R3B			
	4	Antel LPA-80080/6CF			
	1	Raycap RCMD-6627-PF-48			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung MT6407-77A			
	3	Commscope CBC78T-DS-43-2X			
112.8	12	Generic 72" x 8" Panel	Triangular Low Profile Platform	(12) 1 1/4" Coax	SPRINT NEXTEL
105.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	METRO PCS INC
97.0	1	Andrew DB586	Side Arm	(2) 7/8" Coax (1) 1/2" Coax	EVERSOURCE ENERGY
95.0	1	Bird 429-83H-01-T			
93.0	1	Andrew DB586			
80.0	1	RFS PA6-65AC	Flush	(1) EW63	CONNECTICUT STATE POLICE DEPT OF PUBLIC
78.0	1	PCTEL GPS-TMG-HR-26N	Flush	(1) 1/2" Coax	SPRINT NEXTEL
30.0	1	Generic GPS	Stand-Off	(1) 7/8" Coax	VERIZON WIRELESS

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
166.0	1	Fastback Networks Intelligent Backhaul Radio 1300 Series	-	(2) 0.25" (6.4mm) Cat 6 UTP (3) 1 5/8" (1.63"- 41.3mm) Fiber (6) 1 5/8" Coax (1) 1.4" (35.6mm) Hybrid	T-MOBILE
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson Radio 4449 B12,B71			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
166.0	3	Ericsson Radio 4449 B71 B85A	T-Arm	(2) 1 1/4" (1.25"- 31.8mm) Fiber (1) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson Radio 4460 B25+B66			
	3	Ericsson Air6449 B41			
	3	RFS APXVAARR24_43-U-NA20			

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

Install proposed lines outside the pole shaft. Stacking lines is not allowed.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Base Plate	40%	Pass
Anchor Bolts	78%	Pass
Shaft	93%	Pass
Reinforcement	79%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,954.5	25%
Axial (Kips)	71.1	4%

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.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
178.6	Kathrein Scala MF-900B	Unknown	2.944	2.150
166.0	Ericsson Radio 4449 B71 B85A	T-MOBILE	2.483	2.040
	Ericsson Radio 4460 B25+B66			
	Ericsson Air6449 B41			
	RFS APXVAARR24_43-U-NA20			
80.0	RFS PA6-65AC	CONNECTICUT STATE POLICE DEPT OF PUBLIC	0.503	0.740

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

Standard Conditions

All engineering services performed by A.T. Engineering 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.

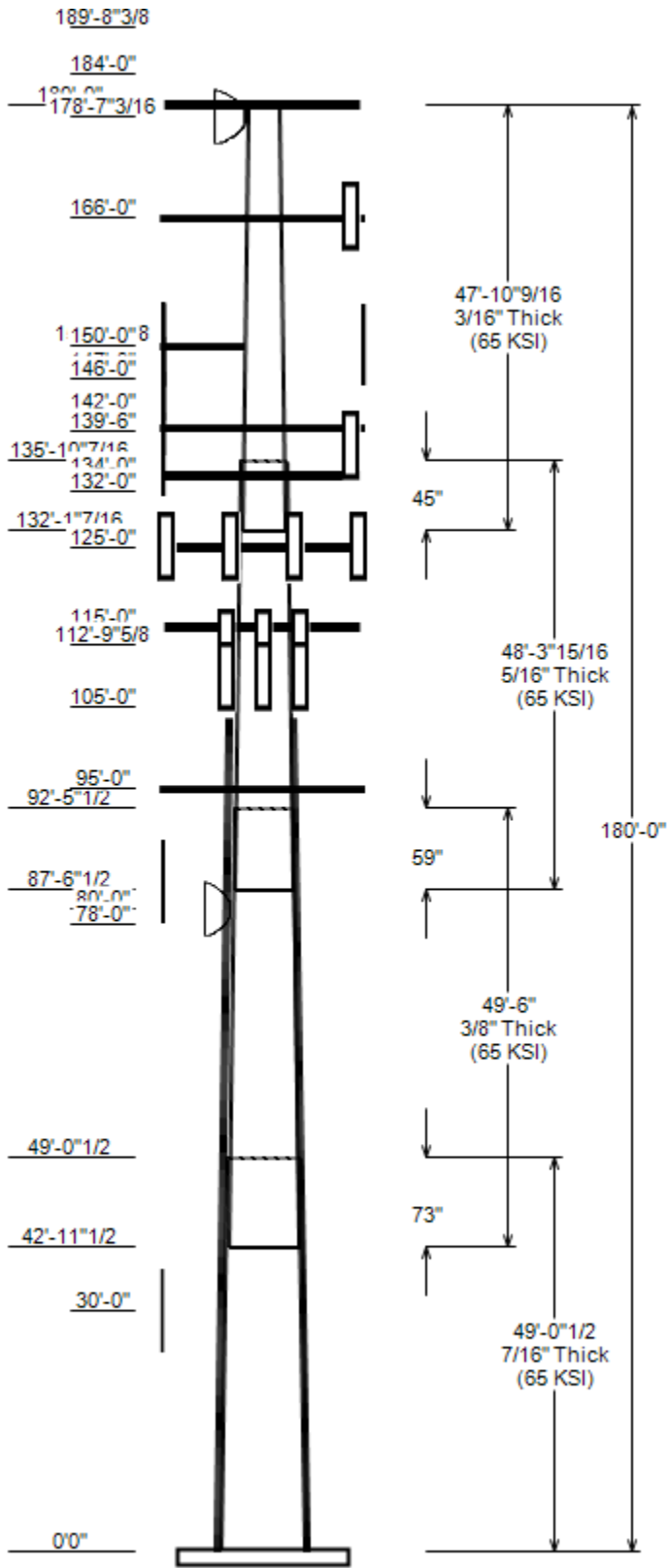
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

Asset : 302506, Winchester CT 3
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 180 ft
 Base Width : 52.75
 Shape : 18 Sides



SITE PARAMETERS

Description : 180 ft EEI Monopole
 Base Elev (ft): 0.00 Structure Class: III
 Taper : 0.21900 (In/ft) Exposure : B
 Topographic Category : 1 Topographic Feature:
 Topo Method : Method 1

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Overlap Length (in)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom			
1	49.040	41.99	52.75	0.438	0.000	65
2	49.500	33.21	44.07	0.375	73.000	65
3	48.330	24.31	34.92	0.312	59.000	65
4	47.880	15.00	25.51	0.188	45.000	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
189.7	189.7	1	Generic 7' Omni
184.0	184.0	2	Kaelus DBC0061F1V51-2
184.0	182.0	3	Powerwave Allgon TT19-08BP111-
184.0	182.0	3	Powerwave Allgon LGP21401
184.0	184.0	3	Raycap DC6-48-60-18-8F (23.5"
184.0	184.0	3	Ericsson RRUS 8843 B2, B66A
184.0	184.0	2	Ericsson RRUS 4478 B14
184.0	184.0	3	Ericsson RRUS 4449 B5, B12
184.0	184.0	3	Ericsson RRUS 32 B30
184.0	184.0	3	Ericsson RRUS E2 B29
184.0	184.0	3	CCI OPA65R-BU6B
184.0	182.0	3	CCI HPA-65R-BUU-H6
184.0	184.0	3	CCI DMP65R-BU6DA
180.0	180.0	1	Flat Low Profile Platform
178.6	178.6	1	Kathrein Scala MF-900B
166.0	166.0	3	Ericsson Radio 4449 B71 B85A
166.0	166.0	3	Ericsson Radio 4460 B25+B66
166.0	166.0	3	Ericsson Air6449 B41
166.0	166.0	3	Generic Mount Reinforcement
166.0	166.0	3	Generic Flat T-Arm
166.0	166.0	3	RFS APXVAARR24_43-U-NA20
150.3	150.3	2	Decibel DB809DK-XT
150.0	150.0	1	Sinclair SD210-SF2P4SNM
150.0	150.0	1	Round Side Arm
147.0	146.0	1	Sinclair SC442D-HF1LDF(DXX-I30
146.0	146.0	1	Sinclair SC479-HF1LDF(E5765)
142.0	141.0	1	Telewave ANT150D (5 lbs)
140.0	140.0	3	Round Side Arm
139.5	139.5	1	Bird 432-83H-01-T
134.0	135.0	3	Alcatel-Lucent TD-RRH8x20-25 w
134.0	135.0	3	RFS APXVTM14-C-I20
134.0	135.0	3	RFS APXVSP18-C-A20
134.0	134.0	1	Flat Platform w/ Handrails
132.0	135.0	3	Alcatel-Lucent 800 MHz RRH w/
132.0	135.0	3	Alcatel-Lucent 1900MHz RRH
125.0	125.0	3	Commscope CBC78T-DS-43-2X
125.0	125.0	3	Samsung B2/B66A RRH-BR049
125.0	125.0	3	Samsung B5/B13 RRH-BR04C
125.0	125.0	1	Raycap RCMDC-6627-PF-48
125.0	125.0	3	Samsung MT6407-77A
125.0	125.0	4	Antel LPA-80080/6CF
125.0	125.0	6	Commscope JAHH-65B-R3B
125.0	125.0	2	Antel LPA-80063/6CF

JOB INFORMATION

Asset : 302506, Winchester CT 3
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 180 ft
 Base Width : 52.75
 Shape : 18 Sides

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
125.0	125.0	1	Round Low Profile Platform
115.0	115.0	1	Round Low Profile Platform
112.8	112.8	12	Generic 72" x 8" Panel
105.0	106.0	3	RFS APXV18-206517S-C
95.0	96.0	1	Bird 429-83H-01-T
95.0	95.0	3	Flat Side Arm
80.0	80.0	1	RFS PA6-65AC
78.0	79.0	1	PCTEL GPS-TMG-HR-26N
30.0	30.0	1	Generic GPS

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	185.0	2" conduit	No
0.0	185.0	0.78" (19.7mm) 8 AWG 6	No
0.0	184.0	3" conduit	No
0.0	184.0	1 5/8" Coax	No
0.0	184.0	0.78" (19.7mm) 8 AWG 6	No
0.0	184.0	0.40" (10.3mm) Fiber	No
0.0	184.0	0.39" (10mm) Fiber Trunk	No
0.0	166.0	1.99" (50.7mm) Hybrid	Yes
0.0	166.0	1 1/4" (1.25"- 31.8mm) Fiber	Yes
0.0	166.0	1 1/4" (1.25"- 31.8mm) Fiber	Yes
0.0	150.0	1 5/8" Coax	No
0.0	147.0	1 5/8" Coax	No
0.0	146.0	1 5/8" Coax	No
0.0	142.0	7/8" Coax	No
0.0	141.0	1 5/8" Coax	No
0.0	139.0	1/2" Coax	No
0.0	134.0	7/8" (0.88"- 22.2mm) Fiber	No
0.0	134.0	1 1/4" Hybriflex Cable	No
0.0	125.0	1 5/8" Hybriflex	No
0.0	125.0	1 5/8" Coax	Yes
0.0	112.0	1 1/4" Coax	No
0.0	112.0	#20 Dywidag Bar	Yes
0.0	112.0	#20 Dywidag Bar	Yes
0.0	112.0	#20 Dywidag Bar	Yes
0.0	112.0	#20 Dywidag Bar	Yes
0.0	105.0	1 5/8" Coax	Yes
0.0	97.0	7/8" Coax	No
0.0	95.0	1/2" Coax	No
0.0	93.0	7/8" Coax	No
0.0	80.0	EW63	No
0.0	78.0	1/2" Coax	No
0.0	30.0	7/8" Coax	No

LOAD CASES

1.2D + 1.0W Normal	124 mph wind with no ice
0.9D + 1.0W Normal	124 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	4954.47	41.13	71.09
0.9D + 1.0W Normal	4876.20	41.09	53.30
1.2D + 1.0Di + 1.0Wi Normal	1219.58	9.32	98.94

JOB INFORMATION

Asset : 302506, Winchester CT 3
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 180 ft
 Base Width : 52.75
 Shape : 18 Sides

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0Ev + 1.0Eh Normal	254.42	1.79	70.86
0.9D - 1.0Ev + 1.0Eh Normal	249.10	1.78	49.53
1.0D + 1.0W Service Normal	1029.84	8.61	59.30

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W Service Normal	80.00	6.044	0.741
1.0D + 1.0W Service Normal	178.60	35.332	2.146

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

CODE: ANSI/TIA-222-H
ENG NO: 13711886_C3_03

ANALYSIS PARAMETERS

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

ICE & WIND PARAMETERS

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

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	2.96		
T _L (sec):	6	P:	1	C _s :	0.030
S _s :	0.169	S ₁ :	0.054	C _s Max:	0.030
F _a :	1.600	F _v :	2.400	C _s Min:	0.030
S _{ds} :	0.180	S _{d1} :	0.086		

LOAD CASES

1.2D + 1.0W Normal	124 mph wind with no ice
0.9D + 1.0W Normal	124 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

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

CODE: ANSI/TIA-222-H
 ENG NO: 13711886_C3_03

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Bottom							Top						
						Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	49.04	0.4375	65		0.00	10,875	52.75	0.000	72.64	25,115.3	19.85	120.57	41.99	49.04	57.70	12,585.4	15.51	95.97	0.2194
2-18	49.50	0.3750	65	Slip	73.00	7,672	44.07	42.960	52.01	12,548.0	19.31	117.53	33.21	92.46	39.08	5,323.8	14.21	88.56	0.2194
3-18	48.33	0.3125	65	Slip	59.00	4,779	34.92	87.540	34.32	5,191.7	18.29	111.73	24.31	135.87	23.80	1,731.6	12.31	77.79	0.2194
4-18	47.88	0.1875	65	Slip	45.00	1,946	25.51	132.120	15.07	1,220.4	22.58	136.04	15.00	180.00	8.81	244.4	12.70	80.00	0.2194

Shaft Weight 25,272

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor
189.70	Generic 7' Omni	1	1.00	0.000	25.00	2.100	1.00	66.88	3.562	1.00
184.00	CCI DMP65R-BU6DA	3	0.80	0.000	79.40	12.709	0.63	280.86	14.890	0.63
184.00	Kaelus DBC0061F1V51-2	2	0.80	0.000	25.50	0.433	0.50	39.95	0.785	0.50
184.00	Powerwave Allgon TT19-08BP111-	3	0.80	-2.000	16.00	0.553	0.50	31.80	0.953	0.50
184.00	Powerwave Allgon LGP21401	3	0.80	-2.000	14.10	1.104	0.50	33.61	1.662	0.50
184.00	Raycap DC6-48-60-18-8F (23.5"	3	0.80	0.000	20.00	1.260	1.00	61.18	1.775	1.00
184.00	Ericsson RRUS 8843 B2, B66A	3	0.80	0.000	72.00	1.639	0.50	119.94	2.300	0.50
184.00	Ericsson RRUS 4478 B14	2	0.80	0.000	59.90	1.842	0.50	103.14	2.544	0.50
184.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	121.40	2.698	0.50
184.00	Ericsson RRUS 32 B30	3	0.80	0.000	60.00	2.743	0.67	117.53	3.658	0.67
184.00	Ericsson RRUS E2 B29	3	0.80	0.000	60.00	3.145	0.62	123.26	4.051	0.62
184.00	CCI OPA65R-BU6B	3	0.80	0.000	55.00	7.851	0.72	198.00	10.007	0.72
184.00	CCI HPA-65R-BUU-H6	3	0.80	-2.000	51.00	9.658	0.69	222.58	11.826	0.69
180.00	Flat Low Profile Platform	1	1.00	0.000	1500.00	26.100	1.00	2006.70	41.031	1.00
178.60	Kathrein Scala MF-900B	1	1.00	0.000	13.00	2.610	1.00	97.30	11.470	1.00
166.00	Ericsson Air6449 B41	3	0.80	0.000	104.00	5.682	0.63	209.73	6.913	0.63
166.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	432.48	23.121	0.63
166.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.75	515.18	19.245	0.75
166.00	Generic Mount Reinforcement	3	1.00	0.000	200.00	7.500	1.00	350.15	13.309	1.00
166.00	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	121.66	2.309	0.50
166.00	Ericsson Radio 4460 B25+B66	3	0.80	0.000	109.00	2.564	0.67	177.57	3.382	0.67
150.30	Decibel DB809DK-XT	2	1.00	0.000	64.00	6.350	1.00	186.19	12.104	1.00
150.00	Round Side Arm	1	1.00	0.000	150.00	5.200	1.00	206.14	7.285	1.00
150.00	Sinclair SD210-SF2P4SNM	1	1.00	0.000	8.30	1.370	1.00	43.87	4.854	1.00
147.00	Sinclair SC442D-HF1LDF(DXX-I30	1	1.00	-1.000	79.00	10.479	1.00	269.45	16.208	1.00
146.00	Sinclair SC479-HF1LDF(E5765)	1	1.00	0.000	34.00	5.030	1.00	129.08	8.965	1.00
142.00	Telewave ANT150D (5 lbs)	1	1.00	-1.000	5.00	1.090	1.00	9.52	2.750	1.00
140.00	Round Side Arm	3	1.00	0.000	150.00	5.200	0.67	205.80	7.273	0.67
139.50	Bird 432-83H-01-T	1	0.80	0.000	25.00	1.400	1.00	58.02	1.997	1.00
134.00	Flat Platform w/ Handrails	1	1.00	0.000	2000.00	31.600	1.00	3078.80	43.465	1.00
134.00	RFS APXVSP18-C-A20	3	0.75	1.000	57.00	8.024	0.69	187.94	10.141	0.69
134.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.75	1.000	70.00	4.046	0.50	141.74	5.054	0.50
134.00	RFS APXVTM14-C-I20	3	0.75	1.000	52.90	6.342	0.66	157.41	7.995	0.66
132.00	Alcatel-Lucent 1900MHz RRH	3	0.75	3.000	44.00	3.258	0.50	126.57	4.159	0.50
132.00	Alcatel-Lucent 800 MHz RRH w/	3	0.75	3.000	61.80	2.495	0.50	130.32	3.284	0.50
125.00	Commscope JAHH-65B-R3B	6	0.80	0.000	60.60	9.113	0.69	212.90	11.202	0.69
125.00	Antel LPA-80063/6CF	2	0.80	0.000	27.00	9.593	0.82	235.66	10.600	0.82
125.00	Round Low Profile Platform	1	1.00	0.000	1500.00	21.700	1.00	1987.76	36.154	1.00
125.00	Antel LPA-80080/6CF	4	0.80	0.000	21.00	8.628	0.62	160.40	5.193	0.62
125.00	Commscope CBC78T-DS-43-2X	3	0.80	0.000	20.70	0.552	0.50	37.33	0.934	0.50
125.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	132.43	2.555	0.50
125.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	113.36	2.555	0.50
125.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	0.50	127.68	5.083	0.50
125.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	158.33	5.852	0.61
115.00	Round Low Profile Platform	1	1.00	0.000	1500.00	21.700	1.00	1984.22	36.049	1.00
112.80	Generic 72" x 8" Panel	12	0.80	0.000	40.00	5.860	0.68	122.58	7.650	0.68
105.00	RFS APXV18-206517S-C	3	1.00	1.000	26.40	5.160	0.68	95.05	6.912	0.68
95.00	Bird 429-83H-01-T	1	0.80	1.000	20.00	0.917	0.50	43.42	1.459	0.50
95.00	Flat Side Arm	3	1.00	0.000	150.00	6.300	0.67	203.61	8.101	0.67
80.00	RFS PA6-65AC	1	1.00	0.000	278.00	47.050	1.00	618.49	50.356	1.00
78.00	PCTEL GPS-TMG-HR-26N	1	1.00	1.000	0.60	0.090	1.00	4.08	0.219	1.00
30.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	28.97	1.315	1.00

