



INDUSTRIAL AVE,
STATE 3
NEW BRITAIN NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066

June 27, 2022

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

RE: Notice of Exempt Modification
6 Mountain Road, Washington, CT (AKA New Preston, CT 06777)
Latitude: 41.66915484
Longitude: -73.36530798
T-Mobile Site#: CTNH371A - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 136' level of the 177' tower located at 6 Mountain Road in Washington, CT. The tower is owned by American Tower. The property is owned by Jay and Carol Underwood, the Carol Underwood Revocable Trust. T-Mobile now intends to replace three (3) of its existing antennas with three (3) N2500/L2500 antennas. The new antennas would be installed at the same 136' level of the tower. The new antennas support 5G services.

Planned Modifications:

Tower:

Install New:

- (3) Ericsson AIR6419 B41 Antennas
- (3) Radio 4460 B2 B25
- (1) 6x24 HCS

To Be Removed:

- (3) APX18DWV Antennas
- (3) RRUs11 B2
- (1) 6x12 HCS

To Remain:

- (3) APXVAARR24 Antennas
- (3) Radio 4449 B71 B85A

(2) 6x12 HCS

Ground Work:

Install (1) 6160 Cabinet and (1) B160 Battery Cabinet. **Remove** (1) BBU.

This tower was originally approved by the Connecticut Siting Council in Docket No. 332 on September 25, 2007. None of the conditions that apply to this approval will be broken with this modification. There will be no expansion of height or ground space.

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 First Selectman James Brinton, Elected Official, and Zoning Enforcement Officer Mary Ann Nusom Haverstock, 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: James Brinton - First Selectman of Washington

Mary Ann Nusom Haverstock - Zoning Enforcement Officer

American Towers - Tower Owner

Ray & Carol Underwood (Revocable Trust) - Property Owner

ERIC BREJUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
RAY & CAROL UNDERWOOD
6 MOUNTAIN ROAD
WASHINGTON CT 06777

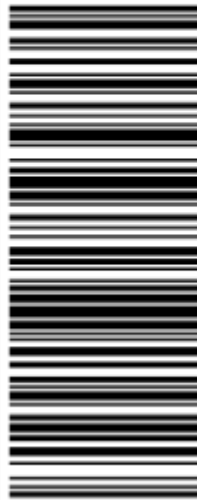


CT 068 0-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9961 8650



BILLING: P/P

Reference #1: CTNH371A

XOL 22.06.15 NV49 26.0A 06/2022*



TM

ERIC BREJUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

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

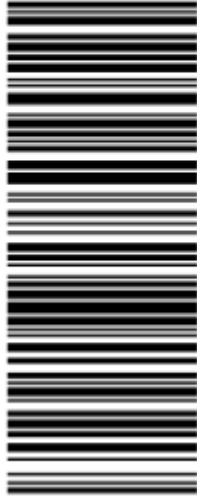


MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9359 5187



BILLING: P/P

Reference #1: CTNH371A

XOL 22.06.15 NV49 26.0A 06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
JAMES BRINTON
2 BRYAN HALL PLAZA
WASHINGTON CT 06794



CT 068 0-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9167 3195



BILLING: P/P

Reference #1: CTNH371A

XOL 22.06.15 NV45 26.04.06/2022*



ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

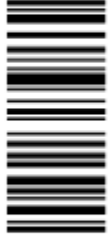
1 LBS

1 OF 1

SHIP TO:
ZEO
MARYANN NUSOM HAVERSTOCK
2 BRYAN HALL PLAZA
WASHINGTON CT 06794

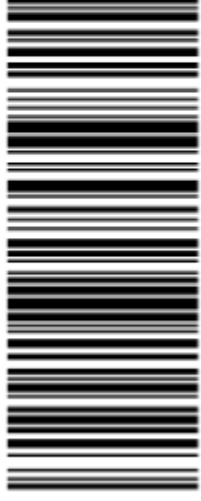


CT 068 0-03



UPS GROUND

TRACKING #: 1Z V25 742 03 9694 8666



BILLING: P/P

Reference #1: CTNH371A

XOL 22.06.15 NV45 26.04.06/2022*



Hello, your package has been delivered.

Delivery Date: Wednesday, 06/22/2022

Delivery Time: 11:13 AM

Signed by: GREEN

TRANSCEND WIRELESS

Tracking Number: [1ZV257420391673195](#)

Ship To: JAMES BRINTON
2 BRYAN HALL PLAZA
WASHINGTON, CT 06794
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH371A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/22/2022

Delivery Time: 11:13 AM

Signed by: GREEN

TRANSCEND WIRELESS

Tracking Number: [1ZV257420396948666](#)

Ship To: MARYANN NUSOM HAVERSTOCK
2 BRYAN HALL PLAZA
WASHINGTON, CT 06794
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH371A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/22/2022

Delivery Time: 10:25 AM

Signed by: LONG

TRANSCEND WIRELESS

Tracking Number: [1ZV257420393595187](#)

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: [CTNH371A](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/22/2022

Delivery Time: 10:07 AM

Experience UPS My Choice® Premium Today

Be in total control of how, when and where your packages are delivered.

[Upgrade to Premium Now](#)



[Set Delivery Instructions](#)

[Manage Preferences](#)

TRANSCEND WIRELESS

Tracking Number: [1ZV257420399618650](#)

Ship To: RAY & CAROL UNDERWOOD
6 MOUNTAIN ROAD
WASHINGTON, CT 06777
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CTNH371A](#)



Summary

ParcelId 2228
 Location Address 6 MOUNTAIN RD
 Map-Block-Lot 07-02-83
 Use Class/Description Single Family
 Assessing Neighborhood Marble Dale
 Survey 1305/B
 Acreage 32.08



Owner

Current Owner
 UNDERWOOD H RAY + CAROLA TTES
 CAROLA UNDERWOOD REVOCABLE
 TRUST AGR...
 PO BOX 2427
 NEW PRESTON, CT 06777

Current Appraised Value

	2021	2020	2019	2018
+ Building Value	\$568,480	\$568,480	\$568,480	\$568,480
+ OB/Misc	\$16,961	\$16,961	\$16,961	\$16,961
+ Land Value	\$720,690	\$720,690	\$720,690	\$720,690
= Total Appraised Value	\$1,306,131	\$1,306,131	\$1,306,131	\$1,306,131

Assessment History

	2021	2020	2019	2018
+ Building Value	\$397,940	\$397,940	\$397,940	\$397,940
+ OB/Misc	\$11,870	\$11,870	\$11,870	\$11,870
+ Land Value	\$204,870	\$204,870	\$204,870	\$204,870
= Total Assessment	\$614,680	\$614,680	\$614,680	\$614,680

Land

Use	Class	Land Type	Zoning	Area	Value
Single Family	R	Commercial Site	R-1	1.08	\$100,440
Single Family	R	Excess	R-1	29	\$0
Single Family	R	House Site	R-1	2	\$185,250

Buildings Data

Building #	1
Style	Cape
Actual Year Built	1992
Effective Year Built	2009
Living Area	3808
Stories	1.75
Exterior Wall	Clapboards
Interior Wall	Drywall
Roof Cover	Arch Shingles
Roof Structure	
Floor Type	Hardwood
Heat Type	FHA
Fuel Type	Oil
AC	Central
Bdrms/Ful Bth/Hlf Bth/Ttl Rm	5/4/0/11
Basement Area	2054
Basement Finished Area	0
Basement Garages	0

Building Sub Areas

Description	Year Built	Area
Cathedral Ceiling	1992	51
Wood Deck	2000	44
Wood Deck	2000	45
Wood Deck	1992	59
Wood Deck	2000	411
Frame Garage	2000	810
Open Porch	2000	557

Out Buildings\Extra Features

Description	Sub Description	Area	Year Built	Value
Fencing	Fencing	200	2007	\$683
Generator	Generator	1	2007	\$6,480
Towers	Towers	1	2007	\$818
Utility Building	Utility	240	2007	\$4,490

Sales History

Columns ▾

Sale Date	Sale Price	Deed Book/Page	Reason	Valid Sale	Owner
6/6/2018	\$0	0240/1112		No	UNDERWOOD H RAY + CAROLA TTES
6/6/2018	\$0	0240/1114		No	UNDERWOOD H RAY + CAROLA TTES
6/28/2017	\$0	/		No	UNDERWOOD H RAY + CAROLA

Permit Information

Columns ▾

Permit ID	Issue Date	Type	Amount	Inspection Date	% Complete	Date Complete	Comments
24355	12-21-2021	Electrical	\$28,000	1/1/1900 12:00:00 AM	0	01-31-2022	80 KW GENERATOR & ATS TO SUPPORT EXSTG TMOBILE EQUIP
24262	11-10-2021	Building	\$5,000	1/1/1900 12:00:00 AM	0	12-30-2021	DIESEL GENERAOTR WITH PAD WITHIN COMMUNICATINS TOWER COMPOUND FOR TOWER TENANT
23487	12-03-2020	Building	\$30,000	1/1/1900 12:00:00 AM	0	02-28-2021	AT&T EQUIP MODIFICATIONS.
23185	07-30-2020	Building	\$0	1/1/1900 12:00:00 AM	0	08-31-2020	TRANSFER PERMIT 23018
23018	05-14-2020	Building	\$20,000	1/1/1900 12:00:00 AM	0	06-30-2020	SWAP 3 ANTENNAS/3RRUS/ADD 2 HYBRID CABLES
20935	02-07-2017	Electrical	\$5,400	1/1/1900 12:00:00 AM	100	03-13-2017	NW 200 AMP 120/240V SERV (OPN SOCKET AVLBL)
20611	08-04-2016	Building	\$0	1/1/1900 12:00:00 AM	100	09-08-2016	ADD T-MOBILE EQUIP TELECOMM FACILITY
18828	12-04-2013	Mechanical	\$5,000	1/1/1900 12:00:00 AM	100	06-04-2014	REPLC ANTENNA WITH NEWER MODEL
18583	09-13-2013	Electrical	\$20,000	1/1/1900 12:00:00 AM	100	09-30-2013	REPLC 3 ATT ANT INSTALL 6 RHH UNITS W. 6 ANT MODIFY TWR
15215	07-25-2011	Electrical	\$6,000	1/1/1900 12:00:00 AM	100	08-03-2011	UNDERGROUND SERVICE FROM METER BANK TO PROPOSED AT&T PREMANUFACTURED SHELTER
14485	06-09-2010	Mechanical	\$3,000	1/1/1900 12:00:00 AM	100	07-22-2010	10 KW SOLAR SYSTEM
13096	12-21-2007		\$250,000	1/1/1900 12:00:00 AM	100	01-01-1900	8205-15,000. APT #13122-ELECT TO TOWER 8327-APT MECH-\$8,800.REDO MASTER BATH/CLOSET

DOCKET NO. 332 – Cellco Partnership d/b/a Verizon Wireless }
application for a Certificate of Environmental Compatibility and }
Public Need for the construction, maintenance and operation of a }
telecommunications facility located at 6 Mountain Road or 167 }
New Milford Turnpike, Washington, Connecticut. }

Connecticut

Siting

Council

September 25, 2007

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at Site 1 located at 6 Mountain Road, Washington, Connecticut. The Council denies certification of Site 2, located at 167 New Milford Turnpike, Washington, Connecticut.

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

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Verizon Wireless, New Cingular Wireless d/b/a AT&T and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The height at the top of the antennas shall not exceed 160 feet above ground level.
2. All antennas shall be installed on the tower in an exterior, flush-mount configuration.
3. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
 - b) construction plans for site clearing, grading, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

4. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
5. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
6. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
7. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Washington public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
8. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
9. Any request for extension of the time period referred to in Condition 8 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list. Any proposed modifications to this Decision and Order shall likewise be so served.
10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
12. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs 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 Waterbury Republican-American and the New Milford Spectrum.

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

The parties and intervenors to this proceeding are:

Applicant

Cellco Partnership d/b/a
Verizon Wireless

Its Representative

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

Sandy Carter, Regulatory Manager
Verizon Wireless
99 East River Drive
East Hartford, CT 06108

Party

Town of Washington

Its Representative

Steven R. Smart, Esq.
Riefberg, Smart, Donohue & NeJames,
P.C.
9 Old Sugar Hollow Road
Danbury, CT 06810

Intervenor

New Cingular Wireless PCS, LLC
d/b/a AT&T

Its Representative


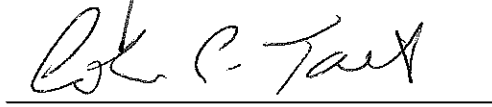
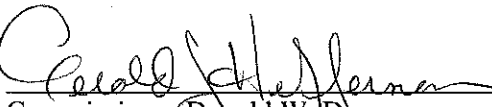
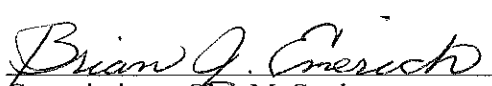
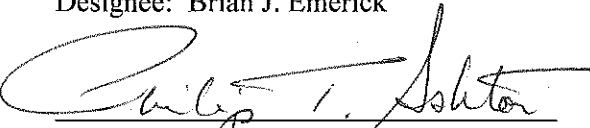
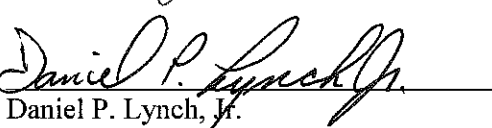
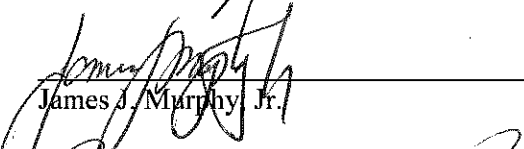
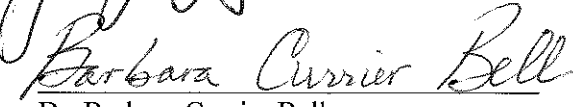
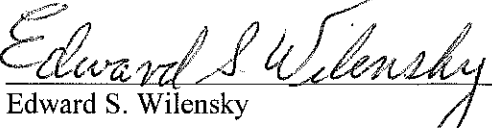
Christopher B. Fisher, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Intervenor

Malina McNamara
76 Mygatt Road
New Preston, CT 06777

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, **DOCKET NO. 332** – Celco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 6 Mountain Road or 167 New Milford Turnpike, Washington, Connecticut, and voted as follows to approve proposed Site 1 located at 6 Mountain Road, Washington, Connecticut, and deny certification of the proposed Site 2, 167 New Milford Turnpike, Washington, Connecticut:

<u>Council Members</u>	<u>Vote Cast</u>
 Daniel F. Caruso, Chairman	Yes
 Colin C. Tait, Vice Chairman	Yes
 Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
 Commissioner Gina McCarthy Designee: Brian J. Emerick	Yes
 Philip T. Ashton	Yes
 Daniel P. Lynch, Jr.	Yes
 James J. Murphy, Jr.	Yes
 Dr. Barbara Currier Bell	Yes
 Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, September 25, 2007.

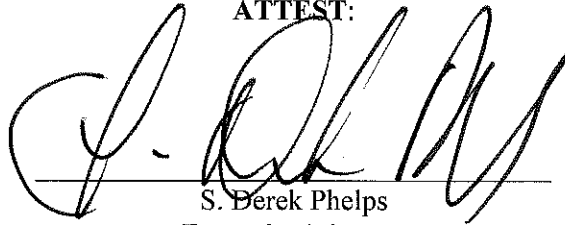
STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

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

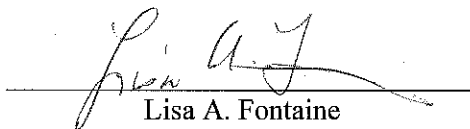
ATTEST:



S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 332 has been forwarded by Certified First Class Return Receipt Requested mail on September 28, 2007, to all parties and intervenors of record as listed on the attached service list, dated June 22, 2007.

ATTEST:



Lisa A. Fontaine
Administrative Assistant
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	Cellco Partnership d/b/a Verizon Wireless	<p>Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax kbaldwin@rc.com</p> <p>Sandy Carter, Regulatory Manager Verizon Wireless 99 East River Drive East Hartford, CT 06108 (860) 803-8219 alexandria.carter@verizonwireless.com</p>
Party (granted on 5/1/07)	Town of Washington	<p>Steven R. Smart, Esq. Riefberg, Smart, Donohue & NeJames, P.C. 9 Old Sugar Hollow Road Danbury, CT 06810 (203) 748-9259 (203) 796-7584 fax ssmart@rsdn.com</p> <p>The Honorable Richard C. Sears First Selectman Washington Town Hall P.O. Box 383, 2 Bryan Plaza Washington Depot, CT 06794 (860) 868-2259 (860) 868-3103 fax First.selectman@washingtonct.org</p>
Intervenor (granted on 05/22/07)	New Cingular Wireless PCS, LLC d/b/a AT&T	<p>Christopher B. Fisher, Esq. Cuddy & Feder LLP 445 Hamilton Avenue, 14th Floor White Plains, NY 10601 (914) 761-1300 (914) 761-6405 fax cfisher@cuddyfeder.com</p>

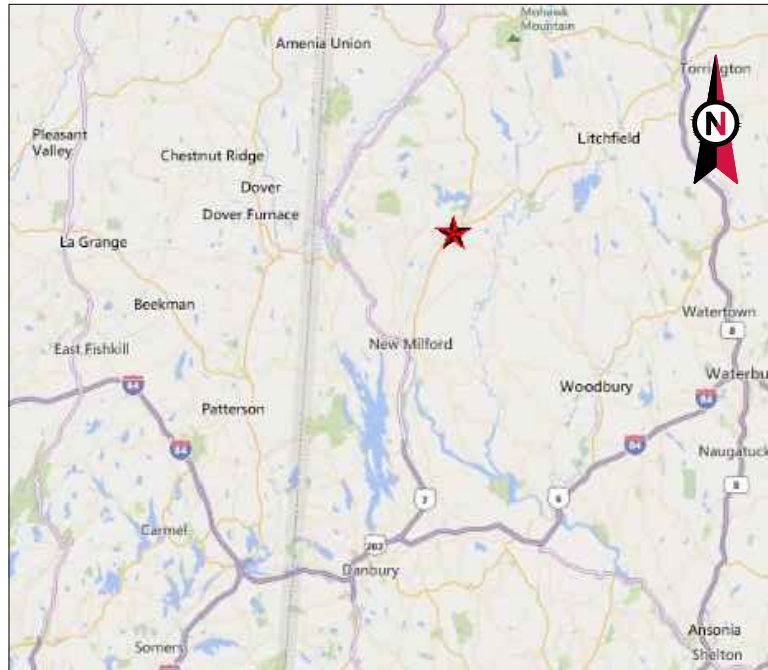
Date: June 22, 2007

Docket No. 332

Page 2 of 2

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Intervenor (granted 06/21/07)	Malina McNamara 76 Mygatt Road New Preston, CT 06777 (860) 868-7996 (860) 868-0203 fax Mmcnamara1955@charter.net	



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: WASHINGTON NORTH CT
 ATC SITE NUMBER: 413782
 T-MOBILE SITE NAME: MOUNTAINRD- VERIZON COLO
 T-MOBILE SITE NUMBER: CTNH371A
 SITE ADDRESS: 6 MOUNTAIN ROAD
 NEW PRESTON, CT 06777



LOCATION MAP

**T-MOBILE ANCHOR AMENDMENT PLAN
 67D5D998E MUAC 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. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 6 MOUNTAIN ROAD NEW PRESTON, CT 06777 COUNTY: LITCHFIELD <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.66915484 LONGITUDE: -73.36530798 GROUND ELEVATION: 693' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) ANTENNA(s), (3) RRU(s), AND (1) ERICSSON 6X12 HCS CABLE(s) INSTALL (3) ANTENNA(s), (3) RRU(s), AND (1) ERICSSON 6/24 4AWG CABLE(s) EXISTING (3) ANTENNA(s), (3) RRU(s), AND (2) ERICSSON 6X12 HCS CABLE(s) TO REMAIN <u>GROUND WORK:</u> REMOVE (1) BBU INSTALL (1) ENCLOSURE 6160 AC V1 CABINET AND (1) B160 BATTERY CABINET EXISTING (1) 6102 MUAC TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> CAROL A UNDERWOOD 6 MOUNTAIN ROAD NEW PRESTON, CT 06777 <u>APPLICANT:</u> T-MOBILE	<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	05/06/22	TC
<u>UTILITY COMPANIES</u> POWER COMPANY: EVERSOURCE PHONE: (888) 783-6617 TELEPHONE COMPANY: AT&T PHONE: (866) 593-1383		<u>PROJECT LOCATION DIRECTIONS</u> HEAD EAST ON I-84 E, USE THE LEFT LANE TO TAKE EXIT 7 FOR US 7 N/US 202 E TOWARD BROOKFIELD/NEW MILFORD, CONTINUE ONTO US-202 E/US-7 N CONTINUE TO FOLLOW US-7 N, CONTINUE ONTO US-202 E, TAKE GROVE ST TO EAST ST, TURN RIGHT ONTO STILL RIVER DR, STILL RIVER DR TURNS SLIGHTLY LEFT AND BECOMES GROVE ST/LOWER GROVE ST, CONTINUE TO FOLLOW GROVE ST, TAKE US-202 E TO FINDLAY RD IN WASHINGTON, CONTINUE ONTO EAST ST, CONTINUE ONTO POPLAR ST, CONTINUE ONTO US-202 E/PARK LANE RD, CONTINUE TO FOLLOW US-202 E, CONTINUE ON FINDLAY RD. DRIVE TO MOUNTAIN RD, TURN LEFT ONTO FINDLAY RD, TURN RIGHT ONTO MOUNTAIN RD	G-002	GENERAL NOTES	0	05/06/22	TC
			C-101	DETAILED SITE PLAN	0	05/06/22	TC
			C-102	DETAILED EQUIPMENT PLAN	0	05/06/22	TC
			C-201	TOWER ELEVATION	0	05/06/22	TC
			C-401	ANTENNA INFORMATION & SCHEDULE	0	05/06/22	TC
			C-501	CONSTRUCTION DETAILS	0	05/06/22	TC
			E-501	GROUNDING DETAILS	0	05/06/22	TC
			E-601	GROUNDING DETAILS	0	05/06/22	TC
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			
			R-604	SUPPLEMENTAL			
			R-605	SUPPLEMENTAL			
			R-606	SUPPLEMENTAL			
			R-607	SUPPLEMENTAL			
			R-608	SUPPLEMENTAL			

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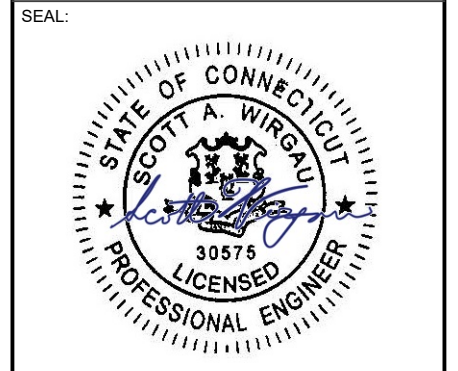
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	05/06/22

ATC SITE NUMBER:
413782

ATC SITE NAME:
WASHINGTON NORTH CT

T-MOBILE SITE NAME:
MOUNTAINRD- VERIZON COLO

SITE ADDRESS:
6 MOUNTAIN ROAD
NEW PRESTON, CT 06777



Authorized by "EOR"
 06 May 2022 11:36:39

DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

TITLE SHEET

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



GENERAL CONSTRUCTION NOTES:

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

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

COAXIAL CABLE (NOT WITHIN BENDS)

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

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

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



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	05/06/22

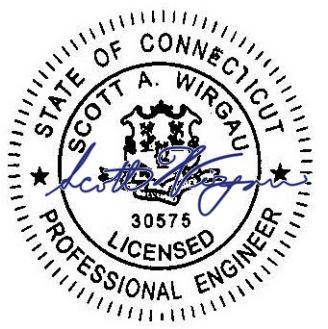
ATC SITE NUMBER:
413782

ATC SITE NAME:
WASHINGTON NORTH CT

T-MOBILE SITE NAME:
MOUNTAINRD- VERIZON COLO

SITE ADDRESS:
 6 MOUNTAIN ROAD
 NEW PRESTON, CT 06777

SEAL:



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DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

GENERAL NOTES

SHEET NUMBER: G-002	REVISION: 0
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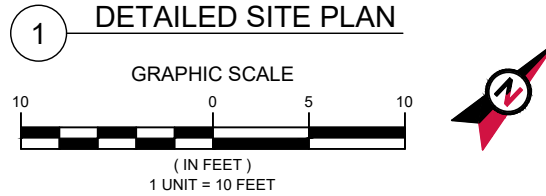
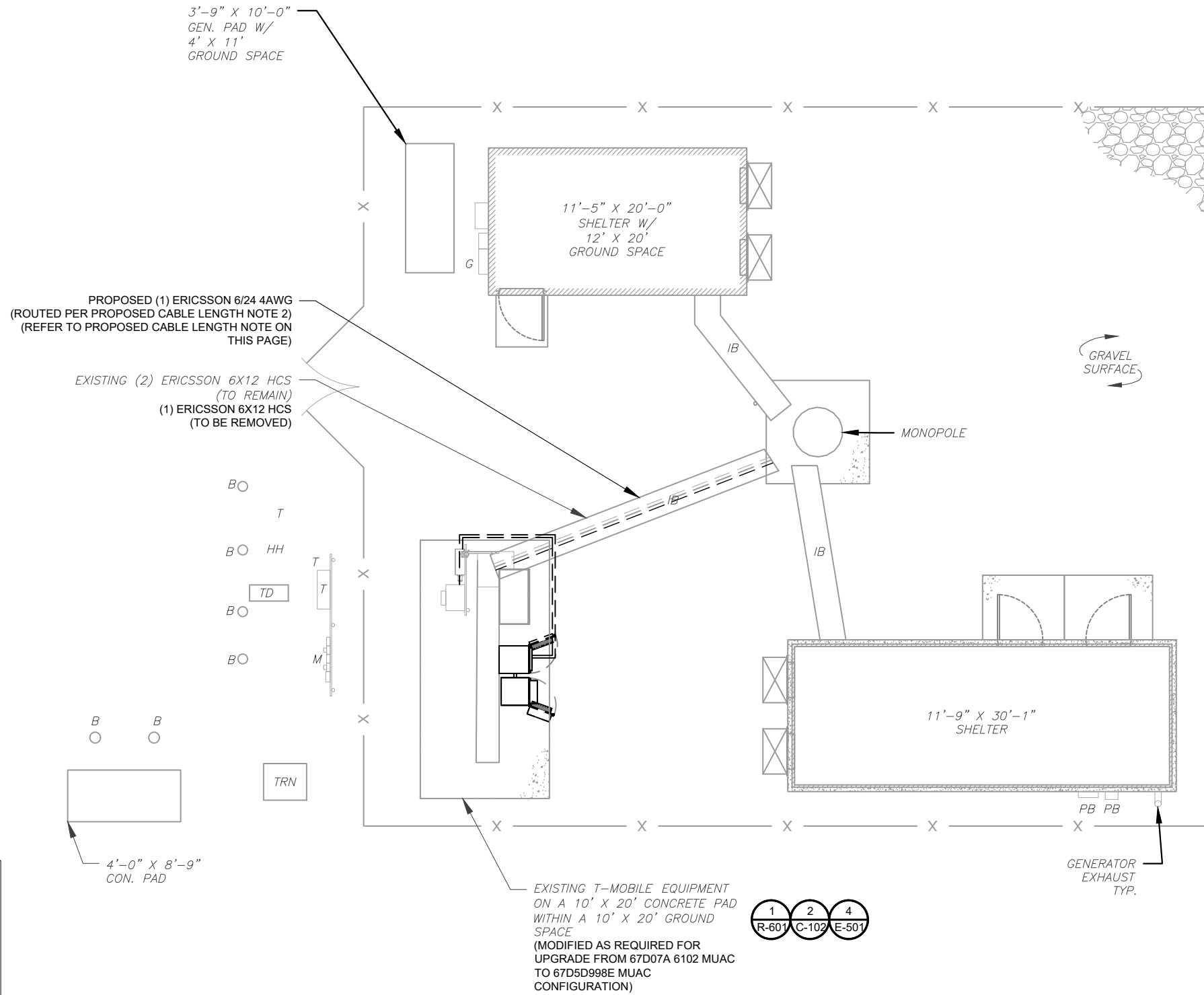
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SITE PLAN NOTES:

- 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.
- NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

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

- PROPOSED CABLE LENGTH:**
- ESTIMATED LENGTH OF PROPOSED CABLE IS **200'**. 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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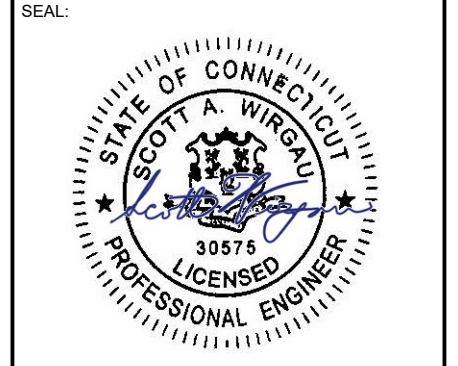
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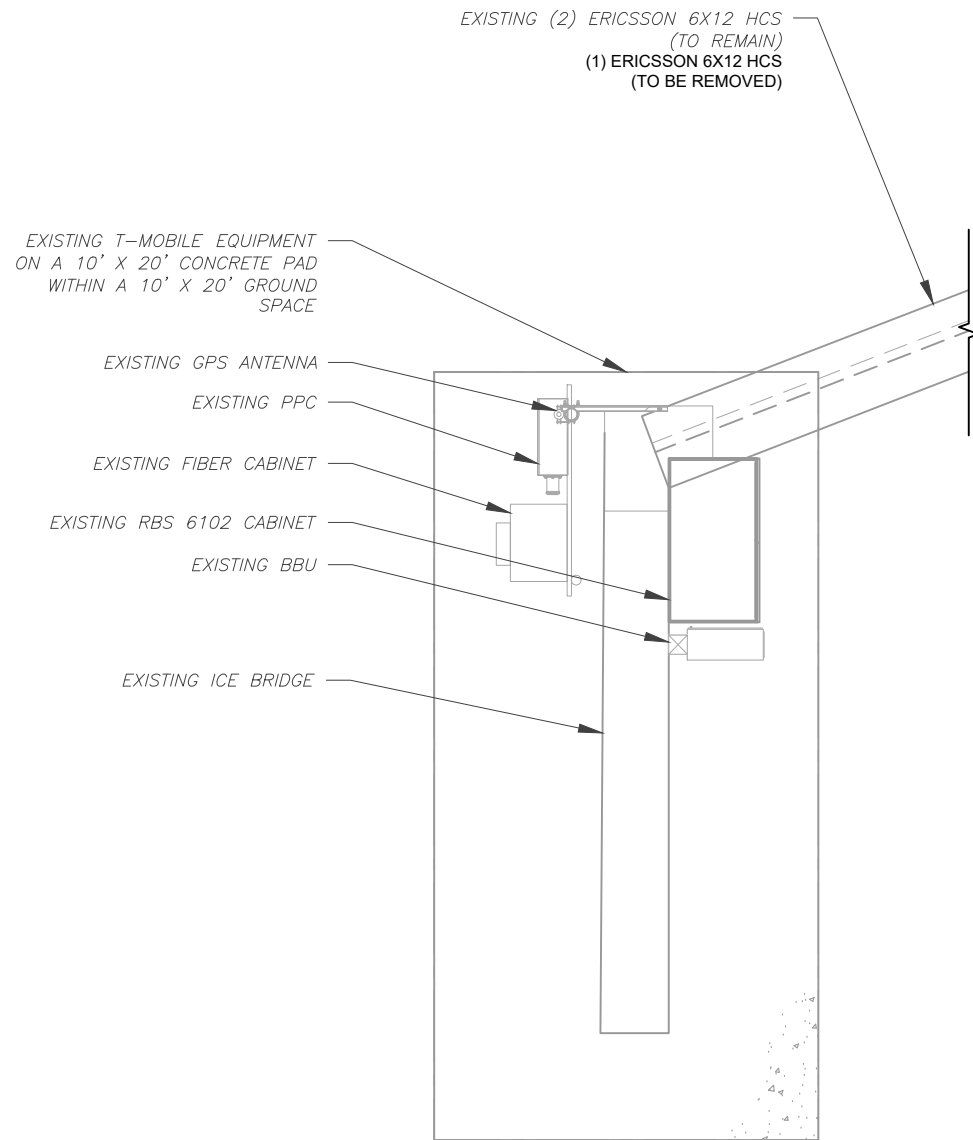
DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

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

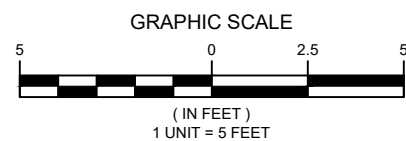
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SITE PLAN NOTES:

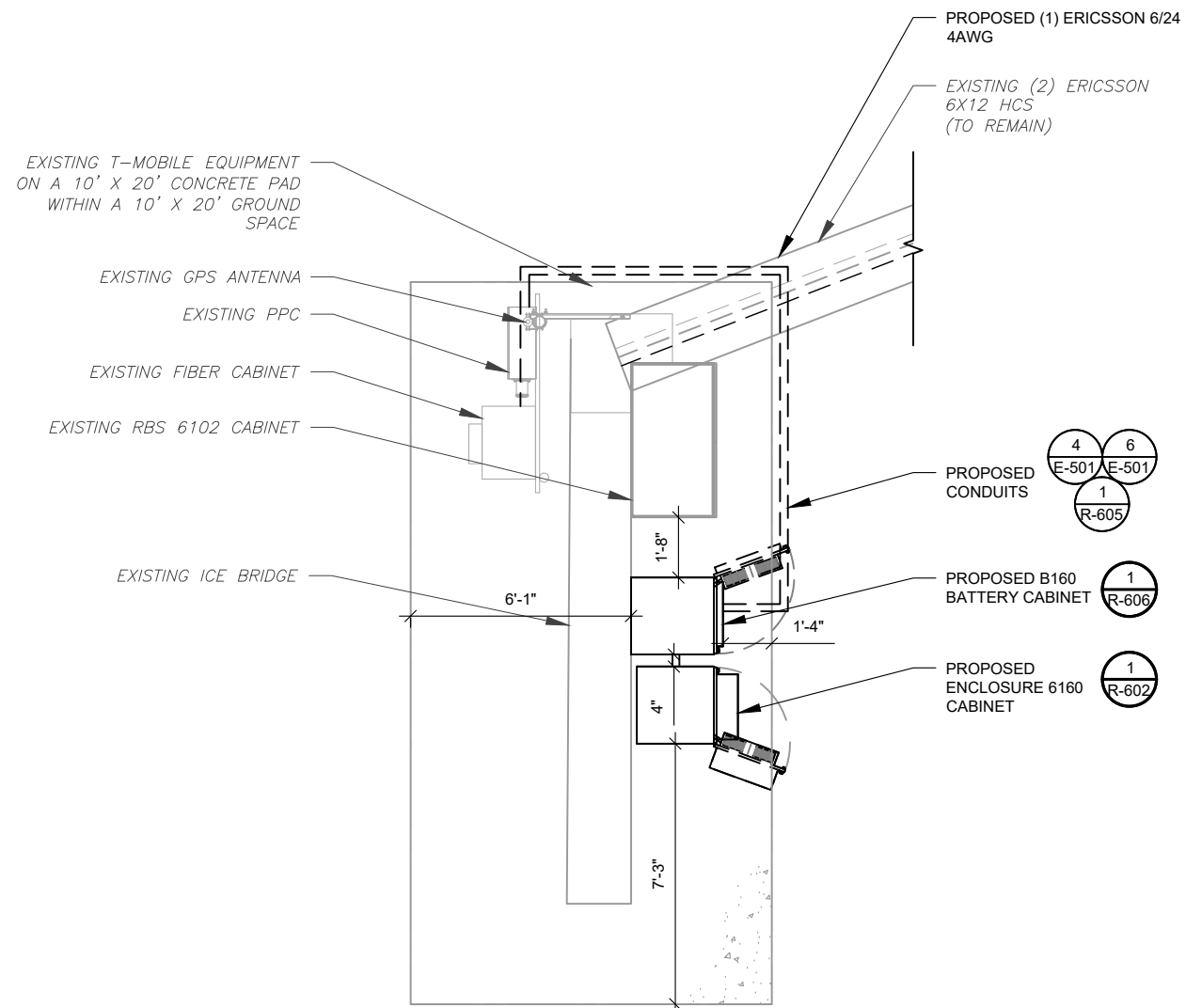
1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
3. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO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



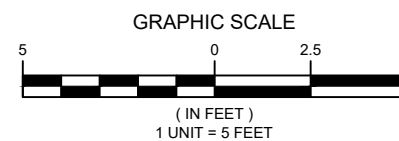
1 EXISTING GROUND EQUIPMENT LAYOUT



T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS.



