

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



June 10th, 2022

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

RE: Notice of Exempt Modification
123 Palmer Road, Chaplin, CT 06235
Latitude: 41.784528
Longitude: -72.135694
T-Mobile Site#: CT11508F - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 117-foot level of the existing 146-foot monopole tower at 123 Palmer Road in Chaplin, CT. The 146-foot monopole tower is owned and operated by American Tower. The property is owned by the Janet Bessette Revocable Living Trust. T-Mobile now intends to remove and replace (3) antennas and add (3) antennas at the 117-foot level of the tower. These antennas will support 5G services.

Planned Modifications:

Tower:

Install New:

- (3) Ericsson AIR 6419 B41 Antennas
- (3) Commscope VV-65A-R1 Antennas
- (3) Radio 4460 B25 B66
- (2) 1.99" Hybrid Cables

To Be Removed:

- (3) APX18 Antennas
- (3) Radio 4415s
- (3) KRY 112 489/2 TMAs
- (3) KRY 112 144/2 TMAs
- (12) 1 5/8" Coax

Ground:

Install (1) 6160 Power Enclosure, and (1) B160 Battery Rack. Remove (6) RUS02 and (3) Diplexeres.

This facility was originally approved by the Council in Docket No. 211 on February 14, 2002. This modification will not break any of the conditions set forth in this approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman Juan Roman III, Elected Official, and Jay Gigliotti, Zoning Enforcement Officer, as well as the tower and property owner.

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

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

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

Sincerely,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Juan Roman III - First Selectman of Chaplin
Jay Gigliotti - Zoning Enforcement Officer
Everest Infrastructure Partners - Tower Owner
Frontier Communications - Property Owner

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

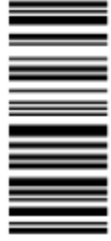
1 LBS

1 OF 1

SHIP TO:
JAY GIGLIOTTI
495 PHOENIXVILLE ROAD
CHAPLIN CT 06235



CT 063 0-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9909 8516



BILLING: P/P

Reference #: CT11508F

XOL 22.05.37 NV45 24.04.06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
FIRST SELECTMAN
JUAN ROMAN III
495 PHOENIXVILLE ROAD
CHAPLIN CT 06235



CT 063 0-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9706 8507



BILLING: P/P

Reference #: CT11508F

XOL 22.05.37 NV45 24.04.06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

SHIP TO:
JANET BESSETTE TRUST
5 VICTORY LANE
WINDHAM CT 06226



CT 063 0-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9614 8520



BILLING: P/P

Reference #1: CT11508F

XOL 22.05.57 NV45 24.04.06/2022*



TM

ERIC BREUN
2016587728
1 INTERNATIONAL BLVD.
MAHWAH NJ 07495

1 LBS

1 OF 1

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



MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9390 5038



BILLING: P/P

Reference #1: CT11508F

XOL 22.05.57 NV45 24.04.06/2022*



TM

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/08/2022

Delivery Time: 6:04 PM

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: [1ZV257420396148520](#)

Ship To: JANET BESSETTE TRUST
5 VICTORY LANE
WINDHAM, CT 06226
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CT11508F](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/08/2022

Delivery Time: 11:19 AM

Signed by: ANCRI

TRANSCEND WIRELESS

Tracking Number: [1ZV257420393905038](#)

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: [CT11508F](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/08/2022

Delivery Time: 10:07 AM

Signed by: GLUCK

TRANSCEND WIRELESS

Tracking Number: [1ZV257420397068507](#)

Ship To: JUAN ROMAN III
495 PHOENIXVILLE ROAD
CHAPLIN, CT 06235
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CT11508F

Hello, your package has been delivered.

Delivery Date: Wednesday, 06/08/2022

Delivery Time: 10:07 AM

Signed by: GLUCK

TRANSCEND WIRELESS

Tracking Number: [1ZV257420399098516](#)

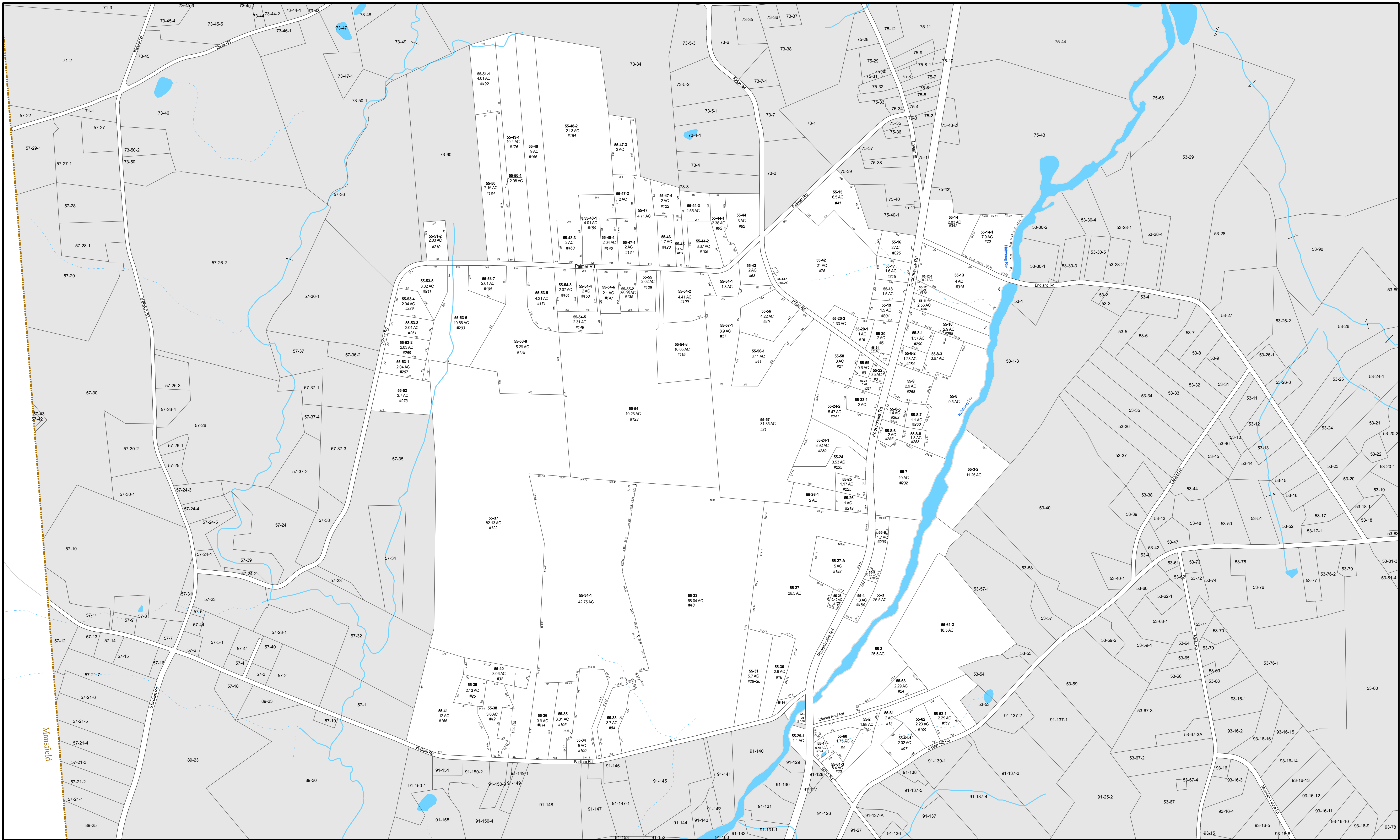
Ship To: JAY GIGLIOTTI
495 PHOENIXVILLE ROAD
CHAPLIN, CT 06235
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CT11508F



THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.

THE HORIZONTAL DATUM IS THE CONNECTICUT STATE PLANE COORDINATE SYSTEM, NAD 83.

REVISED AND REPRINTED BY

CAI Technologies
Precision Mapping, Geospatial Solutions.
11 Pleasant Street, Littleton, NH 03561
800.322.4540 - www.cai-tech.com

LEGEND

PARCEL AREA	.....	5.1 AC	COMMON OWNERSHIP	.....
DIMENSION	.....	365	WATER BODY	.....
SCALED DIMENSION	.....	100±	STREAM	.....
EASEMENT	.....		INTERMITTENT STREAM	.....
TOWN LINE	.....		CONDOMINIUM	.....

SCALE: 1" = 400'

FEET: 400 200 0 400 800 1,200
METERS: 100 50 0 100 200 300

REVISED TO: OCTOBER 1, 2021

PROPERTY MAPS

CHAPLIN

CONNECTICUT

INDEX DIAGRAM

N

MAP NO.

55

CURRENT OWNER		TOPO.	UTILITIES	STRT./ROAD	LOCATION	CURRENT ASSESSMENT			
BESSETTE JANET L REVOCABLE LIVI						Description	Code	Appraised Value	Assessed Value
5 VICTORY LN						RES LAND	1-1	25,300	17,700
WILLIMANTIC, CT 06226		SUPPLEMENTAL DATA Other ID: 55-54 DV Lot # Census Tr. Survey # DV Map # GIS ID:							
Additional Owners:									
		Call Back		X		Total		25,300	17,700

6024 CHAPLIN, CT

VISION

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.	PREVIOUS ASSESSMENTS (HISTORY)								
BESSETTE JANET L REVOCABLE LIVING TRUST		102/ 971	10/03/2016	U	V	0	01	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
BESSETTE JANET L		87/ 976	01/09/2007	U	V	0	06	2017	1-1	22,900	2012	6-2	8,400	2008	1-1	159,000
		60/ 633	01/25/1996		V	0	00							2008	5-2	45,900
								Total:		22,900	Total:		8,400	Total:		309,800

EXEMPTIONS				OTHER ASSESSMENTS			
Year	Type	Description	Amount	Code	Description	Number	Amount
Total:							

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD				
NBHD/SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	25,300
Special Land Value	0
Total Appraised Parcel Value	25,300
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	25,300

NOTES							
2015-ADJ ACREAGE PER SURVEY MAP VOL 12 PG 14							
2016-REMOVED COMMERICAL LAND LESSEE RESPONSIBLE							
CELL TOWER LAND LEASE VALUE= 1500 X 12= 18,000-(10% EXP)=16,200/.09 CAP= 180,000							

BUILDING PERMIT RECORD							
Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.
18-67E	10/26/2018	EL	Electric	13,500		0	
18-54E	10/09/2018	EL	Electric	20,000		0	

VISIT/ CHANGE HISTORY					
Date	Type	IS	ID	Cd.	Purpose/Result
04/24/2018			JW	41	Change - Field Review
02/16/2016			AO	45	Change - Value Change To

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing			S Adj Fact	Adj. Unit Price	Land Value
																Spec Use	Spec Calc				
1	100	Resid Vacant					2.00 AC	3,100.00	1.0000	0	1.0000	1.00		0.00					1.00		6,200
1	100	Resid Vacant					8.23 AC	3,100.00	1.0000	0	1.0000	0.75		0.00	TOPO				1.00		19,100

Total Card Land Units:			10.23	AC	Parcel Total Land Area:			10.23	AC	Total Land Value:										25,300
------------------------	--	--	-------	----	-------------------------	--	--	-------	----	-------------------	--	--	--	--	--	--	--	--	--	--------

CONSTRUCTION DETAIL				CONSTRUCTION DETAIL (CONTINUED)			
Element	Cd.	Ch.	Description	Element	Cd.	Ch.	Description
Model	00		Vacant				
MIXED USE							
	<i>Code</i>		<i>Description</i>				<i>Percentage</i>
	100		Resid Vacant				100
COST/MARKET VALUATION							
	Adj. Base Rate:			0.00			
	AYB						
	Dep Code						
	Remodel Rating						
	Year Remodeled						
	Dep %						
	Functional Obslnc						
	External Obslnc						
	Cost Trend Factor						
	Condition						
	% Complete						
	Overall % Cond						
	Apprais Val						
	Dep % Ovr						
	Dep Ovr Comment						
	Misc Imp Ovr						
	Misc Imp Ovr Comment						
	Cost to Cure Ovr						
	Cost to Cure Ovr Comment						

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)												
Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
No Photo On Record												

BUILDING SUB-AREA SUMMARY SECTION							
Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value	
Ttl. Gross Liv/Lease Area:		0	0				



CONNECTICUT SITING COUNCIL

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Melanie Bachman,
Executive Director

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<p>DOCKET NO. 211 - Crown Atlantic Company LLC and 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 cellular telecommunications facility at 31 Ridge Road (Lot 57) or at Lot 54 Palmer Road, Chaplin, Connecticut.</p>	Connecticut } Siting } Council } February } 14, 2002
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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 at proposed site number two in Chaplin, Connecticut, 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 Crown Atlantic Company LLC and Cellco Partnership d/b/a Verizon Wireless for the construction, maintenance and operation of a cellular telecommunications facility at proposed site number two located at Lot 54, Palmer Road, Chaplin, Connecticut. We deny certification of the proposed number one site located at 31 Ridge Road, Chaplin, 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 Cellco, Sprint PCS, and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level.
2. 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 submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for site development to include the location and specifications for the tower, tower foundation, antennas, equipment building, security fence, access road, utility line, and landscaping plan. The D&M Plan shall also include construction plans to be submitted prior to construction for site clearing, water drainage, and erosion and sedimentation control consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. 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 provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. 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.
5. 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.
6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, 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.
7. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.
8. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order or within three years after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, and the Willimantic Chronicle.

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

Crown Atlantic Company LLC
and Cellco Partnership d/b/a
Verizon Wireless

Its Representative

Robert Stanford
Crown Atlantic Company LLC
703 Hebron Avenue
Glastonbury, CT 06033

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

Intervenor

Sprint Spectrum L.P. d/b/a
Sprint PCS

Its Representative

Thomas J. Regan, Esq.
Brown, Rudnick, Freed & Gesmer
CityPlace I, 185 Asylum Street
Hartford, CT 06103-3402

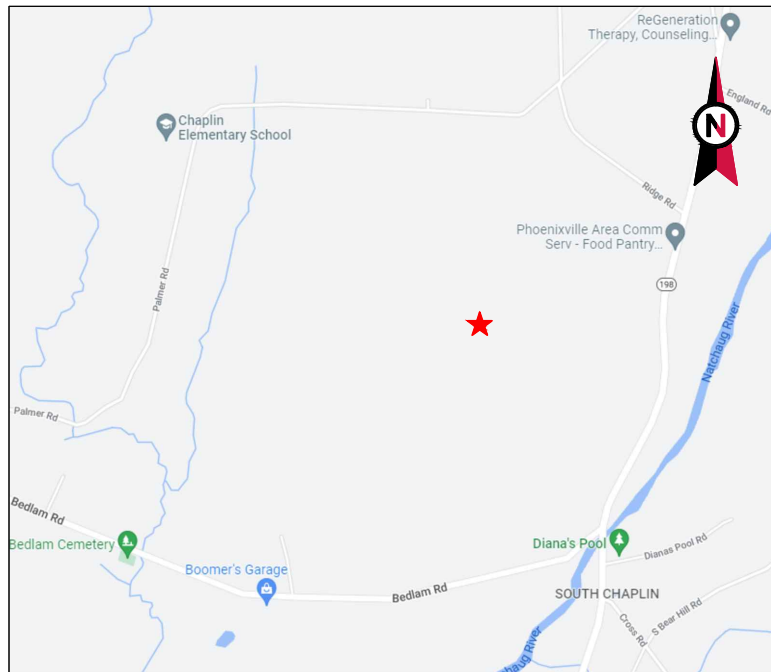
Content Last Modified on 8/12/2002 10:26:10 AM

Ten Franklin Square New Britain, CT 06051 / 860- 827-2935

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VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: CT CHAPLIN SOUTH CT
 ATC SITE NUMBER: 411216
 T-MOBILE SITE NAME: CT508//VERIZON CHAPLIN
 T-MOBILE SITE NUMBER: CT11508F
 SITE ADDRESS: 123 PALMER ROAD
 CHAPLIN, CT 06235-2416



LOCATION MAP

**T-MOBILE ANCHOR AMENDMENT PLAN
 67D5D998E ODE+6160 CONFIGURATION**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. 2018 CT STATE BUILDING CODE/ 2015 IBC W/ CT AMENDMENTS 2. 2018 CT STATE BUILDING CODE/ 2017 NEC W/ CT AMENDMENTS 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	SITE ADDRESS: 123 PALMER ROAD CHAPLIN, CT 06235-2416 COUNTY: WINDHAM GEOGRAPHIC COORDINATES: LATITUDE: 41.784528 LONGITUDE: -72.135694 GROUND ELEVATION: 504' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (3) ANTENNA(s), (3) RRU(s), (6) TMA(s), AND (12) COAX CABLE(s) INSTALL (6) ANTENNA(s), (3) RRU(s), (2) HYBRID CABLE(s) AND MOUNT MODIFICATIONS EXISTING (3) ANTENNA(s), (3) RRU(s), AND (1) HYBRID CABLE(s) TO REMAIN GROUND WORK: EXISTING (1) RBS 6201 ODE CABINET, (2) BB 6630, AND (1) DUG20 TO REMAIN INSTALL (1) ERICSSON 6160 CABINET, (1) B160 CABINET, (2) RP 6651, (1) PSU 4813 vR4A VOLTAGE BOOSTER, (1) CSR IXRE V2 ROUTER AND POWER CONDUIT FROM EXISTING PPC TO PROPOSED 6160 CABINET REMOVE (6) RUS02 B2 AND (3) DIPLEXERS	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	PROJECT TEAM TOWER OWNER: AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 ENGINEER: POWER OF DESIGN GROUP, LLC 11490 BLUEGRASS PKWY LOUISVILLE, KY 40299 PROPERTY OWNER: JANET L BESSETTE 123 PALMER ROAD CHAPLIN, CT 06235	PROJECT NOTES 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLES 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 SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	G-001 TITLE SHEET G-002 GENERAL NOTES C-101 DETAILED SITE PLAN C-102 DETAILED GROUND PLAN C-201 TOWER ELEVATION C-401 ANTENNA INFORMATION & SCHEDULE C-501 CONSTRUCTION DETAILS E-501 GROUNDING DETAILS R-601 SUPPLEMENTAL R-602 SUPPLEMENTAL R-603 SUPPLEMENTAL R-604 SUPPLEMENTAL R-605 SUPPLEMENTAL R-606 SUPPLEMENTAL R-607 SUPPLEMENTAL MOUNT MODIFICATION SHEETS				
UTILITY COMPANIES POWER COMPANY: NORTHEAST UTILITY SERVICES PHONE: (800) 592-2000 TELEPHONE COMPANY: UNKNOWN PHONE: UNKNOWN	APPLICANT: T-MOBILE 4 SYLVAN WAY PARSIPPANY, NJ 07054	PROJECT LOCATION DIRECTIONS 91N-WILBUR CROSS HWY CT-15 VIA EXIT 29 TOWARDS I-84/E HARTFORD/BOSTON. CT -15N/WILBUR CROSS HWY BECOMES US-6E/I-84/WILBUR CROSS HWY 1.6 MI/MERGE ONTO I-384 E VIA EXIT 59 TOWARD PROVIDENCE 8.5 MI/TURN SLIGHT LT ONTO US-6/CT-66. CONTINUE TO FOLLOW US-6 E9.2 MI. TURNLT ONTO PHOENIXVILLE RD/CT-198 1.2 MI/TURN LT ON RIDGE RD. TURN LT ON PALMER RD. SITE IS THE SECOND DRIVEWAY ON THE LT AFTER WHITE HOUSE MAILBOX #119. GATE COMBO 4667. T1'S MOUNTED IN OUTDOOR HOFFMAN BOX					



AMERICAN TOWER®

POD
 POWER OF DESIGN

11490 BLUEGRASS PKWY
 LOUISVILLE, KY 40299
 502-437-5252

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ADE	06/02/22

ATC SITE NUMBER:
411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508//VERIZON CHAPLIN

SITE ADDRESS:
123 PALMER ROAD
CHAPLIN, CT 06235-2416

SEAL:

06/03/2022

T-Mobile®

DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508//VERIZON CHAPLIN
CUSTOMER #:	CT11508F

TITLE SHEET

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

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GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING 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.



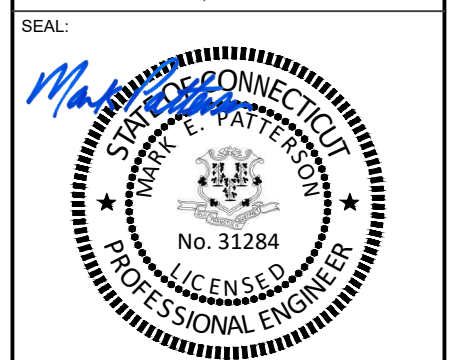
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ADE	06/02/22

ATC SITE NUMBER:
411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508//VERIZON CHAPLIN

SITE ADDRESS:
123 PALMER ROAD
CHAPLIN, CT 06235-2416



06/03/2022



DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508//VERIZON CHAPLIN
CUSTOMER #:	CT11508F

GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 0

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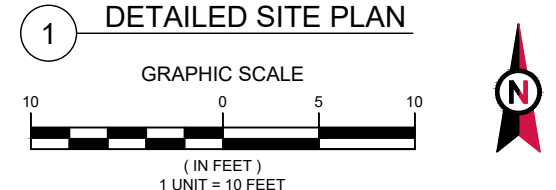
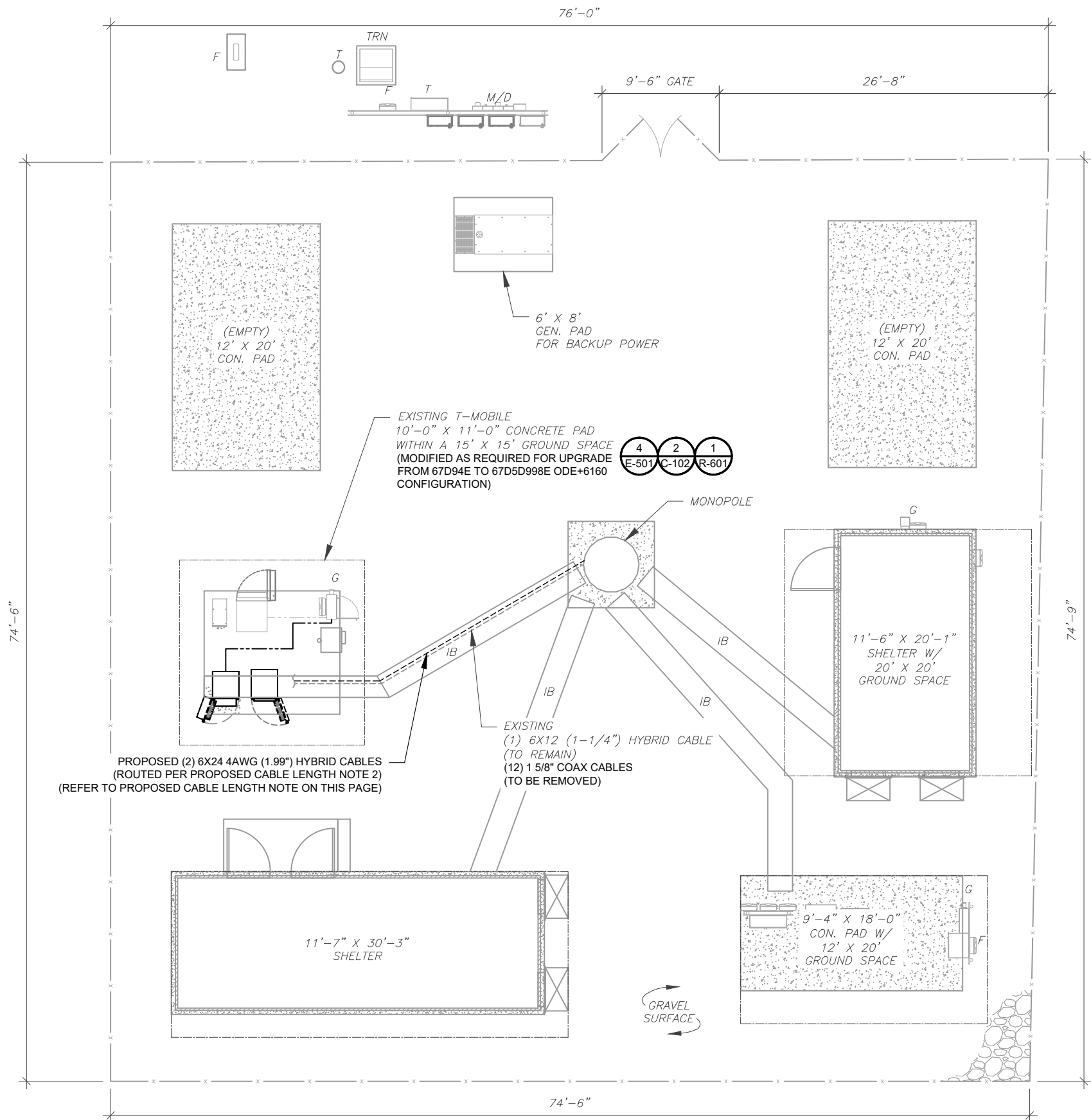
SITE PLAN NOTES:

- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

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

PROPOSED CABLE LENGTH:

- ESTIMATED LENGTH OF PROPOSED CABLE IS 172'. 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.



AMERICAN TOWER®

POD
POWER OF DESIGN

11490 BLUEGRASS PKWY
LOUISVILLE, KY 40299
502-437-5252

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ADE	06/02/22

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411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508/VERIZON CHAPLIN

SITE ADDRESS:
123 PALMER ROAD
CHAPLIN, CT 06235-2416

SEAL:

06/03/2022



DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

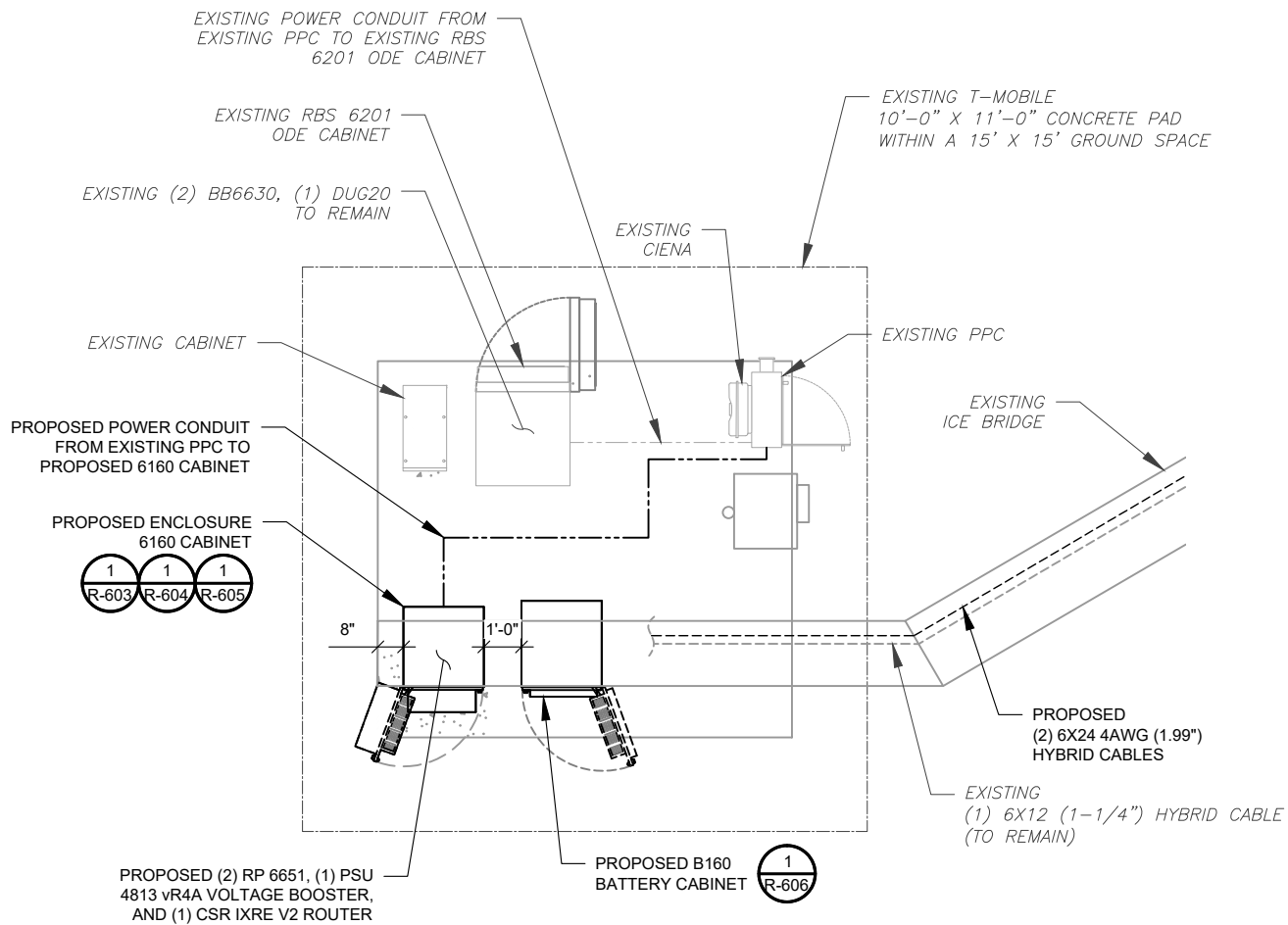
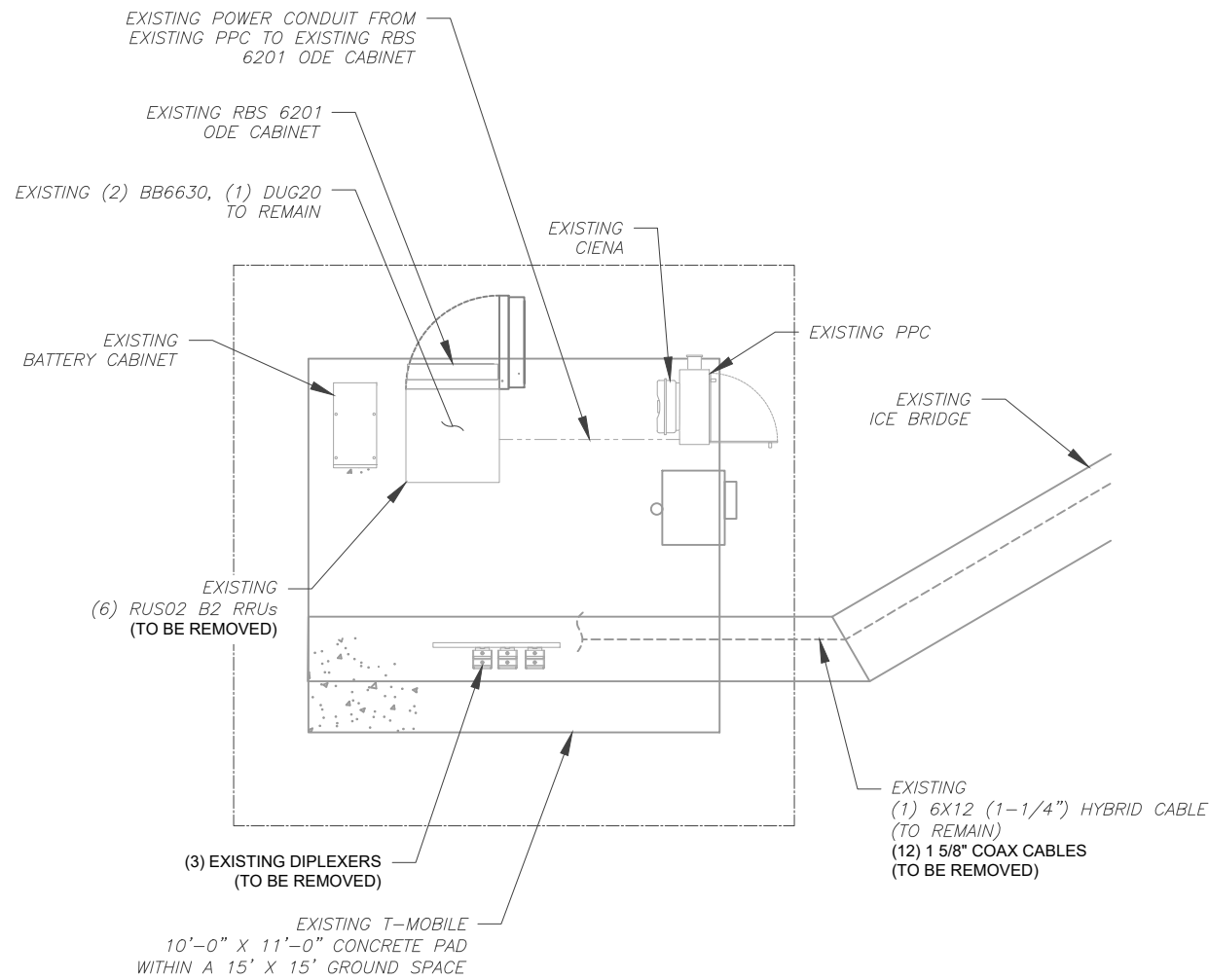
DETAILED SITE PLAN	
SHEET NUMBER: C-101	REVISION: 0

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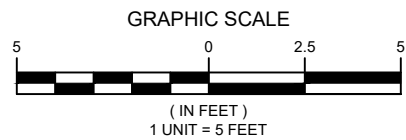
SITE PLAN NOTES:

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.

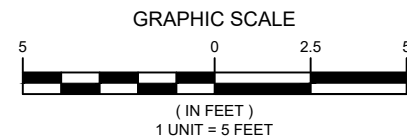
T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS.
 ALL ABOVE GROUND CONDUIT LESS THAN 6" CAN BE LFMC.
 ALL ABOVE GROUND CONDUIT OVER 6" MUST BE RGS.
 ALL PVC CONDUIT MUST BE BURIED.