Totals Num Loadings: 52 131 15,348.30 29,700.68

LINEAR APPURTENANCE PROPERTIES

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

CODE: ANSI/TIA-222-H
 ENG NO: 13711886_C3_03

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	185.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	185.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	1	3" conduit	3.5	7.58	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	184.00	1	0.40" (10.3mm) Fiber	0.4	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	166.00	2	1 1/4" (1.25"- 31.8mm	1.25	1.05	N	1	1	1	40	1	Y	T-MOBILE
0.00	166.00	1	1 1/4" (1.25"- 31.8mm	1.25	1.05	N	1	1	1	30	5.46	Y	T-MOBILE
0.00	166.00	1	1.99" (50.7mm) Hybrid	1.99	1.9	N	1	1	1	50	1	Y	T-MOBILE
0.00	150.00	1	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	LITCHFIELD CO
0.00	147.00	2	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT S
0.00	146.00	5	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT S
0.00	142.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	CONNECTICUT S
0.00	141.00	1	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	CONNECTICUT S
0.00	139.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	CONNECTICUT S
0.00	134.00	3	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	134.00	1	7/8" (0.88"- 22.2mm)	0.88	0.7	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	125.00	6	1 5/8" Coax	1.98	0.82	N	3	0.5	0.5	210	0.5	Y	VERIZON WIREL
0.00	125.00	1	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	112.00	12	1 1/4" Coax	1.55	0.63	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	190	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	280	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	10	0	Y	
0.00	112.00	1	#20 Dywidag Bar	4	4.68	N	1	0	0	100	0	Y	
0.00	105.00	6	1 5/8" Coax	1.98	0.82	N	3	0.5	0.5	50	0.5	Y	METRO PCS INC
0.00	97.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	EVERSOURCE EN
0.00	95.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	EVERSOURCE EN
0.00	93.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	EVERSOURCE EN
0.00	80.00	1	EW63	2.01	0.51	N	0	0	0	0	0	N	CONNECTICUT S
0.00	78.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	30.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	VERIZON WIREL

ADDITIONAL STEEL

Intermediate Connectors

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

SEGMENT PROPERTIES

(Max Len: 5.ft)

Additional Reinforcing

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.4375	52.750	72.640	25,115.30	19.85	120.57	78.1	937.8	0.0	0.0	19.640	8,737.00	0.0
5.00		0.4375	51.653	71.116	23,567.90	19.41	118.06	78.6	898.7	0.0	1,222.9	19.640	8,418.70	334.0
10.00		0.4375	50.556	69.593	22,085.40	18.96	115.56	79.1	860.4	0.0	1,197.0	19.640	8,106.30	334.0
15.00		0.4375	49.458	68.069	20,666.40	18.52	113.05	79.6	823.0	0.0	1,171.1	19.640	7,799.90	334.0
20.00		0.4375	48.361	66.546	19,309.50	18.08	110.54	80.1	786.4	0.0	1,145.2	19.640	7,499.30	334.0
25.00		0.4375	47.264	65.022	18,013.30	17.64	108.03	80.7	750.7	0.0	1,119.2	19.640	7,204.70	334.0
30.00		0.4375	46.167	63.498	16,776.50	17.20	105.52	81.2	715.7	0.0	1,093.3	19.640	6,915.90	334.0
35.00		0.4375	45.069	61.975	15,597.70	16.75	103.02	81.7	681.6	0.0	1,067.4	19.640	6,633.10	334.0
40.00		0.4375	43.972	60.451	14,475.40	16.31	100.51	82.2	648.4	0.0	1,041.5	19.640	6,356.20	334.0
42.96	Bot - Section 2	0.4375	43.323	59.550	13,837.80	16.05	99.02	82.5	629.1	0.0	603.6	19.640	6,195.20	197.5
45.00		0.4375	42.875	58.928	13,408.20	15.87	98.00	82.6	616.0	0.0	771.7	19.640	6,269.80	136.5
49.04	Top - Section 1	0.3750	42.738	50.421	11,432.70	18.69	113.97	79.4	526.9	0.0	1,502.0	19.640	6,051.90	269.9
50.00		0.3750	42.528	50.171	11,263.00	18.59	113.41	79.5	521.6	0.0	164.3	19.640	6,000.60	64.1
55.00		0.3750	41.431	48.865	10,406.20	18.07	110.48	80.1	494.7	0.0	842.5	19.640	5,737.40	334.0
60.00		0.3750	40.333	47.559	9,594.00	17.55	107.56	80.8	468.5	0.0	820.3	19.640	5,480.10	334.0
65.00		0.3750	39.236	46.253	8,825.10	17.04	104.63	81.4	443.0	0.0	798.0	19.640	5,228.70	334.0
70.00		0.3750	38.139	44.947	8,098.50	16.52	101.70	82	418.2	0.0	775.8	19.640	4,983.20	334.0
75.00		0.3750	37.042	43.641	7,412.90	16.01	98.78	82.6	394.2	0.0	753.6	19.640	4,743.60	334.0
78.00		0.3750	36.383	42.857	7,020.80	15.70	97.02	82.6	380.1	0.0	441.5	19.640	4,602.70	200.4
80.00		0.3750	35.944	42.335	6,767.20	15.49	95.85	82.6	370.8	0.0	289.9	19.640	4,510.00	133.6
85.00		0.3750	34.847	41.029	6,160.00	14.97	92.93	82.6	348.2	0.0	709.2	19.640	4,282.20	334.0
87.54	Bot - Section 3	0.3750	34.290	40.366	5,866.00	14.71	91.44	82.6	336.9	0.0	351.7	19.640	4,168.80	169.7
90.00		0.3750	33.750	39.723	5,590.40	14.46	90.00	82.6	326.2	0.0	620.3	19.640	4,186.00	164.3
92.46	Top - Section 2	0.3125	33.836	33.250	4,721.10	17.68	108.27	80.6	274.8	0.0	609.5	19.640	4,077.50	164.1
95.00		0.3125	33.278	32.696	4,489.20	17.37	106.49	81	265.7	0.0	285.4	19.640	3,966.70	169.9
100.00		0.3125	32.181	31.608	4,055.70	16.75	102.98	81.7	248.2	0.0	547.0	19.640	3,753.30	334.0
103.75	Reinf. Top	0.3125	31.358	30.792	3,749.50	16.28	100.34	82.2	235.5	0.0	398.1	19.640	3,597.20	250.5
105.00		0.3125	31.083	30.520	3,651.00	16.13	99.47	82.4	231.3	0.0	130.4			
110.00		0.3125	29.986	29.431	3,274.20	15.51	95.96	82.6	215.1	0.0	510.0			
112.80		0.3125	29.372	28.822	3,075.00	15.16	93.99	82.6	206.2	0.0	277.5			
115.00		0.3125	28.889	28.343	2,924.30	14.89	92.44	82.6	199.4	0.0	214.0			
120.00		0.3125	27.792	27.255	2,600.20	14.27	88.93	82.6	184.3	0.0	473.0			
125.00		0.3125	26.694	26.167	2,301.00	13.65	85.42	82.6	169.8	0.0	454.5			
130.00		0.3125	25.597	25.078	2,025.70	13.03	81.91	82.6	155.9	0.0	435.9			
132.00		0.3125	25.158	24.643	1,922.00	12.78	80.51	82.6	150.5	0.0	169.2			
132.12	Bot - Section 4	0.3125	25.132	24.617	1,915.90	12.77	80.42	82.6	150.2	0.0	10.0			
134.00		0.3125	24.719	24.208	1,821.90	12.54	79.10	82.6	145.2	0.0	251.8			
135.00		0.3125	24.500	23.990	1,773.20	12.41	78.40	82.6	142.6	0.0	132.2			
135.87	Top - Section 3	0.1875	24.684	14.578	1,105.30	21.80	131.65	75.8	88.2	0.0	114.0			
139.50		0.1875	23.888	14.104	1,000.90	21.05	127.40	76.6	82.5	0.0	177.2			
140.00		0.1875	23.778	14.039	987.10	20.95	126.81	76.8	81.8	0.0	23.9			
142.00		0.1875	23.339	13.777	933.00	20.54	124.47	77.2	78.7	0.0	94.7			
145.00		0.1875	22.681	13.386	855.60	19.92	120.96	78	74.3	0.0	138.6			
146.00		0.1875	22.461	13.255	830.80	19.71	119.79	78.2	72.9	0.0	45.3			
147.00		0.1875	22.242	13.125	806.50	19.51	118.62	78.5	71.4	0.0	44.9			
150.00		0.1875	21.583	12.733	736.40	18.89	115.11	79.2	67.2	0.0	132.0			
150.30		0.1875	21.518	12.694	729.70	18.82	114.76	79.3	66.8	0.0	13.0			
155.00		0.1875	20.486	12.080	628.80	17.85	109.26	80.4	60.5	0.0	198.1			
160.00		0.1875	19.389	11.427	532.30	16.82	103.41	81.6	54.1	0.0	200.0			
165.00		0.1875	18.292	10.774	446.20	15.79	97.56	82.6	48.0	0.0	188.9			
166.00		0.1875	18.072	10.643	430.10	15.58	96.39	82.6	46.9	0.0	36.4			
170.00		0.1875	17.194	10.121	369.80	14.76	91.70	82.6	42.4	0.0	141.3			
175.00		0.1875	16.097	9.468	302.80	13.73	85.85	82.6	37.0	0.0	166.6			
178.60		0.1875	15.307	8.998	259.90	12.98	81.64	82.6	33.4	0.0	113.1			
180.00		0.1875	15.000	8.815	244.40	12.70	80.00	82.6	32.1	0.0	42.4			

Totals: 25,270.9 6,930.5

Load Case: 1.2D + 1.0W Normal	124 mph wind with no ice	28 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 1.20		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-71.09	-41.13	0.00	-4,954.5	0.00	4,954.47	5,102.86	1,274.83	6,023.66	5,489.79	0.00	0	0.682
5.00	-68.58	-40.82	0.00	-4,748.8	0.00	4,748.85	5,029.12	1,248.09	5,773.66	5,296.03	0.11	-0.2	0.672
10.00	-66.10	-40.51	0.00	-4,544.7	0.00	4,544.73	4,953.95	1,221.35	5,528.95	5,104.17	0.43	-0.41	0.663
15.00	-63.65	-40.19	0.00	-4,342.2	0.00	4,342.18	4,877.36	1,194.61	5,289.55	4,914.28	0.98	-0.62	0.653
20.00	-61.24	-39.85	0.00	-4,141.3	0.00	4,141.26	4,799.34	1,167.87	5,055.44	4,726.48	1.74	-0.83	0.642
25.00	-58.86	-39.50	0.00	-3,942.0	0.00	3,942.03	4,719.90	1,141.14	4,826.63	4,540.86	2.73	-1.05	0.631
30.00	-56.50	-39.10	0.00	-3,744.5	0.00	3,744.54	4,639.03	1,114.40	4,603.12	4,357.51	3.94	-1.26	0.619
35.00	-54.18	-38.70	0.00	-3,549.0	0.00	3,549.03	4,556.73	1,087.66	4,384.90	4,176.53	5.38	-1.48	0.607
40.00	-51.93	-38.35	0.00	-3,355.5	0.00	3,355.52	4,473.00	1,060.92	4,171.99	3,998.03	7.05	-1.7	0.593
42.96	-50.61	-38.11	0.00	-3,242.2	0.00	3,242.15	4,422.83	1,045.11	4,048.59	3,893.68	8.15	-1.84	0.585
45.00	-49.24	-37.82	0.00	-3,164.3	0.00	3,164.27	4,378.03	1,034.18	3,964.38	3,813.53	8.96	-1.93	0.575
49.04	-46.66	-37.51	0.00	-3,011.5	0.00	3,011.48	4,304.17	884.89	3,886.04	3,738.50	10.67	-2.11	0.639
50.00	-46.21	-37.25	0.00	-2,975.5	0.00	2,975.47	3,591.50	880.49	3,352.45	3,111.78	11.10	-2.15	0.635
55.00	-44.17	-36.73	0.00	-2,789.2	0.00	2,789.24	3,524.70	857.57	3,180.22	2,973.71	13.48	-2.39	0.615
60.00	-42.17	-36.18	0.00	-2,605.6	0.00	2,605.60	3,456.48	834.66	3,012.53	2,837.51	16.11	-2.63	0.595
65.00	-40.21	-35.60	0.00	-2,424.7	0.00	2,424.72	3,386.83	811.74	2,849.38	2,703.28	18.99	-2.87	0.574
70.00	-38.27	-34.99	0.00	-2,246.7	0.00	2,246.73	3,315.75	788.82	2,690.77	2,571.11	22.12	-3.1	0.551
75.00	-36.39	-34.47	0.00	-2,071.8	0.00	2,071.77	3,242.30	765.90	2,536.71	2,440.39	25.49	-3.34	0.527
78.00	-35.27	-34.13	0.00	-1,968.4	0.00	1,968.37	3,184.09	752.15	2,446.45	2,353.11	27.64	-3.48	0.515
80.00	-34.28	-31.92	0.00	-1,900.1	0.00	1,900.11	3,145.28	742.98	2,387.18	2,295.80	29.11	-3.57	0.506
85.00	-32.49	-31.27	0.00	-1,740.5	0.00	1,740.50	3,048.26	720.06	2,242.20	2,155.63	32.98	-3.8	0.485
87.54	-31.58	-30.88	0.00	-1,661.1	0.00	1,661.06	2,998.97	708.42	2,170.29	2,086.12	35.03	-3.92	0.474
90.00	-30.37	-30.46	0.00	-1,585.1	0.00	1,585.10	2,951.23	697.14	2,101.76	2,019.88	37.08	-4.03	0.458
92.46	-29.17	-30.04	0.00	-1,510.3	0.00	1,510.26	2,412.07	583.53	1,766.98	1,661.36	39.19	-4.14	0.498
95.00	-27.80	-28.97	0.00	-1,433.8	0.00	1,433.84	2,382.81	573.82	1,708.64	1,613.62	41.42	-4.26	0.482
100.00	-26.22	-28.24	0.00	-1,289.0	0.00	1,289.00	2,324.22	554.72	1,596.80	1,521.06	46.01	-4.49	0.450
103.75	-25.06	-27.78	0.00	-1,183.1	0.00	1,183.10	2,279.33	540.40	1,515.41	1,452.80	49.60	-4.66	0.828
103.75	-25.06	-27.78	0.00	-1,183.1	0.00	1,183.10	2,279.33	540.40	1,515.41	1,452.80	49.60	-4.66	0.425
105.00	-24.64	-27.01	0.00	-1,148.0	0.00	1,147.96	2,264.20	535.62	1,488.76	1,430.27	50.82	-4.71	0.816
110.00	-23.48	-26.43	0.00	-1,012.9	0.00	1,012.91	2,186.61	516.52	1,384.49	1,331.51	55.98	-5.13	0.774
112.80	-22.43	-24.54	0.00	-938.9	0.00	938.89	2,141.33	505.83	1,327.76	1,276.66	59.06	-5.37	0.748
115.00	-20.24	-23.30	0.00	-884.9	0.00	884.90	2,105.76	497.42	1,284.02	1,234.37	61.57	-5.56	0.729
120.00	-19.25	-22.99	0.00	-768.4	0.00	768.41	2,024.90	478.32	1,187.32	1,140.91	67.60	-5.96	0.685
125.00	-15.40	-18.35	0.00	-653.4	0.00	653.45	1,944.05	459.22	1,094.41	1,051.12	74.04	-6.35	0.631
130.00	-14.57	-18.09	0.00	-561.7	0.00	561.69	1,863.20	440.13	1,005.29	965.02	80.88	-6.72	0.592
132.00	-13.90	-17.69	0.00	-524.7	0.00	524.68	1,830.86	432.49	970.70	931.61	83.72	-6.88	0.572
132.12	-13.87	-17.64	0.00	-522.6	0.00	522.56	1,828.92	432.03	968.65	929.63	83.89	-6.89	0.571
134.00	-10.73	-14.69	0.00	-488.3	0.00	488.28	1,798.52	424.85	936.71	898.79	86.63	-7.03	0.550
135.00	-10.51	-14.62	0.00	-473.6	0.00	473.58	1,782.35	421.03	919.95	882.59	88.10	-7.1	0.544
135.87	-10.31	-14.48	0.00	-460.9	0.00	460.87	993.95	255.84	566.08	501.09	89.40	-7.17	0.933
139.50	-9.88	-14.28	0.00	-408.3	0.00	408.29	972.81	247.52	529.86	474.36	94.93	-7.43	0.874
140.00	-9.33	-13.70	0.00	-401.2	0.00	401.16	969.84	246.38	524.97	470.70	95.71	-7.48	0.865
142.00	-9.08	-13.51	0.00	-373.8	0.00	373.76	957.82	241.79	505.62	456.15	98.89	-7.71	0.832
145.00	-8.74	-13.38	0.00	-333.2	0.00	333.23	939.35	234.92	477.28	434.53	103.82	-8.03	0.779
146.00	-8.62	-13.10	0.00	-319.8	0.00	319.85	933.08	232.63	468.01	427.39	105.51	-8.14	0.761
147.00	-8.46	-12.53	0.00	-306.8	0.00	306.75	926.76	230.34	458.83	420.27	107.22	-8.25	0.742
150.00	-8.02	-12.10	0.00	-269.2	0.00	269.15	907.44	223.46	431.85	399.13	112.48	-8.55	0.686
150.30	-7.90	-11.42	0.00	-265.5	0.00	265.52	905.48	222.77	429.20	397.03	113.02	-8.58	0.680
155.00	-7.44	-11.14	0.00	-211.9	0.00	211.87	874.09	212.00	388.70	364.57	121.66	-9.02	0.592
160.00	-6.99	-10.85	0.00	-156.2	0.00	156.18	839.33	200.54	347.82	330.98	131.29	-9.44	0.483
165.00	-6.57	-10.64	0.00	-102.0	0.00	101.96	800.44	189.08	309.21	297.43	141.32	-9.78	0.354
166.00	-3.89	-5.95	0.00	-91.3	0.00	91.32	790.74	186.79	301.76	290.23	143.37	-9.84	0.321
170.00	-3.61	-5.70	0.00	-67.5	0.00	67.51	751.93	177.62	272.87	262.30	151.67	-10.05	0.263
175.00	-3.27	-5.45	0.00	-39.0	0.00	39.00	703.42	166.16	238.80	229.37	162.26	-10.26	0.176
178.60	-3.04	-5.18	0.00	-19.4	0.00	19.38	668.49	157.91	215.68	207.03	169.99	-10.36	0.099
180.00	0.00	-4.55	0.00	-12.1	0.00	12.13	654.91	154.70	207.01	198.66	173.02	-10.38	0.062