2 PROPOSED GROUND EQUIPMENT LAYOUT



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	05/06/22

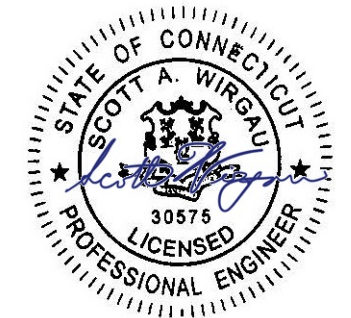
ATC SITE NUMBER:
413782

ATC SITE NAME:
WASHINGTON NORTH CT

T-MOBILE SITE NAME:
MOUNTAINRD- VERIZON COLO

SITE ADDRESS:
6 MOUNTAIN ROAD
NEW PRESTON, CT 06777

SEAL:



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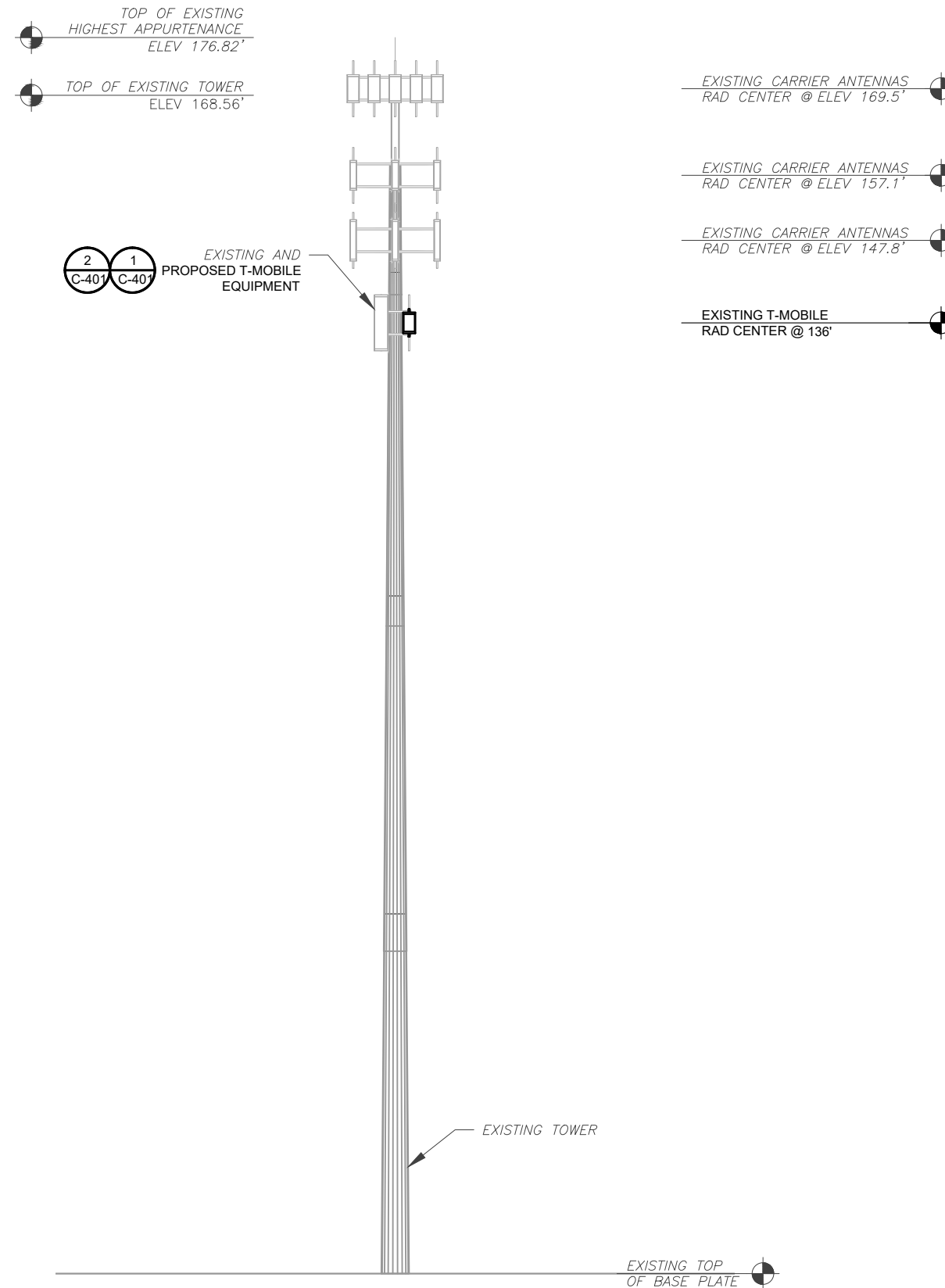
DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

DETAILED EQUIPMENT PLAN

SHEET NUMBER:	REVISION:
C-102	0

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PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORP., DATED 04/08/2022, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



1 TOWER ELEVATION
SCALE: N.T.S.

TOWER NOTE:

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



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 SUITE 100
 CARY, NC 27518
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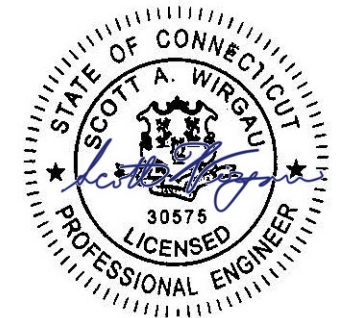
ATC SITE NUMBER:
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ATC SITE NAME:
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SITE ADDRESS:
6 MOUNTAIN ROAD
NEW PRESTON, CT 06777

SEAL:

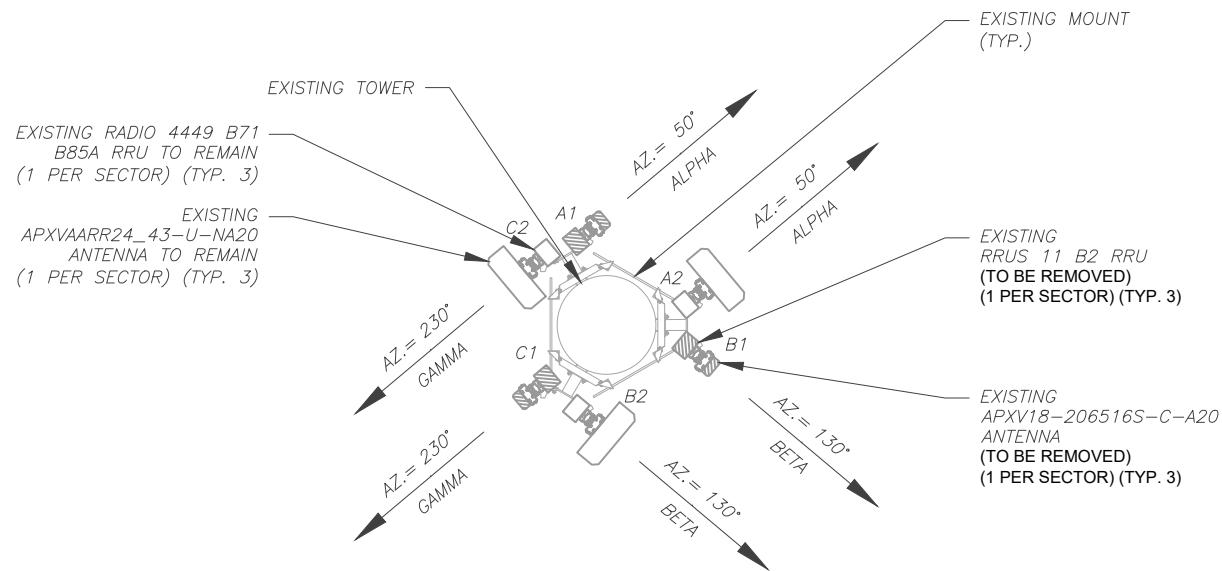


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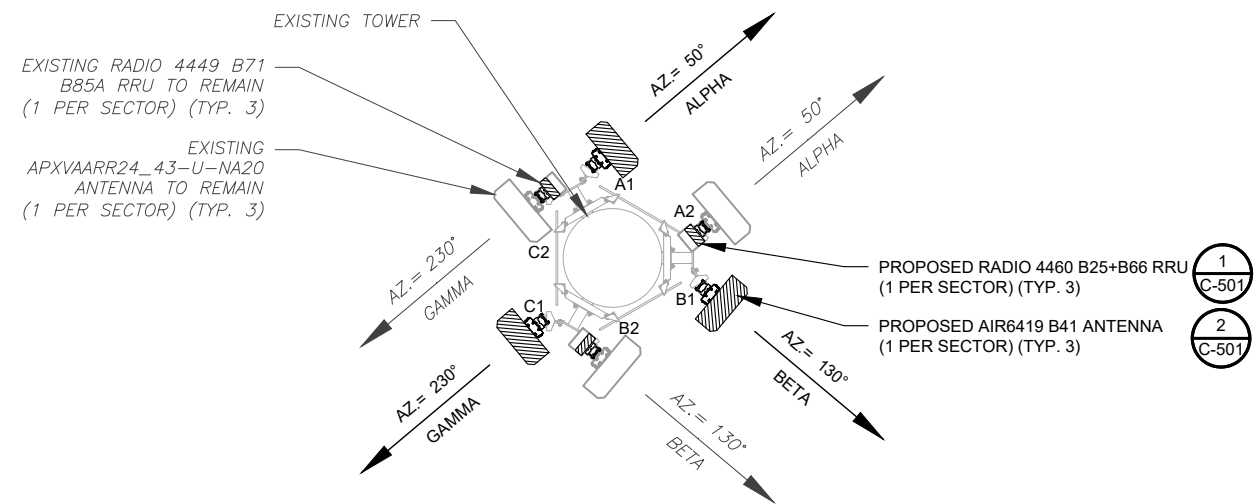
DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

TOWER ELEVATION

SHEET NUMBER: **C-201** REVISION: **0**



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



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

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORP., DATED 04/08/2022, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	05/06/22
1			
2			

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DATE DRAWN:	05/06/22
ATC JOB NO:	14089648_G3
CUSTOMER ID:	MOUNTAINRD- VERIZON COLO
CUSTOMER #:	CTNH371A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401

REVISION:
0

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	136'	50°	A1	APXV18-206516S-C-A20	U1900/L1900	0/2	RMV	RRUS 11 B2	RMV
			A2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2	RMN	RADIO 4449 B71 B85A	RMN
BETA	136'	130°	B1	APXV18-206516S-C-A20	U1900/L1900	0/2	RMV	RRUS 11 B2	RMV
			B2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2	RMN	RADIO 4449 B71 B85A	RMN
GAMMA	136'	230°	C1	APXV18-206516S-C-A20	U1900/L1900	0/2	RMV	RRUS 11 B2	RMV
			C2	APXVAARR24_43-U-NA20	L700/L600/N600	0/2	RMN	RADIO 4449 B71 B85A	RMN

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'

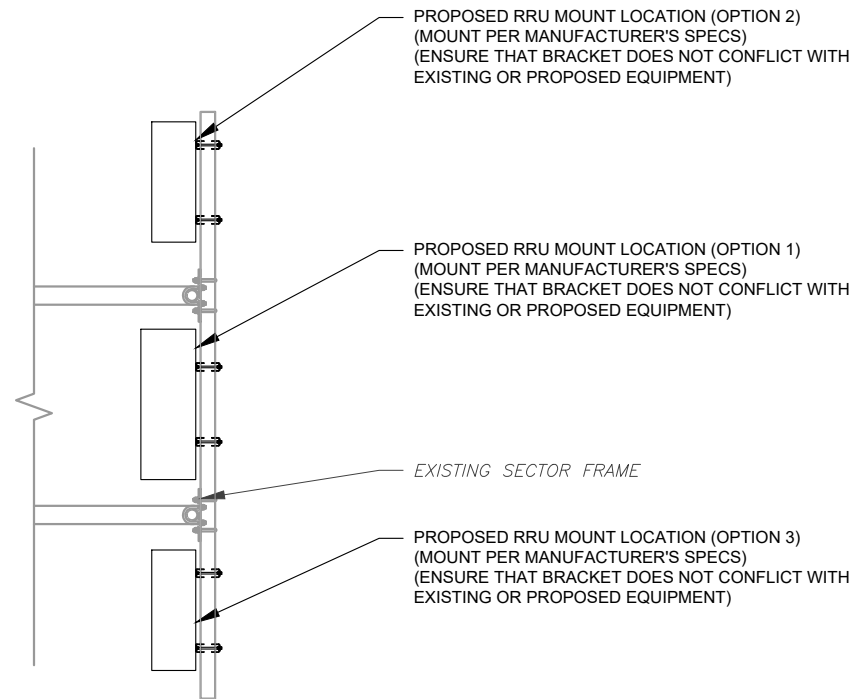
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	136'	50°	A1	AIR 6419 B41	L2500/N2500	0	ADD	-	-
			A2	APXVAARR24_43-U-NA20	L700/L600/N600 L2100/L1900/U1900	0/2	RMN	RADIO 4460 B25+B66 RADIO 4449 B71 B85A	ADD RMN
BETA	136'	130°	B1	AIR 6419 B41	L2500/N2500	0	ADD	-	-
			B2	APXVAARR24_43-U-NA20	L700/L600/N600 L2100/L1900/U1900	0/2	RMN	RADIO 4460 B25+B66 RADIO 4449 B71 B85A	ADD RMN
GAMMA	136'	230°	C1	AIR 6419 B41	L2500/N2500	0	ADD	-	-
			C2	APXVAARR24_43-U-NA20	L700/L600/N600 L2100/L1900/U1900	0/2	RMN	RADIO 4460 B25+B66 RADIO 4449 B71 B85A	ADD RMN

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(2) ERICSSON 6X12 HCS	RMN
-	RMV	(1) ERICSSON 6X12 HCS	RMV

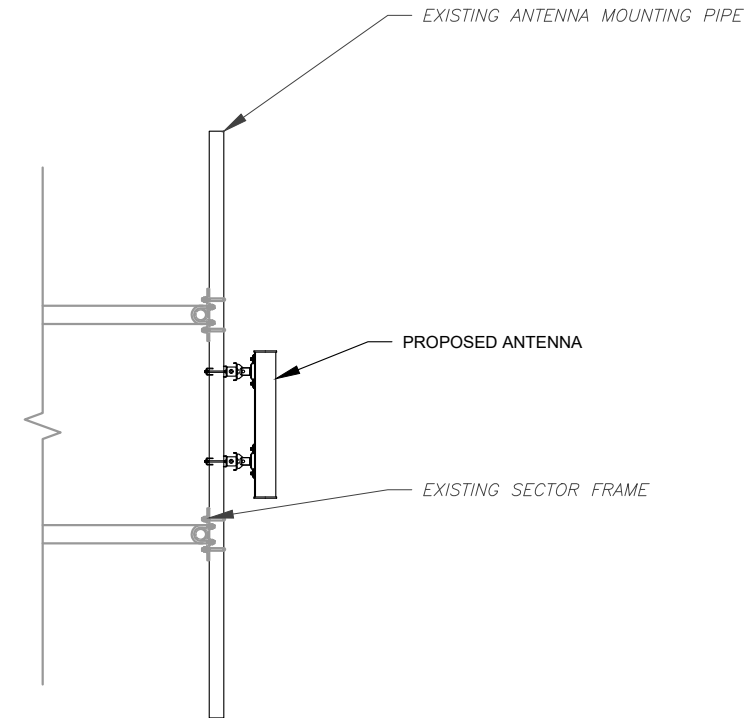
3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(2) ERICSSON 6X12 HCS	RMN
-	RMV	(1) ERICSSON 6/24 4AWG	ADD

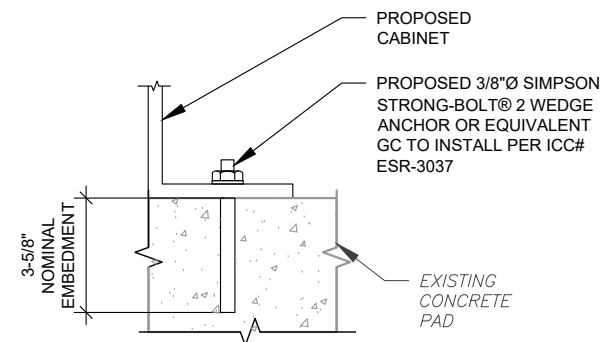
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1 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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



NOTE:

INSTALL SIMPSON STRONG-TIE® STRONG-BOLT® 2 WEDGE ANCHOR(S) STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.STRONGTIE.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

3 CABINET ATTACHMENT DETAIL
SCALE: N.T.S.



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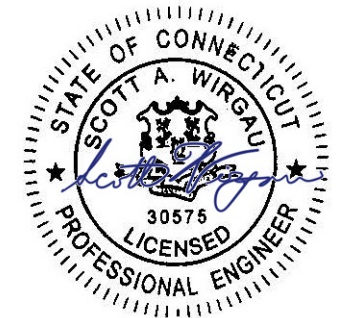
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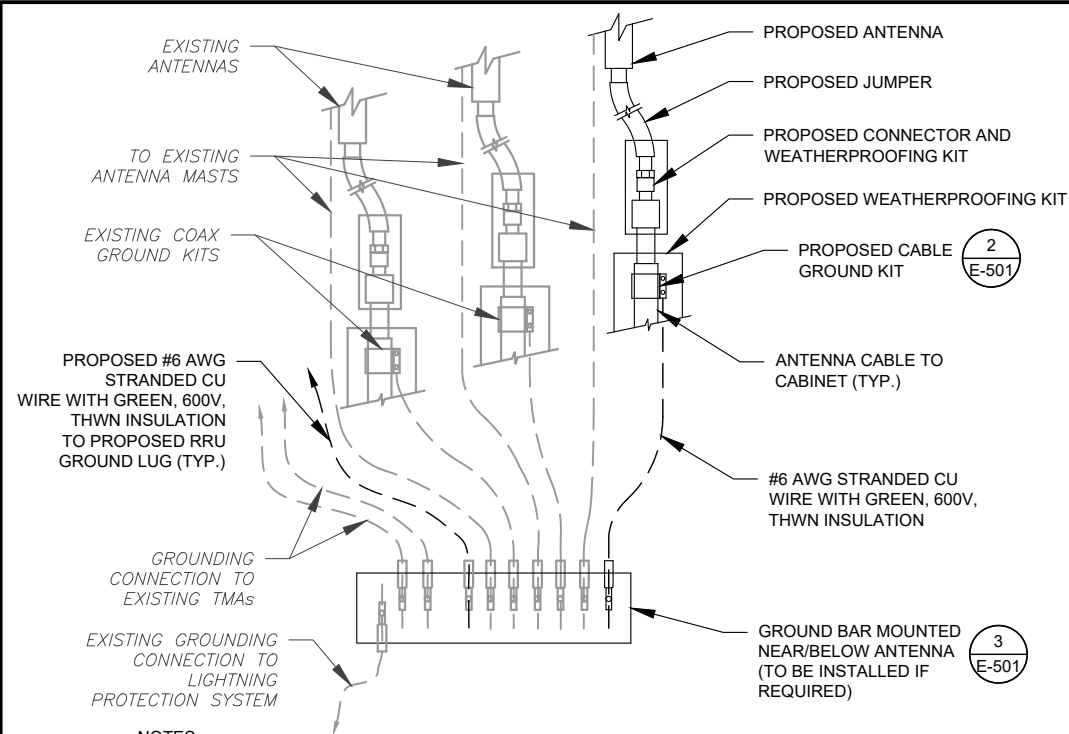


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DATE DRAWN:	05/06/22
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CUSTOMER #:	CTNH371A

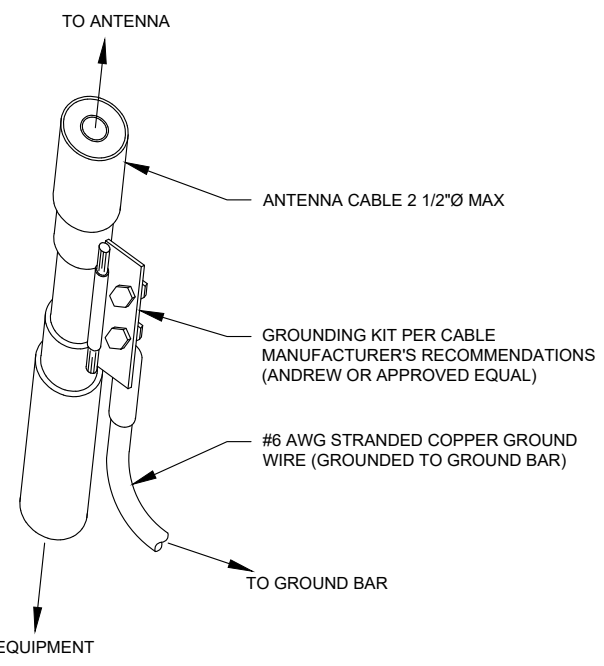
**CONSTRUCTION
DETAILS**

SHEET NUMBER:	REVISION:
C-501	0



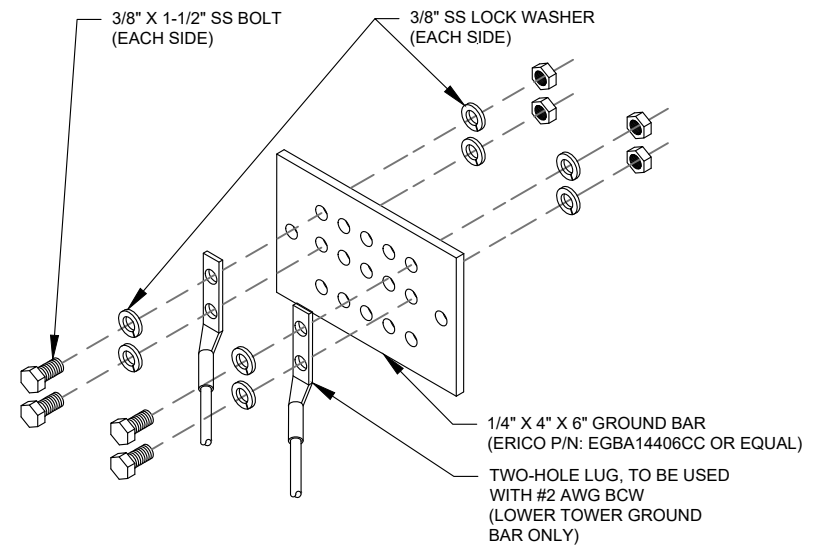
- NOTES:**
- THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 - SITE GROUNDING SHALL COMPLY WITH T-MOBILE 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:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - 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.



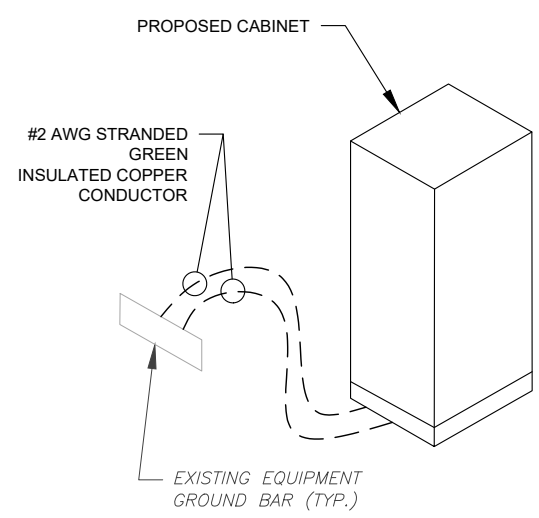
- GROUND BAR NOTES:**
- GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 - GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

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

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

4 CONDUIT USE TABLES



5 CABINET GROUNDING DETAIL
SCALE: N.T.S.

- ELECTRICAL NOTES:**
- 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.
 - 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.
 - 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"

6 ELECTRICAL NOTES

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CUSTOMER #:	CTNH371A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

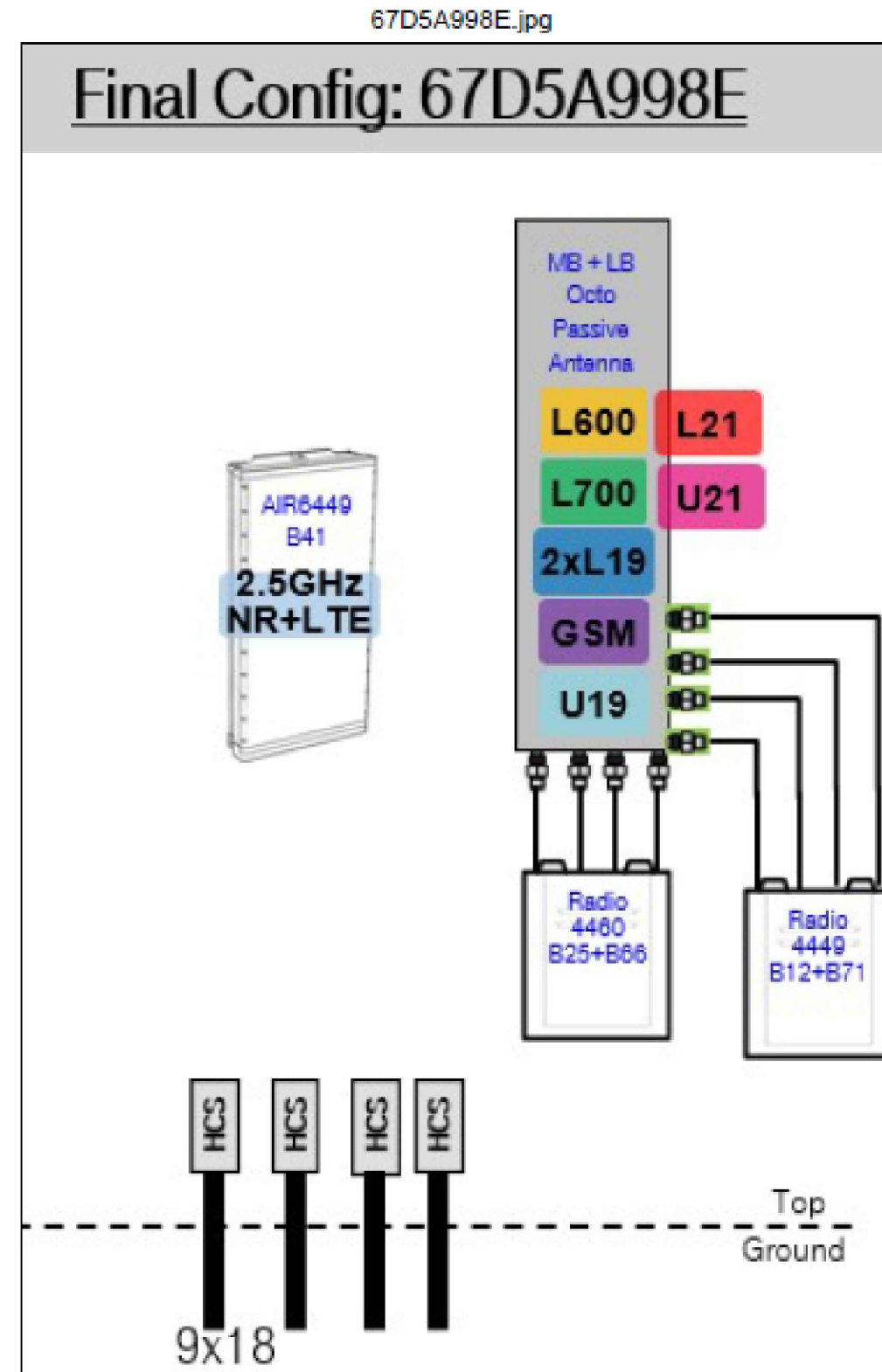
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Proposed RAN Equipment				
Template: 67D5D998E MUAC				
Enclosure	1	2	3	4
Enclosure Type	Ancillary Equipment (Ericsson)	RBS 6102 MU AC	Enclosure 6160 AC V1	B160
Baseband		DUW30 U1900	BB 6630 L2100 L1600	RP 6651 L2500 N2500
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG' (x 2)		Ericsson Hybrid Trunk 6/24 4AWG 60m PSU 4813 vR4A (Kit)	
Transport System			CSR IXRe V2 (Gen2)	