1 EXISTING GROUND EQUIPMENT LAYOUT



2 PROPOSED GROUND EQUIPMENT LAYOUT



11490 BLUEGRASS PKWY
 LOUISVILLE, KY 40299
 502-437-5252

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0	FOR CONSTRUCTION	ADE	06/02/22

ATC SITE NUMBER:
411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508/VERIZON CHAPLIN

SITE ADDRESS:
 123 PALMER ROAD
 CHAPLIN, CT 06235-2416

SEAL:

06/03/2022



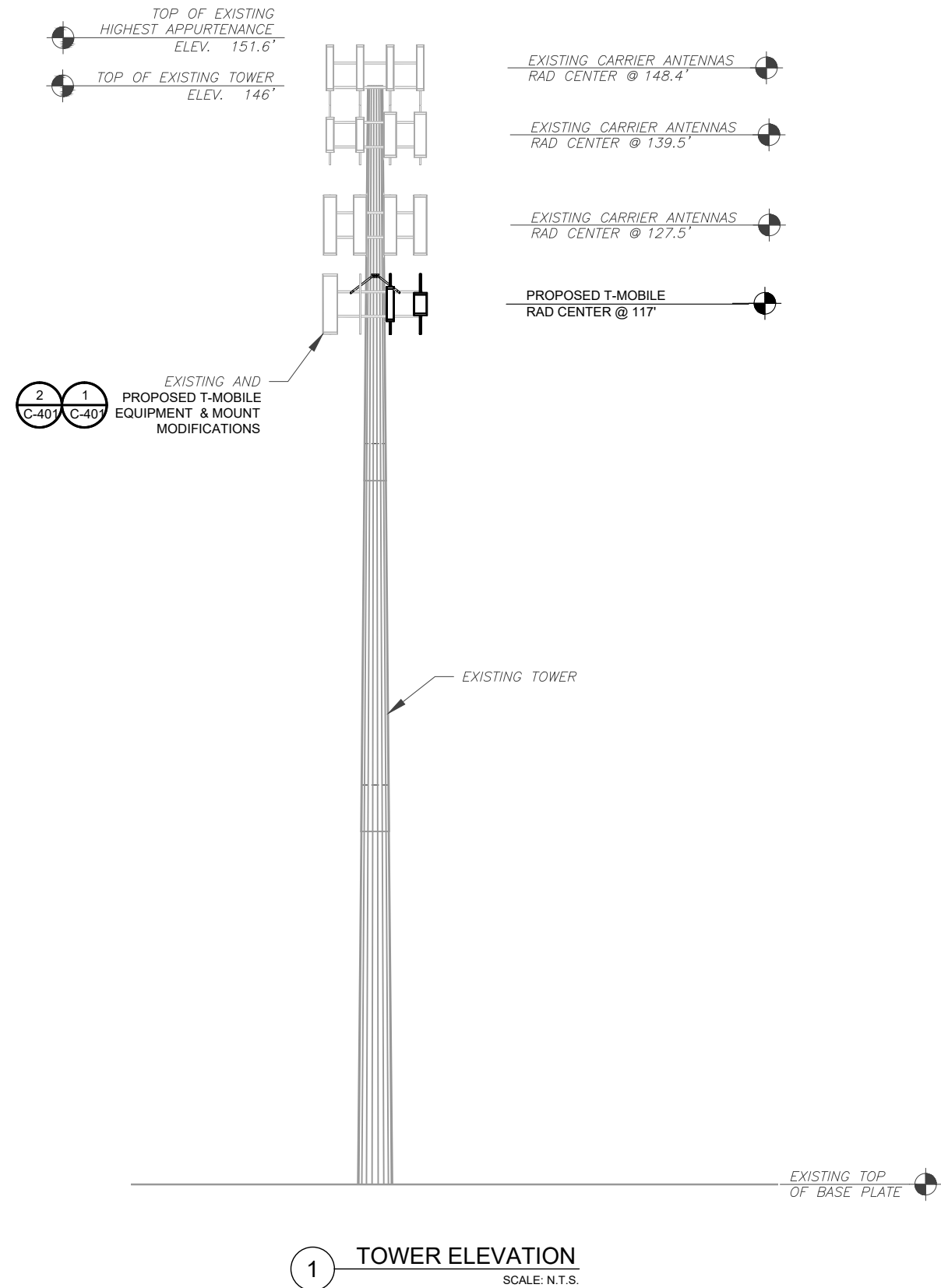
DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	0

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PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORP., DATED APRIL 27, 2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



1 TOWER ELEVATION
SCALE: N.T.S.

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



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CT508/VERIZON CHAPLIN

SITE ADDRESS:
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CHAPLIN, CT 06235-2416

SEAL:

DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

TOWER ELEVATION	
SHEET NUMBER: C-201	REVISION: 0

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11490 BLUEGRASS PKWY
LOUISVILLE, KY 40299
502-437-5252

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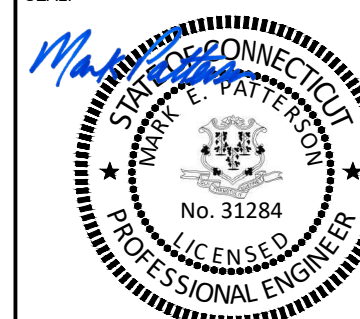
ATC SITE NUMBER:
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T-MOBILE SITE NAME:
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SITE ADDRESS:
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CHAPLIN, CT 06235-2416

SEAL:



06/03/2022



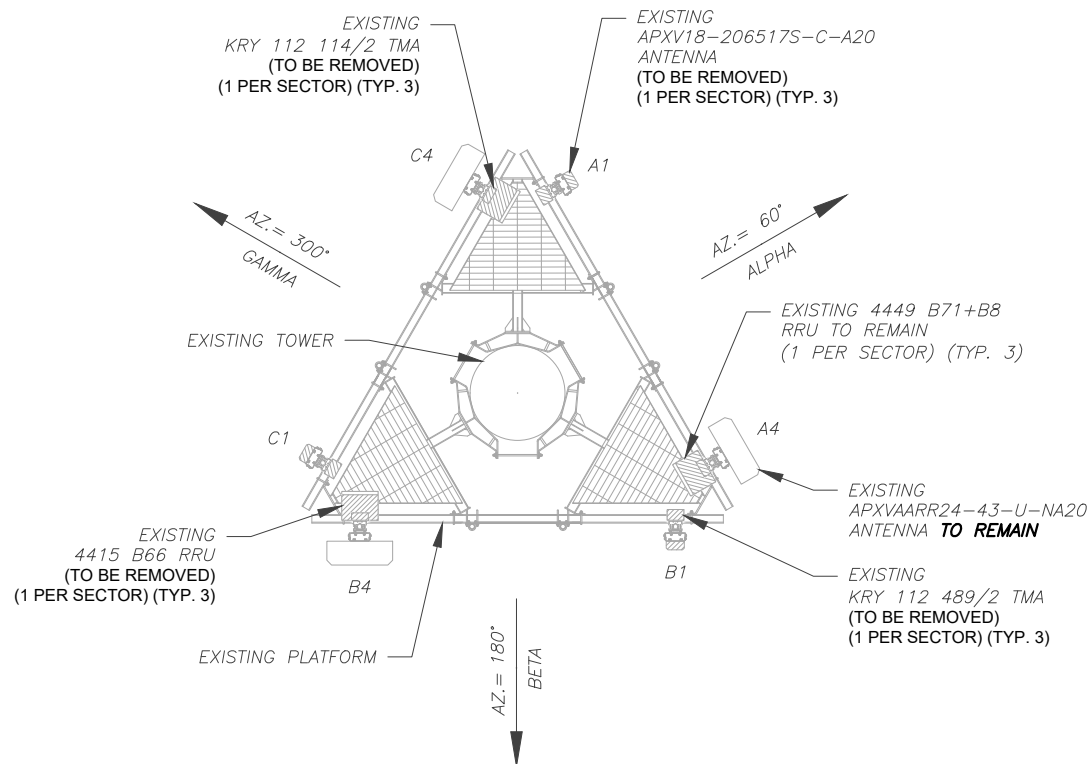
DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

ANTENNA INFORMATION & SCHEDULE

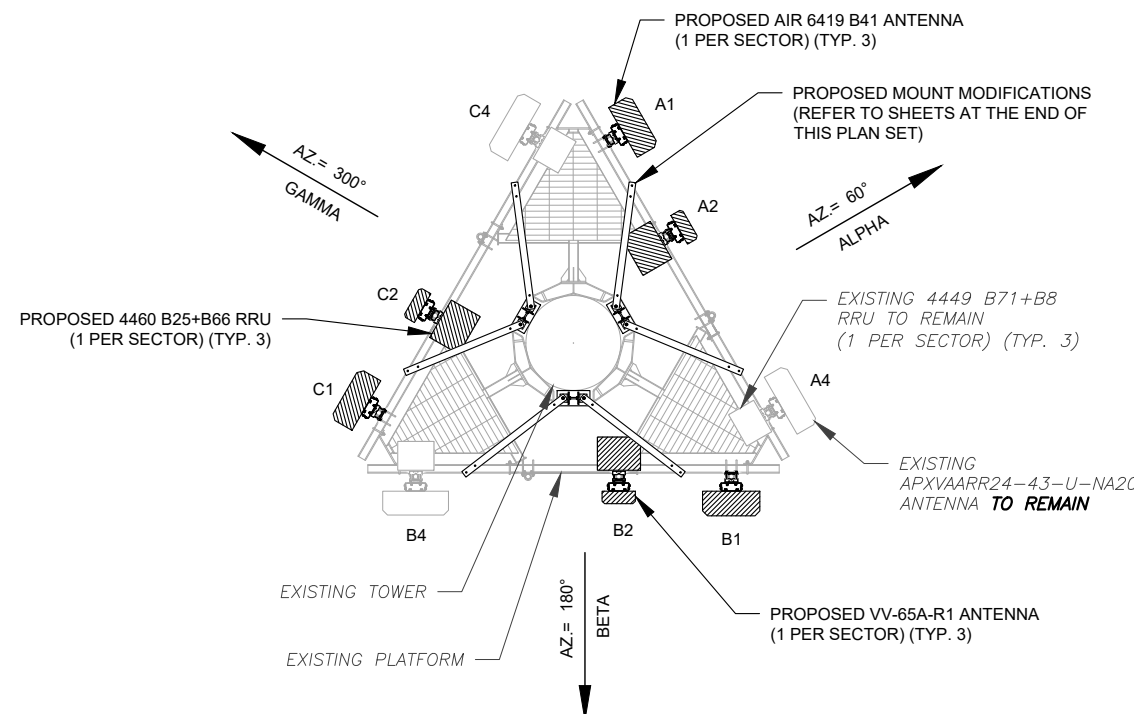
SHEET NUMBER:
C-401

REVISION:
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PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORP., DATED APRIL 27, 2022, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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



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

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	117'	60°	A1	APXV18-206517S-C-A20	L1900/G1900	0°/2°	RMV	KRY 112 489/2	RMV
			A2	-	-	-	-	-	-
			A3	-	-	-	-	-	-
			A4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/2°,2°,2°, 2°	RMN	4449 B71+B8 4415 B66 KRY 112 144/2	RMN RMV RMV
BETA	117'	180°	B1	APXV18-206517S-C-A20	L1900/G1900	0°/2°	RMV	KRY 112 489/2	RMV
			B2	-	-	-	-	-	-
			B3	-	-	-	-	-	-
			B4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/2°,2°,2°, 2°	RMN	4449 B71+B8 4415 B66 KRY 112 144	RMN RMV RMV
GAMMA	117'	300°	C1	APXV18-206517S-C-A20	L1900/G1900	0°/2°	RMV	KRY 112 489/2	RMV
			C2	-	-	-	-	-	-
			C3	-	-	-	-	-	-
			C4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/2°,2°,2°, 2°	RMN	4449 B71+B8 4415 B66 KRY 112 144	RMN RMV RMV

NOTES

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

STATUS ABBREVIATIONS

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

CABLE LENGTHS FOR JUMPERS

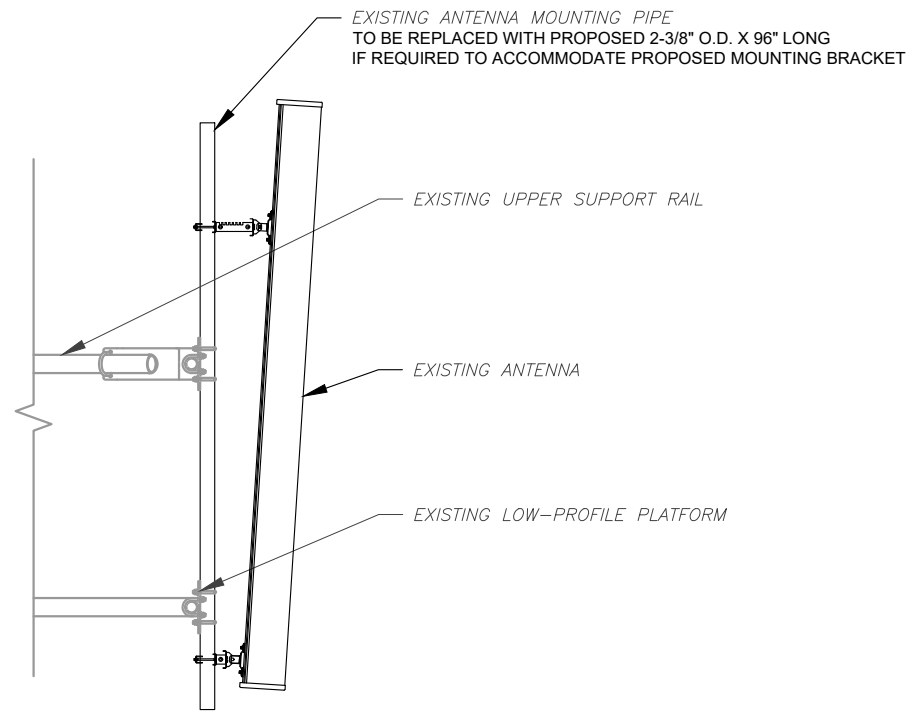
JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	117'	60°	A1	AIR 6419 B41	L2500/N2500	0°/2°.2°	ADD	-	-
			A2	VV-65A-R1	L2100/L1900/G1900	0°/2°.2°	ADD	4460 B25+B66	ADD
			A3	-	-	-	-	-	-
			A4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/-	RMN	4449 B71+B8	RMN
BETA	117'	180°	B1	AIR 6419 B41	L2500/N2500	0°/2°.2°	ADD	-	-
			B2	VV-65A-R1	L2100/L1900/G1900	0°/2°.2°	ADD	4460 B25+B66	ADD
			B3	-	-	-	-	-	-
			B4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/-	RMN	4449 B71+B8	RMN
GAMMA	117'	300°	C1	AIR 6419 B41	L2500/N2500	0°/2°.2°	ADD	-	-
			C2	VV-65A-R1	L2100/L1900/G1900	0°/2°.2°	ADD	4460 B25+B66	ADD
			C3	-	-	-	-	-	-
			C4	APXVAARR24-43-U-NA 20	L700/L600/N600/L 2100	0°/-	RMN	4449 B71+B8	RMN

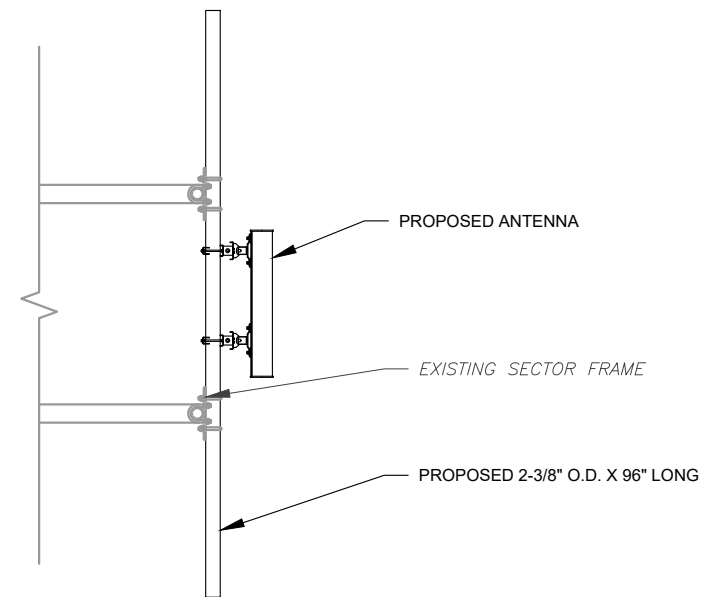
EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(1) 6X12 (1-1/4")	RMN
-	-	(12) 1-5/8"	-	RMV

3 EQUIPMENT SCHEDULES

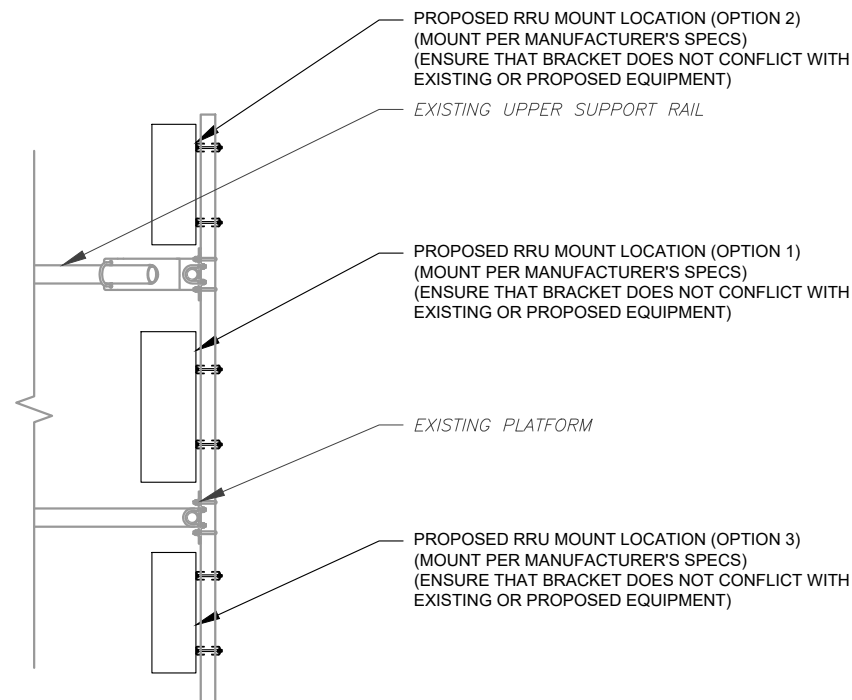
FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(1) 6X12 (1-1/4")	RMN
-	-	-	(2) 6X24 (1.99")	ADD



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



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



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



REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ADE	06/02/22

ATC SITE NUMBER:
411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508/VERIZON CHAPLIN

SITE ADDRESS:
123 PALMER ROAD
CHAPLIN, CT 06235-2416



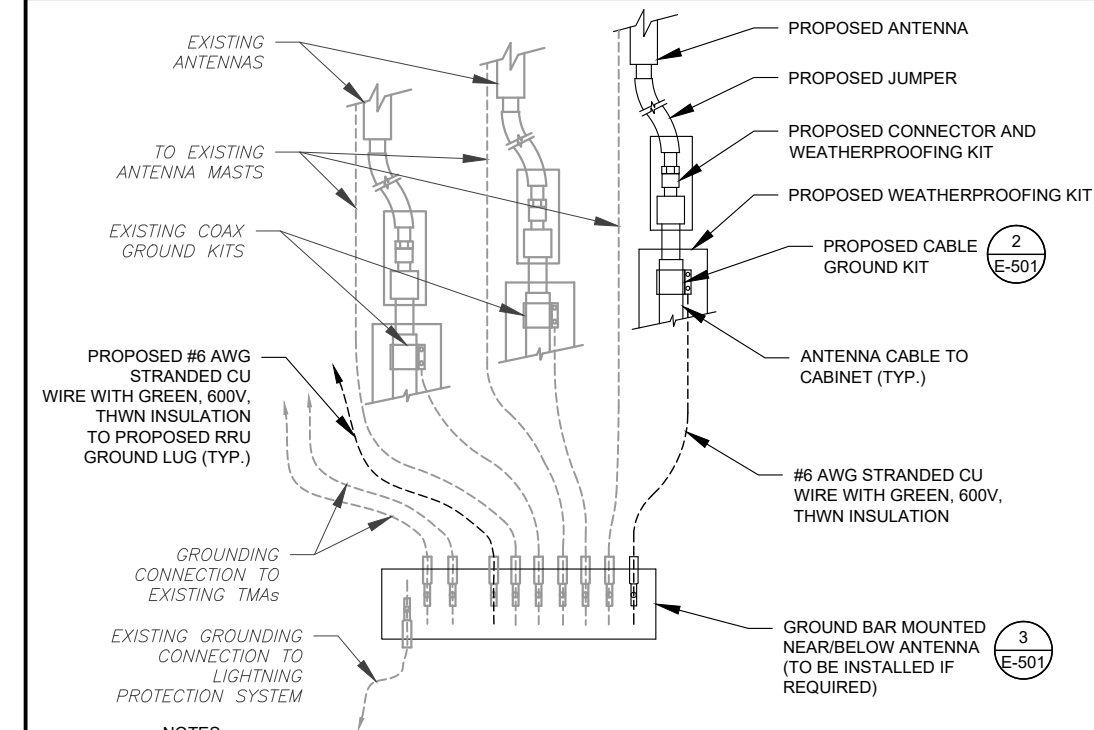
06/03/2022



DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

CONSTRUCTION
DETAILS

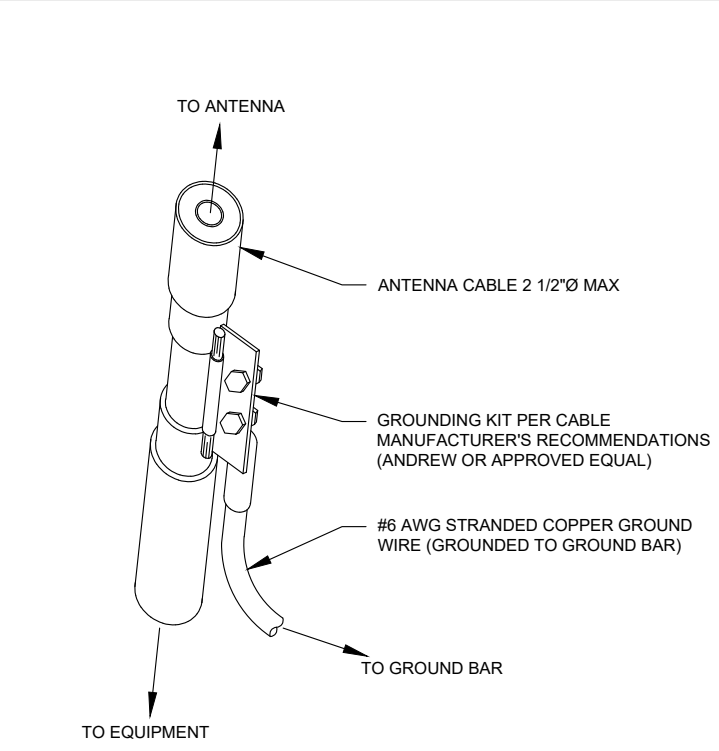
SHEET NUMBER:	REVISION:
C-501	0



NOTES:

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

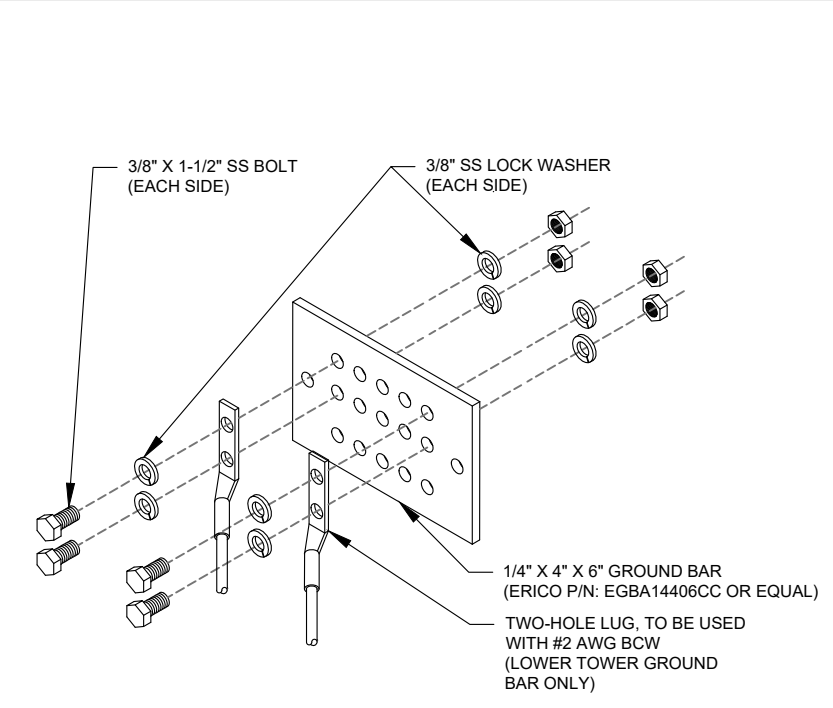
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

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

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



GROUND BAR NOTES:

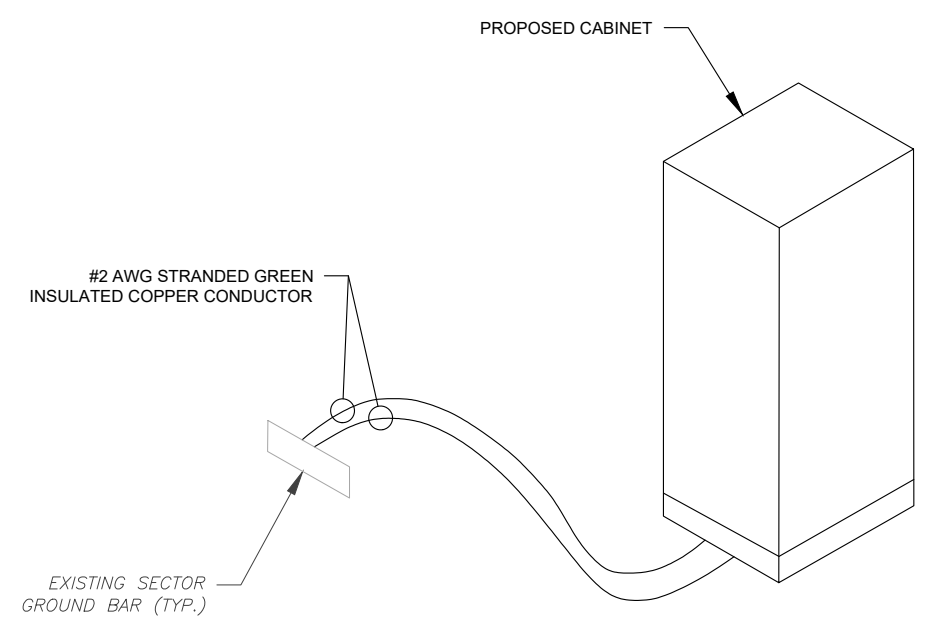
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

ELECTRICAL NOTES:

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

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



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



REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	ADE	06/02/22

ATC SITE NUMBER:
411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT

T-MOBILE SITE NAME:
CT508/VERIZON CHAPLIN

SITE ADDRESS:
123 PALMER ROAD
CHAPLIN, CT 06235-2416



06/03/2022



DATE DRAWN:	06/02/22
ATC JOB NO:	14071468
CUSTOMER ID:	CT508/VERIZON CHAPLIN
CUSTOMER #:	CT11508F

GROUNDING DETAILS

SHEET NUMBER: E-501	REVISION: 0
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3/2/22, 9:13 AM

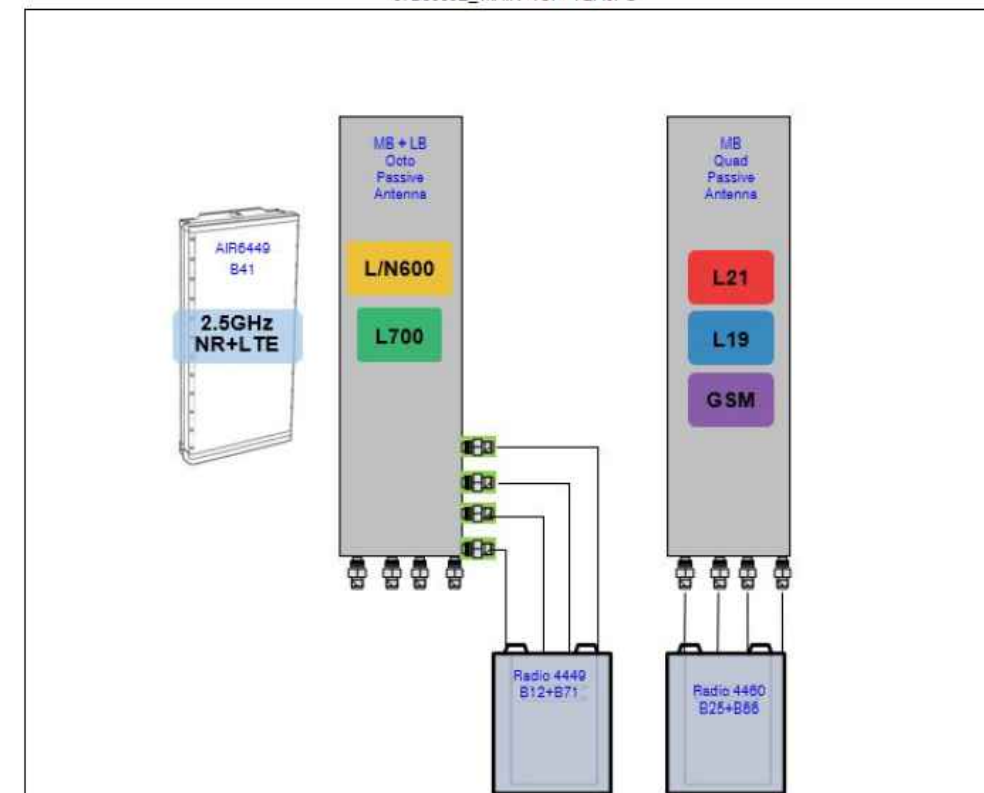
CT11508F_Anchor_3_2022-03-02

Section 3 - Proposed Template Images

67D5998E_1xAIR+1OP+1QP.JPG

Proposed RAN Equipment				
Template: 67D5D998E ODE+6160				
Enclosure	1	2	3	4
Enclosure Type	RBS 6201 ODE	Ancillary Equipment (Ericsson)	Enclosure 6160 AC V1	B160
Baseband	BB 6630 L2100 L1900 DUG20 G1900 BB 6630 L700 L600 N600		RP 6651 N2500 RP 6651 L2500	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* Ericsson Hybrid Trunk 6/24 4AWG 50m		PSU 4813 vR4A (Kit) Ericsson Hybrid Trunk 6/24 4AWG 50m	
Transport System			CSR IXRe V2 (Gen2)	

Notes:



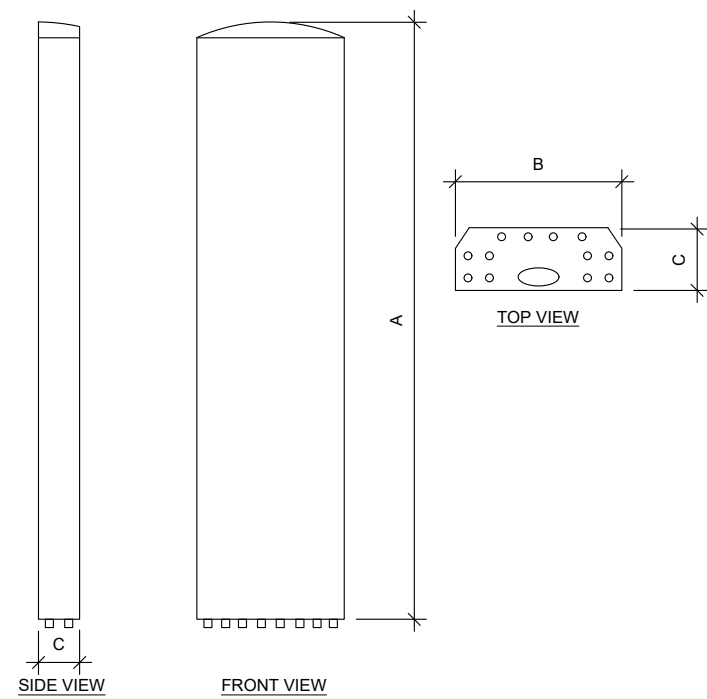
1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

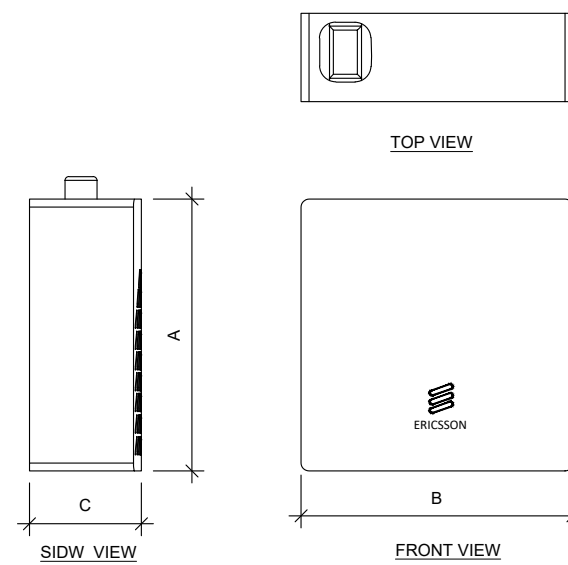
SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: 0

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



ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0
VV-65A-R1	54.7"	12.1"	4.6"	23.8



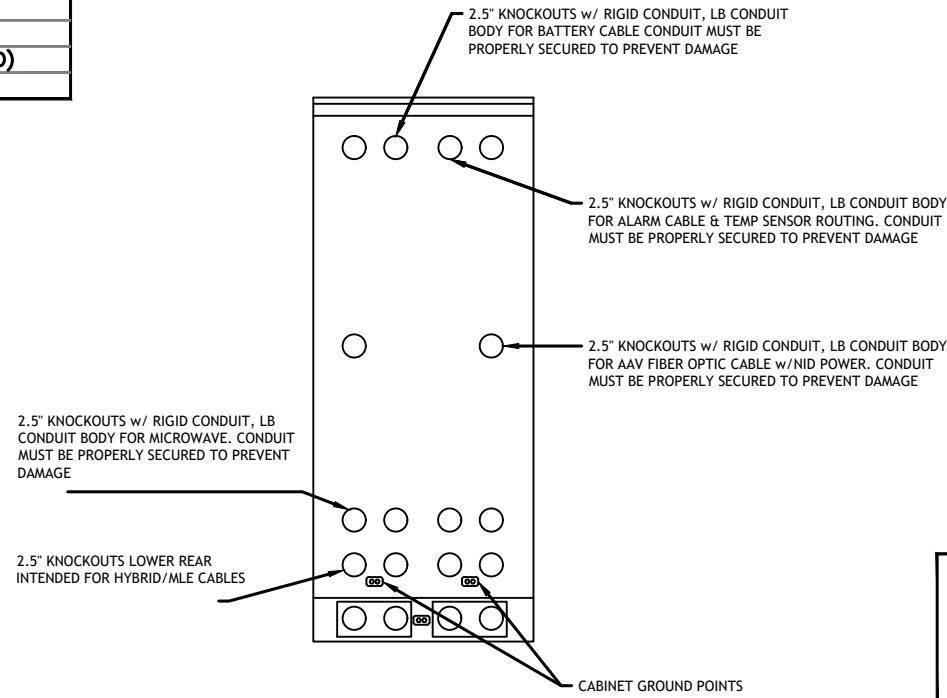
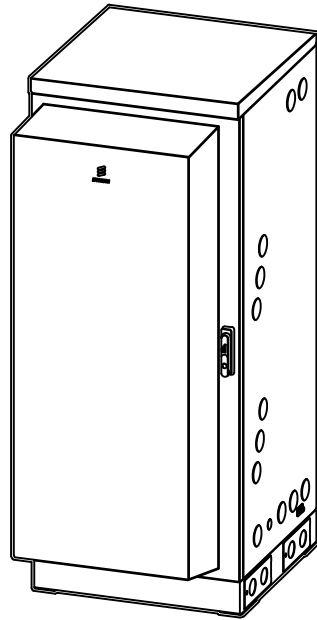
RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RADIO 4460 B25+B66	19.6"	15.7"	12.1"	109.0