Load Case: 0.9D + 1.0W Normal	124 mph wind with no ice	28 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 0.90		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-53.30	-41.09	0.00	-4,876.2	0.00	4,876.20	5,102.86	1,274.83	6,023.66	5,489.79	0.00	0	0.668
5.00	-51.38	-40.73	0.00	-4,670.8	0.00	4,670.75	5,029.12	1,248.09	5,773.66	5,296.03	0.11	-0.2	0.659
10.00	-49.49	-40.35	0.00	-4,467.1	0.00	4,467.12	4,953.95	1,221.35	5,528.95	5,104.17	0.43	-0.4	0.649
15.00	-47.62	-39.97	0.00	-4,265.4	0.00	4,265.35	4,877.36	1,194.61	5,289.55	4,914.28	0.96	-0.61	0.639
20.00	-45.78	-39.58	0.00	-4,065.5	0.00	4,065.50	4,799.34	1,167.87	5,055.44	4,726.48	1.71	-0.82	0.628
25.00	-43.96	-39.18	0.00	-3,867.6	0.00	3,867.60	4,719.90	1,141.14	4,826.63	4,540.86	2.68	-1.03	0.617
30.00	-42.16	-38.74	0.00	-3,671.7	0.00	3,671.70	4,639.03	1,114.40	4,603.12	4,357.51	3.87	-1.24	0.605
35.00	-40.40	-38.30	0.00	-3,478.0	0.00	3,478.00	4,556.73	1,087.66	4,384.90	4,176.53	5.29	-1.46	0.592
40.00	-38.69	-37.92	0.00	-3,286.5	0.00	3,286.51	4,473.00	1,060.92	4,171.99	3,998.03	6.93	-1.67	0.579
42.96	-37.68	-37.66	0.00	-3,174.4	0.00	3,174.41	4,422.83	1,045.11	4,048.59	3,893.68	8.01	-1.8	0.571
45.00	-36.64	-37.35	0.00	-3,097.4	0.00	3,097.45	4,378.03	1,034.18	3,964.38	3,813.53	8.80	-1.89	0.561
49.04	-34.68	-37.04	0.00	-2,946.6	0.00	2,946.56	3,604.17	884.89	3,386.04	3,138.50	10.48	-2.07	0.623
50.00	-34.33	-36.75	0.00	-2,911.0	0.00	2,911.00	3,591.50	880.49	3,352.45	3,111.78	10.90	-2.11	0.619
55.00	-32.78	-36.20	0.00	-2,727.3	0.00	2,727.26	3,524.70	857.57	3,180.22	2,973.71	13.24	-2.35	0.600
60.00	-31.25	-35.62	0.00	-2,546.3	0.00	2,546.28	3,456.48	834.66	3,012.53	2,837.51	15.82	-2.58	0.579
65.00	-29.75	-35.02	0.00	-2,368.2	0.00	2,368.17	3,386.83	811.74	2,849.38	2,703.28	18.64	-2.81	0.558
70.00	-28.28	-34.40	0.00	-2,193.1	0.00	2,193.07	3,315.75	788.82	2,690.77	2,571.11	21.71	-3.04	0.536
75.00	-26.85	-33.86	0.00	-2,021.1	0.00	2,021.10	3,242.30	765.90	2,536.71	2,440.39	25.01	-3.27	0.513
78.00	-26.01	-33.53	0.00	-1,919.5	0.00	1,919.51	3,184.09	752.15	2,446.45	2,353.11	27.11	-3.41	0.500
80.00	-25.28	-31.31	0.00	-1,852.5	0.00	1,852.46	3,145.28	742.98	2,387.18	2,295.80	28.56	-3.5	0.491
85.00	-23.92	-30.66	0.00	-1,695.9	0.00	1,695.93	3,048.26	720.06	2,242.20	2,155.63	32.34	-3.72	0.471
87.54	-23.23	-30.26	0.00	-1,618.1	0.00	1,618.06	2,998.97	708.42	2,170.29	2,086.12	34.36	-3.84	0.460
90.00	-22.32	-29.85	0.00	-1,543.6	0.00	1,543.61	2,951.23	697.14	2,101.76	2,019.88	36.36	-3.95	0.444
92.46	-21.41	-29.44	0.00	-1,470.3	0.00	1,470.28	2,412.07	583.53	1,766.98	1,661.36	38.42	-4.06	0.483
95.00	-20.39	-28.36	0.00	-1,395.4	0.00	1,395.40	2,382.81	573.82	1,708.64	1,613.62	40.61	-4.17	0.467
100.00	-19.19	-27.64	0.00	-1,253.6	0.00	1,253.59	2,324.22	554.72	1,596.80	1,521.06	45.09	-4.39	0.436
103.75	-18.32	-27.19	0.00	-1,149.9	0.00	1,149.93	2,279.33	540.40	1,515.41	1,452.80	48.60	-4.55	0.411
103.75	-18.32	-27.19	0.00	-1,149.9	0.00	1,149.93	2,279.33	540.40	1,515.41	1,452.80	48.60	-4.55	0.802
105.00	-18.00	-26.40	0.00	-1,115.5	0.00	1,115.53	2,264.20	535.62	1,488.76	1,430.27	49.80	-4.61	0.790
110.00	-17.11	-25.81	0.00	-983.5	0.00	983.54	2,186.61	516.52	1,384.49	1,331.51	54.85	-5.02	0.749
112.80	-16.34	-23.92	0.00	-911.3	0.00	911.28	2,141.33	505.83	1,327.76	1,276.66	57.85	-5.25	0.724
115.00	-14.70	-22.70	0.00	-858.7	0.00	858.66	2,105.76	497.42	1,284.02	1,234.37	60.31	-5.43	0.705
120.00	-13.94	-22.38	0.00	-745.2	0.00	745.16	2,024.90	478.32	1,187.32	1,140.91	66.20	-5.82	0.662
125.00	-11.13	-17.83	0.00	-633.3	0.00	633.27	1,944.05	459.22	1,094.41	1,051.12	72.49	-6.2	0.610
130.00	-10.50	-17.57	0.00	-544.1	0.00	544.14	1,863.20	440.13	1,005.29	965.02	79.16	-6.56	0.571
132.00	-10.00	-17.18	0.00	-508.2	0.00	508.17	1,830.86	432.49	970.70	931.61	81.93	-6.71	0.553
132.12	-9.97	-17.13	0.00	-506.1	0.00	506.12	1,828.92	432.03	968.65	929.63	82.10	-6.72	0.551
134.00	-7.68	-14.29	0.00	-472.8	0.00	472.79	1,798.52	424.85	936.71	898.79	84.77	-6.85	0.531
135.00	-7.52	-14.22	0.00	-458.5	0.00	458.50	1,782.35	421.03	919.95	882.59	86.21	-6.93	0.525
135.87	-7.36	-14.08	0.00	-446.1	0.00	446.14	993.95	255.84	566.08	501.09	87.47	-6.99	0.901
139.50	-7.04	-13.87	0.00	-395.0	0.00	395.04	972.81	247.52	529.86	474.36	92.87	-7.24	0.843
140.00	-6.63	-13.31	0.00	-388.1	0.00	388.11	969.84	246.38	524.97	470.70	93.63	-7.3	0.834
142.00	-6.44	-13.12	0.00	-361.5	0.00	361.49	957.82	241.79	505.62	456.15	96.72	-7.51	0.802
145.00	-6.18	-12.99	0.00	-322.1	0.00	322.13	939.35	234.92	477.28	434.53	101.53	-7.82	0.751
146.00	-6.09	-12.71	0.00	-309.2	0.00	309.15	933.08	232.63	468.01	427.39	103.18	-7.93	0.733
147.00	-5.99	-12.14	0.00	-296.4	0.00	296.44	926.76	230.34	458.83	420.27	104.84	-8.03	0.715
150.00	-5.66	-11.72	0.00	-260.0	0.00	260.03	907.44	223.46	431.85	399.13	109.97	-8.33	0.660
150.30	-5.58	-11.03	0.00	-256.5	0.00	256.52	905.48	222.77	429.20	397.03	110.49	-8.36	0.655
155.00	-5.24	-10.75	0.00	-204.7	0.00	204.68	874.09	212.00	388.70	364.57	118.91	-8.78	0.570
160.00	-4.89	-10.46	0.00	-151.0	0.00	150.95	839.33	200.54	347.82	330.98	128.29	-9.18	0.465
165.00	-4.57	-10.26	0.00	-98.6	0.00	98.65	800.44	189.08	309.21	297.43	138.05	-9.52	0.340
166.00	-2.72	-5.73	0.00	-88.4	0.00	88.38	790.74	186.79	301.76	290.23	140.04	-9.57	0.309
170.00	-2.51	-5.49	0.00	-65.5	0.00	65.46	751.93	177.62	272.87	262.30	148.11	-9.78	0.254
175.00	-2.27	-5.25	0.00	-38.0	0.00	38.02	703.42	166.16	238.80	229.37	158.42	-9.98	0.170
178.60	-2.10	-4.99	0.00	-19.1	0.00	19.12	668.49	157.91	215.68	207.03	165.94	-10.07	0.096
180.00	0.00	-4.55	0.00	-12.1	0.00	12.13	654.91	154.70	207.01	198.66	168.89	-10.1	0.062

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

CODE: ANSI/TIA-222-H
 ENG NO: 13711886_C3_03

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice		28 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00	
Dead load Factor:	1.20			Ice Importance Factor 1.15
Wind Load Factor:	1.00			

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-98.94	-9.32	0.00	-1,219.6	0.00	1,219.58	5,102.86	1,274.83	6,023.66	5,489.79	0.00	0	0.180
5.00	-96.07	-9.28	0.00	-1,173.0	0.00	1,172.99	5,029.12	1,248.09	5,773.66	5,296.03	0.03	-0.05	0.178
10.00	-93.19	-9.24	0.00	-1,126.6	0.00	1,126.60	4,953.95	1,221.35	5,528.95	5,104.17	0.11	-0.1	0.176
15.00	-90.32	-9.20	0.00	-1,080.4	0.00	1,080.40	4,877.36	1,194.61	5,289.55	4,914.28	0.24	-0.15	0.174
20.00	-87.47	-9.15	0.00	-1,034.4	0.00	1,034.41	4,799.34	1,167.87	5,055.44	4,726.48	0.43	-0.21	0.172
25.00	-84.65	-9.11	0.00	-988.6	0.00	988.64	4,719.90	1,141.14	4,826.63	4,540.86	0.68	-0.26	0.169
30.00	-81.83	-9.06	0.00	-943.1	0.00	943.09	4,639.03	1,114.40	4,603.12	4,357.51	0.98	-0.31	0.167
35.00	-79.06	-9.00	0.00	-897.8	0.00	897.81	4,556.73	1,087.66	4,384.90	4,176.53	1.34	-0.37	0.164
40.00	-76.33	-8.95	0.00	-852.8	0.00	852.79	4,473.00	1,060.92	4,171.99	3,998.03	1.75	-0.43	0.161
42.96	-74.73	-8.92	0.00	-826.3	0.00	826.32	4,422.83	1,045.11	4,048.59	3,893.68	2.03	-0.46	0.159
45.00	-73.19	-8.88	0.00	-808.1	0.00	808.10	4,378.03	1,034.18	3,964.38	3,813.53	2.23	-0.48	0.157
49.04	-70.19	-8.83	0.00	-772.2	0.00	772.22	3,604.17	884.89	3,386.04	3,138.50	2.66	-0.53	0.175
50.00	-69.70	-8.80	0.00	-763.7	0.00	763.74	3,591.50	880.49	3,352.45	3,111.78	2.77	-0.54	0.174
55.00	-67.21	-8.73	0.00	-719.8	0.00	719.75	3,524.70	857.57	3,180.22	2,973.71	3.37	-0.6	0.170
60.00	-64.74	-8.65	0.00	-676.1	0.00	676.12	3,456.48	834.66	3,012.53	2,837.51	4.03	-0.66	0.165
65.00	-62.30	-8.57	0.00	-632.9	0.00	632.87	3,386.83	811.74	2,849.38	2,703.28	4.76	-0.73	0.160
70.00	-59.90	-8.48	0.00	-590.0	0.00	590.03	3,315.75	788.82	2,690.77	2,571.11	5.55	-0.79	0.155
75.00	-57.53	-8.40	0.00	-547.6	0.00	547.63	3,242.30	765.90	2,536.71	2,440.39	6.41	-0.85	0.149
78.00	-56.12	-8.34	0.00	-522.4	0.00	522.43	3,184.09	752.15	2,446.45	2,353.11	6.95	-0.89	0.146
80.00	-54.58	-7.98	0.00	-505.8	0.00	505.75	3,145.28	742.98	2,387.18	2,295.80	7.33	-0.91	0.144
85.00	-52.28	-7.88	0.00	-465.9	0.00	465.87	3,048.26	720.06	2,242.20	2,155.63	8.32	-0.97	0.139
87.54	-51.12	-7.83	0.00	-445.8	0.00	445.85	2,998.97	708.42	2,170.29	2,086.12	8.84	-1	0.137
90.00	-49.66	-7.77	0.00	-426.6	0.00	426.59	2,951.23	697.14	2,101.76	2,019.88	9.37	-1.03	0.132
92.46	-48.21	-7.70	0.00	-407.5	0.00	407.51	2,412.07	583.53	1,766.98	1,661.36	9.91	-1.06	0.144
95.00	-46.42	-7.51	0.00	-387.9	0.00	387.92	2,382.81	573.82	1,708.64	1,613.62	10.49	-1.1	0.140
100.00	-44.33	-7.40	0.00	-350.4	0.00	350.38	2,324.22	554.72	1,596.80	1,521.06	11.67	-1.16	0.132
103.75	-42.78	-7.32	0.00	-322.6	0.00	322.63	2,279.33	540.40	1,515.41	1,452.80	12.59	-1.2	0.241
103.75	-42.78	-7.32	0.00	-322.6	0.00	322.63	2,279.33	540.40	1,515.41	1,452.80	12.59	-1.2	0.125
105.00	-42.10	-7.19	0.00	-313.4	0.00	313.39	2,264.20	535.62	1,488.76	1,430.27	12.91	-1.22	0.238
110.00	-40.57	-7.10	0.00	-277.4	0.00	277.42	2,186.61	516.52	1,384.49	1,331.51	14.25	-1.33	0.227
112.80	-38.39	-6.67	0.00	-257.6	0.00	257.56	2,141.33	505.83	1,327.76	1,276.66	15.05	-1.4	0.220
115.00	-35.64	-6.32	0.00	-242.9	0.00	242.87	2,105.76	497.42	1,284.02	1,234.37	15.71	-1.45	0.214
120.00	-34.39	-6.20	0.00	-211.2	0.00	211.25	2,024.90	478.32	1,187.32	1,140.91	17.29	-1.56	0.202
125.00	-27.20	-5.11	0.00	-180.2	0.00	180.25	1,944.05	459.22	1,094.41	1,051.12	18.98	-1.67	0.186
130.00	-26.13	-5.02	0.00	-154.7	0.00	154.69	1,863.20	440.13	1,005.29	965.02	20.78	-1.77	0.174
132.00	-24.96	-4.90	0.00	-144.5	0.00	144.48	1,830.86	432.49	970.70	931.61	21.53	-1.81	0.169
132.12	-24.94	-4.89	0.00	-143.9	0.00	143.89	1,828.92	432.03	968.65	929.63	21.58	-1.82	0.169
134.00	-19.78	-4.17	0.00	-134.5	0.00	134.46	1,798.52	424.85	936.71	898.79	22.30	-1.85	0.161
135.00	-19.52	-4.14	0.00	-130.3	0.00	130.29	1,782.35	421.03	919.95	882.59	22.69	-1.88	0.159
135.87	-19.29	-4.10	0.00	-126.7	0.00	126.69	993.95	255.84	566.08	501.09	23.03	-1.89	0.272
139.50	-18.64	-4.03	0.00	-111.8	0.00	111.79	972.81	247.52	529.86	474.36	24.50	-1.96	0.255
140.00	-17.89	-3.89	0.00	-109.8	0.00	109.77	969.84	246.38	524.97	470.70	24.71	-1.98	0.252
142.00	-17.56	-3.82	0.00	-102.0	0.00	102.00	957.82	241.79	505.62	456.15	25.55	-2.04	0.242
145.00	-17.10	-3.77	0.00	-90.5	0.00	90.54	939.35	234.92	477.28	434.53	26.86	-2.13	0.227
146.00	-16.83	-3.68	0.00	-86.8	0.00	86.77	933.08	232.63	468.01	427.39	27.31	-2.16	0.221
147.00	-16.43	-3.53	0.00	-83.1	0.00	83.09	926.76	230.34	458.83	420.27	27.77	-2.19	0.216
150.00	-15.74	-3.38	0.00	-72.5	0.00	72.50	907.44	223.46	431.85	399.13	29.17	-2.27	0.199
150.30	-15.35	-3.16	0.00	-71.5	0.00	71.49	905.48	222.77	429.20	397.03	29.31	-2.28	0.197
155.00	-14.70	-3.06	0.00	-56.6	0.00	56.61	874.09	212.00	388.70	364.57	31.61	-2.4	0.172
160.00	-14.02	-2.94	0.00	-41.3	0.00	41.33	839.33	200.54	347.82	330.98	34.18	-2.51	0.142
165.00	-13.38	-2.84	0.00	-26.6	0.00	26.63	800.44	189.08	309.21	297.43	36.86	-2.6	0.106
166.00	-7.81	-1.62	0.00	-23.8	0.00	23.80	790.74	186.79	301.76	290.23	37.40	-2.61	0.092
170.00	-7.38	-1.54	0.00	-17.3	0.00	17.33	751.93	177.62	272.87	262.30	39.62	-2.67	0.076
175.00	-6.87	-1.46	0.00	-9.6	0.00	9.65	703.42	166.16	238.80	229.37	42.44	-2.72	0.052
178.60	-6.44	-1.32	0.00	-4.4	0.00	4.41	668.49	157.91	215.68	207.03	44.50	-2.74	0.031
180.00	0.00	-1.01	0.00	-2.6	0.00	2.56	654.91	154.70	207.01	198.66	45.30	-2.75	0.013

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

CODE: ANSI/TIA-222-H
 ENG NO: 13711886_C3_03

Load Case: 1.0D + 1.0W Service Normal	60 mph Wind with No Ice	27 Iterations
Gust Response Factor: 1.10		
Dead load Factor: 1.00		
Wind Load Factor: 1.00		

