

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



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July 30, 2021

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

RE: Notice of Exempt Modification  
153 East Haddam Road, Salem, CT  
Latitude: 41.46847222  
Longitude: -72.27330556  
T-Mobile Site#: CTNH143C - L600

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 175-foot level 195-foot Monopole at the existing facility at 153 East Haddam Road, Salem, CT. The property and tower is owned by American Tower. T-Mobile now intends to remove three (3) antennas and replace them with three (3) new L700/L600/N600 MHz antennas. The new antennas support 5G services and will be installed at the same 175-foot level of the monopole.

**Planned Modifications:**

**Tower:**

Install New:

- (3) APXVAALL24 43-U-NA20 Antennas
- (3) Radio 4449 B71 B85
- (3) 9x18 (1 5/8") Hybrid Trunk Cables

Existing to Remain:

- (3) APX16DWV-16DWV-S-E-A20 Antennas
- (3) RRU11 B2 RRHs
- (3) RRUS11 B4 RRHs
- (1) 9x18 (1 5/8") Hybrid Cable

To Be Removed:

- (3) LNX-6515DS-A1M Antennas
- (3) RRUS11 B12 RRHs

**Ground:**

Install New:

(1) BB6648

This tower facility was originally approved by the Town of Salem and a CO was issued on August 10, 2004. There are no known conditions that would restrict exempt modifications. Therefore, this modification complies with the aforementioned approval. A copy of the CO from the Town of Salem is attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16- SOj-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-SOj-73, a copy of this letter is being sent to First Selectman Kevin Lyden, Elected Official, and Justin LaFountain, Town Planner, as well as the 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](mailto:ebreun@transcendwireless.com)

Attachments

cc: Kevin Lyden - First Selectman

Justin LaFountain - Town Planner

American Tower - Tower/Property Owner

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

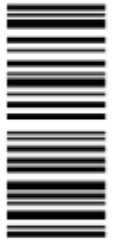
1 OF 1

**SHIP TO:**

SALEM TOWN OFFICE BLDG.  
FIRST SELECTMAN KEVIN LYDEN  
270 HARTFORD ROAD  
SALEM CT 06420

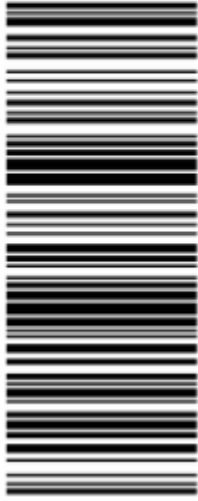


**CT 063 0-01**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9391 7310



BILLING: P/P

Reference #1: CTNH143C

XOL 21.06.14 NV45 29.0A 07/2021\*



TM

ERIC BREUN  
2016587728  
10 INDUSTRIAL AVE  
MAHWAH NJ 07430

1 LBS

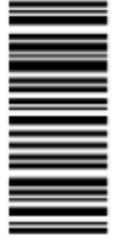
1 OF 1

**SHIP TO:**

AMERICAN TOWER CORPORATION  
10 PRESIDENTIAL WAY  
WOBURN MA 01801

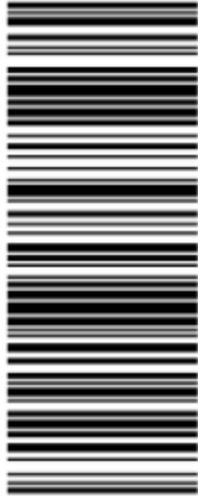


**MA 018 9-04**



**UPS GROUND**

TRACKING #: 1Z V25 742 03 9505 4490





BILLING: P/P

Reference #1: CTNH143C

XOL 21.06.14 NV45 29.0A 07/2021\*



TM

<p>ERIC BREUN 2016587728 10 INDUSTRIAL AVE MAHWAH NJ 07430</p> <p><b>SHIP TO:</b> TOWN PLANNER JUSTIN LAFOUNTAIN 270 HARTFORD ROAD <b>SALEM CT 06420</b></p>	<p><b>1 LBS</b></p> <p><b>1 OF 1</b></p>
<p><b>CT 063 0-01</b></p> 	
<p><b>UPS GROUND</b></p> <p>TRACKING #: 1Z V25 742 03 9084 7320</p> 	
<p>BILLING: P/P</p>	
<p>Reference #1: CTNH143C</p> <p>XOL 21.06.14    NV45 29-BA 07/2021*     TM</p>	

## Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

**Tracking Number**

1ZV257420395054490

**Weight**

0.50 LBS

**Service**

UPS Ground

**Shipped / Billed On**

07/14/2021

**Delivered On**

07/28/2021 11:42 A.M.

**Received By**

ANCRI

**Delivered To**

WOBURN, MA, US

**Left At**

Inside Delivery

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 07/30/2021 11:06 A.M. EST

[Print this page](#)

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

<b>Tracking Number</b> 1ZV257420393917310	<b>Weight</b> 0.50 LBS
<b>Service</b> UPS Ground	<b>Shipped / Billed On</b> 07/14/2021
<b>Delivered On</b> 07/28/2021 12:38 P.M.	<b>Received By</b> EISENBERG
<b>Delivered To</b> SALEM, CT, US	<b>Left At</b> Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 07/30/2021 11:08 A.M. EST

[Print this page](#)

# Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

<b>Tracking Number</b> 1ZV257420390847320	<b>Weight</b> 0.50 LBS
<b>Service</b> UPS Ground	<b>Shipped / Billed On</b> 07/14/2021
<b>Delivered On</b> 07/28/2021 12:38 P.M.	<b>Received By</b> EISENBERG
<b>Delivered To</b> SALEM, CT, US	<b>Left At</b> Office

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 07/30/2021 11:09 A.M. EST

[Print this page](#)



Property Information

Property Location	153 EAST HADDAM RD
Owner	AMERICAN TOWER CORP
Co-Owner	na
Mailing Address	P O BOX 723597 ATLANTA GA 31139
Land Use	4331 Cell Tower
Land Class	I
Zoning Code	HC
Census Tract	7151

Neighborhood	C100
Acreage	6.21
Utilities	UNKNOWN
Lot Setting/Desc	UNKNOWN UNKNOWN
Book / Page	0122/0251
Additional Info	

Primary Construction Details

Year Built	0
Building Desc.	Cell Tower
Building Style	UNKNOWN
Building Grade	
Stories	
Occupancy	
Exterior Walls	
Exterior Walls 2	NA
Roof Style	
Roof Cover	
Interior Walls	
Interior Walls 2	NA
Interior Floors 1	
Interior Floors 2	NA

Heating Fuel	
Heating Type	
AC Type	
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Rec Rm Area	NA
Rec Rm Quality	NA
Bsmt Gar	NA
Fireplaces	NA

(\*Industrial / Commercial Details)

Building Use	Vacant
Building Condition	
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Photo



Sketch





# Town of Salem, CT

## Property Listing Report

Map Block Lot

05-016-A02

Building # 1

PID 1798

Account

1997

### Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	0	0
Extras	0	0
Improvements		
Outbuildings	16700	11700
Land	303500	212500
<b>Total</b>	<b>320200</b>	<b>224200</b>

### Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
<b>Total Area</b>	<b>0</b>	<b>0</b>

### Outbuilding and Extra Features

Type	Description
Paving-Asphalt	9600 S.F.
W/Improv Good	500 S.F.

### Sales History

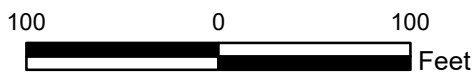
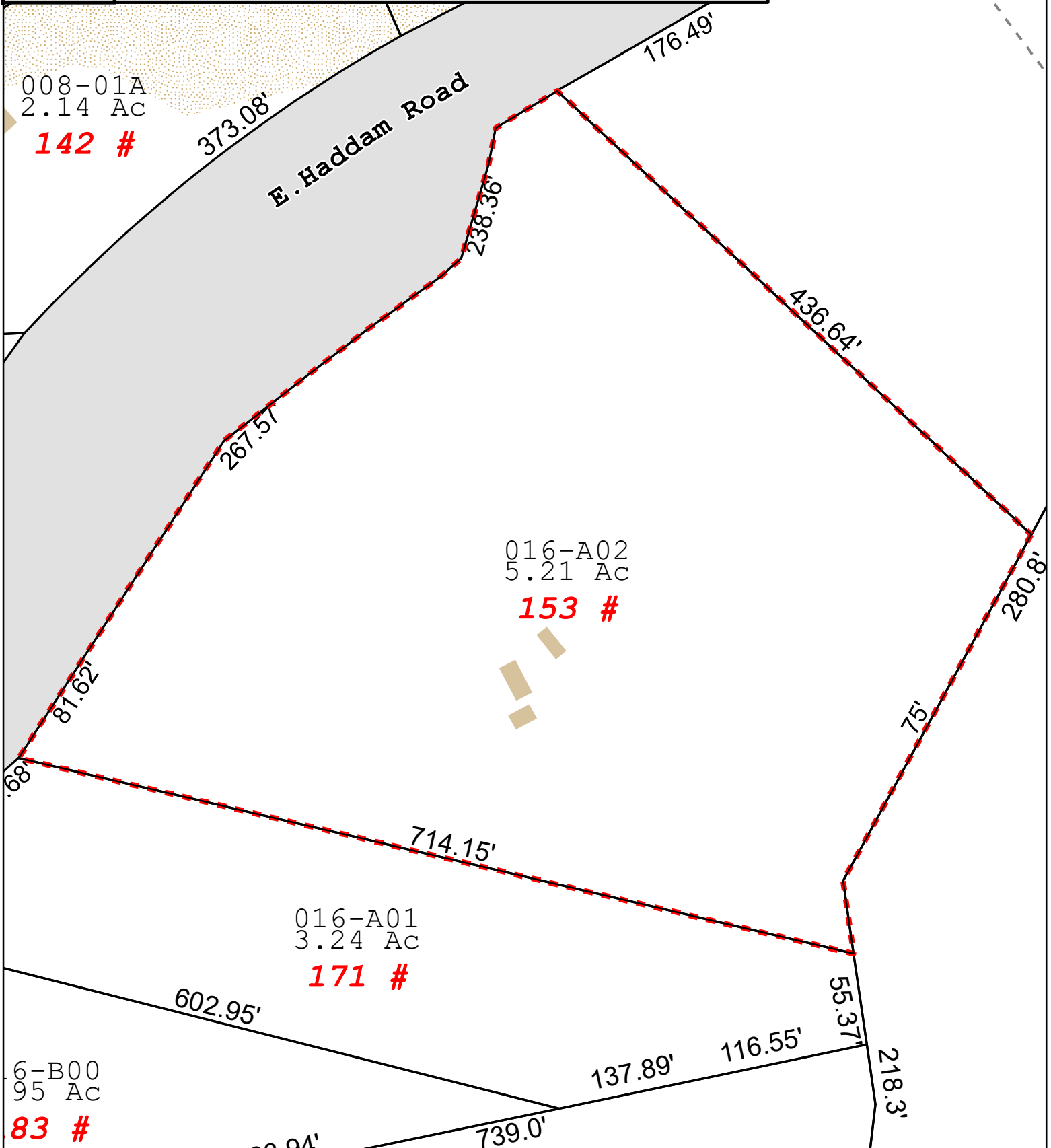
Owner of Record	Book/ Page	Sale Date	Sale Price
AMERICAN TOWER CORP	0122/0251	1999-11-01	180000



# Town of Salem, CT. Assessment Parcel Map

Parcel ID:05-016-A02

Address: 153 EAST HADDAM RD



Map Produced: March 2021

Disclaimer: This map is for informational purposes only.  
 All information is subject to verification by any user.  
 The Town of Salem and its mapping contractors assume  
 no legal responsibility for the information contained herein.



**Town of Salem**  
**Building Department**  
**Certificate of Occupancy**

This is to certify that the structure at:      153 East Haddam Road      (Existing Tower)

constructed as    Antenna(s) & Equipment Building

under Building Permit No. B2004-078 conforms substantially to the requirements of the Building Code Ordinances and Zoning Regulations as adopted by the Town of Salem and the State of Connecticut and is hereby approved for use and occupancy under Use Group B of the 1996 BOCA Building Code of Connecticut.

Type Construction:

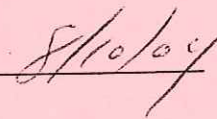
Owner:      American Tower Corp.  
  
                 116 Huntington Avenue  
  
                 Boston, MA 02116

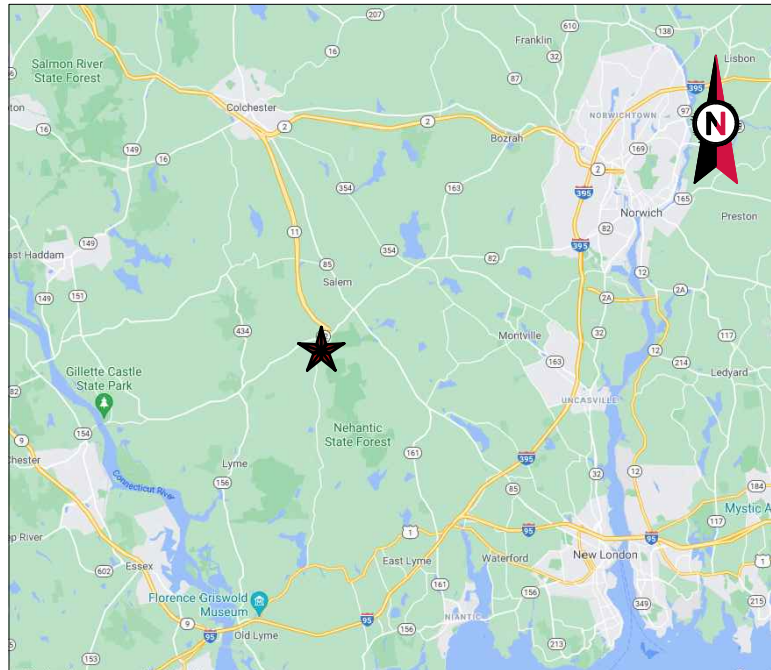
Special Conditions:    none

\_\_\_\_\_  
Building Official Signature



\_\_\_\_\_  
Date





VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: SALEM CT  
 ATC SITE NUMBER: 10027  
 T-MOBILE SITE NAME: CTNH143C  
 T-MOBILE SITE NUMBER: CTNH143C  
 SITE ADDRESS: 153 EAST HADDAM ROAD  
 SALEM, CT, 06420



LOCATION MAP

**T-MOBILE L600 ANTENNA AMENDMENT PLAN  
 67D07C\_1QP+10P CONFIGURATION**



**Kimley»Horn**

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:  
**10027**  
 ATC SITE NAME:  
**SALEM CT**  
 T-MOBILE SITE NAME:  
**CTNH143C**  
 SITE ADDRESS:  
 153 EAST HADDAM ROAD  
 SALEM, CT, 06420

SEAL:

DocuSigned by:  
 Kyle Freehart  
 D8BEE252A3804C1...