RAN Scope of Work:

- Remove and return all cabinet radios from existing base station cabinet.
- Upgrade breaker to 125A for 6102.
- Add 150A breaker for 6160.
- Add (1) Enclosure 6160.
- Add (1) iXRe Router to new Enclosure 6160.
- Add (1) RP 6651 for L2500/N2500 to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- **Existing : (2) 6x12 confirmed during scoping.
- Remove all Coax.
- Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

1 CABINET CONFIGURATION



Notes:

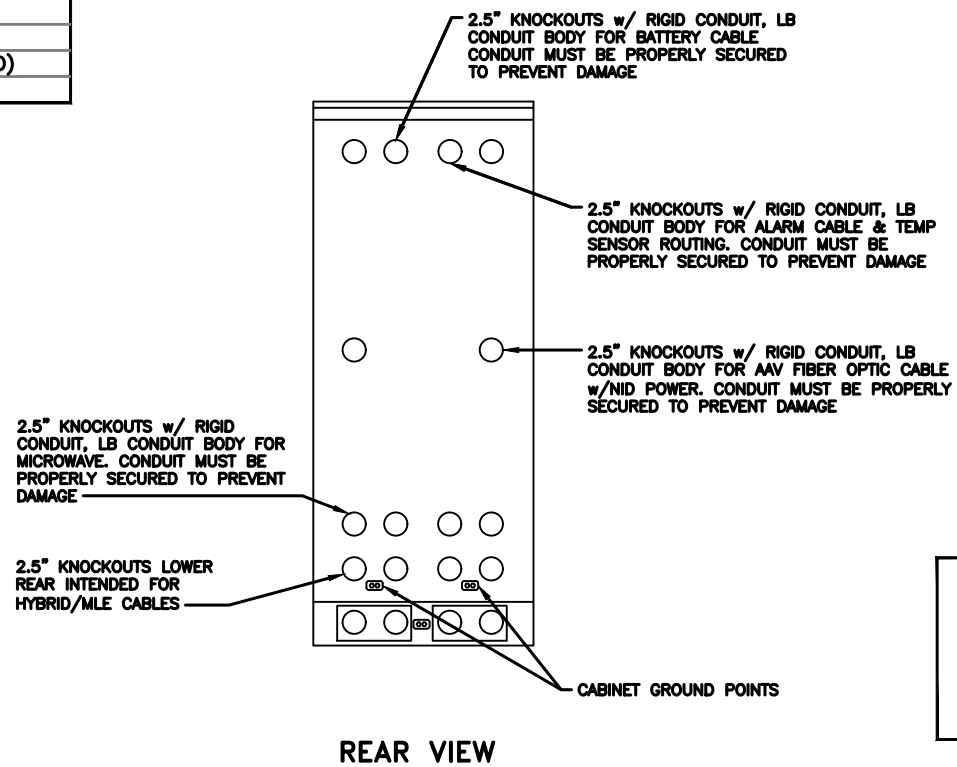
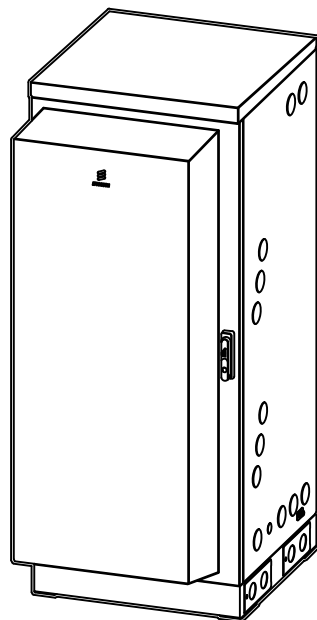
2 ANTENNA CONFIGURATION

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

SUPPLEMENTAL

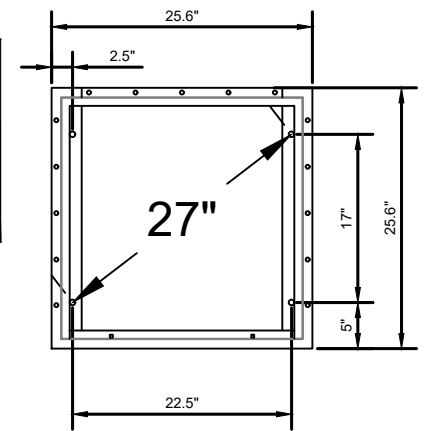
SHEET NUMBER: R-601
REVISION: 0

MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS



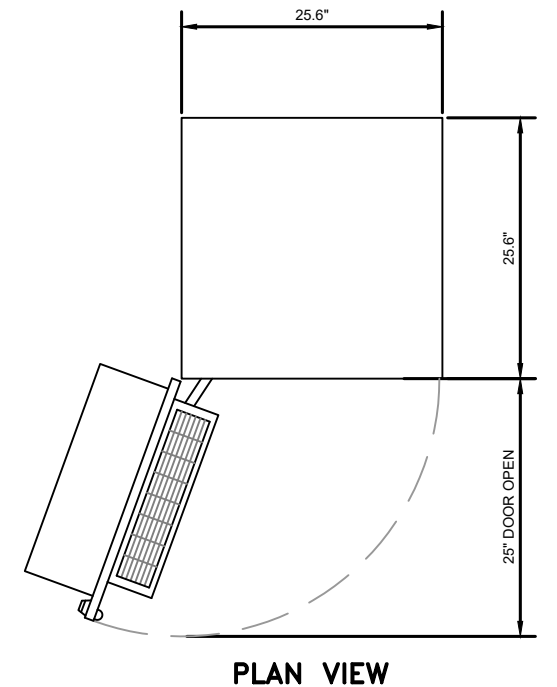
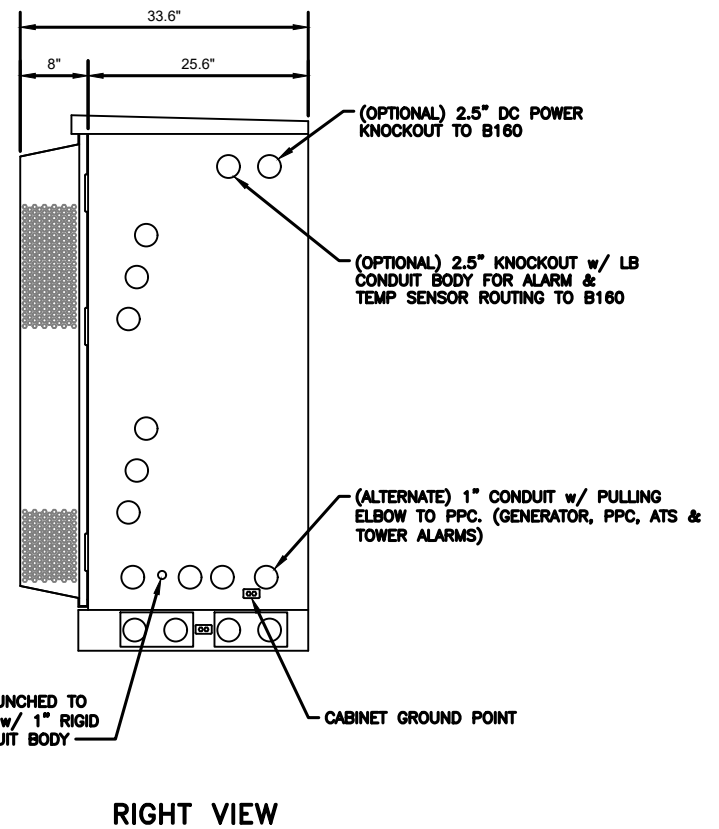
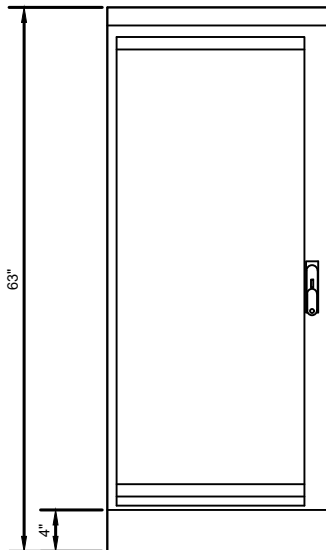
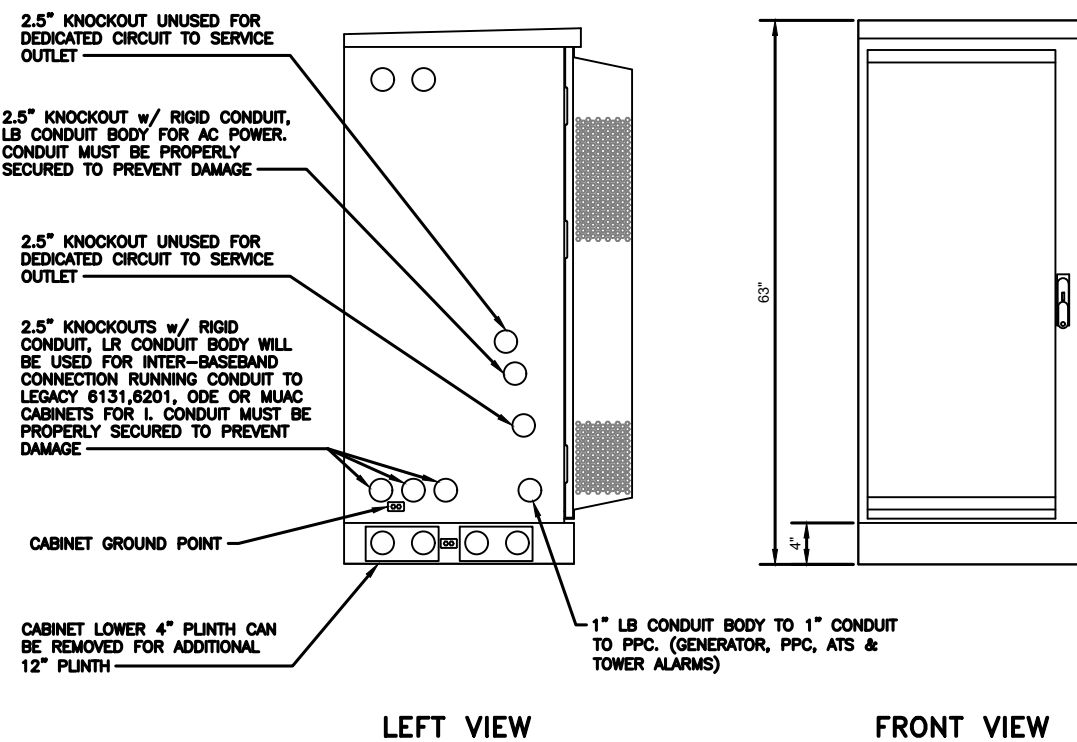
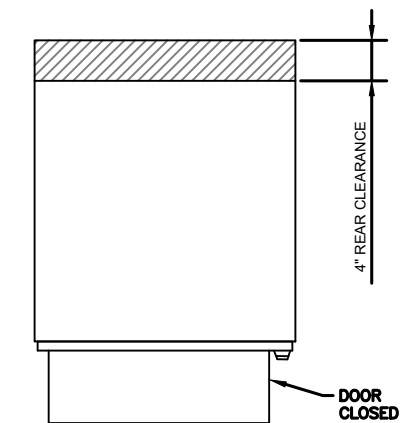
NOTE:

- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

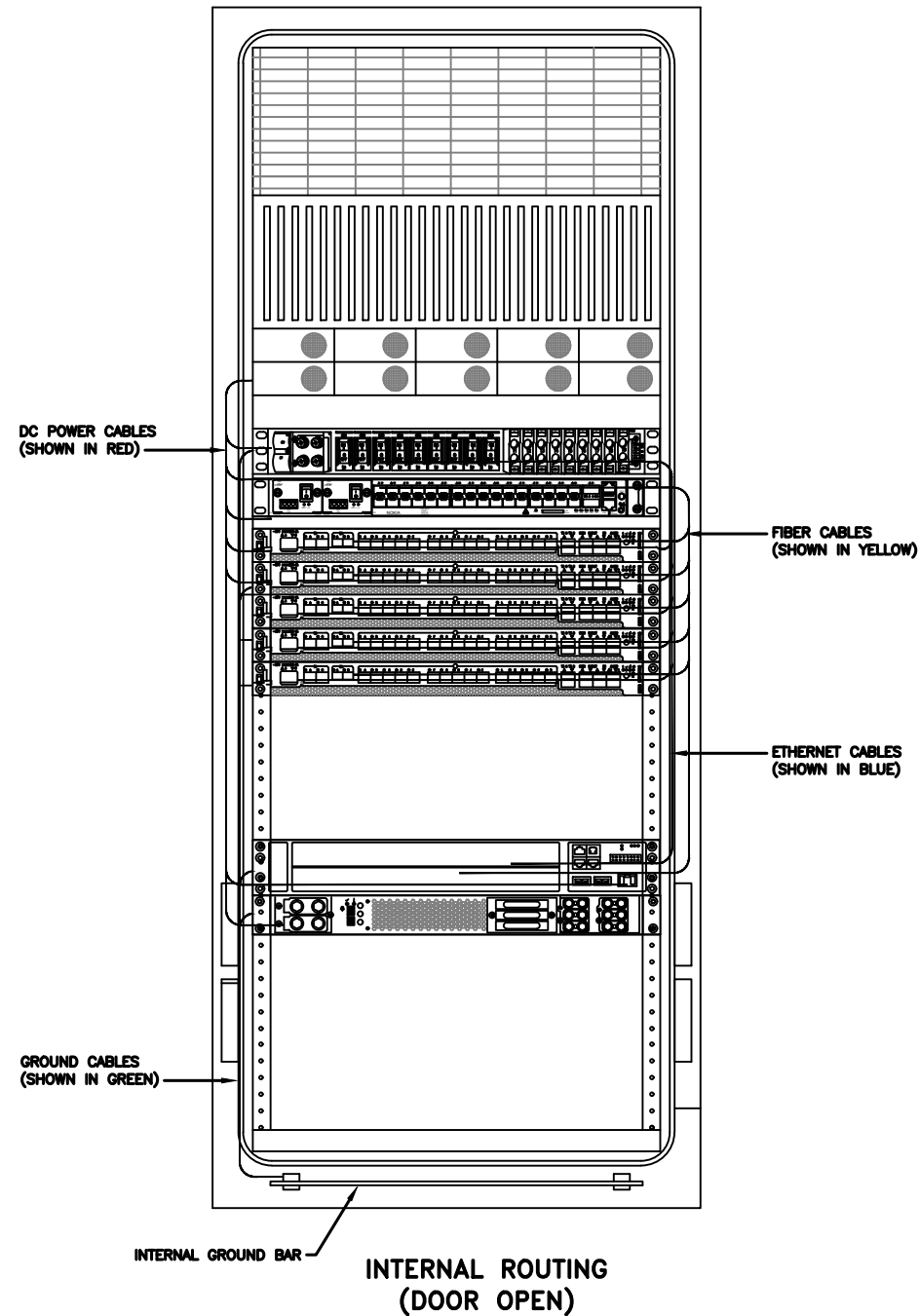


GROUNDING NOTE:

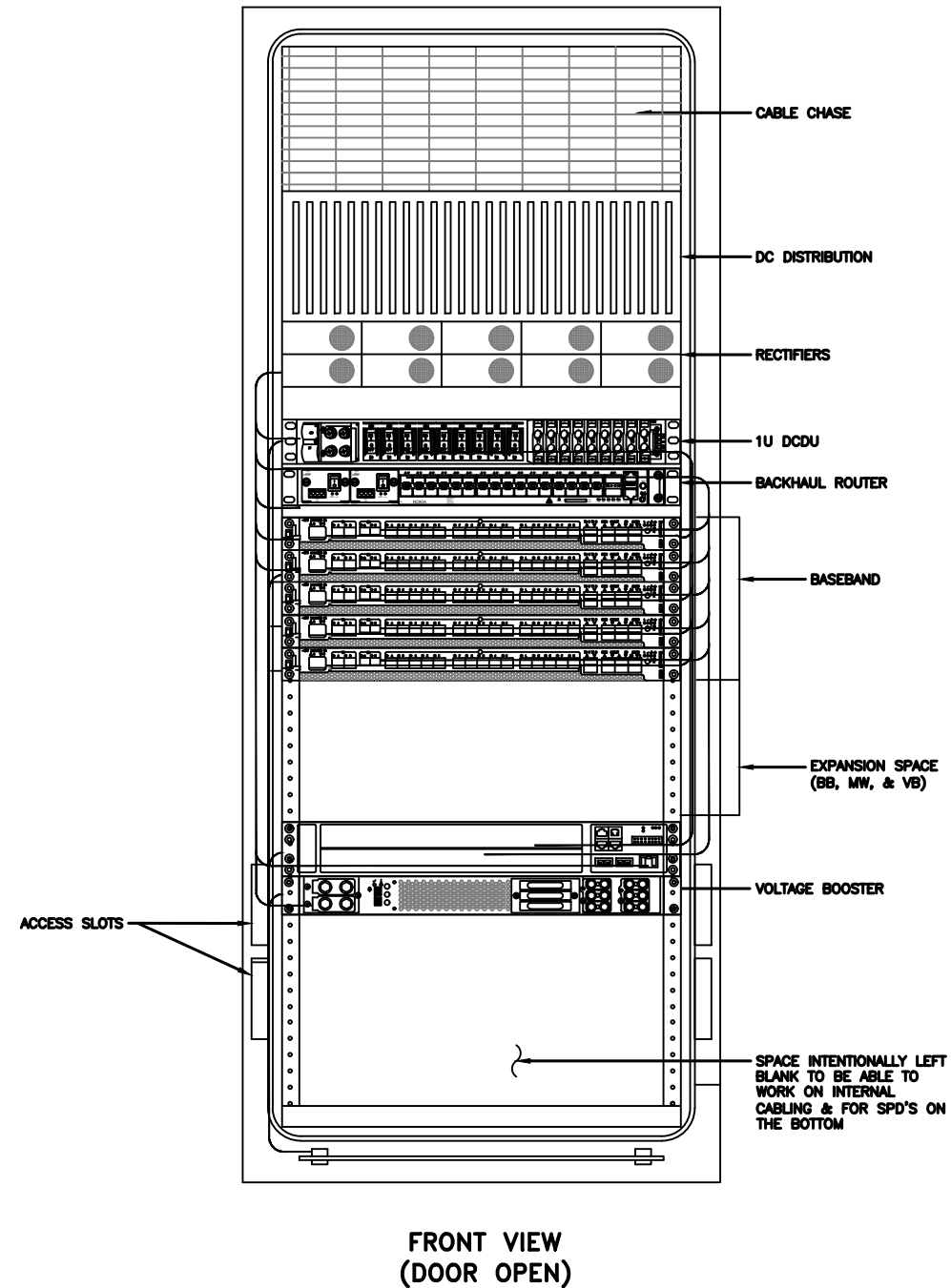
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



SUPPLEMENTAL	
SHEET NUMBER: R-602	REVISION: 0



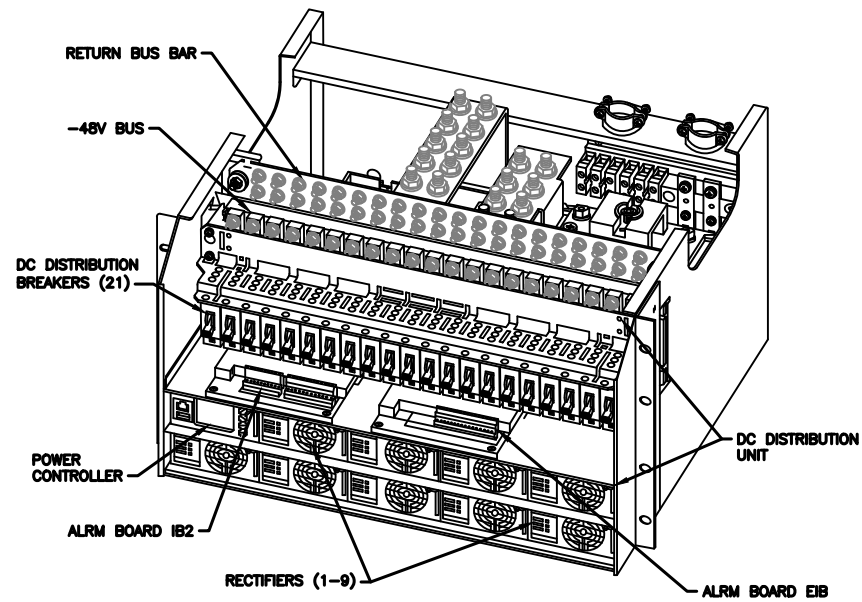
RACK ASSIGNMENTS	
RU SLOTS	DESCRIPTION
1	DC DISTRIBUTION
2	
3	
4	
5	RECTIFIER SHELF
6	
7	FIBER BOX
8	DCDU
9	BACKHAUL ROUTER
10	
11	1ST BASEBAND
12	2ND BASEBAND
13	3RD BASEBAND
14	4TH BASEBAND
15	5TH BASEBAND
16	EXPANSION
17	
18	
19	EXPANSION / LEGACY BASEBAND / VOLTAGE BOOSTER
20	
21	VOLTAGE BOOSTER
22	VOLTAGE BOOSTER
23	OPEN SPACE FOR SPD ACCESS
24	
25	



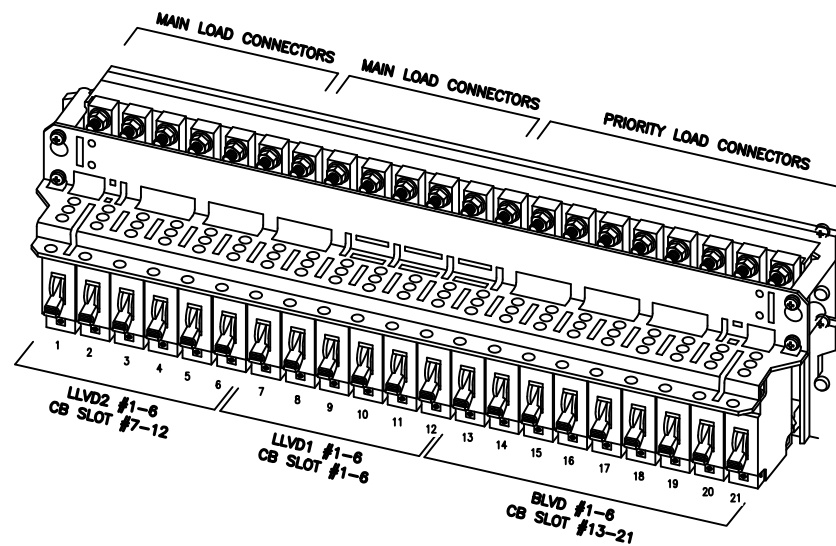
NOTE:
THIS IS FOR REFERENCE ONLY, CHECK
FOR SPECIFIC DETAIL IN T-MOBILE
CABINET SPECIFIC INSTALLATION GUIDES

Breaker Allocation for E6160				
CB SLOT	Ckt #	w/ DCU Prior to availability of the 4460 and 4480	w/ DCU Later Design Post-4460 and Post-4480	w/ DCU 4 and 6 Sector designs
1	1	Router PS-2*/Future		Radio 4460 B25/66 ζ-1
2	2	Future		Radio 4460 B25/66 ζ-2
3	LVD1	PSU 4813 feeding B25/66 α, β and γ (AIR 1641s)	PSU 4813 feeding B41-δ & B71/12-δ (Air 6449s and Radio 4480s)	PSU 4813 feeding B41 α, β and γ (Air 6449s)
4	4			
5	5			
6	6			
7	1	PSU 4813 feeding B71/12 α, β and γ (Radio 4449s)	PSU 4813 feeding B71/12 α, β and γ (Radio 4480s)	
8	2			
9	LVD2	Future		Radio 4460 B25/66 δ-1
10	45.1V	Future		Radio 4460 B25/66 δ-2
11	4	Future		Radio 4460 B25/66 ε-1
12	6	Future		Radio 4460 B25/66 ε-2
13	1	Router PS-1		
14	2	Radio 4415 B25/66 α	Radio 4460 B25/66 α-1	
15	3	Radio 4415 B25/66 β	Radio 4460 B25/66 α-2	
16	4	Radio 4415 B25/66 γ	Radio 4460 B25/66 β-1	
17	5	PSU 4813 feeding B2/25 α, β and γ (Radio 4424s)	Radio 4460 B25/66 β-2	
18	6		Radio 4460 B25/66 γ-1	
19	7	Future	Radio 4460 B25/66 γ-2	
20	8	DCDU		
21	9	AAV		

Sector Identification
α = Alpha, β = Beta, γ = Gamma, δ = Delta, ε = Epsilon, ζ = Zeta



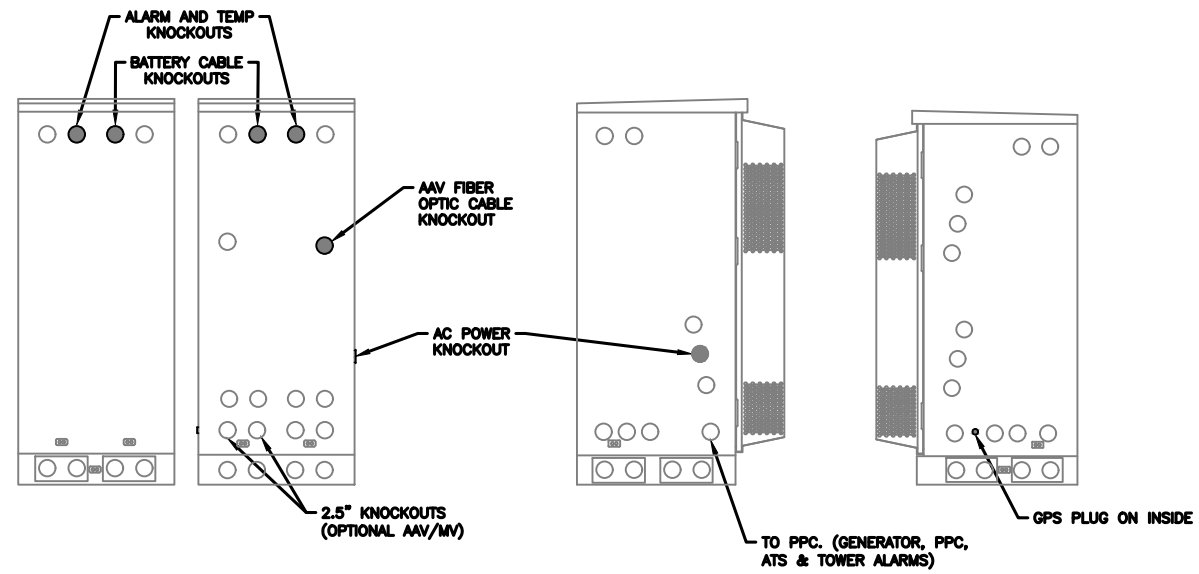
POWER SUBRACK



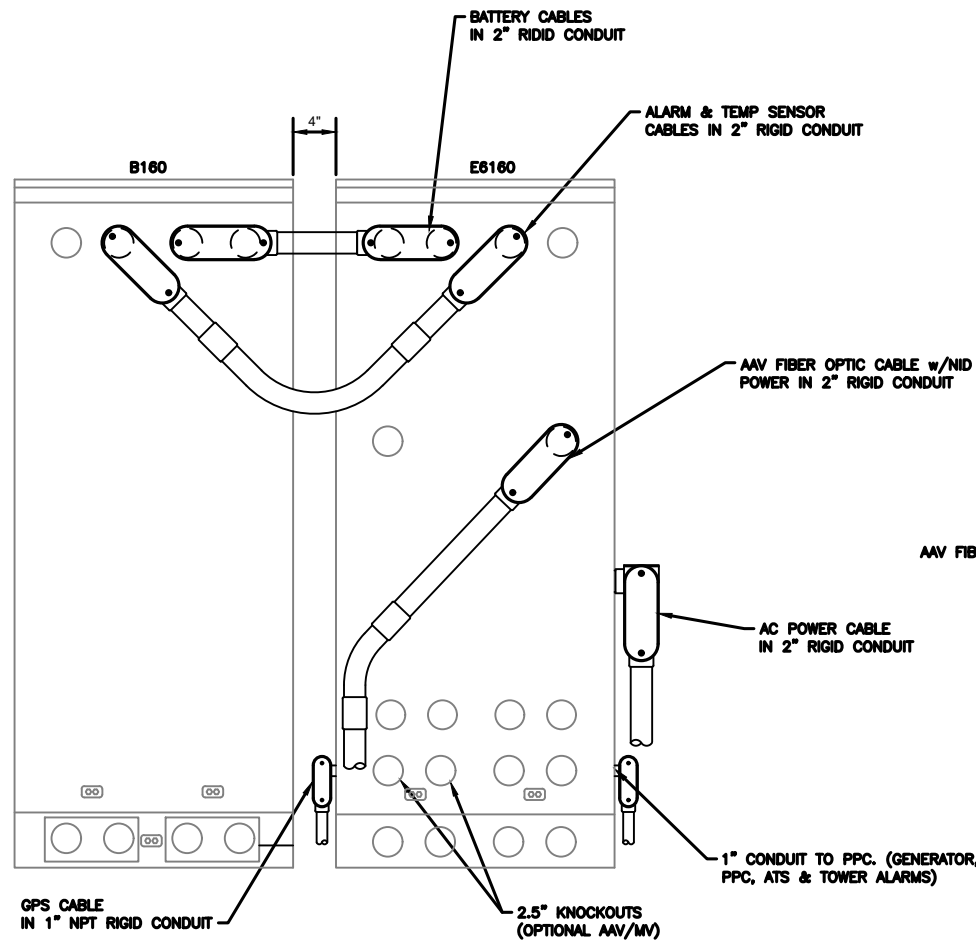
DC DISTRIBUTION

NOTE:

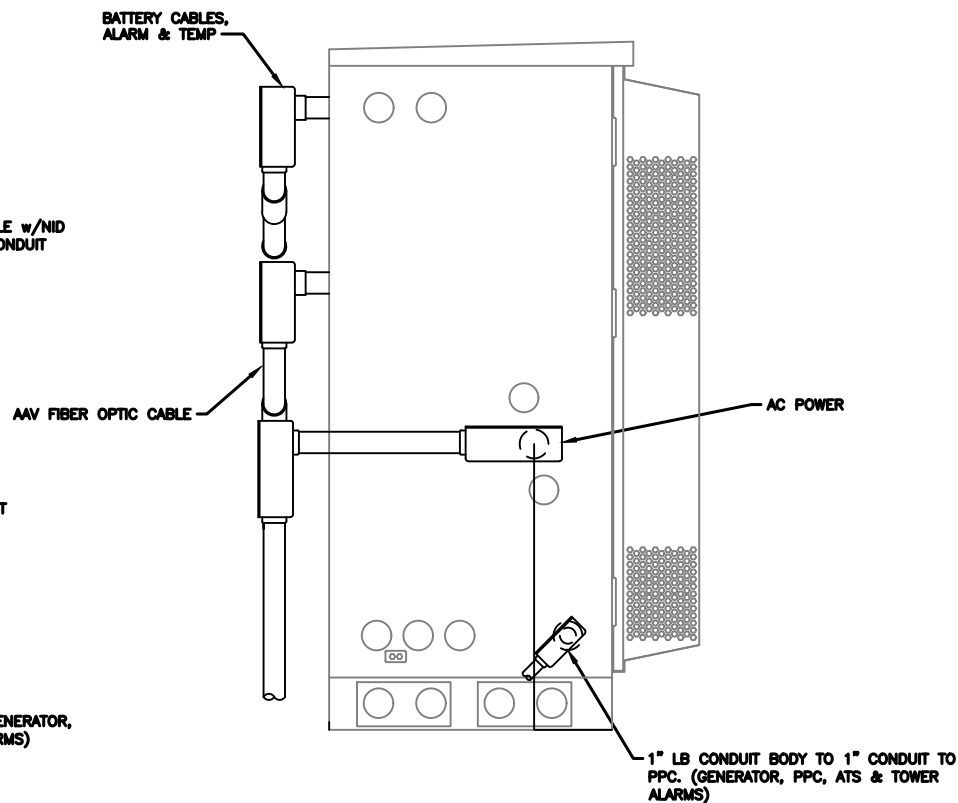
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6' MAX PER CONDUIT RUN.
3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.
5. ALL EXTERNAL ALARM CONDUITS ARE TO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.
6. (DO NOT USE CHASE NIPPLES) CONDUIT SHOULD HAVE SEALING WASHERS INSIDE AND OUT w/ LOCK NUT AND CAP.