1 EQUIPMENT DETAILS
SCALE: NOT TO SCALE

SUPPLEMENTAL

SHEET NUMBER: R-602
REVISION: 0

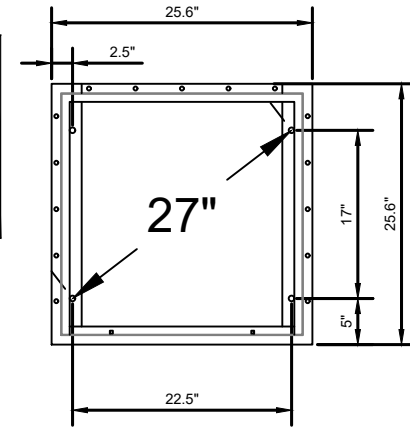
MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS



REAR VIEW

NOTE:

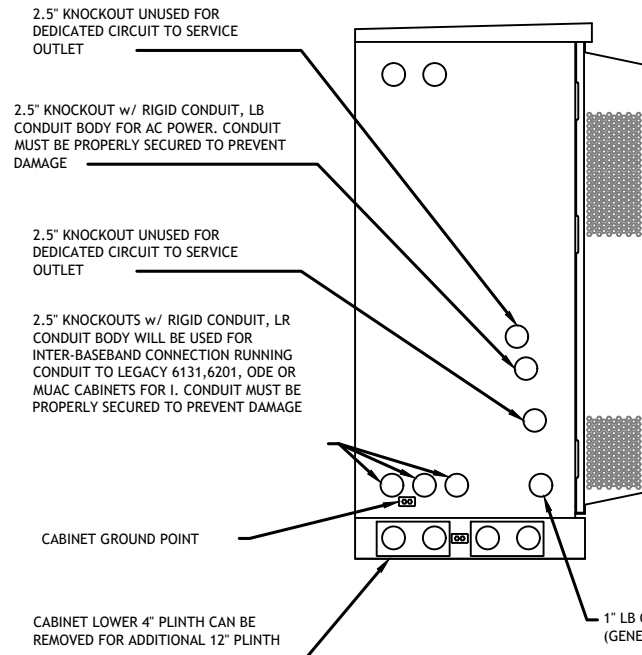
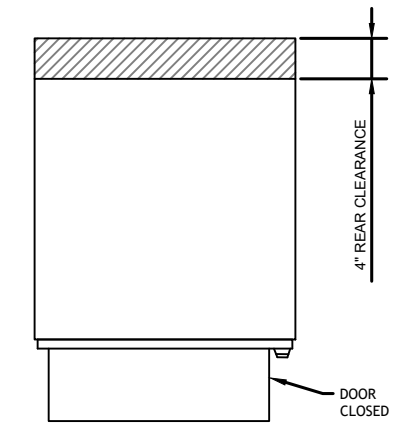
- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING



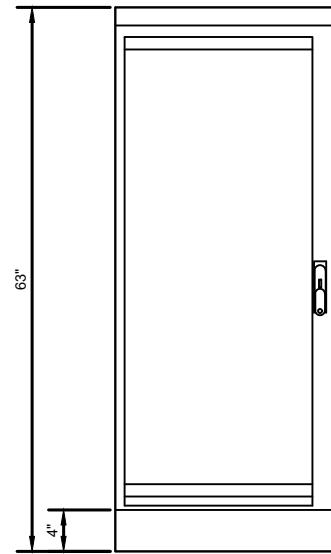
BOLT DOWN PATTERN

GROUNDING NOTE:

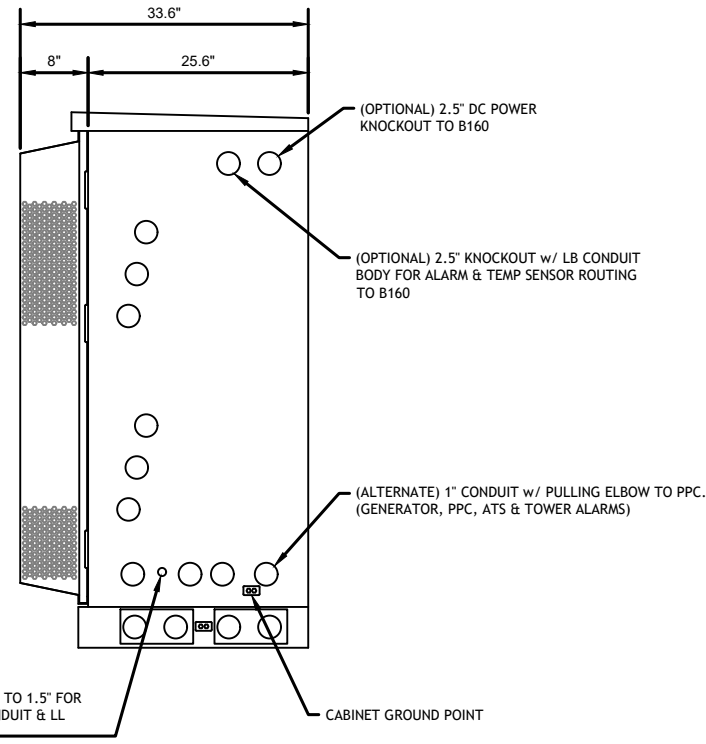
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



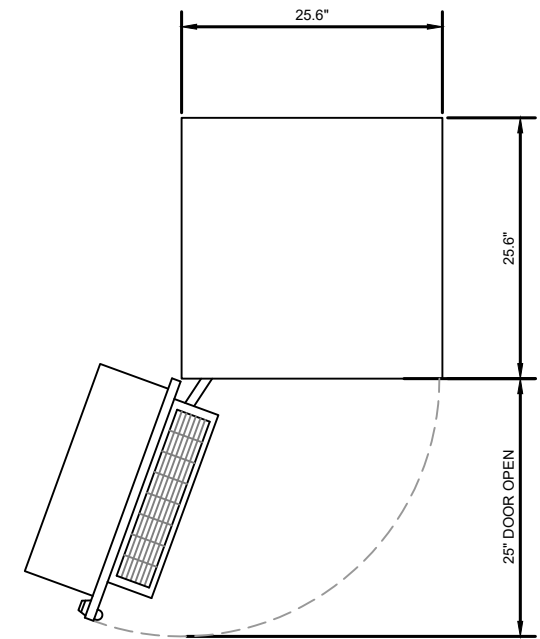
LEFT VIEW



FRONT VIEW

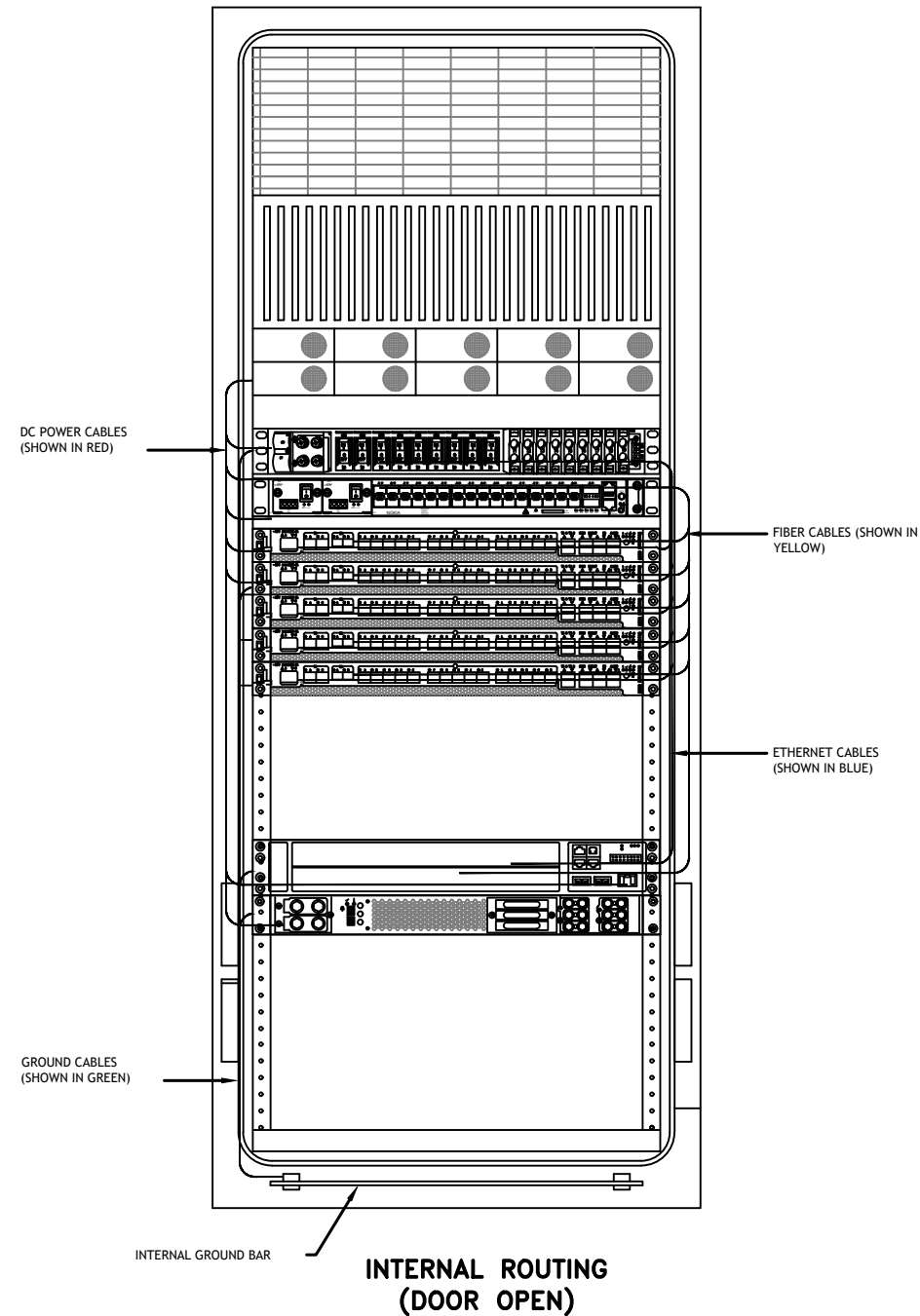


RIGHT VIEW

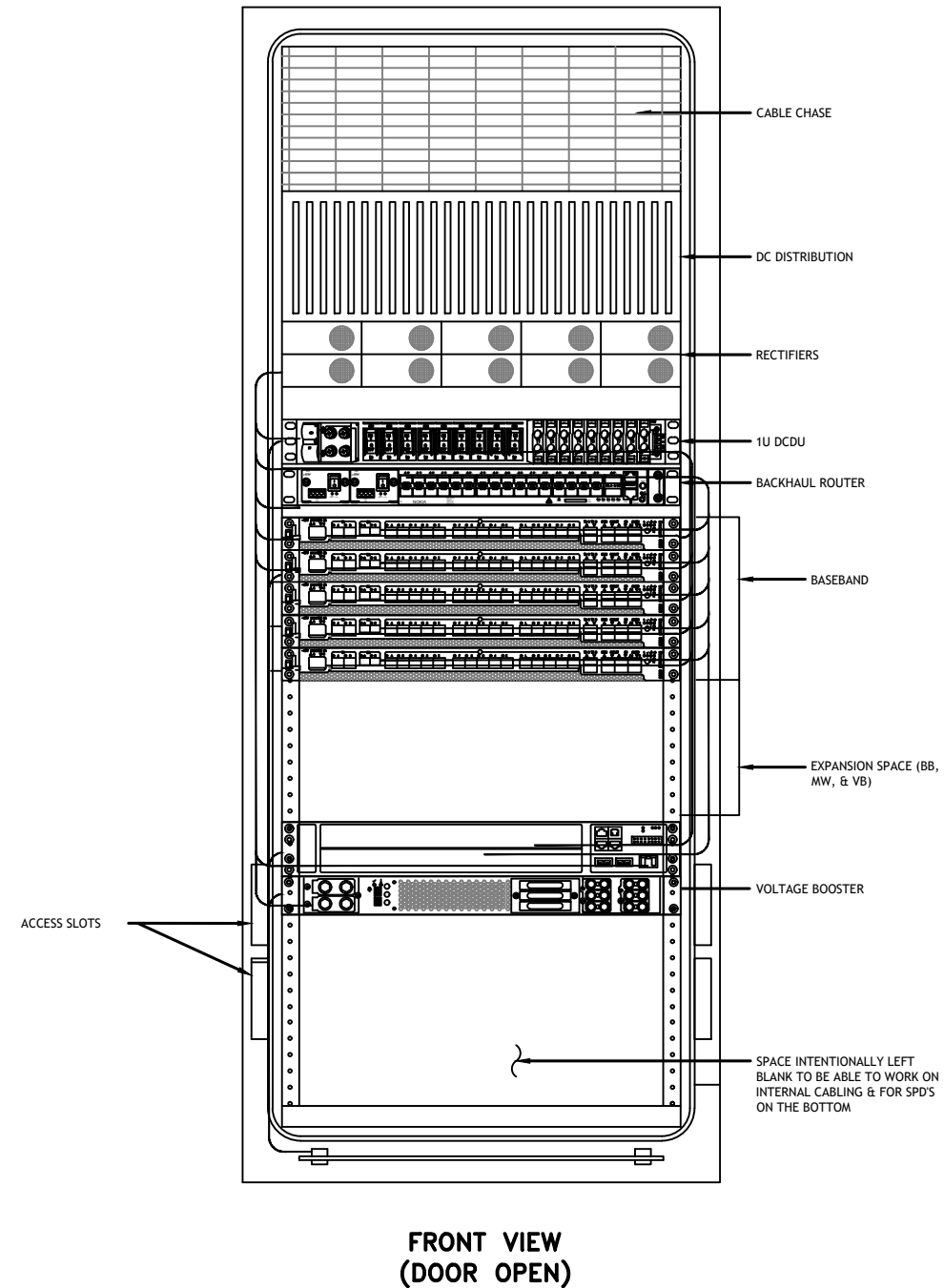


PLAN VIEW

SUPPLEMENTAL	
SHEET NUMBER: R-603	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	OPEN SPACE FOR SPD ACCESS
23	
24	
25	

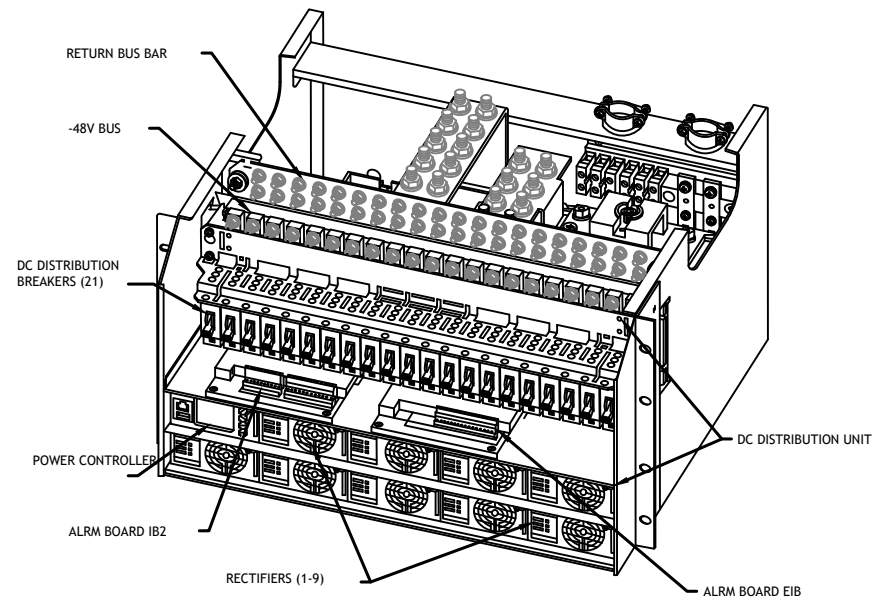


NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

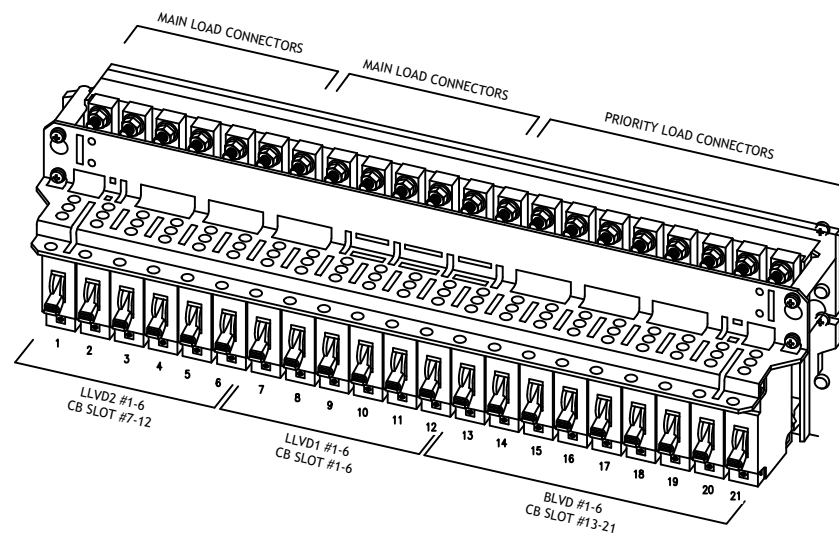
NOTE:
THIS IS FOR REFERENCE ONLY, CHECK
FOR SPECIFIC DETAIL IN T-MOBILE
CABINET SPECIFIC INSTALLATION GUIDES

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)	
4	4				
5	5				
6	6				
7	LVD2	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	45.1V	3	Future	Radio 4460 B25/66 δ-1	
10		4	Future	Radio 4460 B25/66 δ-2	
11		5	Future	Radio 4460 B25/66 ε-1	
12		6	Future	Radio 4460 B25/66 ε-2	
13	BLVD	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

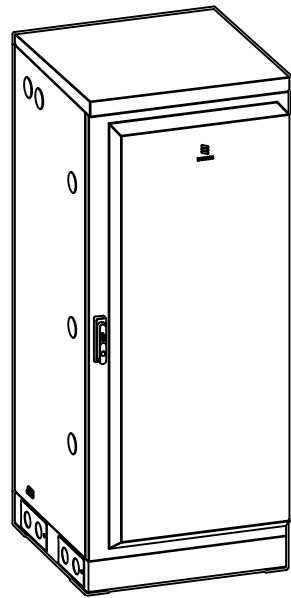


POWER SUBRACK

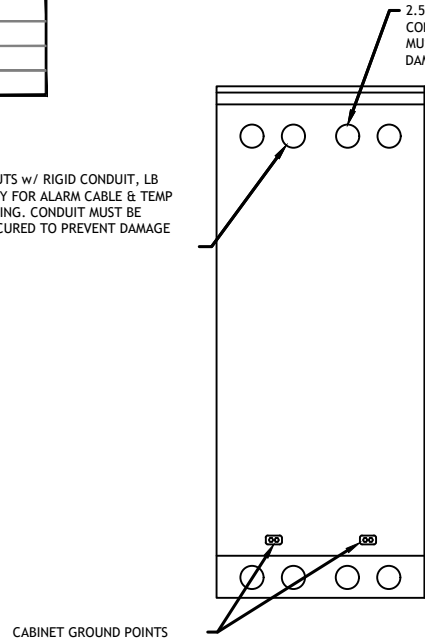


DC DISTRIBUTION

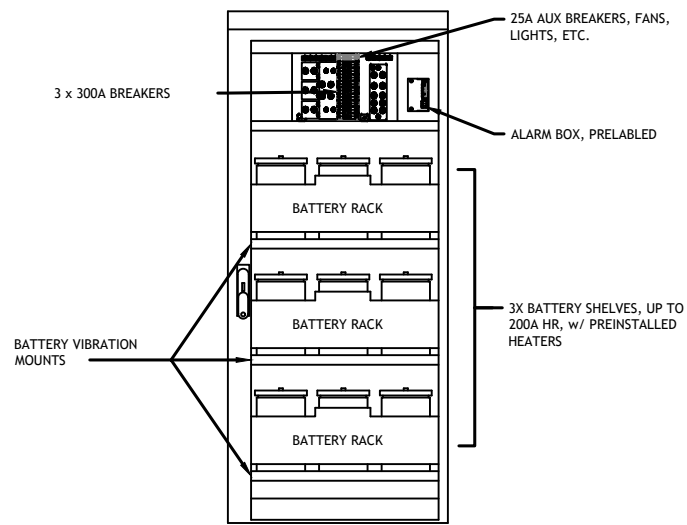
MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)



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



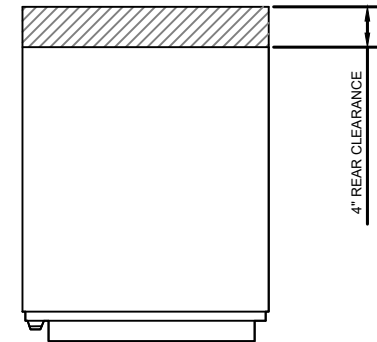
REAR VIEW



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

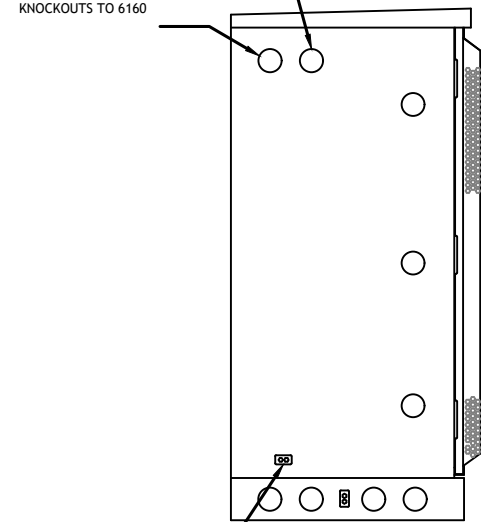


GROUNDING NOTE:

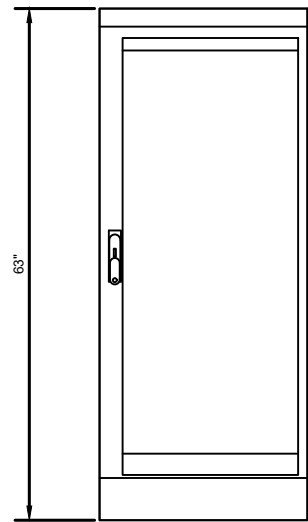
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

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

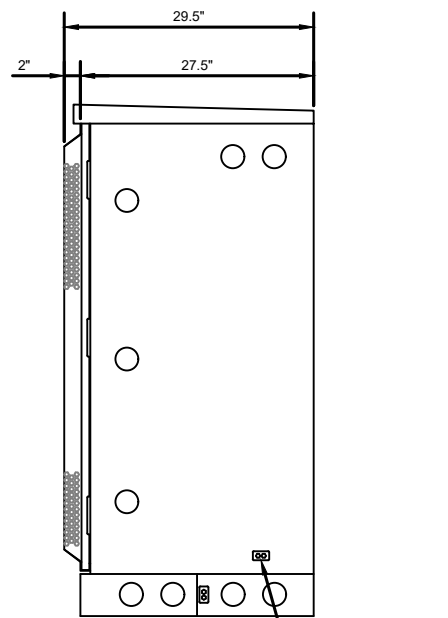
(OPTIONAL) 2.5" DC POWER KNOCKOUTS TO 6160



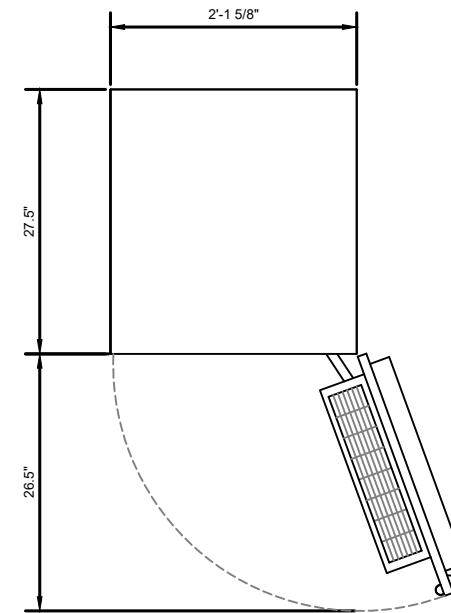
LEFT VIEW



FRONT VIEW



RIGHT VIEW



PLAN VIEW

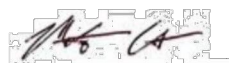
B160 ERICSSON SITE SUPPORT BATTERY CABINET



Post Modification Mount Analysis Report

ATC Site Name : CT Chaplin South CT, CT
ATC Site Number : 411216
Engineering Number : 14071468_C9_04
Mount Elevation : 116 ft
Carrier : T-Mobile
Carrier Site Name : CT508//Verizon Chaplin
Carrier Site Number : CT11508F
Site Location : 123 Palmer Road
 Chaplin, CT 06235-2416
 41.78454665 , -72.13571997
County : Windham
Date : April 27, 2022
Max Usage : 45%
Result : Contingent Pass

Prepared By: Mitchell Chen
 Structural Engineer II
 Reviewed By:



COA: PEC.0001553



Eng. Number 14071468_C9_04
 April 27, 2022
 Page 1

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 116 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 RMQP-496-HK, dated May 23, 2021
Radio Frequency Data Sheet	RFDS ID #CT11508F, dated March 2, 2022
Reference Photos	Site photos from 2020

Analysis

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

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	S _s = 0.185, S ₁ = 0.055
Site Class:	D - Stiff Soil
Live Loads:	L _m = 500 lbs

* Based on experience, it has been determined that the L_v load cases will not control over L_m load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

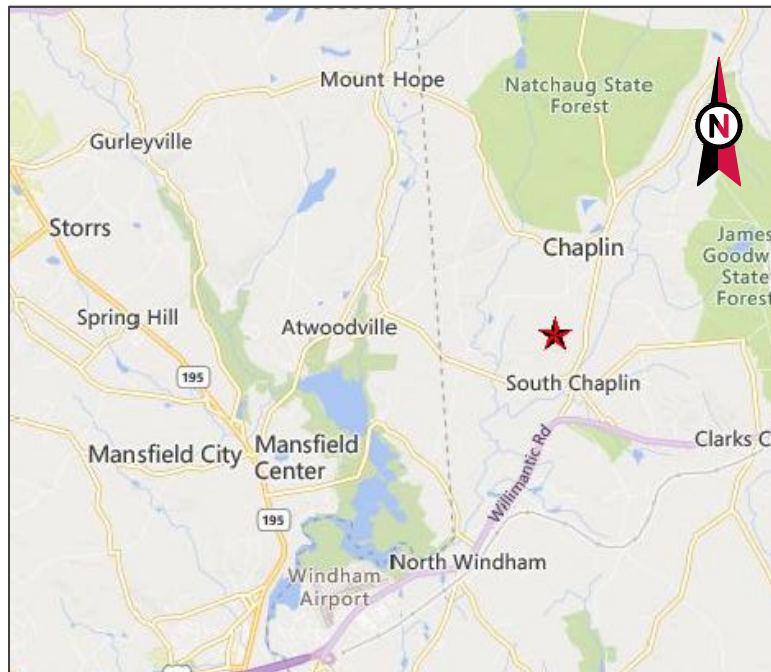
- Install modification per ATC Drawing #14071468_C9_04

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.

SUPPLEMENTAL

SHEET NUMBER: R-607
 REVISION: 0

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

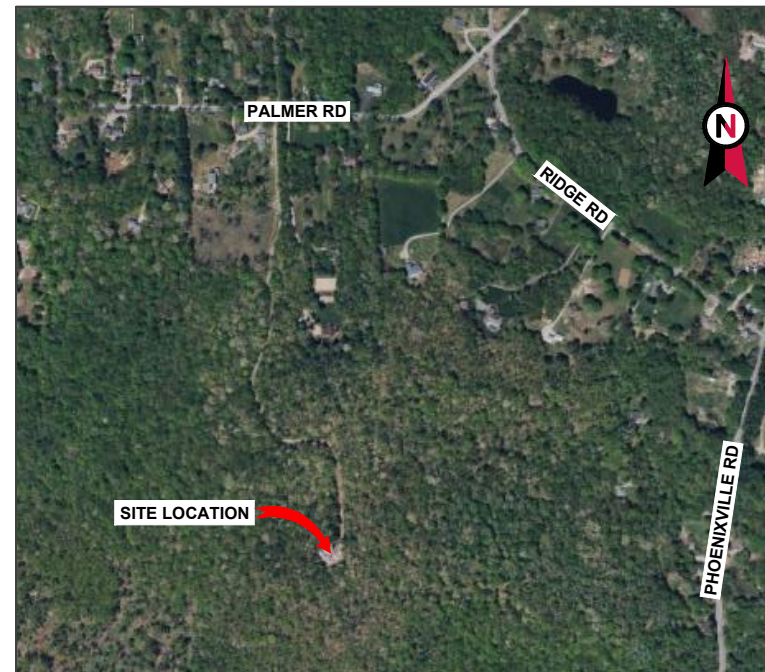


VICINITY MAP



AMERICAN TOWER®

SITE NAME: CT CHAPLIN SOUTH CT
 SITE NUMBER: 411216
 ATC PROJECT NUMBER: 14071468_C9_04
 SITE ADDRESS: 123 PALMER RD
 CHAPLIN, CT 06235



LOCATION MAP

BIRD WATCH SITE:
 PLEASE CONTACT BIRD.WATCH@AMERICANTOWER.COM OR
 AMERICAN TOWER NOC AT 877-518-6937 FOR ASSISTANCE

**MOUNT REINFORCEMENT DRAWINGS
 PREPARED FOR T-MOBILE**

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

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	KJ	04/29/22

ATC SITE NUMBER:
 411216
 ATC SITE NAME:
 CT CHAPLIN SOUTH CT
 CONNECTICUT
 SITE ADDRESS:
 123 PALMER RD
 CHAPLIN, CT 06235



DRAWN BY:	KJ
APPROVED BY:	MCC
DATE DRAWN:	04/29/22
ATC JOB NO:	14071468_C9_04

COVER

SHEET NUMBER:
G-001
 REVISION:
0

PROJECT TEAM	PROJECT DESCRIPTION	SHEET	SHEET TITLE	REV.
<p>TOWER OWNER AMERICAN TOWER 10 PRESIDENTAL WAY WOBURN, MA 01801</p> <p>ENGINEERED BY ATC TOWER SERVICES 3500 REGENCY PARKWAY, SUITE 100 CARY, NC 27518</p> <p>CARRIER INFORMATION CARRIER: T-MOBILE CARRIER SITE NAME: CT508/VERIZON CHAPLIN CARRIER SITE NUMBER: CT11508F</p>	<p>THE PROJECT DEPICTED IN THESE PLANS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER 14071468_C8_01 DATED 04/04/22. SATISFACTORY COMPLETION OF THE WORK INDICATED IN THESE PLANS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.</p> <p>PROJECT NOTE</p> <p>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 § 1.6100 (B)(7).</p> <p>COMPLIANCE CODE</p> <p>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.</p> <p>1. ANSI/TIA/EIA: STRUCTURAL STANDARDS (222-H EDITION) 2. INTERNATIONAL BUILDING CODE (2018 IBC) 3. CONNECTICUT STATE BUILDING CODE (2018)</p> <p>PROJECT LOCATION GEOGRAPHIC COORDINATES</p> <p>LATITUDE: 41.784528 LONGITUDE: -72.135694</p>	G-002	IBC GENERAL NOTES & MOUNT MODIFICATION INSPECTION	0
		S-101	MODIFICATION PROFILE	0
		R-901	SUPPLEMENTAL	0
		R-902	SUPPLEMENTAL	0
		R-903	SUPPLEMENTAL	0
		R-904	SUPPLEMENTAL	0



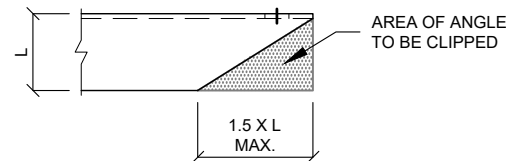
GENERAL

- ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
- ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSI/TIA-322 AND ANSI/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
- ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
- ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
- FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
- CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.

MAXIMUM ALLOWABLE ANGLE CLIP



PAINT

- AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

- ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER AND/OR BASE METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- IN CASES WHERE BASE METAL GRADE IS UNKNOWN, ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES; ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES, UNLESS NOTED OTHERWISE.
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

- STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
- FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
- IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

MODIFICATION INSPECTION NOTES

THE MOUNT MODIFICATION INSPECTION (MMI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE MMI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR SUBMIT ALL REQUIRED PHOTOGRAPHS AND DRAWINGS TO AMERICAN TOWER CORPORATION (ATC).

MOUNT MODIFICATION INSPECTION CHECKLIST			
INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY
ON-SITE COLD GALVANIZING VERIFICATION	PHOTOGRAPHIC EVIDENCE OF COLD GALVANIZATION TYPE AND APPLICATION IN ALL APPLICABLE LOCATIONS TO BE INCLUDED WITHIN THE MMI REPORT	✓	GC
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	"AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO MMI FOR APPROVAL/REVIEW AND INCLUSION IN MMI REPORT	✓	GC
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF MOUNT MODIFICATION INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE MMI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN MMI REPORT.	✓	GC

TABLE KEY:
MMI - MOUNT MODIFICATION INSPECTION
GC - GENERAL CONTRACTOR
ATC - AMERICAN TOWER CORPORATION

BOLT TIGHTENING PROCEDURE (CONTINUED)

- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-NUT PRETENSIONING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

- ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

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

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REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	KJ	04/29/22
△			
△			
△			
△			

ATC SITE NUMBER:

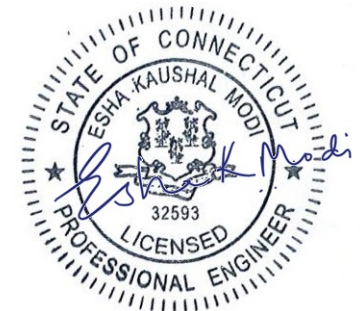
411216

ATC SITE NAME:

CT CHAPLIN SOUTH CT
CONNECTICUT

SITE ADDRESS:

123 PALMER RD
CHAPLIN, CT 06235



GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO:

- REVIEW THE REQUIREMENTS OF THE MMI CHECKLIST.
- UNDERSTAND ALL INSPECTION REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MMI CHECKLIST.