**T-Mobile®**

DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**TITLE SHEET**

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

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. 2015 INTERNATIONAL BUILDING CODE (IBC) 2. 2017 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 153 EAST HADDAM ROAD SALEM, CT, 06420 COUNTY: NEW LONDON <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.46846667 LONGITUDE: -72.27329444 GROUND ELEVATION: 351' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) LNX-6515DS-A1M ANTENNA(S) AND (3) RRUS11 B12 RRH(S)  INSTALL (3) APXVAALL24 43-U-NA20 ANTENNA(S), (3) RADIO 4449 B71 B85A RRH(S) AND (3) 9X18 (1 5/8") HYBRID CABLE(S)  EXISTING (3) APX16DWV-16DWV-S-E-A20 ANTENNA(S), (3) RRUS11 B2 RRH(S), (3) RRUS11 B4 RRH(S) AND (1) 9X18 (1 5/8") HYBRID CABLE(S) TO REMAIN  <u>GROUND WORK:</u> INSTALL (1) BB 6648  EXISTING (1) RBS 6102 MU AC CABINET, (1) PURCELL SFX17 2824 CABINET, (1) DUW30 AND (1) BB 6630 TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> KIMLEY-HORN & ASSOCIATES, INC. 421 FAYETTEVILLE ST, STE 600 RALEIGH, NC 27601 COA: PEC.0000738  <u>PROPERTY OWNER:</u> AMERICAN TOWER CORP. PO BOX 723597 ATLANTA, GA, 31139	THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE					
<u>UTILITY COMPANIES</u>  POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326  TELEPHONE COMPANY: FRONTEIR COMMUNICATIONS PHONE: (800) 376- 6843	<u>APPLICANT:</u> T-MOBILE SUE EMERY SUSAN.EMERY@T-MOBILE.COM	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.					
	<u>PROJECT LOCATION DIRECTIONS</u>  FROM COLCHESTER, CT:  PROCEED FROM COLCHESTER, CT. DEPART AND HEAD WEST ON NORWICH AVE 0.2 MI TURN LEFT ONTO CT-85 / S MAIN ST 0.7 MI TURN RIGHT TO STAY ON CT-85 / NEW LONDON RD 0.4 MI TURN RIGHT ONTO LAKE HAYWARD RD 0.3 MI TAKE THE RAMP ON THE LEFT FOR CT-11 SOUTH AND HEAD TOWARD NEW LONDON 7.1 MI TURN LEFT ONTO CT-82 / E HADDAM RD TOWARD MONTVILLE / NEW LONDON / NORWICH / SALEM 0.5 MI ARRIVE AT CT-82 / E HADDAM RD						

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**GENERAL CONSTRUCTION NOTES:**

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

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

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

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

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



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:

**10027**

ATC SITE NAME:

**SALEM CT**

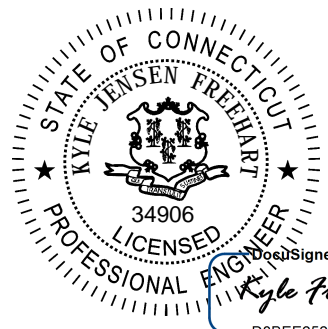
T-MOBILE SITE NAME:

**CTNH143C**

SITE ADDRESS:

153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:



DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**GENERAL NOTES**

SHEET NUMBER:

**G-002**

REVISION:

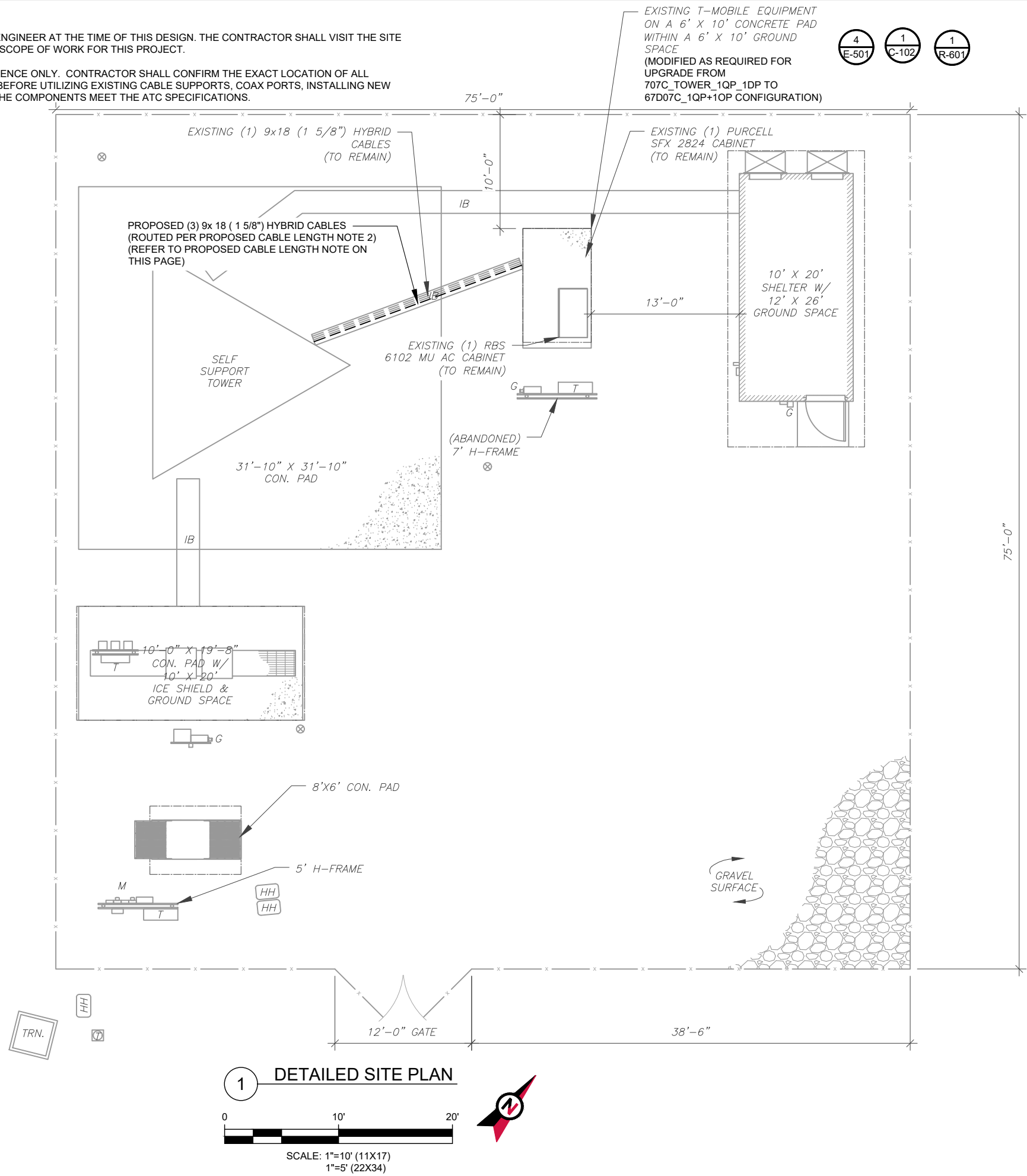
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**SITE PLAN NOTES:**

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

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

- PROPOSED CABLE LENGTH:**
1. ESTIMATED LENGTH OF PROPOSED CABLE IS **222'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
  2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).



**1 DETAILED SITE PLAN**

SCALE: 1"=10' (11X17)  
1"=5' (22X34)

4  
E-501

1  
C-102

1  
R-601



**Kimley»Horn**

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:  
**10027**

ATC SITE NAME:  
**SALEM CT**

T-MOBILE SITE NAME:  
**CTNH143C**

SITE ADDRESS:  
153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:

DocuSigned by:  
*Kyle Frechart*  
D8BEE252A3804C1...



DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**DETAILED SITE PLAN**

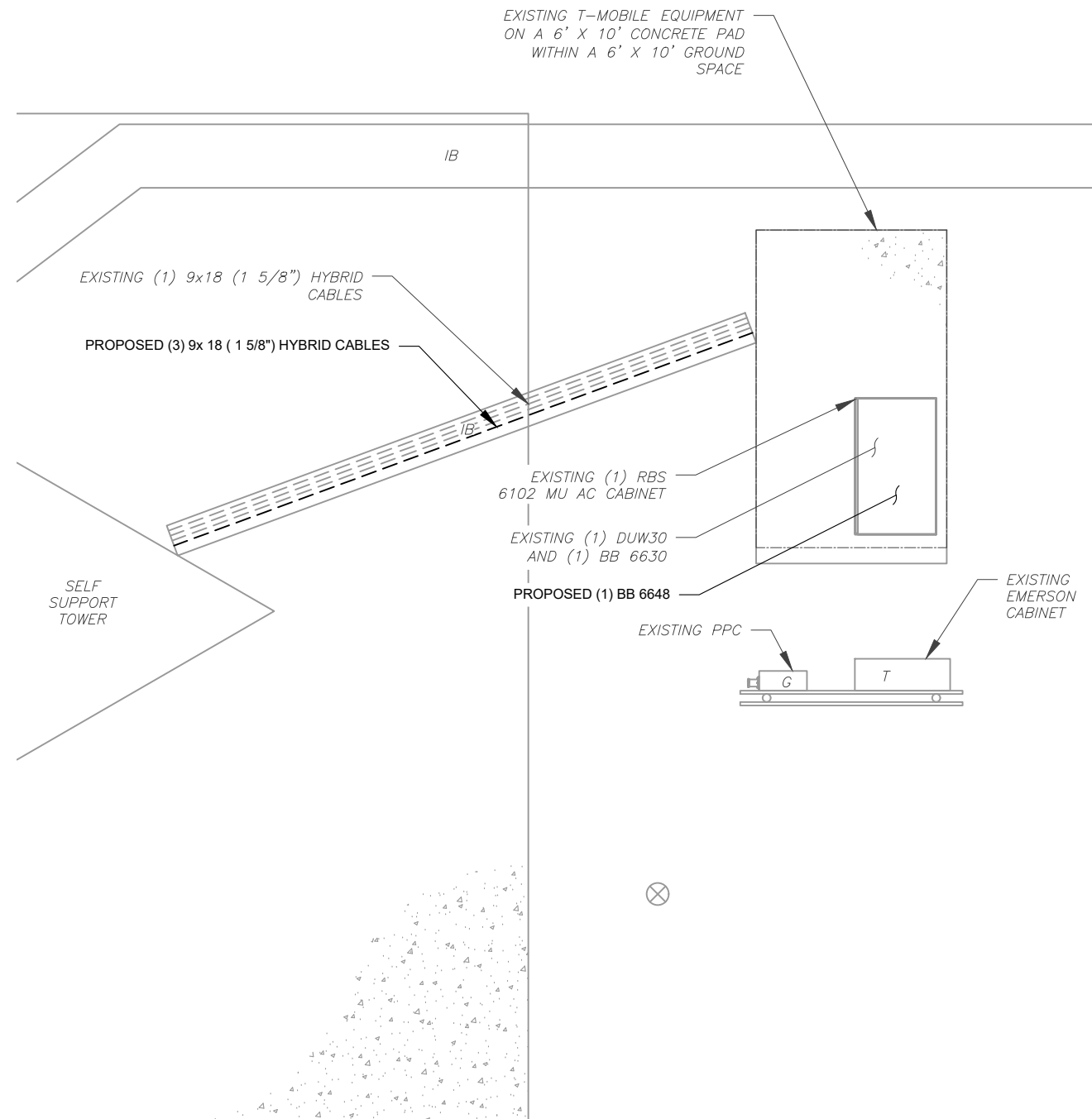
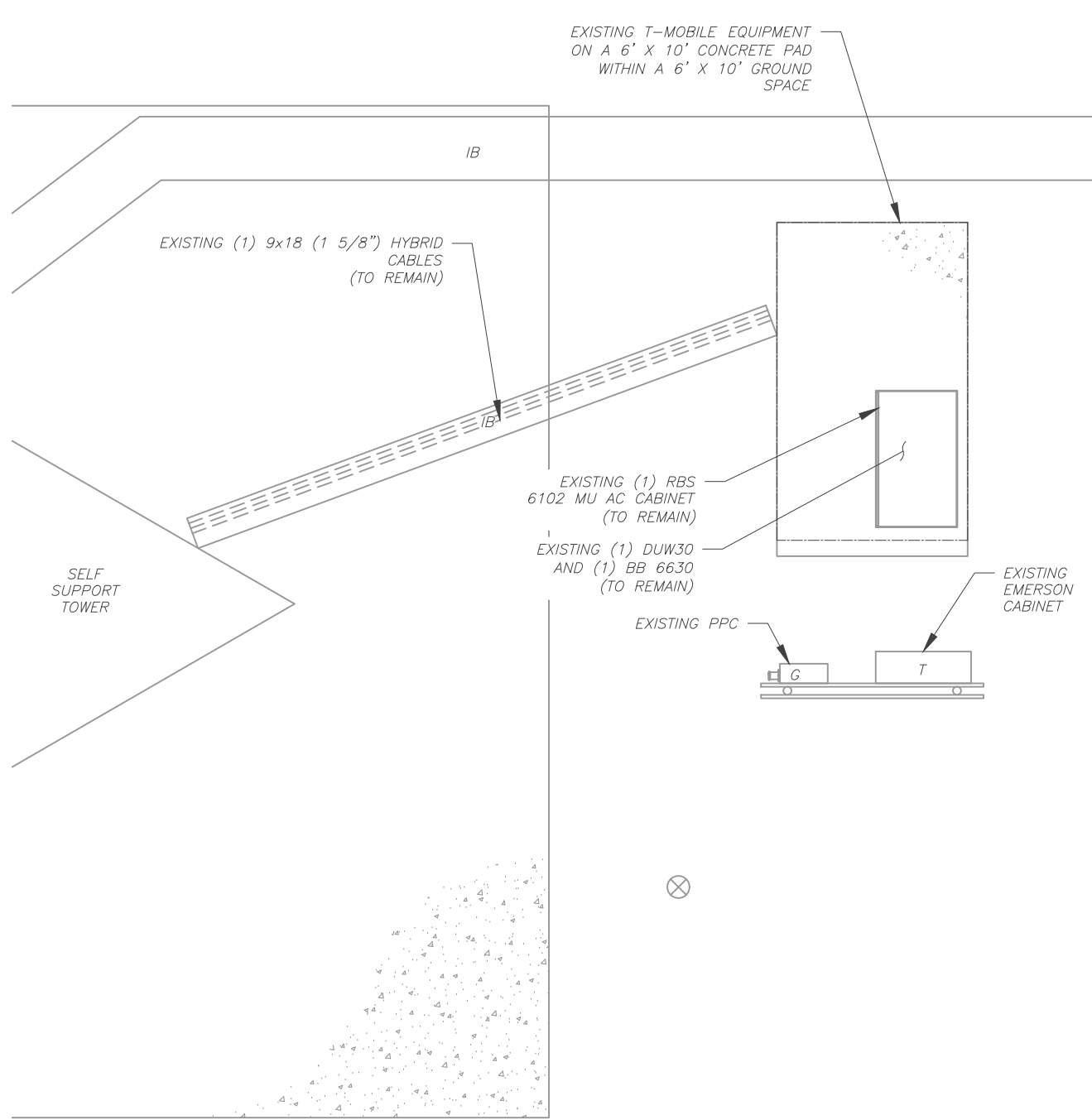
SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