CONDUIT LOCATIONS

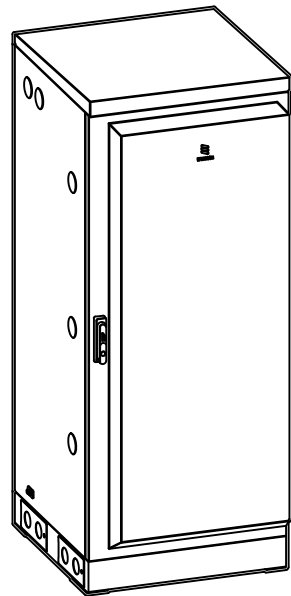


REAR VIEW



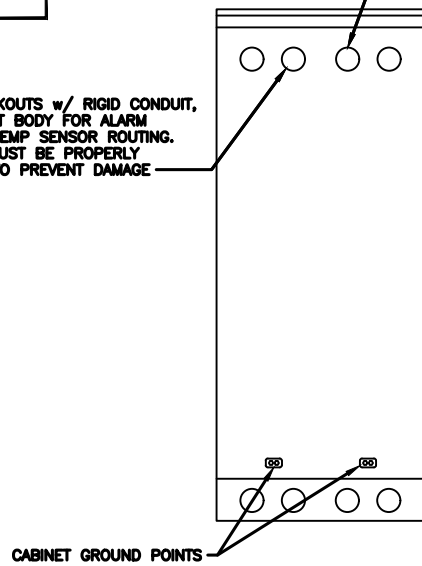
SIDE VIEW

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)

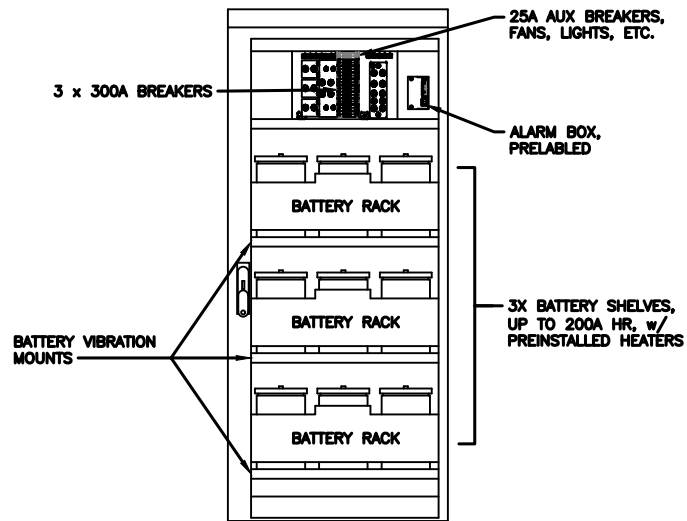


2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR ALARM CABLE & TEMP SENSOR ROUTING. CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE

2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR BATTERY CABLE CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE

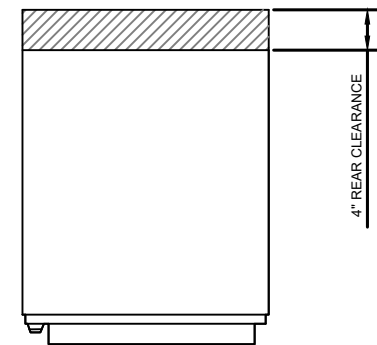


REAR VIEW



FRONT VIEW (DOOR OPEN)

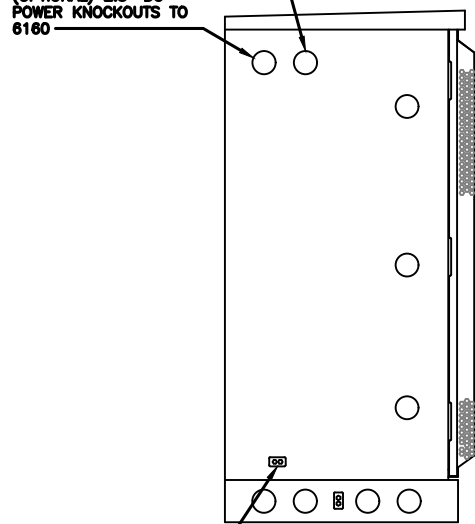
NOTE:
 • CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
 • CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING



GROUNDING NOTE:
 "CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

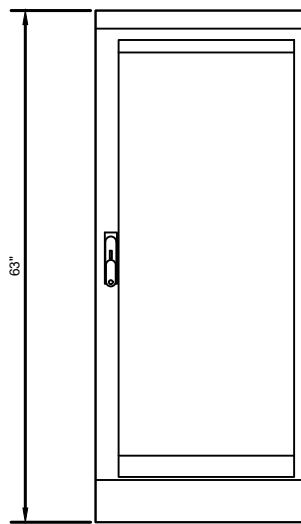
(OPTIONAL) 2.5" KNOCKOUTS FOR ALARM & TEMP SENSOR ROUTING TO 6160

(OPTIONAL) 2.5" DC POWER KNOCKOUTS TO 6160

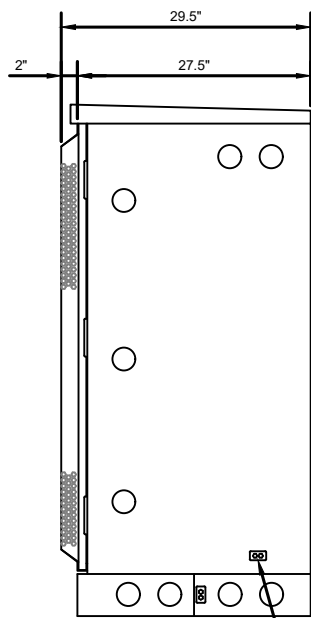


CABINET GROUND POINT

LEFT VIEW

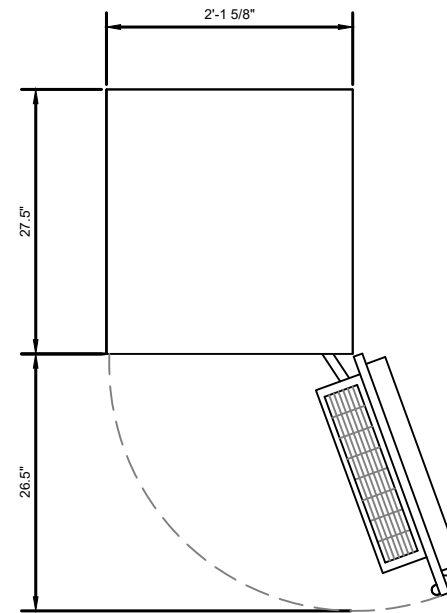


FRONT VIEW



CABINET GROUND POINT

RIGHT VIEW

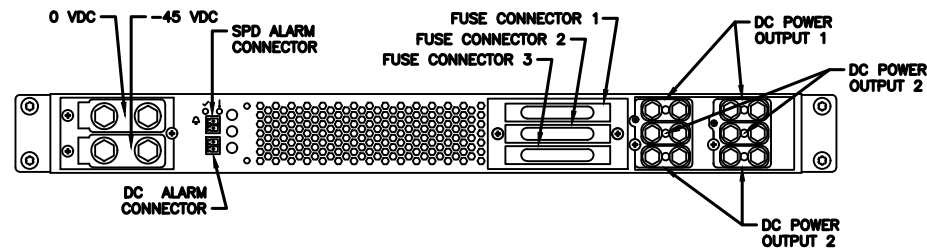
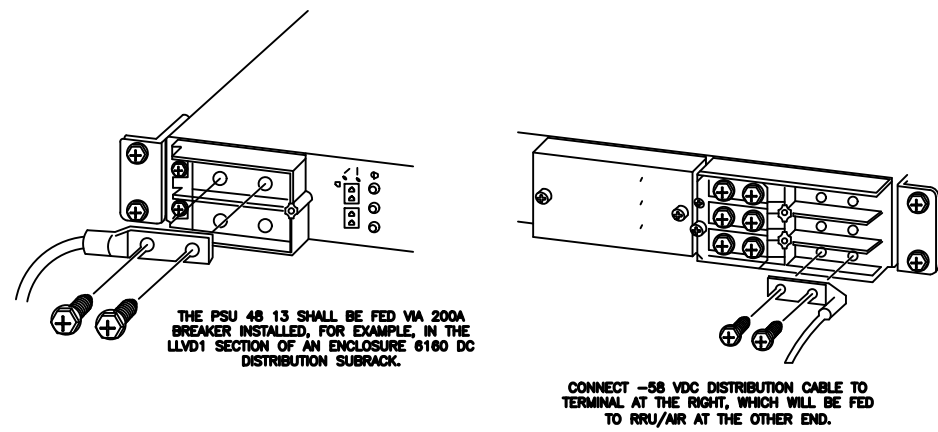
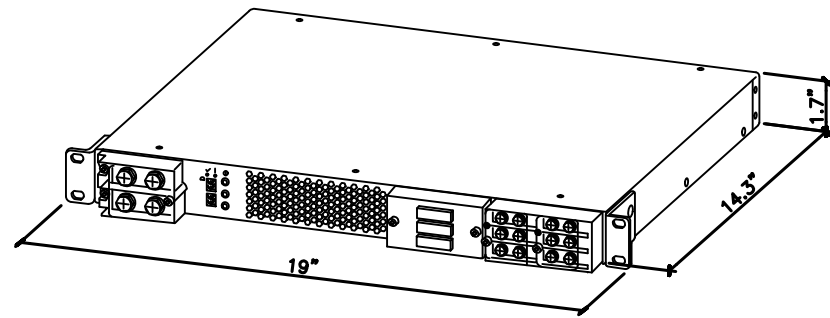


PLAN VIEW

B160 ERICSSON SITE SUPPORT BATTERY CABINET

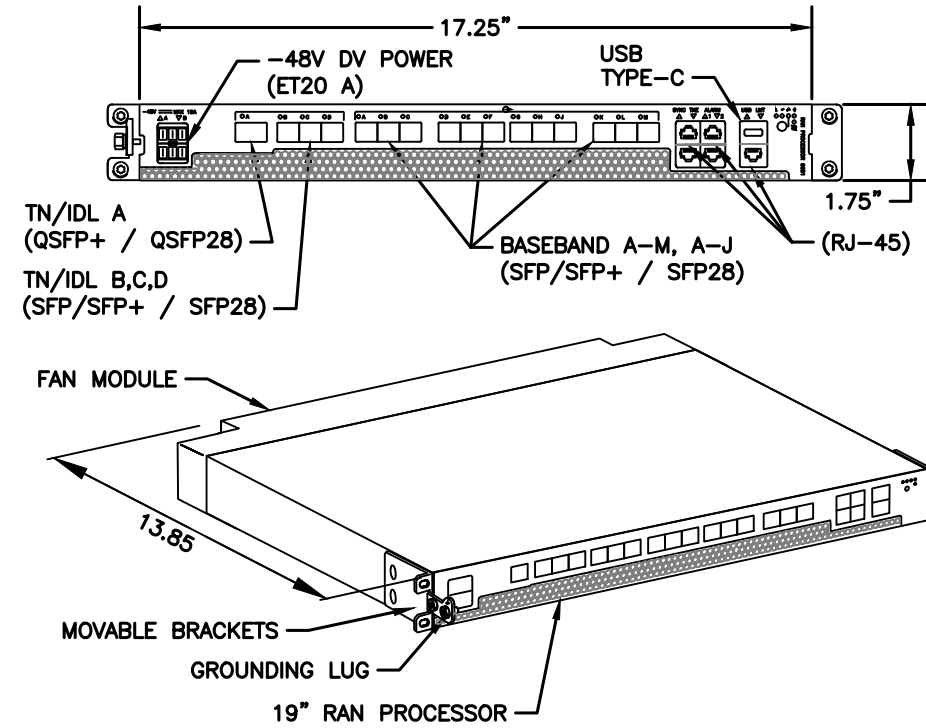
MANUFACTURER: ERICSSON
 MODEL: PSU 48 13
 WEIGHT: 17.1 LBS
 DIMENSIONS: 19"x 1.7"x 14.3"

NEEDED INSTALL KIT (PICK 1)
 34133 PSU4813 INSTALL KIT FOR RBS61XX
 34134 PSU4813 INSTALL KIT FOR PBC6200
 34135 PSU4813 INSTALL KIT FOR 6X60/RBS6230



1 SKU# 34132 - PSU 48 13
 SCALE: N.T.S.

MANUFACTURER: ERICSSON
 MODEL: 6651 RAN PROCESSOR (KDU1370093/11)
 DIMENSIONS: 1.75" x 17.25" x 13.85" (H" x W" x D")
 WEIGHT: 16.53 LBS



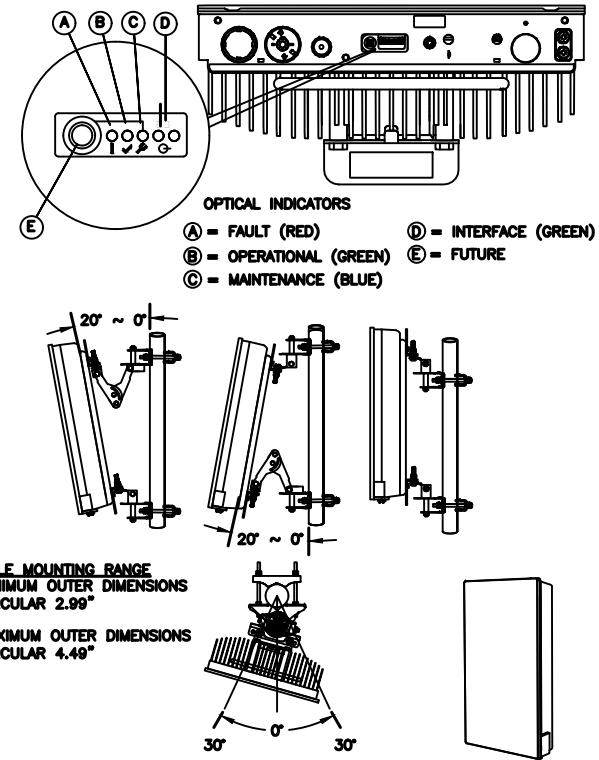
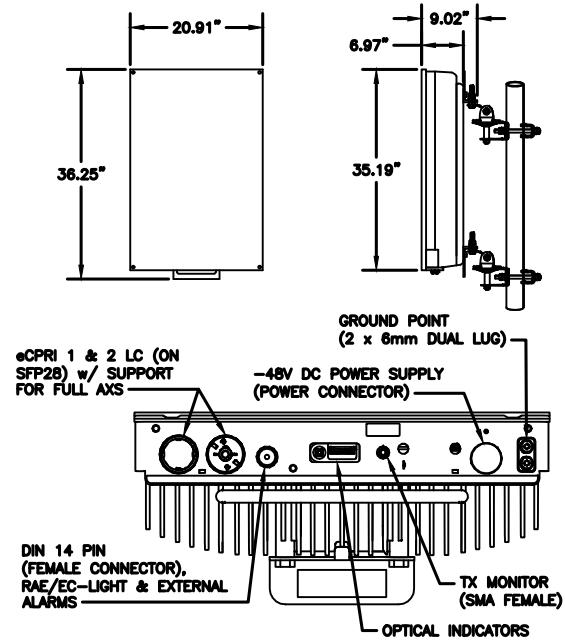
2 34553 - ERICSSON 6651 RAN PROCESSOR
 SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: R-607
 REVISION: 0

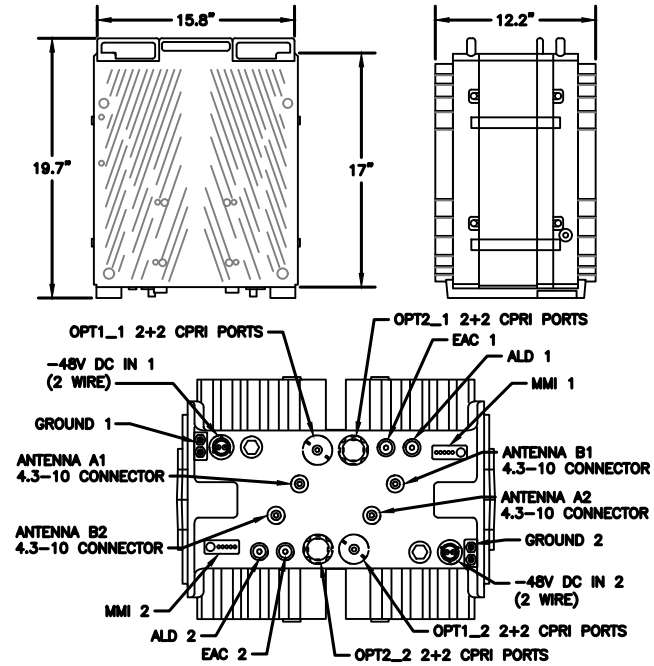
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

MANUFACTURER:	ERICSSON
MODEL:	AIR 6419 B41 (2.5GHz M-MIMO)
DIMENSIONS:	36.25" x 20.91" x 9.02" NOT TO EXCEED (H x W x D)
WEIGHT:	83 LBS (EXCLUDING MOUNTING KIT)
MOUNT WEIGHT:	13.5 LBS (SXX109 2016/1)



1 34552 - ERICSSON AIR 6419 BAND 41
SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXX1255983/1)



2 34373 - ERICSSON 4460 RADIO B2/25 B66
SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: R-608	REVISION: 0
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NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.



DEPARTMENT OF ADMINISTRATIVE SERVICES

May 5, 2022

Eric Breun
Transcend Wireless
10 Industrial Ave Suite 3
Mahwah NJ 07430

Re: Structural Analysis Report for Site # CTNHA371A
6 Mountain Road, New Preston

Mr. Breun,

Based on the Structural Analysis Report by American Tower Corporation, dated April 13, 2022, the proposed additions to this tower comply with the structural requirements of the 2018 Connecticut State Building Code.

If you have any questions you may contact me as 860-713-5900.

Sincerely,

A handwritten signature in blue ink that reads "Joseph V. Cassidy".

Joseph V. Cassidy, P.E.
State Building Inspector



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 169 ft Monopole
ATC Site Name : Washington North CT,CT
ATC Site Number : 413782
Engineering Number : 14089648_C3_03
Proposed Carrier : T-MOBILE
Carrier Site Name : MountainRd- Verizon Colo
Carrier Site Number : CTNH371A
Site Location : 6 Mountain Road
New Preston, CT 06777-1518
41.6692, -73.3653
County : Litchfield
Date : April 13, 2022
Max Usage : 102%
Result : Pass

Prepared By:

Taylor Kellner
Structural Engineer I

Reviewed By:

COA : PEC.0001553



Table of Contents

Introduction.....	3
Supporting Documents	3
Analysis	3
Conclusion	3
Existing and Reserved Equipment.....	4
Equipment to be Removed	4
Proposed Equipment	4
Structure Usages.....	5
Foundations	5
Deflection and Sway*	5
Standard Conditions	6
Calculations	Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 169 ft Monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	EEI Job #15143, dated October 24, 2007
Foundation Drawing	EEI Job #15143, dated October 24, 2007
Geotechnical Report	JGI Project #J2075402, dated October 10, 2007
Modifications	Centek Project #13046, Rev 3, dated August 19, 2013
Mount Analysis	ATC Engineering #14089648_C8_01, dated August 8, 2022

Analysis

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

Basic Wind Speed:	114 mph (3-second gust)
Basic Wind Speed w/ Ice:	40 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:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.19, S_1 = 0.05$
Site Class:	D - Stiff Soil - Default

****Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222-H, Annex S.**

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
167.0	3	Ericsson RRUS 4449 B5, B12	Side Arm	(12) 1 5/8" Coax (6) 0.39" (10mm) Fiber Trunk (12) 0.78" (19.7mm) 8 AWG 6 (3) 2" conduit	AT&T MOBILITY
	3	Ericsson RRUS 4478 B14			
	3	Ericsson Radio 8843 - B2 + B66A			
	3	Raycap DC6-48-60-18-8F ("Squid")			
	3	CCI DMP65R-BU4D			
	3	CCI OPA65R-BU4DA-K			
	3	Kaelus DBCT108F1V92-1			
157.0	2	Commscope NNH4-65B-R6H4	Triangular Platform with Handrails	(18) 1 5/8" Coax (1) 1 5/8" Hybriflex	VERIZON WIRELESS
	1	Commscope NNH4-45B-R6-V1			
	1	Raycap RVZDC-6627-PF-48			
	3	Samsung RF4439d-25A			
	3	Commscope TD-850AB-L78-43			
	6	Samsung RF4440d-13A			
147.0	3	Samsung MT6407-77A	Stand-Off	-	
146.0	1	VZW Unused Reserve (5954.84 sqin)			
136.0	3	RFS APXVAARR24_43-U-NA20	T-Arm	-	T-MOBILE

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
136.0	3	Ericsson Radio 4449 B12,B71	-	(3) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	RFS APXV18-206516S-C-A20			
	3	Ericsson RRUS 11 B2			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
136.0	3	Ericsson Radio 4449 B71 B85A	T-Arm	(2) 1 1/4" Hybriflex Cable (1) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson 4460 BAND 2/25			
	3	Ericsson AIR 6419 B41			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	43%	Pass
Shaft	102%	Pass
Base Plate	26%	Pass
Flanges	17%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2181.3	56%
Shear (Kips)	17.4	14%
Axial (Kips)	37.43	26%

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) (°)
136.0	Ericsson Radio 4449 B71 B85A	T-MOBILE	2.542	2.390
	Ericsson AIR 6419 B41			
	Ericsson 4460 BAND 2/25			

*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 : 413782, Washington North CT
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 168.56 ft
 Base Width : 47
 Shape : 18 Sides

SITE PARAMETERS

Nominal Wind: 111.11 mph wind with no ic **Topo Category:** 1
 Ice Wind: 38.99 mph wind with 0.850" **Topo Method:** Method 1
 Base Elev (ft): 0.00 **Taper :** 0.19100 (ln/ft) **Topo Feature:**
Structure Class: II **Exposure :** B **S_s :** 0.187 **S₁ :** 0.054

SECTION PROPERTIES

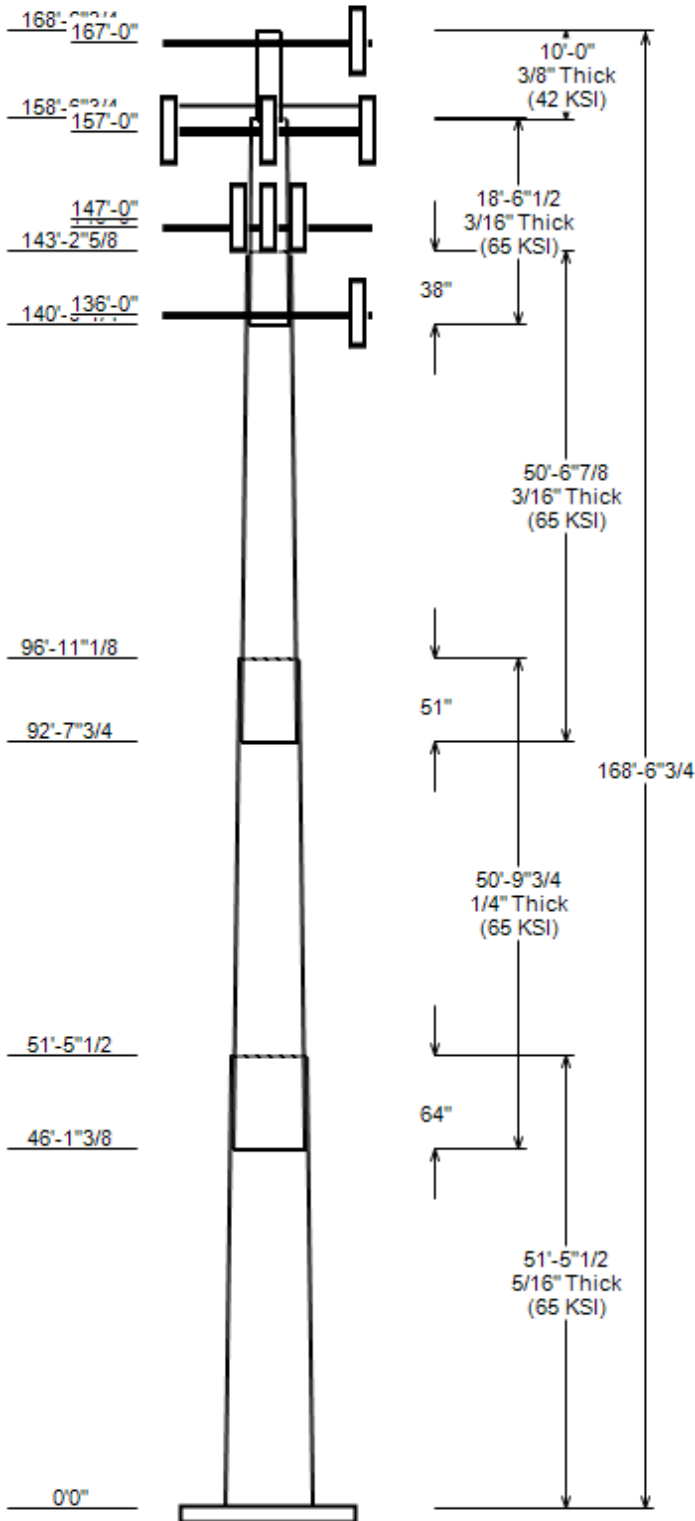
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Shape	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	51.458	37.18	47.00	0.312		0.000	18 Sides	65
2	50.810	29.01	38.70	0.250	Slip Joint	64.090	18 Sides	65
3	50.573	20.55	30.20	0.188	Slip Joint	51.380	18 Sides	65
4	18.542	18.00	21.53	0.188	Slip Joint	38.380	18 Sides	65
5	9.998	12.75	12.75	0.375	Butt Joint	0.000	Round	42

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
167.0	167.0	3	Kaelus DBCT108F1V92-1
167.0	164.0	3	Raycap DC6-48-60-18-8F ("Squid
167.0	167.0	3	Ericsson Radio 8843 - B2 + B66
167.0	167.0	3	Ericsson RRUS 4478 B14
167.0	167.0	3	Ericsson RRUS 4449 B5, B12
167.0	167.0	3	Generic Round Side Arm
167.0	167.0	3	CCI DMP65R-BU4D
167.0	167.0	3	CCI OPA65R-BU4DA-K
157.0	157.0	3	Commscope TD-850AB-L78-43
157.0	157.0	6	Samsung RF4440d-13A
157.0	157.0	3	Samsung RF4439d-25A
157.0	157.0	1	Raycap RVZDC-6627-PF-48
157.0	157.0	1	Commscope NNH4-45B-R6-V1
157.0	157.0	2	Commscope NNH4-65B-R6H4
157.0	157.0	1	Generic Round Platform with Ha
147.0	147.0	3	Samsung MT6407-77A
146.0	146.0	3	Stand-Off
146.0	146.0	1	VZW Unused Reserve (5954.84 sq
136.0	136.0	3	Ericsson Radio 4449 B71 B85A
136.0	136.0	3	Ericsson 4460 BAND 2/25
136.0	136.0	3	Ericsson AIR 6419 B41
136.0	136.0	3	Generic Flat T-Arm
136.0	136.0	3	RFS APXVAARR24_43-U-NA20

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	169.5	1 5/8" Coax	Yes
0.0	167.0	2" conduit	No
0.0	167.0	1 5/8" Coax	Yes
0.0	167.0	0.78" (19.7mm) 8 AWG 6	No
0.0	167.0	0.78" (19.7mm) 8 AWG 6	No
0.0	167.0	0.78" (19.7mm) 8 AWG 6	Yes
0.0	167.0	0.39" (10mm) Fiber Trunk	No
0.0	167.0	0.39" (10mm) Fiber Trunk	Yes
0.0	167.0	0.39" (10mm) Fiber Trunk	No
0.0	157.0	1 5/8" Hybriflex	No
0.0	157.0	1 5/8" Coax	No
0.0	136.0	1.99" (50.7mm) Hybrid	No
0.0	136.0	1 1/4" Hybriflex Cable	No
93.0	108.0	0.75" Thick Flat Plate	Yes



JOB INFORMATION

Asset : 413782, Washington North CT
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 168.56 ft
 Base Width : 47
 Shape : 18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
93.0	108.0	0.75" Thick Flat Plate	Yes
93.0	108.0	0.75" Thick Flat Plate	Yes
46.5	76.5	0.75" Thick Flat Plate	Yes
46.5	76.5	0.75" Thick Flat Plate	Yes
46.5	76.5	0.75" Thick Flat Plate	Yes

LOAD CASES

1.2D + 1.0W Normal	111.11 mph wind with no ice
0.9D + 1.0W Normal	111.11 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	38.99 mph wind with 0.850" radial
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	2181.34	17.43	37.43
0.9D + 1.0W Normal	2119.69	17.41	28.06
1.2D + 1.0Di + 1.0Wi Normal	399.55	3.19	52.32
1.2D + 1.0Ev + 1.0Eh Normal	142.99	0.94	37.45
0.9D - 1.0Ev + 1.0Eh Normal	137.76	0.94	25.98
1.0D + 1.0W Service Normal	563.41	4.56	31.22

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
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ASSET: 413782, Washington North CT
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
ENG NO: 14089648_C3_03

ANALYSIS PARAMETERS

Location:	Litchfield County,CT	Height:	168.56 ft
Type and Shape:	Custom, Round	Base Diameter:	47.00 in
Manufacturer:	EEI	Top Diameter:	12.75 in
K_d (non-service):	0.95	Taper:	0.1910 in/ft
K_e:	0.98	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	111 mph
Risk Category:	II	Design Wind Speed w/Ice:	39 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	0.85 in
Crest Height:	0 ft	HMSL:	693.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	3.83
T_L (sec):	6	P:	1
S_s:	0.187	S₁:	0.054
F_a:	1.600	F_v:	2.400
S_{ds}:	0.199	S_{dt}:	0.086
		C_s:	0.030
		C_s Max:	0.030
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W Normal	111.11 mph wind with no ice
0.9D + 1.0W Normal	111.11 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	38.99 mph wind with 0.850" 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: 413782, Washington North CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14089648_C3_03

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom						Top						
							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	51.46	0.3125	65		0.00	7,256	47.00	0.002	46.31	12,752.5	25.11	150.40	37.18	51.46	36.57	6,280.4	19.57	118.98	0.1908
2-18	50.81	0.2500	65	Slip	64.09	4,610	38.70	46.120	30.51	5,699.0	25.89	154.80	29.01	96.93	22.82	2,383.9	19.05	116.02	0.1908
3-18	50.57	0.1875	65	Slip	51.38	2,579	30.20	92.647	17.86	2,032.2	26.99	161.06	20.55	143.22	12.12	634.7	17.91	109.59	0.1908
								140.01								424.7			
4-18	18.54	0.1875	65	Slip	38.38	735	21.53	8	12.70	731.4	18.84	114.85	18.00	158.56	10.60		15.51	95.98	0.1908
								158.56								279.3			
5-R	10.00	0.3750	42	Butt	0.00	496	12.75	2	14.58	279.3	0.00	34.00	12.75	168.56	14.58		0.00	34.00	0.0000
Shaft Weight						15,676													