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-59.30	-8.61	0.00	-1,029.8	0.00	1,029.84	5,102.86	1,274.83	6,023.66	5,489.79	0.00	0	0.148
5.00	-57.32	-8.54	0.00	-986.8	0.00	986.77	5,029.12	1,248.09	5,773.66	5,296.03	0.02	-0.04	0.146
10.00	-55.37	-8.47	0.00	-944.0	0.00	944.05	4,953.95	1,221.35	5,528.95	5,104.17	0.09	-0.09	0.144
15.00	-53.44	-8.39	0.00	-901.7	0.00	901.71	4,877.36	1,194.61	5,289.55	4,914.28	0.20	-0.13	0.142
20.00	-51.54	-8.32	0.00	-859.7	0.00	859.74	4,799.34	1,167.87	5,055.44	4,726.48	0.36	-0.17	0.139
25.00	-49.67	-8.24	0.00	-818.2	0.00	818.17	4,719.90	1,141.14	4,826.63	4,540.86	0.57	-0.22	0.137
30.00	-47.81	-8.15	0.00	-777.0	0.00	776.99	4,639.03	1,114.40	4,603.12	4,357.51	0.82	-0.26	0.134
35.00	-45.99	-8.06	0.00	-736.2	0.00	736.25	4,556.73	1,087.66	4,384.90	4,176.53	1.12	-0.31	0.131
40.00	-44.19	-7.98	0.00	-696.0	0.00	695.96	4,473.00	1,060.92	4,171.99	3,998.03	1.46	-0.35	0.128
42.96	-43.15	-7.93	0.00	-672.4	0.00	672.36	4,422.83	1,045.11	4,048.59	3,893.68	1.69	-0.38	0.127
45.00	-42.07	-7.87	0.00	-656.2	0.00	656.16	4,378.03	1,034.18	3,964.38	3,813.53	1.86	-0.4	0.125
49.04	-39.96	-7.80	0.00	-624.4	0.00	624.38	3,604.17	884.89	3,386.04	3,138.50	2.22	-0.44	0.138
50.00	-39.65	-7.74	0.00	-616.9	0.00	616.89	3,591.50	880.49	3,352.45	3,111.78	2.30	-0.45	0.137
55.00	-38.05	-7.63	0.00	-578.2	0.00	578.17	3,524.70	857.57	3,180.22	2,973.71	2.80	-0.5	0.133
60.00	-36.48	-7.51	0.00	-540.0	0.00	540.01	3,456.48	834.66	3,012.53	2,837.51	3.35	-0.55	0.129
65.00	-34.93	-7.39	0.00	-502.4	0.00	502.45	3,386.83	811.74	2,849.38	2,703.28	3.94	-0.59	0.124
70.00	-33.40	-7.26	0.00	-465.5	0.00	465.49	3,315.75	788.82	2,690.77	2,571.11	4.59	-0.64	0.119
75.00	-31.89	-7.15	0.00	-429.2	0.00	429.18	3,242.30	765.90	2,536.71	2,440.39	5.29	-0.69	0.114
78.00	-31.00	-7.08	0.00	-407.7	0.00	407.72	3,184.09	752.15	2,446.45	2,353.11	5.74	-0.72	0.111
80.00	-30.14	-6.62	0.00	-393.6	0.00	393.56	3,145.28	742.98	2,387.18	2,295.80	6.04	-0.74	0.109
85.00	-28.68	-6.48	0.00	-360.5	0.00	360.47	3,048.26	720.06	2,242.20	2,155.63	6.85	-0.79	0.105
87.54	-27.95	-6.40	0.00	-344.0	0.00	344.00	2,998.97	708.42	2,170.29	2,086.12	7.27	-0.81	0.103
90.00	-26.96	-6.32	0.00	-328.2	0.00	328.25	2,951.23	697.14	2,101.76	2,019.88	7.70	-0.84	0.099
92.46	-25.99	-6.23	0.00	-312.7	0.00	312.74	2,412.07	583.53	1,766.98	1,661.36	8.14	-0.86	0.108
95.00	-24.85	-6.00	0.00	-296.9	0.00	296.89	2,382.81	573.82	1,708.64	1,613.62	8.60	-0.88	0.104
100.00	-23.56	-5.85	0.00	-266.9	0.00	266.87	2,324.22	554.72	1,596.80	1,521.06	9.55	-0.93	0.097
103.75	-22.61	-5.76	0.00	-244.9	0.00	244.93	2,279.33	540.40	1,515.41	1,452.80	10.30	-0.97	0.179
103.75	-22.61	-5.76	0.00	-244.9	0.00	244.93	2,279.33	540.40	1,515.41	1,452.80	10.30	-0.97	0.092
105.00	-22.30	-5.59	0.00	-237.6	0.00	237.64	2,264.20	535.62	1,488.76	1,430.27	10.55	-0.98	0.176
110.00	-21.40	-5.47	0.00	-209.7	0.00	209.67	2,186.61	516.52	1,384.49	1,331.51	11.62	-1.06	0.167
112.80	-20.46	-5.08	0.00	-194.4	0.00	194.35	2,141.33	505.83	1,327.76	1,276.66	12.26	-1.11	0.162
115.00	-18.63	-4.82	0.00	-183.2	0.00	183.18	2,105.76	497.42	1,284.02	1,234.37	12.78	-1.15	0.157
120.00	-17.90	-4.76	0.00	-159.1	0.00	159.09	2,024.90	478.32	1,187.32	1,140.91	14.03	-1.24	0.148
125.00	-14.41	-3.79	0.00	-135.3	0.00	135.31	1,944.05	459.22	1,094.41	1,051.12	15.37	-1.32	0.136
130.00	-13.75	-3.74	0.00	-116.3	0.00	116.34	1,863.20	440.13	1,005.29	965.02	16.79	-1.39	0.128
132.00	-13.18	-3.66	0.00	-108.7	0.00	108.69	1,830.86	432.49	970.70	931.61	17.38	-1.42	0.124
132.12	-13.16	-3.65	0.00	-108.2	0.00	108.25	1,828.92	432.03	968.65	929.63	17.42	-1.43	0.124
134.00	-10.30	-3.04	0.00	-101.2	0.00	101.15	1,798.52	424.85	936.71	898.79	17.98	-1.46	0.118
135.00	-10.13	-3.03	0.00	-98.1	0.00	98.11	1,782.35	421.03	919.95	882.59	18.29	-1.47	0.117
135.87	-9.98	-3.00	0.00	-95.5	0.00	95.48	993.95	255.84	566.08	501.09	18.56	-1.49	0.201
139.50	-9.63	-2.96	0.00	-84.6	0.00	84.59	972.81	247.52	529.86	474.36	19.71	-1.54	0.188
140.00	-9.14	-2.84	0.00	-83.1	0.00	83.11	969.84	246.38	524.97	470.70	19.87	-1.55	0.186
142.00	-8.96	-2.80	0.00	-77.4	0.00	77.44	957.82	241.79	505.62	456.15	20.53	-1.6	0.179
145.00	-8.70	-2.77	0.00	-69.0	0.00	69.04	939.35	234.92	477.28	434.53	21.56	-1.66	0.168
146.00	-8.59	-2.71	0.00	-66.3	0.00	66.27	933.08	232.63	468.01	427.39	21.91	-1.69	0.164
147.00	-8.43	-2.60	0.00	-63.6	0.00	63.55	926.76	230.34	458.83	420.27	22.26	-1.71	0.160
150.00	-8.04	-2.51	0.00	-55.8	0.00	55.77	907.44	223.46	431.85	399.13	23.36	-1.77	0.149
150.30	-7.89	-2.36	0.00	-55.0	0.00	55.02	905.48	222.77	429.20	397.03	23.47	-1.78	0.147
155.00	-7.54	-2.31	0.00	-43.9	0.00	43.91	874.09	212.00	388.70	364.57	25.27	-1.87	0.129
160.00	-7.18	-2.25	0.00	-32.4	0.00	32.39	839.33	200.54	347.82	330.98	27.27	-1.96	0.107
165.00	-6.83	-2.21	0.00	-21.2	0.00	21.15	800.44	189.08	309.21	297.43	29.36	-2.03	0.080
166.00	-4.01	-1.23	0.00	-19.0	0.00	18.95	790.74	186.79	301.76	290.23	29.79	-2.04	0.070
170.00	-3.76	-1.18	0.00	-14.0	0.00	14.02	751.93	177.62	272.87	262.30	31.51	-2.08	0.058
175.00	-3.46	-1.13	0.00	-8.1	0.00	8.11	703.42	166.16	238.80	229.37	33.72	-2.13	0.040
178.60	-3.23	-1.07	0.00	-4.0	0.00	4.04	668.49	157.91	215.68	207.03	35.33	-2.15	0.024
180.00	0.00	-0.95	0.00	-2.5	0.00	2.54	654.91	154.70	207.01	198.66	35.96	-2.15	0.013

EQUIVALENT LATERAL FORCES METHOD ANALYSIS
(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.169
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_a):	1.250
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.180
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.960
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	59.300 k
Seismic Base Shear (E):	1.780 k

1.2D + 1.0Ev + 1.0Eh Normal Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
54	179.3	81	2,588	0.004	8	100
53	176.8	211	6,596	0.011	20	261
52	172.5	303	9,005	0.015	27	374
51	168	250	7,059	0.012	21	309
50	165.5	69	1,881	0.003	6	85
49	162.5	350	9,245	0.016	28	433
48	157.5	361	8,960	0.015	27	446
47	152.65	350	8,148	0.014	25	432
46	150.15	23	511	0.001	2	28
45	148.5	231	5,098	0.009	15	286
44	146.5	80	1,708	0.003	5	98
43	145.5	84	1,781	0.003	5	104
42	143.5	255	5,253	0.009	16	315
41	141	174	3,454	0.006	10	215
40	139.75	44	858	0.002	3	54
39	137.6849	323	6,117	0.010	18	399
38	135.4349	149	2,732	0.005	8	184
37	134.5	172	3,117	0.005	9	213
36	133.0599	334	5,917	0.010	18	413
35	132.0599	15	267	0.000	1	19
34	131	257	4,407	0.008	13	317
33	127.5	655	10,648	0.018	32	810
32	122.5	705	10,573	0.018	32	871
31	117.5	723	9,984	0.017	30	894
30	113.9	324	4,204	0.007	13	401
29	111.4	470	5,835	0.010	18	581
28	107.5	892	10,303	0.017	31	1,102
27	104.375	232	2,527	0.004	8	287
26	101.875	953	9,893	0.017	30	1,178
25	97.5	1,288	12,243	0.021	37	1,592
24	93.7283	663	5,827	0.010	18	820
23	91.2283	975	8,116	0.014	24	1,205
22	88.77	986	7,773	0.013	23	1,219
21	86.27	730	5,431	0.009	16	902

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
20	82.5	1,453	9,892	0.017	30	1,796
19	79	589	3,673	0.006	11	728
18	76.5	890	5,209	0.009	16	1,100
17	72.5	1,501	7,890	0.013	24	1,855
16	67.5	1,523	6,941	0.012	21	1,883
15	62.5	1,546	6,037	0.010	18	1,910
14	57.5	1,568	5,183	0.009	16	1,938
13	52.5	1,590	4,382	0.007	13	1,965
12	49.52	308	755	0.001	2	381
11	47.02	2,106	4,656	0.008	14	2,603
10	43.9783	1,077	2,083	0.004	6	1,331
9	41.4783	1,046	1,799	0.003	5	1,292
8	37.5	1,789	2,516	0.004	8	2,211
7	32.5	1,815	1,917	0.003	6	2,243
6	27.5	1,842	1,393	0.002	4	2,277
5	22.5	1,868	946	0.002	3	2,309
4	17.5	1,894	580	0.001	2	2,341
3	12.5	1,920	300	0.000	1	2,374
2	7.5	1,946	109	0.000	0	2,406
1	2.5	1,972	12	0.000	0	2,438
Generic 7' Omni	180	25	810	0.001	2	31
Kaelus DBC0061F1V51-2	180	51	1,652	0.003	5	63
Powerwave Allgon TT19-08BP111-001	180	48	1,555	0.003	5	59
Powerwave Allgon LGP21401	180	42	1,371	0.002	4	52
Raycap DC6-48-60-18-8F (23.5" Height)	180	60	1,944	0.003	6	74
Ericsson RRUS 8843 B2, B66A	180	216	6,998	0.012	21	267
Ericsson RRUS 4478 B14	180	120	3,882	0.007	12	148
Ericsson RRUS 4449 B5, B12	180	213	6,901	0.012	21	263
Ericsson RRUS 32 B30	180	180	5,832	0.010	18	222
Ericsson RRUS E2 B29	180	180	5,832	0.010	18	222
CCI OPA65R-BU6B	180	165	5,346	0.009	16	204
CCI HPA-65R-BUU-H6	180	153	4,957	0.008	15	189
CCI DMP65R-BU6DA	180	238	7,718	0.013	23	294
Flat Low Profile Platform	180	1,500	48,600	0.082	146	1,854
Kathrein Scala MF-900B	178.6	13	415	0.001	1	16
Ericsson Radio 4449 B71 B85A	166	225	6,200	0.010	19	278
Ericsson Radio 4460 B25+B66	166	327	9,011	0.015	27	404
Ericsson Air6449 B41	166	312	8,597	0.014	26	386
Generic Mount Reinforcement	166	600	16,534	0.028	50	742
Generic Flat T-Arm	166	938	25,834	0.044	78	1,159
RFS APXVAARR24_43-U-NA20	166	384	10,573	0.018	32	474
Decibel DB809DK-XT	150.3	128	2,892	0.005	9	158
Sinclair SD210-SF2P4SNM	150	8	187	0.000	1	10
Round Side Arm	150	150	3,375	0.006	10	185
Round Side Arm	140	450	8,820	0.015	27	556
Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	147	79	1,707	0.003	5	98
Sinclair SC479-HF1LDF(E5765)	146	34	725	0.001	2	42
Telewave ANT150D (5 lbs)	142	5	101	0.000	0	6
Bird 432-83H-01-T	139.5	25	487	0.001	1	31
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	134	210	3,771	0.006	11	260
RFS APXVTM14-C-I20	134	159	2,850	0.005	9	196
RFS APXVSPP18-C-A20	134	171	3,070	0.005	9	211
Flat Platform w/ Handrails	134	2,000	35,912	0.061	108	2,472
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	132	185	3,230	0.006	10	229
Alcatel-Lucent 1900MHz RRH	132	132	2,300	0.004	7	163
Commscope CBC78T-DS-43-2X	125	62	970	0.002	3	77
Samsung B2/B66A RRH-BR049	125	253	3,956	0.007	12	313
Samsung B5/B13 RRH-BR04C	125	211	3,295	0.006	10	261
Raycap RCMD-6627-PF-48	125	32	500	0.001	2	40
Samsung MT6407-77A	125	245	3,825	0.006	12	303
Antel LPA-80080/6CF	125	84	1,312	0.002	4	104
Commscope JAHH-65B-R3B	125	364	5,681	0.010	17	449
Antel LPA-80063/6CF	125	54	844	0.001	3	67
Round Low Profile Platform	125	1,500	23,438	0.040	71	1,854
Round Low Profile Platform	115	1,500	19,838	0.034	60	1,854
Generic 72" x 8" Panel	112.8	480	6,107	0.010	18	593
RFS APXV18-206517S-C	105	79	873	0.002	3	98
Bird 429-83H-01-T	95	20	180	0.000	1	25
Flat Side Arm	95	450	4,061	0.007	12	556
RFS PA6-65AC	80	278	1,779	0.003	5	344

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
PCTEL GPS-TMG-HR-26N	78	1	4	0.000	0	1
Generic GPS	30	10	9	0.000	0	12
		59,303	590,996	1.000	1,779	73,301

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

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
54	179.3	81	2,588	0.004	8	70
53	176.8	211	6,596	0.011	20	182
52	172.5	303	9,005	0.015	27	261
51	168	250	7,059	0.012	21	216
50	165.5	69	1,881	0.003	6	59
49	162.5	350	9,245	0.016	28	302
48	157.5	361	8,960	0.015	27	312
47	152.65	350	8,148	0.014	25	302
46	150.15	23	511	0.001	2	20
45	148.5	231	5,098	0.009	15	200
44	146.5	80	1,708	0.003	5	69
43	145.5	84	1,781	0.003	5	73
42	143.5	255	5,253	0.009	16	220
41	141	174	3,454	0.006	10	150
40	139.75	44	858	0.002	3	38
39	137.6849	323	6,117	0.010	18	279
38	135.4349	149	2,732	0.005	8	129
37	134.5	172	3,117	0.005	9	149
36	133.0599	334	5,917	0.010	18	289
35	132.0599	15	267	0.000	1	13
34	131	257	4,407	0.008	13	222
33	127.5	655	10,648	0.018	32	566
32	122.5	705	10,573	0.018	32	609
31	117.5	723	9,984	0.017	30	625
30	113.9	324	4,204	0.007	13	280
29	111.4	470	5,835	0.010	18	406
28	107.5	892	10,303	0.017	31	770
27	104.375	232	2,527	0.004	8	200
26	101.875	953	9,893	0.017	30	824
25	97.5	1,288	12,243	0.021	37	1,113
24	93.7283	663	5,827	0.010	18	573
23	91.2283	975	8,116	0.014	24	843
22	88.77	986	7,773	0.013	23	852
21	86.27	730	5,431	0.009	16	630
20	82.5	1,453	9,892	0.017	30	1,256
19	79	589	3,673	0.006	11	509
18	76.5	890	5,209	0.009	16	769
17	72.5	1,501	7,890	0.013	24	1,297
16	67.5	1,523	6,941	0.012	21	1,316
15	62.5	1,546	6,037	0.010	18	1,335
14	57.5	1,568	5,183	0.009	16	1,354
13	52.5	1,590	4,382	0.007	13	1,374
12	49.52	308	755	0.001	2	266
11	47.02	2,106	4,656	0.008	14	1,819
10	43.9783	1,077	2,083	0.004	6	931
9	41.4783	1,046	1,799	0.003	5	903
8	37.5	1,789	2,516	0.004	8	1,546
7	32.5	1,815	1,917	0.003	6	1,568
6	27.5	1,842	1,393	0.002	4	1,592
5	22.5	1,868	946	0.002	3	1,614
4	17.5	1,894	580	0.001	2	1,637
3	12.5	1,920	300	0.000	1	1,659
2	7.5	1,946	109	0.000	0	1,681
1	2.5	1,972	12	0.000	0	1,704
Generic 7' Omni	180	25	810	0.001	2	22

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
Kaelus DBC0061F1V51-2	180	51	1,652	0.003	5	44
Powerwave Allgon TT19-08BP111-001	180	48	1,555	0.003	5	41
Powerwave Allgon LGP21401	180	42	1,371	0.002	4	37
Raycap DC6-48-60-18-8F (23.5" Height)	180	60	1,944	0.003	6	52
Ericsson RRUS 8843 B2, B66A	180	216	6,998	0.012	21	187
Ericsson RRUS 4478 B14	180	120	3,882	0.007	12	104
Ericsson RRUS 4449 B5, B12	180	213	6,901	0.012	21	184
Ericsson RRUS 32 B30	180	180	5,832	0.010	18	156
Ericsson RRUS E2 B29	180	180	5,832	0.010	18	156
CCI OPA65R-BU6B	180	165	5,346	0.009	16	143
CCI HPA-65R-BUU-H6	180	153	4,957	0.008	15	132
CCI DMP65R-BU6DA	180	238	7,718	0.013	23	206
Flat Low Profile Platform	180	1,500	48,600	0.082	146	1,296
Kathrein Scala MF-900B	178.6	13	415	0.001	1	11
Ericsson Radio 4449 B71 B85A	166	225	6,200	0.010	19	194
Ericsson Radio 4460 B25+B66	166	327	9,011	0.015	27	283
Ericsson Air6449 B41	166	312	8,597	0.014	26	270
Generic Mount Reinforcement	166	600	16,534	0.028	50	518
Generic Flat T-Arm	166	938	25,834	0.044	78	810
RFS APXVAARR24_43-U-NA20	166	384	10,573	0.018	32	331
Decibel DB809DK-XT	150.3	128	2,892	0.005	9	111
Sinclair SD210-SF2P4SNM	150	8	187	0.000	1	7
Round Side Arm	150	150	3,375	0.006	10	130
Round Side Arm	140	450	8,820	0.015	27	389
Sinclair SC442D-HF1LDF(DXX-I30-G9-NUFP)	147	79	1,707	0.003	5	68
Sinclair SC479-HF1LDF(E5765)	146	34	725	0.001	2	29
Telewave ANT150D (5 lbs)	142	5	101	0.000	0	4
Bird 432-83H-01-T	139.5	25	487	0.001	1	22
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	134	210	3,771	0.006	11	181
RFS APXVTM14-C-I20	134	159	2,850	0.005	9	137
RFS APXVSPP18-C-A20	134	171	3,070	0.005	9	148
Flat Platform w/ Handrails	134	2,000	35,912	0.061	108	1,728
Alcatel-Lucent 800 MHz RRH w/ Notch Filter	132	185	3,230	0.006	10	160
Alcatel-Lucent 1900MHz RRH	132	132	2,300	0.004	7	114
Commscope CBC78T-DS-43-2X	125	62	970	0.002	3	54
Samsung B2/B66A RRH-BR049	125	253	3,956	0.007	12	219
Samsung B5/B13 RRH-BR04C	125	211	3,295	0.006	10	182
Raycap RCMDC-6627-PF-48	125	32	500	0.001	2	28
Samsung MT6407-77A	125	245	3,825	0.006	12	211
Antel LPA-80080/6CF	125	84	1,312	0.002	4	73
Commscope JAHH-65B-R3B	125	364	5,681	0.010	17	314
Antel LPA-80063/6CF	125	54	844	0.001	3	47
Round Low Profile Platform	125	1,500	23,438	0.040	71	1,296
Round Low Profile Platform	115	1,500	19,838	0.034	60	1,296
Generic 72" x 8" Panel	112.8	480	6,107	0.010	18	415
RFS APXV18-206517S-C	105	79	873	0.002	3	68
Bird 429-83H-01-T	95	20	180	0.000	1	17
Flat Side Arm	95	450	4,061	0.007	12	389
RFS PA6-65AC	80	278	1,779	0.003	5	240
PCTEL GPS-TMG-HR-26N	78	1	4	0.000	0	1
Generic GPS	30	10	9	0.000	0	9
		59,303	590,996	1.000	1,779	51,234