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**SITE PLAN NOTES:**

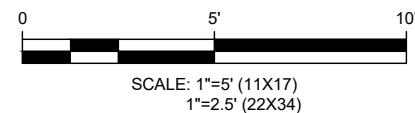
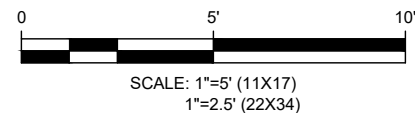
1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL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

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



1 EXISTING GROUND EQUIPMENT LAYOUT

2 PROPOSED GROUND EQUIPMENT LAYOUT



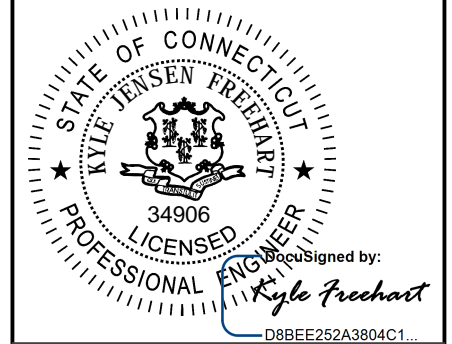
**Kimley»Horn**

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:  
**10027**  
ATC SITE NAME:  
**SALEM CT**  
T-MOBILE SITE NAME:  
**CTNH143C**  
SITE ADDRESS:  
153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:



DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**DETAILED GROUND PLAN**

SHEET NUMBER:	REVISION:
<b>C-102</b>	<b>0</b>



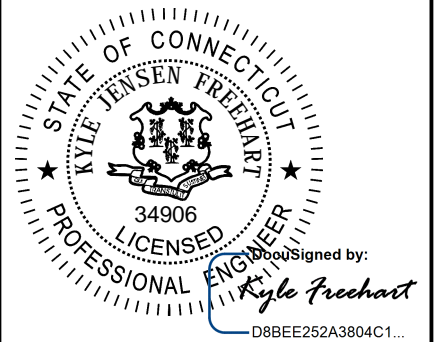
**Kimley»Horn**

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:  
**10027**  
ATC SITE NAME:  
**SALEM CT**  
T-MOBILE SITE NAME:  
**CTNH143C**  
SITE ADDRESS:  
153 EAST HADDAM ROAD  
SALEM, CT, 06420

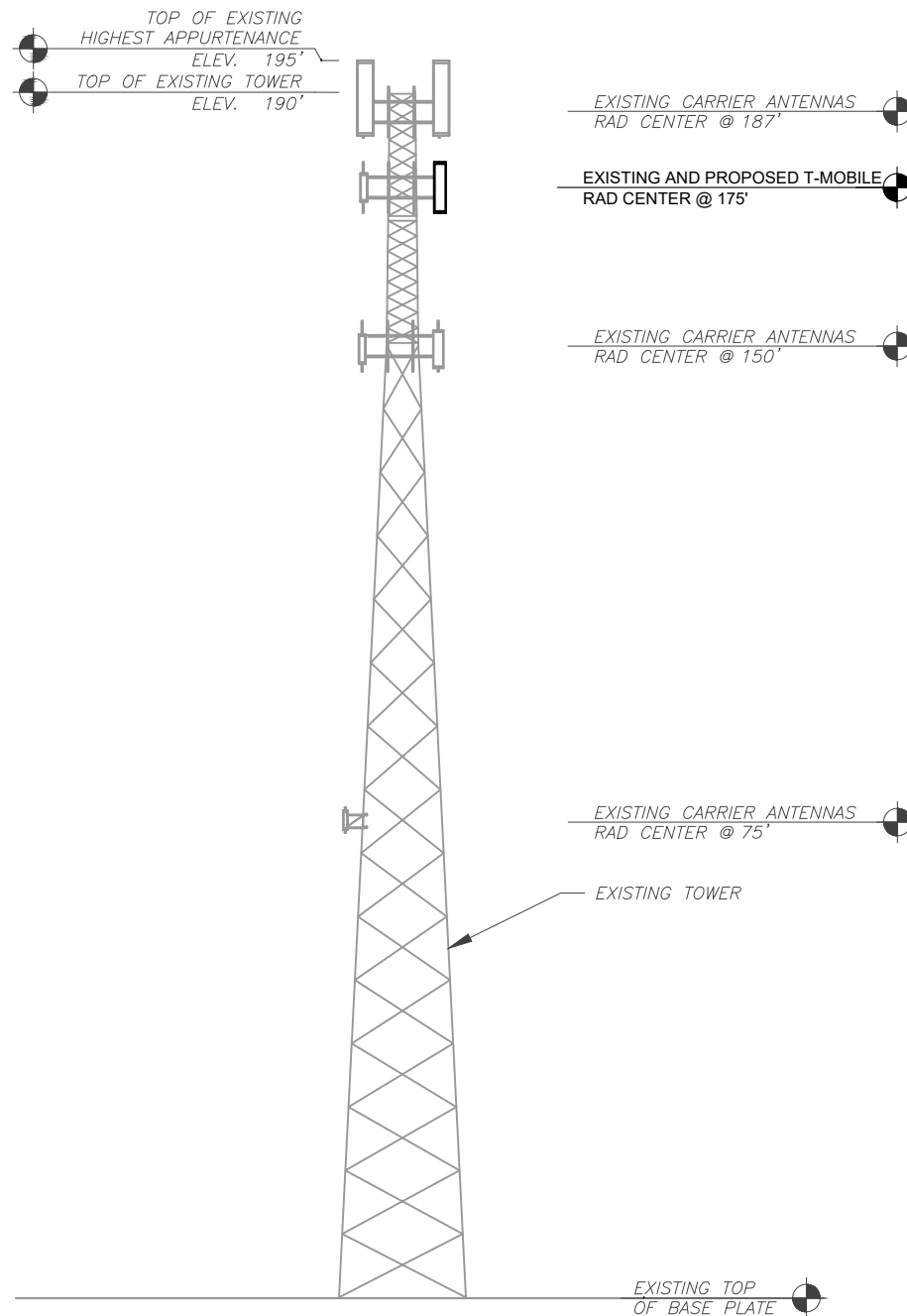
SEAL:



DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**TOWER ELEVATION**

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



ATC IS ANALYZING THE ANTENNA MOUNT UNDER A SEPARATE PROJECT. CONSTRUCTION IS NOT TO PROCEED UNTIL THE MOUNT ANALYSIS IS COMPLETE AND INDICATES THE ADDITIONAL LOADING DOES NOT OVERSTRESS THE MOUNT.

**TOWER NOTE:**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
- TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

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

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RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:

10027

ATC SITE NAME:

SALEM CT

T-MOBILE SITE NAME:

CTNH143C

SITE ADDRESS:

153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:

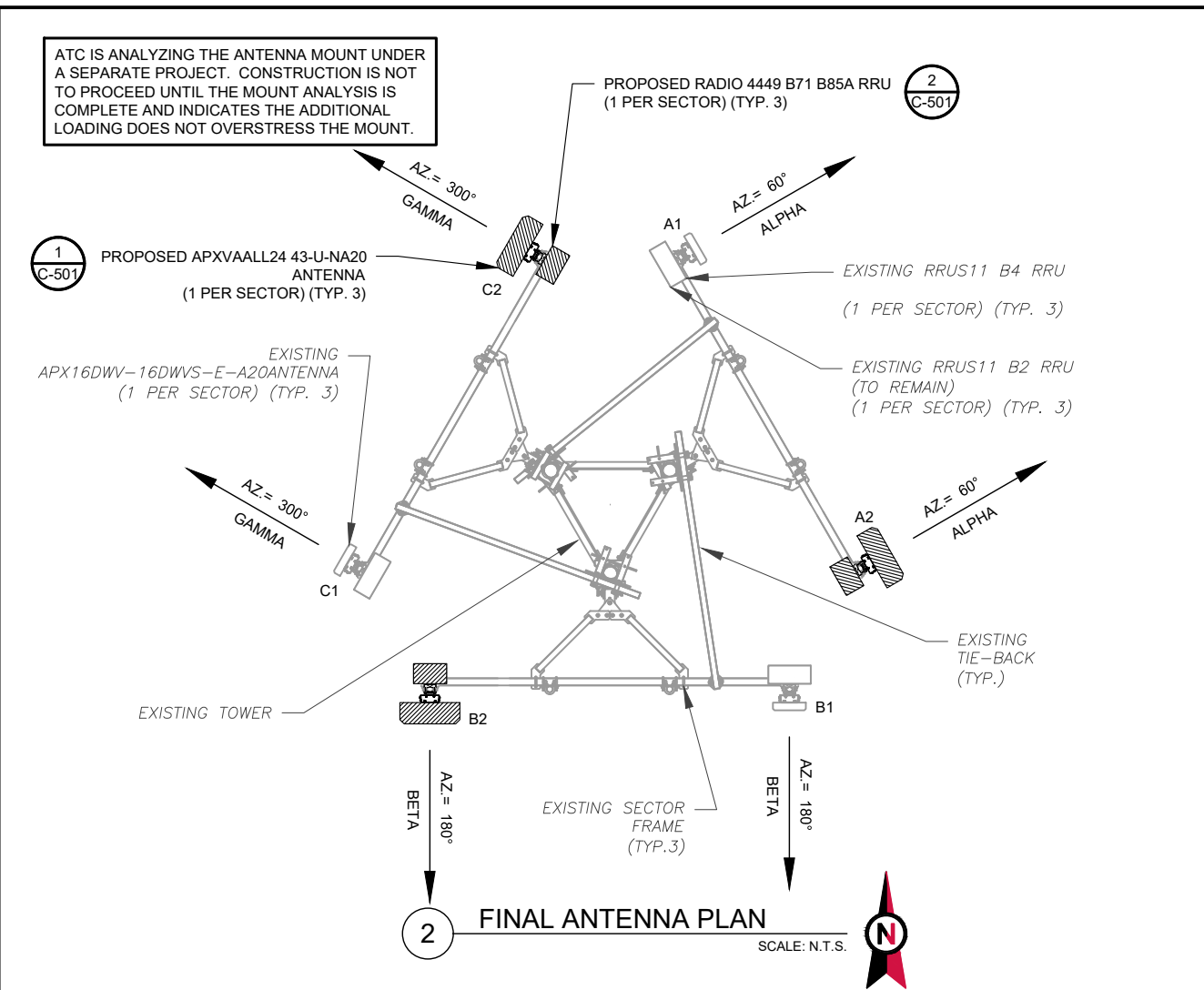
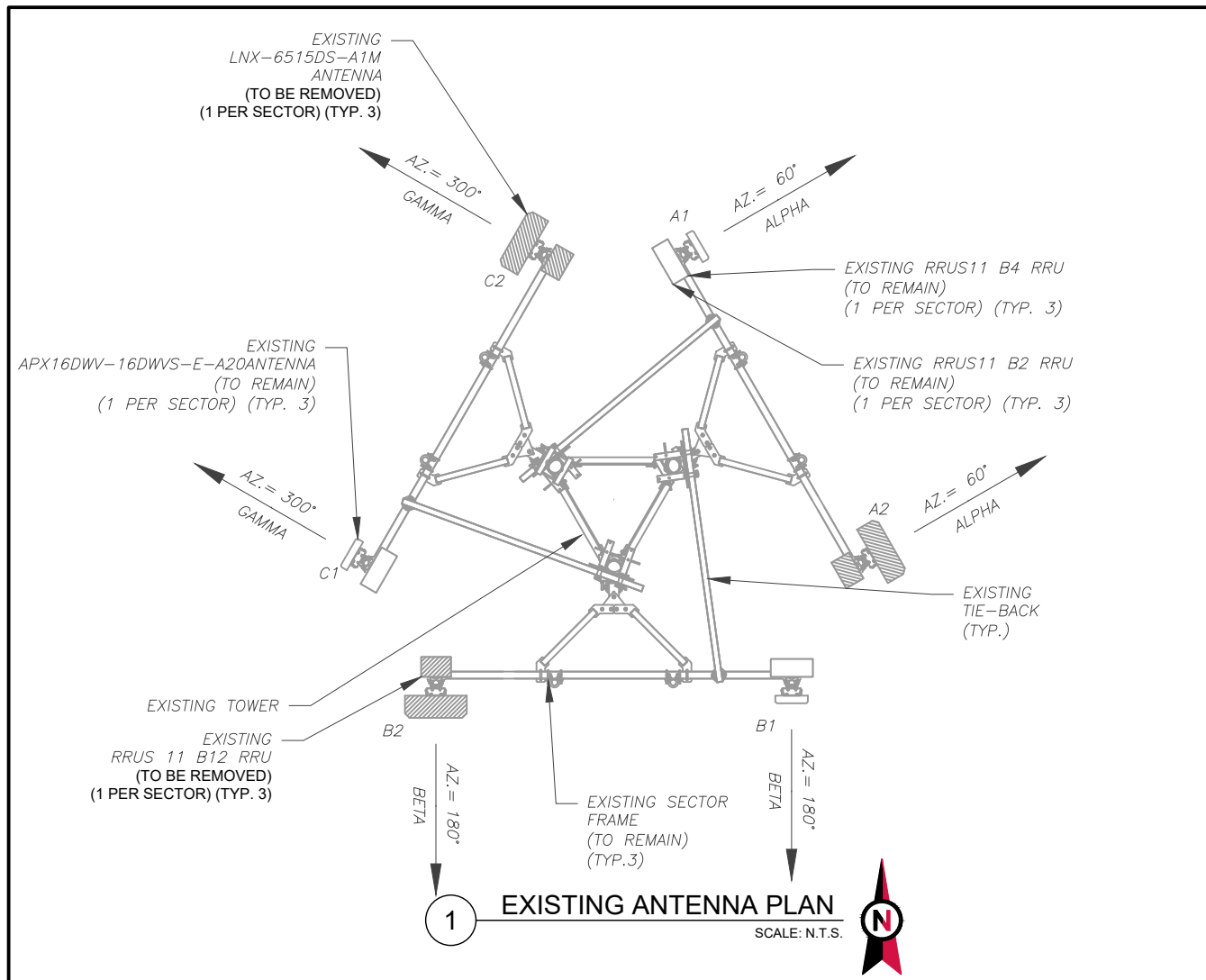