DRAWN BY:	KJ
APPROVED BY:	MCC
DATE DRAWN:	04/29/22
ATC JOB NO:	14071468_C9_04

IBC GENERAL NOTES & MOUNT MODIFICATION INSPECTION

SHEET NUMBER:

G-002

REVISION:

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	KJ	04/29/22

ATC SITE NUMBER:

411216

ATC SITE NAME:

CT CHAPLIN SOUTH CT
 CONNECTICUT

SITE ADDRESS:

123 PALMER RD
 CHAPLIN, CT 06235

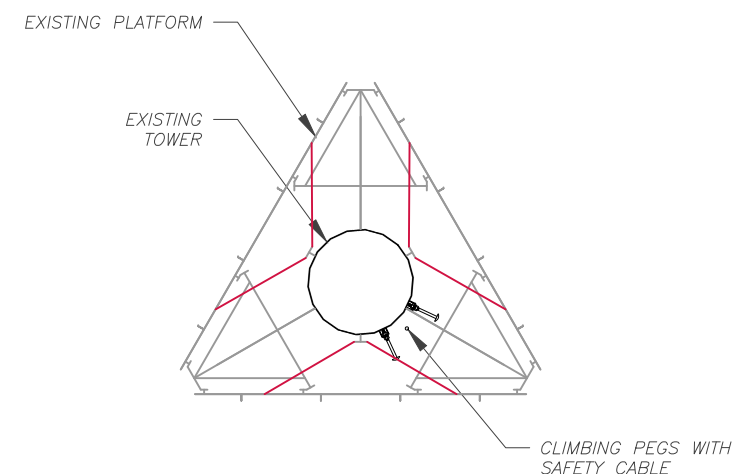
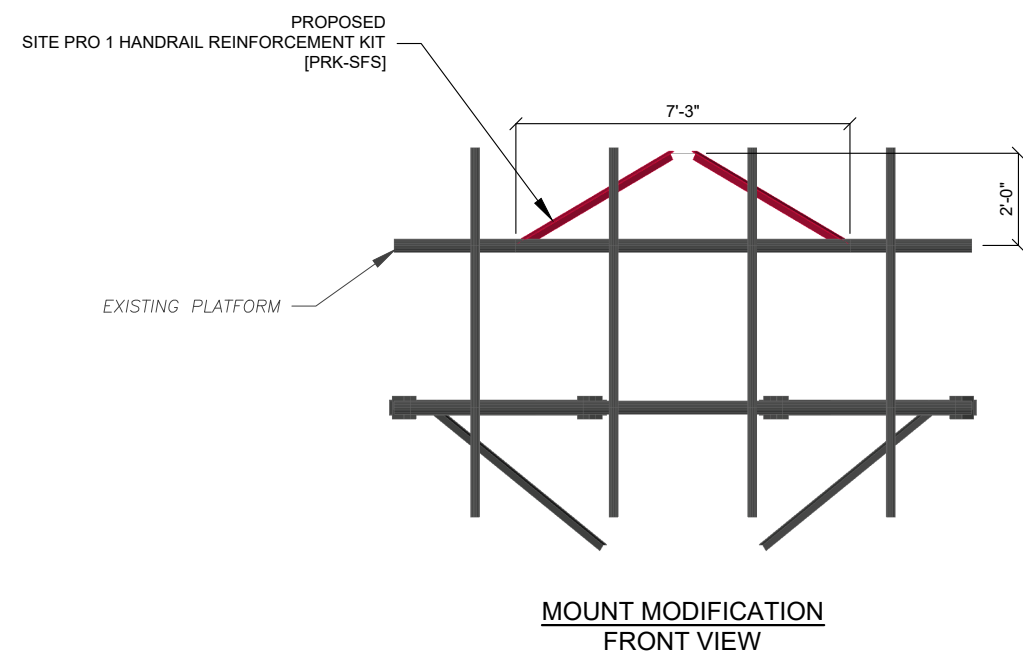
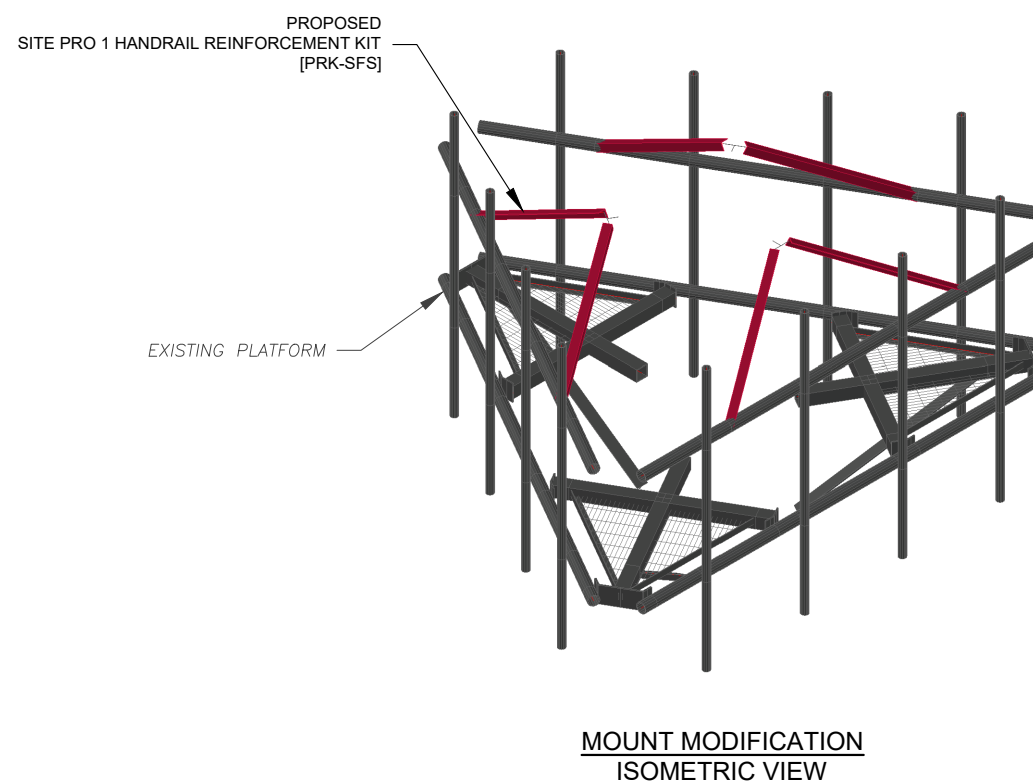
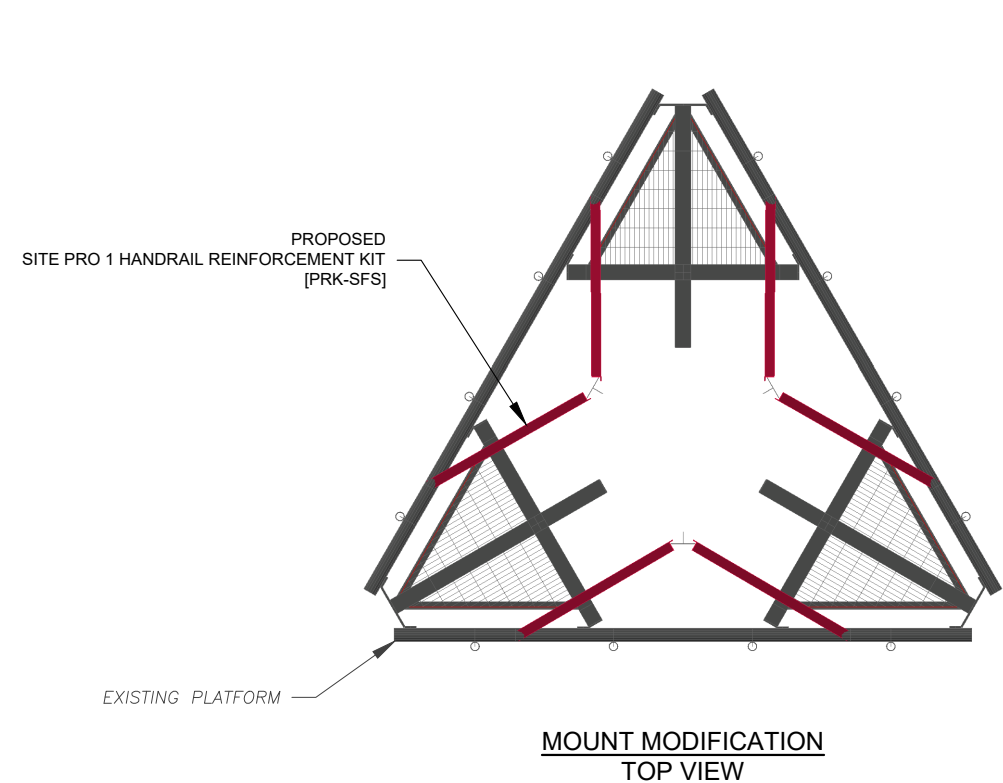


DRAWN BY:	KJ
APPROVED BY:	MCC
DATE DRAWN:	04/29/22
ATC JOB NO:	14071468_C9_04

MODIFICATION PROFILE

SHEET NUMBER:
S-101

REVISION:
0



- NOTES:**
- CONTRACTOR TO INSTALL MOUNT MODIFICATIONS PER THE MANUFACTURERS SPECIFICATION. MODIFICATIONS SHALL NOT OBSTRUCT, INTERFERE, OR BLOCK EXISTING SAFETY CLIMB SYSTEM. IF ANY OF THESE OCCURS DURING INSTALLATION CONTACT THE AMERICAN TOWER PMI INBOX PMI@AMERICANTOWER.COM
 - IN THE EVENT A PROPOSED MODIFICATION PART LISTED IN THE DRAWINGS IS NOT AVAILABLE, AN APPROVED EQUIVALENT CAN BE SUBSTITUTED. FOR APPROVAL OF EQUIVALENT PART OR QUESTIONS PLEASE CONTACT AMERICAN TOWER PMI INBOX AT PMI@AMERICANTOWER.COM.

REINFORCEMENT MATERIALS LIST (ALL SECTORS)

QUANTITY REQUIRED	MANUFACTURER	PART NUMBER	DESCRIPTION	LENGTH	PART WEIGHT (lb)	WEIGHT (lb)	NOTES
1	SITE PRO 1	PRK-SFS	HANDRAIL REINFORCEMENT KIT	---	587.71	588	
TOTAL WEIGHT (lb)					588		

10:21 AM 4/27/2022

Option 1 - Modify: Estimate for T-Mobile @ 411216 (CT Chaplin South CT) -- 14071468_C9_04

Site Data and Design Parameters		Dates and Designers	
Asset OTM #	411216	Mount Analysis Date / By	4/4/2022 / ME
Asset Name	CT Chaplin South CT	Design Date / By	4/27/2022 / MCC
State	Connecticut	Checked Date / By	/ /
County	Windham	Detailer (Prev/Current/Level)	/ /
City	Chaplin	Software	RISA
Failing Analysis Eng. #	14071468_C8_01	Tower Type	Monopole 18-sided
Mod. Drawing Eng. #	14071468_C9_04	Mount Type	Platform w/ Handrails
Building Codes		Carriers	
TIA/IBC:	ANSI/TIA-222-H / 2018 IBC	# of RADs	1
Local:	2018 Connecticut State Building Code	Carrier	T-Mobile
Failing Analysis % / Code	194% / TIA-H		
Post Mod % / Controlling Member	45% / Mount Pipes		
Usage Limit % / Reason	105% / N/A		

Any modification design comments or assumptions? **No** (including notes to the Estimator)

Modification Summary	
Item #	Scope Item
1	Install Site Pro 1 PRK-SFS V Style Stabilizer on All (3) MP sector(s)
Estimated Modification Cost	
	\$8,000

X:\C-E\CT Chaplin South CT, CT (411216)\14071468 T-MOBILE\14071468_04_MOUNT_DRW\Mount Modification SOW v1.4.9

Option 2 - Replace: Estimate for T-Mobile @ 411216 (CT Chaplin South CT) -- 14071468_C9_04

Tower Info	
Tower Number	411216
Tower Name	CT Chaplin South CT
State	Connecticut

Jurisdictional Codes	
Design TIA Code	Unknown
Current TIA Code	ANSI/TIA-222-H
IBC	2018 IBC
Other	2018 Connecticut State Building Code

Project Information	
Carrier	T-Mobile
Structure Type	Monopole

Recommended Mount Replacement	Site Pro 1 VFA10-SD-S*
	*or approved equivalent

Project Requirements	
New Mount Face Width	150 in
Number of Sectors	3

Estimated Replacement Cost	\$ 36,000.00
----------------------------	--------------

SUPPLEMENTAL

SHEET NUMBER:
R-901

REVISION:
0



Post Modification Mount Analysis Report

ATC Site Name : CT Chaplin South CT, CT
 ATC Site Number : 411216
 Engineering Number : 14071468_C9_04
 Mount Elevation : 116 ft
 Carrier : T-Mobile
 Carrier Site Name : CT508/Verizon Chaplin
 Carrier Site Number : CT11508F
 Site Location : 123 Palmer Road
 Chaplin, CT 06235-2416
 41.78454665, -72.13571997
 County : Windham
 Date : April 27, 2022
 Max Usage : 45%
 Result : Contingent Pass

Prepared By: Mitchell Chen
 Structural Engineer II

Reviewed By:

COA: PEC.0001553



Eng. Number 14071468_C9_04
 April 27, 2022

Table of Contents

Introduction 1
 Supporting Documents 1
 Analysis 1
 Conclusion 1
 Application Loading 2
 Structure Usages 2
 Mount Layout 3
 Equipment Layout 4
 Standard Conditions 7
 Calculations Attached



Eng. Number 14071468_C9_04
 April 27, 2022
 Page 1

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 116 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 RMQP-496-HK, dated May 23, 2021
Radio Frequency Data Sheet	RFDS ID #CT11508F, dated March 2, 2022
Reference Photos	Site photos from 2020

Analysis

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

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.185, S1 = 0.055
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs

* Based on experience, it has been determined that the Lr load cases will not control over Lm load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install modification per ATC Drawing #14071468_C9_04

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.



Eng. Number 14071468_C9_04
 April 27, 2022
 Page 2

Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
116.0	117.0	3	Commscope VV-65A-R1
		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

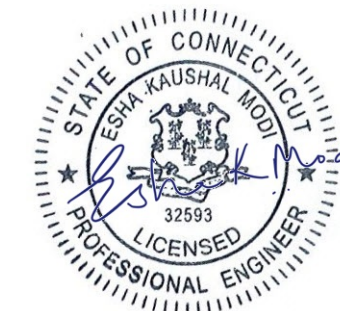
Structural Component	Controlling Usage	Pass/Fail
Horizontals	28%	Pass
Tie-Backs	10%	Pass
Mount Pipes	45%	Pass
Connection Check	15%	Pass

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	KJ	04/29/22

ATC SITE NUMBER:
 411216
 ATC SITE NAME:
 CT CHAPLIN SOUTH CT
 CONNECTICUT
 SITE ADDRESS:
 123 PALMER RD
 CHAPLIN, CT 06235



DRAWN BY: KJ
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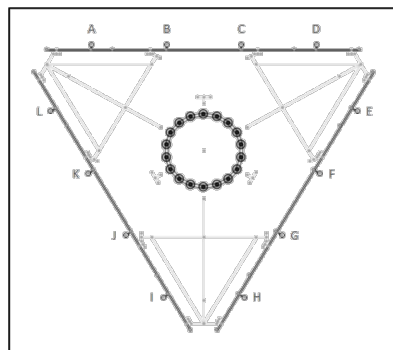
SUPPLEMENTAL

SHEET NUMBER:
R-902

REVISION:
0

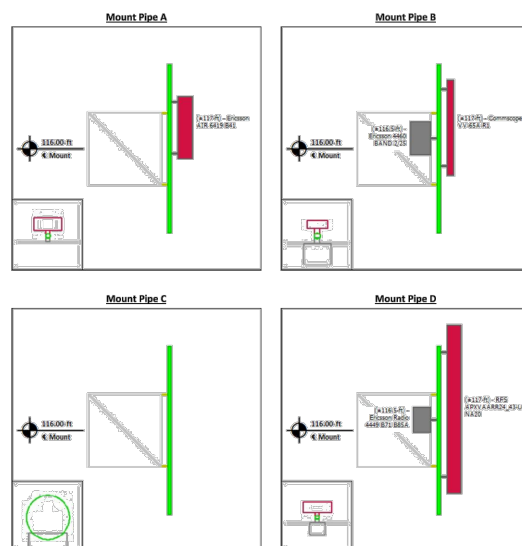
Eng. Number 14071468_C9_04
 April 27, 2022
 Page 3

Mount Layout



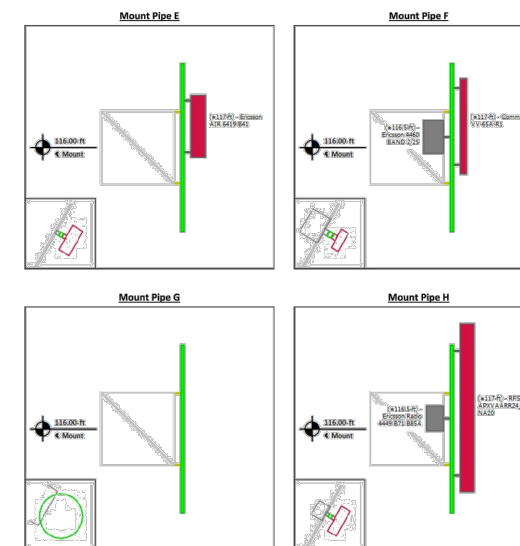
Eng. Number 14071468_C9_04
 April 27, 2022
 Page 4

Equipment Layout



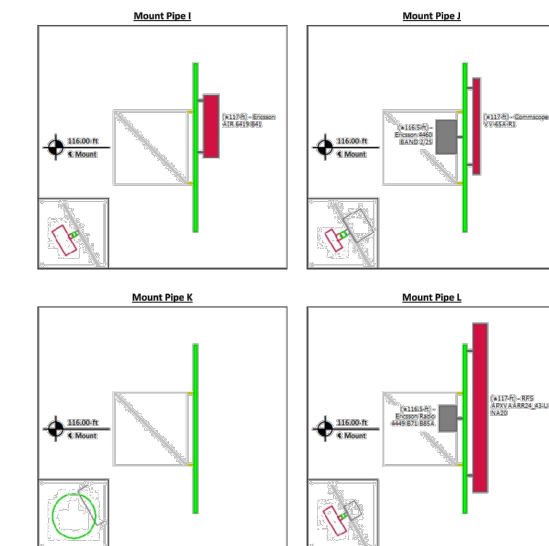
Eng. Number 14071468_C9_04
 April 27, 2022
 Page 5

Equipment Layout Cont'd.



Eng. Number 14071468_C9_04
 April 27, 2022
 Page 6

Equipment Layout Cont'd.





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:

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- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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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.



Mount Analysis Force Calculations

Wind & Ice Load Calculations			Seismic Load Calculations		
Velocity Pressure Coefficient	K_z	1.03	Short Period DSRA	S_{ps}	0.197
Topographic Factor	K_{zt}	1.00	1 Second DSRA	S_{ps1}	0.088
Rooftop Wind Speed-up Factor	K_{zt}	1.00	Importance Factor	I	1.0
Shielding Factor	K_{s1}	0.90	Response Modification Coefficient	R	2.0
Ground Elevation Factor	K_{z1}	0.98	Seismic Response Coefficient	C_s	0.099
Wind Direction Probability Factor	K_{d1}	0.95	Amplification Factor	A	1.0
Basic Wind Speed	V	120 mph	Total Weight	W	2899.8 lbs
Velocity Pressure	q_z	35.5 psf	Total Shear Force	V_u	286.1 lbs
Height Escalation Factor	K_{z1}	1.13	Horizontal Seismic Load	F_h	286.1 lbs
Thickness of Radial Glaze Ice	T_{gi}	1.13 in	Vertical Seismic Load	F_v	114.4 lbs

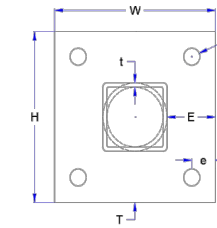
Antenna Calculations (Elevations per Application/RFD)*							
Equipment Model #	Height in	Width in	Depth in	Weight lbs	EPA ₁₀₀ sqft	EPA ₃₀ sqft	EPA ₁₅ sqft
Commscope VV-65A-R1	54.7	12.1	4.6	23.8	5.93	1.43	7.33
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.45
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.68
Ericsson Radio 4449 871 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.23
Ericsson 4460 BAND 2/25	19.6	15.7	12.1	109.0	2.56	1.98	3.27

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



Mount-to-Tower Connection Analysis

Applied Loads from RISAs 3D		
Controlling Load Combination		11
Node Label		N002
Force in X	F_x	-974.4 lbs
Force in Y	F_y	-173.9 lbs
Force in Z	F_z	1615.0 lbs
Moment about X	M_x	-212.6 lb-ft
Moment about Y	M_y	1289.8 lb-ft
Moment about Z	M_z	-127.8 lb-ft



Bolt Shear and Tensile Capacity		
Bolt Quantity	n	4
Bolt Diameter	D_b	5/8 in
Bolt Edge Distance	e	1 in
Bolt Grade		A325
Bolt F_u	F_{ub}	92 ksi
Bolt F_y	F_{yb}	120 ksi
Applied Shear	V_u	0.22 k
Applied Tension	T_u	1.91 k
Tensile Strength	ϕT_n	20.3 k
Interaction Capacity	$(T_u+V_u)/\phi T_n$	10% Pass

Weld and Base Metal Capacity		
Standoff Type		Tube
Standoff Member		HSS4x4x4
Member Edge Distance	E	2 in
Member Width	w	4 in
Member Thickness	t	0.250 in
Member Grade		A53 Gr. B
Member F_y	F_{yw}	35 ksi
Member F_u	F_{yu}	60 ksi
Weld Size	a	1/4 in
Weld Length	l	16.0 in
Applied Load	P_u	3.8 k
Weld Strength	ϕR_n	44.5 k
Weld Capacity	$P_u/\phi R_n$	9% Pass

Plate Flexural Capacity		
Plate Height	H	8 in
Plate Width	W	8 in
Plate Thickness	T	1/2 in
Plate Grade		A36
Plate F_y	F_{yp}	36 ksi
Plate F_u	F_{up}	58 ksi
Shear Capacity	ϕV_n	26.9 k
Applied Moment	M_u	3.8 k-in
Flexural Strength	ϕM_n	26.1 k-in
Flexural Capacity	$M_u/\phi M_n$	15% Pass

Prying Action Considerations		
Moment Arm	b	1.00 in
Effective Moment Arm	b'	0.69 in
Tributary Length	p	2.75 in
Effective Edge Distance	a'	1.31 in
Minimum Thickness	t_{min}	0.14 in
No Prying Thickness	t_p	0.19 in
Min Bolt Strength Thickness	t_b	0.62 k-in
Prying Action Bolt Tension	T_p	0.00 k



American Tower Corp.	411216, CT Chaplin South CT	SK-1
Mitchell Chen		Apr 27, 2022
14071468_C9_04	3D Rendering (Final Configuration)	R3D, T-MOBILE @ 411216, CT G...

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SUITE 100
CARY, NC 27518
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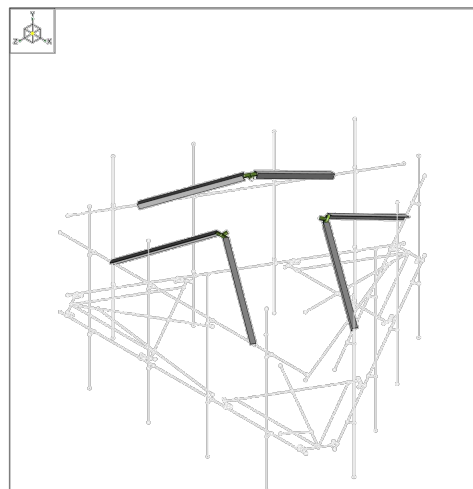
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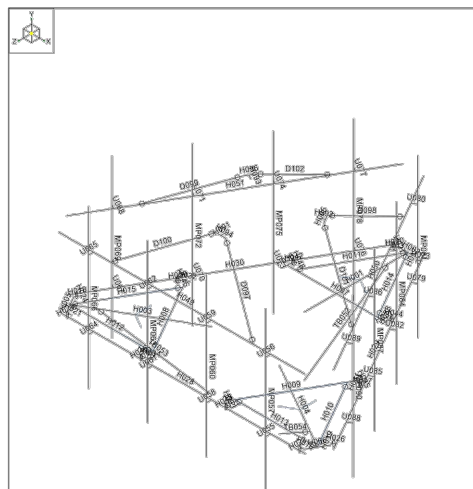
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411216

ATC SITE NAME:
CT CHAPLIN SOUTH CT CONNECTICUT

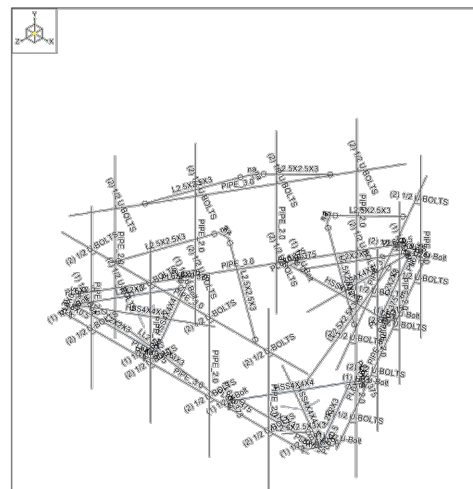
SITE ADDRESS:
123 PALMER RD
CHAPLIN, CT 06235



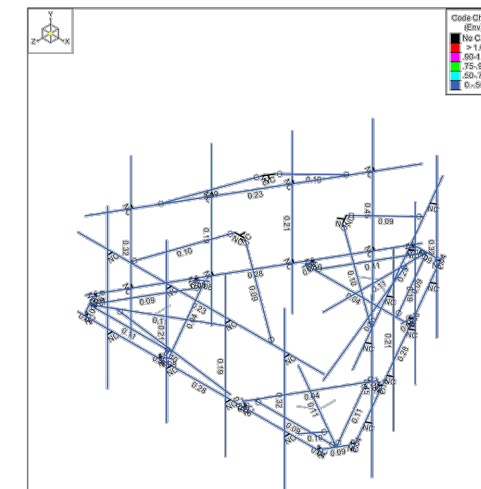
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Mitchell Chen		Apr 27, 2022
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American Tower Corp.	411216, CT Chaplin South CT	SK-3
Mitchell Chen		Apr 27, 2022
14071468_C9_04		R3D, T-MOBILE @ 411216, CT G...



American Tower Corp.	411216, CT Chaplin South CT	SK-4
Mitchell Chen		Apr 27, 2022
14071468_C9_04		R3D, T-MOBILE @ 411216, CT G...



American Tower Corp.	411216, CT Chaplin South CT	SK-5
Mitchell Chen		Apr 27, 2022
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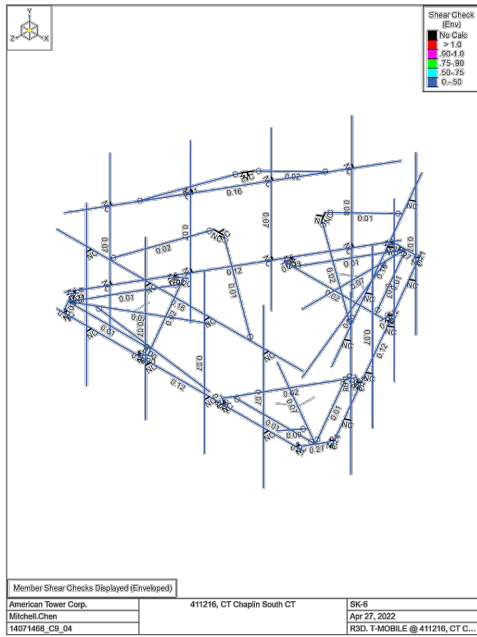


DRAWN BY:	KJ
APPROVED BY:	MCC
DATE DRAWN:	04/29/22
ATC JOB NO:	14071468_C9_04

SUPPLEMENTAL

SHEET NUMBER:
R-903

REVISION:
0



Basic Load Cases

B/C	Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
1	D	DL	-1		24		
2	D1	LL			24	60	3
3	W 0	WL			24	96	
4	W 30	WL			48	192	
5	W 60	WL			48	192	
6	W 90	WL			24	96	
7	W 120	WL			48	192	
8	W 150	WL			48	192	
9	W 180	WL			24	96	
10	W 210	WL			48	192	
11	W 240	WL			48	192	
12	W 270	WL			24	96	
13	W 300	WL			48	192	
14	W 330	WL			48	192	
15	W 0	WL			24	96	
16	W 30	WL			48	192	
17	W 60	WL			48	192	
18	W 90	WL			24	96	
19	W 120	WL			48	192	
20	W 150	WL			48	192	
21	W 180	WL			24	96	
22	W 210	WL			48	192	
23	W 240	WL			48	192	
24	W 270	WL			24	96	
25	W 300	WL			48	192	
26	W 330	WL			48	192	
27	W 0	WL			24	96	
28	W 30	WL			48	192	
29	W 60	WL			48	192	
30	W 90	WL			24	96	
31	W 120	WL			48	192	
32	W 150	WL			48	192	
33	W 180	WL			24	96	
34	W 210	WL			48	192	
35	W 240	WL			48	192	
36	W 270	WL			24	96	
37	W 300	WL			48	192	
38	W 330	WL			48	192	
39	Ev-Y	ELY			60		
40	Ev-Z	ELZ			60		
41	Ev-X	ELX			60		
42	Lm (1)	LL		1			
43	Lm (2)	LL		1			
44	Lm (3)	LL		1			
45	Lm (4)	LL		1			
46	Lm (5)	LL		1			
47	Lm (6)	LL		1			
48	Lm (7)	LL		1			
49	Lm (8)	LL		1			
50	Lm (9)	LL		1			
51	Lm (10)	LL		1			
52	Lm (11)	LL		1			
53	Lm (12)	LL		1			



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0	FIRST ISSUE	KJ	04/29/22

ATC SITE NUMBER:

411216

ATC SITE NAME:

CT CHAPLIN SOUTH CT
 CONNECTICUT

SITE ADDRESS:

123 PALMER RD
 CHAPLIN, CT 06235



DRAWN BY:	KJ
APPROVED BY:	MCC
DATE DRAWN:	04/29/22
ATC JOB NO:	14071468_C9_04

SUPPLEMENTAL

SHEET NUMBER:

R-904

REVISION:

0



AMERICAN TOWER®
CORPORATION

Post Modification Mount Analysis Report

ATC Site Name : CT Chaplin South CT, CT
ATC Site Number : 411216
Engineering Number : 14071468_C9_04
Mount Elevation : 116 ft
Carrier : T-Mobile
Carrier Site Name : CT508//Verizon Chaplin
Carrier Site Number : CT11508F
Site Location : 123 Palmer Road
Chaplin, CT 06235-2416
41.78454665 , -72.13571997
County : Windham
Date : April 27, 2022
Max Usage : 45%
Result : Contingent Pass

Prepared By:
Mitchell Chen
Structural Engineer II

Reviewed By:



Diana Gee
May 5 2022 4:36 PM

COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents 1

Analysis 1

Conclusion 1

Application Loading 2

Structure Usages 2

Mount Layout 3

Equipment Layout 4

Standard Conditions 7

Calculations Attached



Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 116 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 RMQP-496-HK, dated May 23, 2021
Radio Frequency Data Sheet	RFDS ID #CT11508F, dated March 2, 2022
Reference Photos	Site photos from 2020

Analysis

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

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.185$, $S_1 = 0.055$
Site Class:	D - Stiff Soil
Live Loads:	$L_m = 500$ lbs

* Based on experience, it has been determined that the L_v load cases will not control over L_m load cases in platform mount analyses. Therefore, these load cases have been excluded from this analysis.

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- Install modification per ATC Drawing #14071468_C9_04

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.