1.2D + 1.0Ev + 1.0Eh Normal Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-70.86	-1.79	0.00	-254.42	0.00	254.42	5,102.86	1,274.83	6,024	5,489.79	0.00	0.00	0.05
5.00	-68.46	-1.80	0.00	-245.49	0.00	245.49	5,029.12	1,248.09	5,774	5,296.03	0.01	-0.01	0.05
10.00	-66.08	-1.81	0.00	-236.51	0.00	236.51	4,953.95	1,221.35	5,529	5,104.17	0.02	-0.02	0.04
15.00	-63.74	-1.82	0.00	-227.47	0.00	227.47	4,877.36	1,194.61	5,290	4,914.28	0.05	-0.03	0.04
20.00	-61.43	-1.83	0.00	-218.38	0.00	218.38	4,799.34	1,167.87	5,055	4,726.48	0.09	-0.04	0.04
25.00	-59.15	-1.83	0.00	-209.25	0.00	209.25	4,719.90	1,141.14	4,827	4,540.86	0.14	-0.05	0.04
30.00	-56.90	-1.83	0.00	-200.10	0.00	200.10	4,639.03	1,114.40	4,603	4,357.51	0.20	-0.07	0.04

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
35.00	-54.69	-1.84	0.00	-190.93	0.00	190.93	4,556.73	1,087.66	4,385	4,176.53	0.28	-0.08	0.04
40.00	-53.39	-1.84	0.00	-181.75	0.00	181.75	4,473.00	1,060.92	4,172	3,998.03	0.37	-0.09	0.04
42.96	-52.06	-1.83	0.00	-176.32	0.00	176.32	4,422.83	1,045.11	4,049	3,893.68	0.43	-0.10	0.04
45.00	-49.46	-1.82	0.00	-172.58	0.00	172.58	4,378.03	1,034.18	3,964	3,813.53	0.47	-0.10	0.04
49.04	-49.08	-1.82	0.00	-165.22	0.00	165.22	3,604.17	884.89	3,386	3,138.50	0.56	-0.11	0.04
50.00	-47.11	-1.81	0.00	-163.46	0.00	163.46	3,591.50	880.49	3,352	3,111.78	0.58	-0.11	0.04
55.00	-45.17	-1.80	0.00	-154.40	0.00	154.40	3,524.70	857.57	3,180	2,973.71	0.71	-0.13	0.04
60.00	-43.26	-1.79	0.00	-145.38	0.00	145.38	3,456.48	834.66	3,013	2,837.51	0.85	-0.14	0.04
65.00	-41.38	-1.78	0.00	-136.42	0.00	136.42	3,386.83	811.74	2,849	2,703.28	1.00	-0.15	0.04
70.00	-39.52	-1.76	0.00	-127.54	0.00	127.54	3,315.75	788.82	2,691	2,571.11	1.17	-0.17	0.04
75.00	-38.42	-1.74	0.00	-118.76	0.00	118.76	3,242.30	765.90	2,537	2,440.39	1.36	-0.18	0.04
78.00	-37.70	-1.73	0.00	-113.53	0.00	113.53	3,184.09	752.15	2,446	2,353.11	1.47	-0.19	0.04
80.00	-35.56	-1.70	0.00	-110.06	0.00	110.06	3,145.28	742.98	2,387	2,295.80	1.55	-0.19	0.04
85.00	-34.65	-1.69	0.00	-101.57	0.00	101.57	3,048.26	720.06	2,242	2,155.63	1.76	-0.21	0.04
87.54	-33.43	-1.66	0.00	-97.29	0.00	97.29	2,998.97	708.42	2,170	2,086.12	1.88	-0.21	0.04
90.00	-32.23	-1.64	0.00	-93.20	0.00	93.20	2,951.23	697.14	2,102	2,019.88	1.99	-0.22	0.03
92.46	-31.41	-1.62	0.00	-89.18	0.00	89.18	2,412.07	583.53	1,767	1,661.36	2.10	-0.23	0.04
95.00	-29.24	-1.57	0.00	-85.07	0.00	85.07	2,382.81	573.82	1,709	1,613.62	2.23	-0.23	0.04
100.00	-28.06	-1.54	0.00	-77.24	0.00	77.24	2,324.22	554.72	1,597	1,521.06	2.48	-0.25	0.03
103.75	-27.77	-1.53	0.00	-71.48	0.00	71.48	2,279.33	540.40	1,515	1,452.80	2.68	-0.26	0.03
103.75	-27.77	-1.53	0.00	-71.48	0.00	71.48	2,279.33	540.40	1,515	1,452.80	2.68	-0.26	0.06
105.00	-26.57	-1.50	0.00	-69.56	0.00	69.56	2,264.20	535.62	1,489	1,430.27	2.75	-0.26	0.06
110.00	-25.99	-1.49	0.00	-62.07	0.00	62.07	2,186.61	516.52	1,384	1,331.51	3.04	-0.29	0.06
112.80	-25.00	-1.46	0.00	-57.91	0.00	57.91	2,141.33	505.83	1,328	1,276.66	3.21	-0.30	0.06
115.00	-22.25	-1.36	0.00	-54.70	0.00	54.70	2,105.76	497.42	1,284	1,234.37	3.35	-0.31	0.06
120.00	-21.38	-1.33	0.00	-47.90	0.00	47.90	2,024.90	478.32	1,187	1,140.91	3.69	-0.34	0.05
125.00	-17.10	-1.15	0.00	-41.24	0.00	41.24	1,944.05	459.22	1,094	1,051.12	4.06	-0.36	0.05
130.00	-16.78	-1.14	0.00	-35.50	0.00	35.50	1,863.20	440.13	1,005	965.02	4.45	-0.39	0.05
132.00	-16.37	-1.12	0.00	-33.22	0.00	33.22	1,830.86	432.49	971	931.61	4.62	-0.40	0.05
132.12	-15.96	-1.10	0.00	-33.08	0.00	33.08	1,828.92	432.03	969	929.63	4.63	-0.40	0.04
134.00	-12.61	-0.93	0.00	-31.02	0.00	31.02	1,798.52	424.85	937	898.79	4.78	-0.41	0.04
135.00	-12.42	-0.92	0.00	-30.08	0.00	30.08	1,782.35	421.03	920	882.59	4.87	-0.41	0.04
135.87	-12.02	-0.90	0.00	-29.28	0.00	29.28	993.95	255.84	566	501.09	4.94	-0.41	0.07
139.50	-11.94	-0.90	0.00	-26.00	0.00	26.00	972.81	247.52	530	474.36	5.27	-0.43	0.07
140.00	-11.17	-0.86	0.00	-25.55	0.00	25.55	969.84	246.38	525	470.70	5.31	-0.43	0.07
142.00	-10.85	-0.85	0.00	-23.83	0.00	23.83	957.82	241.79	506	456.15	5.50	-0.45	0.06
145.00	-10.74	-0.84	0.00	-21.29	0.00	21.29	939.35	234.92	477	434.53	5.79	-0.47	0.06
146.00	-10.60	-0.83	0.00	-20.45	0.00	20.45	933.08	232.63	468	427.39	5.88	-0.48	0.06
147.00	-10.22	-0.81	0.00	-19.61	0.00	19.61	926.76	230.34	459	420.27	5.99	-0.48	0.06
150.00	-9.99	-0.80	0.00	-17.17	0.00	17.17	907.44	223.46	432	399.13	6.30	-0.50	0.05
150.30	-9.40	-0.77	0.00	-16.93	0.00	16.93	905.48	222.77	429	397.03	6.33	-0.50	0.05
155.00	-8.96	-0.74	0.00	-13.34	0.00	13.34	874.09	212.00	389	364.57	6.84	-0.53	0.05
160.00	-8.53	-0.71	0.00	-9.65	0.00	9.65	839.33	200.54	348	330.98	7.41	-0.56	0.04
165.00	-8.44	-0.71	0.00	-6.10	0.00	6.10	800.44	189.08	309	297.43	8.01	-0.58	0.03
166.00	-4.69	-0.42	0.00	-5.39	0.00	5.39	790.74	186.79	302	290.23	8.13	-0.58	0.03
170.00	-4.32	-0.39	0.00	-3.73	0.00	3.73	751.93	177.62	273	262.30	8.62	-0.60	0.02
175.00	-4.06	-0.36	0.00	-1.80	0.00	1.80	703.42	166.16	239	229.37	9.25	-0.61	0.01
178.60	-3.94	-0.35	0.00	-0.49	0.00	0.49	668.49	157.91	216	207.03	9.71	-0.61	0.01
180.00	0.00	-0.31	0.00	0.00	0.00	0.00	654.91	154.70	207	198.66	9.89	-0.61	0.00

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.53	-1.78	0.00	-249.10	0.00	249.10	5,102.86	1,274.83	6,024	5,489.79	0.00	0.00	0.04
5.00	-47.85	-1.79	0.00	-240.19	0.00	240.19	5,029.12	1,248.09	5,774	5,296.03	0.01	-0.01	0.04
10.00	-46.19	-1.80	0.00	-231.24	0.00	231.24	4,953.95	1,221.35	5,529	5,104.17	0.02	-0.02	0.04
15.00	-44.55	-1.80	0.00	-222.25	0.00	222.25	4,877.36	1,194.61	5,290	4,914.28	0.05	-0.03	0.04
20.00	-42.94	-1.81	0.00	-213.23	0.00	213.23	4,799.34	1,167.87	5,055	4,726.48	0.09	-0.04	0.04
25.00	-41.35	-1.81	0.00	-204.19	0.00	204.19	4,719.90	1,141.14	4,827	4,540.86	0.14	-0.05	0.04
30.00	-39.77	-1.81	0.00	-195.14	0.00	195.14	4,639.03	1,114.40	4,603	4,357.51	0.20	-0.06	0.04
35.00	-38.22	-1.81	0.00	-186.09	0.00	186.09	4,556.73	1,087.66	4,385	4,176.53	0.27	-0.08	0.04
40.00	-37.32	-1.81	0.00	-177.04	0.00	177.04	4,473.00	1,060.92	4,172	3,998.03	0.36	-0.09	0.04
42.96	-36.39	-1.80	0.00	-171.70	0.00	171.70	4,422.83	1,045.11	4,049	3,893.68	0.42	-0.09	0.04
45.00	-34.57	-1.79	0.00	-168.01	0.00	168.01	4,378.03	1,034.18	3,964	3,813.53	0.46	-0.10	0.04
49.04	-34.30	-1.79	0.00	-160.77	0.00	160.77	3,604.17	884.89	3,386	3,138.50	0.55	-0.11	0.04
50.00	-32.93	-1.78	0.00	-159.05	0.00	159.05	3,591.50	880.49	3,352	3,111.78	0.57	-0.11	0.04

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

CODE: ANSI/TIA-222-H
 ENG NO: 13711886_C3_03

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
55.00	-31.57	-1.77	0.00	-150.15	0.00	150.15	3,524.70	857.57	3,180	2,973.71	0.69	-0.12	0.04
60.00	-30.24	-1.76	0.00	-141.30	0.00	141.30	3,456.48	834.66	3,013	2,837.51	0.83	-0.14	0.04
65.00	-28.92	-1.74	0.00	-132.52	0.00	132.52	3,386.83	811.74	2,849	2,703.28	0.98	-0.15	0.04
70.00	-27.62	-1.72	0.00	-123.83	0.00	123.83	3,315.75	788.82	2,691	2,571.11	1.15	-0.16	0.04
75.00	-26.86	-1.70	0.00	-115.25	0.00	115.25	3,242.30	765.90	2,537	2,440.39	1.32	-0.18	0.04
78.00	-26.35	-1.69	0.00	-110.14	0.00	110.14	3,184.09	752.15	2,446	2,353.11	1.44	-0.18	0.03
80.00	-24.85	-1.66	0.00	-106.75	0.00	106.75	3,145.28	742.98	2,387	2,295.80	1.51	-0.19	0.03
85.00	-24.22	-1.64	0.00	-98.46	0.00	98.46	3,048.26	720.06	2,242	2,155.63	1.72	-0.20	0.03
87.54	-23.37	-1.62	0.00	-94.29	0.00	94.29	2,998.97	708.42	2,170	2,086.12	1.83	-0.21	0.03
90.00	-22.52	-1.59	0.00	-90.30	0.00	90.30	2,951.23	697.14	2,102	2,019.88	1.94	-0.22	0.03
92.46	-21.95	-1.58	0.00	-86.39	0.00	86.39	2,412.07	583.53	1,767	1,661.36	2.05	-0.22	0.03
95.00	-20.43	-1.53	0.00	-82.37	0.00	82.37	2,382.81	573.82	1,709	1,613.62	2.17	-0.23	0.03
100.00	-19.61	-1.50	0.00	-74.75	0.00	74.75	2,324.22	554.72	1,597	1,521.06	2.42	-0.24	0.03
103.75	-19.41	-1.49	0.00	-69.14	0.00	69.14	2,279.33	540.40	1,515	1,452.80	2.61	-0.25	0.03
103.75	-19.41	-1.49	0.00	-69.14	0.00	69.14	2,279.33	540.40	1,515	1,452.80	2.61	-0.25	0.06
105.00	-18.57	-1.46	0.00	-67.27	0.00	67.27	2,264.20	535.62	1,489	1,430.27	2.68	-0.25	0.06
110.00	-18.16	-1.44	0.00	-59.99	0.00	59.99	2,186.61	516.52	1,384	1,331.51	2.96	-0.28	0.05
112.80	-17.47	-1.41	0.00	-55.94	0.00	55.94	2,141.33	505.83	1,328	1,276.66	3.13	-0.29	0.05
115.00	-15.55	-1.32	0.00	-52.84	0.00	52.84	2,105.76	497.42	1,284	1,234.37	3.26	-0.30	0.05
120.00	-14.94	-1.29	0.00	-46.24	0.00	46.24	2,024.90	478.32	1,187	1,140.91	3.60	-0.33	0.05
125.00	-11.95	-1.11	0.00	-39.80	0.00	39.80	1,944.05	459.22	1,094	1,051.12	3.95	-0.35	0.04
130.00	-11.73	-1.10	0.00	-34.23	0.00	34.23	1,863.20	440.13	1,005	965.02	4.33	-0.38	0.04
132.00	-11.44	-1.08	0.00	-32.03	0.00	32.03	1,830.86	432.49	971	931.61	4.49	-0.38	0.04
132.12	-11.15	-1.06	0.00	-31.90	0.00	31.90	1,828.92	432.03	969	929.63	4.50	-0.38	0.04
134.00	-8.81	-0.90	0.00	-29.90	0.00	29.90	1,798.52	424.85	937	898.79	4.66	-0.39	0.04
135.00	-8.68	-0.89	0.00	-29.00	0.00	29.00	1,782.35	421.03	920	882.59	4.74	-0.40	0.04
135.87	-8.40	-0.88	0.00	-28.22	0.00	28.22	993.95	255.84	566	501.09	4.81	-0.40	0.07
139.50	-8.34	-0.87	0.00	-25.05	0.00	25.05	972.81	247.52	530	474.36	5.12	-0.42	0.06
140.00	-7.80	-0.83	0.00	-24.61	0.00	24.61	969.84	246.38	525	470.70	5.17	-0.42	0.06
142.00	-7.58	-0.82	0.00	-22.94	0.00	22.94	957.82	241.79	506	456.15	5.35	-0.44	0.06
145.00	-7.51	-0.81	0.00	-20.49	0.00	20.49	939.35	234.92	477	434.53	5.63	-0.46	0.06
146.00	-7.41	-0.81	0.00	-19.68	0.00	19.68	933.08	232.63	468	427.39	5.72	-0.46	0.05
147.00	-7.14	-0.78	0.00	-18.88	0.00	18.88	926.76	230.34	459	420.27	5.82	-0.47	0.05
150.00	-6.98	-0.77	0.00	-16.52	0.00	16.52	907.44	223.46	432	399.13	6.12	-0.49	0.05
150.30	-6.57	-0.74	0.00	-16.29	0.00	16.29	905.48	222.77	429	397.03	6.15	-0.49	0.05
155.00	-6.26	-0.71	0.00	-12.82	0.00	12.82	874.09	212.00	389	364.57	6.65	-0.52	0.04
160.00	-5.96	-0.68	0.00	-9.27	0.00	9.27	839.33	200.54	348	330.98	7.20	-0.54	0.04
165.00	-5.90	-0.68	0.00	-5.86	0.00	5.86	800.44	189.08	309	297.43	7.78	-0.56	0.03
166.00	-3.28	-0.40	0.00	-5.18	0.00	5.18	790.74	186.79	302	290.23	7.90	-0.56	0.02
170.00	-3.02	-0.37	0.00	-3.59	0.00	3.59	751.93	177.62	273	262.30	8.37	-0.58	0.02
175.00	-2.83	-0.35	0.00	-1.73	0.00	1.73	703.42	166.16	239	229.37	8.98	-0.59	0.01
178.60	-2.75	-0.34	0.00	-0.48	0.00	0.48	668.49	157.91	216	207.03	9.43	-0.59	0.01
180.00	0.00	-0.31	0.00	0.00	0.00	0.00	654.91	154.70	207	198.66	9.60	-0.59	0.00

ANALYSIS SUMMARY

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	41.13	0.00	71.09	0.00	0.00	4954.47	135.87	0.93
0.9D + 1.0W Normal	41.09	0.00	53.30	0.00	0.00	4876.20	135.87	0.90
1.2D + 1.0Di + 1.0Wi Normal	9.32	0.00	98.94	0.00	0.00	1219.58	135.87	0.27
1.2D + 1.0Ev + 1.0Eh Normal	1.84	0.00	70.86	0.00	0.00	254.42	135.87	0.07
0.9D - 1.0Ev + 1.0Eh Normal	1.81	0.00	49.53	0.00	0.00	249.10	135.87	0.06
1.0D + 1.0W Service Normal	8.61	0.00	59.30	0.00	0.00	1029.84	135.87	0.20

ADDITIONAL STEEL SUMMARY

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Max member			
			VQ/I	Shear Applied (kips)	Shear (phiVn) (kips)	Ratio	Pu (kip)	PhiPn (kip)	Ratio
0.00	103.75	SOL #20 All Thread Bar	354.9	10.6	16.8	0.633	260.9	330.5	0.7894

Elev From (ft)	Elev To (ft)	Member	Upper Termination Connectors				Lower Termination Connectors					
			MQ/I	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kip)	Num Reqd	Num Actual	Ratio
0.00	103.75	SOL #20 All Thread Bar	181.4069	12	16	24	0.6299	0	12	0	0	0.0000