**T-Mobile**

DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER: **C-401**  
REVISION: **0**



EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	175'	30°	A1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			A2	LNX-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B12	RMV
BETA	175'	180°	B1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			B2	LNX-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B12	RMV
GAMMA	175'	300°	C1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			C2	LNX-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B12	RMV

- NOTES**
- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
  - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
  - ROUTE HYBRID JUMPERS TO AVOID DAMAGE FROM BEING STEPPED UPON.

**STATUS ABBREVIATIONS**

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

**CABLE LENGTHS FOR JUMPERS**

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

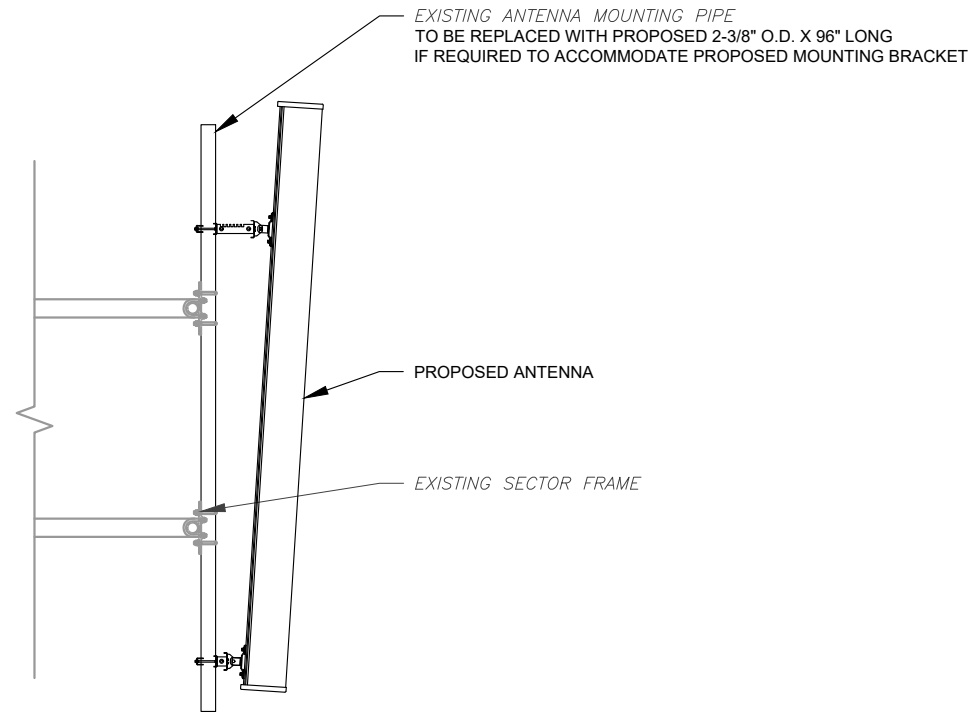
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	175'	60°	A1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			A2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	ADD	RADIO 4449 B71 B85A	ADD
BETA	175'	180°	B1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			B2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	ADD	RADIO 4449 B71 B85A	ADD
GAMMA	175'	300°	C1	APX16DWV-16DWVS-E-A20	U1900/L2100	0°/2°	RMN	RRUS11 B2 RRUS11 B4	RMN RMN
			C2	APXVAALL24 43-U-NA20	L700/L600/N600	0°/2°	ADD	RADIO 4449 B71 B85A	ADD

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(1) 9X18 (1 5/8")	RMN

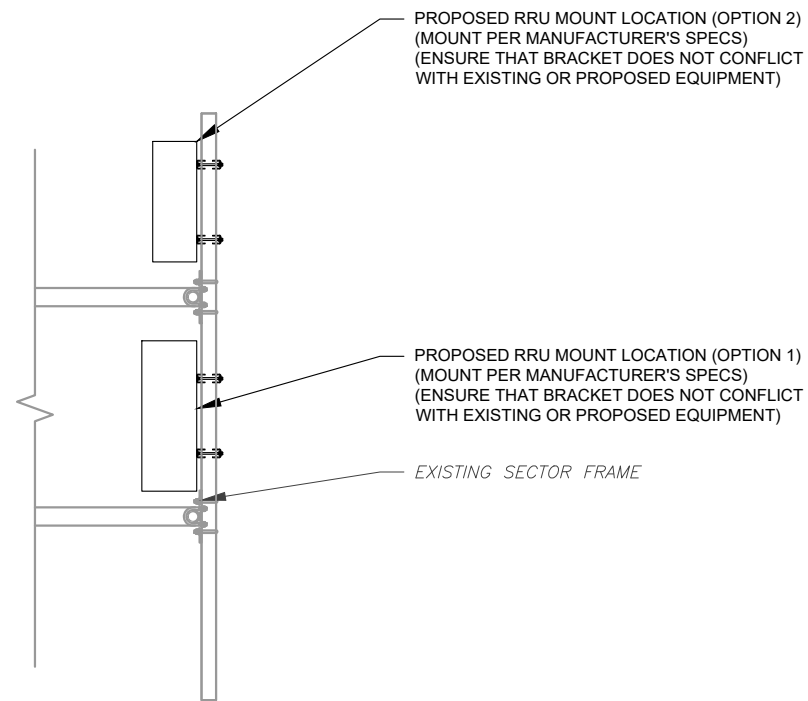
**3 EQUIPMENT SCHEDULES**

FINAL FIBER DISTRIBUTION / OVP BOX			FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS	
-	-	-	(1) 9X18 (1 5/8")	RMN	
-	-	-	(3) 9X18 (1 5/8")	ADD	

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



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



**Kimley»Horn**

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:  
**10027**  
ATC SITE NAME:  
**SALEM CT**  
T-MOBILE SITE NAME:  
**CTNH143C**  
SITE ADDRESS:  
153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:

34906  
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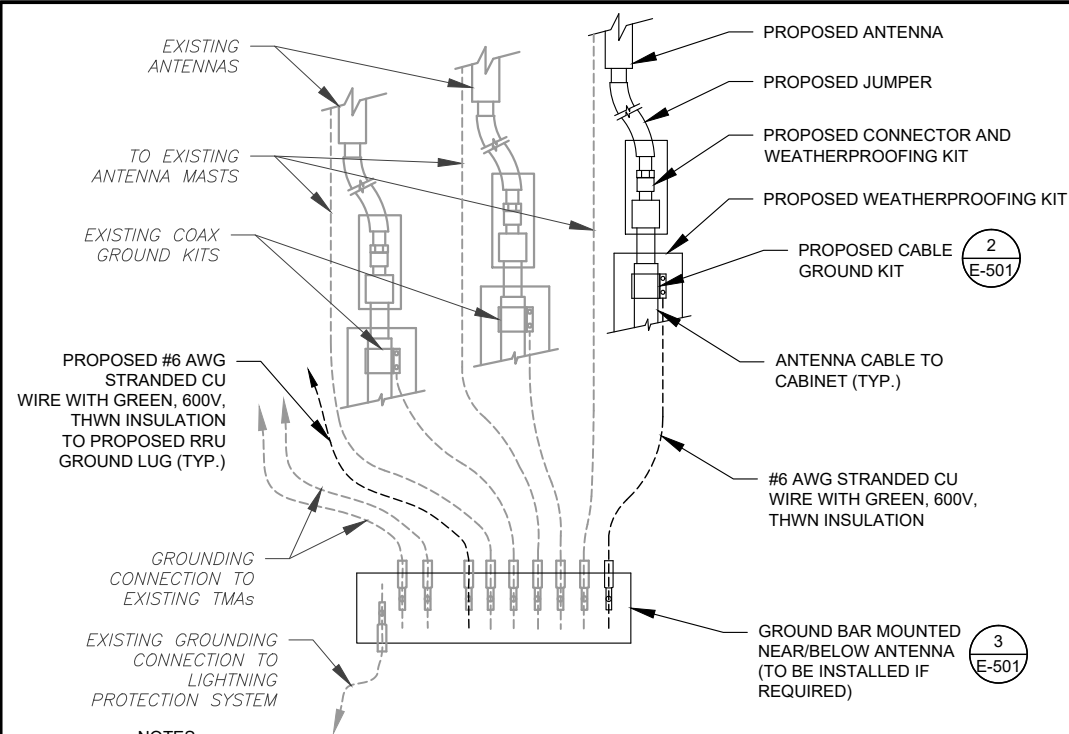
DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**CONSTRUCTION  
DETAILS**

SHEET NUMBER:	REVISION:
<b>C-501</b>	<b>0</b>

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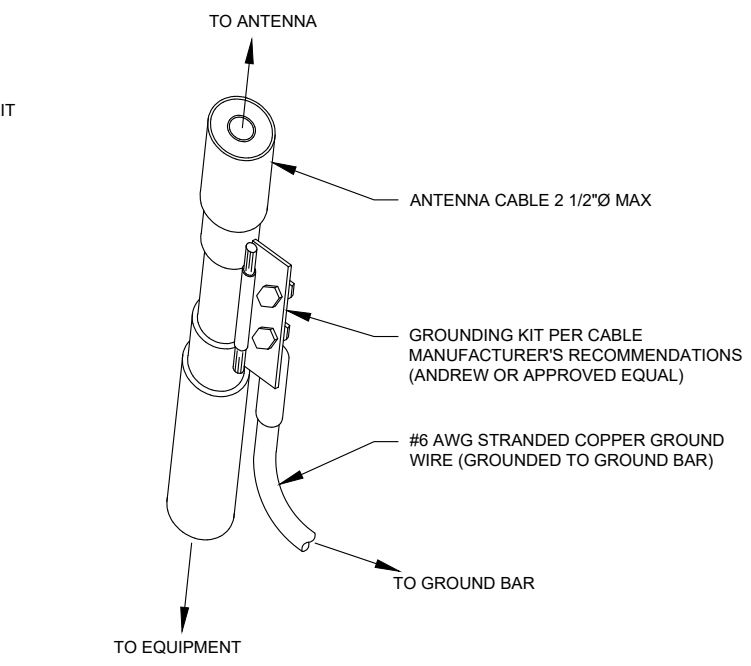