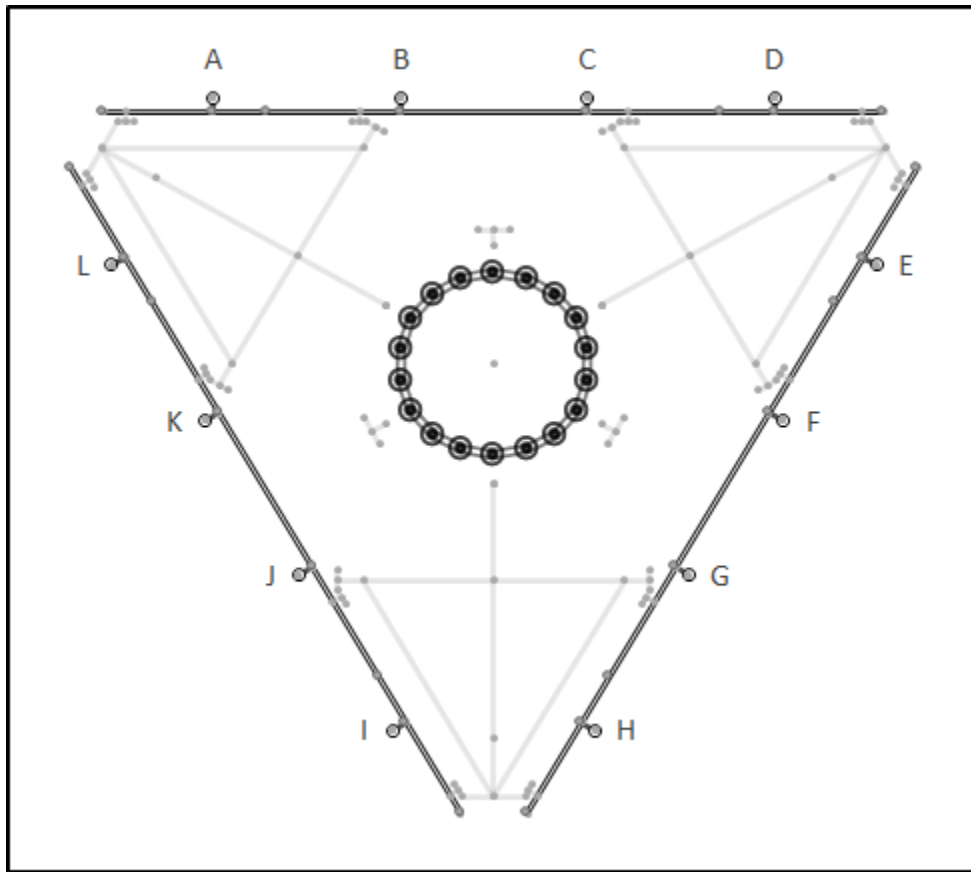
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
116.0	117.0	3	Commscope VV-65A-R1
		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

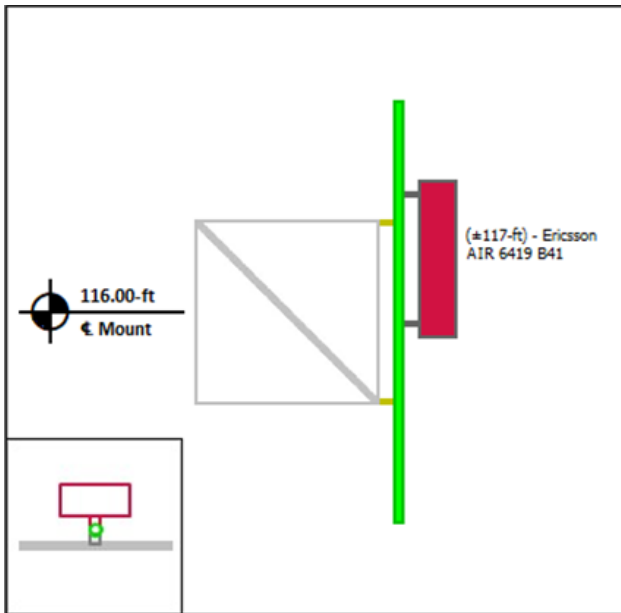
Structural Component	Controlling Usage	Pass/Fail
Horizontals	28%	Pass
Tie-Backs	10%	Pass
Mount Pipes	45%	Pass
Connection Check	15%	Pass

Mount Layout

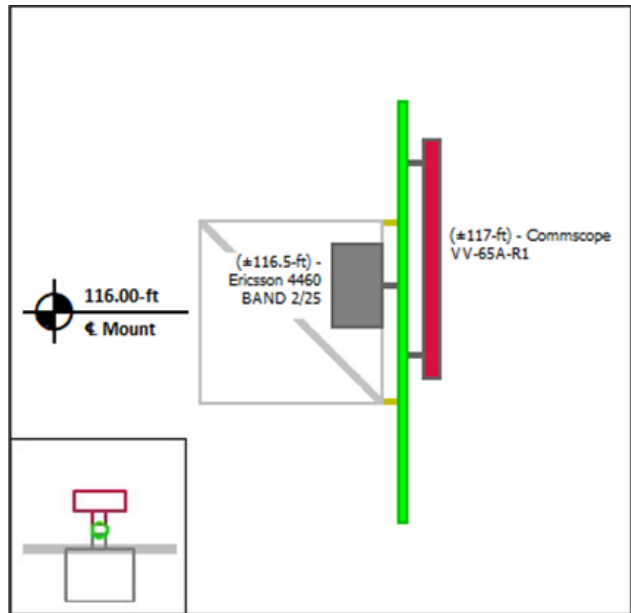


Equipment Layout

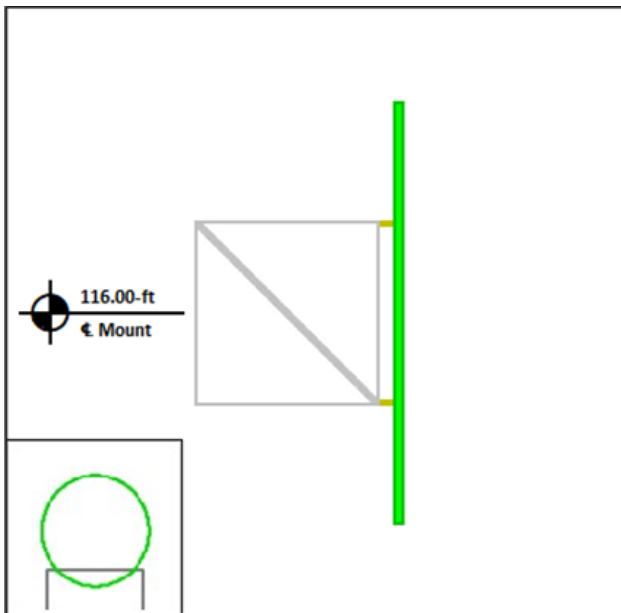
Mount Pipe A



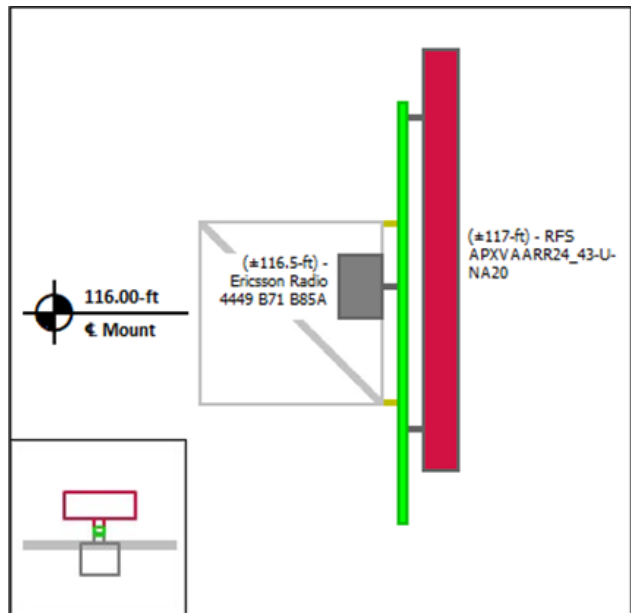
Mount Pipe B



Mount Pipe C

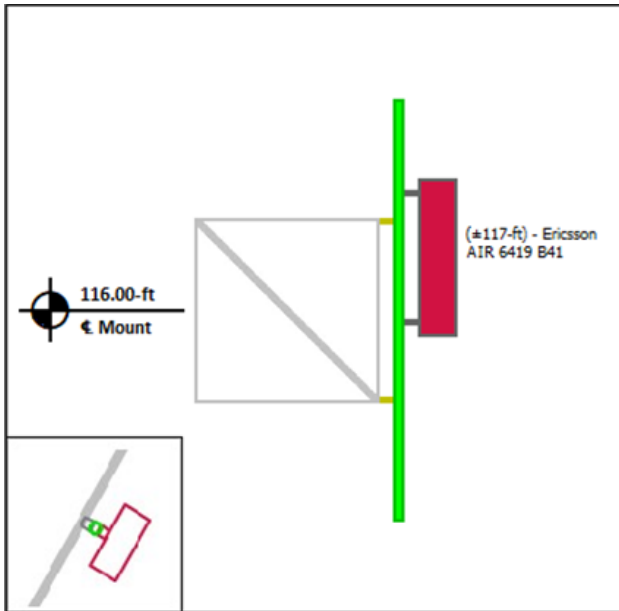


Mount Pipe D

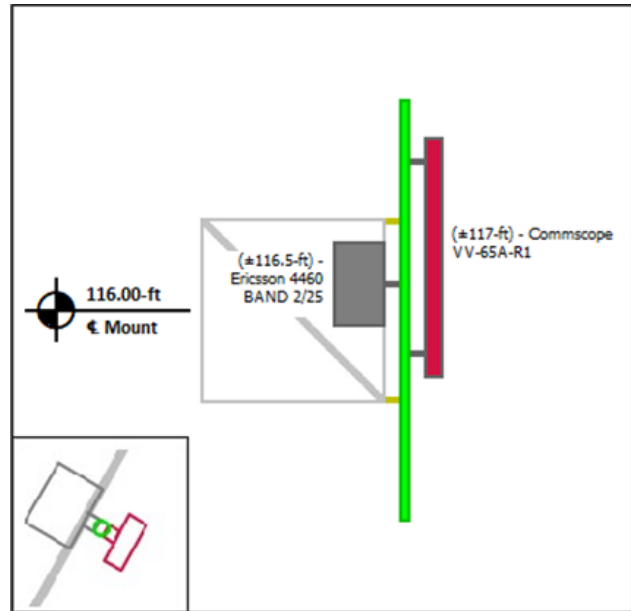


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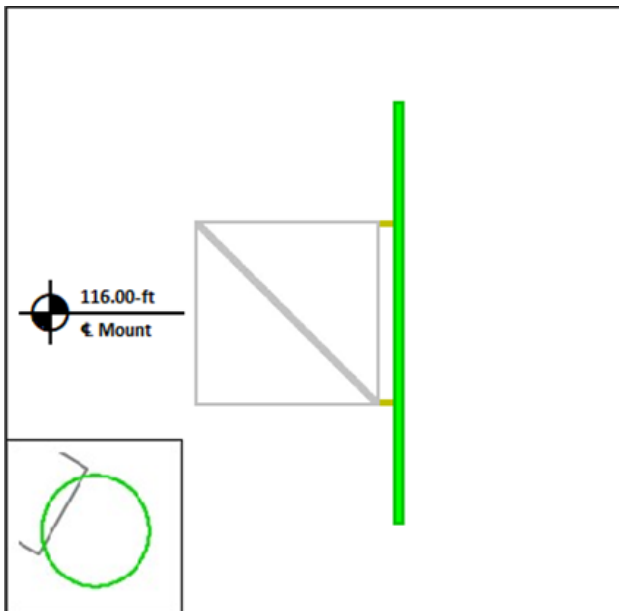
Mount Pipe E



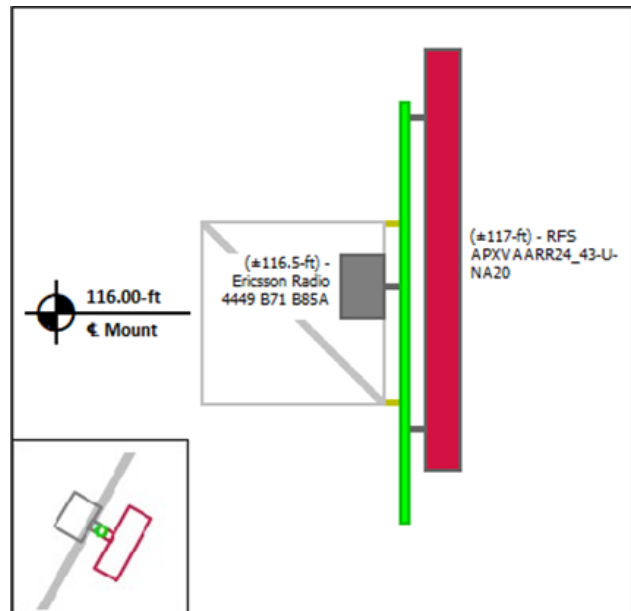
Mount Pipe F



Mount Pipe G

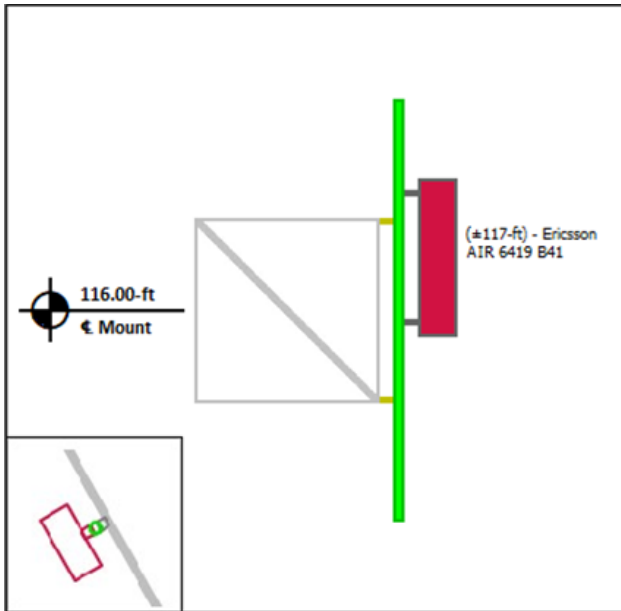


Mount Pipe H

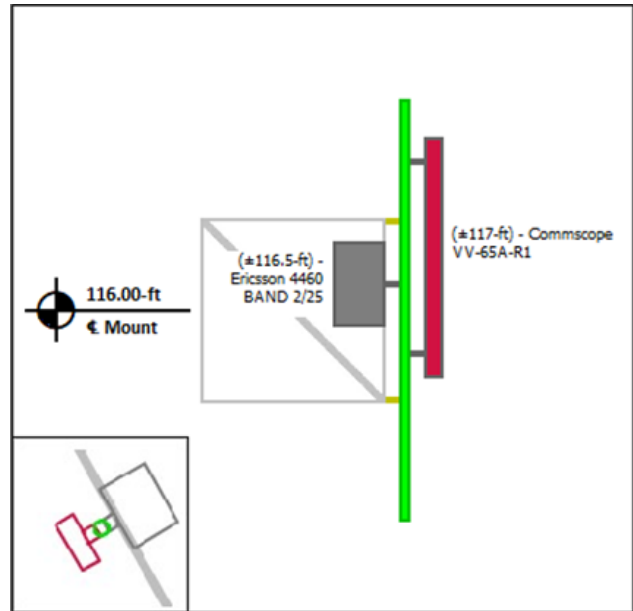


Equipment Layout Cont'd.

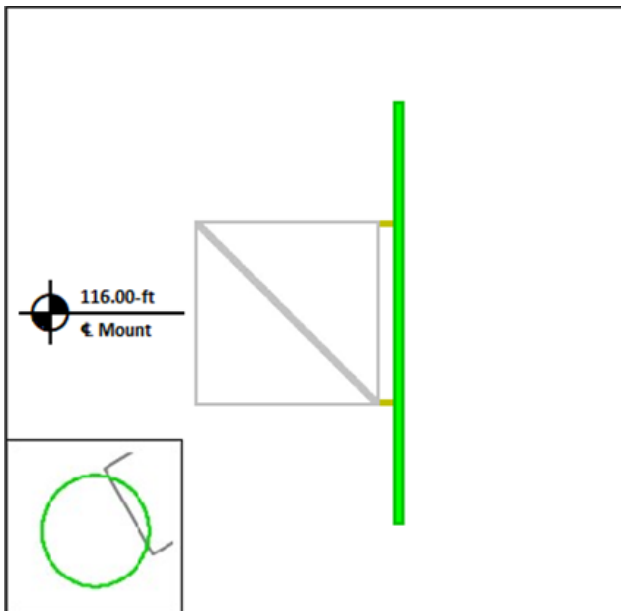
Mount Pipe I



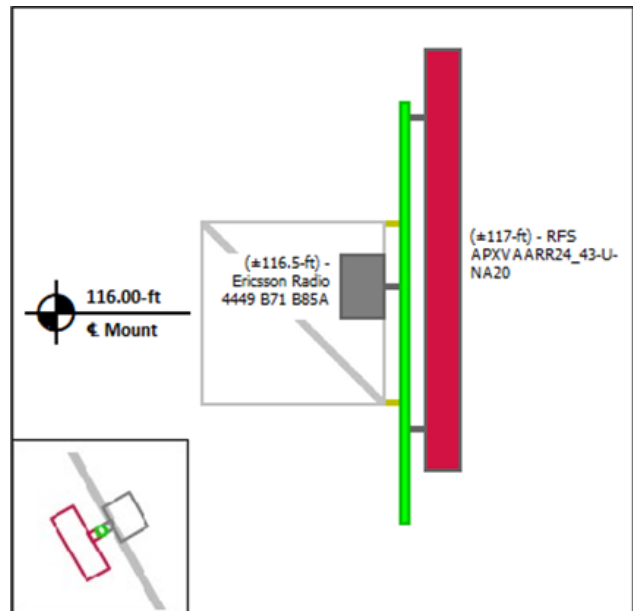
Mount Pipe J



Mount Pipe K



Mount Pipe L





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Site Number: 411216
 Project Number: 14071468_C9_04
 Carrier: T-Mobile
 Mount Elevation: 116 ft
 Date: 4/27/2022

Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.03	
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	120	mph
Velocity Pressure	q_z	35.5	psf
Height Escalation Factor	K_{iz}	1.13	
Thickness of Radial Glaze Ice	T_{iz}	1.13	in

Seismic Load Calculations			
Short Period DSRAP	S_{Ds}	0.197	
1 Second DSRAP	S_{D1}	0.088	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.099	
Amplification Factor	A	1.0	
Total Weight	W	2899.8	lbs
Total Shear Force	V_s	286.1	lbs
Horizontal Seismic Load	E_h	286.1	lbs
Vertical Seismic Load	E_v	114.4	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
Commscope VV-65A-R1	54.7	12.1	4.6	23.8	5.93	1.43	7.33	2.22
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.45	2.42
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.68	4.49
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.23	1.84
Ericsson 4460 BAND 2/25	19.6	15.7	12.1	109.0	2.56	1.98	3.27	2.62

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

Mount-to-Tower Connection Analysis

Applied Loads from RISA 3D

Controlling Load Combination		11	
Node Label		N002	
Force in X	F _x	-974.4	lbs
Force in Y	F _y	-173.9	lbs
Force in Z	F _z	1615.0	lbs
Moment about X	M _x	-212.6	lb-ft
Moment about Y	M _y	1289.8	lb-ft
Moment about Z	M _z	-127.8	lb-ft

Bolt Shear and Tensile Capacity

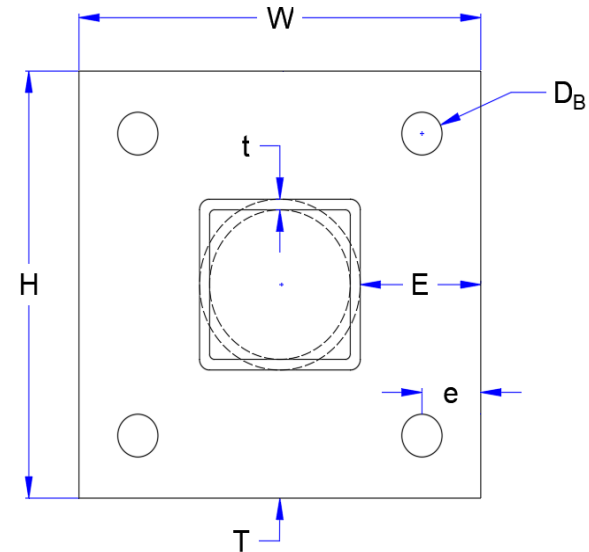
Bolt Quantity	n	4	
Bolt Diameter	D _B	5/8	in
Bolt Edge Distance	e	1	in
Bolt Grade		A325	
Bolt F _y	F _{yB}	92	ksi
Bolt F _u	F _{uB}	120	ksi
Applied Shear	V _u	0.22	k
Applied Tension	T _u	1.91	k
Tensile Strength	φT _n	20.3	k
Interaction Capacity	(T _u +V _u)/φT _n	10%	Pass

Plate Flexural Capacity

Plate Height	H	8	in
Plate Width	W	8	in
Plate Thickness	T	1/2	in
Plate Grade		A36	
Plate F _y	F _{yP}	36	ksi
Plate F _u	F _{uP}	58	ksi
Shear Capacity	φV _n	26.9	k
Applied Moment	M _u	3.8	k-in
Flexural Strength	φM _n	26.1	k-in
Flexural Capacity	M _u /φM _n	15%	Pass

Prying Action Considerations

Moment Arm	b	1.00	in
Effective Moment Arm	b'	0.69	in
Tributary Length	ρ	2.75	in
Effective Edge Distance	a'	1.31	in

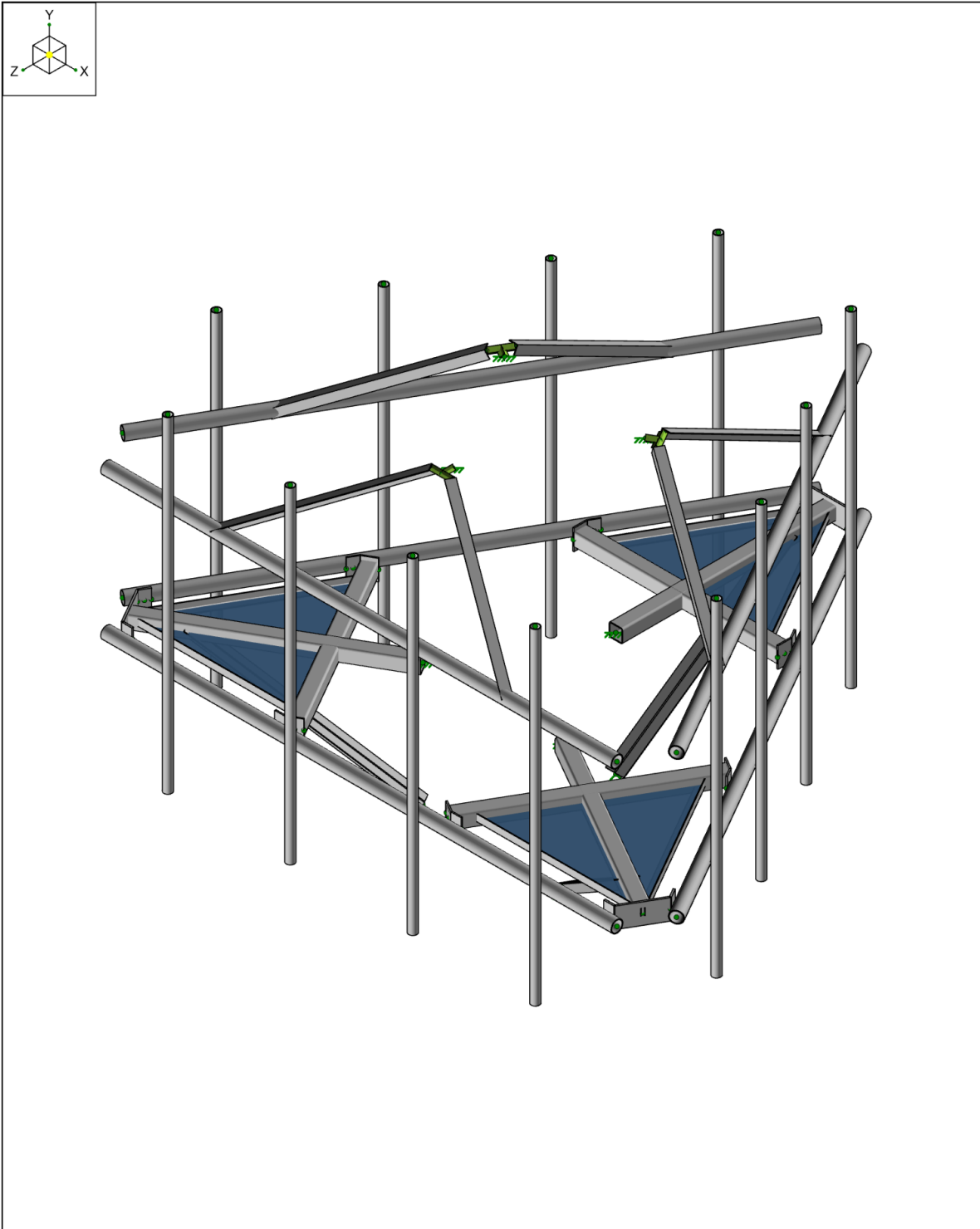


Weld and Base Metal Capacity

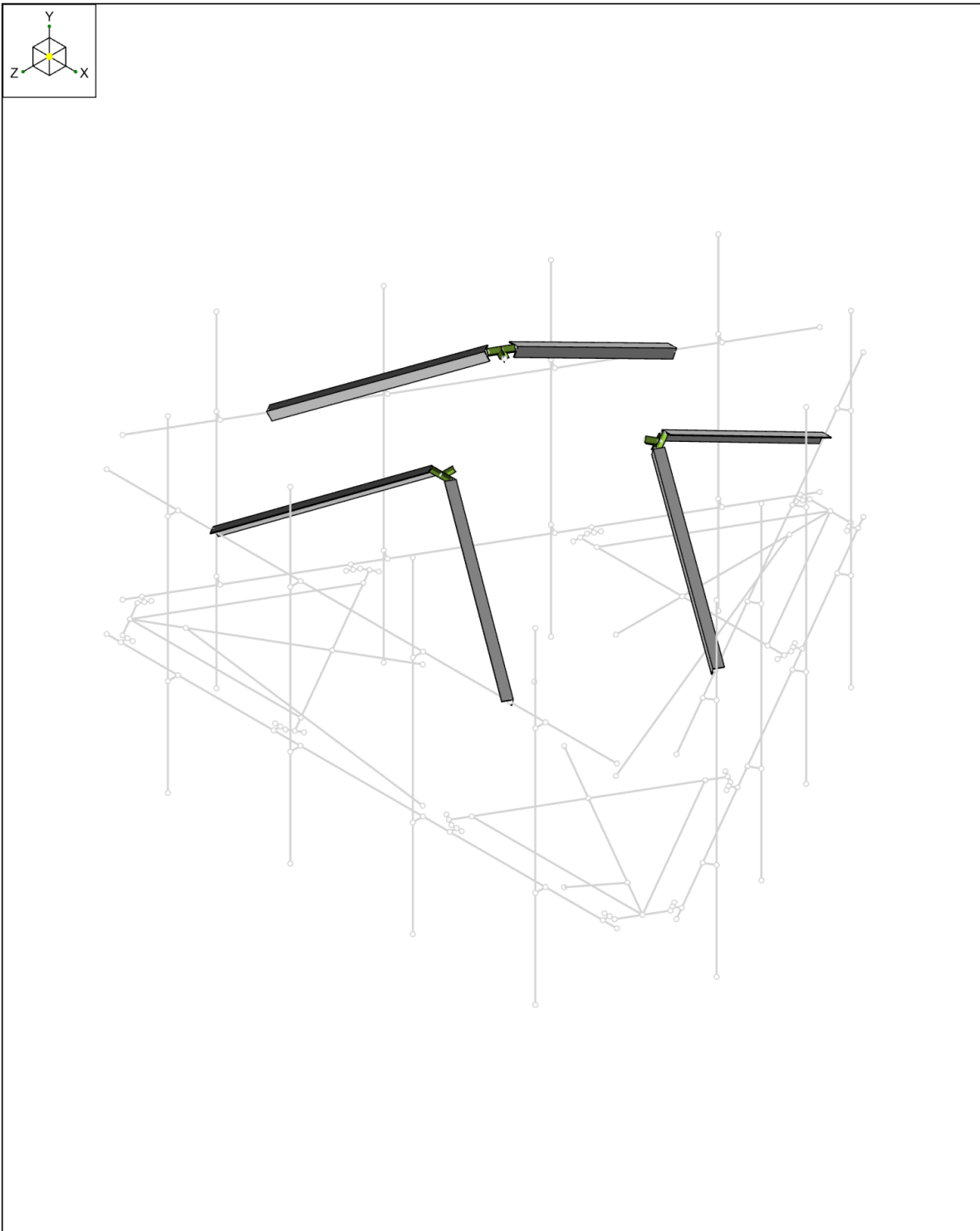
Standoff Type		Tube
Standoff Member		HSS4x4x4
Member Edge Distance	E	2 in
Member Width	w	4 in
Member Thickness	t	0.250 in
Member Grade		A53 Gr. B
Member F _y	F _{yM}	35 ksi
Member F _u	F _{uM}	60 ksi
Weld Size	a	1/4 in
Weld Length	l	16.0 in
Applied Load	P _u	3.8 k
Weld Strength	φR _n	44.5 k
Weld Capacity	P _u /φR _n	9% Pass

Minimum Base Metal Thickness		0.206 in
Controlling Base Metal Thickness		0.250 in
Base Metal Result		Acceptable

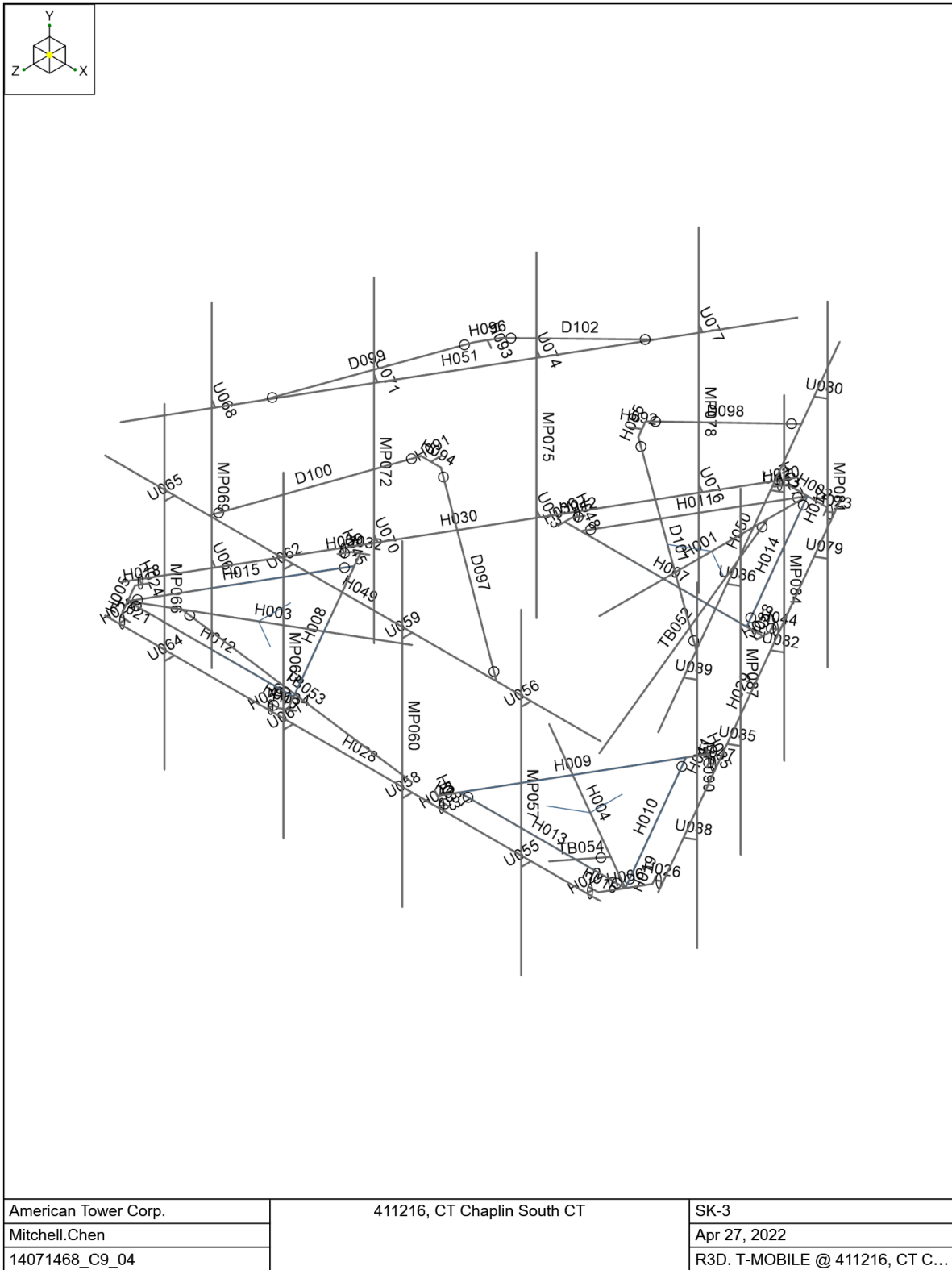
Minimum Thickness	t _{min}	0.14 in
No Prying Thickness	t _{np}	0.19 in
Min Bolt Strength Thickness	t _c	0.62 k-in
Prying Action Bolt Tension	T _{up}	0.00 k

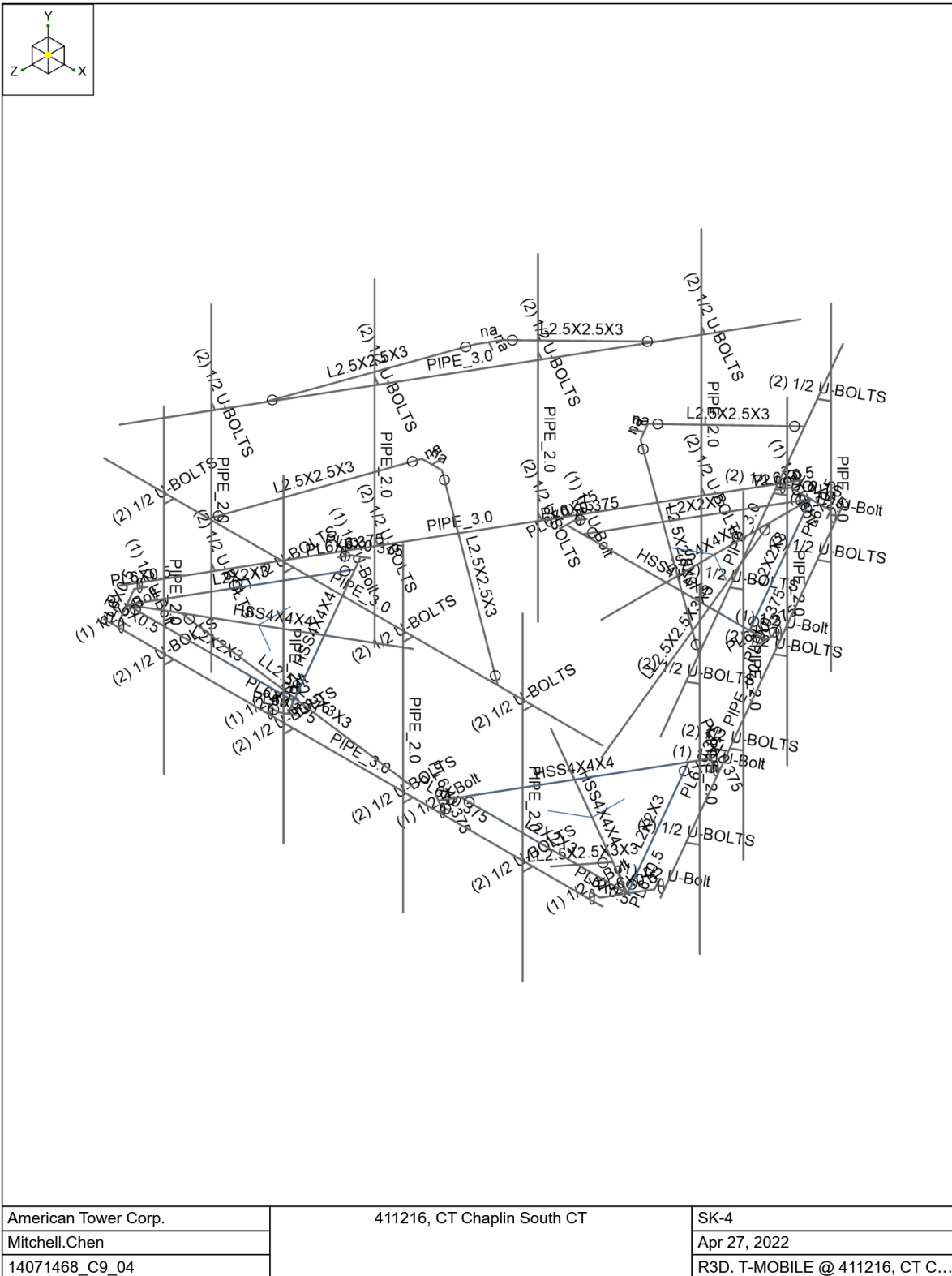


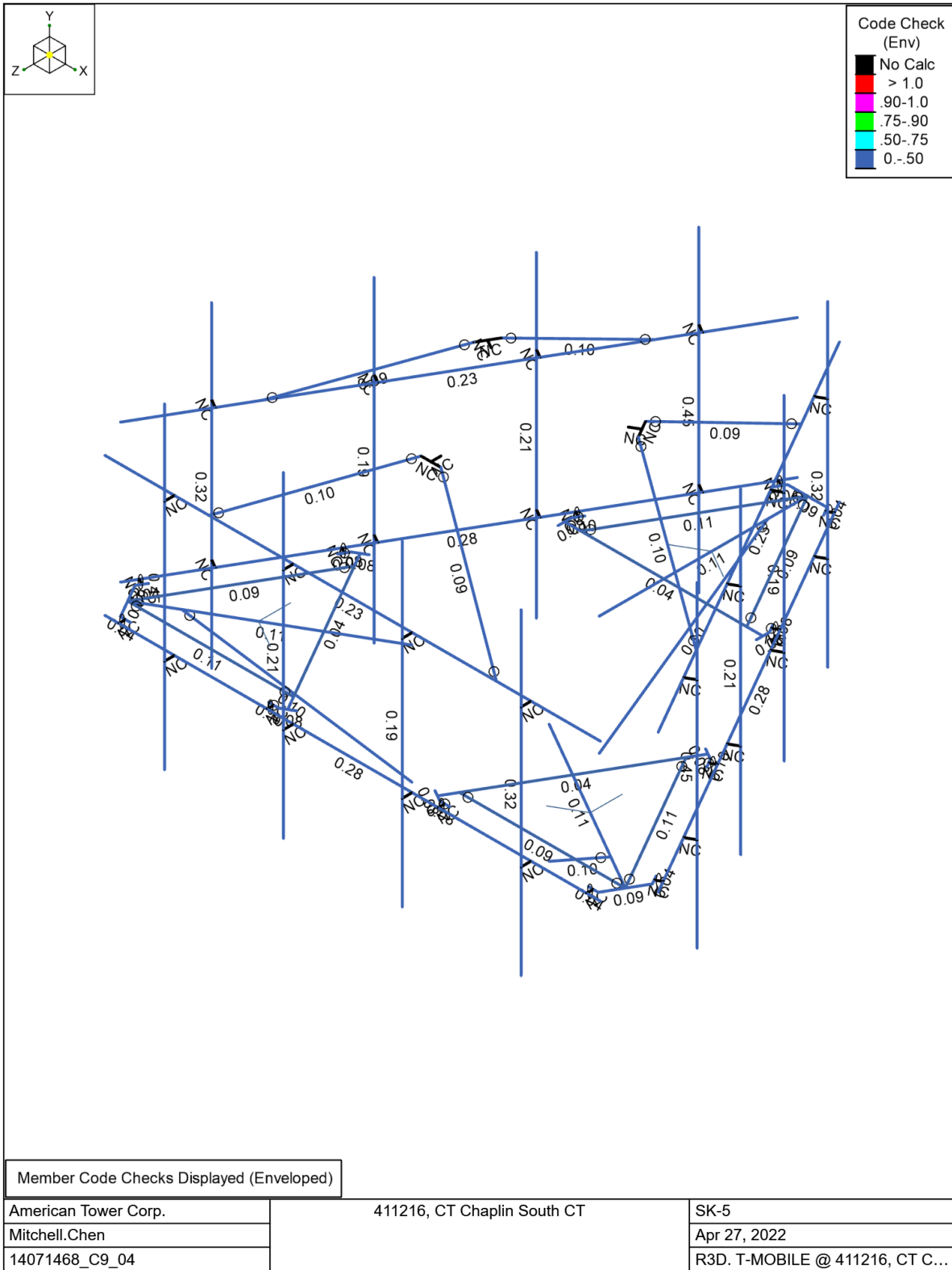
American Tower Corp.	411216, CT Chaplin South CT	SK-1
Mitchell.Chen		Apr 27, 2022
14071468_C9_04	3D Rendering (Final Configuration)	R3D. T-MOBILE @ 411216, CT C...