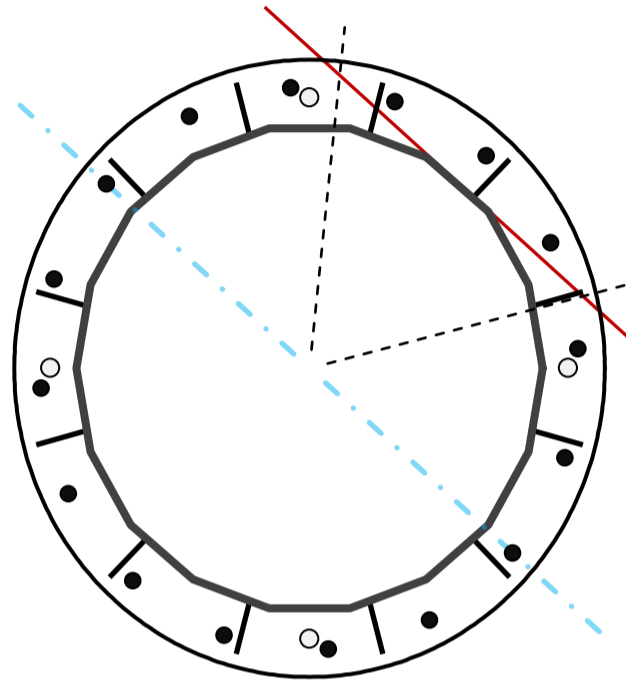
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	52.75	in
Thickness	7/16	in
Orientation Offset		°

Base Reactions		
Moment, Mu	4,954.5	k-ft
Axial, Pu	71.1	k
Shear, Vu	41.1	k
Neutral Axis	319	°

Report Capacities		
Component	Capacity	Result
Base Plate	40%	Pass
Anchor Rods	78%	Pass
Dwyidag	55%	Pass

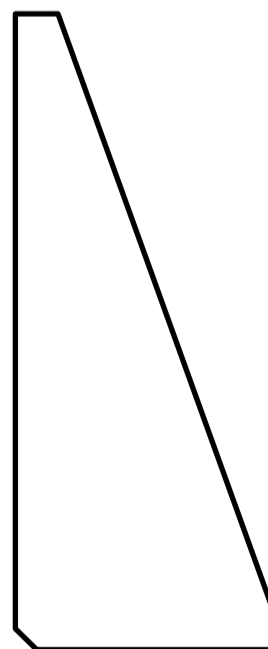
Base Plate		
Shape	Round	-
Diameter, ϕ	68	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	1013.1	k
Bending Stress, ϕMn	2515.6	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	59.63	in
Orientation Offset	0	°
Applied Force, Pu	202.4	k
Dwyidag Bar, ϕPn	368.2	k

Original Anchor Rods		
Arrangement	Radial	-
Quantity	16	-
Diameter, ϕ	2 1/4	in
Bolt Circle	62	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	12.2	in
Orientation Offset	4	°
Applied Force, Pu	186.9	k
Anchor Rods, ϕPn	243.6	k

Stiffeners		
Arrangement	Radial	-
Quantity	12	-
Height	15	in
Width	6	in
Effective Width	6.000	in
Thickness	3/4	in
Effective Thickness	0.540	in
Notch	0.5	in
Flat Edge	1	in
Grade	A36	
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Fillet	
Horizontal Fillet Size	5/16	in
Bevel Depth	0	in
Vertical Weld	Fillet	
Vertical Fillet Size	5/16	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	0	°
Vertical Weld, ϕRn	209.3	k
Horz. Weld, ϕRn	88.7	k
Ten. Capacity, ϕTn	133.7	k
Comp. Capacity, ϕPn	279.6	k



Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu k	Moment Mu k-ft	Factor
-	-	-	-
Base Forces	41.1	3651.4	0.74
Anchor Rod Forces	41.1	3651.4	0.74
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1303.1	0.26
Stiffener Forces	14.9	1322.4	0.27

Geometric Properties

Section	Gross Area in ²	Net Area in ²	Individual Inertia in ⁴	Threads per Inch #	Moment of Inertia in ⁴
-	-	-	-	-	-
Pole	71.5363	3.9742	0.2546		24475.33
Bolt	3.9761	3.2477	0.8393	4.5	23105.42
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		8734.76
Stiffener	2.9700	2.6730	38.8800		13897.83

Base Plate		
Shape	Round	-
Diameter, D	68	in
Thickness, t	2	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	42.912	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods		
Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	62	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	186.9	k
Applied Shear, Vu	1.2	k
Compressive Capacity, φPn	243.6	k
Tensile Capacity, φRnt	0.767	OK
Interaction Capacity	0.777	OK

Base Plate Stiffeners		
Applied Axial Force, Pu	91.0	k
Applied Horizontal Force, Vu	0.62	k

Vertical Weld		
Vert.-to-Stiffener a=e _x /l	0.133	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	3.720	-
Compressive Capacity, φPn	209.3	k
Vert.-to-Plate a=e _x /l	0.333	-
Spacing Ratio, k	0.050	-
Weld Coefficient, C	2.940	-
Shear Capacity, φVn	165.4	k
P _u /φ _p P _n + V _u /φ _v V _n	0.439	OK

External Base Plate		
Chord Length AA	36.939	in
Additional AA	9.646	in
Section Modulus, Z	46.585	in ³
Applied Moment, Mu	1013.1	k-ft
Bending Capacity, φMn	2515.6	k-ft
Capacity, Mu/φMn	0.403	OK

Horizontal Weld		
Horz.-to-Stiffener a=e _x /l	0.167	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	3.940	-
Effective Fillet	0.313	in
Compressive Capacity, φPn	88.7	k
Horz.-to-Pole a=e _x /l	0.417	-
Spacing Ratio, k	0.125	-
Weld Coefficient, C	2.670	-
Shear Capacity, φVn	60.1	k
P _u /φ _p P _n + V _u /φ _v V _n	1.037	OK

Chord Length AB	35.743	in
Additional AB	8.920	in
Section Modulus, Z	44.663	in ³
Applied Moment, Mu	795.8	k-ft
Bending Capacity, φMn	2411.8	k-ft
Capacity, Mu/φMn	0.330	OK

Plate Tension		
Gross Cross Section	2.970	in ²
Net Cross Section	2.673	in ²
Tensile Capacity, φTn	133.7	k
Capacity, Tu/φTn	0.341	OK

Bend Line Length	39.032	in
Additional Bend Line	70.623	in
Section Modulus, Z	109.655	in ³
Applied Moment, Mu	1013.1	k-ft
Bending Capacity, φMn	5921.4	k-ft
Capacity, Mu/φMn	0.171	OK

Plate Compression		
Radius of Gyration	0.156	in ³
kl/r	57.74	-
4.71 √(E/Fy)	133.68	-
Buckling Stress(Fe)	85.9	-
Crit. Buckling Stress(Fcr)	75.3	ksi
Compressive Capacity, φPn	279.6	k
Capacity, Pu/φPn	0.163	OK

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

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	59.63	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	202.4	k
Compressive Capacity, φPn	368.2	k
Capacity, Pu/φPn	0.550	OK

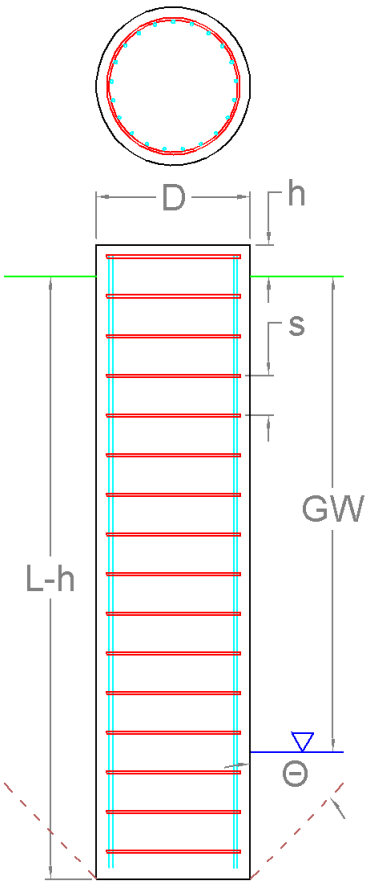
Pier Foundation Analysis (ANSI/TIA-222-H)

Foundation Analysis Parameters			
Pier Diameter	D	7.50	ft
Pier Embedment	$L-h$	18.2	ft
Pier Height above Ground	H	0.83	ft
Water Table Depth [BGL]	GW	99	ft
Pullout Angle	Θ	30	°
Unit Weight of Concrete		150	pcf
Uplift Skin Friction Factor		1.000	

Reactions		
Moment, M_u	4,954.5	k-ft
Shear, V_u	41.1	k
Axial, P_u	71.1	k
Uplift, T_u	0.0	k

Soil Properties						
Layer Depth (ft)		Unit Weight	Cohesion	Friction Angle	Ultimate Skin Friction	Ultimate Bearing Pressure
TOP	BTM	pcf	psf	°	psf	psf
0.0	2.5	105	0	0	0	0
2.5	7.5	138	8,486	0	0	0
7.5	19.2	139	10,168	0	4,576	45,116

Soil Strength Capacities		
Volume of Concrete	839.0	ft ³
Weight of Concrete [Buoyancy Considered]	125.8	k
Average Soil Unit Weight	134.0	pcf
Skin Friction Resistance	1,149.4	k
Compressive Bearing Resistance	1,993.2	k
Pullout Weight [Minus Concrete Weight]	580.9	k
Compressive Force, P_u	86.5	k
Nominal Compressive Capacity, $\phi_s P_n$	2,356.9	k
$P_u / \phi_s P_n$	3.7%	
Total Lateral Resistance	7,777.0	k
Inflection Point [BGL]	11.0	ft
Moment at Inflection Point, M_D	5,441.6	k-ft
Nominal Moment Capacity, $\phi_s M_n$	21,391.2	k-ft
$M_D / \phi_s M_n$	25.4%	





AMERICAN TOWER®
CORPORATION

Mount Analysis Report


ATC Site Name : Winchester CT 3, CT
ATC Site Number : 302506
Engineering Number : 13711886_C8_04
Mount Elevation : 167 ft
Carrier : T-Mobile
Carrier Site Name : Litchfield ATC
Carrier Site Number : CTNH403A
Site Location : 15 Oakdale Avenue
Winsted, CT 06098-1862
41.92160298 , -73.04941959
County : Litchfield
Date : August 12, 2021
Max Usage : 44%
Result : Pass

Prepared By:
Alan Samboy
Structural Engineer

Alan Samboy

Reviewed By:



Authorized by "EOR"
13 Aug 2021 04:36:46 

COA: PEC.0001553



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Calculations Attached



Introduction

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

Supporting Documents

Previous Analysis	CLS Engineering Project #41124-12927190-01-MA-R3, dated August 20, 2019
Radio Frequency Data Sheet	RFDS ID #CTNH403A, dated July 26, 2021
Reference Photos	Site photos from 2021

Analysis

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

Basic Wind Speed:	124 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	III
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.169, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

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



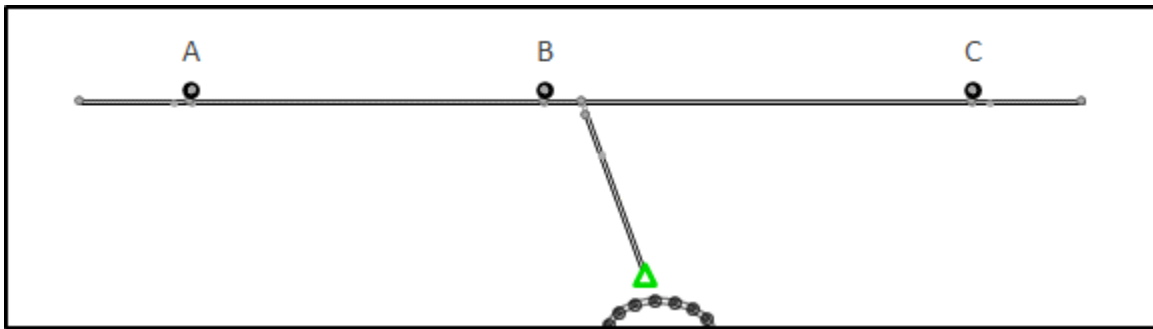
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
167.0	166.0	3	RFS APXVAARR24_43-U-NA20
		3	Ericsson Air6449 B41
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson Radio 4460 B25+B66

Structure Usages

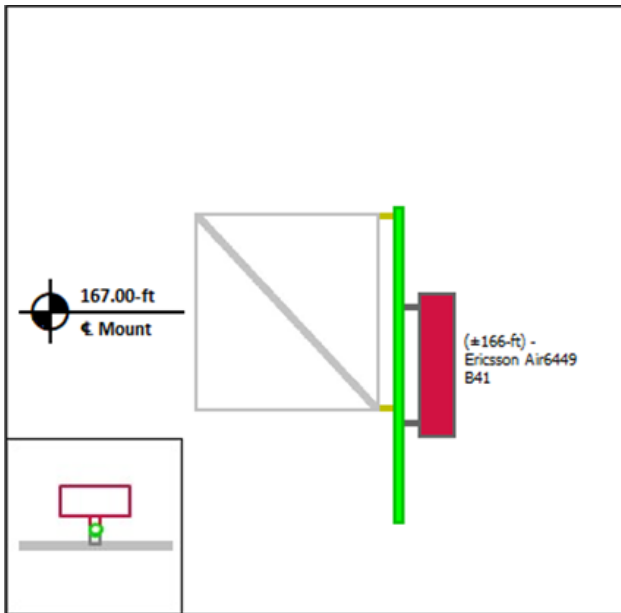
Structural Component	Controlling Usage	Pass/Fail
Horizontals	35%	Pass
Verticals	18%	Pass
Tie-Backs	8%	Pass
Mount Pipes	44%	Pass

Mount Layout

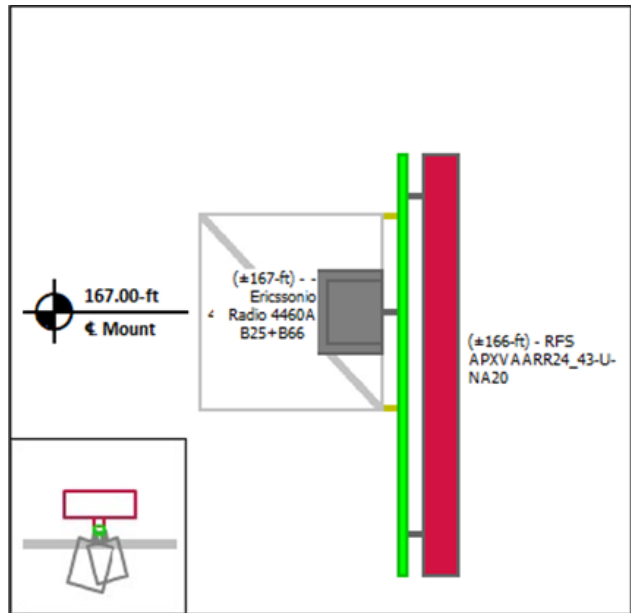


Equipment Layout

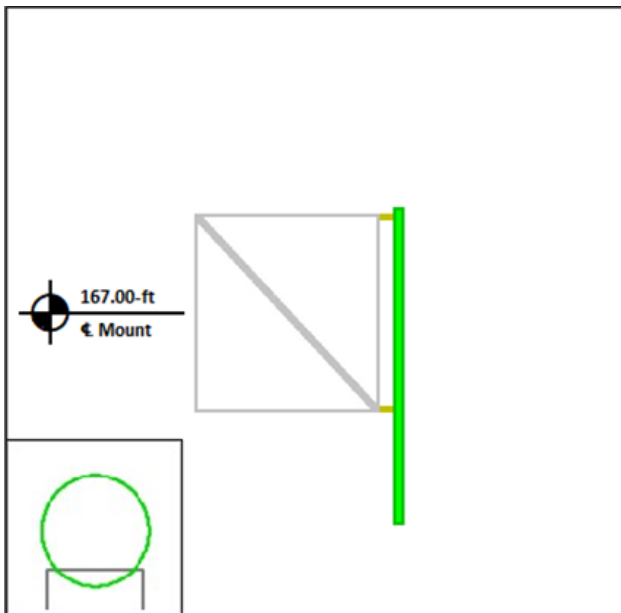
Mount Pipe A



Mount Pipe B



Mount Pipe C





Standard Conditions

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

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

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

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

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

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

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

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



Site Number: 302506
 Project Number: 13711886_C8_04
 Carrier: T-Mobile
 Mount Elevation: 167 ft
 Date: 8/12/2021

Mount Analysis Force Calculations

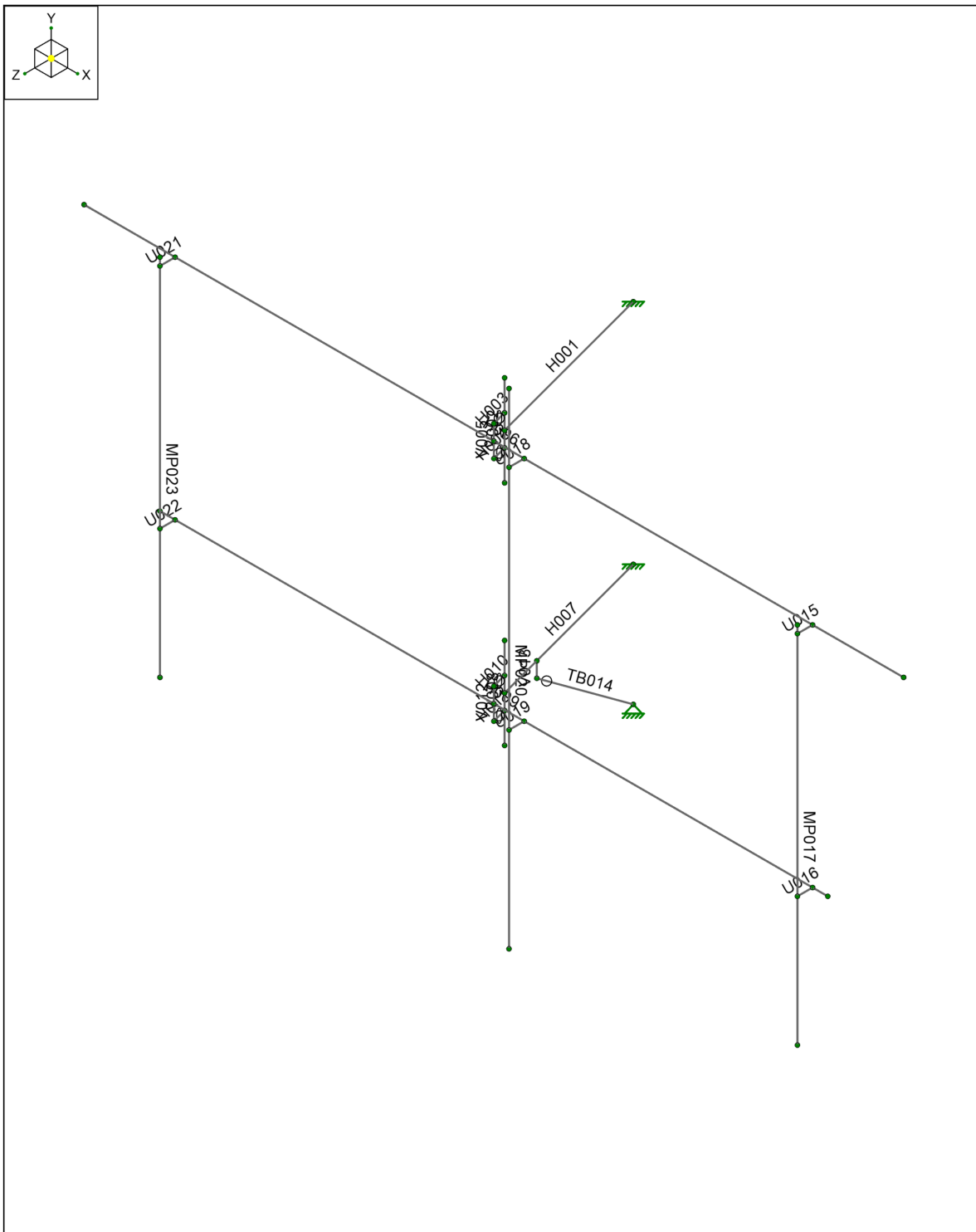
Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.14	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.96	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	124	mph
Velocity Pressure	q_z	41.2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