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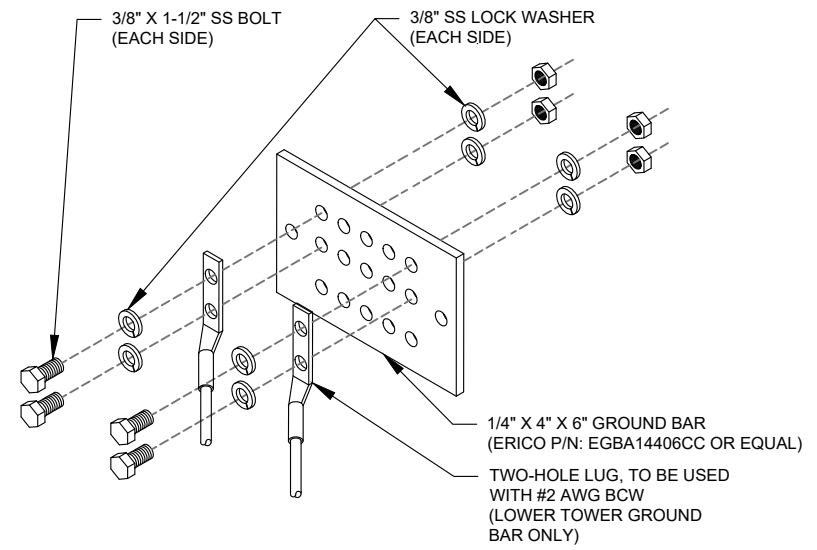
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING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

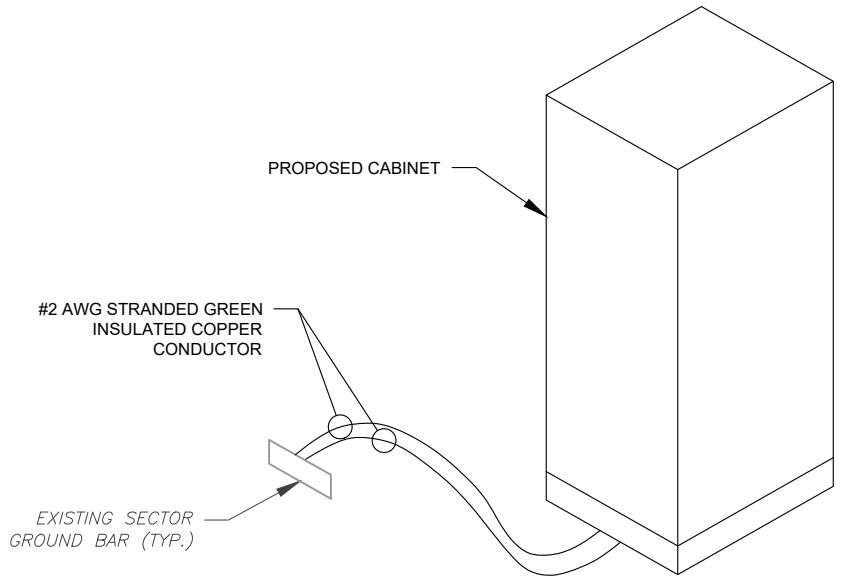
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

**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.



**Kimley»Horn**

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421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

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A	PRELIM	ARC	06/16/21
0	ISSUED FOR CONSTRUCTION	JW	06/28/21

ATC SITE NUMBER:

**10027**

ATC SITE NAME:

**SALEM CT**

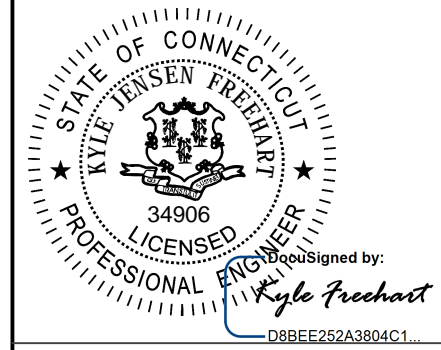
T-MOBILE SITE NAME:

**CTNH143C**

SITE ADDRESS:

153 EAST HADDAM ROAD  
SALEM, CT, 06420

SEAL:



DATE DRAWN:	06/28/21
ATC JOB NO:	13677851
CUSTOMER ID:	CTNH143C
CUSTOMER #:	CTNH143C

**GROUNDING DETAILS**

SHEET NUMBER:	REVISION:
<b>E-501</b>	<b>0</b>

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Section 5 - RAN Equipment

**Existing RAN Equipment**

Template: 707C Tower

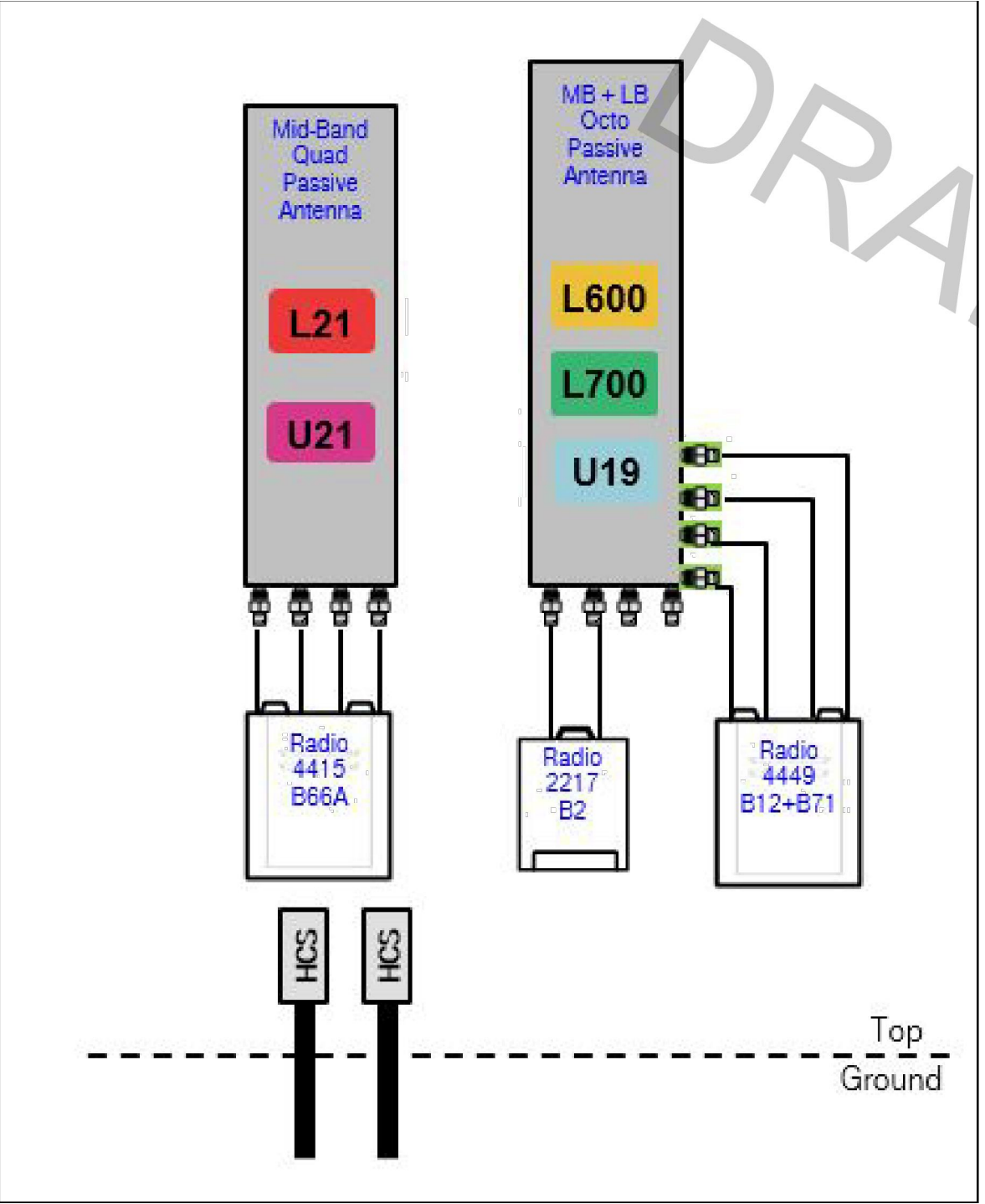
Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Purcell SFX17 2824
Baseband	DUW30 U1900	BB 6630 L2100 L700
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	

**Proposed RAN Equipment**

Template: 67D07C 6102 MUAC

Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Purcell SFX17 2824
Baseband	DUW30 U1900	BB 6630 L2100 BB 6648 L700 L600 N600
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	
Functionality Groups	Ericsson Hybrid Trunk 6/24 4AWG *Select Length* (x 3)	

1 CABINET CONFIGURATION  
SCALE: NOT TO SCALE

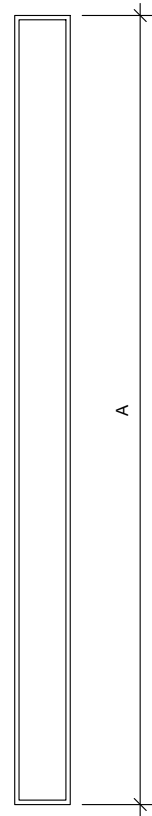


2 ANTENNA CONFIGURATION  
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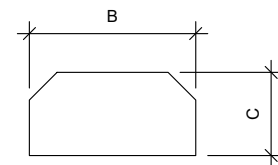
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: <b>R-601</b>	REVISION: <b>0</b>
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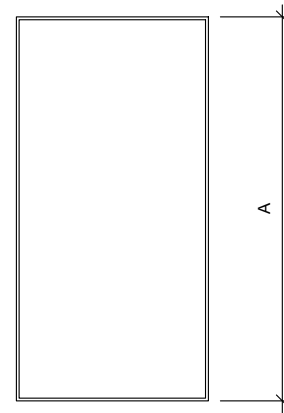
FRONT VIEW



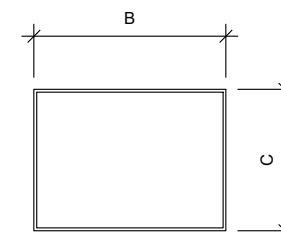
TOP VIEW

**1 ANTENNA SPECIFICATIONS**  
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
APXVAALL24 43-U-NA20	95.9"	24.0"	8.5"	122.8



FRONT VIEW



TOP VIEW

**2 RRU SPECIFICATIONS**  
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RADIO 4449 43-U-NA20	15.0"	13.2"	10.5"	75

SUPPLEMENTAL

SHEET NUMBER: **R-602** REVISION: **0**



**AMERICAN TOWER®**  
CORPORATION

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## Mount Analysis Report

**ATC Site Name** : SALEM CT, CT  
**ATC Site Number** : 10027  
**Engineering Number** : 13677851\_C8\_02  
**Mount Elevation** : 173.5 ft  
**Carrier** : T-Mobile  
**Carrier Site Name** : CTNH143C  
**Carrier Site Number** : CTNH143C  
**Site Location** : 153 East Haddam Road  
Salem, CT 06420-3903  
41.46846667 , -72.27329444  
**County** : New London  
**Date** : May 24, 2021  
**Max Usage** : 86%  
**Result** : Pass

Prepared By:  
Kyle Sammarco  
Structural Engineer

Reviewed By:



Authorized by "EOR"  
24 May 2021 09:49:33

**COA: PEC.0001553**



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Structure Usages ..... 2

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Equipment Layout ..... 4

Standard Conditions ..... 5

Calculations ..... Attached



## Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 173.5 ft.

## Supporting Documents

<b>Specifications Sheet</b>	Valmont SDF12-U, dated September 17, 2010
<b>Radio Frequency Data Sheet</b>	RFDS ID #CTNH143C, dated April 23, 2021
<b>Reference Photos</b>	Site photos from 2020

## Analysis

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

<b>Basic Wind Speed:</b>	124 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Codes:</b>	ANSI/TIA-222-H
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 2
<b>Feature:</b>	Flat
<b>Crest Height (H):</b>	0 ft
<b>Crest Length (L):</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.205$ , $S_1 = 0.055$
<b>Site Class:</b>	D - Stiff Soil
<b>Live Loads:</b>	$L_m = 500$ lbs, $L_v = 250$ lbs

## Conclusion

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

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



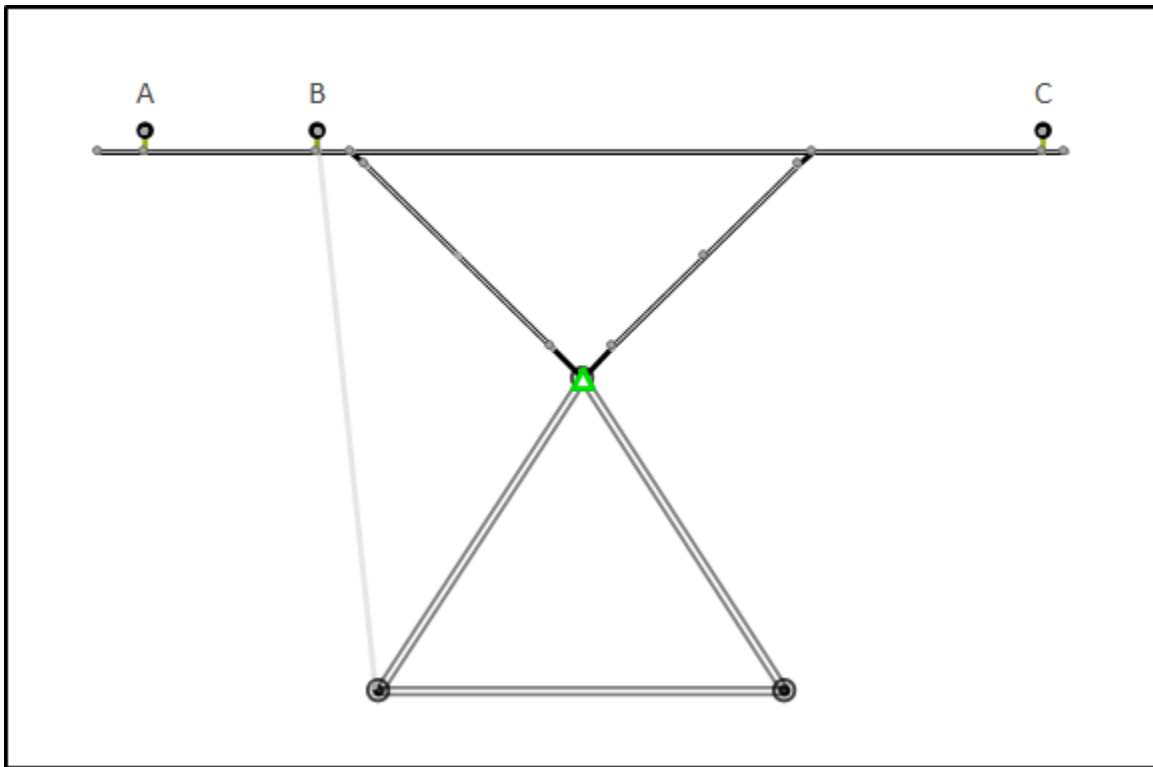
**Application Loading**

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
173.5	175.0	3	RFS APX16DWV-16DWVS-E-A20
		3	RFS APXVAALL24 43-U-NA20
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson RRUS 11 B2
		3	Ericsson RRUS 11 B4