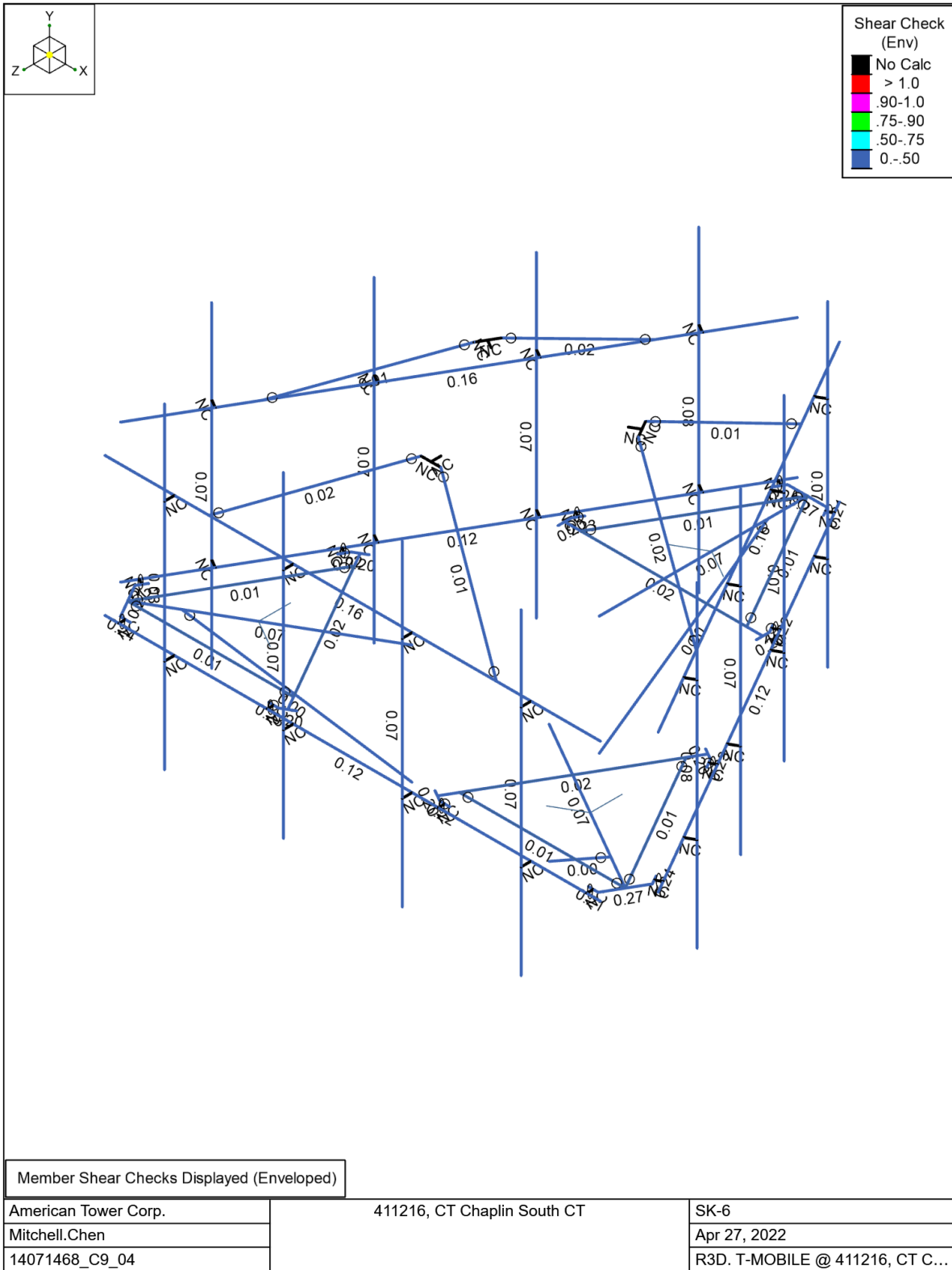


American Tower Corp.	411216, CT Chaplin South CT	SK-2
Mitchell.Chen		Apr 27, 2022
14071468_C9_04	3D Rendering (Proposed Configuration)	R3D. T-MOBILE @ 411216, CT C...









Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Surface(Plate/Wall)
1	D	DL	-1		24		
2	Di	IL			24	60	3
3	W 0	WL			24	96	
4	W 30	WL			48	192	
5	W 60	WL			48	192	
6	W 90	WL			24	99	
7	W 120	WL			48	192	
8	W 150	WL			48	192	
9	W 180	WL			24	96	
10	W 210	WL			48	192	
11	W 240	WL			48	192	
12	W 270	WL			24	99	
13	W 300	WL			48	192	
14	W 330	WL			48	192	
15	Wi 0	WL			24	96	
16	Wi 30	WL			48	192	
17	Wi 60	WL			48	192	
18	Wi 90	WL			24	99	
19	Wi 120	WL			48	192	
20	Wi 150	WL			48	192	
21	Wi 180	WL			24	96	
22	Wi 210	WL			48	192	
23	Wi 240	WL			48	192	
24	Wi 270	WL			24	99	
25	Wi 300	WL			48	192	
26	Wi 330	WL			48	192	
27	Ws 0	WL			24	96	
28	Ws 30	WL			48	192	
29	Ws 60	WL			48	192	
30	Ws 90	WL			24	99	
31	Ws 120	WL			48	192	
32	Ws 150	WL			48	192	
33	Ws 180	WL			24	96	
34	Ws 210	WL			48	192	
35	Ws 240	WL			48	192	
36	Ws 270	WL			24	99	
37	Ws 300	WL			48	192	
38	Ws 330	WL			48	192	
39	Ev -Y	ELY				60	
40	Eh -Z	ELZ				60	
41	Eh -X	ELX				60	
42	Lm (1)	LL		1			
43	Lm (2)	LL		1			
44	Lm (3)	LL		1			
45	Lm (4)	LL		1			
46	Lm (5)	LL		1			
47	Lm (6)	LL		1			
48	Lm (7)	LL		1			
49	Lm (8)	LL		1			
50	Lm (9)	LL		1			
51	Lm (10)	LL		1			
52	Lm (11)	LL		1			
53	Lm (12)	LL		1			



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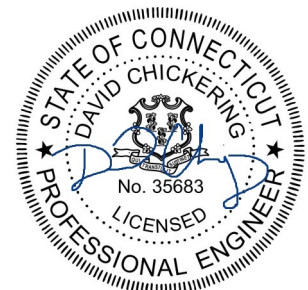
Structural Analysis Report

Structure : 146 ft Monopole
ATC Site Name : CT Chaplin South CT,CT
ATC Site Number : 411216
Engineering Number : 14071468_C3_03
Proposed Carrier : T-MOBILE
Carrier Site Name : CT508//Verizon Chaplin
Carrier Site Number : CT11508F
Site Location : 123 Palmer Road
Chaplin, CT 06235-2416
41.7845, -72.1357
County : Windham
Date : May 3, 2022
Max Usage : 72%
Result : Pass

Prepared By:

Ravi Siddharth Raja
CLS

Reviewed By:



David Chickering
Telamon Tower Engineering PLLC
PE # 35683 Exp. 01/31/2023

Digitally signed by
David W Chickering
Date: 2022.05.03
16:54:28 -04'00'

Table of Contents

Introduction.....3
Supporting Documents3
Analysis3
Conclusion3
Existing and Reserved Equipment.....4
Equipment to be Removed4
Proposed Equipment4
Structure Usages.....5
Foundations5
Deflection and Sway*5
Standard Conditions6
CalculationsAttached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 146 ft Monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	EEI Project #12120 Rev. 2, dated November 21, 2003
Foundation Drawing	EEI Project #12120 Rev. 3, dated December 18, 2003
Geotechnical Report	GEOServices Project #31-151287M, dated September 8, 2015
Mount Analysis	ATC Project# 14071468_C8_01, dated April 4, 2022
Mount Modifications	ATC Project# 14071468_C9_04, dated April 29, 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:	120 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	$S_s = 0.18, S_i = 0.06$
Site Class:	D - Stiff Soil - Default

Conclusion

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

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

Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
148.0	3	Samsung MT6407-77A	Triangular Low Profile Platform	(18) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Andrew SBNHH-1D65B			
	2	Antel LPA-80063/4CF			
	4	Antel LPA-80080/4CF			
147.0	3	Samsung B5/B13 RRH-BR04C	Triangular Platform with Handrails	(4) 1 1/4" Hybriflex Cable (7) 1 5/8" Coax	SPRINT NEXTEL
	2	Raycap RC3DC-3315-PF-48			
	3	Samsung B2/B66A RRH-BR049			
137.0	6	Alcatel-Lucent RRH2x50-08	Triangular Platform with Handrails	(4) 1 1/4" Hybriflex Cable (7) 1 5/8" Coax	SPRINT NEXTEL
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	RFS APXVTM14-ALU-I20			
	3	Commscope NNVV-65B-R4			
	1	Generic GPS			
128.0	3	CCI OPA65R-BU8D	Triangular Platform with Handrails	(2) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax (3) 2" conduit	AT&T MOBILITY
	3	CCI DMP65R-BU8D			
	3	Allgon 7770.00			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson Radio 8843 - B2 + B66A			
	3	Raycap DC6-48-60-18-8F			
	6	Powerwave Allgon LGP21401			
117.0	3	RFS APXVAARR24_43-U-NA20	Triangular Platform with Handrails	-	T-MOBILE
105.0	3	Fujitsu TA08025-B604	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Commscope FFVV-65B-R2			
	1	Raycap RDIDC-9181-PF-48			
63.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	AT&T MOBILITY

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
116.0	3	Ericsson KRY 112 144/1	-	(1) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax	T-MOBILE
	3	Ericsson KRY 112 489/2			
	3	RFS APXV18-206517			
	3	Ericsson Radio 4449 B12,B71			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
117.0	3	Ericsson Radio 4449 B71 B85A	Triangular Platform with Handrails	(1) 1 1/4" Hybriflex Cable (2) 1.99" (50.7mm) Hybrid	T-MOBILE
	3	Ericsson 4460 BAND 2/25			
	3	Commscope VV-65A-R1			
	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	55%	Pass
Shaft	67%	Pass
Base Plate	51%	Pass

Foundations

ReactioComponent	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3157.8	4263.0	3064.9	72%
Shear (Kips)	30.5	41.2	27.7	67%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
117.0	Ericsson Radio 4449 B71 B85A	T-MOBILE	1.040	1.020
	Ericsson 4460 BAND 2/25			
	RFS APXVAARR24_43-U-NA20			
	Ericsson AIR 6419 B41			
	Commscope VV-65A-R1			

*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.

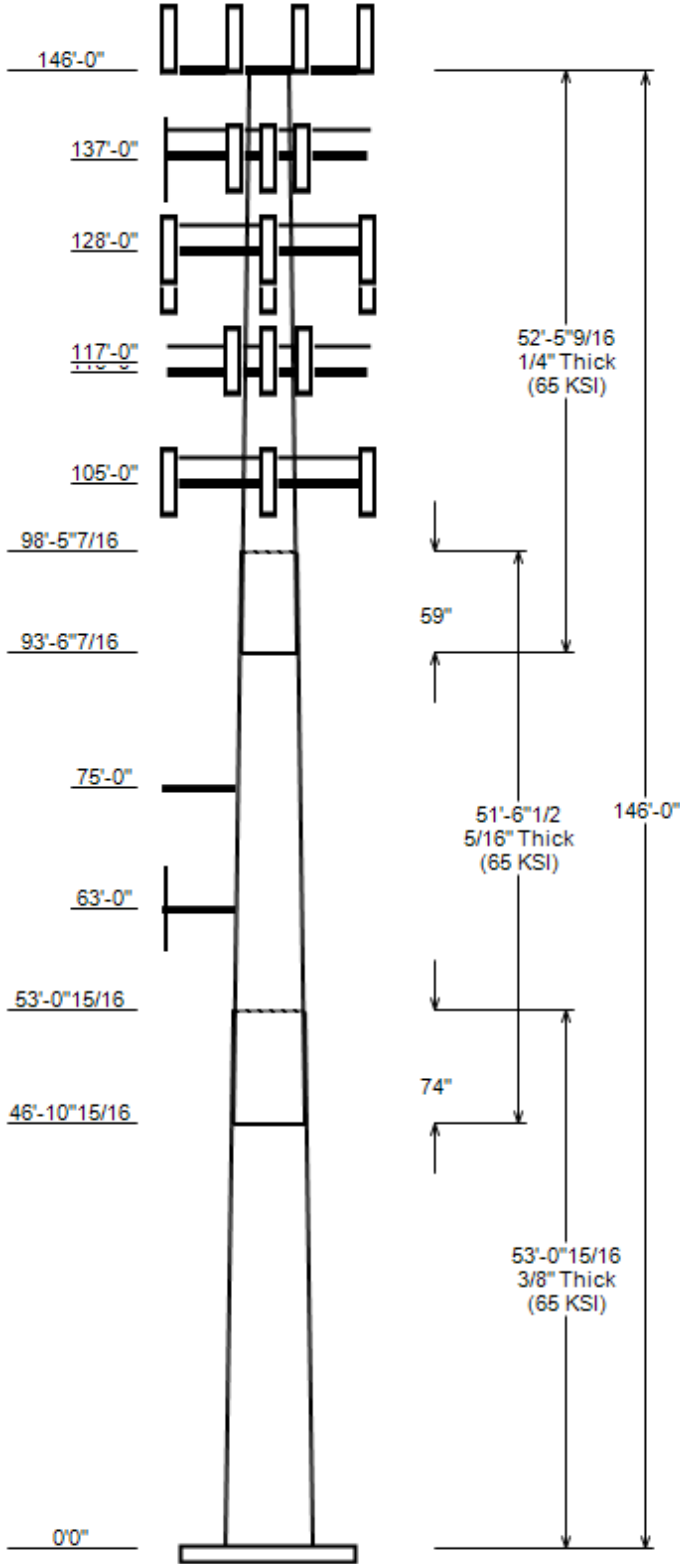
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively “American Tower”) are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with 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 : 411216, CT Chaplin South CT
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 146 ft
 Base Width : 54.5
 Shape : 18 Sides



SITE PARAMETERS

Nominal Wind: 120 mph wind with no ice **Topo Category:** 1
 Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1
 Base Elev (ft): 0.00 Taper : 0.22000 (in/ft) **Topo Feature:**
 Structure Class: II Exposure : B S_s : 0.185 S_1 : 0.055

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	53.080	42.82	54.50	0.375		0.000	18 Sides	65
2	51.540	33.46	44.80	0.312	Slip Joint	74.000	18 Sides	65
3	52.463	23.50	35.04	0.250	Slip Joint	59.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
146.0	147.0	3	Samsung B2/B66A RRH-BR049
146.0	147.0	3	Samsung B5/B13 RRH-BR04C
146.0	147.0	2	Raycap RC3DC-3315-PF-48
146.0	148.0	3	Samsung MT6407-77A
146.0	148.0	4	Antel LPA-80080/4CF
146.0	148.0	2	Antel LPA-80063/4CF
146.0	148.0	6	Andrew SBNHH-1D65B
146.0	146.0	1	Generic Flat Low Profile Platf
137.5	137.5	1	Generic Round Platform with Ha
137.0	137.0	1	Generic GPS
137.0	137.0	6	Alcatel-Lucent RRH2x50-08
137.0	137.0	3	Alcatel-Lucent 1900 MHz 4X45 R
137.0	137.0	3	Alcatel-Lucent TD-RRH8x20-25 w
137.0	137.0	3	RFS APXVTM14-ALU-I20
137.0	137.0	3	Commscope NNVV-65B-R4
128.0	126.0	6	Powerwave Allgon LGP21401
128.0	126.0	3	Raycap DC6-48-60-18-8F
128.0	128.0	3	Ericsson Radio 8843 - B2 + B66
128.0	128.0	3	Ericsson RRUS 4478 B14
128.0	128.0	3	Ericsson RRUS 4449 B5, B12
128.0	126.0	3	Allgon 7770.00
128.0	128.0	1	Generic Mount Reinforcement
128.0	128.0	3	CCI DMP65R-BU8D
128.0	128.0	3	CCI OPA65R-BU8D
128.0	128.0	1	Generic Round Platform with Ha
117.0	117.0	3	Ericsson Radio 4449 B71 B85A
117.0	117.0	3	Ericsson 4460 BAND 2/25
117.0	117.0	3	Commscope VV-65A-R1
117.0	117.0	3	Ericsson AIR 6419 B41
117.0	117.0	3	RFS APXVAARR24_43-U-NA20
116.0	116.0	2	Generic Mount Reinforcement
116.0	116.0	1	Generic Round Platform with Ha
105.0	105.0	1	Raycap RDIDC-9181-PF-48
105.0	105.0	3	Fujitsu TA08025-B605
105.0	105.0	3	Fujitsu TA08025-B604
105.0	105.0	3	Commscope FFVV-65B-R2
105.0	105.0	1	Generic Round Platform with Ha
75.0	75.0	1	Generic Flat Stand-Off
63.0	63.0	1	Generic GPS
63.0	63.0	1	Generic Flat Stand-Off

JOB INFORMATION

Asset : 411216, CT Chaplin South CT
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 146 ft
 Base Width : 54.5
 Shape : 18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	149.0	1 5/8" Coax	No
0.0	148.0	1 5/8" Coax	No
0.0	147.0	1 5/8" Hybriflex	No
0.0	137.0	1 5/8" Coax	No
0.0	137.0	1 1/4" Hybriflex Cable	No
0.0	128.0	2" conduit	No
0.0	128.0	1 5/8" Coax	No
0.0	128.0	0.78" (19.7mm) 8 AWG 6	No
0.0	128.0	0.39" (10mm) Fiber Trunk	No
0.0	117.0	1.99" (50.7mm) Hybrid	No
0.0	117.0	1 1/4" Hybriflex Cable	No
0.0	105.0	1.60" (40.6mm) Hybrid	No
0.0	63.0	1/2" Coax	Yes

LOAD CASES

1.2D + 1.0W	120 mph wind with no ice
0.9D + 1.0W	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	3064.77	27.74	56.18
0.9D + 1.0W	3016.64	27.72	42.13
1.2D + 1.0Di + 1.0Wi	785.58	7.19	74.18
1.2D + 1.0Ev + 1.0Eh	177.40	1.41	56.40
0.9D - 1.0Ev + 1.0Eh	173.88	1.41	39.15
1.0D + 1.0W	679.02	6.20	46.85

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
-----------	------------------	-----------------	----------------

ASSET: 411216, CT Chaplin South CT
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
ENG NO: 14071468_C3_03

ANALYSIS PARAMETERS

Location:	Windham County,CT	Height:	146 ft
Type and Shape:	Taper, 18 Sides	Base Diameter:	54.50 in
Manufacturer:	EEI	Top Diameter:	23.50 in
K_d (non-service):	0.95	Taper:	0.2200 in/ft
K_e:	0.98	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	120 mph
Risk Category:	II	Design Wind Speed w/Ice:	50 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	505.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	2.71
T_L (sec):	6	P:	1
S_s:	0.185	S₁:	0.055
F_a:	1.600	F_v:	2.400
S_{ds}:	0.197	S_{dt}:	0.088
		C_s:	0.030
		C_s Max:	0.030
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	120 mph wind with no ice
0.9D + 1.0W	120 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

ASSET: 411216, CT Chaplin South CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14071468_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	53.08	0.3750	65		0.00	10,380	54.50	0.000	64.42	23,843.5	24.22	145.33	42.82	53.08	50.52	11,499.1	18.72	114.19	0.2200
2-18	51.54	0.3125	65	Slip	74.00	6,753	44.80	46.910	44.13	11,035.0	23.87	143.37	33.46	98.45	32.88	4,564.6	17.47	107.08	0.2200
3-18	52.46	0.2500	65	Slip	59.00	4,111	35.04	93.537	27.61	4,222.5	23.31	140.17	23.50	146.00	18.45	1,259.8	15.16	94.00	0.2200

Shaft Weight 21,244

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										
146.00	Samsung MT6407-77A	3	0.80	2.000	81.60	4.709	0.61	149.48	5.721	0.61										
146.00	Samsung B5/B13 RRH-BR04C	3	0.80	1.000	70.30	1.875	0.50	108.40	2.476	0.50										
146.00	Samsung B2/B66A RRH-BR049	3	0.80	1.000	84.40	1.875	0.50	126.89	2.476	0.50										
146.00	Raycap RC3DC-3315-PF-48	2	0.80	1.000	32.00	3.781	0.50	104.86	4.663	0.50										
146.00	Generic Flat Low Profile Platf	1	1.00	0.000	1875.00	26.100	1.00	2414.37	38.815	1.00										
146.00	Antel LPA-80080/4CF	4	0.80	2.000	12.00	5.399	0.62	95.71	3.166	0.62										
146.00	Antel LPA-80063/4CF	2	0.80	2.000	20.00	6.142	0.82	149.92	6.819	0.82										
146.00	Andrew SBNHH-1D65B	6	0.80	2.000	50.70	8.173	0.69	167.56	10.058	0.69										
137.50	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3572.46	43.385	1.00										
137.00	RFS APXVTM14-ALU-I20	3	0.75	0.000	56.20	6.342	0.66	147.29	7.783	0.66										
137.00	Commscope NNVV-65B-R4	3	0.75	0.000	77.40	12.271	0.64	243.62	14.126	0.64										
137.00	Alcatel-Lucent TD-RRH8x20-25 w	3	0.75	0.000	70.00	4.046	0.50	132.52	4.924	0.50										
137.00	Alcatel-Lucent 1900 MHz 4X45 R	3	0.75	0.000	60.00	2.322	0.50	113.31	3.037	0.50										
137.00	Alcatel-Lucent RRH2x50-08	6	0.75	0.000	52.90	1.701	0.50	92.10	2.272	0.50										
137.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	29.36	1.323	1.00										
128.00	CCI OPA65R-BU8D	3	0.75	0.000	76.50	18.089	0.63	302.96	20.514	0.63										
128.00	CCI DMP65R-BU8D	3	0.75	0.000	95.70	17.871	0.63	318.92	20.291	0.63										
128.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3563.75	43.254	1.00										
128.00	Generic Mount Reinforcement	1	1.00	0.000	200.00	7.500	1.00	327.10	12.417	1.00										
128.00	Allgon 7770.00	3	0.75	-2.000	35.00	5.508	0.65	116.75	6.183	0.65										
128.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.969	0.50	113.33	2.582	0.50										
128.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.90	1.842	0.50	96.21	2.431	0.50										
128.00	Ericsson Radio 8843 - B2 + B66	3	0.75	0.000	71.90	1.650	0.50	112.36	2.206	0.50										
128.00	Raycap DC6-48-60-18-8F	3	0.75	-2.000	20.00	1.260	0.50	54.58	1.692	0.50										
128.00	Powerwave Allgon LGP21401	6	0.75	-2.000	14.10	1.104	0.50	30.49	1.573	0.50										
117.00	RFS APXVAARR24_43-U-NA20	3	0.75	0.000	127.90	20.243	0.63	383.62	22.659	0.63										
117.00	Ericsson AIR 6419 B41	3	0.75	0.000	83.30	6.322	0.63	181.88	7.424	0.63										
117.00	Commscope VV-65A-R1	3	0.75	0.000	23.80	5.928	0.63	100.28	7.308	0.63										
117.00	Ericsson 4460 BAND 2/25	3	0.75	0.000	109.00	2.564	0.50	166.57	3.250	0.50										
117.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	114.17	2.203	0.50										
116.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3554.12	43.108	1.00										
116.00	Generic Mount Reinforcement	2	1.00	0.000	200.00	7.500	1.00	325.95	12.373	1.00										
105.00	Commscope FFVV-65B-R2	3	0.75	0.000	70.80	12.271	0.64	232.41	14.074	0.64										
105.00	Generic Round Platform with Ha	1	1.00	0.000	2500.00	27.200	1.00	3541.61	42.920	1.00										
105.00	Raycap RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	0.50	58.50	2.446	0.50										
105.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	101.40	2.554	0.50										
105.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	115.29	2.554	0.50										
75.00	Generic Flat Stand-Off	1	1.00	0.000	187.50	6.300	1.00	270.26	8.236	1.00										
63.00	Generic Flat Stand-Off	1	1.00	0.000	187.50	6.300	1.00	268.91	8.204	1.00										
63.00	Generic GPS	1	1.00	0.000	10.00	0.900	1.00	27.88	1.291	1.00										
Totals	Num Loadings: 40				105			18,425.90			31,510.24									

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : 90.00

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	149.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	148.00	12	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	147.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	137.00	7	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	137.00	4	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	SPRINT NEXTEL
0.00	128.00	6	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0	0	0	0	N	AT&T MOBILITY

ASSET: 411216, CT Chaplin South CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14071468_C3_03

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	128.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	128.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	128.00	2	0.39" (10mm) Fiber Tr	0.39	0.06	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	117.00	2	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	0	N	T-MOBILE
0.00	117.00	1	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	T-MOBILE
0.00	105.00	1	1.60" (40.6mm) Hybrid	1.6	2.34	N	1	0	0	0	0	N	DISH WIRELESS
0.00	63.00	1	1/2" Coax	0.63	0.15	N	1	1	1	180	1	Y	AT&T MOBILITY

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		0.3750	54.500	64.420	23,843.50	24.22	145.33	72.9	861.7	0.0	0.0
5.00		0.3750	53.400	63.111	22,418.80	23.70	142.40	73.5	826.9	0.0	1,084.9
10.00		0.3750	52.300	61.801	21,052.10	23.18	139.47	74.1	792.8	0.0	1,062.6
15.00		0.3750	51.199	60.492	19,742.10	22.66	136.53	74.7	759.5	0.0	1,040.3
20.00		0.3750	50.099	59.182	18,487.60	22.15	133.60	75.4	726.8	0.0	1,018.1
25.00		0.3750	48.999	57.873	17,287.30	21.63	130.66	76	694.9	0.0	995.8
30.00		0.3750	47.899	56.563	16,140.20	21.11	127.73	76.6	663.7	0.0	973.5
35.00		0.3750	46.799	55.254	15,045.00	20.59	124.80	77.2	633.2	0.0	951.2
40.00		0.3750	45.698	53.944	14,000.50	20.08	121.86	77.8	603.4	0.0	928.9
45.00		0.3750	44.598	52.635	13,005.50	19.56	118.93	78.4	574.4	0.0	906.7
46.91	Bot - Section 2	0.3750	44.177	52.134	12,637.60	19.36	117.81	78.6	563.4	0.0	341.1
50.00		0.3750	43.498	51.325	12,058.80	19.04	115.99	79	546.0	0.0	1,003.3
53.08	Top - Section 1	0.3125	43.445	42.781	10,055.80	23.10	139.03	74.2	455.9	0.0	985.6
55.00		0.3125	43.023	42.362	9,763.20	22.86	137.67	74.5	447.0	0.0	278.1
60.00		0.3125	41.923	41.271	9,028.00	22.24	134.15	75.2	424.2	0.0	711.5
63.00		0.3125	41.263	40.616	8,605.10	21.87	132.04	75.7	410.8	0.0	418.0
65.00		0.3125	40.822	40.179	8,330.70	21.62	130.63	76	401.9	0.0	274.9
70.00		0.3125	39.722	39.088	7,670.20	21.00	127.11	76.7	380.3	0.0	674.3
75.00		0.3125	38.622	37.997	7,045.60	20.38	123.59	77.4	359.3	0.0	655.8
80.00		0.3125	37.522	36.906	6,455.80	19.76	120.07	78.2	338.9	0.0	637.2
85.00		0.3125	36.422	35.815	5,899.90	19.14	116.55	78.9	319.1	0.0	618.6
90.00		0.3125	35.321	34.723	5,376.90	18.52	113.03	79.6	299.8	0.0	600.1
93.54	Bot - Section 3	0.3125	34.543	33.951	5,026.30	18.08	110.54	80.1	286.6	0.0	413.2
95.00		0.3125	34.221	33.632	4,885.80	17.90	109.51	80.3	281.2	0.0	305.1
98.45	Top - Section 2	0.2500	33.961	26.749	3,840.70	22.54	135.85	74.9	222.7	0.0	708.6
100.00		0.2500	33.621	26.479	3,725.60	22.30	134.48	75.2	218.3	0.0	140.1
105.00		0.2500	32.521	25.606	3,369.10	21.53	130.08	76.1	204.0	0.0	443.1
110.00		0.2500	31.421	24.733	3,036.20	20.75	125.68	77	190.3	0.0	428.2
115.00		0.2500	30.321	23.860	2,725.90	19.97	121.28	77.9	177.1	0.0	413.4
116.00		0.2500	30.100	23.685	2,666.50	19.82	120.40	78.1	174.5	0.0	80.9
117.00		0.2500	29.880	23.511	2,607.90	19.66	119.52	78.3	171.9	0.0	80.3
120.00		0.2500	29.220	22.987	2,437.50	19.20	116.88	78.8	164.3	0.0	237.3
125.00		0.2500	28.120	22.114	2,170.20	18.42	112.48	79.7	152.0	0.0	383.7
128.00		0.2500	27.460	21.590	2,019.60	17.96	109.84	80.3	144.9	0.0	223.1
130.00		0.2500	27.020	21.241	1,923.20	17.65	108.08	80.6	140.2	0.0	145.7
135.00		0.2500	25.920	20.368	1,695.70	16.87	103.68	81.6	128.9	0.0	354.0
137.00		0.2500	25.480	20.019	1,610.00	16.56	101.92	81.9	124.5	0.0	137.4
137.50		0.2500	25.370	19.932	1,589.00	16.48	101.48	82	123.4	0.0	34.0
140.00		0.2500	24.820	19.495	1,486.90	16.09	99.28	82.5	118.0	0.0	167.7
145.00		0.2500	23.719	18.622	1,295.90	15.32	94.88	82.6	107.6	0.0	324.3
146.00		0.2500	23.499	18.448	1,259.80	15.16	94.00	82.6	105.6	0.0	63.1