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
167.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	107.97	2.504	0.50
167.00	Generic Round Side Arm	3	1.00	0.000	187.50	5.200	0.67	239.95	6.758	0.67
167.00	CCI DMP65R-BU4D	3	0.80	0.000	67.90	8.280	0.62	171.50	9.441	0.62
167.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.90	1.842	0.50	91.62	2.357	0.50
167.00	Ericsson Radio 8843 - B2 + B66	3	0.80	0.000	71.90	1.650	0.50	107.24	2.136	0.50
167.00	Raycap DC6-48-60-18-8F ("Squid	3	0.80	-3.000	31.80	1.470	1.00	67.19	1.871	1.00
167.00	Kaelus DBCT108F1V92-1	3	0.80	0.000	13.90	0.633	0.50	28.34	0.946	0.50
167.00	CCI OPA65R-BU4DA-K	3	0.80	0.000	52.50	8.435	0.62	157.65	9.605	0.62
157.00	Samsung RF4439d-25A	3	0.80	0.000	74.70	2.500	0.67	120.27	3.097	0.67
157.00	Samsung RF4440d-13A	6	0.80	0.000	70.30	1.875	0.50	104.70	2.390	0.50
157.00	Commscope TD-850AB-L78-43	3	0.80	0.000	28.70	1.426	0.50	51.32	1.878	0.50
157.00	Raycap RVZDC-6627-PF-48	1	0.80	0.000	32.00	3.781	1.00	94.51	4.535	1.00
157.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3423.34	41.135	1.00
157.00	Commscope NNH4-65B-R6H4	2	0.80	0.000	83.30	12.271	0.73	226.54	13.869	0.73
157.00	Commscope NNH4-45B-R6-V1	1	0.80	0.000	80.20	11.545	1.00	211.65	13.150	1.00
147.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	139.34	5.569	0.61
146.00	VZW Unused Reserve (5954.84 sq	1	0.80	0.000	0.00	41.353	0.90	0.00	57.662	0.90
146.00	Stand-Off	3	1.00	0.000	75.00	2.500	0.67	95.70	3.239	0.67
136.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	348.57	22.328	0.63
136.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.67	459.34	17.497	0.67
136.00	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	108.80	2.127	0.50
136.00	Ericsson 4460 BAND 2/25	3	0.80	0.000	109.00	2.564	0.67	158.68	3.156	0.67
136.00	Ericsson AIR 6419 B41	3	0.80	0.000	83.30	6.322	0.63	168.37	7.273	0.63
Totals	Num Loadings: 23	63			7,772.90			12,676.33		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	169.50	6	1 5/8" Coax	1.98	0.82	N	6	1	1	90	1	Y	AT&T MOBILITY
0.00	167.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	167.00	6	1 5/8" Coax	1.98	0.82	N	6	1	1	90	1	Y	AT&T MOBILITY
0.00	167.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	167.00	3	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	167.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	167.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	167.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	2	0	1	80	1	Y	AT&T MOBILITY
0.00	167.00	1	0.39" (10mm) Fiber Tr	0.39	0.06	N	1	0	0	75	1	Y	AT&T MOBILITY
0.00	157.00	18	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	157.00	1	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	136.00	2	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	T-MOBILE
0.00	136.00	1	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	0	N	T-MOBILE
93.00	108.00	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	80	0	Y	
93.00	108.00	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	200	0	Y	
93.00	108.00	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	320	0	Y	
46.50	76.50	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	140	0	Y	
46.50	76.50	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	240	0	Y	
46.50	76.50	1	0.75" Thick Flat Plat	0.75	0	Y	1	0	0	10	0	Y	

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3125	47.000	46.306	12,752.50	25.11	150.40	71.9	534.4	0.0	0.0
5.00		0.3125	46.046	45.360	11,986.60	24.57	147.35	72.5	512.7	0.0	779.8
10.00		0.3125	45.092	44.414	11,252.10	24.03	144.29	73.1	491.5	0.0	763.7
15.00		0.3125	44.138	43.468	10,548.10	23.49	141.24	73.8	470.7	0.0	747.6
20.00		0.3125	43.184	42.522	9,874.20	22.96	138.19	74.4	450.4	0.0	731.5
25.00		0.3125	42.230	41.575	9,229.50	22.42	135.14	75	430.5	0.0	715.4
30.00		0.3125	41.276	40.629	8,613.60	21.88	132.08	75.7	411.0	0.0	699.3
35.00		0.3125	40.322	39.683	8,025.70	21.34	129.03	76.3	392.0	0.0	683.2
40.00		0.3125	39.368	38.737	7,465.20	20.80	125.98	76.9	373.5	0.0	667.1
45.00		0.3125	38.414	37.791	6,931.40	20.26	122.92	77.6	355.4	0.0	651.0
46.12	Bot - Section 2	0.3125	38.201	37.579	6,815.70	20.14	122.24	77.7	351.4	0.0	143.3
50.00		0.3125	37.460	36.844	6,423.70	19.73	119.87	78.2	337.8	0.0	890.9
51.46	Top - Section 1	0.2500	37.682	29.701	5,257.80	25.17	150.73	71.8	274.8	0.0	330.1
55.00		0.2500	37.006	29.165	4,978.20	24.69	148.02	72.4	265.0	0.0	354.7
60.00		0.2500	36.052	28.408	4,600.50	24.02	144.21	73.2	251.3	0.0	489.8
65.00		0.2500	35.098	27.651	4,242.50	23.34	140.39	73.9	238.1	0.0	476.9
70.00		0.2500	34.144	26.894	3,903.50	22.67	136.58	74.7	225.2	0.0	464.0
75.00		0.2500	33.190	26.137	3,583.10	22.00	132.76	75.5	212.6	0.0	451.1
80.00		0.2500	32.236	25.380	3,280.70	21.33	128.94	76.3	200.4	0.0	438.3
85.00		0.2500	31.282	24.623	2,995.80	20.65	125.13	77.1	188.6	0.0	425.4
90.00		0.2500	30.328	23.866	2,727.90	19.98	121.31	77.9	177.2	0.0	412.5
92.65	Bot - Section 3	0.2500	29.823	23.465	2,592.90	19.62	119.29	78.3	171.2	0.0	213.1
95.00		0.2500	29.374	23.109	2,476.50	19.31	117.50	78.7	166.1	0.0	328.5
96.93	Top - Section 2	0.1875	29.381	17.373	1,870.80	26.22	156.70	70.6	125.4	0.0	265.2
100.00		0.1875	28.795	17.024	1,760.30	25.67	153.57	71.2	120.4	0.0	179.8
105.00		0.1875	27.841	16.457	1,590.00	24.77	148.49	72.3	112.5	0.0	284.8
110.00		0.1875	26.887	15.889	1,431.10	23.87	143.40	73.3	104.8	0.0	275.2
115.00		0.1875	25.933	15.321	1,283.10	22.98	138.31	74.4	97.4	0.0	265.5
120.00		0.1875	24.979	14.754	1,145.70	22.08	133.22	75.4	90.3	0.0	255.8
125.00		0.1875	24.025	14.186	1,018.40	21.18	128.13	76.5	83.5	0.0	246.2
130.00		0.1875	23.071	13.618	901.00	20.29	123.05	77.5	76.9	0.0	236.5
135.00		0.1875	22.117	13.050	792.90	19.39	117.96	78.6	70.6	0.0	226.9
136.00		0.1875	21.926	12.937	772.40	19.21	116.94	78.8	69.4	0.0	44.2
140.00		0.1875	21.163	12.483	693.90	18.49	112.87	79.7	64.6	0.0	173.0
140.02	Bot - Section 4	0.1875	21.159	12.480	693.50	18.49	112.85	79.7	64.6	0.0	0.9
143.22	Top - Section 3	0.1875	20.924	12.340	670.40	18.27	111.59	79.9	63.1	0.0	270.1
145.00		0.1875	20.584	12.138	638.00	17.95	109.78	80.3	61.0	0.0	74.2
146.00		0.1875	20.393	12.024	620.30	17.77	108.76	80.5	59.9	0.0	41.1
147.00		0.1875	20.202	11.911	602.80	17.59	107.75	80.7	58.8	0.0	40.7
150.00		0.1875	19.630	11.570	552.60	17.05	104.69	81.3	55.4	0.0	119.9
155.00		0.1875	18.676	11.003	475.20	16.15	99.61	82.4	50.1	0.0	192.0
157.00		0.1875	18.294	10.775	446.40	15.79	97.57	82.6	48.1	0.0	74.1
158.56	Top - Section 4	0.1875	17.996	10.598	424.70	15.51	95.98	82.6	46.5	0.0	56.8
158.56	Bot - Section 5	0.3750	12.750	14.579	279.30	0.00	34.00	42	43.8	57.4	
160.00		0.3750	12.750	14.579	279.30	0.00	34.00	42	43.8	57.4	71.3
165.00		0.3750	12.750	14.579	279.30	0.00	34.00	42	43.8	57.4	248.0
167.00		0.3750	12.750	14.579	279.30	0.00	34.00	42	43.8	57.4	99.2
168.56		0.3750	12.750	14.579	279.30	0.00	34.00	42	43.8	57.4	77.4

Totals: 15,676.0

Load Case: 1.2D + 1.0W Normal	111.11 mph wind with no ice	34 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	-37.43	-17.43	0.00	-2,181.3	0.00	2,181.34	2,995.17	812.68	3,426.89	2,880.56	0	0	0.770
5.00	-36.13	-17.26	0.00	-2,094.2	0.00	2,094.20	2,959.81	796.07	3,288.29	2,788.01	0.13	-0.24	0.764
10.00	-34.86	-17.09	0.00	-2,007.9	0.00	2,007.90	2,923.38	779.47	3,152.55	2,695.86	0.51	-0.48	0.757
15.00	-33.60	-16.91	0.00	-1,922.5	0.00	1,922.47	2,885.86	762.86	3,019.67	2,604.17	1.14	-0.73	0.750
20.00	-32.36	-16.74	0.00	-1,837.9	0.00	1,837.90	2,847.27	746.25	2,889.65	2,513.02	2.04	-0.98	0.743
25.00	-31.15	-16.57	0.00	-1,754.2	0.00	1,754.20	2,807.60	729.65	2,762.49	2,422.47	3.21	-1.24	0.736
30.00	-29.95	-16.39	0.00	-1,671.4	0.00	1,671.36	2,766.85	713.04	2,638.19	2,332.58	4.65	-1.51	0.728
35.00	-28.77	-16.20	0.00	-1,589.4	0.00	1,589.42	2,725.03	696.44	2,516.75	2,243.41	6.38	-1.78	0.720
40.00	-27.62	-16.00	0.00	-1,508.4	0.00	1,508.42	2,682.12	679.83	2,398.18	2,155.03	8.38	-2.05	0.711
45.00	-26.51	-15.86	0.00	-1,428.4	0.00	1,428.42	2,638.14	663.22	2,282.46	2,067.50	10.68	-2.33	0.702
46.12	-26.24	-15.76	0.00	-1,410.7	0.00	1,410.71	2,628.17	659.51	2,257.00	2,048.07	11.23	-2.4	0.699
50.00	-24.91	-15.61	0.00	-1,349.5	0.00	1,349.52	2,593.08	646.62	2,169.61	1,980.89	13.27	-2.62	0.691
51.46	-24.40	-15.50	0.00	-1,326.8	0.00	1,326.76	1,919.29	521.25	1,762.26	1,479.94	14.08	-2.71	0.910
55.00	-23.71	-15.32	0.00	-1,271.9	0.00	1,271.88	1,899.35	511.84	1,699.21	1,437.95	16.17	-2.91	0.898
60.00	-22.75	-15.11	0.00	-1,195.3	0.00	1,195.28	1,870.29	498.56	1,612.16	1,378.95	19.41	-3.27	0.880
65.00	-21.82	-14.89	0.00	-1,119.8	0.00	1,119.75	1,840.15	485.27	1,527.40	1,320.32	23.02	-3.62	0.861
70.00	-20.90	-14.66	0.00	-1,045.3	0.00	1,045.30	1,808.93	471.99	1,444.92	1,262.13	27	-3.99	0.841
75.00	-20.00	-14.43	0.00	-972.0	0.00	971.99	1,776.63	458.70	1,364.74	1,204.45	31.37	-4.35	0.819
80.00	-19.12	-14.20	0.00	-899.8	0.00	899.82	1,743.25	445.42	1,286.84	1,147.34	36.13	-4.73	0.796
85.00	-18.26	-13.96	0.00	-828.8	0.00	828.83	1,708.79	432.13	1,211.23	1,090.86	41.27	-5.1	0.772
90.00	-17.43	-13.75	0.00	-759.0	0.00	759.05	1,673.26	418.85	1,137.91	1,035.07	46.81	-5.48	0.745
92.65	-16.99	-13.63	0.00	-722.7	0.00	722.67	1,654.02	411.82	1,100.04	1,005.86	49.9	-5.68	0.730
95.00	-16.44	-13.50	0.00	-690.6	0.00	690.60	1,636.65	405.56	1,066.88	980.05	52.74	-5.87	0.716
96.93	-15.98	-13.36	0.00	-664.6	0.00	664.59	1,103.30	304.90	803.95	663.68	55.14	-6.02	1.018
100.00	-15.53	-13.19	0.00	-623.5	0.00	623.52	1,091.08	298.78	771.98	643.06	59.08	-6.25	0.986
105.00	-14.83	-12.96	0.00	-557.6	0.00	557.56	1,070.32	288.82	721.36	609.65	65.87	-6.73	0.930
110.00	-14.14	-12.72	0.00	-492.7	0.00	492.74	1,048.49	278.85	672.45	576.47	73.15	-7.2	0.870
115.00	-13.48	-12.47	0.00	-429.1	0.00	429.12	1,025.57	268.89	625.26	543.59	80.91	-7.66	0.805
120.00	-12.84	-12.21	0.00	-366.8	0.00	366.77	1,001.58	258.92	579.79	511.06	89.15	-8.1	0.733
125.00	-12.22	-11.93	0.00	-305.7	0.00	305.73	976.51	248.96	536.03	478.95	97.82	-8.52	0.653
130.00	-11.62	-11.64	0.00	-246.1	0.00	246.08	950.36	239.00	493.99	447.32	106.92	-8.9	0.565
135.00	-11.05	-11.42	0.00	-187.9	0.00	187.88	923.14	229.03	453.66	416.25	116.39	-9.24	0.466
136.00	-8.80	-8.63	0.00	-176.5	0.00	176.46	917.56	227.04	445.80	410.10	118.32	-9.31	0.441
140.00	-8.38	-8.46	0.00	-142.0	0.00	141.95	894.83	219.07	415.05	385.78	126.19	-9.54	0.379
140.02	-8.38	-8.39	0.00	-141.8	0.00	141.77	894.71	219.03	414.90	385.66	126.23	-9.54	0.378
143.22	-7.90	-8.18	0.00	-115.0	0.00	114.95	887.57	216.57	405.65	378.25	132.65	-9.71	0.314
145.00	-7.72	-8.08	0.00	-100.4	0.00	100.38	877.13	213.02	392.46	367.62	136.28	-9.8	0.283
146.00	-7.57	-6.75	0.00	-92.3	0.00	92.30	871.21	211.03	385.15	361.69	138.33	-9.84	0.265
147.00	-7.24	-6.34	0.00	-85.5	0.00	85.54	865.24	209.04	377.91	355.79	140.38	-9.88	0.250
150.00	-6.96	-6.09	0.00	-66.5	0.00	66.51	847.09	203.06	356.61	338.27	146.6	-9.99	0.206
155.00	-6.50	-5.82	0.00	-36.1	0.00	36.07	815.97	193.10	322.48	309.71	157.08	-10.12	0.125
157.00	-2.58	-2.66	0.00	-24.4	0.00	24.43	800.56	189.11	309.31	297.52	161.31	-10.16	0.086
158.56	-2.48	-2.57	0.00	-20.3	0.00	20.27	787.38	186.00	299.21	287.76	164.62	-10.18	0.074
158.56	-2.48	-2.57	0.00	-20.3	0.00	20.27	551.08	165.33	179.87	180.95	164.62	-10.18	0.117
160.00	-2.37	-2.42	0.00	-16.6	0.00	16.57	551.08	165.33	179.87	180.95	167.67	-10.2	0.096
165.00	-1.93	-2.19	0.00	-4.5	0.00	4.46	551.08	165.33	179.87	180.95	178.33	-10.25	0.028
167.00	-0.09	-0.05	0.00	-0.1	0.00	0.08	551.08	165.33	179.87	180.95	182.6	-10.26	0.001
168.56	0.00	-0.03	0.00	0.0	0.00	0.00	551.08	165.33	179.87	180.95	185.93	-10.26	0.000

Load Case: 0.9D + 1.0W Normal	111.11 mph wind with no ice	33 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	-28.06	-17.41	0.00	-2,119.7	0.00	2,119.69	2,995.17	812.68	3,426.89	2,880.56	0	0	0.746
5.00	-27.08	-17.20	0.00	-2,032.6	0.00	2,032.65	2,959.81	796.07	3,288.29	2,788.01	0.12	-0.23	0.739
10.00	-26.10	-16.99	0.00	-1,946.7	0.00	1,946.67	2,923.38	779.47	3,152.55	2,695.86	0.49	-0.47	0.732
15.00	-25.15	-16.78	0.00	-1,861.8	0.00	1,861.75	2,885.86	762.86	3,019.67	2,604.17	1.11	-0.71	0.724
20.00	-24.20	-16.57	0.00	-1,777.9	0.00	1,777.87	2,847.27	746.25	2,889.65	2,513.02	1.98	-0.95	0.716
25.00	-23.28	-16.36	0.00	-1,695.0	0.00	1,695.04	2,807.60	729.65	2,762.49	2,422.47	3.12	-1.2	0.709
30.00	-22.37	-16.15	0.00	-1,613.2	0.00	1,613.24	2,766.85	713.04	2,638.19	2,332.58	4.51	-1.46	0.700
35.00	-21.47	-15.93	0.00	-1,532.5	0.00	1,532.49	2,725.03	696.44	2,516.75	2,243.41	6.18	-1.72	0.692
40.00	-20.59	-15.70	0.00	-1,452.8	0.00	1,452.84	2,682.12	679.83	2,398.18	2,155.03	8.12	-1.98	0.682
45.00	-19.75	-15.55	0.00	-1,374.3	0.00	1,374.32	2,638.14	663.22	2,282.46	2,067.50	10.34	-2.25	0.673
46.12	-19.54	-15.44	0.00	-1,357.0	0.00	1,356.95	2,628.17	659.51	2,257.00	2,048.07	10.88	-2.32	0.671
50.00	-18.54	-15.28	0.00	-1,297.0	0.00	1,297.01	2,593.08	646.62	2,169.61	1,980.89	12.85	-2.53	0.662
51.46	-18.15	-15.16	0.00	-1,274.7	0.00	1,274.73	1,919.29	521.25	1,762.26	1,479.94	13.63	-2.61	0.872
55.00	-17.62	-14.96	0.00	-1,221.0	0.00	1,221.05	1,899.35	511.84	1,699.21	1,437.95	15.65	-2.81	0.859
60.00	-16.89	-14.72	0.00	-1,146.3	0.00	1,146.28	1,870.29	498.56	1,612.16	1,378.95	18.77	-3.15	0.841
65.00	-16.18	-14.47	0.00	-1,072.7	0.00	1,072.70	1,840.15	485.27	1,527.40	1,320.32	22.25	-3.49	0.822
70.00	-15.48	-14.22	0.00	-1,000.3	0.00	1,000.34	1,808.93	471.99	1,444.92	1,262.13	26.1	-3.84	0.802
75.00	-14.79	-13.97	0.00	-929.2	0.00	929.22	1,776.63	458.70	1,364.74	1,204.45	30.31	-4.19	0.781
80.00	-14.12	-13.72	0.00	-859.4	0.00	859.37	1,743.25	445.42	1,286.84	1,147.34	34.88	-4.55	0.758
85.00	-13.46	-13.46	0.00	-790.8	0.00	790.78	1,708.79	432.13	1,211.23	1,090.86	39.84	-4.91	0.734
90.00	-12.83	-13.25	0.00	-723.5	0.00	723.49	1,673.26	418.85	1,137.91	1,035.07	45.16	-5.27	0.708
92.65	-12.50	-13.12	0.00	-688.4	0.00	688.44	1,654.02	411.82	1,100.04	1,005.86	48.13	-5.46	0.693
95.00	-12.08	-12.99	0.00	-657.6	0.00	657.56	1,636.65	405.56	1,066.88	980.05	50.86	-5.64	0.679
96.93	-11.73	-12.85	0.00	-632.5	0.00	632.53	1,103.30	304.90	803.95	663.68	53.16	-5.78	0.965
100.00	-11.38	-12.66	0.00	-593.0	0.00	593.04	1,091.08	298.78	771.98	643.06	56.95	-6	0.934
105.00	-10.85	-12.42	0.00	-529.7	0.00	529.73	1,070.32	288.82	721.36	609.65	63.47	-6.46	0.881
110.00	-10.32	-12.16	0.00	-467.7	0.00	467.66	1,048.49	278.85	672.45	576.47	70.45	-6.9	0.823
115.00	-9.82	-11.90	0.00	-406.8	0.00	406.85	1,025.57	268.89	625.26	543.59	77.9	-7.34	0.760
120.00	-9.33	-11.63	0.00	-347.4	0.00	347.37	1,001.58	258.92	579.79	511.06	85.79	-7.76	0.691
125.00	-8.86	-11.35	0.00	-289.2	0.00	289.24	976.51	248.96	536.03	478.95	94.1	-8.15	0.615
130.00	-8.41	-11.06	0.00	-232.5	0.00	232.51	950.36	239.00	493.99	447.32	102.8	-8.51	0.531
135.00	-7.98	-10.85	0.00	-177.2	0.00	177.22	923.14	229.03	453.66	416.25	111.86	-8.84	0.437
136.00	-6.37	-8.17	0.00	-166.4	0.00	166.37	917.56	227.04	445.80	410.10	113.71	-8.9	0.414
140.00	-6.06	-8.02	0.00	-133.7	0.00	133.70	894.83	219.07	415.05	385.78	121.24	-9.12	0.355
140.02	-6.06	-7.94	0.00	-133.5	0.00	133.53	894.71	219.03	414.90	385.66	121.28	-9.12	0.354
143.22	-5.70	-7.75	0.00	-108.2	0.00	108.15	887.57	216.57	405.65	378.25	127.42	-9.28	0.294
145.00	-5.57	-7.66	0.00	-94.3	0.00	94.34	877.13	213.02	392.46	367.62	130.88	-9.36	0.264
146.00	-5.50	-6.34	0.00	-86.7	0.00	86.69	871.21	211.03	385.15	361.69	132.84	-9.4	0.247
147.00	-5.26	-5.95	0.00	-80.3	0.00	80.34	865.24	209.04	377.91	355.79	134.8	-9.44	0.233
150.00	-5.06	-5.70	0.00	-62.5	0.00	62.50	847.09	203.06	356.61	338.27	140.74	-9.54	0.192
155.00	-4.72	-5.45	0.00	-34.0	0.00	33.99	815.97	193.10	322.48	309.71	150.76	-9.67	0.116
157.00	-1.86	-2.52	0.00	-23.1	0.00	23.08	800.56	189.11	309.31	297.52	154.79	-9.7	0.080
158.56	-1.78	-2.43	0.00	-19.2	0.00	19.15	787.38	186.00	299.21	287.76	157.96	-9.72	0.069
158.56	-1.78	-2.43	0.00	-19.2	0.00	19.15	551.08	165.33	179.87	180.95	157.96	-9.72	0.109
160.00	-1.71	-2.29	0.00	-15.7	0.00	15.66	551.08	165.33	179.87	180.95	160.87	-9.74	0.090
165.00	-1.39	-2.08	0.00	-4.2	0.00	4.22	551.08	165.33	179.87	180.95	171.05	-9.79	0.026
167.00	-0.07	-0.05	0.00	-0.1	0.00	0.07	551.08	165.33	179.87	180.95	175.13	-9.79	0.001
168.56	0.00	-0.03	0.00	0.0	0.00	0.00	551.08	165.33	179.87	180.95	178.32	-9.79	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi Normal	38.99 mph wind with 0.850" radial ice		32 Iterations
Gust Response Factor: 1.10	Ice Dead Load Factor	1.00	
Dead load Factor: 1.20			Ice Importance Factor 1.00
Wind Load Factor: 1.00			

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-52.32	-3.19	0.00	-399.6	0.00	399.55	2,995.17	812.68	3,426.89	2,880.56	0	0	0.156
5.00	-50.78	-3.16	0.00	-383.6	0.00	383.61	2,959.81	796.07	3,288.29	2,788.01	0.02	-0.04	0.155
10.00	-49.23	-3.13	0.00	-367.8	0.00	367.82	2,923.38	779.47	3,152.55	2,695.86	0.09	-0.09	0.153
15.00	-47.68	-3.10	0.00	-352.2	0.00	352.17	2,885.86	762.86	3,019.67	2,604.17	0.21	-0.13	0.152
20.00	-46.16	-3.07	0.00	-336.7	0.00	336.66	2,847.27	746.25	2,889.65	2,513.02	0.37	-0.18	0.150
25.00	-44.64	-3.04	0.00	-321.3	0.00	321.30	2,807.60	729.65	2,762.49	2,422.47	0.59	-0.23	0.149
30.00	-43.15	-3.01	0.00	-306.1	0.00	306.09	2,766.85	713.04	2,638.19	2,332.58	0.85	-0.28	0.147
35.00	-41.67	-2.98	0.00	-291.0	0.00	291.04	2,725.03	696.44	2,516.75	2,243.41	1.17	-0.33	0.145
40.00	-40.21	-2.94	0.00	-276.2	0.00	276.16	2,682.12	679.83	2,398.18	2,155.03	1.54	-0.38	0.143
45.00	-38.78	-2.91	0.00	-261.4	0.00	261.45	2,638.14	663.22	2,282.46	2,067.50	1.96	-0.43	0.141
46.12	-38.46	-2.90	0.00	-258.2	0.00	258.20	2,628.17	659.51	2,257.00	2,048.07	2.06	-0.44	0.141
50.00	-36.87	-2.87	0.00	-247.0	0.00	246.95	2,593.08	646.62	2,169.61	1,980.89	2.43	-0.48	0.139
51.46	-36.28	-2.85	0.00	-242.8	0.00	242.77	1,919.29	521.25	1,762.26	1,479.94	2.58	-0.5	0.183
55.00	-35.39	-2.82	0.00	-232.7	0.00	232.68	1,899.35	511.84	1,699.21	1,437.95	2.96	-0.53	0.180
60.00	-34.14	-2.78	0.00	-218.6	0.00	218.60	1,870.29	498.56	1,612.16	1,378.95	3.56	-0.6	0.177
65.00	-32.91	-2.74	0.00	-204.7	0.00	204.72	1,840.15	485.27	1,527.40	1,320.32	4.22	-0.66	0.173
70.00	-31.70	-2.69	0.00	-191.0	0.00	191.04	1,808.93	471.99	1,444.92	1,262.13	4.95	-0.73	0.169
75.00	-30.50	-2.65	0.00	-177.6	0.00	177.57	1,776.63	458.70	1,364.74	1,204.45	5.75	-0.8	0.165
80.00	-29.33	-2.60	0.00	-164.3	0.00	164.32	1,743.25	445.42	1,286.84	1,147.34	6.62	-0.86	0.160
85.00	-28.19	-2.56	0.00	-151.3	0.00	151.30	1,708.79	432.13	1,211.23	1,090.86	7.56	-0.93	0.155
90.00	-27.06	-2.52	0.00	-138.5	0.00	138.51	1,673.26	418.85	1,137.91	1,035.07	8.57	-1	0.150
92.65	-26.48	-2.49	0.00	-131.8	0.00	131.85	1,654.02	411.82	1,100.04	1,005.86	9.14	-1.04	0.147
95.00	-25.78	-2.46	0.00	-126.0	0.00	125.99	1,636.65	405.56	1,066.88	980.05	9.66	-1.07	0.144
96.93	-25.22	-2.44	0.00	-121.2	0.00	121.24	1,103.30	304.90	803.95	663.68	10.1	-1.1	0.206
100.00	-24.61	-2.41	0.00	-113.8	0.00	113.75	1,091.08	298.78	771.98	643.06	10.82	-1.14	0.200
105.00	-23.64	-2.36	0.00	-101.7	0.00	101.72	1,070.32	288.82	721.36	609.65	12.07	-1.23	0.189
110.00	-22.68	-2.32	0.00	-89.9	0.00	89.91	1,048.49	278.85	672.45	576.47	13.4	-1.32	0.178
115.00	-21.75	-2.27	0.00	-78.3	0.00	78.33	1,025.57	268.89	625.26	543.59	14.82	-1.4	0.165
120.00	-20.84	-2.22	0.00	-67.0	0.00	67.00	1,001.58	258.92	579.79	511.06	16.33	-1.48	0.152
125.00	-19.94	-2.16	0.00	-55.9	0.00	55.91	976.51	248.96	536.03	478.95	17.92	-1.56	0.137
130.00	-19.06	-2.11	0.00	-45.1	0.00	45.10	950.36	239.00	493.99	447.32	19.59	-1.63	0.121
135.00	-18.20	-2.06	0.00	-34.6	0.00	34.56	923.14	229.03	453.66	416.25	21.33	-1.69	0.103
136.00	-14.29	-1.59	0.00	-32.5	0.00	32.50	917.56	227.04	445.80	410.10	21.69	-1.7	0.095
140.00	-13.63	-1.56	0.00	-26.1	0.00	26.14	894.83	219.07	415.05	385.78	23.13	-1.75	0.083
140.02	-13.63	-1.54	0.00	-26.1	0.00	26.10	894.71	219.03	414.90	385.66	23.14	-1.75	0.083
143.22	-12.95	-1.50	0.00	-21.2	0.00	21.17	887.57	216.57	405.65	378.25	24.32	-1.78	0.071
145.00	-12.66	-1.48	0.00	-18.5	0.00	18.50	877.13	213.02	392.46	367.62	24.98	-1.79	0.065
146.00	-12.19	-1.25	0.00	-17.0	0.00	17.01	871.21	211.03	385.15	361.69	25.36	-1.8	0.061
147.00	-11.61	-1.18	0.00	-15.8	0.00	15.77	865.24	209.04	377.91	355.79	25.74	-1.81	0.058
150.00	-11.13	-1.13	0.00	-12.2	0.00	12.23	847.09	203.06	356.61	338.27	26.88	-1.83	0.049
155.00	-10.35	-1.07	0.00	-6.6	0.00	6.59	815.97	193.10	322.48	309.71	28.81	-1.85	0.034
157.00	-4.49	-0.49	0.00	-4.4	0.00	4.44	800.56	189.11	309.31	297.52	29.59	-1.86	0.021
158.56	-4.28	-0.47	0.00	-3.7	0.00	3.67	787.38	186.00	299.21	287.76	30.19	-1.86	0.018
158.56	-4.28	-0.47	0.00	-3.7	0.00	3.67	551.08	165.33	179.87	180.95	30.19	-1.86	0.028
160.00	-4.08	-0.44	0.00	-3.0	0.00	3.00	551.08	165.33	179.87	180.95	30.76	-1.87	0.024
165.00	-3.36	-0.39	0.00	-0.8	0.00	0.79	551.08	165.33	179.87	180.95	32.72	-1.88	0.010
167.00	-0.15	-0.01	0.00	-0.0	0.00	0.02	551.08	165.33	179.87	180.95	33.5	-1.88	0.000
168.56	0.00	-0.01	0.00	0.0	0.00	0.00	551.08	165.33	179.87	180.95	34.11	-1.88	0.000

ASSET: 413782, Washington North CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14089648_C3_03