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Horizontals	86%	Pass
Verticals	29%	Pass
Diagonals	61%	Pass
Tie-Backs	9%	Pass
Mount Pipes	80%	Pass

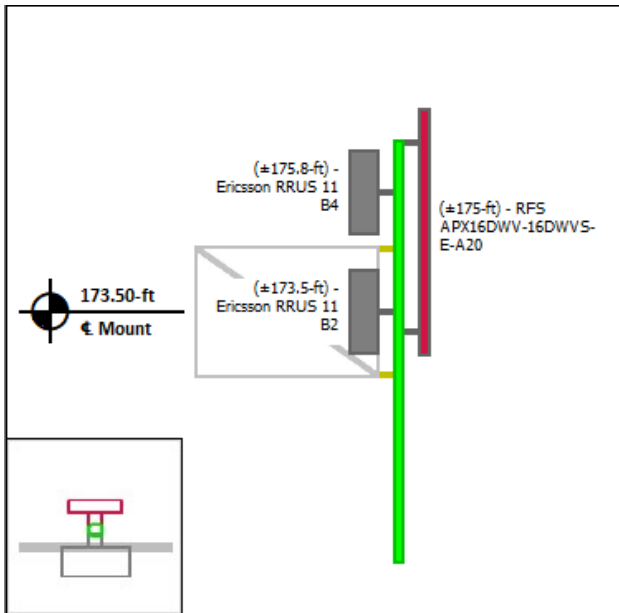
**Mount Layout**



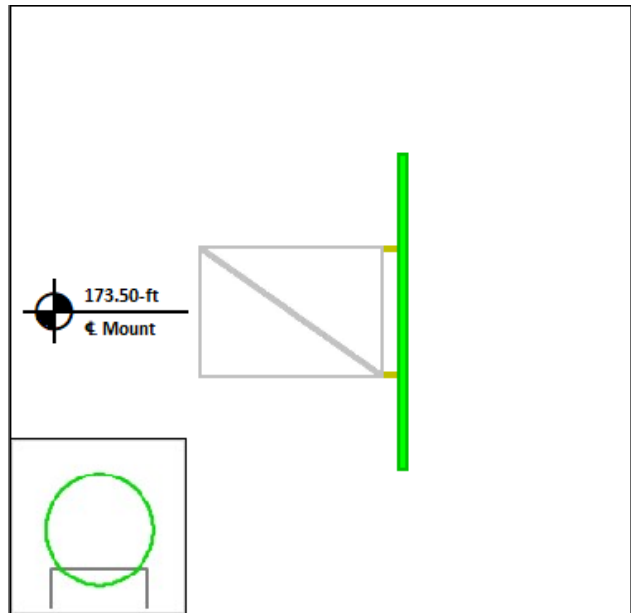


**Equipment Layout**

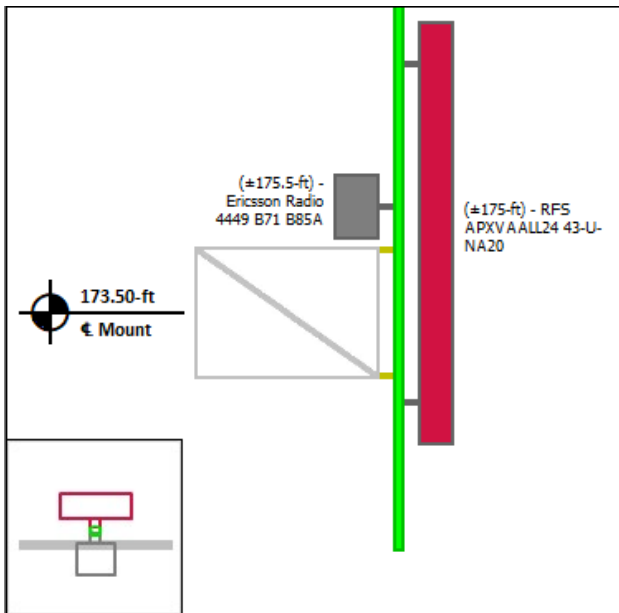
**Mount Pipe A**



**Mount Pipe B**



**Mount Pipe C**





### **Standard Conditions**

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

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

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

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

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

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

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



Site Number: 10027  
 Project Number: 13677851\_C8\_02  
 Carrier: T-Mobile  
 Mount Elevation: 173.5 ft  
 Date: 5/24/2021

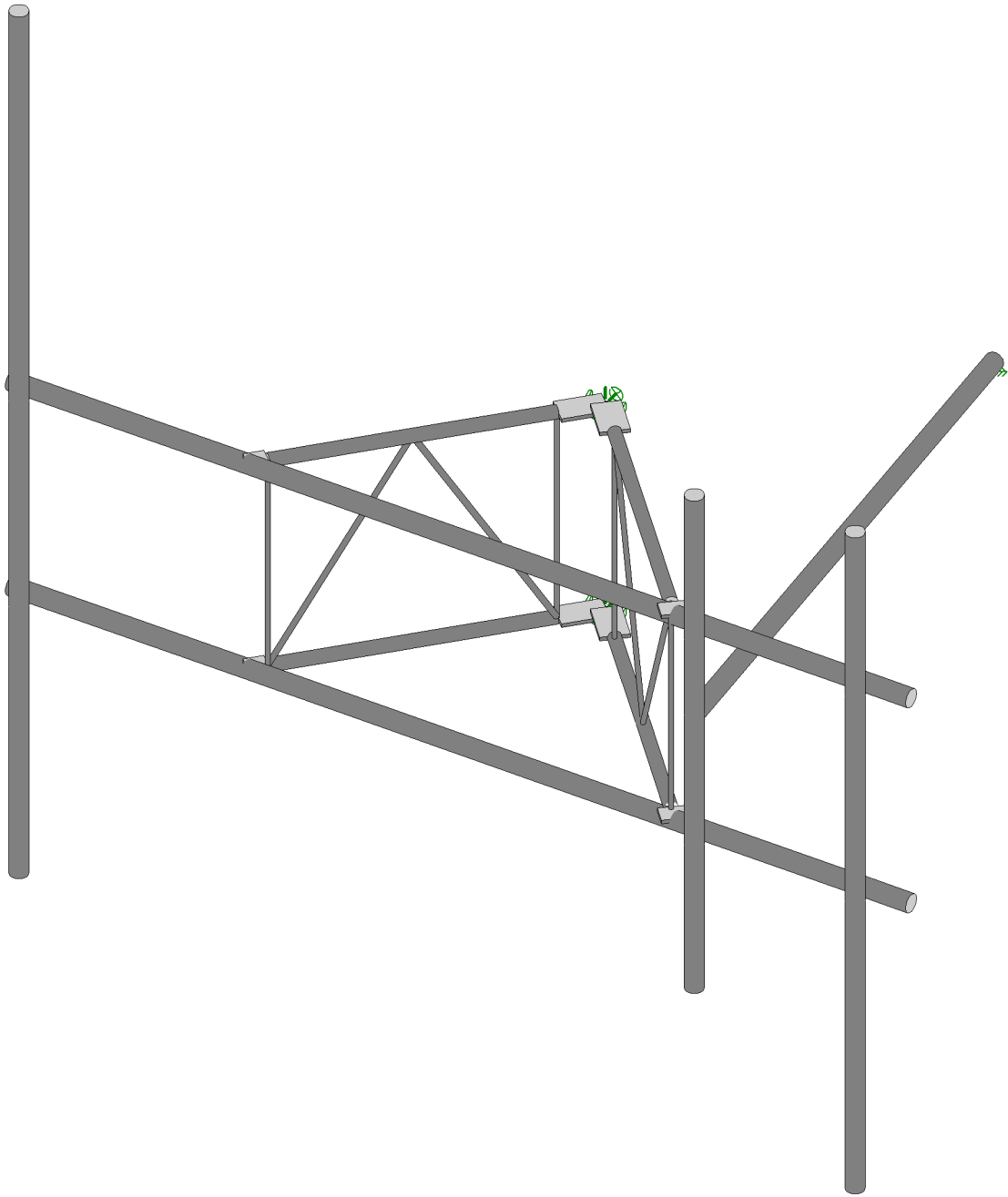
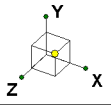
## Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	$K_z$	1.16	
Topographic Factor	$K_{zt}$	1.00	
Rooftop Wind Speed-up Factor	$K_s$	1.00	
Shielding Factor	$K_a$	0.90	
Ground Elevation Factor	$K_e$	0.99	
Wind Direction Probability Factor	$K_d$	0.95	
Basic Wind Speed	$V$	124	mph
Velocity Pressure	$q_z$	42.7	psf
Height Escalation Factor	$K_{iz}$	1.18	
Thickness of Radial Glaze Ice	$T_{iz}$	1.18	in

Seismic Load Calculations			
Short Period DSRAP	$S_{Ds}$	0.219	
1 Second DSRAP	$S_{D1}$	0.088	
Importance Factor	$I$	1.0	
Response Modification Coefficient	$R$	2.0	
Seismic Response Coefficient	$C_s$	0.109	
Amplification Factor	$A$	1.0	
Total Weight	$W$	747.8	lbs
Total Shear Force	$V_s$	81.8	lbs
Horizontal Seismic Load	$E_h$	81.8	lbs
Vertical Seismic Load	$E_v$	32.7	lbs

Antenna Calculations (Elevations per Application/RFDS)*									
Equipment	Height	Width	Depth	Weight	$EPA_N$	$EPA_T$	$EPA_{Ni}$	$EPA_{Ti}$	
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft	
RFS APX16DWV-16DWVS-E-A20	55.9	13.3	3.1	40.7	6.59	1.26	8.08	2.31	
RFS APXVAALL24 43-U-NA20	95.9	24.0	8.5	122.8	20.24	3.40	22.78	4.45	
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.25	1.86	
Ericsson RRUS 11 B2	19.7	17.0	7.2	50.7	2.79	1.19	3.56	1.77	
Ericsson RRUS 11 B4	19.7	17.0	7.2	50.7	2.79	1.19	3.56	1.77	

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



American Tower Corp.

Kyle.Sammarco

13677851\_C8\_02

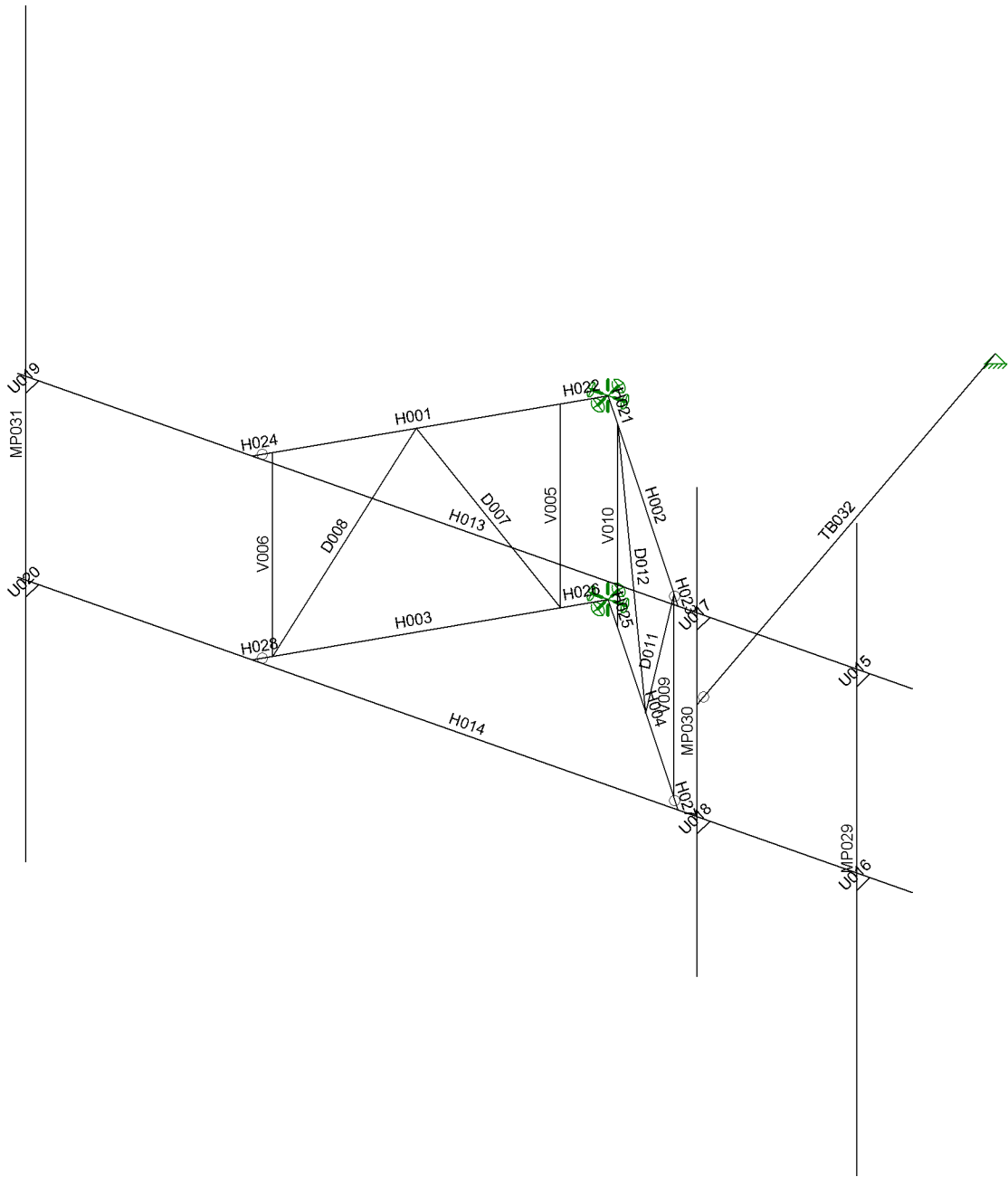
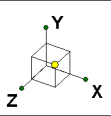
10027, SALEM CT

3D Rendering

SK - 1

May 24, 2021 at 10:00 AM

R3D. T-MOBILE @ 10027, SALEM ...