Seismic Load Calculations			
Short Period DSRAP	S_{Ds}	0.180	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.3	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.113	
Amplification Factor	A	1.0	
Total Weight	W	801.5	lbs
Total Shear Force	V_s	90.3	lbs
Horizontal Seismic Load	E_h	90.3	lbs
Vertical Seismic Load	E_v	28.9	lbs

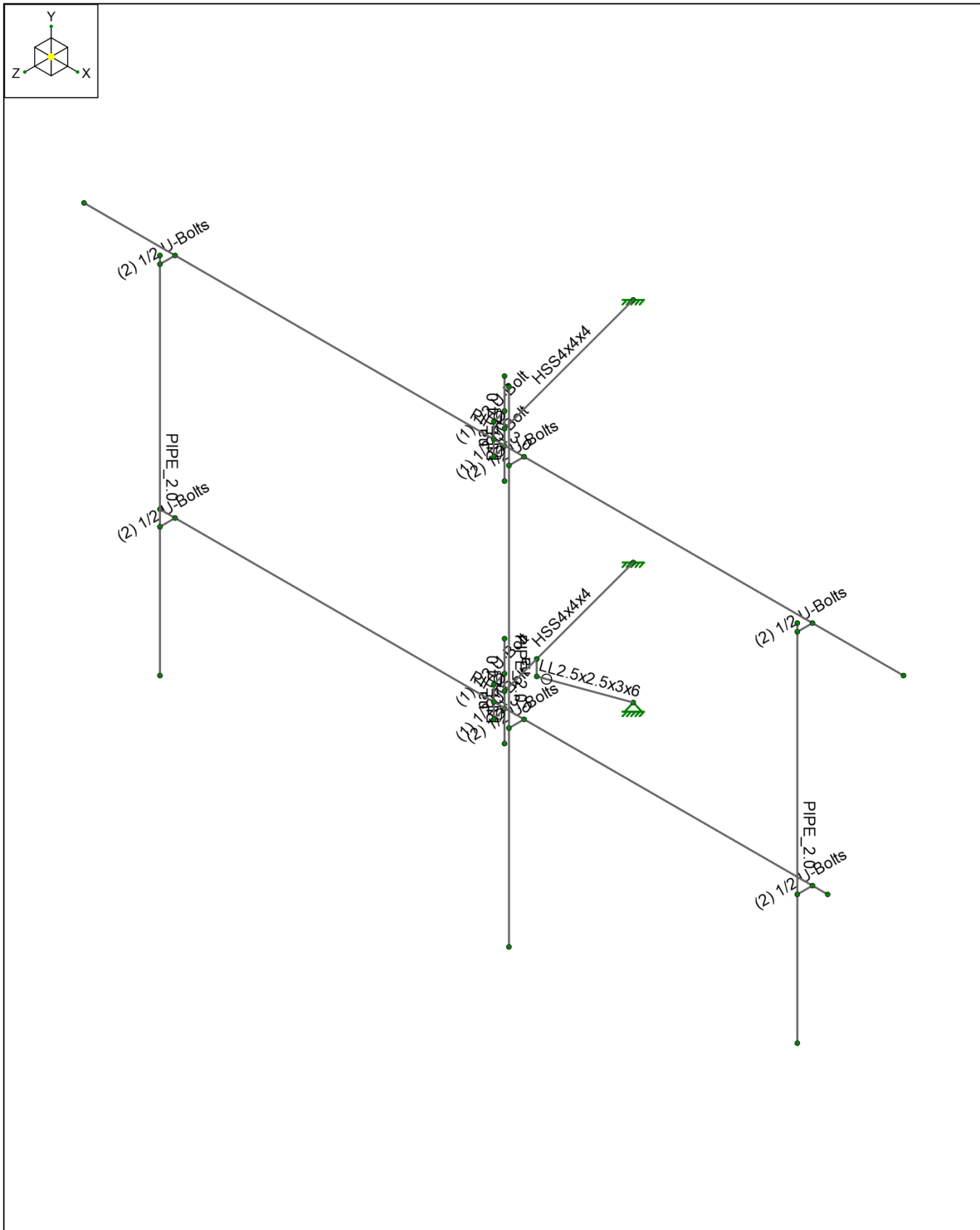
Antenna Calculations (Elevations per Application/RFDS)*									
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}	
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft	
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.77	4.52	
Ericsson Air6449 B41	33.1	20.6	8.6	104.0	5.68	1.56	6.78	2.13	
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.25	1.86	
Ericsson Radio 4460 B25+B66	19.6	15.7	12.1	109.0	2.56	1.98	3.30	2.64	

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

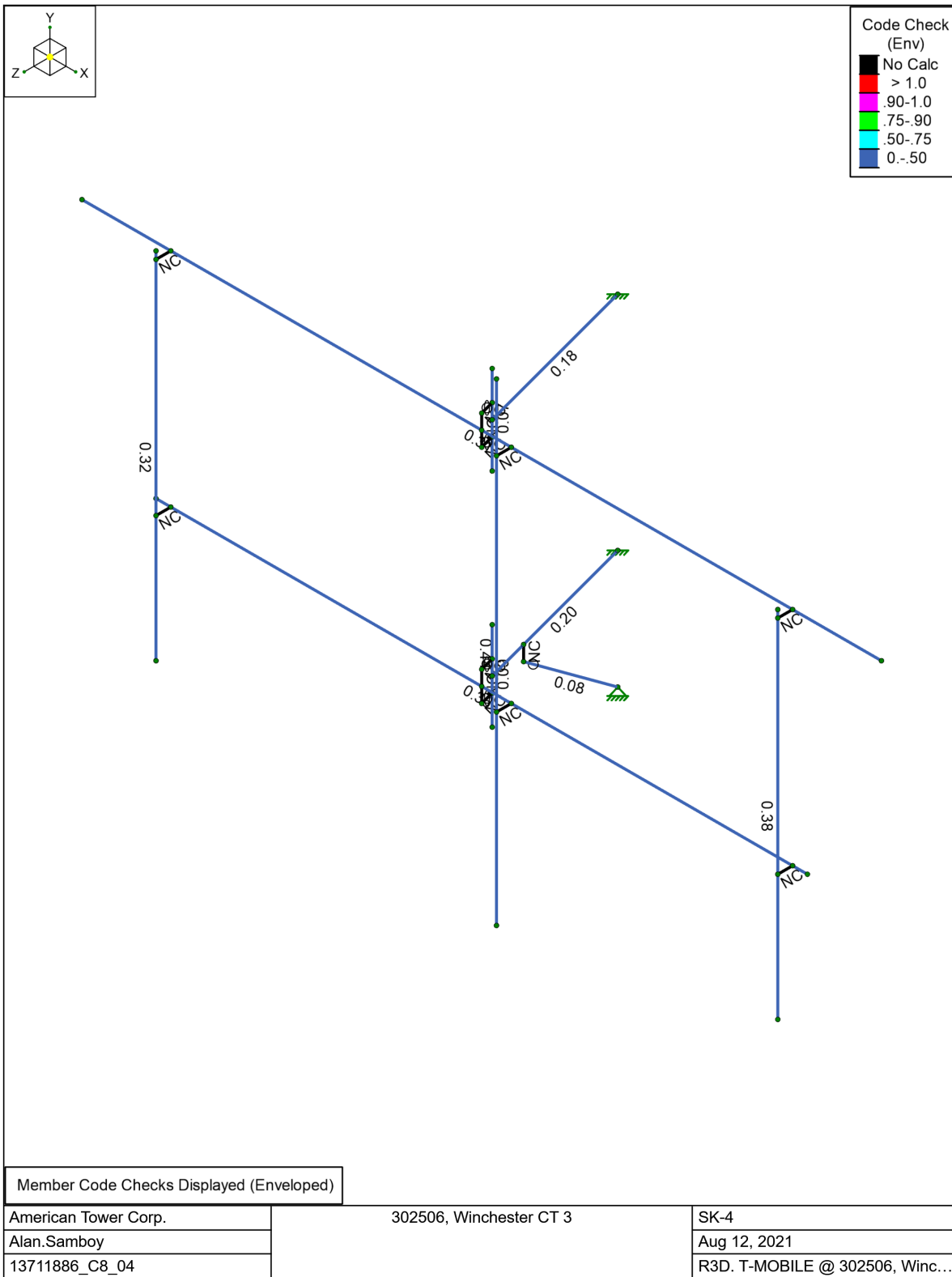


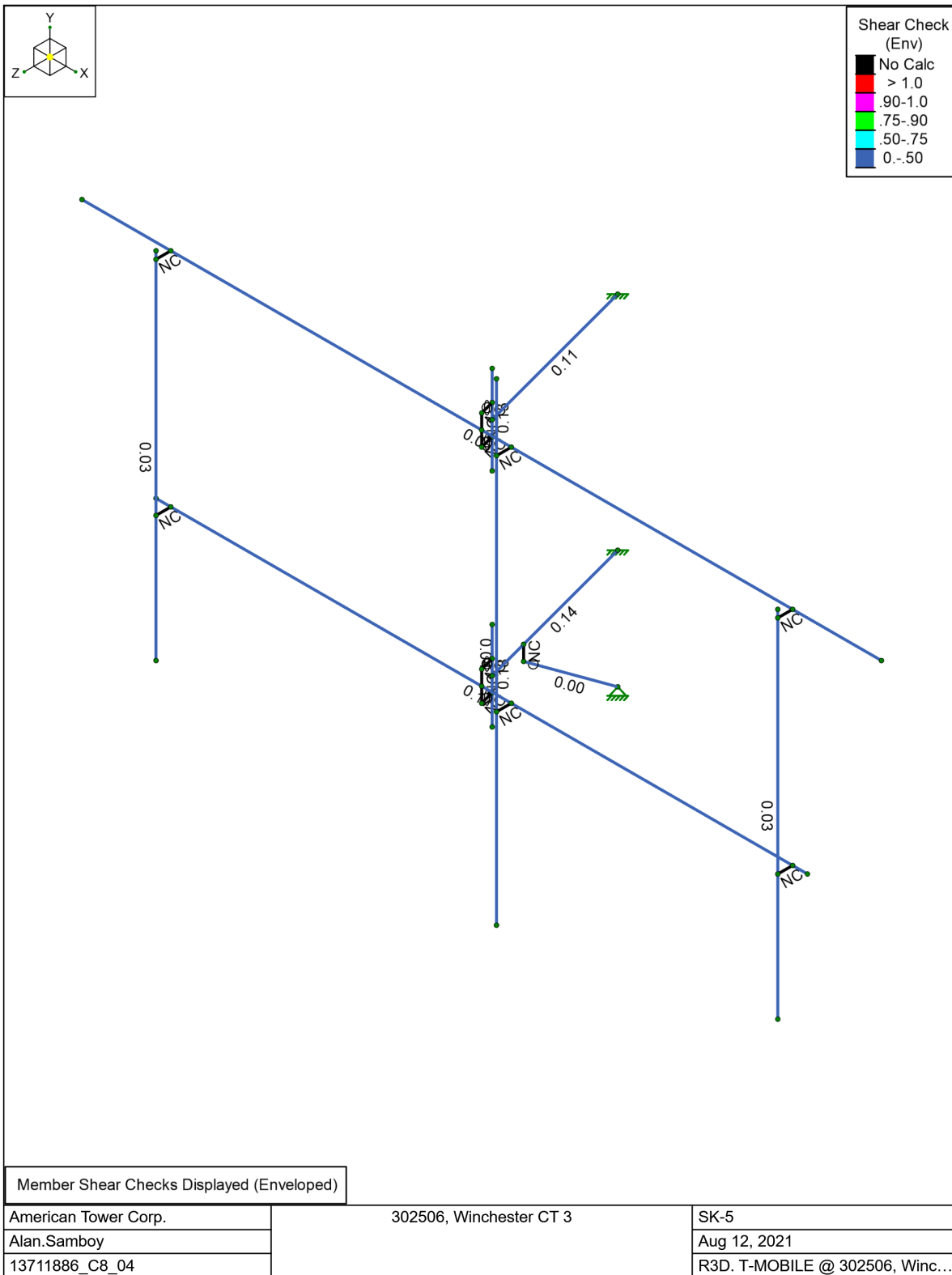


American Tower Corp.	302506, Winchester CT 3	SK-2
Alan.Sambo		Aug 12, 2021
13711886_C8_04		R3D. T-MOBILE @ 302506, Winc...



American Tower Corp.	302506, Winchester CT 3	SK-3
Alan.Samboy		Aug 12, 2021
13711886_C8_04		R3D. T-MOBILE @ 302506, Winc...







Company : American Tower Corp.
 Designer : Alan.Samboy
 Job Number : 13711886_C8_04
 Model Name : 302506, Winchester CT 3

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 Checked By : -

Node Boundary Conditions

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Y Rot [k-in/rad]	Z Rot [k-in/rad]
1	N001	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N012	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N023	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N001	N002	HSS4x4x4	Beam	None	A500 Gr. B [SQR]	Typical
2	V002	N004	N003	PIPE 4.0	Column	None	A53 Gr. B	Typical
3	H003	N005	N006	(1) 1/2 U-Bolt	Beam	None	A36	Typical
4	H004	N007	N008	(1) 1/2 U-Bolt	Beam	None	A36	Typical
5	V005	N008	N006	RIGID	None	None	RIGID	Typical
6	H006	N010	N011	PIPE 3.0	Beam	None	A53 Gr. B	Typical
7	H007	N012	N013	HSS4x4x4	Beam	None	A500 Gr. B [SQR]	Typical
8	V008	N015	N014	PIPE 4.0	Column	None	A53 Gr. B	Typical
9	H009	N016	N017	PIPE 3.0	Beam	None	A53 Gr. B	Typical
10	H010	N018	N019	(1) 1/2 U-Bolt	Beam	None	A36	Typical
11	H011	N020	N021	(1) 1/2 U-Bolt	Beam	None	A36	Typical
12	V012	N021	N019	RIGID	None	None	RIGID	Typical
13	V013	N025	N024	RIGID	None	None	RIGID	Typical
14	TB014	N023	N025	LL2.5x2.5x3x6	Column	None	A36	Typical
15	U015	N026	N029	(2) 1/2 U-Bolts	Beam	None	A36	Typical
16	U016	N030	N031	(2) 1/2 U-Bolts	Beam	None	A36	Typical
17	MP017	N032	N033	PIPE 2.0	Column	None	A53 Gr. B	Typical
18	U018	N027	N034	(2) 1/2 U-Bolts	Beam	None	A36	Typical
19	U019	N035	N036	(2) 1/2 U-Bolts	Beam	None	A36	Typical
20	MP020	N037	N038	PIPE 2.0	Column	None	A53 Gr. B	Typical
21	U021	N028	N039	(2) 1/2 U-Bolts	Beam	None	A36	Typical
22	U022	N040	N041	(2) 1/2 U-Bolts	Beam	None	A36	Typical
23	MP023	N042	N043	PIPE 2.0	Column	None	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001			Yes	N/A		None
2	V002			Yes	** NA **		None
3	H003	OOOXOX		Yes	N/A	Exclude	None
4	H004	OOOXOX		Yes	N/A	Exclude	None
5	V005			Yes	** NA **		None
6	H006			Yes	N/A		None
7	H007			Yes	N/A		None
8	V008			Yes	** NA **		None
9	H009			Yes	N/A		None
10	H010	OOOXOX		Yes	N/A	Exclude	None
11	H011	OOOXOX		Yes	N/A	Exclude	None
12	V012			Yes	** NA **		None
13	V013			Yes	** NA **		None
14	TB014		BenPIN	Yes	** NA **		None
15	U015			Yes	N/A	Exclude	None
16	U016			Yes	N/A	Exclude	None
17	MP017			Yes	** NA **		None
18	U018			Yes	N/A	Exclude	None
19	U019			Yes	N/A	Exclude	None
20	MP020			Yes	** NA **		None



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13711886_C8_04
 Model Name : 302506, Winchester CT 3

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Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
21	U021			Yes	N/A	Exclude	None
22	U022			Yes	N/A	Exclude	None
23	MP023			Yes	** NA **		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	K y-y	K z-z	Function
1	H001	HSS4x4x4	36	Lbyy	1	1	Lateral
2	V002	PIPE 4.0	18	Lbyy	0.65	0.65	Lateral
3	H003	(1) 1/2 U-Bolt	3	Lbyy	0.65	0.65	Lateral
4	H004	(1) 1/2 U-Bolt	3	Lbyy	0.65	0.65	Lateral
5	H006	PIPE 3.0	162	Lbyy	1	1	Lateral
6	H007	HSS4x4x4	36	Lbyy	1	1	Lateral
7	V008	PIPE 4.0	18	Lbyy	0.65	0.65	Lateral
8	H009	PIPE 3.0	132	Lbyy	1	1	Lateral
9	H010	(1) 1/2 U-Bolt	3	Lbyy	0.65	0.65	Lateral
10	H011	(1) 1/2 U-Bolt	3	Lbyy	0.65	0.65	Lateral
11	TB014	LL2.5x2.5x3x6	34.205	Lbyy	1	1	Lateral
12	U015	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
13	U016	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
14	MP017	PIPE 2.0	72	Lbyy	2.1	2.1	Lateral
15	U018	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
16	U019	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
17	MP020	PIPE 2.0	96	Lbyy	2.1	2.1	Lateral
18	U021	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
19	U022	(2) 1/2 U-Bolts	3	Lbyy	0.5	0.5	Lateral
20	MP023	PIPE 2.0	72	Lbyy	2.1	2.1	Lateral

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e ⁶ F ⁻¹]	Density [lb/ft ³]	Yield [psi]	Ry	Fu [psi]	Rt
1	A500 Gr. B [SQR]	2.9e+07	1.115e+07	0.3	0.65	527	46000	1.4	58000	1.3
2	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2
3	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2

Envelope Node Reactions

Node	Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N001	max	393.171	18	462.795	62	610.675	14	-16.368	20	1985.99	19	1496.561	67
2		min	-558.409	12	17.516	20	-697.626	8	-1003.106	90	-2330.728	13	-774.35	97
3	N012	max	570.598	18	73.999	20	-236.314	14	732.385	67	3036.577	7	1327.762	71
4		min	-1002.955	12	-701.796	66	-2685.832	32	-188.935	97	-2696.086	25	-907.463	101
5	N023	max	720.696	66	2186.174	26	2701.763	66	0	101	0	101	0	101
6		min	200.999	20	614.858	20	748.485	20	0	1	0	1	0	1
7	Totals:	max	1213.379	6	1944.238	26	1536.725	2						
8		min	-1213.379	24	706.373	20	-1536.725	20						

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

Member	Shape	Code Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	H001	HSS4x4x4	0.182	0	13	0.11	0	z	76	134360.669	139518	16180.5	16180.5	1.797	H1-1b
2	V002	PIPE 4.0	0.07	9	73	0.151	9	71	92956.9	93240	10631.25	10631.25	1.923	H1-1b	
3	H006	PIPE 3.0	0.312	74.25	71	0.053	81	2	24533.227	65205	5748.75	5748.75	1.832	H1-1b	
4	H007	HSS4x4x4	0.196	0	7	0.145	27	y	71	134360.669	139518	16180.5	16180.5	1.76	H1-1b