Load Case: 1.0D + 1.0W Service Normal	60 mph Wind with No Ice	32 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	-31.22	-4.56	0.00	-563.4	0.00	563.41	2,995.17	812.68	3,426.89	2,880.56	0	0	0.206
5.00	-30.19	-4.51	0.00	-540.6	0.00	540.61	2,959.81	796.07	3,288.29	2,788.01	0.03	-0.06	0.204
10.00	-29.19	-4.46	0.00	-518.1	0.00	518.07	2,923.38	779.47	3,152.55	2,695.86	0.13	-0.12	0.202
15.00	-28.19	-4.41	0.00	-495.8	0.00	495.78	2,885.86	762.86	3,019.67	2,604.17	0.3	-0.19	0.200
20.00	-27.21	-4.36	0.00	-473.8	0.00	473.75	2,847.27	746.25	2,889.65	2,513.02	0.53	-0.25	0.198
25.00	-26.25	-4.30	0.00	-452.0	0.00	451.98	2,807.60	729.65	2,762.49	2,422.47	0.83	-0.32	0.196
30.00	-25.31	-4.25	0.00	-430.4	0.00	430.45	2,766.85	713.04	2,638.19	2,332.58	1.2	-0.39	0.194
35.00	-24.38	-4.20	0.00	-409.2	0.00	409.19	2,725.03	696.44	2,516.75	2,243.41	1.64	-0.46	0.191
40.00	-23.47	-4.14	0.00	-388.2	0.00	388.19	2,682.12	679.83	2,398.18	2,155.03	2.16	-0.53	0.189
45.00	-22.57	-4.10	0.00	-367.5	0.00	367.47	2,638.14	663.22	2,282.46	2,067.50	2.75	-0.6	0.186
46.12	-22.37	-4.08	0.00	-362.9	0.00	362.89	2,628.17	659.51	2,257.00	2,048.07	2.9	-0.62	0.186
50.00	-21.29	-4.04	0.00	-347.1	0.00	347.06	2,593.08	646.62	2,169.61	1,980.89	3.42	-0.67	0.183
51.46	-20.89	-4.01	0.00	-341.2	0.00	341.17	1,919.29	521.25	1,762.26	1,479.94	3.63	-0.7	0.241
55.00	-20.36	-3.96	0.00	-327.0	0.00	326.98	1,899.35	511.84	1,699.21	1,437.95	4.17	-0.75	0.238
60.00	-19.63	-3.90	0.00	-307.2	0.00	307.20	1,870.29	498.56	1,612.16	1,378.95	5	-0.84	0.233
65.00	-18.90	-3.84	0.00	-287.7	0.00	287.71	1,840.15	485.27	1,527.40	1,320.32	5.93	-0.93	0.228
70.00	-18.19	-3.78	0.00	-268.5	0.00	268.52	1,808.93	471.99	1,444.92	1,262.13	6.96	-1.03	0.223
75.00	-17.50	-3.71	0.00	-249.6	0.00	249.63	1,776.63	458.70	1,364.74	1,204.45	8.09	-1.12	0.217
80.00	-16.81	-3.65	0.00	-231.1	0.00	231.06	1,743.25	445.42	1,286.84	1,147.34	9.31	-1.22	0.211
85.00	-16.14	-3.59	0.00	-212.8	0.00	212.81	1,708.79	432.13	1,211.23	1,090.86	10.64	-1.31	0.205
90.00	-15.49	-3.53	0.00	-194.9	0.00	194.87	1,673.26	418.85	1,137.91	1,035.07	12.06	-1.41	0.198
92.65	-15.14	-3.50	0.00	-185.5	0.00	185.52	1,654.02	411.82	1,100.04	1,005.86	12.86	-1.46	0.194
95.00	-14.70	-3.47	0.00	-177.3	0.00	177.28	1,636.65	405.56	1,066.88	980.05	13.59	-1.51	0.190
96.93	-14.34	-3.43	0.00	-170.6	0.00	170.60	1,103.30	304.90	803.95	663.68	14.21	-1.55	0.270
100.00	-14.01	-3.39	0.00	-160.0	0.00	160.05	1,091.08	298.78	771.98	643.06	15.22	-1.61	0.262
105.00	-13.48	-3.33	0.00	-143.1	0.00	143.11	1,070.32	288.82	721.36	609.65	16.97	-1.73	0.247
110.00	-12.96	-3.26	0.00	-126.5	0.00	126.48	1,048.49	278.85	672.45	576.47	18.85	-1.85	0.232
115.00	-12.45	-3.20	0.00	-110.2	0.00	110.15	1,025.57	268.89	625.26	543.59	20.85	-1.97	0.215
120.00	-11.95	-3.13	0.00	-94.2	0.00	94.16	1,001.58	258.92	579.79	511.06	22.98	-2.08	0.196
125.00	-11.46	-3.06	0.00	-78.5	0.00	78.50	976.51	248.96	536.03	478.95	25.21	-2.19	0.176
130.00	-10.98	-2.99	0.00	-63.2	0.00	63.20	950.36	239.00	493.99	447.32	27.56	-2.29	0.153
135.00	-10.51	-2.93	0.00	-48.3	0.00	48.27	923.14	229.03	453.66	416.25	30	-2.38	0.128
136.00	-8.32	-2.21	0.00	-45.3	0.00	45.34	917.56	227.04	445.80	410.10	30.5	-2.39	0.120
140.00	-7.97	-2.17	0.00	-36.5	0.00	36.48	894.83	219.07	415.05	385.78	32.53	-2.45	0.104
140.02	-7.97	-2.15	0.00	-36.4	0.00	36.44	894.71	219.03	414.90	385.66	32.54	-2.45	0.103
143.22	-7.56	-2.10	0.00	-29.6	0.00	29.55	887.57	216.57	405.65	378.25	34.2	-2.5	0.087
145.00	-7.41	-2.08	0.00	-25.8	0.00	25.80	877.13	213.02	392.46	367.62	35.14	-2.52	0.079
146.00	-7.11	-1.73	0.00	-23.7	0.00	23.72	871.21	211.03	385.15	361.69	35.67	-2.53	0.074
147.00	-6.79	-1.63	0.00	-22.0	0.00	21.99	865.24	209.04	377.91	355.79	36.2	-2.54	0.070
150.00	-6.54	-1.56	0.00	-17.1	0.00	17.12	847.09	203.06	356.61	338.27	37.8	-2.57	0.058
155.00	-6.12	-1.49	0.00	-9.3	0.00	9.32	815.97	193.10	322.48	309.71	40.51	-2.6	0.038
157.00	-2.48	-0.70	0.00	-6.3	0.00	6.34	800.56	189.11	309.31	297.52	41.6	-2.61	0.024
158.56	-2.38	-0.67	0.00	-5.2	0.00	5.25	787.38	186.00	299.21	287.76	42.46	-2.62	0.021
158.56	-2.38	-0.67	0.00	-5.2	0.00	5.25	551.08	165.33	179.87	180.95	42.46	-2.62	0.033
160.00	-2.27	-0.63	0.00	-4.3	0.00	4.29	551.08	165.33	179.87	180.95	43.25	-2.62	0.028
165.00	-1.89	-0.56	0.00	-1.2	0.00	1.15	551.08	165.33	179.87	180.95	46	-2.64	0.010
167.00	-0.08	-0.01	0.00	-0.0	0.00	0.02	551.08	165.33	179.87	180.95	47.1	-2.64	0.000
168.56	0.00	-0.01	0.00	0.0	0.00	0.00	551.08	165.33	179.87	180.95	47.96	-2.64	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.187
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
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}):	0.199
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):	3.830
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	31.220 k
Seismic Base Shear (E):	0.940 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)
46	167.78	85	2,395	0.007	6	105
45	166	156	4,290	0.012	12	193
44	162.5	389	10,277	0.030	28	483
43	159.2812	112	2,839	0.008	8	139
42	157.7812	101	2,513	0.007	7	125
41	156	163	3,959	0.012	11	202
40	152.5	413	9,616	0.028	26	513
39	148.5	253	5,573	0.016	15	313
38	146.5	85	1,825	0.005	5	105
37	145.5	85	1,808	0.005	5	106
36	144.1094	153	3,179	0.009	9	190
35	141.6197	412	8,258	0.024	22	510
34	140.0104	2	35	0.000	0	2
33	138	350	6,668	0.019	18	434
32	135.5	92	1,697	0.005	5	115
31	132.5	468	8,213	0.024	22	580
30	127.5	477	7,762	0.022	21	592
29	122.5	487	7,310	0.021	20	604
28	117.5	497	6,859	0.020	19	616
27	112.5	506	6,410	0.019	17	628
26	107.5	516	5,964	0.017	16	640
25	102.5	526	5,524	0.016	15	652
24	98.4635	328	3,179	0.009	9	407
23	95.9635	358	3,298	0.010	9	444
22	93.8229	442	3,891	0.011	11	548
21	91.3229	341	2,840	0.008	8	422
20	87.5	653	5,003	0.014	14	810
19	82.5	666	4,535	0.013	12	826
18	77.5	679	4,079	0.012	11	842
17	72.5	692	3,638	0.010	10	858
16	67.5	705	3,212	0.009	9	874
15	62.5	718	2,804	0.008	8	890
14	57.5	731	2,416	0.007	7	906
13	53.2292	525	1,489	0.004	4	651

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
12	50.7292	400	1,030	0.003	3	496
11	48.0586	1,078	2,490	0.007	7	1,337
10	45.5586	197	409	0.001	1	244
9	42.5	892	1,611	0.005	4	1,106
8	37.5	908	1,277	0.004	3	1,126
7	32.5	924	976	0.003	3	1,146
6	27.5	940	711	0.002	2	1,166
5	22.5	956	484	0.001	1	1,186
4	17.5	972	298	0.001	1	1,206
3	12.5	989	154	0.000	0	1,226
2	7.5	1,005	57	0.000	0	1,246
1	2.5	1,021	6	0.000	0	1,266
Kaelus DBCT108F1V92-1	167	42	1,163	0.003	3	52
Raycap DC6-48-60-18-8F ("Squid")	167	95	2,661	0.008	7	118
Ericsson Radio 8843 - B2 + B66A	167	216	6,016	0.017	16	267
Ericsson RRUS 4478 B14	167	180	5,012	0.014	14	223
Ericsson RRUS 4449 B5, B12	167	213	5,940	0.017	16	264
Generic Round Side Arm	167	562	15,688	0.045	43	697
CCI DMP65R-BU4D	167	204	5,681	0.016	15	253
CCI OPA65R-BU4DA-K	167	158	4,393	0.013	12	195
Commscope TD-850AB-L78-43	157	86	2,122	0.006	6	107
Samsung RF4440d-13A	157	422	10,397	0.030	28	523
Samsung RF4439d-25A	157	224	5,524	0.016	15	278
Raycap RVZDC-6627-PF-48	157	32	789	0.002	2	40
Commscope NNH4-45B-R6-V1	157	80	1,977	0.006	5	99
Commscope NNH4-65B-R6H4	157	167	4,107	0.012	11	207
Generic Round Platform with Handrails	157	2,500	61,622	0.178	167	3,100
Samsung MT6407-77A	147	245	5,290	0.015	14	304
Stand-Off	146	225	4,796	0.014	13	279
VZW Unused Reserve (5954.84 sqin)	146	0	0	0.000	0	0
Ericsson Radio 4449 B71 B85A	136	225	4,162	0.012	11	279
Ericsson 4460 BAND 2/25	136	327	6,048	0.018	16	405
Ericsson AIR 6419 B41	136	250	4,622	0.013	13	310
Generic Flat T-Arm	136	938	17,340	0.050	47	1,162
RFS APXVAARR24_43-U-NA20	136	384	7,097	0.021	19	476
		31,223	345,305	1.000	937	38,713

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)
46	167.78	85	2,395	0.007	6	73
45	166	156	4,290	0.012	12	134
44	162.5	389	10,277	0.030	28	335
43	159.2812	112	2,839	0.008	8	96
42	157.7812	101	2,513	0.007	7	87
41	156	163	3,959	0.012	11	140
40	152.5	413	9,616	0.028	26	356
39	148.5	253	5,573	0.016	15	217
38	146.5	85	1,825	0.005	5	73
37	145.5	85	1,808	0.005	5	73
36	144.1094	153	3,179	0.009	9	132
35	141.6197	412	8,258	0.024	22	354
34	140.0104	2	35	0.000	0	2
33	138	350	6,668	0.019	18	301
32	135.5	92	1,697	0.005	5	79
31	132.5	468	8,213	0.024	22	402
30	127.5	477	7,762	0.022	21	411
29	122.5	487	7,310	0.021	20	419
28	117.5	497	6,859	0.020	19	427
27	112.5	506	6,410	0.019	17	436
26	107.5	516	5,964	0.017	16	444
25	102.5	526	5,524	0.016	15	452

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
24	98.4635	328	3,179	0.009	9	282
23	95.9635	358	3,298	0.010	9	308
22	93.8229	442	3,891	0.011	11	380
21	91.3229	341	2,840	0.008	8	293
20	87.5	653	5,003	0.014	14	562
19	82.5	666	4,535	0.013	12	573
18	77.5	679	4,079	0.012	11	584
17	72.5	692	3,638	0.010	10	595
16	67.5	705	3,212	0.009	9	606
15	62.5	718	2,804	0.008	8	617
14	57.5	731	2,416	0.007	7	628
13	53.2292	525	1,489	0.004	4	452
12	50.7292	400	1,030	0.003	3	344
11	48.0586	1,078	2,490	0.007	7	927
10	45.5586	197	409	0.001	1	170
9	42.5	892	1,611	0.005	4	767
8	37.5	908	1,277	0.004	3	781
7	32.5	924	976	0.003	3	795
6	27.5	940	711	0.002	2	809
5	22.5	956	484	0.001	1	823
4	17.5	972	298	0.001	1	836
3	12.5	989	154	0.000	0	850
2	7.5	1,005	57	0.000	0	864
1	2.5	1,021	6	0.000	0	878
Kaelus DBCT108F1V92-1	167	42	1,163	0.003	3	36
Raycap DC6-48-60-18-8F ("Squid")	167	95	2,661	0.008	7	82
Ericsson Radio 8843 - B2 + B66A	167	216	6,016	0.017	16	186
Ericsson RRUS 4478 B14	167	180	5,012	0.014	14	155
Ericsson RRUS 4449 B5, B12	167	213	5,940	0.017	16	183
Generic Round Side Arm	167	562	15,688	0.045	43	484
CCI DMP65R-BU4D	167	204	5,681	0.016	15	175
CCI OPA65R-BU4DA-K	167	158	4,393	0.013	12	135
Commscope TD-850AB-L78-43	157	86	2,122	0.006	6	74
Samsung RF4440d-13A	157	422	10,397	0.030	28	363
Samsung RF4439d-25A	157	224	5,524	0.016	15	193
Raycap RVZDC-6627-PF-48	157	32	789	0.002	2	28
Commscope NNH4-45B-R6-V1	157	80	1,977	0.006	5	69
Commscope NNH4-65B-R6H4	157	167	4,107	0.012	11	143
Generic Round Platform with Handrails	157	2,500	61,622	0.178	167	2,150
Samsung MT6407-77A	147	245	5,290	0.015	14	211
Stand-Off	146	225	4,796	0.014	13	194
VZW Unused Reserve (5954.84 sqin)	146	0	0	0.000	0	0
Ericsson Radio 4449 B71 B85A	136	225	4,162	0.012	11	194
Ericsson 4460 BAND 2/25	136	327	6,048	0.018	16	281
Ericsson AIR 6419 B41	136	250	4,622	0.013	13	215
Generic Flat T-Arm	136	938	17,340	0.050	47	806
RFS APXVAARR24_43-U-NA20	136	384	7,097	0.021	19	330

31,223 345,305 1.000 937 26,855

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	-37.45	-0.94	0.00	-142.99	0.00	142.99	2,995.17	812.68	3,427	2,880.56	0.00	0.00	0.06
5.00	-36.20	-0.95	0.00	-138.29	0.00	138.29	2,959.81	796.07	3,288	2,788.01	0.01	-0.02	0.06
10.00	-34.98	-0.96	0.00	-133.54	0.00	133.54	2,923.38	779.47	3,153	2,695.86	0.03	-0.03	0.06
15.00	-33.77	-0.97	0.00	-128.74	0.00	128.74	2,885.86	762.86	3,020	2,604.17	0.08	-0.05	0.06
20.00	-32.58	-0.98	0.00	-123.90	0.00	123.90	2,847.27	746.25	2,890	2,513.02	0.14	-0.07	0.06
25.00	-31.42	-0.98	0.00	-119.02	0.00	119.02	2,807.60	729.65	2,762	2,422.47	0.21	-0.08	0.06
30.00	-30.27	-0.99	0.00	-114.12	0.00	114.12	2,766.85	713.04	2,638	2,332.58	0.31	-0.10	0.06
35.00	-29.14	-0.99	0.00	-109.18	0.00	109.18	2,725.03	696.44	2,517	2,243.41	0.42	-0.12	0.06
40.00	-28.04	-0.99	0.00	-104.23	0.00	104.23	2,682.12	679.83	2,398	2,155.03	0.56	-0.14	0.06
45.00	-27.79	-1.00	0.00	-99.26	0.00	99.26	2,638.14	663.22	2,282	2,067.50	0.72	-0.16	0.06

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
46.12	-26.46	-0.99	0.00	-98.15	0.00	98.15	2,628.17	659.51	2,257	2,048.07	0.75	-0.16	0.06
50.00	-25.96	-0.99	0.00	-94.30	0.00	94.30	2,593.08	646.62	2,170	1,980.89	0.89	-0.18	0.06
51.46	-25.31	-0.99	0.00	-92.86	0.00	92.86	1,919.29	521.25	1,762	1,479.94	0.95	-0.18	0.08
55.00	-24.40	-0.99	0.00	-89.35	0.00	89.35	1,899.35	511.84	1,699	1,437.95	1.09	-0.20	0.08
60.00	-23.51	-0.99	0.00	-84.40	0.00	84.40	1,870.29	498.56	1,612	1,378.95	1.31	-0.22	0.07
65.00	-22.64	-0.99	0.00	-79.46	0.00	79.46	1,840.15	485.27	1,527	1,320.32	1.56	-0.25	0.07
70.00	-21.78	-0.98	0.00	-74.53	0.00	74.53	1,808.93	471.99	1,445	1,262.13	1.83	-0.27	0.07
75.00	-20.94	-0.98	0.00	-69.61	0.00	69.61	1,776.63	458.70	1,365	1,204.45	2.13	-0.30	0.07
80.00	-20.11	-0.97	0.00	-64.73	0.00	64.73	1,743.25	445.42	1,287	1,147.34	2.46	-0.33	0.07
85.00	-19.30	-0.96	0.00	-59.88	0.00	59.88	1,708.79	432.13	1,211	1,090.86	2.82	-0.35	0.07
90.00	-18.88	-0.96	0.00	-55.08	0.00	55.08	1,673.26	418.85	1,138	1,035.07	3.20	-0.38	0.07
92.65	-18.33	-0.95	0.00	-52.55	0.00	52.55	1,654.02	411.82	1,100	1,005.86	3.42	-0.40	0.06
95.00	-17.88	-0.94	0.00	-50.32	0.00	50.32	1,636.65	405.56	1,067	980.05	3.62	-0.41	0.06
96.93	-17.48	-0.93	0.00	-48.51	0.00	48.51	1,103.30	304.90	804	663.68	3.79	-0.42	0.09
100.00	-16.83	-0.92	0.00	-45.65	0.00	45.65	1,091.08	298.78	772	643.06	4.06	-0.44	0.09
105.00	-16.19	-0.91	0.00	-41.05	0.00	41.05	1,070.32	288.82	721	609.65	4.54	-0.47	0.08
110.00	-15.56	-0.89	0.00	-36.51	0.00	36.51	1,048.49	278.85	672	576.47	5.05	-0.51	0.08
115.00	-14.94	-0.88	0.00	-32.04	0.00	32.04	1,025.57	268.89	625	543.59	5.60	-0.54	0.07
120.00	-14.34	-0.86	0.00	-27.64	0.00	27.64	1,001.58	258.92	580	511.06	6.19	-0.57	0.07
125.00	-13.74	-0.84	0.00	-23.33	0.00	23.33	976.51	248.96	536	478.95	6.81	-0.61	0.06
130.00	-13.16	-0.82	0.00	-19.13	0.00	19.13	950.36	239.00	494	447.32	7.46	-0.64	0.06
135.00	-13.05	-0.82	0.00	-15.03	0.00	15.03	923.14	229.03	454	416.25	8.14	-0.66	0.05
136.00	-9.98	-0.66	0.00	-14.21	0.00	14.21	917.56	227.04	446	410.10	8.28	-0.67	0.05
140.00	-9.98	-0.66	0.00	-11.57	0.00	11.57	894.83	219.07	415	385.78	8.85	-0.69	0.04
140.02	-9.47	-0.63	0.00	-11.56	0.00	11.56	894.71	219.03	415	385.66	8.85	-0.69	0.04
143.22	-9.28	-0.62	0.00	-9.53	0.00	9.53	887.57	216.57	406	378.25	9.32	-0.70	0.04
145.00	-9.18	-0.62	0.00	-8.42	0.00	8.42	877.13	213.02	392	367.62	9.58	-0.71	0.03
146.00	-8.79	-0.60	0.00	-7.80	0.00	7.80	871.21	211.03	385	361.69	9.73	-0.71	0.03
147.00	-8.18	-0.56	0.00	-7.20	0.00	7.20	865.24	209.04	378	355.79	9.88	-0.72	0.03
150.00	-7.66	-0.53	0.00	-5.52	0.00	5.52	847.09	203.06	357	338.27	10.33	-0.72	0.03
155.00	-7.46	-0.52	0.00	-2.87	0.00	2.87	815.97	193.10	322	309.71	11.10	-0.74	0.02
157.00	-2.99	-0.22	0.00	-1.84	0.00	1.84	800.56	189.11	309	297.52	11.41	-0.74	0.01
158.56	-2.85	-0.21	0.00	-1.50	0.00	1.50	787.38	186.00	299	287.76	11.65	-0.74	0.01
158.56	-2.85	-0.21	0.00	-1.50	0.00	1.50	551.08	165.33	180	180.95	11.65	-0.74	0.01
160.00	-2.37	-0.17	0.00	-1.20	0.00	1.20	551.08	165.33	180	180.95	11.87	-0.74	0.01
165.00	-2.17	-0.16	0.00	-0.32	0.00	0.32	551.08	165.33	180	180.95	12.65	-0.74	0.01
167.00	0.00	0.00	0.00	0.00	0.00	0.00	551.08	165.33	180	180.95	12.96	-0.75	0.00
168.56	0.00	0.00	0.00	0.00	0.00	0.00	551.08	165.33	180	180.95	13.20	-0.75	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	-25.98	-0.94	0.00	-137.76	0.00	137.76	2,995.17	812.68	3,427	2,880.56	0.00	0.00	0.06
5.00	-25.11	-0.95	0.00	-133.06	0.00	133.06	2,959.81	796.07	3,288	2,788.01	0.01	-0.02	0.06
10.00	-24.26	-0.95	0.00	-128.33	0.00	128.33	2,923.38	779.47	3,153	2,695.86	0.03	-0.03	0.06
15.00	-23.43	-0.96	0.00	-123.57	0.00	123.57	2,885.86	762.86	3,020	2,604.17	0.07	-0.05	0.06
20.00	-22.60	-0.96	0.00	-118.79	0.00	118.79	2,847.27	746.25	2,890	2,513.02	0.13	-0.06	0.06
25.00	-21.79	-0.96	0.00	-113.98	0.00	113.98	2,807.60	729.65	2,762	2,422.47	0.20	-0.08	0.06
30.00	-21.00	-0.97	0.00	-109.16	0.00	109.16	2,766.85	713.04	2,638	2,332.58	0.30	-0.10	0.05
35.00	-20.22	-0.97	0.00	-104.32	0.00	104.32	2,725.03	696.44	2,517	2,243.41	0.41	-0.11	0.05
40.00	-19.45	-0.97	0.00	-99.48	0.00	99.48	2,682.12	679.83	2,398	2,155.03	0.54	-0.13	0.05
45.00	-19.28	-0.97	0.00	-94.63	0.00	94.63	2,638.14	663.22	2,282	2,067.50	0.69	-0.15	0.05
46.12	-18.35	-0.97	0.00	-93.55	0.00	93.55	2,628.17	659.51	2,257	2,048.07	0.72	-0.16	0.05
50.00	-18.01	-0.96	0.00	-89.80	0.00	89.80	2,593.08	646.62	2,170	1,980.89	0.85	-0.17	0.05
51.46	-17.56	-0.96	0.00	-88.39	0.00	88.39	1,919.29	521.25	1,762	1,479.94	0.91	-0.18	0.07
55.00	-16.93	-0.96	0.00	-84.99	0.00	84.99	1,899.35	511.84	1,699	1,437.95	1.04	-0.19	0.07
60.00	-16.31	-0.96	0.00	-80.19	0.00	80.19	1,870.29	498.56	1,612	1,378.95	1.25	-0.21	0.07
65.00	-15.70	-0.95	0.00	-75.41	0.00	75.41	1,840.15	485.27	1,527	1,320.32	1.49	-0.24	0.07
70.00	-15.11	-0.95	0.00	-70.65	0.00	70.65	1,808.93	471.99	1,445	1,262.13	1.75	-0.26	0.06
75.00	-14.52	-0.94	0.00	-65.92	0.00	65.92	1,776.63	458.70	1,365	1,204.45	2.04	-0.29	0.06
80.00	-13.95	-0.93	0.00	-61.23	0.00	61.23	1,743.25	445.42	1,287	1,147.34	2.35	-0.31	0.06
85.00	-13.39	-0.92	0.00	-56.58	0.00	56.58	1,708.79	432.13	1,211	1,090.86	2.70	-0.34	0.06
90.00	-13.09	-0.91	0.00	-51.99	0.00	51.99	1,673.26	418.85	1,138	1,035.07	3.06	-0.36	0.06
92.65	-12.71	-0.90	0.00	-49.57	0.00	49.57	1,654.02	411.82	1,100	1,005.86	3.27	-0.38	0.06
95.00	-12.41	-0.89	0.00	-47.45	0.00	47.45	1,636.65	405.56	1,067	980.05	3.46	-0.39	0.06
96.93	-12.12	-0.89	0.00	-45.72	0.00	45.72	1,103.30	304.90	804	663.68	3.62	-0.40	0.08

ASSET: 413782, Washington North CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14089648_C3_03

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
100.00	-11.67	-0.87	0.00	-43.00	0.00	43.00	1,091.08	298.78	772	643.06	3.88	-0.42	0.08
105.00	-11.23	-0.86	0.00	-38.63	0.00	38.63	1,070.32	288.82	721	609.65	4.33	-0.45	0.07
110.00	-10.79	-0.85	0.00	-34.32	0.00	34.32	1,048.49	278.85	672	576.47	4.82	-0.48	0.07
115.00	-10.36	-0.83	0.00	-30.09	0.00	30.09	1,025.57	268.89	625	543.59	5.34	-0.51	0.07
120.00	-9.94	-0.81	0.00	-25.94	0.00	25.94	1,001.58	258.92	580	511.06	5.90	-0.55	0.06
125.00	-9.53	-0.79	0.00	-21.89	0.00	21.89	976.51	248.96	536	478.95	6.49	-0.57	0.06
130.00	-9.13	-0.77	0.00	-17.93	0.00	17.93	950.36	239.00	494	447.32	7.10	-0.60	0.05
135.00	-9.05	-0.77	0.00	-14.09	0.00	14.09	923.14	229.03	454	416.25	7.75	-0.63	0.04
136.00	-6.92	-0.62	0.00	-13.33	0.00	13.33	917.56	227.04	446	410.10	7.88	-0.63	0.04
140.00	-6.92	-0.62	0.00	-10.85	0.00	10.85	894.83	219.07	415	385.78	8.42	-0.65	0.04
140.02	-6.57	-0.59	0.00	-10.84	0.00	10.84	894.71	219.03	415	385.66	8.42	-0.65	0.04
143.22	-6.44	-0.59	0.00	-8.94	0.00	8.94	887.57	216.57	406	378.25	8.86	-0.66	0.03
145.00	-6.36	-0.58	0.00	-7.89	0.00	7.89	877.13	213.02	392	367.62	9.11	-0.67	0.03
146.00	-6.10	-0.56	0.00	-7.31	0.00	7.31	871.21	211.03	385	361.69	9.25	-0.67	0.03
147.00	-5.67	-0.53	0.00	-6.75	0.00	6.75	865.24	209.04	378	355.79	9.39	-0.68	0.03
150.00	-5.31	-0.50	0.00	-5.18	0.00	5.18	847.09	203.06	357	338.27	9.82	-0.69	0.02
155.00	-5.17	-0.48	0.00	-2.70	0.00	2.70	815.97	193.10	322	309.71	10.55	-0.70	0.02
157.00	-2.07	-0.21	0.00	-1.73	0.00	1.73	800.56	189.11	309	297.52	10.84	-0.70	0.01
158.56	-1.98	-0.20	0.00	-1.41	0.00	1.41	787.38	186.00	299	287.76	11.07	-0.70	0.01
158.56	-1.98	-0.20	0.00	-1.41	0.00	1.41	551.08	165.33	180	180.95	11.07	-0.70	0.01
160.00	-1.64	-0.16	0.00	-1.12	0.00	1.12	551.08	165.33	180	180.95	11.28	-0.70	0.01
165.00	-1.51	-0.15	0.00	-0.30	0.00	0.30	551.08	165.33	180	180.95	12.02	-0.70	0.00
167.00	0.00	0.00	0.00	0.00	0.00	0.00	551.08	165.33	180	180.95	12.31	-0.71	0.00
168.56	0.00	0.00	0.00	0.00	0.00	0.00	551.08	165.33	180	180.95	12.54	-0.71	0.00

ASSET: 413782, Washington North CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14089648_C3_03

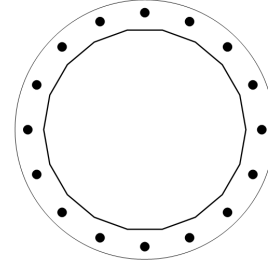
ANALYSIS SUMMARY

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	17.43	0.00	37.43	0.00	0.00	2181.34	96.93	1.02
0.9D + 1.0W Normal	17.41	0.00	28.06	0.00	0.00	2119.69	96.93	0.97
1.2D + 1.0Di + 1.0Wi Normal	3.19	0.00	52.32	0.00	0.00	399.55	96.93	0.21
1.2D + 1.0Ev + 1.0Eh Normal	1.00	0.00	37.45	0.00	0.00	142.99	96.93	0.09
0.9D - 1.0Ev + 1.0Eh Normal	0.97	0.00	25.98	0.00	0.00	137.76	96.93	0.08
1.0D + 1.0W Service Normal	4.56	0.00	31.22	0.00	0.00	563.41	96.93	0.27

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 14026)

Diameter:	61	in
Shape:	Round	
Thickness:	2.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	5.125	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	0	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 14327]	Radial	16	2.25	55	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (16) 2.25"Ø [ID 14327]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	0.393	25.41	10.52	10.022	327.008	104.09	1.60
2	0.785	19.44	19.44	18.517	1114.448	104.09	1.23
3	1.178	10.52	25.41	24.194	1901.888	104.09	0.66
4	1.571	0.00	27.50	26.188	2228.057	104.09	0.00
5	1.963	-10.52	25.41	24.194	1901.888	104.09	0.66
6	2.356	-19.44	19.44	18.517	1114.448	104.09	1.23
7	2.749	-25.41	10.52	10.022	327.008	104.09	1.60
8	3.142	-27.50	0.00	0.000	0.839	104.09	1.73
9	3.534	-25.41	-10.52	-10.022	327.008	-94.73	1.60
10	3.927	-19.44	-19.44	-18.517	1114.448	-94.73	1.23
11	4.320	-10.52	-25.41	-24.194	1901.888	-94.73	0.66
12	4.712	0.00	-27.50	-26.188	2228.057	-94.73	0.00
13	5.105	10.52	-25.41	-24.194	1901.888	-94.73	0.66
14	5.498	19.44	-19.44	-18.517	1114.448	-94.73	1.23
15	5.890	25.41	-10.52	-10.022	327.008	-94.73	1.60
16	6.283	27.50	0.00	0.000	0.839	104.09	1.73

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	47"Ø x 0.3125" (18 Sides)	2181.3	37.43	17.43	1.000
Bolt Group	Original (16) 2.25"Ø	2181.3	-	17.43	1.000
TOTALS		2181.34	37.43	17.43	