American Tower Corp.

Kyle.Sammarco

13677851\_C8\_02

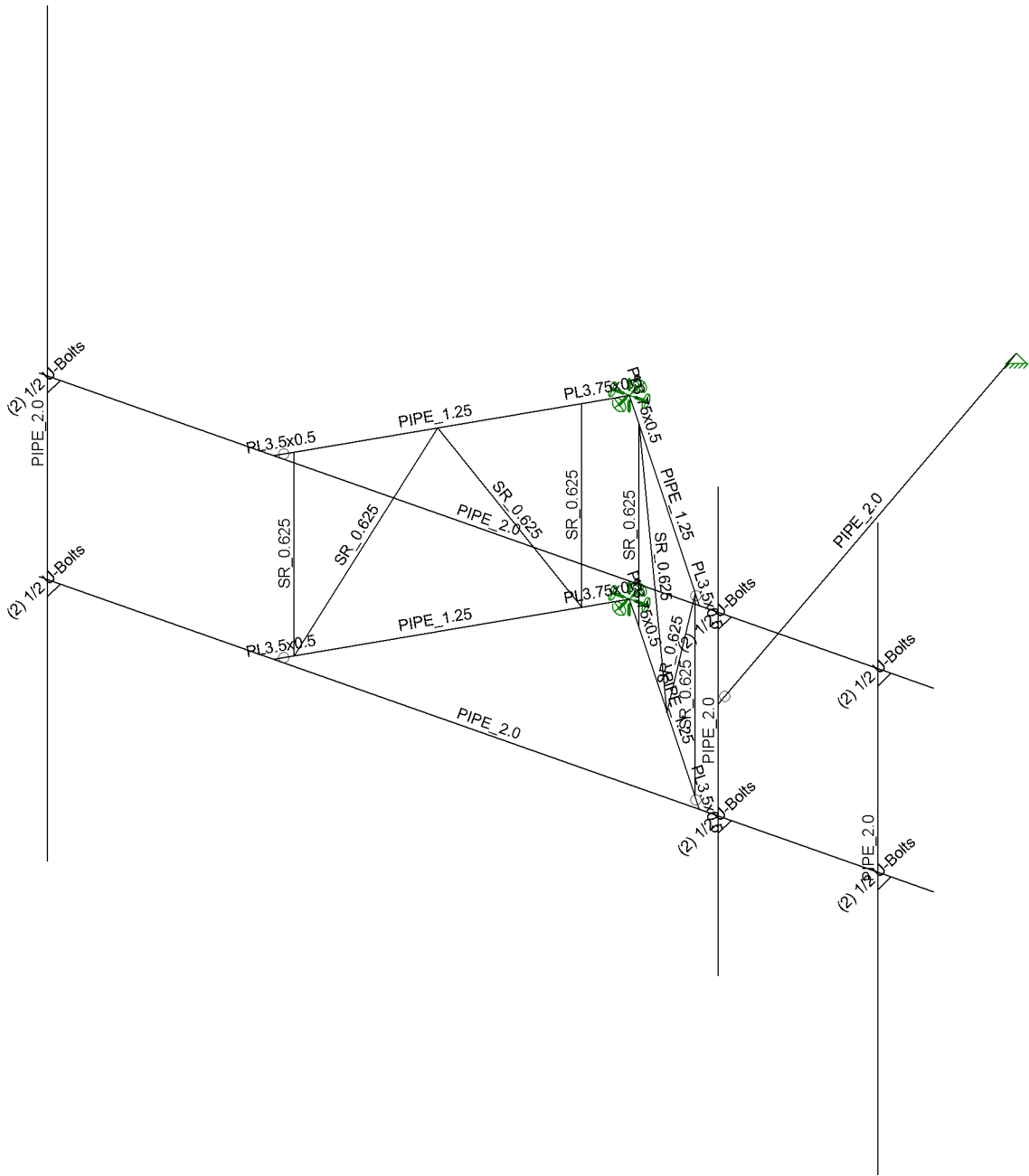
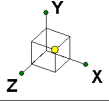
10027, SALEM CT

Member Labels

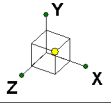
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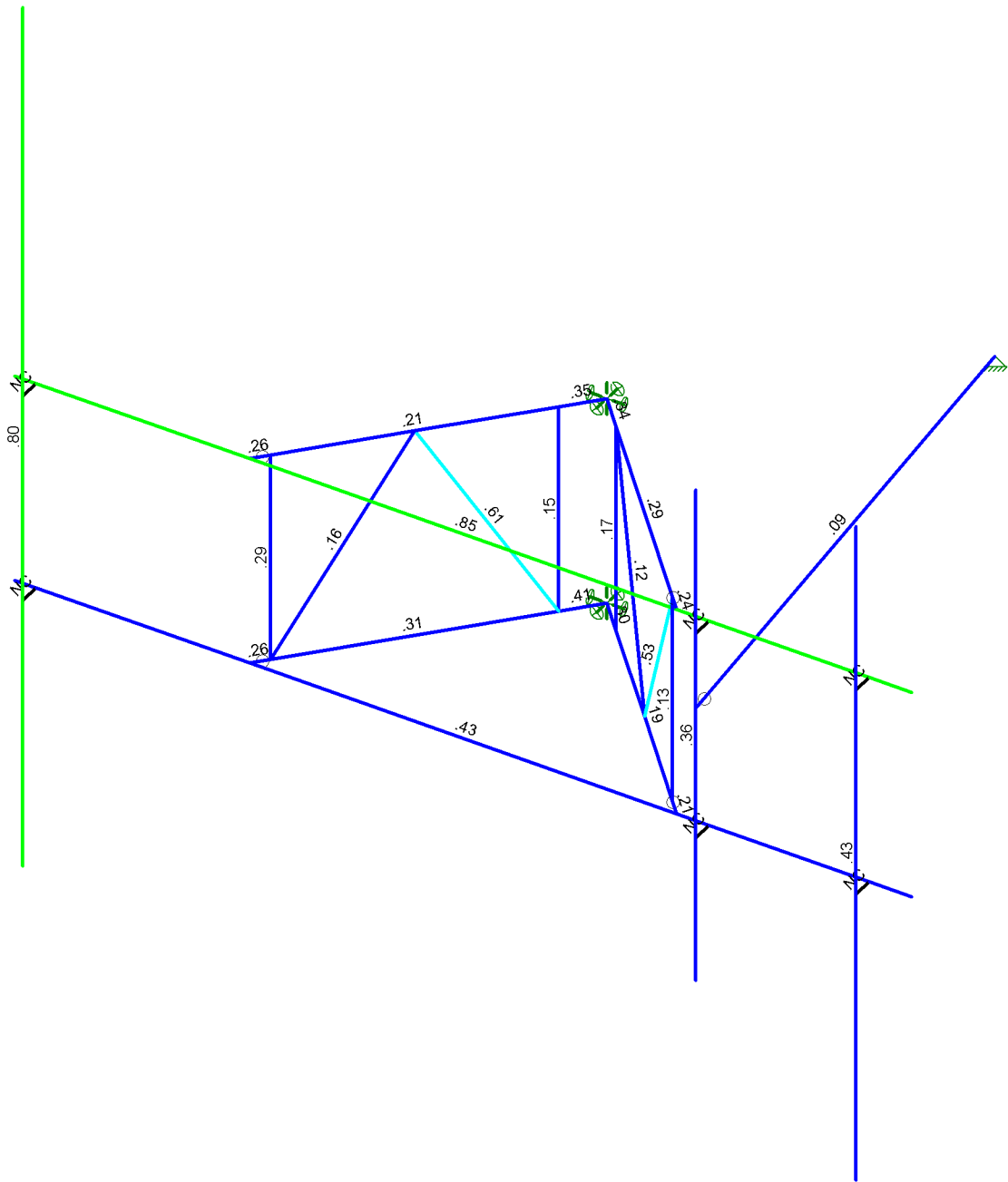


American Tower Corp.	10027, SALEM CT Member Shapes	SK - 3
Kyle.Sammarco		May 24, 2021 at 10:00 AM
13677851_C8_02		R3D. T-MOBILE @ 10027, SALEM ...



Code Check  
( Env )

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



Member Code Checks Displayed (Enveloped)  
Results for LC 1, 1.4D

American Tower Corp.

Kyle.Sammarco

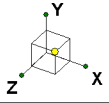
13677851\_C8\_02

10027, SALEM CT  
Unity Bending Checks

SK - 4

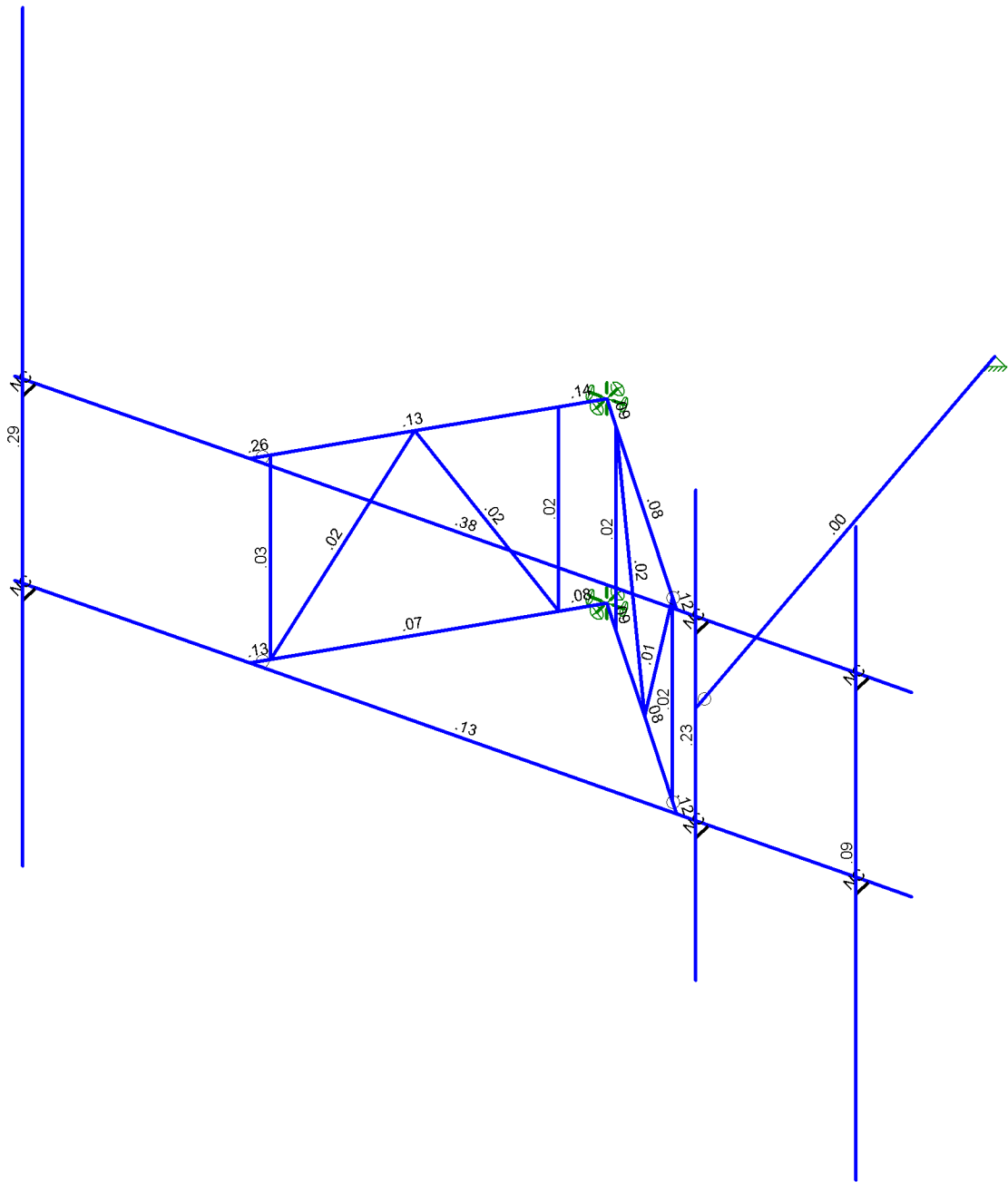
May 24, 2021 at 10:01 AM

R3D. T-MOBILE @ 10027, SALEM ...



Shear Check  
( Env )

- No Calc
- > 1.0
- .90-1.0
- .75-.90
- .50-.75
- 0-.50



Member Shear Checks Displayed (Enveloped)  
Results for LC 1, 1.4D

American Tower Corp.