Totals: 21,243.7

Load Case: 1.2D + 1.0W	120 mph wind with no ice	24 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	-56.18	-27.74	0.00	-3,064.8	0.00	3,064.77	4,227.69	1,130.57	5,526.88	4,712.55	0	0	0.664
5.00	-54.47	-27.47	0.00	-2,926.1	0.00	2,926.07	4,176.31	1,107.59	5,304.49	4,560.00	0.1	-0.18	0.655
10.00	-52.79	-27.21	0.00	-2,788.7	0.00	2,788.71	4,123.50	1,084.61	5,086.68	4,408.26	0.38	-0.36	0.646
15.00	-51.13	-26.94	0.00	-2,652.7	0.00	2,652.69	4,069.26	1,061.63	4,873.43	4,257.44	0.86	-0.54	0.636
20.00	-49.50	-26.68	0.00	-2,518.0	0.00	2,517.99	4,013.58	1,038.65	4,664.74	4,107.62	1.53	-0.73	0.626
25.00	-47.91	-26.41	0.00	-2,384.6	0.00	2,384.62	3,956.47	1,015.67	4,460.63	3,958.90	2.39	-0.92	0.615
30.00	-46.33	-26.14	0.00	-2,252.6	0.00	2,252.56	3,897.92	992.68	4,261.08	3,811.39	3.46	-1.11	0.604
35.00	-44.79	-25.86	0.00	-2,121.8	0.00	2,121.85	3,837.94	969.70	4,066.09	3,665.19	4.72	-1.3	0.591
40.00	-43.28	-25.57	0.00	-1,992.5	0.00	1,992.53	3,776.52	946.72	3,875.67	3,520.38	6.19	-1.5	0.578
45.00	-41.81	-25.35	0.00	-1,864.7	0.00	1,864.67	3,713.67	923.74	3,689.82	3,377.07	7.86	-1.69	0.564
46.91	-41.24	-25.20	0.00	-1,816.2	0.00	1,816.17	3,689.24	914.95	3,619.91	3,322.65	8.56	-1.77	0.559
50.00	-39.79	-24.98	0.00	-1,738.4	0.00	1,738.40	3,649.39	900.76	3,508.54	3,235.36	9.74	-1.89	0.549
53.08	-38.38	-24.79	0.00	-1,661.5	0.00	1,661.46	2,857.95	750.80	2,924.98	2,537.94	11.01	-2.02	0.669
55.00	-37.86	-24.59	0.00	-1,613.9	0.00	1,613.86	2,840.65	743.45	2,867.97	2,497.68	11.83	-2.09	0.661
60.00	-36.62	-24.32	0.00	-1,490.9	0.00	1,490.92	2,794.59	724.30	2,722.13	2,393.44	14.15	-2.32	0.637
63.00	-35.66	-23.91	0.00	-1,418.0	0.00	1,417.95	2,766.27	712.81	2,636.46	2,331.31	15.65	-2.46	0.622
65.00	-35.15	-23.70	0.00	-1,370.1	0.00	1,370.13	2,747.10	705.15	2,580.10	2,290.09	16.7	-2.55	0.612
70.00	-33.95	-23.37	0.00	-1,251.6	0.00	1,251.63	2,698.18	686.00	2,441.88	2,187.75	19.49	-2.77	0.586
75.00	-32.56	-22.80	0.00	-1,134.8	0.00	1,134.81	2,647.83	666.85	2,307.46	2,086.52	22.52	-3	0.557
80.00	-31.41	-22.45	0.00	-1,020.8	0.00	1,020.84	2,596.04	647.70	2,176.84	1,986.48	25.77	-3.21	0.527
85.00	-30.29	-22.10	0.00	-908.6	0.00	908.59	2,542.81	628.54	2,050.03	1,887.74	29.25	-3.43	0.494
90.00	-29.21	-21.78	0.00	-798.1	0.00	798.11	2,488.15	609.39	1,927.03	1,790.40	32.95	-3.63	0.459
93.54	-28.46	-21.59	0.00	-721.1	0.00	721.07	2,448.63	595.85	1,842.32	1,722.45	35.69	-3.77	0.432
95.00	-27.98	-21.41	0.00	-689.5	0.00	689.47	2,432.06	590.24	1,807.83	1,694.56	36.86	-3.83	0.420
98.45	-26.88	-21.19	0.00	-615.5	0.00	615.53	1,802.83	469.45	1,429.40	1,251.05	39.68	-3.96	0.509
100.00	-26.59	-20.98	0.00	-582.8	0.00	582.76	1,791.36	464.71	1,400.69	1,230.45	40.97	-4.02	0.490
105.00	-22.06	-18.45	0.00	-477.9	0.00	477.86	1,753.33	449.39	1,309.86	1,164.33	45.29	-4.22	0.425
110.00	-21.22	-18.08	0.00	-385.6	0.00	385.61	1,713.87	434.07	1,222.08	1,099.03	49.81	-4.41	0.365
115.00	-20.41	-17.83	0.00	-295.2	0.00	295.20	1,672.98	418.74	1,137.35	1,034.64	54.51	-4.57	0.299
116.00	-16.91	-15.84	0.00	-277.4	0.00	277.37	1,664.63	415.68	1,120.76	1,021.88	55.47	-4.6	0.283
117.00	-15.40	-13.59	0.00	-261.5	0.00	261.54	1,656.22	412.62	1,104.30	1,009.16	56.43	-4.62	0.270
120.00	-14.95	-13.30	0.00	-220.8	0.00	220.76	1,630.65	403.42	1,055.65	971.26	59.36	-4.7	0.238
125.00	-14.22	-12.98	0.00	-154.3	0.00	154.26	1,586.89	388.10	977.01	908.99	64.34	-4.81	0.180
128.00	-9.28	-8.22	0.00	-115.3	0.00	115.32	1,559.94	378.91	931.28	872.20	67.38	-4.87	0.139
130.00	-9.05	-7.98	0.00	-98.9	0.00	98.87	1,541.69	372.78	901.40	847.93	69.42	-4.9	0.123
135.00	-8.48	-7.70	0.00	-59.0	0.00	58.99	1,495.06	357.46	828.84	788.18	74.58	-4.95	0.081
137.00	-7.06	-5.90	0.00	-43.6	0.00	43.58	1,476.01	351.33	800.67	764.66	76.66	-4.97	0.062
137.50	-4.12	-4.43	0.00	-40.6	0.00	40.63	1,471.21	349.80	793.70	758.82	77.18	-4.97	0.057
140.00	-3.89	-4.18	0.00	-29.6	0.00	29.55	1,447.00	342.14	759.33	729.83	79.78	-4.99	0.043
145.00	-3.41	-3.95	0.00	-8.7	0.00	8.67	1,383.54	326.82	692.86	666.26	85.01	-5.01	0.016
146.00	0.00	-3.64	0.00	-4.7	0.00	4.72	1,370.57	323.76	679.93	653.76	86.06	-5.01	0.007

Load Case: 0.9D + 1.0W	120 mph wind with no ice	24 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	-42.13	-27.72	0.00	-3,016.6	0.00	3,016.64	4,227.69	1,130.57	5,526.88	4,712.55	0	0	0.651
5.00	-40.82	-27.41	0.00	-2,878.1	0.00	2,878.06	4,176.31	1,107.59	5,304.49	4,560.00	0.09	-0.18	0.642
10.00	-39.54	-27.10	0.00	-2,741.0	0.00	2,741.03	4,123.50	1,084.61	5,086.68	4,408.26	0.37	-0.35	0.632
15.00	-38.28	-26.79	0.00	-2,605.6	0.00	2,605.56	4,069.26	1,061.63	4,873.43	4,257.44	0.84	-0.53	0.622
20.00	-37.04	-26.49	0.00	-2,471.6	0.00	2,471.61	4,013.58	1,038.65	4,664.74	4,107.62	1.5	-0.72	0.612
25.00	-35.82	-26.19	0.00	-2,339.2	0.00	2,339.18	3,956.47	1,015.67	4,460.63	3,958.90	2.35	-0.9	0.601
30.00	-34.63	-25.88	0.00	-2,208.3	0.00	2,208.26	3,897.92	992.68	4,261.08	3,811.39	3.4	-1.09	0.589
35.00	-33.45	-25.57	0.00	-2,078.8	0.00	2,078.84	3,837.94	969.70	4,066.09	3,665.19	4.64	-1.28	0.577
40.00	-32.30	-25.25	0.00	-1,951.0	0.00	1,950.98	3,776.52	946.72	3,875.67	3,520.38	6.08	-1.47	0.563
45.00	-31.19	-25.01	0.00	-1,824.7	0.00	1,824.74	3,713.67	923.74	3,689.82	3,377.07	7.72	-1.66	0.549
46.91	-30.76	-24.84	0.00	-1,776.9	0.00	1,776.89	3,689.24	914.95	3,619.91	3,322.65	8.41	-1.74	0.544
50.00	-29.66	-24.62	0.00	-1,700.2	0.00	1,700.21	3,649.39	900.76	3,508.54	3,235.36	9.57	-1.86	0.534
53.08	-28.59	-24.42	0.00	-1,624.4	0.00	1,624.39	2,857.95	750.80	2,924.98	2,537.94	10.81	-1.98	0.651
55.00	-28.19	-24.19	0.00	-1,577.5	0.00	1,577.51	2,840.65	743.45	2,867.97	2,497.68	11.62	-2.05	0.643
60.00	-27.25	-23.91	0.00	-1,456.6	0.00	1,456.55	2,794.59	724.30	2,722.13	2,393.44	13.89	-2.28	0.619
63.00	-26.52	-23.49	0.00	-1,384.8	0.00	1,384.82	2,766.27	712.81	2,636.46	2,331.31	15.36	-2.41	0.605
65.00	-26.13	-23.25	0.00	-1,337.8	0.00	1,337.84	2,747.10	705.15	2,580.10	2,290.09	16.39	-2.5	0.595
70.00	-25.21	-22.90	0.00	-1,221.6	0.00	1,221.58	2,698.18	686.00	2,441.88	2,187.75	19.13	-2.72	0.569
75.00	-24.16	-22.31	0.00	-1,107.1	0.00	1,107.10	2,647.83	666.85	2,307.46	2,086.52	22.09	-2.93	0.541
80.00	-23.29	-21.95	0.00	-995.5	0.00	995.54	2,596.04	647.70	2,176.84	1,986.48	25.27	-3.15	0.511
85.00	-22.44	-21.58	0.00	-885.8	0.00	885.81	2,542.81	628.54	2,050.03	1,887.74	28.68	-3.35	0.479
90.00	-21.61	-21.26	0.00	-777.9	0.00	777.90	2,488.15	609.39	1,927.03	1,790.40	32.3	-3.55	0.444
93.54	-21.05	-21.07	0.00	-702.7	0.00	702.71	2,448.63	595.85	1,842.32	1,722.45	34.98	-3.69	0.418
95.00	-20.68	-20.88	0.00	-671.9	0.00	671.89	2,432.06	590.24	1,807.83	1,694.56	36.12	-3.75	0.406
98.45	-19.86	-20.67	0.00	-599.8	0.00	599.77	1,802.83	469.45	1,429.40	1,251.05	38.88	-3.88	0.492
100.00	-19.63	-20.45	0.00	-567.8	0.00	567.81	1,791.36	464.71	1,400.69	1,230.45	40.15	-3.93	0.474
105.00	-16.26	-17.98	0.00	-465.6	0.00	465.58	1,753.33	449.39	1,309.86	1,164.33	44.37	-4.13	0.411
110.00	-15.62	-17.61	0.00	-375.7	0.00	375.67	1,713.87	434.07	1,222.08	1,099.03	48.8	-4.31	0.353
115.00	-15.01	-17.37	0.00	-287.6	0.00	287.61	1,672.98	418.74	1,137.35	1,034.64	53.39	-4.46	0.289
116.00	-12.42	-15.45	0.00	-270.2	0.00	270.24	1,664.63	415.68	1,120.76	1,021.88	54.33	-4.49	0.273
117.00	-11.33	-13.24	0.00	-254.8	0.00	254.79	1,656.22	412.62	1,104.30	1,009.16	55.27	-4.52	0.260
120.00	-10.99	-12.95	0.00	-215.1	0.00	215.08	1,630.65	403.42	1,055.65	971.26	58.14	-4.6	0.229
125.00	-10.44	-12.64	0.00	-150.3	0.00	150.34	1,586.89	388.10	977.01	908.99	63.01	-4.7	0.173
128.00	-6.81	-8.00	0.00	-112.4	0.00	112.42	1,559.94	378.91	931.28	872.20	65.98	-4.76	0.134
130.00	-6.65	-7.76	0.00	-96.4	0.00	96.43	1,541.69	372.78	901.40	847.93	67.97	-4.79	0.118
135.00	-6.22	-7.49	0.00	-57.6	0.00	57.65	1,495.06	357.46	828.84	788.18	73.01	-4.84	0.078
137.00	-5.19	-5.73	0.00	-42.7	0.00	42.66	1,476.01	351.33	800.67	764.66	75.04	-4.86	0.060
137.50	-3.01	-4.33	0.00	-39.8	0.00	39.80	1,471.21	349.80	793.70	758.82	75.55	-4.86	0.055
140.00	-2.84	-4.08	0.00	-29.0	0.00	28.98	1,447.00	342.14	759.33	729.83	78.1	-4.88	0.042
145.00	-2.49	-3.86	0.00	-8.6	0.00	8.59	1,383.54	326.82	692.86	666.26	83.21	-4.9	0.015
146.00	0.00	-3.64	0.00	-4.7	0.00	4.72	1,370.57	323.76	679.93	653.76	84.24	-4.9	0.007

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice			24 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	-74.18	-7.19	0.00	-785.6	0.00	785.58	4,227.69	1,130.57	5,526.88	4,712.55	0	0	0.184
5.00	-72.28	-7.11	0.00	-749.7	0.00	749.66	4,176.31	1,107.59	5,304.49	4,560.00	0.02	-0.05	0.182
10.00	-70.39	-7.04	0.00	-714.1	0.00	714.09	4,123.50	1,084.61	5,086.68	4,408.26	0.1	-0.09	0.179
15.00	-68.51	-6.97	0.00	-678.9	0.00	678.87	4,069.26	1,061.63	4,873.43	4,257.44	0.22	-0.14	0.176
20.00	-66.66	-6.90	0.00	-644.0	0.00	644.01	4,013.58	1,038.65	4,664.74	4,107.62	0.39	-0.19	0.173
25.00	-64.83	-6.83	0.00	-609.5	0.00	609.50	3,956.47	1,015.67	4,460.63	3,958.90	0.61	-0.24	0.170
30.00	-63.03	-6.76	0.00	-575.4	0.00	575.35	3,897.92	992.68	4,261.08	3,811.39	0.89	-0.28	0.167
35.00	-61.26	-6.68	0.00	-541.6	0.00	541.55	3,837.94	969.70	4,066.09	3,665.19	1.21	-0.33	0.164
40.00	-59.52	-6.60	0.00	-508.1	0.00	508.13	3,776.52	946.72	3,875.67	3,520.38	1.58	-0.38	0.160
45.00	-57.80	-6.54	0.00	-475.1	0.00	475.12	3,713.67	923.74	3,689.82	3,377.07	2.01	-0.43	0.156
46.91	-57.16	-6.50	0.00	-462.6	0.00	462.60	3,689.24	914.95	3,619.91	3,322.65	2.19	-0.45	0.155
50.00	-55.56	-6.44	0.00	-442.5	0.00	442.54	3,649.39	900.76	3,508.54	3,235.36	2.49	-0.48	0.152
53.08	-54.00	-6.39	0.00	-422.7	0.00	422.70	2,857.95	750.80	2,924.98	2,537.94	2.82	-0.52	0.186
55.00	-53.42	-6.33	0.00	-410.4	0.00	410.43	2,840.65	743.45	2,867.97	2,497.68	3.03	-0.54	0.183
60.00	-51.95	-6.26	0.00	-378.8	0.00	378.77	2,794.59	724.30	2,722.13	2,393.44	3.62	-0.59	0.177
63.00	-50.77	-6.16	0.00	-360.0	0.00	359.98	2,766.27	712.81	2,636.46	2,331.31	4	-0.63	0.173
65.00	-50.20	-6.10	0.00	-347.7	0.00	347.67	2,747.10	705.15	2,580.10	2,290.09	4.27	-0.65	0.170
70.00	-48.79	-6.01	0.00	-317.2	0.00	317.18	2,698.18	686.00	2,441.88	2,187.75	4.98	-0.71	0.163
75.00	-47.12	-5.86	0.00	-287.2	0.00	287.15	2,647.83	666.85	2,307.46	2,086.52	5.75	-0.76	0.155
80.00	-45.76	-5.76	0.00	-257.9	0.00	257.87	2,596.04	647.70	2,176.84	1,986.48	6.58	-0.82	0.148
85.00	-44.44	-5.66	0.00	-229.1	0.00	229.07	2,542.81	628.54	2,050.03	1,887.74	7.47	-0.87	0.139
90.00	-43.14	-5.57	0.00	-200.8	0.00	200.78	2,488.15	609.39	1,927.03	1,790.40	8.41	-0.92	0.130
93.54	-42.24	-5.51	0.00	-181.1	0.00	181.08	2,448.63	595.85	1,842.32	1,722.45	9.11	-0.96	0.122
95.00	-41.71	-5.46	0.00	-173.0	0.00	173.01	2,432.06	590.24	1,807.83	1,694.56	9.41	-0.97	0.119
98.45	-40.46	-5.40	0.00	-154.2	0.00	154.15	1,802.83	469.45	1,429.40	1,251.05	10.12	-1.01	0.146
100.00	-40.12	-5.34	0.00	-145.8	0.00	145.80	1,791.36	464.71	1,400.69	1,230.45	10.45	-1.02	0.141
105.00	-33.86	-4.68	0.00	-119.1	0.00	119.11	1,753.33	449.39	1,309.86	1,164.33	11.55	-1.07	0.122
110.00	-32.81	-4.57	0.00	-95.7	0.00	95.72	1,713.87	434.07	1,222.08	1,099.03	12.7	-1.12	0.106
115.00	-31.78	-4.49	0.00	-72.9	0.00	72.89	1,672.98	418.74	1,137.35	1,034.64	13.89	-1.16	0.090
116.00	-27.09	-3.92	0.00	-68.4	0.00	68.39	1,664.63	415.68	1,120.76	1,021.88	14.14	-1.16	0.083
117.00	-24.15	-3.42	0.00	-64.5	0.00	64.48	1,656.22	412.62	1,104.30	1,009.16	14.38	-1.17	0.079
120.00	-23.57	-3.33	0.00	-54.2	0.00	54.22	1,630.65	403.42	1,055.65	971.26	15.12	-1.19	0.070
125.00	-22.62	-3.23	0.00	-37.6	0.00	37.57	1,586.89	388.10	977.01	908.99	16.39	-1.22	0.056
128.00	-14.53	-2.06	0.00	-27.9	0.00	27.88	1,559.94	378.91	931.28	872.20	17.16	-1.23	0.041
130.00	-14.21	-1.98	0.00	-23.8	0.00	23.76	1,541.69	372.78	901.40	847.93	17.67	-1.24	0.037
135.00	-13.43	-1.90	0.00	-13.8	0.00	13.84	1,495.06	357.46	828.84	788.18	18.98	-1.25	0.027
137.00	-10.71	-1.48	0.00	-10.0	0.00	10.04	1,476.01	351.33	800.67	764.66	19.5	-1.26	0.020
137.50	-6.81	-1.05	0.00	-9.3	0.00	9.30	1,471.21	349.80	793.70	758.82	19.63	-1.26	0.017
140.00	-6.47	-0.97	0.00	-6.7	0.00	6.67	1,447.00	342.14	759.33	729.83	20.29	-1.26	0.014
145.00	-5.79	-0.90	0.00	-1.8	0.00	1.80	1,383.54	326.82	692.86	666.26	21.62	-1.26	0.007
146.00	0.00	-0.77	0.00	-0.9	0.00	0.90	1,370.57	323.76	679.93	653.76	21.88	-1.26	0.001

Load Case: 1.0D + 1.0W	60 mph Wind with No Ice	23 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	-46.85	-6.20	0.00	-679.0	0.00	679.02	4,227.69	1,130.57	5,526.88	4,712.55	0	0	0.155
5.00	-45.49	-6.13	0.00	-648.0	0.00	648.01	4,176.31	1,107.59	5,304.49	4,560.00	0.02	-0.04	0.153
10.00	-44.16	-6.07	0.00	-617.3	0.00	617.34	4,123.50	1,084.61	5,086.68	4,408.26	0.08	-0.08	0.151
15.00	-42.84	-6.00	0.00	-587.0	0.00	587.00	4,069.26	1,061.63	4,873.43	4,257.44	0.19	-0.12	0.148
20.00	-41.55	-5.94	0.00	-557.0	0.00	556.98	4,013.58	1,038.65	4,664.74	4,107.62	0.34	-0.16	0.146
25.00	-40.28	-5.87	0.00	-527.3	0.00	527.29	3,956.47	1,015.67	4,460.63	3,958.90	0.53	-0.2	0.143
30.00	-39.04	-5.81	0.00	-497.9	0.00	497.91	3,897.92	992.68	4,261.08	3,811.39	0.77	-0.25	0.141
35.00	-37.81	-5.74	0.00	-468.9	0.00	468.87	3,837.94	969.70	4,066.09	3,665.19	1.05	-0.29	0.138
40.00	-36.61	-5.67	0.00	-440.2	0.00	440.15	3,776.52	946.72	3,875.67	3,520.38	1.37	-0.33	0.135
45.00	-35.43	-5.62	0.00	-411.8	0.00	411.79	3,713.67	923.74	3,689.82	3,377.07	1.74	-0.37	0.132
46.91	-34.98	-5.59	0.00	-401.0	0.00	401.03	3,689.24	914.95	3,619.91	3,322.65	1.89	-0.39	0.130
50.00	-33.81	-5.54	0.00	-383.8	0.00	383.79	3,649.39	900.76	3,508.54	3,235.36	2.16	-0.42	0.128
53.08	-32.66	-5.49	0.00	-366.7	0.00	366.74	2,857.95	750.80	2,924.98	2,537.94	2.44	-0.45	0.156
55.00	-32.27	-5.44	0.00	-356.2	0.00	356.20	2,840.65	743.45	2,867.97	2,497.68	2.62	-0.46	0.154
60.00	-31.29	-5.38	0.00	-329.0	0.00	328.98	2,794.59	724.30	2,722.13	2,393.44	3.13	-0.51	0.149
63.00	-30.51	-5.29	0.00	-312.8	0.00	312.83	2,766.27	712.81	2,636.46	2,331.31	3.46	-0.54	0.145
65.00	-30.13	-5.24	0.00	-302.2	0.00	302.25	2,747.10	705.15	2,580.10	2,290.09	3.69	-0.56	0.143
70.00	-29.18	-5.16	0.00	-276.0	0.00	276.05	2,698.18	686.00	2,441.88	2,187.75	4.31	-0.61	0.137
75.00	-28.06	-5.03	0.00	-250.2	0.00	250.24	2,647.83	666.85	2,307.46	2,086.52	4.98	-0.66	0.131
80.00	-27.16	-4.95	0.00	-225.1	0.00	225.08	2,596.04	647.70	2,176.84	1,986.48	5.7	-0.71	0.124
85.00	-26.27	-4.87	0.00	-200.3	0.00	200.31	2,542.81	628.54	2,050.03	1,887.74	6.47	-0.76	0.117
90.00	-25.39	-4.80	0.00	-175.9	0.00	175.94	2,488.15	609.39	1,927.03	1,790.40	7.29	-0.8	0.109
93.54	-24.79	-4.76	0.00	-159.0	0.00	158.96	2,448.63	595.85	1,842.32	1,722.45	7.89	-0.83	0.102
95.00	-24.41	-4.72	0.00	-152.0	0.00	151.99	2,432.06	590.24	1,807.83	1,694.56	8.15	-0.85	0.100
98.45	-23.51	-4.67	0.00	-135.7	0.00	135.69	1,802.83	469.45	1,429.40	1,251.05	8.77	-0.88	0.122
100.00	-23.29	-4.62	0.00	-128.5	0.00	128.47	1,791.36	464.71	1,400.69	1,230.45	9.06	-0.89	0.118
105.00	-19.43	-4.07	0.00	-105.4	0.00	105.35	1,753.33	449.39	1,309.86	1,164.33	10.01	-0.93	0.102
110.00	-18.74	-3.98	0.00	-85.0	0.00	85.02	1,713.87	434.07	1,222.08	1,099.03	11.01	-0.97	0.088
115.00	-18.07	-3.93	0.00	-65.1	0.00	65.09	1,672.98	418.74	1,137.35	1,034.64	12.05	-1.01	0.074
116.00	-15.05	-3.49	0.00	-61.2	0.00	61.16	1,664.63	415.68	1,120.76	1,021.88	12.26	-1.01	0.069
117.00	-13.66	-3.00	0.00	-57.7	0.00	57.67	1,656.22	412.62	1,104.30	1,009.16	12.48	-1.02	0.065
120.00	-13.29	-2.93	0.00	-48.7	0.00	48.68	1,630.65	403.42	1,055.65	971.26	13.12	-1.04	0.058
125.00	-12.67	-2.86	0.00	-34.0	0.00	34.02	1,586.89	388.10	977.01	908.99	14.22	-1.06	0.045
128.00	-8.25	-1.81	0.00	-25.4	0.00	25.44	1,559.94	378.91	931.28	872.20	14.9	-1.07	0.034
130.00	-8.05	-1.76	0.00	-21.8	0.00	21.82	1,541.69	372.78	901.40	847.93	15.35	-1.08	0.031
135.00	-7.56	-1.70	0.00	-13.0	0.00	13.03	1,495.06	357.46	828.84	788.18	16.49	-1.09	0.022
137.00	-6.26	-1.30	0.00	-9.6	0.00	9.64	1,476.01	351.33	800.67	764.66	16.95	-1.1	0.017
137.50	-3.72	-0.98	0.00	-9.0	0.00	8.99	1,471.21	349.80	793.70	758.82	17.06	-1.1	0.014
140.00	-3.51	-0.92	0.00	-6.5	0.00	6.54	1,447.00	342.14	759.33	729.83	17.64	-1.1	0.011
145.00	-3.10	-0.87	0.00	-1.9	0.00	1.93	1,383.54	326.82	692.86	666.26	18.79	-1.11	0.005
146.00	0.00	-0.81	0.00	-1.1	0.00	1.06	1,370.57	323.76	679.93	653.76	19.02	-1.11	0.002

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

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

Spectral Response Acceleration for Short Period (S_S):	0.185
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.055
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_a):	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}):	0.197
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.088
Seismic Response Coefficient (C_s):	0.030
Upper Limit C_s :	0.030
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	2.710
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	2.000
Total Unfactored Dead Load:	46.850 k
Seismic Base Shear (E):	1.410 k

1.2D + 1.0Ev + 1.0Eh Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	145.5	80	1,703	0.004	5	100
39	142.5	411	8,347	0.019	27	509
38	138.75	211	4,064	0.009	13	262
37	137.25	43	804	0.002	3	53
36	136	192	3,544	0.008	11	238
35	132.5	489	8,593	0.020	27	607
34	129	200	3,327	0.008	11	248
33	126.5	363	5,808	0.013	19	450
32	122.5	617	9,256	0.021	30	765
31	118.5	377	5,297	0.012	17	468
30	116.5	132	1,788	0.004	6	163
29	115.5	132	1,765	0.004	6	164
28	112.5	671	8,486	0.019	27	831
27	107.5	685	7,920	0.018	25	850
26	102.5	712	7,480	0.017	24	882
25	99.2267	223	2,198	0.005	7	277
24	96.7267	894	8,367	0.019	27	1,108
23	94.2683	384	3,410	0.008	11	476
22	91.7683	603	5,081	0.012	16	748
21	87.5	869	6,653	0.015	21	1,077
20	82.5	887	6,040	0.014	19	1,100
19	77.5	906	5,442	0.012	17	1,123
18	72.5	925	4,860	0.011	16	1,146
17	67.5	943	4,297	0.010	14	1,169
16	64	382	1,567	0.004	5	474
15	61.5	580	2,193	0.005	7	719
14	57.5	981	3,244	0.007	10	1,216
13	54.04	382	1,115	0.002	4	473
12	51.54	1,152	3,059	0.007	10	1,427
11	48.4567	1,170	2,747	0.006	9	1,450
10	45.9567	444	938	0.002	3	551
9	42.5	1,176	2,125	0.005	7	1,458
8	37.5	1,199	1,685	0.004	5	1,486
7	32.5	1,221	1,289	0.003	4	1,513

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
6	27.5	1,243	940	0.002	3	1,541
5	22.5	1,265	641	0.002	2	1,568
4	17.5	1,288	394	0.001	1	1,596
3	12.5	1,310	205	0.000	1	1,624
2	7.5	1,332	75	0.000	0	1,651
1	2.5	1,354	8	0.000	0	1,679
Samsung B5/B13 RRH-BR04C	146	211	4,496	0.010	14	261
Samsung B2/B66A RRH-BR049	146	253	5,397	0.012	17	314
Raycap RC3DC-3315-PF-48	146	64	1,364	0.003	4	79
Samsung MT6407-77A	146	245	5,218	0.012	17	303
Antel LPA-80080/4CF ____	146	48	1,023	0.002	3	59
Antel LPA-80063/4CF	146	40	853	0.002	3	50
Andrew SBNHH-1D65B	146	304	6,484	0.015	21	377
Generic Flat Low Profile Platform	146	1,875	39,968	0.091	128	2,324
Generic Round Platform with Handrails	137.5	2,500	47,266	0.108	151	3,099
Generic Round Platform with Handrails	128	2,500	40,960	0.093	131	3,099
Generic Round Platform with Handrails	116	2,500	33,640	0.077	108	3,099
Generic Round Platform with Handrails	105	2,500	27,562	0.063	88	3,099
Generic GPS	137	10	188	0.000	1	12
Generic GPS	63	10	40	0.000	0	12
Alcatel-Lucent RRH2x50-08	137	317	5,957	0.014	19	393
Alcatel-Lucent 1900 MHz 4X45 RRH	137	180	3,378	0.008	11	223
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	137	210	3,941	0.009	13	260
RFS APXVTM14-ALU-I20	137	169	3,164	0.007	10	209
Commscope NNVV-65B-R4	137	232	4,358	0.010	14	288
Powerwave Allgon LGP21401	128	85	1,386	0.003	4	105
Raycap DC6-48-60-18-8F	128	60	983	0.002	3	74
Ericsson Radio 8843 - B2 + B66A	128	216	3,534	0.008	11	267
Ericsson RRUS 4478 B14	128	180	2,944	0.007	9	223
Ericsson RRUS 4449 B5, B12	128	213	3,490	0.008	11	264
Allgon 7770.00	128	105	1,720	0.004	6	130
Generic Mount Reinforcement	128	200	3,277	0.008	10	248
Generic Mount Reinforcement	116	400	5,382	0.012	17	496
CCI DMP65R-BU8D	128	287	4,704	0.011	15	356
CCI OPA65R-BU8D	128	230	3,760	0.009	12	284
Ericsson Radio 4449 B71 B85A	117	225	3,080	0.007	10	279
Ericsson 4460 BAND 2/25	117	327	4,476	0.010	14	405
Commscope VV-65A-R1	117	71	977	0.002	3	88
Ericsson AIR 6419 B41	117	250	3,421	0.008	11	310
RFS APXVAARR24_43-U-NA20	117	384	5,252	0.012	17	476
Raycap RDIDC-9181-PF-48	105	22	241	0.000	1	27
Fujitsu TA08025-B604	105	192	2,113	0.005	7	238
Fujitsu TA08025-B605	105	225	2,481	0.006	8	279
Commscope FFVV-65B-R2	105	212	2,342	0.005	7	263
Generic Flat Stand-Off	75	188	1,055	0.002	3	232
Generic Flat Stand-Off	63	188	744	0.002	2	232
		46,855	439,379	1.000	1,406	58,075

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

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
40	145.5	80	1,703	0.004	5	69
39	142.5	411	8,347	0.019	27	354
38	138.75	211	4,064	0.009	13	182
37	137.25	43	804	0.002	3	37
36	136	192	3,544	0.008	11	165
35	132.5	489	8,593	0.020	27	421
34	129	200	3,327	0.008	11	172
33	126.5	363	5,808	0.013	19	312
32	122.5	617	9,256	0.021	30	531
31	118.5	377	5,297	0.012	17	325
30	116.5	132	1,788	0.004	6	113

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vz}	Horizontal Force (lb)	Vertical Force (lb)
29	115.5	132	1,765	0.004	6	114
28	112.5	671	8,486	0.019	27	577
27	107.5	685	7,920	0.018	25	590
26	102.5	712	7,480	0.017	24	613
25	99.2267	223	2,198	0.005	7	192
24	96.7267	894	8,367	0.019	27	770
23	94.2683	384	3,410	0.008	11	330
22	91.7683	603	5,081	0.012	16	519
21	87.5	869	6,653	0.015	21	748
20	82.5	887	6,040	0.014	19	764
19	77.5	906	5,442	0.012	17	780
18	72.5	925	4,860	0.011	16	796
17	67.5	943	4,297	0.010	14	812
16	64	382	1,567	0.004	5	329
15	61.5	580	2,193	0.005	7	499
14	57.5	981	3,244	0.007	10	844
13	54.04	382	1,115	0.002	4	328
12	51.54	1,152	3,059	0.007	10	991
11	48.4567	1,170	2,747	0.006	9	1,007
10	45.9567	444	938	0.002	3	382
9	42.5	1,176	2,125	0.005	7	1,012
8	37.5	1,199	1,685	0.004	5	1,031
7	32.5	1,221	1,289	0.003	4	1,051
6	27.5	1,243	940	0.002	3	1,070
5	22.5	1,265	641	0.002	2	1,089
4	17.5	1,288	394	0.001	1	1,108
3	12.5	1,310	205	0.000	1	1,127
2	7.5	1,332	75	0.000	0	1,146
1	2.5	1,354	8	0.000	0	1,166
Samsung B5/B13 RRH-BR04C	146	211	4,496	0.010	14	181
Samsung B2/B66A RRH-BR049	146	253	5,397	0.012	17	218
Raycap RC3DC-3315-PF-48	146	64	1,364	0.003	4	55
Samsung MT6407-77A	146	245	5,218	0.012	17	211
Antel LPA-80080/4CF	146	48	1,023	0.002	3	41
Antel LPA-80063/4CF	146	40	853	0.002	3	34
Andrew SBNHH-1D65B	146	304	6,484	0.015	21	262
Generic Flat Low Profile Platform	146	1,875	39,968	0.091	128	1,614
Generic Round Platform with Handrails	137.5	2,500	47,266	0.108	151	2,151
Generic Round Platform with Handrails	128	2,500	40,960	0.093	131	2,151
Generic Round Platform with Handrails	116	2,500	33,640	0.077	108	2,151
Generic Round Platform with Handrails	105	2,500	27,562	0.063	88	2,151
Generic GPS	137	10	188	0.000	1	9
Generic GPS	63	10	40	0.000	0	9
Alcatel-Lucent RRH2x50-08	137	317	5,957	0.014	19	273
Alcatel-Lucent 1900 MHz 4X45 RRH	137	180	3,378	0.008	11	155
Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	137	210	3,941	0.009	13	181
RFS APXVTM14-ALU-I20	137	169	3,164	0.007	10	145
Commscope NNVV-65B-R4	137	232	4,358	0.010	14	200
Powerwave Allgon LGP21401	128	85	1,386	0.003	4	73
Raycap DC6-48-60-18-8F	128	60	983	0.002	3	52
Ericsson Radio 8843 - B2 + B66A	128	216	3,534	0.008	11	186
Ericsson RRUS 4478 B14	128	180	2,944	0.007	9	155
Ericsson RRUS 4449 B5, B12	128	213	3,490	0.008	11	183
Allgon 7770.00	128	105	1,720	0.004	6	90
Generic Mount Reinforcement	128	200	3,277	0.008	10	172
Generic Mount Reinforcement	116	400	5,382	0.012	17	344
CCI DMP65R-BU8D	128	287	4,704	0.011	15	247
CCI OPA65R-BU8D	128	230	3,760	0.009	12	197
Ericsson Radio 4449 B71 B85A	117	225	3,080	0.007	10	194
Ericsson 4460 BAND 2/25	117	327	4,476	0.010	14	281
Commscope VV-65A-R1	117	71	977	0.002	3	61
Ericsson AIR 6419 B41	117	250	3,421	0.008	11	215
RFS APXVAARR24_43-U-NA20	117	384	5,252	0.012	17	330
Raycap RDIDC-9181-PF-48	105	22	241	0.000	1	19
Fujitsu TA08025-B604	105	192	2,113	0.005	7	165
Fujitsu TA08025-B605	105	225	2,481	0.006	8	194
Commscope FFVV-65B-R2	105	212	2,342	0.005	7	183
Generic Flat Stand-Off	75	188	1,055	0.002	3	161
Generic Flat Stand-Off	63	188	744	0.002	2	161