ASSET: 413782, Washington North CT
 CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
 ENG NO: 13734077

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	47"ø x 0.3125" (18 Sides)	45.6030	-	-	12426.72	-
Bolt Group	Original (16) 2.25"ø	3.9761	3.2477	0.8393	17831.17	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 47.12 in
 Point-to-Point Diameter: 47.85 in
 Flat Width: 8.309 in
 Flat Radians: 0.349 rad

PLATE PROPERTIES

Neutral Axis: 0 °
 Bend Line Lower Limit: 0.957 rad
 Bend Line Upper Limit: 2.184 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment Mu (k-in)	Moment Capacity φMn (k-in)	Ratio
Flat	34.476	0.00	53.869	482.5	2424.1	0.199
Corner	33.460	0.00	52.281	350.7	2352.7	0.149
Circumferential	45.317	0.00	70.809	819.9	3186.4	0.257

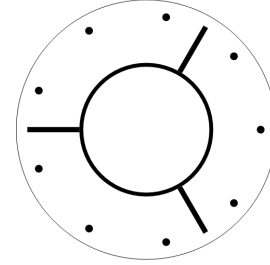
PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity φPn (k)	Ratio
Original	16	2.25	104.0	1.7	243.6	0.427

UPPER FLANGE PLATE ANALYSIS @ 158.5625 FT

PLATE PARAMETERS (ID# 14027)

Diameter: 25 in
 Shape: Round
 Thickness: 1.5 in
 Grade: A36
 Yield Strength: 36 ksi
 Tensile Strength: 58 ksi
 Pole Weld Size: 0.125 in
 Orientation Offset: - °
 Analysis Type: Plastic
 Neutral Axis: 150 °

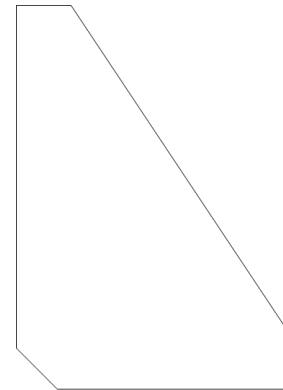


FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 14328]	Radial	9	0.75	22	A325	92	120	-	-

STIFFENER PARAMETERS

Arrangement: Radial
 Quantity: 3
 Height: 7 in
 Width: 5 in
 Thickness: 0.625 in
 Notch: 0.75 in
 Grade: A36
 Yield Strength: 36 ksi
 Tensile Strength: 58 ksi
 Horizontal Weld Type: Fillet
 Horizontal Weld Fillet Size: 0.125 in
 Vertical Weld Fillet Size: 0.125 in
 Weld Strength: 70 ksi
 Orientation Offset: - °



FLANGE BOLT GEOMETRY AND APPLIED LOADS --- ORIGINAL (9) 0.75"Ø [ID 14328]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	0.698	8.43	7.07	-9.896	32.764	-3.46	0.15
2	1.396	1.91	10.83	-9.896	32.764	-3.46	0.15
3	2.094	-5.50	9.53	-5.266	9.282	-3.46	0.39
4	2.793	-10.34	3.76	1.829	1.127	4.56	0.44
5	3.491	-10.34	-3.76	8.067	21.777	4.56	0.29
6	4.189	-5.50	-9.53	10.531	37.103	4.56	0.00
7	4.887	1.91	-10.83	8.067	21.777	4.56	0.29
8	5.585	8.43	-7.07	1.829	1.127	4.56	0.44
9	6.283	11.00	0.00	-5.266	9.282	-3.46	0.39

STIFFENER GEOMETRY AND APPLIED LOADS

Position	Radians	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	1.047	-8.875	188.401	-8.60	0.00
2	3.142	4.438	51.983	4.93	0.57
3	5.236	4.438	51.983	4.93	0.57

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	12.75"Ø x 0.375" (Round)	20.3	2.48	2.57	1.000
Bolt Group	Original (9) 0.75"Ø	20.3	-	2.57	1.000
Stiffeners	(3) 7"H x 5"W x 0.625"T	10.4	-	1.31	0.511
TOTALS		20.27	2.48	2.57	

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	12.75"Ø x 0.375" (Round)	14.5788	-	-	279.77	-
Bolt Group	Original (9) 0.75"Ø	0.4418	0.3345	0.0089	167.00	10.0
Stiffeners	(3) 7"H x 5"W x 0.625"T	2.6563	2.3906	26.0417	292.37	-

EXTERNAL UPPER FLANGE PLATE BEND LINE ANALYSIS @ 158.5625 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	12.88	in
Point-to-Point Diameter:	12.88	in
Flat Width:	0.112	in
Flat Radians:	0.017	rad

PLATE PROPERTIES

Neutral Axis:	150	°
Bend Line Lower Limit:	3.679	rad
Bend Line Upper Limit:	4.698	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment Mu (k-in)	Moment Capacity φMn (k-in)	Ratio
Flat	19.314	0.00	10.864	35.8	352.0	0.102
Corner	19.314	0.00	10.864	35.8	352.0	0.102
Circumferential	21.355	0.00	12.012	56.6	389.2	0.145

PLASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity φPn (k)	Ratio
Original	9	0.75	4.6	0.4	30.1	0.152

UPPER FLANGE PLATE STIFFENER ANALYSIS

Quantity:	3	
Height:	7	in
Width:	5	in
Effective Width:	5.000	in
Thickness:	0.625	in
Notch:	0.75	in
Grade:	A36	
Yield Strength:	36	ksi
Tensile Strength:	58	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.125	in
Horizontal Weld Bevel Size:		in
Vertical Weld Fillet Size:	0.125	in
Weld Strength:	70	ksi
Electrode Coefficient:	1.000	

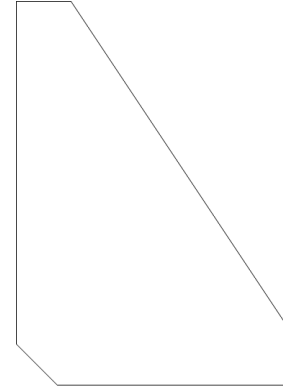


PLATE COMPRESSION

Radius of Gyration:	0.180	in ³
kl/r:	23.28	
4.71 √(E/Fy):	133.68	
Buckling Stress, Fe:	528.18	ksi
Crit. Buckling Stress, Fcr:	463.21	ksi
Applied Compression, Pu:	4.93	k
Compressive Capacity, φPn:	1107.36	k
Pu/φPn:	0.002	

PLATE TENSION

Gross Cross Section:	2.6563	in ²
Net Cross Section:	2.3906	in ²
Applied Tension, Tu:	8.60	k
Tensile Capacity, φTn:	86.06	k
Tu/φTn:	0.050	

VERTICAL WELD TO POLE

Vertical Eccentricity Ratio, a=e _x /l:	0.238	
Spacing Ratio, k:	0.089	
Weld Coefficient, C:	3.510	
Applied Compression, Pu:	4.93	k
Compressive Capacity, φPn:	36.86	k
Horizontal Eccentricity Ratio, a=e _y /l:	0.333	
Weld Coefficient, C:	2.940	
Applied Shear, Vu:	0.00	k
Shear Capacity, φVn:	30.87	k
Pu/φPn + Vu/φVn:	0.134	

HORIZONTAL WELD TO PLATE

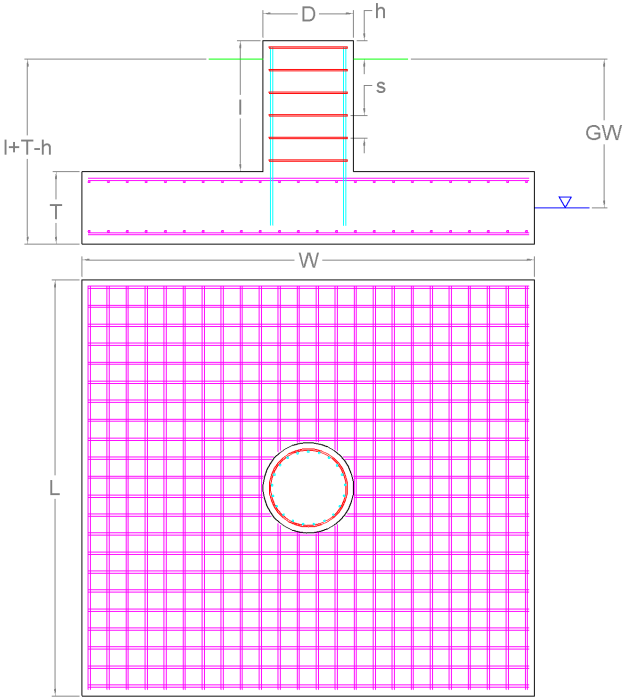
Horizontal Eccentricity Ratio, a=e _x /l:	0.167	
Spacing Ratio, k:	0.125	
Weld Coefficient, C:	3.940	
Effective Fillet Size:	0.125	in
Applied Compression, Pu:	4.93	k
Compressive Capacity, φPn:	29.55	k
Vertical Eccentricity Ratio, a=e _y /l:	0.233	
Weld Coefficient, C:	3.510	
Applied Shear, Vu:	0.00	k
Shear Capacity, φVn:	26.33	k
Pu/φPn + Vu/φVn:	0.167	

Monolithic Mat Foundation Analysis (ANSI/TIA-222-H)

Foundation & Tower Parameters			
Ignore Mat Rebar?		N	
Ignore Pier Rebar?		N	
Foundation has Pier(s)?		Y	
Pier Shape		Square	
Pier Diameter	<i>D</i>	7	ft
Pier Height Above Ground	<i>h</i>	1	ft
Pier Length	<i>l</i>	3	ft
Mat Base Depth	<i>l+T-h</i>	5	ft
Mat Length	<i>L</i>	23	ft
Mat Width	<i>W</i>	23	ft
Mat Thickness	<i>T</i>	3	ft
Unit Weight of Concrete		150	pcf
Tower Eccentricity	ecc	0	ft
Tower Face Width	FW	3.92	ft
Tower Leg Count		1	

Reactions			
Moment, M_u		2,181.34	k-ft
Shear, V_u		17.43	k
Axial, P_u		37.43	k
Uplift, T_u		0	k
Tower Weight		37.43	k
Tower Dead Load Factor		0.9	

Soil Parameters			
Water Table Depth [BGL]	<i>GW</i>	-	ft
Unit Weight of Soil		120	pcf
Unit Weight of Soil [Submerged]		57.6	pcf
Shear Friction Coefficient		0.5	
Ultimate Bearing Pressure		16,000	psf
Bearing Pressure Type		Net	
Conical Failure Angle		30	°
Capacity Increase (Transient Loads)		1.00	
Soil Strength Reduction Factor, ϕ_s		0.75	
Dead Load Factor		1.2	



Soil Capacities			
Design Moment, M_u		2,285.92	k-ft
Nominal Moment Capacity, $\phi_m M_n$		4,402.35	k-ft
$M_u / \phi_s M_n$		51.9%	
Net Bearing Pressure		1,533	k
Nominal Bearing Capacity, $\phi_b P_n$		12,450	k
Bearing Pressure Controlling Load Direction		Diagonal to Pad Edge	
$P_u / \phi_s P_n$		12.3%	
Ultimate Friction Resistance		203.25	k
Ultimate Passive Pressure Resistance		28.98	k
Nominal Shear Capacity, $\phi_s V_n$		174.17	k
$V_u / \phi_s V_n$		10.0%	



Mat Reinforcement Parameters

Concrete Compressive Strength, f'_c	4,000	psi
Mat Rebar Quantity [Lower]	40	
Mat Rebar Size # [Lower]	8	
Mat Single Rebar Area [Lower]	0.79	in ²
Mat Rebar Quantity [Upper]	24	
Mat Rebar Size # [Upper]	8	
Mat Single Rebar Area [Upper]	0.79	in ²
Mat Rebar Yield Strength, F_y	60	ksi
Mat Clear Cover	3	in
Bending Reduction Factor, ϕ_B	0.9	
Shear Reduction Factor, ϕ_V	0.75	
Compression Reduction Factor, ϕ_C	0.65	
Steel Elastic Modulus	29,000	ksi

Mat Reinforcement Capacities

Compression Zone Factor, β_1	0.85	
Lower Reinforcement Spacing	6.91	in
Upper Reinforcement Spacing	11.72	in
One Way Design Shear, V_u	95.14	k
One Way Shear Capacity, ϕV_c	735.64	k
One Way Shear Controlling Load Direction	Diagonal to Pad Edge	
$V_u / \phi V_c$	12.9%	
Punching Design Shear Stress, v_u	22.57	psi
Punching Shear Capacity, $\phi_c V_n$	189.74	psi
$v_u / \phi_c V_n$	11.9%	
Moment Transfer Effective Flexural Width, ℓ	16	in
Neutral Axis Depth	2.09	in
Moment Transfer Flexural Capacity, $\phi M_{sc,f}$	38,203.92	k-in
$\gamma_f M_{sc} / \phi M_{sc,f}$	0.0%	
Flexure Due to Soil Pressure, M_u	744.1	k-ft
Lower Steel Mat Moment Capacity, ϕM_n	4,428.29	k-ft
Flexural Steel Controlling Load Direction	Parallel to Pad Edge	
$M_u / \phi M_n$	16.8%	
Flexure Due to Uplift, M_u	507.84	k-ft
Upper Steel Mat Moment Capacity, ϕM_n	2,686.28	k-ft
$M_u / \phi M_n$	18.9%	

Pier Reinforcement Parameters

Concrete Compressive Strength (f'_c)	4,000	psi
Pier Rebar Quantity	30	
Pier Rebar Size #	8	
Pier Single Rebar Area	0.79	in ²
Pier Rebar Yield Strength (F_y)	60	ksi
Tie Rebar Size #	4	
Tie Rebar Area (Single)	0.2	in ²
Tie Rebar Spacing	s 6	in
Tie Rebar Yield Strength (F_y)	60	ksi
Rebar Cage Diameter	76	in

Pier Reinforcement Capacities

Design Moment (M_u)	2,233.63	k-ft
Nominal Moment Capacity ($\phi_B M_n$)	3,966.56	k-ft
$M_u / \phi_B M_n$	56.3%	
Design Shear (V_u)	17.43	k
Nominal Shear Capacity ($\phi_V V_n$)	872.77	k
$V_u / \phi_V V_n$	2.0%	
Design Compression (P_u)	37.43	k
Nominal Compression Capacity ($\phi_P P_n$)	12,457.75	k
$P_u / \phi_P P_n$	0.3%	
Pier Reinforcement Ratio	0	-
$M_u / \phi_B M_n + T_u / \phi_T T_n$	56.3%	





AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name : Washington North CT, CT
ATC Site Number : 413782
Engineering Number : 14089648_C8_01
Mount Elevation : 136 ft
Carrier : T-Mobile
Carrier Site Name : MountainRd- Verizon Colo
Carrier Site Number : CTNH371A
Site Location : 6 Mountain Road
New Preston, CT 06777-1518
41.66915484 , -73.36530798
County : Litchfield
Date : April 8, 2022
Max Usage : 88%
Result : Pass

Prepared By:
Brittany Hollowell
Structural Engineer

Brittany Hollowell

Reviewed By:



Authorized by "EOR"
08 Apr 2022 05:07:05

cosign

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 136 ft.

Supporting Documents

Previous Analysis	CLS Engineering Project #12927146, dated July 3, 2019
Radio Frequency Data Sheet	RFDS ID #CTNH371A, dated March 7, 2022
Reference Photos	Site photos from 2022

Analysis

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

Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	40 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.187$, $S_1 = 0.054$
Site Class:	D - Stiff Soil
Live Loads:	$L_m = 500$ lbs, $L_v = 250$ 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.



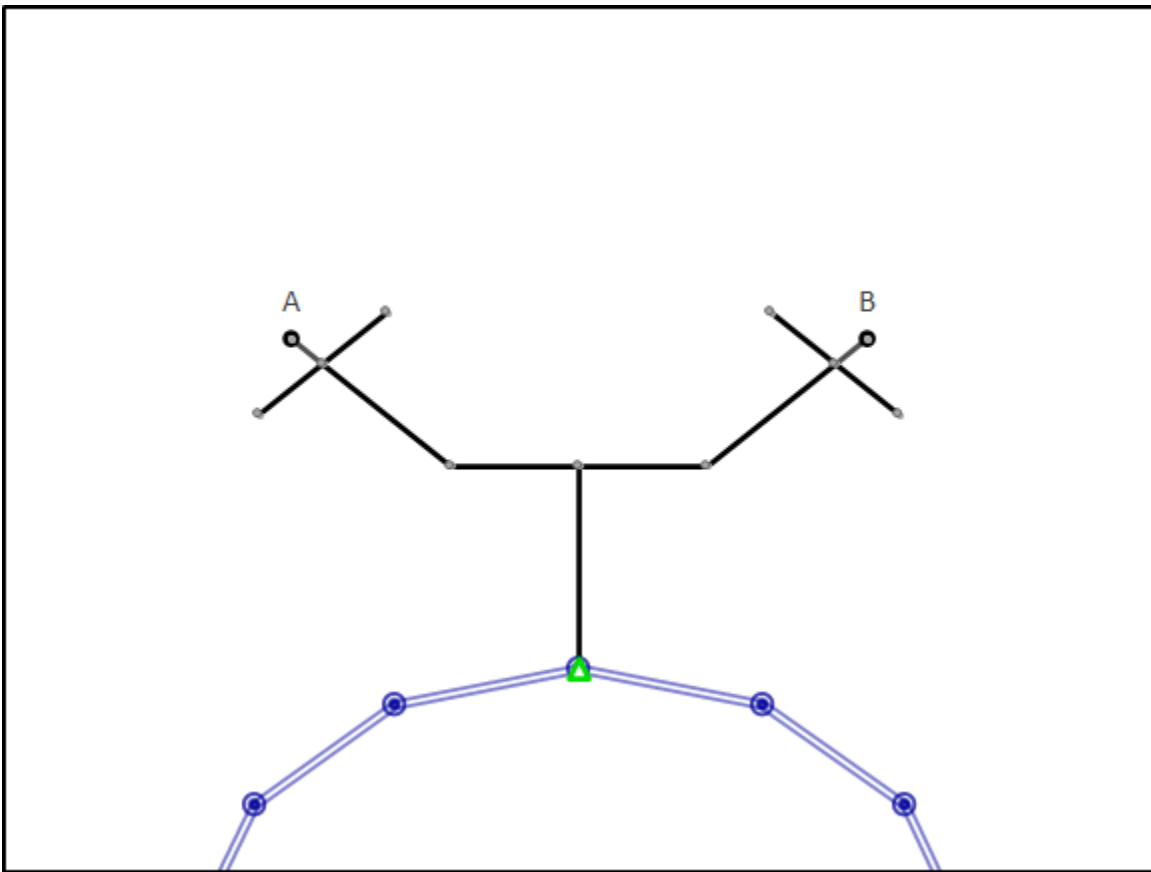
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
136.0	136.0	3	Ericsson AIR 6419 B41
		3	RFS APXVAARR24_43-U-NA20
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson 4460 BAND 2/25

Structure Usages

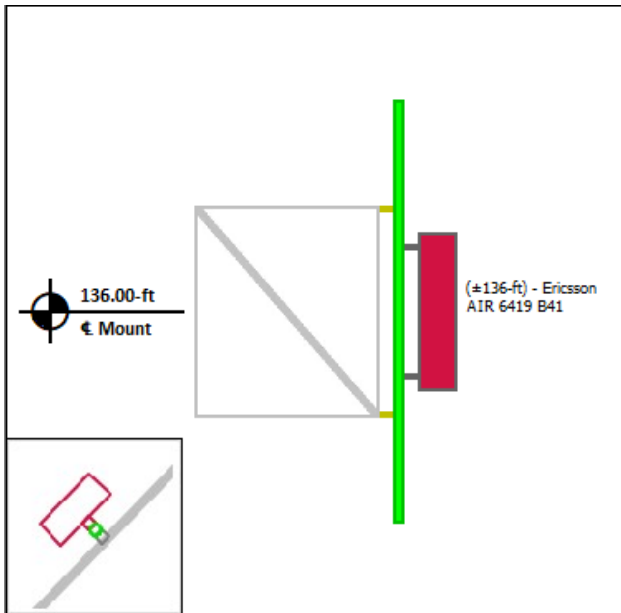
Structural Component	Controlling Usage	Pass/Fail
Horizontals	88%	Pass
Mount Pipes	22%	Pass
Serviceability	N/A	Pass

Mount Layout

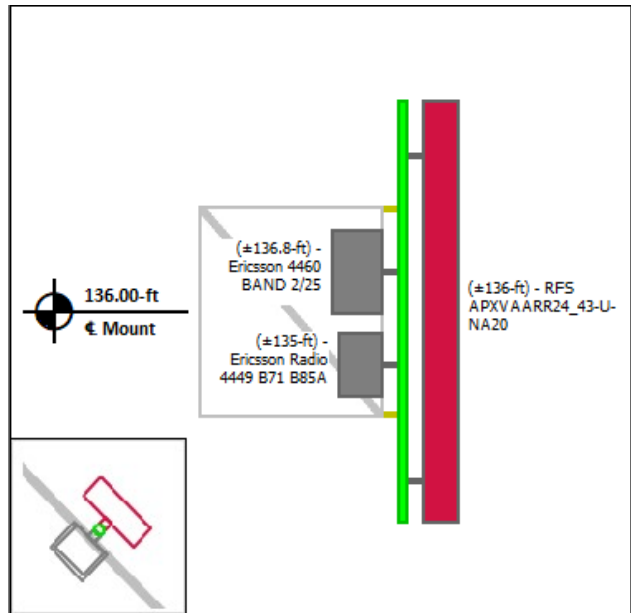


Equipment Layout

Mount Pipe A



Mount Pipe B





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: 413782
 Project Number: 14089648_C8_01
 Carrier: T-Mobile
 Mount Elevation: 136 ft
 Date: 4/8/2022

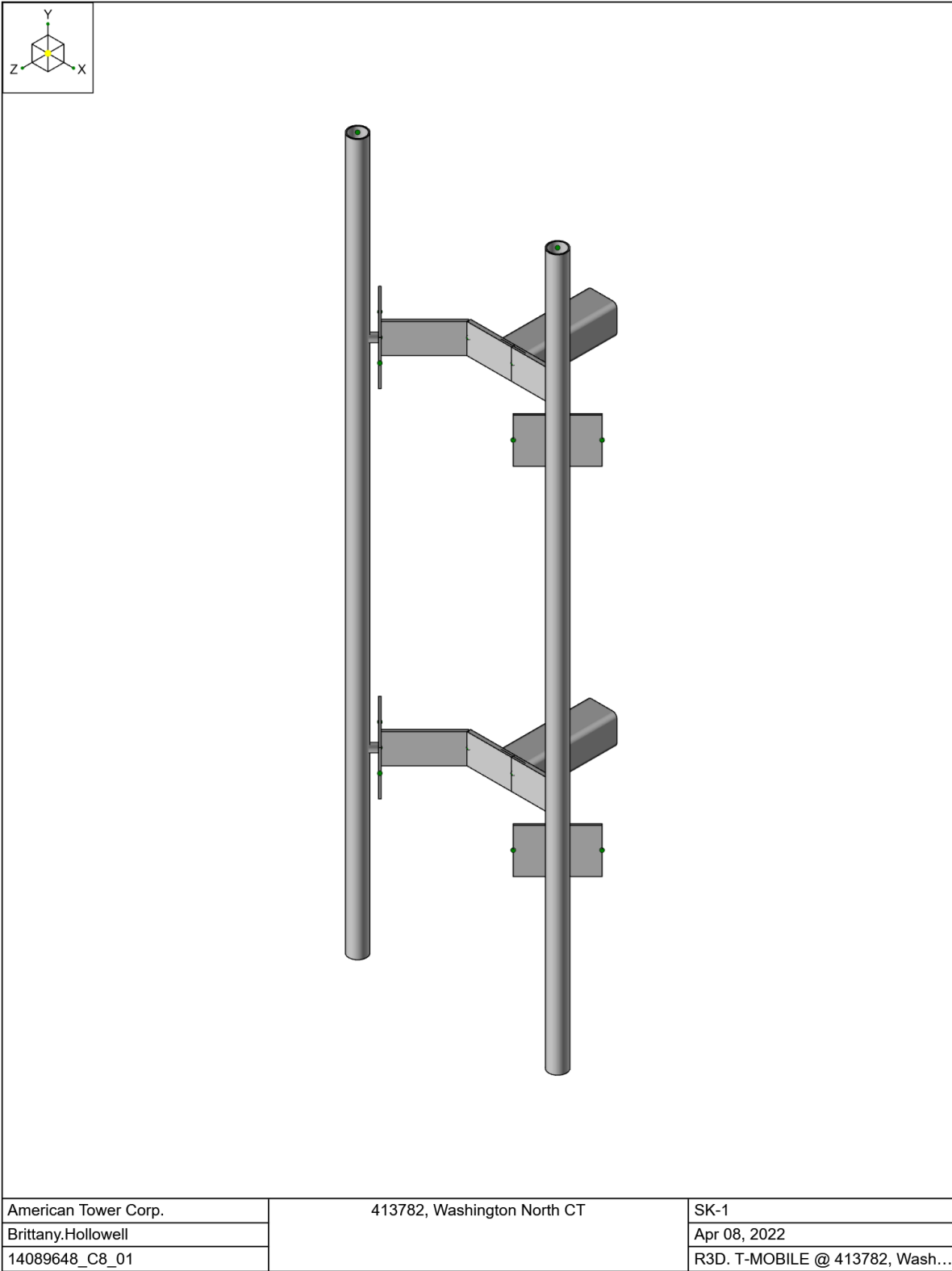
Mount Analysis Force Calculations

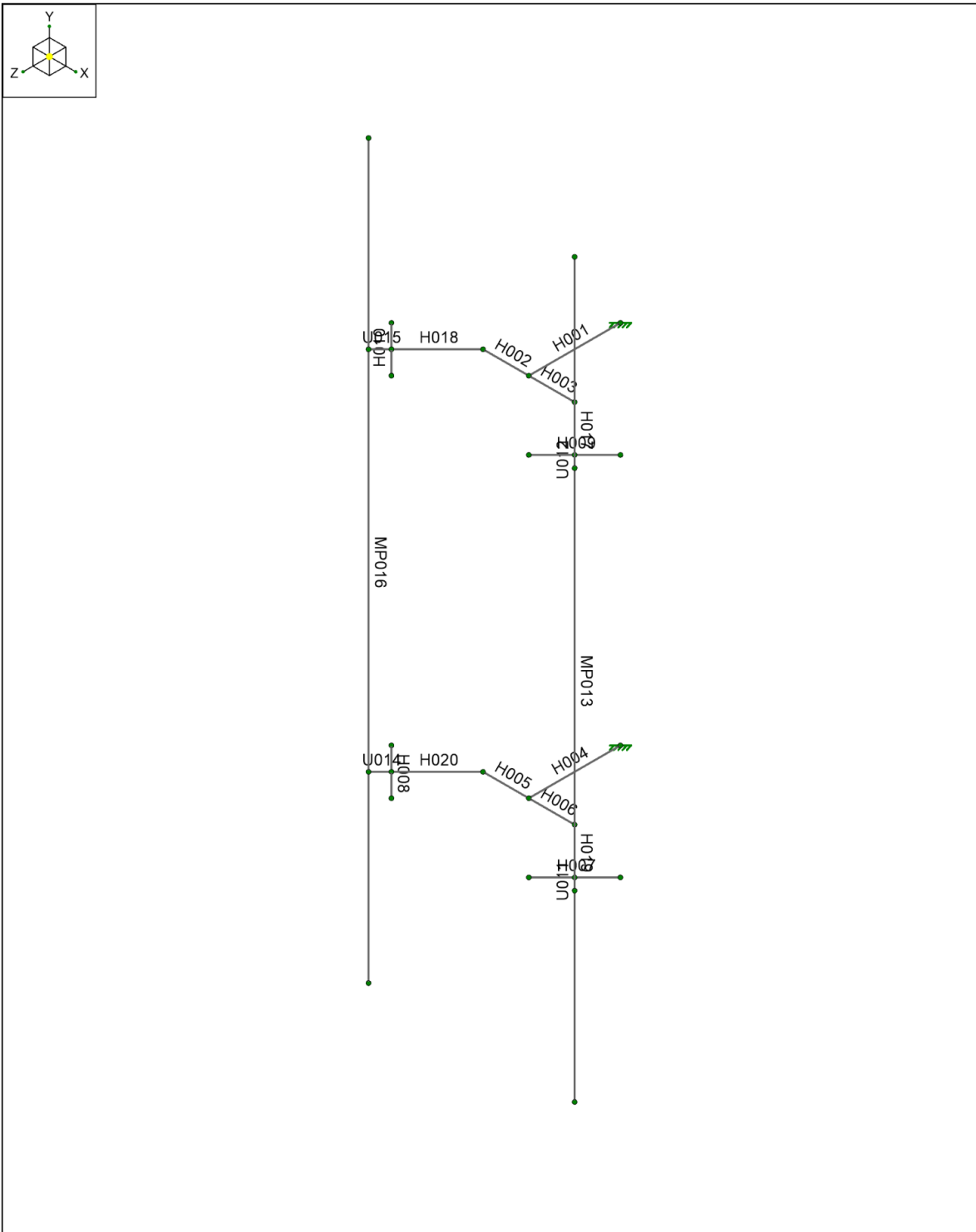
Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.08	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.98	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	114	mph
Velocity Pressure	q_z	33.3	psf
Height Escalation Factor	K_{iz}	1.15	
Thickness of Radial Glaze Ice	T_{iz}	1.15	in

Seismic Load Calculations			
Short Period DSRAP	S_{Ds}	0.199	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.100	
Amplification Factor	A	1.0	
Total Weight	W	522.5	lbs
Total Shear Force	V_s	52.1	lbs
Horizontal Seismic Load	E_h	52.1	lbs
Vertical Seismic Load	E_v	20.8	lbs

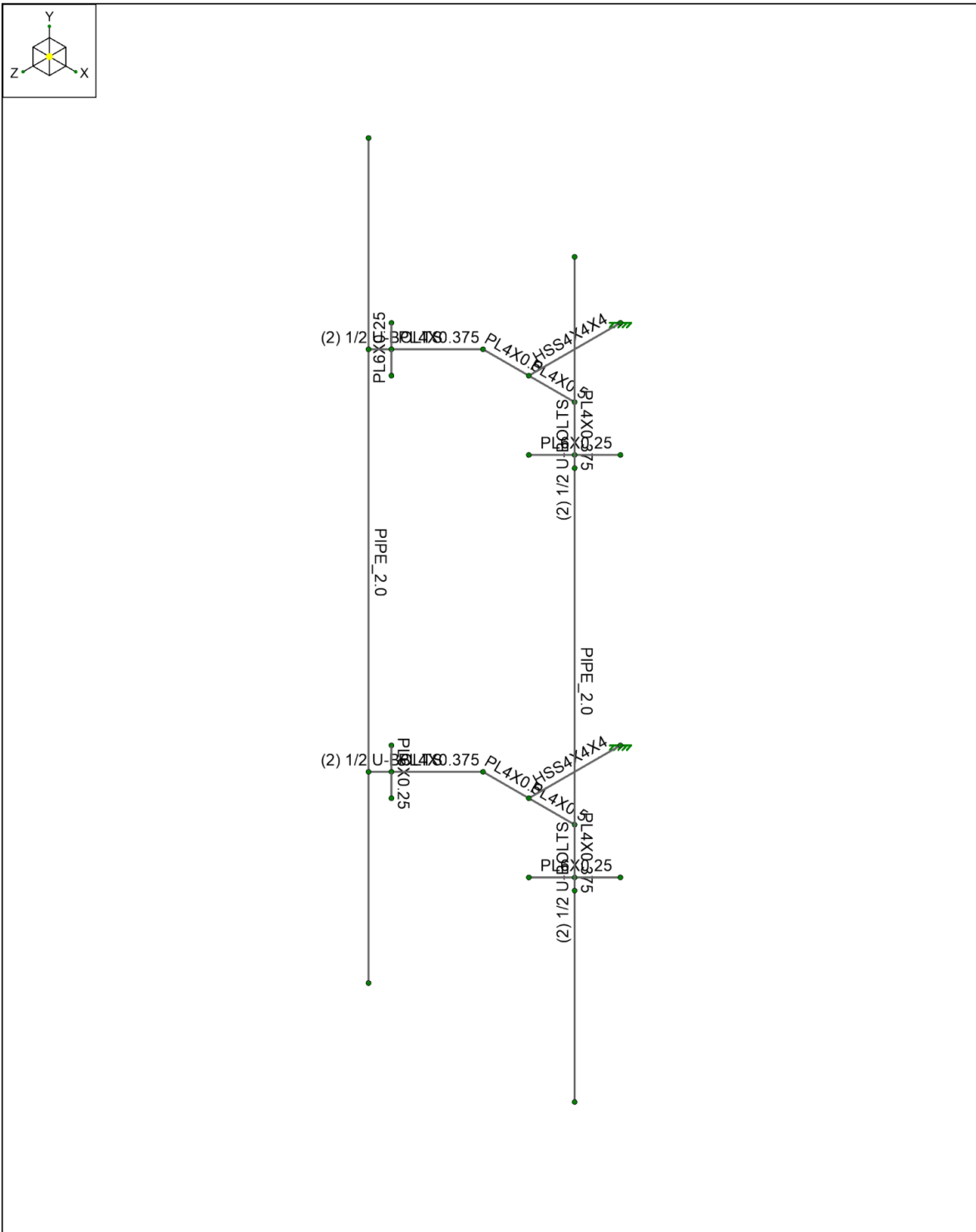
Antenna Calculations (Elevations per Application/RFDS)*								
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.46	2.43
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.72	4.50
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.24	1.85
Ericsson 4460 BAND 2/25	19.6	15.7	12.1	109.0	2.56	1.98	3.29	2.63