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13711886_C8_04
 Model Name : 302506, Winchester CT 3

8/12/2021
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 Checked By : -

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

Member	Shape	Code	Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	cphi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
5	V008	PIPE 4.0	0.09	9	67	0.179	9	67		92956.9	93240	10631.25	10631.25	1.923	H1-1b
6	H009	PIPE 3.0	0.353	66	67	0.17	66	2		34117.489	65205	5748.75	5748.75	1.63	H1-1b
7	TB014	LL2.5x2.5x3x6	0.081	0	66	0.001	34.205	y	34	43696.23	58320	4643.061	2549.586	1.136	H1-1b*
8	MP017	PIPE 2.0	0.377	1.5	73	0.034	1.5	77		6195.892	32130	1871.625	1871.625	2.317	H1-1b
9	MP020	PIPE 2.0	0.444	59	8	0.039	13	8		3485.189	32130	1871.625	1871.625	2.101	H1-1b
10	MP023	PIPE 2.0	0.317	1.5	93	0.034	1.5	92		6195.892	32130	1871.625	1871.625	2.305	H1-1b

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
---	--

CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Section 1 - Site Information

Site ID: CTNH403A
Status: Draft
Version: 3
Project Type: Anchor
Approved: Not Approved
Approved By: Not Approved
Last Modified: 7/8/2021 12:40:12 PM
Last Modified By: Hansraj.Rana4@T-Mobile.com

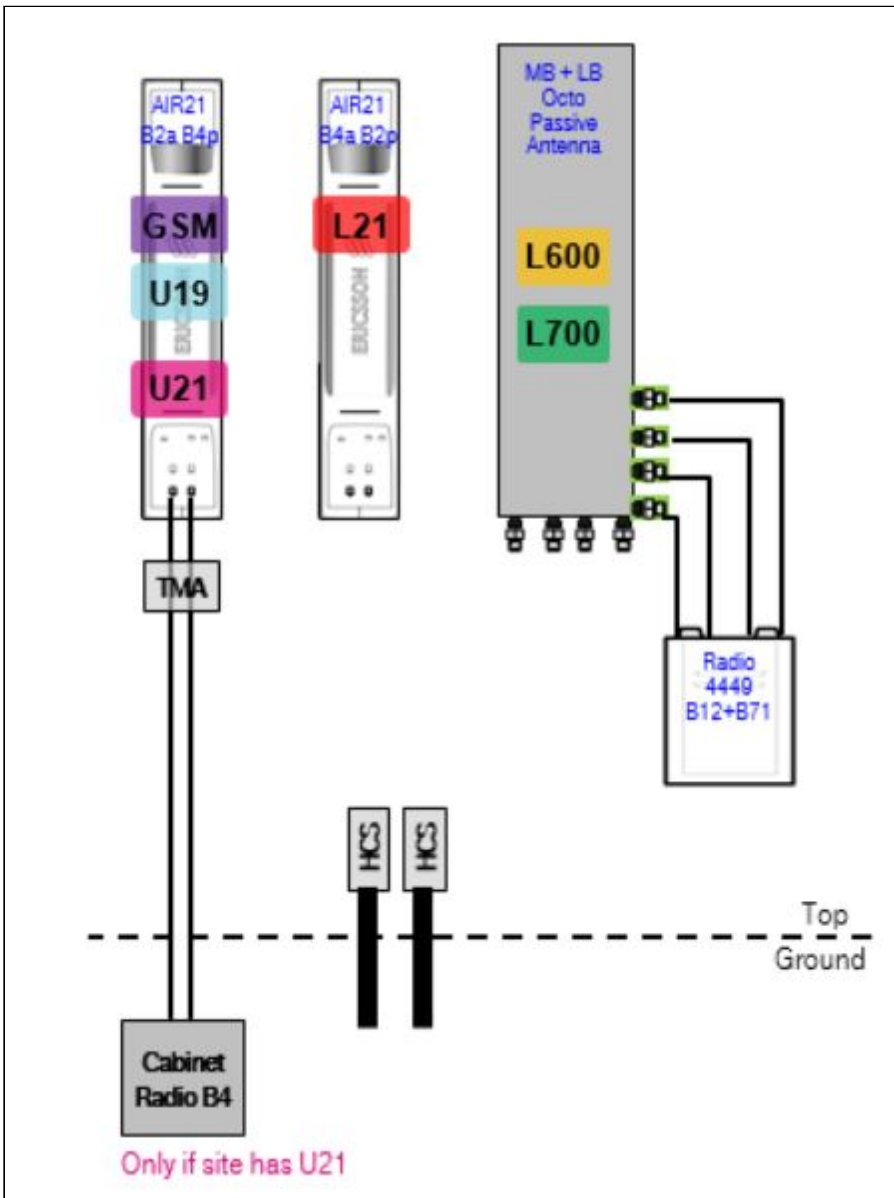
Site Name: Litchfield ATC
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2021
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: <undefined>

Latitude: 41.92169000
Longitude: -73.04950000
Address: 15 Oakdale Ave
City, State: Winchester, CT
Region: NORTHEAST

RAN Template: 67D5A998E Outdoor		AL Template: 67D5998E_1xAIR+1OP+1QP			
Sector Count: 3	Antenna Count: 6	Coax Line Count: 0	TMA Count: 0	RRU Count: 6	

Section 2 - Existing Template Images

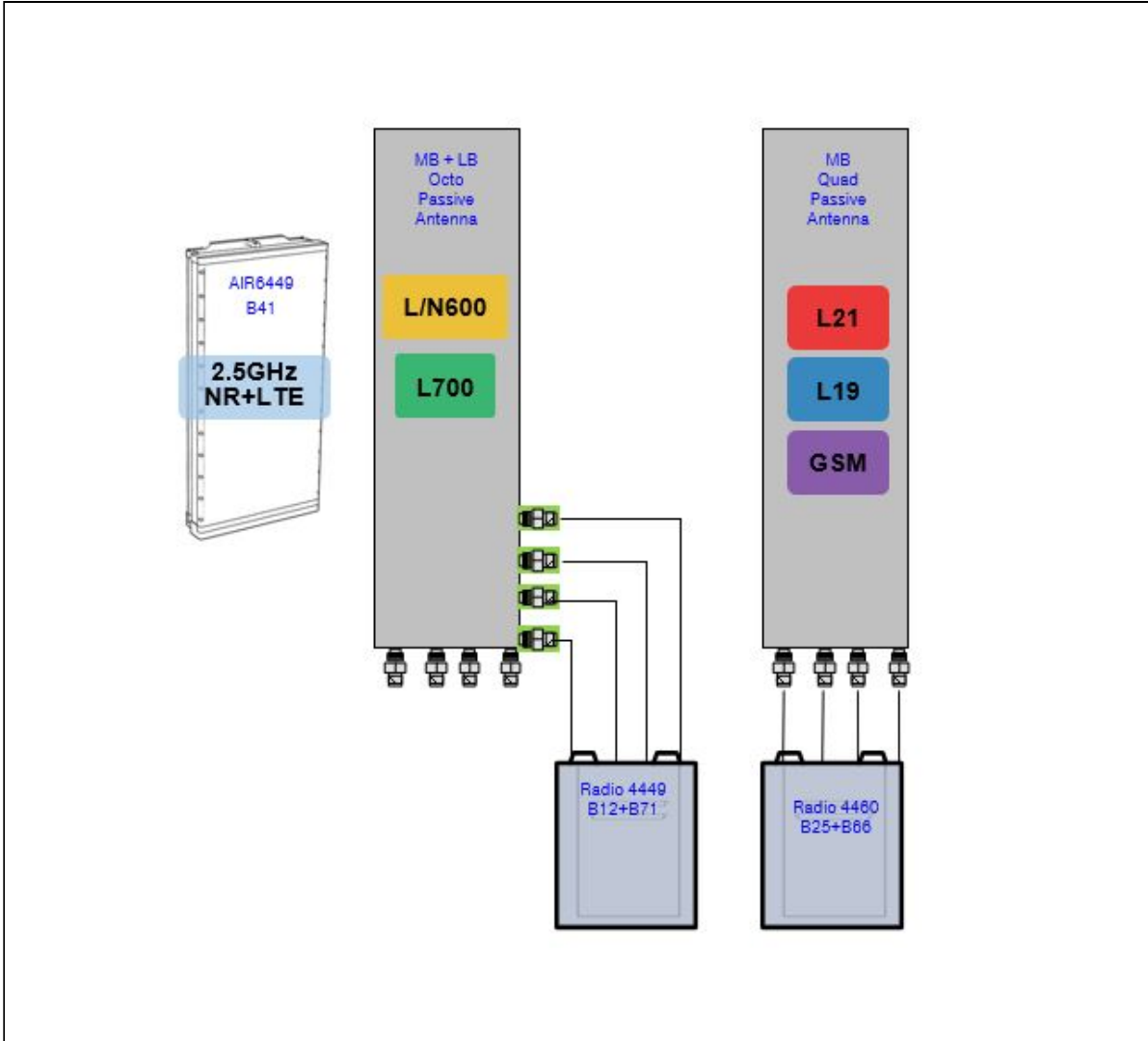
67D02C.JPG



Notes:

Section 3 - Proposed Template Images

67D5998E_1xAIR+1OP+1QP.JPG



Notes:

Section 4 - Siteplan Images

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
---	--

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D02C Outdoor

Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 DUW30 U1900 DUG20 G1900 BB 6630 L2100 BB 6630 L700 L600 N600	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG* (x 3)	
Radio	RU22 (x 6)	

Proposed RAN Equipment

Template: 67D5A998E Outdoor

Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUG20 G1900 BB 6630 L2100 L1900 BB 6630 L700 L600 N600 DUW30 U1900	BB 6648 L2500 N2500	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	Ericsson Hybrid Trunk 6/24 4AWG 70m PSU 4813	
Transport System		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

- Remove Nortel Cabinet.
- Remove and return all cabinet radios from existing base station cabinet.
- Add (1) Enclosure 6160.
- Add (1) iXRe Router to new Enclosure 6160.
- Add (1) BB6648 for L2500 and N2500 (MMBB - Mixed Mode Baseband) to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6449 B41 to the PSU4813 Voltage Booster.
- Remove 1 - 9x18

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
---	--

Section 6 - A&L Equipment

Existing Template: 67D02C_2xAIR+1OP
 Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro								
Antenna	1		2			3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)			
Azimuth	20		20			20			
M. Tilt	0		0			0			
Height	166		166			166			
Ports	P1	P2		P3	P4	P5	P6	P7	P8
Active Tech.	U1900 G1900			L700 L600 N600	L700 L600 N600			L2100	
Dark Tech.									
Restricted Tech.									
Decomm. Tech.									
E. Tilt	2	2		2	2			2	
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 200 ft. (x2)		Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft. (x2)	Coax Jumper - 15 ft. (x2)			Fiber Jumper - 15 ft. (x2)	
TMA's									
Diplexers / Combiners									
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)					
Sector Equipment									

Unconnected Equipment:

Scope of Work:

Add (1) LB/MB Octo to Position 2. New Mount between existing AIR Antennae; reinforce T-Arms.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
 Remove AWS TMA for decommissioned U2100.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
---	--

CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Sector 1 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	20			20		
M. Tilt	0			0		
Height	166			166		
Ports	P1	P2		P3	P4	P5
Active Tech.	L2500 N2500	L2500 N2500		L700 L600 N600	L700 L600 N600	U1900 L2100 L1900 G1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2		2	2	2
Cables	Fiber Jumper - 15 ft. (x2)	Fiber Jumper - 15 ft. (x2)		Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.
TMA						
Diplexers / Combiners						
Radio				Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)
Sector Equipment						

Unconnected Equipment:

Scope of Work:

There will be two antennae per sector.

Remove all TMAs.

Remove all Coaxial Lines.

Remove AIR21 B2P/B4A from Position 1.

Install (1) Antenna AIR6449 B41 for L2500 and N2500 in Position 1.

Keep Octo antenna in Position 2 , Keep Radio 4449 for L6/L7 at Position 2.

Add (1) Radio 4460 B25+B66 for L2100, L1900, U1900, and GSM to Position 2 at antenna with Octo Port antenna.

Remove AIR21 B2A/B4P from Position 3.

Ensure RET control is enabled for all technology layers according to the Design Documents.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Sector 2 (Existing) view from behind								
Coverage Type	A - Outdoor Macro							
Antenna	1		2			3		
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)		
Azimuth	190		190			190		
M. Tilt	0		0			0		
Height	166		166			166		
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	U1900 G1900		L700 L600 N600	L700 L600 N600			L2100	
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 200 ft. (x2)	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft. (x2)	Coax Jumper - 15 ft. (x2)			Fiber Jumper - 15 ft. (x2)	
TMA's								
Diplexers / Combiners								
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Add (1) LB/MB Octo to Position 2. New Mount between existing AIR Antennae; reinforce T-Arms.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
 Remove AWS TMA for decommissioned U2100.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Sector 2 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	190			190		
M. Tilt	0			0		
Height	166			166		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	U1900 L2100 L1900 G1900	U1900 L2100 L1900 G1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2	2	2	2
Cables	Fiber Jumper - 15 ft. (x2)	Fiber Jumper - 15 ft. (x2)	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.
TMA						
Diplexers / Combiners						
Radio			Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)
Sector Equipment						

Unconnected Equipment:

Scope of Work:

There will be two antennae per sector.
 Remove all TMAs.
 Remove all Coaxial Lines.
 Remove AIR21 B2P/B4A from Position 1.
 Install (1) Antenna AIR6449 B41 for L2500 and N2500 in Position 1.
 Keep Octo antenna in Position 2 , Keep Radio 4449 for L6/L7 at Position 2.
 Add (1) Radio 4460 B25+B66 for L2100, L1900, U1900, and GSM to Position 2 at antenna with Octo Port antenna.
 Remove AIR21 B2A/B4P from Position 3.
 Ensure RET control is enabled for all technology layers according to the Design Documents.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Sector 3 (Existing) view from behind								
Coverage Type	A - Outdoor Macro							
Antenna	1		2			3		
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)		
Azimuth	280		280			280		
M. Tilt	0		0			0		
Height	166		166			166		
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	U1900 G1900		L700 L600 N600	L700 L600 N600			L2100	
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2	2	2	2			2	
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 200 ft. (x2)	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft. (x2)	Coax Jumper - 15 ft. (x2)			Fiber Jumper - 15 ft. (x2)	
TMA's								
Diplexers / Combiners								
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)				
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Add (1) LB/MB Octo to Position 2. New Mount between existing AIR Antennae; reinforce T-Arms.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.
 Remove AWS TMA for decommissioned U2100.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CTNH403A_Anchor_3_draft

Print Name: Preliminary (RFDS_for_Scoping)
PORs: Anchor_Phase 3
 L1900 Capacity_Regional Capacity

Sector 3 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	280			280		
M. Tilt	0			0		
Height	166			166		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	U1900 L2100 L1900 G1900	U1900 L2100 L1900 G1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2	2	2	2	2	2
Cables	Fiber Jumper - 15 ft. (x2)	Fiber Jumper - 15 ft. (x2)	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 15 ft. (x2) Fiber Jumper - 15 ft.
TMA						
Diplexers / Combiners						
Radio			Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)
Sector Equipment						

Unconnected Equipment:

Scope of Work:

There will be two antennae per sector.
 Remove all TMAs.
 Remove all Coaxial Lines.
 Remove AIR21 B2P/B4A from Position 1.
 Install (1) Antenna AIR6449 B41 for L2500 and N2500 in Position 1.
 Keep Octo antenna in Position 2 , Keep Radio 4449 for L6/L7 at Position 2.
 Add (1) Radio 4460 B25+B66 for L2100, L1900, U1900, and GSM to Position 2 at antenna with Octo Port antenna.
 Remove AIR21 B2A/B4P from Position 3.
 Ensure RET control is enabled for all technology layers according to the Design Documents.

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

RAN Template: 67D5A998E Outdoor	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 7 - Power Systems Equipment

Existing Power Systems Equipment
----- This section is intentionally blank. -----

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: CTNH403A

Litchfield ATC
15 Oakdale Avenue
Winchester, Connecticut 06098

September 9, 2021

EBI Project Number: 6221005270

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	21.67%

September 9, 2021

T-Mobile

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

Emissions Analysis for Site: CTNH403A - Litchfield ATC

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **15 Oakdale Avenue in Winchester, 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 15 Oakdale Avenue in Winchester, 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 UMTS 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.

- 6) 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.
- 7) 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.
- 8) 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.
- 9) 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.
- 10) 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.
- 11) 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.
- 12) 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.
- 13) 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.
- 14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna

selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 15) The antenna mounting height centerline of the proposed antennas is 166 feet above ground level (AGL).
- 16) 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.
- 17) 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:	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	Frequency Bands:	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):	166 feet	Height (AGL):	166 feet	Height (AGL):	166 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 AI MPE %:	5.11%	Antenna BI MPE %:	5.11%	Antenna CI MPE %:	5.11%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-UNA20	Make / Model:	RFS APXVAARR24_43-UNA20	Make / Model:	RFS APXVAARR24_43-UNA20
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 / 13.35 dBd / 15.65 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	166 feet	Height (AGL):	166 feet	Height (AGL):	166 feet
Channel Count:	15	Channel Count:	15	Channel Count:	15
Total TX Power (W):	620 Watts	Total TX Power (W):	620 Watts	Total TX Power (W):	620 Watts
ERP (W):	20,255.72	ERP (W):	20,255.72	ERP (W):	20,255.72
Antenna A2 MPE %:	3.63%	Antenna B2 MPE %:	3.63%	Antenna C2 MPE %:	3.63%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	8.74%
AT&T	2.16%
Metro PCS	0.69%
CTPD	0.57%
Sprint	0.96%
Verizon	7.88%
Nextel	0.48%
Northeast Utilities	0.19%
Site Total MPE % :	21.67%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	8.74%
T-Mobile Sector B Total:	8.74%
T-Mobile Sector C Total:	8.74%
Site Total MPE % :	21.67%

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 2500 MHz LTE IC & 2C Traffic	1	11044.63	166.0	15.51	2500 MHz LTE IC & 2C Traffic	1000	1.55%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	1074.06	166.0	1.51	2500 MHz LTE IC & 2C Broadcast	1000	0.15%
T-Mobile 2500 MHz NR Traffic	1	22089.26	166.0	31.02	2500 MHz NR Traffic	1000	3.10%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	166.0	3.02	2500 MHz NR Broadcast	1000	0.30%
T-Mobile 600 MHz LTE	2	591.73	166.0	1.66	600 MHz LTE	400	0.42%
T-Mobile 600 MHz NR	1	1577.94	166.0	2.22	600 MHz NR	400	0.55%
T-Mobile 700 MHz LTE	2	648.82	166.0	1.82	700 MHz LTE	467	0.39%
T-Mobile 1900 MHz GSM	4	1101.85	166.0	6.19	1900 MHz GSM	1000	0.62%
T-Mobile 1900 MHz UMTS	2	1101.85	166.0	3.09	1900 MHz UMTS	1000	0.31%
T-Mobile 1900 MHz LTE	2	2203.69	166.0	6.19	1900 MHz LTE	1000	0.62%
T-Mobile 2100 MHz LTE	2	2589.11	166.0	7.27	2100 MHz LTE	1000	0.73%
						Total:	8.74%

• 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:	8.74%
Sector B:	8.74%
Sector C:	8.74%
T-Mobile Maximum MPE % (Sector A):	8.74%
Site Total:	21.67%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **21.67%** 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.