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
		46,855	439,379	1.000	1,406	40,320

1.2D + 1.0Ev + 1.0Eh Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-56.40	-1.41	0.00	-177.40	0.00	177.40	4,227.69	1,130.57	5,527	4,712.55	0.00	0.00	0.05
5.00	-54.74	-1.42	0.00	-170.35	0.00	170.35	4,176.31	1,107.59	5,304	4,560.00	0.01	-0.01	0.05
10.00	-53.12	-1.43	0.00	-163.25	0.00	163.25	4,123.50	1,084.61	5,087	4,408.26	0.02	-0.02	0.05
15.00	-51.52	-1.44	0.00	-156.11	0.00	156.11	4,069.26	1,061.63	4,873	4,257.44	0.05	-0.03	0.05
20.00	-49.96	-1.44	0.00	-148.93	0.00	148.93	4,013.58	1,038.65	4,665	4,107.62	0.09	-0.04	0.05
25.00	-48.41	-1.45	0.00	-141.71	0.00	141.71	3,956.47	1,015.67	4,461	3,958.90	0.14	-0.05	0.05
30.00	-46.90	-1.45	0.00	-134.47	0.00	134.47	3,897.92	992.68	4,261	3,811.39	0.20	-0.07	0.05
35.00	-45.42	-1.45	0.00	-127.21	0.00	127.21	3,837.94	969.70	4,066	3,665.19	0.28	-0.08	0.05
40.00	-43.96	-1.45	0.00	-119.95	0.00	119.95	3,776.52	946.72	3,876	3,520.38	0.36	-0.09	0.05
45.00	-43.41	-1.46	0.00	-112.68	0.00	112.68	3,713.67	923.74	3,690	3,377.07	0.46	-0.10	0.05
46.91	-41.96	-1.45	0.00	-109.89	0.00	109.89	3,689.24	914.95	3,620	3,322.65	0.50	-0.10	0.04
50.00	-40.53	-1.44	0.00	-105.42	0.00	105.42	3,649.39	900.76	3,509	3,235.36	0.57	-0.11	0.04
53.08	-40.06	-1.44	0.00	-100.97	0.00	100.97	2,857.95	750.80	2,925	2,537.94	0.65	-0.12	0.05
55.00	-38.84	-1.44	0.00	-98.21	0.00	98.21	2,840.65	743.45	2,868	2,497.68	0.70	-0.12	0.05
60.00	-38.12	-1.43	0.00	-91.03	0.00	91.03	2,794.59	724.30	2,722	2,393.44	0.84	-0.14	0.05
63.00	-37.40	-1.43	0.00	-86.73	0.00	86.73	2,766.27	712.81	2,636	2,331.31	0.93	-0.15	0.05
65.00	-36.23	-1.42	0.00	-83.87	0.00	83.87	2,747.10	705.15	2,580	2,290.09	0.99	-0.15	0.05
70.00	-35.09	-1.41	0.00	-76.78	0.00	76.78	2,698.18	686.00	2,442	2,187.75	1.16	-0.17	0.05
75.00	-33.73	-1.39	0.00	-69.74	0.00	69.74	2,647.83	666.85	2,307	2,086.52	1.34	-0.18	0.05
80.00	-32.63	-1.38	0.00	-62.78	0.00	62.78	2,596.04	647.70	2,177	1,986.48	1.53	-0.19	0.04
85.00	-31.55	-1.36	0.00	-55.90	0.00	55.90	2,542.81	628.54	2,050	1,887.74	1.74	-0.21	0.04
90.00	-30.80	-1.34	0.00	-49.11	0.00	49.11	2,488.15	609.39	1,927	1,790.40	1.97	-0.22	0.04
93.54	-30.33	-1.34	0.00	-44.36	0.00	44.36	2,448.63	595.85	1,842	1,722.45	2.13	-0.23	0.04
95.00	-29.22	-1.31	0.00	-42.40	0.00	42.40	2,432.06	590.24	1,808	1,694.56	2.20	-0.23	0.04
98.45	-28.94	-1.30	0.00	-37.89	0.00	37.89	1,802.83	469.45	1,429	1,251.05	2.37	-0.24	0.05
100.00	-28.06	-1.28	0.00	-35.88	0.00	35.88	1,791.36	464.71	1,401	1,230.45	2.45	-0.24	0.05
105.00	-23.31	-1.13	0.00	-29.49	0.00	29.49	1,753.33	449.39	1,310	1,164.33	2.71	-0.26	0.04
110.00	-22.48	-1.10	0.00	-23.86	0.00	23.86	1,713.87	434.07	1,222	1,099.03	2.98	-0.27	0.04
115.00	-22.31	-1.09	0.00	-18.36	0.00	18.36	1,672.98	418.74	1,137	1,034.64	3.27	-0.28	0.03
116.00	-18.55	-0.95	0.00	-17.27	0.00	17.27	1,664.63	415.68	1,121	1,021.88	3.33	-0.28	0.03
117.00	-16.53	-0.87	0.00	-16.32	0.00	16.32	1,656.22	412.62	1,104	1,009.16	3.39	-0.28	0.03
120.00	-15.76	-0.83	0.00	-13.72	0.00	13.72	1,630.65	403.42	1,056	971.26	3.56	-0.29	0.02
125.00	-15.31	-0.81	0.00	-9.55	0.00	9.55	1,586.89	388.10	977	908.99	3.87	-0.29	0.02
128.00	-10.02	-0.56	0.00	-7.11	0.00	7.11	1,559.94	378.91	931	872.20	4.05	-0.30	0.02
130.00	-9.41	-0.53	0.00	-5.98	0.00	5.98	1,541.69	372.78	901	847.93	4.18	-0.30	0.01
135.00	-9.17	-0.52	0.00	-3.31	0.00	3.31	1,495.06	357.46	829	788.18	4.49	-0.30	0.01
137.00	-7.74	-0.44	0.00	-2.27	0.00	2.27	1,476.01	351.33	801	764.66	4.61	-0.30	0.01
137.50	-4.38	-0.26	0.00	-2.05	0.00	2.05	1,471.21	349.80	794	758.82	4.65	-0.30	0.01
140.00	-3.87	-0.23	0.00	-1.39	0.00	1.39	1,447.00	342.14	759	729.83	4.80	-0.30	0.01
145.00	-3.77	-0.23	0.00	-0.23	0.00	0.23	1,383.54	326.82	693	666.26	5.12	-0.30	0.00
146.00	0.00	-0.21	0.00	0.00	0.00	0.00	1,370.57	323.76	680	653.76	5.18	-0.30	0.00

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

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.15	-1.41	0.00	-173.88	0.00	173.88	4,227.69	1,130.57	5,527	4,712.55	0.00	0.00	0.05
5.00	-38.01	-1.42	0.00	-166.84	0.00	166.84	4,176.31	1,107.59	5,304	4,560.00	0.01	-0.01	0.05
10.00	-36.88	-1.42	0.00	-159.77	0.00	159.77	4,123.50	1,084.61	5,087	4,408.26	0.02	-0.02	0.05
15.00	-35.77	-1.43	0.00	-152.66	0.00	152.66	4,069.26	1,061.63	4,873	4,257.44	0.05	-0.03	0.05
20.00	-34.68	-1.43	0.00	-145.53	0.00	145.53	4,013.58	1,038.65	4,665	4,107.62	0.09	-0.04	0.04
25.00	-33.61	-1.43	0.00	-138.39	0.00	138.39	3,956.47	1,015.67	4,461	3,958.90	0.14	-0.05	0.04
30.00	-32.56	-1.43	0.00	-131.23	0.00	131.23	3,897.92	992.68	4,261	3,811.39	0.20	-0.06	0.04

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
35.00	-31.53	-1.43	0.00	-124.06	0.00	124.06	3,837.94	969.70	4,066	3,665.19	0.27	-0.08	0.04
40.00	-30.52	-1.43	0.00	-116.90	0.00	116.90	3,776.52	946.72	3,876	3,520.38	0.36	-0.09	0.04
45.00	-30.14	-1.43	0.00	-109.74	0.00	109.74	3,713.67	923.74	3,690	3,377.07	0.45	-0.10	0.04
46.91	-29.13	-1.42	0.00	-107.00	0.00	107.00	3,689.24	914.95	3,620	3,322.65	0.49	-0.10	0.04
50.00	-28.14	-1.42	0.00	-102.61	0.00	102.61	3,649.39	900.76	3,509	3,235.36	0.56	-0.11	0.04
53.08	-27.81	-1.41	0.00	-98.25	0.00	98.25	2,857.95	750.80	2,925	2,537.94	0.63	-0.12	0.05
55.00	-26.96	-1.41	0.00	-95.53	0.00	95.53	2,840.65	743.45	2,868	2,497.68	0.68	-0.12	0.05
60.00	-26.47	-1.40	0.00	-88.50	0.00	88.50	2,794.59	724.30	2,722	2,393.44	0.82	-0.14	0.05
63.00	-25.97	-1.40	0.00	-84.29	0.00	84.29	2,766.27	712.81	2,636	2,331.31	0.90	-0.14	0.05
65.00	-25.15	-1.39	0.00	-81.50	0.00	81.50	2,747.10	705.15	2,580	2,290.09	0.97	-0.15	0.05
70.00	-24.36	-1.37	0.00	-74.57	0.00	74.57	2,698.18	686.00	2,442	2,187.75	1.13	-0.16	0.04
75.00	-23.42	-1.36	0.00	-67.70	0.00	67.70	2,647.83	666.85	2,307	2,086.52	1.31	-0.18	0.04
80.00	-22.65	-1.34	0.00	-60.92	0.00	60.92	2,596.04	647.70	2,177	1,986.48	1.50	-0.19	0.04
85.00	-21.91	-1.32	0.00	-54.22	0.00	54.22	2,542.81	628.54	2,050	1,887.74	1.70	-0.20	0.04
90.00	-21.39	-1.31	0.00	-47.62	0.00	47.62	2,488.15	609.39	1,927	1,790.40	1.92	-0.21	0.04
93.54	-21.06	-1.30	0.00	-43.00	0.00	43.00	2,448.63	595.85	1,842	1,722.45	2.08	-0.22	0.03
95.00	-20.29	-1.27	0.00	-41.11	0.00	41.11	2,432.06	590.24	1,808	1,694.56	2.15	-0.23	0.03
98.45	-20.09	-1.26	0.00	-36.73	0.00	36.73	1,802.83	469.45	1,429	1,251.05	2.31	-0.23	0.04
100.00	-19.48	-1.24	0.00	-34.78	0.00	34.78	1,791.36	464.71	1,401	1,230.45	2.39	-0.24	0.04
105.00	-16.18	-1.09	0.00	-28.58	0.00	28.58	1,753.33	449.39	1,310	1,164.33	2.64	-0.25	0.03
110.00	-15.60	-1.06	0.00	-23.13	0.00	23.13	1,713.87	434.07	1,222	1,099.03	2.91	-0.26	0.03
115.00	-15.49	-1.06	0.00	-17.80	0.00	17.80	1,672.98	418.74	1,137	1,034.64	3.19	-0.27	0.03
116.00	-12.88	-0.92	0.00	-16.74	0.00	16.74	1,664.63	415.68	1,121	1,021.88	3.24	-0.27	0.02
117.00	-11.47	-0.84	0.00	-15.83	0.00	15.83	1,656.22	412.62	1,104	1,009.16	3.30	-0.27	0.02
120.00	-10.94	-0.81	0.00	-13.31	0.00	13.31	1,630.65	403.42	1,056	971.26	3.47	-0.28	0.02
125.00	-10.63	-0.79	0.00	-9.27	0.00	9.27	1,586.89	388.10	977	908.99	3.77	-0.28	0.02
128.00	-6.95	-0.55	0.00	-6.90	0.00	6.90	1,559.94	378.91	931	872.20	3.95	-0.29	0.01
130.00	-6.53	-0.52	0.00	-5.81	0.00	5.81	1,541.69	372.78	901	847.93	4.07	-0.29	0.01
135.00	-6.37	-0.51	0.00	-3.22	0.00	3.22	1,495.06	357.46	829	788.18	4.37	-0.29	0.01
137.00	-5.37	-0.43	0.00	-2.21	0.00	2.21	1,476.01	351.33	801	764.66	4.50	-0.29	0.01
137.50	-3.04	-0.25	0.00	-1.99	0.00	1.99	1,471.21	349.80	794	758.82	4.53	-0.29	0.01
140.00	-2.68	-0.23	0.00	-1.35	0.00	1.35	1,447.00	342.14	759	729.83	4.68	-0.29	0.00
145.00	-2.62	-0.22	0.00	-0.22	0.00	0.22	1,383.54	326.82	693	666.26	4.99	-0.29	0.00
146.00	0.00	-0.21	0.00	0.00	0.00	0.00	1,370.57	323.76	680	653.76	5.05	-0.29	0.00

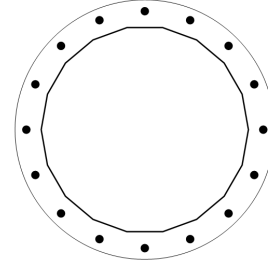
ANALYSIS SUMMARY

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	27.74	0.00	56.18	0.00	0.00	3064.77	53.08	0.67
0.9D + 1.0W	27.72	0.00	42.13	0.00	0.00	3016.64	53.08	0.65
1.2D + 1.0Di + 1.0Wi	7.19	0.00	74.18	0.00	0.00	785.58	53.08	0.19
1.2D + 1.0Ev + 1.0Eh	1.46	0.00	56.40	0.00	0.00	177.40	53.08	0.05
0.9D - 1.0Ev + 1.0Eh	1.43	0.00	39.15	0.00	0.00	173.88	53.08	0.05
1.0D + 1.0W	6.20	0.00	46.85	0.00	0.00	679.02	53.08	0.16

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 3478)

Diameter:	69	in
Shape:	Round	
Thickness:	1.75	in
Grade:	A572-60	
Yield Strength:	60	ksi
Tensile Strength:	75	ksi
Rod Detail Type:	d	
Clear Distance	3.375	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	270	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 8063]	Radial	16	2.25	63	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (16) 2.25"Ø [ID 8063]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	0.393	29.10	12.06	27.890	2526.992	128.19	1.06
2	0.785	22.27	22.27	21.346	1480.625	128.19	1.95
3	1.178	12.06	29.10	11.552	434.259	128.19	2.55
4	1.571	0.00	31.50	0.000	0.839	128.19	2.76
5	1.963	-12.06	29.10	-11.552	434.258	-114.14	2.55
6	2.356	-22.27	22.27	-21.346	1480.624	-114.14	1.95
7	2.749	-29.10	12.06	-27.890	2526.992	-114.14	1.06
8	3.142	-31.50	0.00	-30.188	2960.411	-114.14	0.00
9	3.534	-29.10	-12.06	-27.890	2526.991	-114.14	1.06
10	3.927	-22.27	-22.27	-21.346	1480.624	-114.14	1.95
11	4.320	-12.06	-29.10	-11.552	434.258	-114.14	2.55
12	4.712	0.00	-31.50	0.000	0.839	128.19	2.76
13	5.105	12.06	-29.10	11.552	434.258	128.19	2.55
14	5.498	22.27	-22.27	21.346	1480.625	128.19	1.95
15	5.890	29.10	-12.06	27.890	2526.991	128.19	1.06
16	6.283	31.50	0.00	30.188	2960.411	128.19	0.00

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	54.5"Ø x 0.375" (18 Sides)	3064.8	56.18	27.74	1.000
Bolt Group	Original (16) 2.25"Ø	3064.8	-	27.74	1.000
TOTALS		3064.77	56.18	27.74	

ASSET: 411216, CT Chaplin South CT
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14071468_C3_03

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	54.5"Ø x 0.375" (18 Sides)	63.4413	-	-	23234.51	-
Bolt Group	Original (16) 2.25"Ø	3.9761	3.2477	0.8393	23690.00	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 54.62 in
 Point-to-Point Diameter: 55.47 in
 Flat Width: 9.632 in
 Flat Radians: 0.349 rad

PLATE PROPERTIES

Neutral Axis: 270 °
 Bend Line Lower Limit: 5.655 rad
 Bend Line Upper Limit: 0.628 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	37.733	0.00	28.889	614.0	1560.0	0.394
Corner	36.482	0.00	27.932	427.0	1508.3	0.283
Circumferential	51.481	0.00	39.415	1089.3	2128.4	0.512

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	128.1	2.8	243.6	0.549

RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 1 - Site Information

Site ID: CT11508F	Site Name: CT508//Verizon Chaplin	Latitude: 41.78461418
Status: Final	Site Class: Monopole	Longitude: -72.13554480
Version: 3	Site Type: Structure Non Building	Address: 121 Palmer Road
Project Type: Anchor	Plan Year: 2022	City, State: Chaplin, CT
Approved: 3/1/2022 4:27:24 PM	Market: CONNECTICUT CT	Region: NORTHEAST
Approved By: Michael.Low1@T-Mobile.com	Vendor: Ericsson	
Last Modified: 3/1/2022 4:27:24 PM	Landlord: Verizon Wireless	
Last Modified By: Michael.Low1@T-Mobile.com		

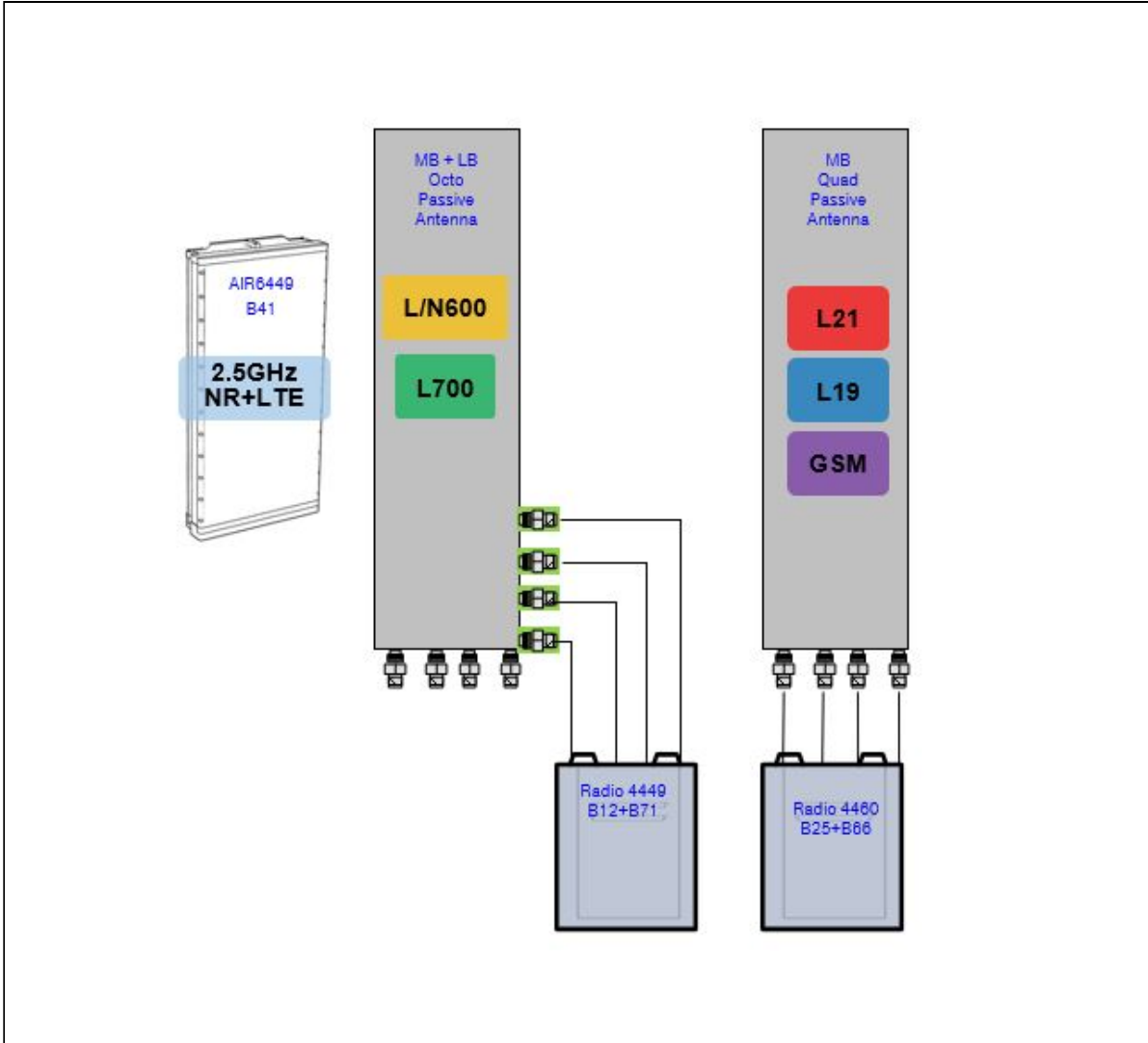
RAN Template: 67D5D998E ODE+6160		AL Template: 67D5998E_1xAIR+1OP+1QP		
Sector Count: 3	Antenna Count: 9	Coax Line Count: 0	TMA Count: 0	RRU Count: 6

Section 2 - Existing Template Images

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Section 3 - Proposed Template Images

67D5998E_1xAIR+1OP+1QP.JPG



Notes:

Section 4 - Siteplan Images

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RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D94E

Enclosure	1		
Enclosure Type	RBS 6201 ODE		
Baseband	DUG20 G1900	BB 6630 L2100 L1900	BB 6630 L700 L600 N600
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG*		
Radio	RUS02 B2 (x 3) G1900	RUS02 B2 (x 3) L1900	

Proposed RAN Equipment

Template: 67D5D998E ODE+6160

	1	2	3	4
Enclosure Type	RBS 6201 ODE	Ancillary Equipment (Ericsson)	Enclosure 6160 AC V1	B160
Baseband	BB 6630 L2100 L1900	DUG20 G1900	BB 6630 L700 L600 N600	RP 6651 N2500
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG*		PSU 4813 vR4A (Kit)	Ericsson Hybrid Trunk 6/24 4AWG 50m
Transport System			Ericsson Hybrid Trunk 6/24 4AWG 50m	CSR IXRe V2 (Gen2)

RAN Scope of Work:

- Remove and return all cabinet radios from existing base station cabinet.
- Upgrade 6201 breaker to 125A.
- Add (1) Enclosure 6160.
- Add (1) IXRe Router to new Enclosure 6160.
- Add (1) RP 6651 for N2500 to new Enclosure 6160.
- Add (1) RP 6651 for L2500 to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- Existing : (1) 6x12,
- Remove all Coax,
- Add (1) 6X24 HCS terminating at the Enclosure 6160. And (1) 6x24 terminating at 6201. Connect DC for the AIR6419 B41 to the PSU4813 Voltage Booster.

RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 6 - A&L Equipment

Existing Template: 67D94E_1DP+1OP
Proposed Template: 67D5998E_1xAIR+1OP+1QP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro									
Antenna	1		2		3		4			
Antenna Model	RFS - APXV18-206517S-C-A20 (Dual)		Empty Antenna Mount (Empty mount)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	60						60			
M. Tilt	0						0			
Height	118						118			
Ports	P1				P2	P3	P4	P5		
Active Tech.	L1900 G1900						L700 L600 N600	L700 L600 N600	L2100	
Dark Tech.										
Restricted Tech.										
Decomm. Tech.										
E. Tilt	2						2	2	2	2
Cables	1-5/8" Coax - 145 ft. (x2)						Coax Jumper (x2)	Coax Jumper (x2)	1-5/8" Coax - 145 ft. (x2)	
TMA's	Generic Twin Style 1A - PCS (AtAntenna)								Ericsson Twin Style 1BX - KRY 112 144/2 (AtAntenna)	
Diplexers / Combiners										
Radio							Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4415 B66 A (At Cabinet)	
Sector Equipment										

Unconnected Equipment:

Scope of Work:

Replace LB Dual in Position 4 with (1) LB/MB Octo.
 Add (1) Radio 4449 B71+B12 to Position 4 for L600 and L700.
 Add (1) AWS TMA to Position 4. Connect Coaxial Lines and AWS TMA in Position 4 to Mid-Band Ports of LB/MB Octo.
 Ensure to cascade all 3 octo rets to 4449 for L21 control

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

RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11508F_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		3		4			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	60		60				60			
M. Tilt	0		0				0			
Height	118		118				118			
Ports	P1	P2	P3	P4			P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 G1900	L2100 L1900 G1900			L700 L600 N600	L700 L600 N600		
Dark Tech.										
Restricted Tech.										
Decomm. Tech.										
E. Tilt	2	2	2	2						
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 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)			Radio 4449+B85 (At Antenna)	SHARED Radio 4449+B85 (At Antenna)		
Sector Equipment										

Unconnected Equipment:

Scope of Work:

There will be Three antennae per sector.

Remove all TMA's.

Remove all diplexers.

Remove all Coaxial Lines.

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

Install (1) mid-band Quad VV-65A-R1 in Position 2 .

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

Remove Radio 4415 B66A from position 4 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 ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 2 (Existing) view from behind								
Coverage Type	A - Outdoor Macro							
Antenna	1		2		3		4	
Antenna Model	RFS - APXV18-206517S-C-A20 (Dual)		Empty Antenna Mount (Empty mount)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)	
Azimuth	180						180	
M. Tilt	0						0	
Height	118						118	
Ports	P1				P2	P3	P4	P5
Active Tech.	L1900 G1900				L700 L600 N600	L700 L600 N600	L2100	
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2				2	2	2	2
Cables	1-5/8" Coax - 145 ft. (x2)				Coax Jum per (x2)	Coax Jum per (x2)	1-5/8" Coax - 145 ft. (x2)	
TMA's	Generic Twin Style 1A - PCS (AtAntenna)						Ericson Twin Style 1BX - KRY 112 144/2 (AtAntenna)	
Diplexers / Combiners								
Radio					Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4415 B66 A (At Cabinet)	
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Replace LB Dual in Position 4 with (1) LB/MB Octo.
 Add (1) Radio 4449 B71+B12 to Position 4 for L600 and L700.
 Add (1) AWS TMA to Position 4. Connect Coaxial Lines and AWS TMA in Position 4 to Mid-Band Ports of LB/MB Octo.
 Ensure to cascade all 3 octo rets to 4449 for L21 control

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

RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11508F_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		3		4			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	180		180				180			
M. Tilt	0		0				0			
Height	118		118				118			
Ports	P1	P2	P3	P4			P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 G1900	L2100 L1900 G1900			L700 L600 N600	L700 L600 N600		
Dark Tech.										
Restricted Tech.										
Decomm. Tech.										
E. Tilt	2	2	2	2						
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 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)			Radio 4449+B85 (At Antenna)	SHARED Radio 4449+B85 (At Antenna)		
Sector Equipment										

Unconnected Equipment:

Scope of Work:

There will be Three antennae per sector.

Remove all TMA's.

Remove all diplexers.

Remove all Coaxial Lines.

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

Install (1) mid-band Quad VV-65A-R1 in Position 2 .

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

Remove Radio 4415 B66A from position 4 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 ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Sector 3 (Existing) view from behind								
Coverage Type	A - Outdoor Macro							
Antenna	1		2		3		4	
Antenna Model	RFS - APXV18-206517S-C-A20 (Dual)		Empty Antenna Mount (Empty mount)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)	
Azimuth	300						300	
M. Tilt	0						0	
Height	118						118	
Ports	P1				P2	P3	P4	P5
Active Tech.	L1900 G1900				L700 L600 N600	L700 L600 N600	L2100	
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt	2				2	2	2	2
Cables	1-5/8" Coax - 145 ft. (x2)				Coax Jum per (x2)	Coax Jum per (x2)	1-5/8" Coax - 145 ft. (x2)	
TMA's	Generic Twin Style 1A - PCS (AtAntenna)						Ericson Twin Style 1BX - KRY 112 144/2 (AtAntenna)	
Diplexers / Combiners								
Radio					Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4415 B66 A (At Cabinet)	
Sector Equipment								

Unconnected Equipment:

Scope of Work:

Replace LB Dual in Position 4 with (1) LB/MB Octo.
 Add (1) Radio 4449 B71+B12 to Position 4 for L600 and L700.
 Add (1) AWS TMA to Position 4. Connect Coaxial Lines and AWS TMA in Position 4 to Mid-Band Ports of LB/MB Octo.
 Ensure to cascade all 3 octo rets to 4449 for L21 control

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

RAN Template: 67D5D998E ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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CT11508F_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		3		4			
Antenna Model	AIR 6419 B41 (Active Antenna - Massive MIMO)		Commscope_VV-65A-R1 (Quad)		Empty Antenna Mount (Empty mount)		RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	300		300				300			
M. Tilt	0		0				0			
Height	118		118				118			
Ports	P1	P2	P3	P4			P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L2100 L1900 G1900	L2100 L1900 G1900			L700 L600 N600	L700 L600 N600		
Dark Tech.										
Restricted Tech.										
Decomm. Tech.										
E. Tilt	2	2	2	2						
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 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)			Radio 4449+B85 (At Antenna)	SHARED Radio 4449+B85 (At Antenna)		
Sector Equipment										

Unconnected Equipment:

Scope of Work:

There will be Three antennae per sector.

Remove all TMA's.

Remove all diplexers.

Remove all Coaxial Lines.

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

Install (1) mid-band Quad VV-65A-R1 in Position 2 .

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

Remove Radio 4415 B66A from position 4 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 ODE+6160	A&L Template: 67D5998E_1xAIR+1OP+1QP
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Section 7 - Power Systems Equipment

Existing Power Systems Equipment

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

Proposed Power Systems Equipment

Enclosure	1
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Enclosure Type	Enclosure 6160 AC V1
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**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS**

T-Mobile Existing Facility

Site ID: CT11508F

**CT508//Verizon Chaplin
123 Palmer Road
Chaplin, Connecticut 06235**

May 25, 2022

EBI Project Number: 6222003373

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	29.14%

May 25, 2022

T-Mobile

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

Emissions Analysis for Site: CT11508F - CT508//Verizon Chaplin

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **123 Palmer Road in Chaplin, 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 123 Palmer Road in Chaplin, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 7) 1 LTE Traffic channel (LTE 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 Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the Commscope VV-65A-RI for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 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 117 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):	117 feet	Height (AGL):	117 feet	Height (AGL):	117 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 %:	9.05%	Antenna B1 MPE %:	9.05%	Antenna C1 MPE %:	9.05%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope VV-65A-RI	Make / Model:	Commscope VV-65A-RI	Make / Model:	Commscope VV-65A-RI
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd	Gain:	15.55 dBd / 15.55 dBd / 16.05 dBd
Height (AGL):	117 feet	Height (AGL):	117 feet	Height (AGL):	117 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts	Total TX Power (W):	360.00 Watts
ERP (W):	13,446.73	ERP (W):	13,446.73	ERP (W):	13,446.73
Antenna A2 MPE %:	3.92%	Antenna B2 MPE %:	3.92%	Antenna C2 MPE %:	3.92%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	RFS APXVAARR24_43-UNA20	Make / Model:	RFS APXVAARR24_43-UNA20	Make / Model:	RFS APXVAARR24_43-UNA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd
Height (AGL):	117 feet	Height (AGL):	117 feet	Height (AGL):	117 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts	Total TX Power (W):	200.00 Watts
ERP (W):	4,059.02	ERP (W):	4,059.02	ERP (W):	4,059.02
Antenna A3 MPE %:	2.83%	Antenna B3 MPE %:	2.83%	Antenna C3 MPE %:	2.83%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	15.80%
Verizon	4.16%
AT&T	5.97%
Sprint	3.21%
Site Total MPE % :	29.14%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	15.80%
T-Mobile Sector B Total:	15.80%
T-Mobile Sector C Total:	15.80%
Site Total MPE % :	29.14%

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	117.0	28.07	2500 MHz LTE IC & 2C Traffic	1000	2.81%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	117.0	2.09	2500 MHz LTE IC & 2C Broadcast	1000	0.21%
T-Mobile 2500 MHz NR Traffic	1	19238.94	117.0	56.14	2500 MHz NR Traffic	1000	5.61%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	117.0	4.19	2500 MHz NR Broadcast	1000	0.42%
T-Mobile 1900 MHz GSM	4	1076.77	117.0	12.57	1900 MHz GSM	1000	1.26%
T-Mobile 1900 MHz LTE	2	2153.53	117.0	12.57	1900 MHz LTE	1000	1.26%
T-Mobile 2100 MHz LTE	2	2416.30	117.0	14.10	2100 MHz LTE	1000	1.41%
T-Mobile 600 MHz LTE	2	591.73	117.0	3.45	600 MHz LTE	400	0.86%
T-Mobile 600 MHz NR	1	1577.94	117.0	4.60	600 MHz NR	400	1.15%
T-Mobile 700 MHz LTE	2	648.82	117.0	3.79	700 MHz LTE	467	0.81%
						Total:	15.80%

• 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:	15.80%
Sector B:	15.80%
Sector C:	15.80%
T-Mobile Maximum MPE % (Sector A):	15.80%
Site Total:	29.14%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **29.14%** 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.