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

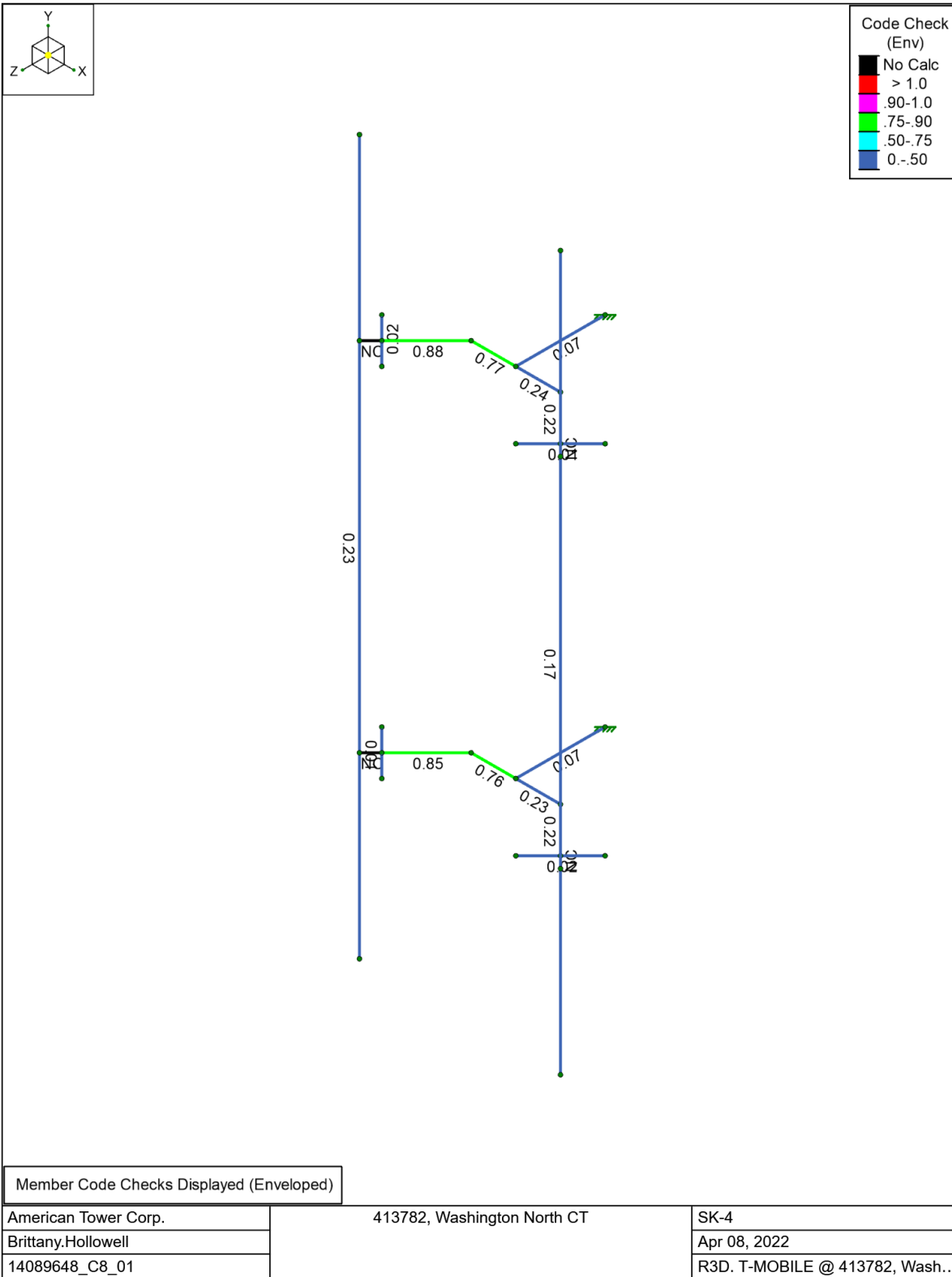


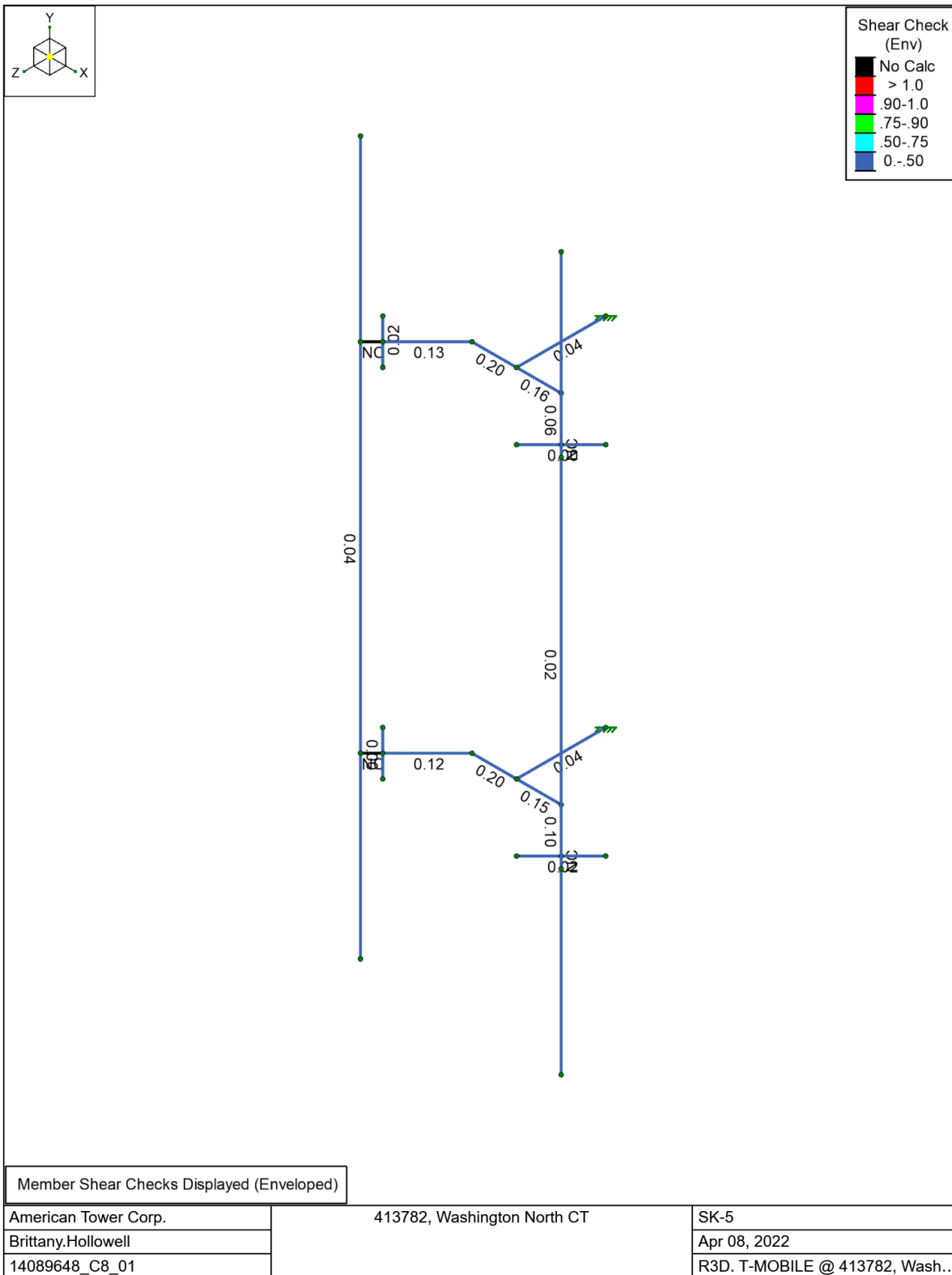


American Tower Corp.	413782, Washington North CT	SK-2
Brittany.Hollowell		Apr 08, 2022
14089648_C8_01		R3D. T-MOBILE @ 413782, Wash...



American Tower Corp.	413782, Washington North CT	SK-3
Brittany.Hollowell		Apr 08, 2022
14089648_C8_01		R3D. T-MOBILE @ 413782, Wash...







Basic Load Cases

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



Company : American Tower Corp.
 Designer : Brittany.Hollowell
 Job Number : 14089648_C8_01
 Model Name : 413782, Washington North CT

4/8/2022
 11:38:39 AM
 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	N005	Reaction	Reaction	Reaction	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	H002	N002	N004	PL4X0.5	Beam	None	A36	Typical
3	H003	N002	N003	PL4X0.5	Beam	None	A36	Typical
4	H004	N005	N006	HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
5	H005	N006	N007	PL4X0.5	Beam	None	A36	Typical
6	H006	N006	N008	PL4X0.5	Beam	None	A36	Typical
7	H007	N009	N010	PL6X0.25	Beam	None	A36	Typical
8	H008	N012	N011	PL6X0.25	Beam	None	A36	Typical
9	H009	N014	N015	PL6X0.25	Beam	None	A36	Typical
10	H010	N013	N016	PL6X0.25	Beam	None	A36	Typical
11	U011	N019	N020	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
12	U012	N017	N021	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
13	MP013	N022	N023	PIPE 2.0	Column	None	A53 Gr. B	Typical
14	U014	N024	N025	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
15	U015	N018	N026	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
16	MP016	N027	N028	PIPE 2.0	Column	None	A53 Gr. B	Typical
17	H017	N003	N021	PL4X0.375	Beam	None	A36	Typical
18	H018	N004	N026	PL4X0.375	Beam	None	A36	Typical
19	H019	N008	N020	PL4X0.375	Beam	None	A36	Typical
20	H020	N007	N025	PL4X0.375	Beam	None	A36	Typical

Member Advanced Data

	Label	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001	Yes	N/A		None
2	H002	Yes	N/A		None
3	H003	Yes	N/A		None
4	H004	Yes	N/A		None
5	H005	Yes	N/A		None
6	H006	Yes	N/A		None
7	H007	Yes	N/A		None
8	H008	Yes	N/A		None
9	H009	Yes	N/A		None
10	H010	Yes	N/A		None
11	U011	Yes	N/A	Exclude	None
12	U012	Yes	N/A	Exclude	None
13	MP013	Yes	** NA **		None
14	U014	Yes	N/A	Exclude	None
15	U015	Yes	N/A	Exclude	None
16	MP016	Yes	** NA **		None
17	H017	Yes	N/A		None
18	H018	Yes	N/A		None
19	H019	Yes	N/A		None
20	H020	Yes	N/A		None



Hot Rolled Steel Design Parameters

Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function	
1	H001	HSS4X4X4	12			Lbyy	1	1	Lateral	
2	H002	PL4X0.5	6			Lbyy	0.65	0.65	Lateral	
3	H003	PL4X0.5	6			Lbyy	0.65	0.65	Lateral	
4	H004	HSS4X4X4	12			Lbyy	1	1	Lateral	
5	H005	PL4X0.5	6			Lbyy	0.65	0.65	Lateral	
6	H006	PL4X0.5	6			Lbyy	0.65	0.65	Lateral	
7	H007	PL6X0.25	8.485			Lbyy	1	1	Lateral	
8	H008	PL6X0.25	8.485			Lbyy	1	1	Lateral	
9	H009	PL6X0.25	8.485			Lbyy	1	1	Lateral	
10	H010	PL6X0.25	8.485			Lbyy	1	1	Lateral	
11	U011	(2) 1/2 U-BOLTS	2.121			Lbyy	0.5	0.5	Lateral	
12	U012	(2) 1/2 U-BOLTS	2.121			Lbyy	0.5	0.5	Lateral	
13	MP013	PIPE 2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
14	U014	(2) 1/2 U-BOLTS	2.121			Lbyy	0.5	0.5	Lateral	
15	U015	(2) 1/2 U-BOLTS	2.121			Lbyy	0.5	0.5	Lateral	
16	MP016	PIPE 2.0	96	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
17	H017	PL4X0.375	8.485			Lbyy	0.65	0.65	Lateral	
18	H018	PL4X0.375	8.485			Lbyy	0.65	0.65	Lateral	
19	H019	PL4X0.375	8.485			Lbyy	0.65	0.65	Lateral	
20	H020	PL4X0.375	8.485			Lbyy	0.65	0.65	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	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2
3	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	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	464.518	4	703.324	85	523.537	14	-38.206	19	759.208	4	168.542	80
2		min	-409.378	22	3.369	19	-640.9	8	-795.198	85	-739.123	22	-351.121	86
3	N005	max	386.573	16	699.802	91	606.788	2	-39.384	25	700.3	16	164.459	74
4		min	-441.641	10	3.159	25	-489.546	20	-789.804	91	-738.113	10	-347.512	92
5	Totals:	max	843.185	4	1373.708	86	1113.643	2						
6		min	-843.185	10	467.781	21	-1113.643	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	0.072	0	10	0.044	0	y	97	138935.324	139518	16180.5	16180.5	1.57	H1-1b
2	H002	PL4X0.5	0.767	0	9	0.202	0	y	92	62356.689	64800	675	5400	1.598	H1-1b
3	H003	PL4X0.5	0.236	0	8	0.155	0	y	75	62356.689	64800	675	5400	1.458	H1-1b
4	H004	HSS4X4X4	0.07	0	4	0.044	0	y	91	138935.324	139518	16180.5	16180.5	1.574	H1-1b
5	H005	PL4X0.5	0.755	0	3	0.198	0	y	86	62356.689	64800	675	5400	1.59	H1-1b
6	H006	PL4X0.5	0.235	0	2	0.151	0	y	81	62356.689	64800	675	5400	1.457	H1-1b
7	H007	PL6X0.25	0.022	4.243	72	0.019	4.243	y	72	23473.377	48600	253.125	6075	1.563	H1-1b
8	H008	PL6X0.25	0.007	4.243	7	0	4.243	z	19	23473.377	48600	253.125	6075	1.562	H1-1b
9	H009	PL6X0.25	0.007	4.243	9	0	4.243	z	9	23473.377	48600	253.125	6075	1.562	H1-1b
10	H010	PL6X0.25	0.022	4.243	73	0.019	4.243	y	73	23473.377	48600	253.125	6075	1.562	H1-1b
11	MP013	PIPE 2.0	0.174	24	82	0.021	24		82	26005.018	32130	1871.625	1871.625	1.485	H1-1b
12	MP016	PIPE 2.0	0.225	24	91	0.038	24		8	26005.018	32130	1871.625	1871.625	3	H1-1b
13	H017	PL4X0.375	0.225	0	5	0.056	0	y	77	42392.311	48600	379.688	4050	2.169	H1-1b



Company : American Tower Corp.
 Designer : Brittany.Hollowell
 Job Number : 14089648_C8_01
 Model Name : 413782, Washington North CT

4/8/2022
 11:38:39 AM
 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	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
14	H018	PL4X0.375	0.878	0	3	0.128	0	y	3		42392.311	48600	379.688	4050	2.163	H1-1b
15	H019	PL4X0.375	0.223	0	5	0.105	0	y	72		42392.311	48600	379.688	4050	1.919	H1-1b
16	H020	PL4X0.375	0.85	0	3	0.124	0	y	9		42392.311	48600	379.688	4050	2.167	H1-1b

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

T-Mobile Existing Facility

Site ID: CTNH371A

**MountainRd- Verizon Colo
6 Mountain Road
New Preston, Connecticut 06777**

June 16, 2022

EBI Project Number: 6222003962

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	14.68%

June 16, 2022

T-Mobile

Attn: Jason Overbey, RF Manager

35 Griffin Road South

Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTNH371A - MountainRd- Verizon Colo

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **6 Mountain Road in New Preston, 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 6 Mountain Road in New Preston, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 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) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts per Channel.
- 4) 1 UMTS channels (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 10 Watts per Channel.
- 5) 1 LTE channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.
- 6) 1 LTE channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 160 Watts per Channel.

- 7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 11) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 13) The antennas used in this modeling are the Ericsson AIR 6419 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 / 2100 MHz channel(s) in Sector A, the Ericsson AIR 6419 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 / 2100 MHz channel(s) in Sector B, the Ericsson AIR 6419 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 / 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.

- 14) The antenna mounting height centerline of the proposed antennas is 136 feet above ground level (AGL).
- 15) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
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:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	136 feet	Height (AGL):	136 feet	Height (AGL):	136 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A1 MPE %:	6.60%	Antenna B1 MPE %:	6.60%	Antenna C1 MPE %:	6.60%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 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 / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	136 feet	Height (AGL):	136 feet	Height (AGL):	136 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	490.00 Watts	Total TX Power (W):	490.00 Watts	Total TX Power (W):	490.00 Watts
ERP (W):	16,380.10	ERP (W):	16,380.10	ERP (W):	16,380.10
Antenna A2 MPE %:	4.45%	Antenna B2 MPE %:	4.45%	Antenna C2 MPE %:	4.45%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	11.05%
Verizon	1.75%
AT&T	1.88%
Site Total MPE % :	14.68%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	11.05%
T-Mobile Sector B Total:	11.05%
T-Mobile Sector C Total:	11.05%
Site Total MPE % :	14.68%

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	9619.47	136.0	20.46	2500 MHz LTE IC & 2C Traffic	1000	2.05%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	136.0	1.53	2500 MHz LTE IC & 2C Broadcast	1000	0.15%
T-Mobile 2500 MHz NR Traffic	1	19238.94	136.0	40.93	2500 MHz NR Traffic	1000	4.09%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	136.0	3.05	2500 MHz NR Broadcast	1000	0.31%
T-Mobile 600 MHz LTE	1	788.97	136.0	1.68	600 MHz LTE	400	0.42%
T-Mobile 600 MHz NR	1	1577.94	136.0	3.36	600 MHz NR	400	0.84%
T-Mobile 700 MHz LTE	1	865.09	136.0	1.84	700 MHz LTE	467	0.39%
T-Mobile 1900 MHz UMTS	1	367.28	136.0	0.78	1900 MHz UMTS	1000	0.08%
T-Mobile 1900 MHz LTE	1	5876.52	136.0	12.50	1900 MHz LTE	1000	1.25%
T-Mobile 2100 MHz LTE	1	6904.31	136.0	14.69	2100 MHz LTE	1000	1.47%
						Total:	11.05%

• 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:	11.05%
Sector B:	11.05%
Sector C:	11.05%
T-Mobile Maximum MPE % (Sector A):	11.05%
Site Total:	14.68%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **14.68%** 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.

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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CTNH371A_Anchor_3

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Section 1 - Site Information

Site ID: CTNH371A
Status: Final
Version: 3
Project Type: Anchor
Approved: 3/7/2022 8:40:13 AM
Approved By: Pratik.Patil30@T-Mobile.com
Last Modified: 3/7/2022 8:40:13 AM
Last Modified By: Pratik.Patil30@T-Mobile.com

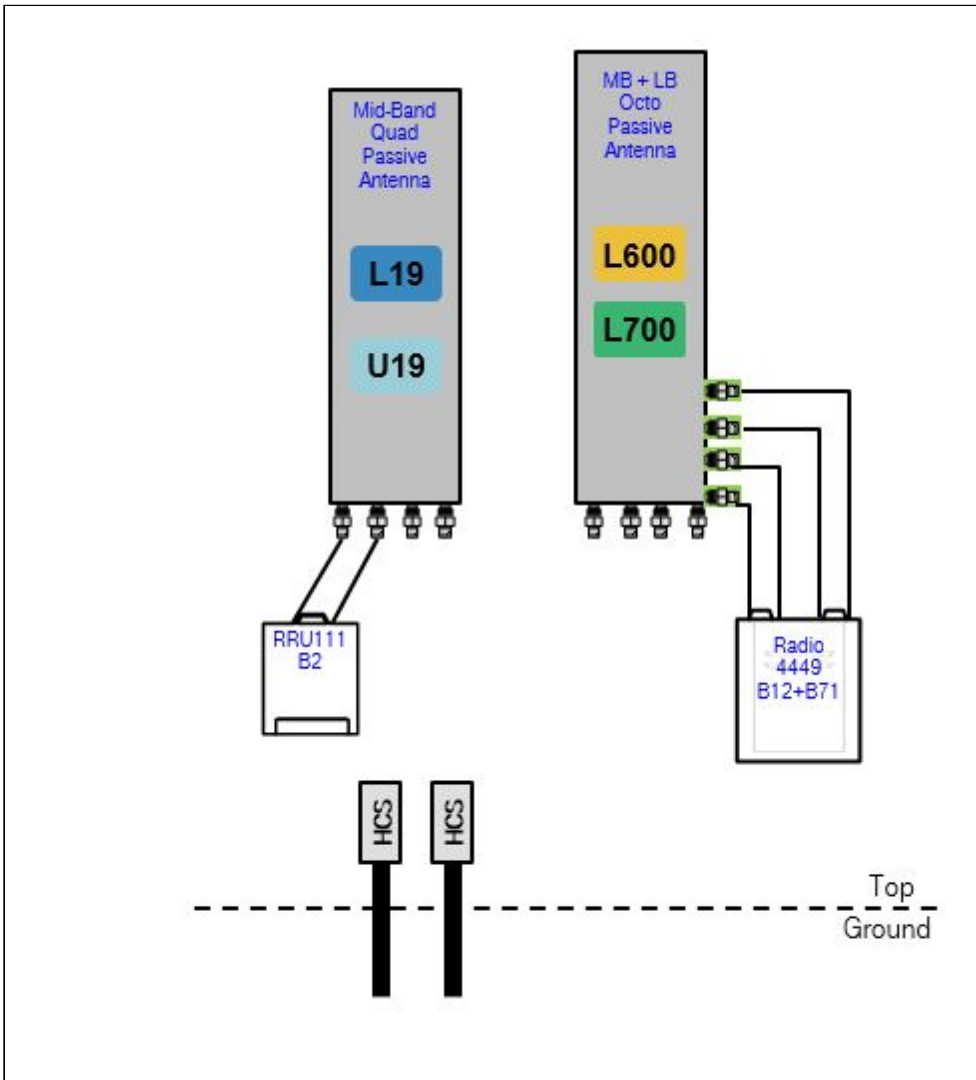
Site Name: MountainRd- Verizon Colo
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2022
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: Verizon Wireless

Latitude: 41.66888046
Longitude: -73.36525800
Address: 6 Mountain Road
City, State: Washington, CT
Region: NORTHEAST

RAN Template: 67D5D998E MUAC		AL Template: 67D5998E_1xAIR+1OP		
Sector Count: 3	Antenna Count: 6	Coax Line Count: 0	TMA Count: 0	RRU Count: 6

Section 2 - Existing Template Images

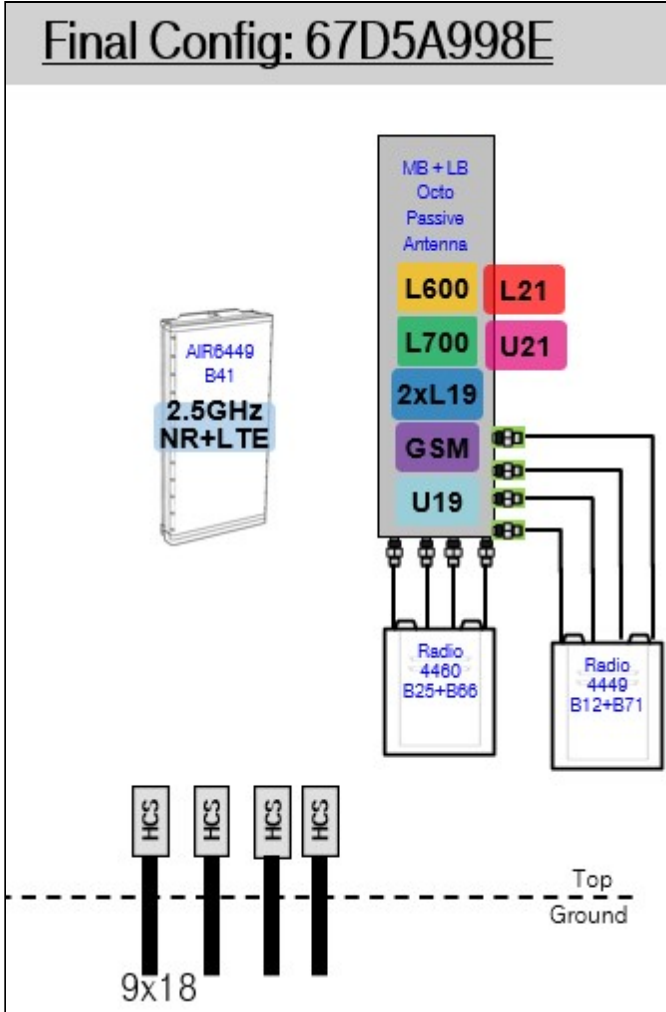
67D07A_1QP+1OP.JPG



Notes:

Section 3 - Proposed Template Images

67D5A998E.jpg



Notes:

Section 4 - Siteplan Images

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

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D07A 6102 MUAC

Enclosure	1	2
Enclosure Type	Ancillary Equipment (Ericsson)	RBS 6102 MU AC
Baseband		DUW30 U1900 BB 6630 L1900 BB 6630 L700 L600 N600
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	

Proposed RAN Equipment

Template: 67D5D998E MUAC

Enclosure	1	2	3	4
Enclosure Type	Ancillary Equipment (Ericsson)	RBS 6102 MU AC	Enclosure 6160 AC V1	B160
Baseband		DUW30 U1900 BB 6630 L2100 L1900 BB 6630 L700 L600 N600	RP 6651 L2500 N2500	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 2)		Ericsson Hybrid Trunk 6/24 4AWG 60m PSU 4813 vR4A (Kit)	
Transport System			CSR IXRe V2 (Gen2)	

RAN Scope of Work:

- Remove and return all cabinet radios from existing base station cabinet.
- Upgrade breaker to 125A for 6102.
- Add 150A breaker for 6160.
- Add (1) Enclosure 6160.
- Add (1) iXRe Router to new Enclosure 6160.
- Add (1) RP 6651 for L2500/N2500 to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- **Existing : (2) 6x12 confirmed during scoping.
- Remove all Coax.
- Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
--	--

Section 6 - A&L Equipment

Existing Template: 67D07A_1QP+1OP
Proposed Template: 67D5998E_1xAIR+1OP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro				
Antenna	1		2		
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)		RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	50		50		
M. Tilt	0		0		
Height	136		136		
Ports	P1		P2	P3	P4 P5
Active Tech.	U1900 L1900		L700 L600 N600	L700 L600 N600	
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2		2	2	
Cables	Coax Jumper - 10 ft. (x2)		Coax Jumper - 10 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 10 ft. (x2)	
TMA's					
Diplexers / Combiners					
Radio	RRUS11 B2 (At Antenna)		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	
Sector Equipment					

Unconnected Equipment:

Scope of Work:

Replace LB Dual in Position 2 with (1) LB/MB Octo. Match top with APX.
Replace RRUS11 B12 in Position 2 with (1) Radio 4449 B71+B12 for L600 and L700.

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

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
--	--

CTNH371A_Anchor_3

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 1 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	50			50		
M. Tilt	0			0		
Height	136			136		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L2100 L1900 U1900	L2100 L1900 U1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt						
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						
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 TMA's.
 Remove all diplexers.
 Remove all Coaxial Lines.
 Replace APXV18 with (1) AIR6419 B41 for L2500 and N2500 in Position 1.
 Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and GSM to Position 2 at antenna.
 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: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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Sector 2 (Existing) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1		2		
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)		RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	130		130		
M. Tilt	0		0		
Height	136		136		
Ports	P1		P2	P3	P4 P5
Active Tech.	U1900 L1900		L700 L600 N600	L700 L600 N600	
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2		2	2	
Cables	Coax Jumper - 10 ft. (x2)		Coax Jumper - 10 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 10 ft. (x2)	
TMA's					
Diplexers / Combiners					
Radio	RRUS11 B2 (At Antenna)		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					
Replace LB Dual in Position 2 with (1) LB/MB Octo. Match top with APX. Replace RRUS11 B12 in Position 2 with (1) Radio 4449 B71+B12 for L600 and L700.					
*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.					

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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CTNH371A_Anchor_3

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 2 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	130			130		
M. Tilt	0			0		
Height	136			136		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L2100 L1900 U1900	L2100 L1900 U1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt						
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						
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 TMA's.

Remove all diplexers.

Remove all Coaxial Lines.

Replace APXV18 with (1) AIR6419 B41 for L2500 and N2500 in Position 1.

Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and GSM to Position 2 at antenna.

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: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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Sector 3 (Existing) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1		2			
Antenna Model	RFS - APXV18-206516S-C-A20 (Dual)		RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	230		230			
M. Tilt	0		0			
Height	136		136			
Ports	P1		P2	P3	P4	P5
Active Tech.	U1900 L1900		L700 L600 N600	L700 L600 N600		
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2		2	2		
Cables	Coax Jumper - 10 ft. (x2)		Coax Jumper - 10 ft. (x2) Fiber Jumper - 15 ft.	Coax Jumper - 10 ft.		
TMA's						
Diplexers / Combiners						
Radio	RRUS11 B2 (At Antenna)		Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
Sector Equipment						
Unconnected Equipment:						
Scope of Work:						
Replace LB Dual in Position 2 with (1) LB/MB Octo. Match top with APX. Replace RRUS11 B12 in Position 2 with (1) Radio 4449 B71+B12 for L600 and L700.						
*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.						

RAN Template: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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CTNH371A_Anchor_3

Print Name: Preliminary (RFDS_For_Scoping)
PORs: Anchor_Phase 3

Sector 3 (Proposed) view from behind						
Coverage Type	A - Outdoor Macro					
Antenna	1			2		
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)			RFS - APXVAARR24_43-U-NA20 (Octo)		
Azimuth	230			230		
M. Tilt	0			0		
Height	136			136		
Ports	P1	P2	P3	P4	P5	P6
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L2100 L1900 U1900	L2100 L1900 U1900
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt						
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						
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 TMA's.
 Remove all diplexers.
 Remove all Coaxial Lines.
 Replace APXV18 with (1) AIR6419 B41 for L2500 and N2500 in Position 1.
 Add (1) Radio 4460 B25+B66 for L2100, L1900 (Both carriers), and GSM to Position 2 at antenna.
 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: 67D5D998E MUAC	A&L Template: 67D5998E_1xAIR+1OP
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Section 7 - Power Systems Equipment
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Existing Power Systems Equipment
----- This section is intentionally blank. -----

Proposed Power Systems Equipment	
Enclosure	1
Enclosure Type	Enclosure 6160 AC V1