Kyle.Sammarco

13677851\_C8\_02

10027, SALEM CT

Shear Checks

SK - 5

May 24, 2021 at 10:01 AM

R3D. T-MOBILE @ 10027, SALEM ...









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G	OH	GA EI	FEF A EI	EH	EE	IJE	H EEE	FE	IEEE	FE
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J	x e e J	U U ' e e g	E H F	H E	H	E E H	E	I E	H I I E G	H J J I e e J I	F e H I I	F e H I I	G G I	P F E E	
F e	x e e e	U U ' e e g	E I I	H E	I H	E E G	H E	I E	H I I E G	H J J I e e J I	F e H I I	F e H I I	G G G H	P F E E	
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**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 190 ft Self Supported Tower  
**ATC Site Name** : SALEM CT, CT  
**ATC Asset Number** : 10027  
**Engineering Number** : 13677851\_C3\_03  
**Proposed Carrier** : T-MOBILE  
**Carrier Site Name** : CTNH143C  
**Carrier Site Number** : CTNH143C  
**Site Location** : 153 East Haddam Road  
Salem, CT 06420-3903  
41.468500,-72.273300  
**County** : New London  
**Date** : May 27, 2021  
**Max Usage** : 65%  
**Result** : Pass

Prepared By:  
Zachary S. Blackford  
Structural Engineer

Reviewed By:



Authorized by "EOR"  
27 May 2021 08:57:00

**COA: PEC.0001553**



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Proposed Equipment .....	2
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Foundations .....	3
Deflection and Sway .....	3
Standard Conditions .....	4
Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190 ft self supported tower to reflect the change in loading by T-MOBILE.

## Supporting Documents

<b>Tower Drawings</b>	PiRod 204997-B, dated September 21, 1999
<b>Foundation Drawing</b>	PiRod 204997-B, dated September 21, 1999
<b>Geotechnical Report</b>	Tectonic Engineering Consultants P.C 2174.Salem, dated August 27, 1999
<b>Mount Analysis</b>	ATC Engineering # 13677851_C8_02, dated May 24, 2021

## Analysis

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

<b>Basic Wind Speed:</b>	124 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 1
<b>Topographic Category:</b>	1
<b>Spectral Response:</b>	$S_s = 0.20, S_1 = 0.05$
<b>Site Class:</b>	D - Stiff Soil

## 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](mailto: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. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
187.0	6	LGP Allgon LGP21903	Sector Frame	(1) 0.33" (8.7mm) Fiber (1) 0.39" (10mm) Fiber Trunk (2) 0.65" (16.4mm) 8 AWG 2C (3) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax	AT&T MOBILITY
	6	Powerwave Allgon LGP21401			
	6	CCI DMP65R-BU8D			
	3	Allgon 7770.00			
	1	Raycap DC9-48-60-24-8C-EV			
	1	Raycap DC6-48-60-18-8C			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14 (15")			
	3	Ericsson RRUS 8843 B2, B66A			
175.0	3	Ericsson RRUS 11 B2	Sector Frame	(1) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	Ericsson RRUS 11 B4			
150.0	3	RFS APXVTM14-ALU-I20	Leg	(4) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	SPRINT NEXTEL
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
	6	Alcatel-Lucent RRH2x50-08			
	3	Commscope NNVV-65B-R4			
75.0	1	Generic GPS	Leg	(1) 1/2" Coax	

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
175.0	3	Ericsson Radio 4449 B12,B71	-	(1) 1 1/4" Hybriflex Cable (2) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	RFS APXVAARR24_43-U-NA20			
	3	RFS APX16DWV-16DWVS-E-A20 (60" Height)			

**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
175.0	3	Ericsson Radio 4449 B71 B85A	Sector Frame	(3) 1 5/8" Hybriflex	T-MOBILE
	3	RFS APX16DWV-16DWVS-E-A20			
	3	RFS APXVAALL24 43-U-NA20			

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

Install proposed lines alongside existing T-MOBILE lines.



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	62%	Pass
Diagonals	65%	Pass
Horizontals	40%	Pass
Anchor Bolts	45%	Pass
Leg Bolts	45%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	344.3	464.8	226.5	49%
Axial (Kips)	385.3	520.2	264.2	51%
Shear (Kips)	59.7	80.6	39.0	48%

\* 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, Twist and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
175.0	Ericsson Radio 4449 B71 B85A	T-MOBILE	0.339	0.047	0.317
	RFS APX16DWV-16DWVS-E-A20				
	RFS APXVAALL24 43-U-NA20				

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





## Standard Conditions

All engineering services performed by A.T. Engineering 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.

Quadrant 1

190.00

Sect 10

170.00

Sect 9

150.00

Sect 8

140.00

Sect 7

120.00

Sect 6

100.00

Sect 5

80.00

Sect 4

60.00

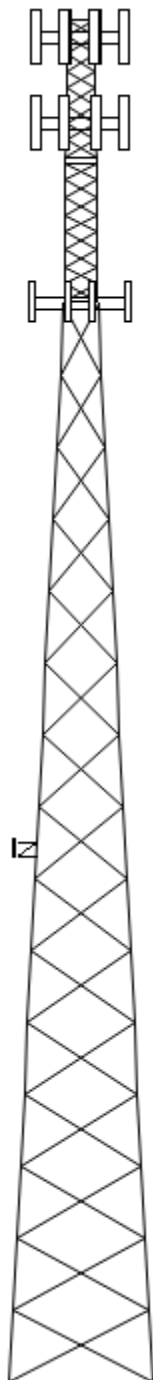
Sect 3

40.00

Sect 2

20.00

Sect 1



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Loads: 124 mph no ice  
50 mph w/ 1" radial ice  
Site Class: D Ss: 0.20 S1: 0.05  
60 mph Serviceability

### Job Information

<b>Client : T-MOBILE</b>		
<b>Tower : 10027</b>	<b>Location : SALEM CT, CT</b>	<b>Base Width : 20.00 ft</b>
<b>Code : ANSI/TIA-222-H</b>	<b>Topo Method: Method 1</b>	<b>Top Width : 4.00 ft</b>
<b>Risk Cat : II</b>	<b>Topo: 1</b>	<b>Tower Ht : 190.00 ft</b>
	<b>Exposure : B</b>	<b>Shape : Triangle</b>

### Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	12B 50 ksi 12"BD 2.25"	SAE 36 ksi 3.5X3.5X0.3125	
3 - 4	12B 50 ksi 12"BD 2"	SAE 36 ksi 3X3X0.3125	
5	12B 50 ksi 12"BD 1.75"	SAE 36 ksi 3X3X0.1875	
6 - 7	12B 50 ksi 12"BD 1.5"	SAE 36 ksi 3X3X0.1875	
8	12B 50 ksi 12"BD 1.25"	SAE 36 ksi 2.5X2.5X0.1875	
9	SOL 50 ksi 2" SOLID	SOL 50 ksi 1" SOLID	SOL 50 ksi 1" SOLID
10	SOL 50 ksi 1 1/2" SOLID	SOL 50 ksi 3/4" SOLID	SOL 50 ksi 3/4" SOLID

### Redundant Secondary Bracing

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 10	-	-	-	-	-	-

### Discrete Appurtenance

Elev (ft)	Type	Qty	Description
187.00	Mounting Frame	3	Flat Light Sector Frame
187.00	Panel	6	CCI DMP65R-BU8D
187.00	Panel	3	Allgon 7770.00
187.00		1	Raycap DC6-48-60-18-8C
187.00		3	Ericsson RRUS 4449 B5, B12
187.00		3	Ericsson RRUS 4478 B14 (15")
187.00		1	Raycap DC9-48-60-24-8C-EV
187.00		3	Ericsson RRUS 8843 B2, B66A
187.00		6	Powerwave Allgon LGP21401
187.00		6	LGP Allgon LGP21903
175.00	Mounting Frame	3	Generic Round Sector Frame
175.00	Panel	3	RFS APXVAALL24 43-U-NA20
175.00	Panel	3	RFS APX16DWV-16DWVS-E-A20
175.00		3	Ericsson RRUS 11 B2
175.00		3	Ericsson RRUS 11 B4
175.00		3	Ericsson Radio 4449 B71 B85A
150.00	Mounting Frame	3	Site Pro 1 STK-U Stabilizer
150.00	Panel	3	Commscope NNVV-65B-R4
150.00	Mounting Frame	3	Round Sector Frame
150.00	Panel	3	RFS APXVTM14-ALU-I20
150.00		3	Alcatel-Lucent TD-RRH8x20-25 w
150.00		3	Alcatel-Lucent 1900 MHz 4X45 R
150.00		6	Alcatel-Lucent RRH2x50-08
75.00	Straight Arm	1	Stand-Off
75.00	Whip	1	Generic GPS

### Linear Appurtenance

Elev (ft)		Qty	Description
From	To		
0.00	187.00	1	Waveguide
0.00	187.00	12	1 5/8" Coax
0.00	187.00	3	0.78" (19.7mm) 8 AWG
0.00	187.00	2	0.65" (16.4mm) 8 AWG
0.00	187.00	1	0.39" (10mm) Fiber T
0.00	187.00	1	0.33" (8.7mm) Fiber
0.00	175.00	1	Waveguide
0.00	175.00	3	1 5/8" Hybriflex
0.00	175.00	1	1 5/8" (1.63"-41.3mm

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Job Information		
Client : T-MOBILE		
Tower : 10027	Location : SALEM CT, CT	Base Width : 20.00 ft
Code : ANSI/TIA-222-H	Topo Method: Method 1	Top Width : 4.00 ft
Risk Cat : II	Topo: 1	Tower Ht : 190.00 ft
	Exposure : B	Shape : Triangle

0.00	150.00	1	Waveguide
0.00	150.00	6	1 5/8" Coax
0.00	150.00	4	1 1/4" Hybriflex Cab
0.00	75.00	1	1/2" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	4,276.16	51.89	39.02
DL + WL + IL	1,207.74	93.44	11.20

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
264.18	226.48	25.69

Site Number: 10027  
Site Name: SALEM CT, CT  
Customer: T-MOBILE

Code: ANSI/TIA-222-H  
Engineering Number: 13677851\_C3\_03

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### Analysis Parameters

Location:	New London County, CT	Height (ft):	190
Code:	ANSI/TIA-222-H	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	20.00
Tower Manufacturer:	Pirod	Top Face Width (ft):	4.00
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:	0.85		
Ke:	0.99		

### Ice & Wind Parameters

Exposure Category:	B	Design Windspeed Without Ice:	124 mph
Risk Category:	II	Design Windspeed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	351.00 ft

### Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	1.04				
T <sub>L</sub> (sec):	6	p:	1.3	C <sub>s</sub> :	0.030
S <sub>s</sub> :	0.205	S <sub>1</sub> :	0.055	C <sub>s</sub> , Max:	0.030
F <sub>a</sub> :	1.600	F <sub>v</sub> :	2.400	C <sub>s</sub> , Min:	0.030
S <sub>ds</sub> :	0.219	S <sub>d1</sub> :	0.088		

### Load Cases

1.2D + 1.0W Normal	124 mph Normal with No Ice
1.2D + 1.0W 60 deg	124 mph 60 degree with No Ice
1.2D + 1.0W 90 deg	124 mph 90 degree with No Ice
0.9D + 1.0W Normal	124 mph Normal with No Ice (Reduced DL)
0.9D + 1.0W 60 deg	124 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.0W 90 deg	124 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 1.00 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 1.00 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic Normal
1.2D + 1.0Ev + 1.0Eh 60 deg	Seismic 60 deg
1.2D + 1.0Ev + 1.0Eh 90 deg	Seismic 90 deg
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL) Normal
0.9D - 1.0Ev + 1.0Eh 60 deg	Seismic (Reduced DL) 60 deg
0.9D - 1.0Ev + 1.0Eh 90 deg	Seismic (Reduced DL) 90 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

Code: ANSI/TIA-222-H  
 Engineering Number: 13677851\_C3\_03

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### Tower Loading

#### Discrete Appurtenance Properties 1.2D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	572.0	39.16	286	126
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.0	39.04	1793	689
187.0	Ericsson RRUS 4449	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.0	39.04	78	256
187.0	Ericsson RRUS 4478	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	39.04	66	214
187.0	Ericsson RRUS 8843	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.0	39.04	65	259
187.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	39.04	1002	1440
187.0	LGP Allgon	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	36.9	39.16	18	40
187.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	176.4	39.16	88	102
187.0	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	39.04	54	19
187.0	Raycap DC9-48-60-	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.0	39.04	127	19
175.0	Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	38.31	64	270
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.3	38.56	147	183
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.3	38.56	147	183
175.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	38.31	791	1080
175.0	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.0	38.31	309	147
175.0	RFS APXVAALL24	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.0	38.31	997	442
150.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	36.66	116	216
150.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	36.66	127	381
150.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	36.66	185	252
150.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.0	36.66	587	279
150.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	36.66	313	202
150.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	36.66	757	1080
150.0	Site Pro 1 STK-U	3	64	2.5	12.5	2.4	2.4	0.75	0.75	0.0	0.0	36.66	130	230
75.00	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	30.07	23	12
75.00	Stand-Off	1	100	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.07	77	120
<b>Totals</b>		<b>79</b>	<b>6865</b>	<b>493.1</b>									<b>8349</b>	<b>8238</b>

#### Discrete Appurtenance Properties 0.9D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	572.0	39.16	286	95
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.0	39.04	1793	517
187.0	Ericsson RRUS 4449	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.0	39.04	78	192
187.0	Ericsson RRUS 4478	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	39.04	66	160
187.0	Ericsson RRUS 8843	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.0	39.04	65	194
187.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	39.04	1002	1080
187.0	LGP Allgon	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	36.9	39.16	18	30
187.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	176.4	39.16	88	76
187.0	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	39.04	54	14
187.0	Raycap DC9-48-60-	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.0	39.04	127	14
175.0	Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	38.31	64	203
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.3	38.56	147	137
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	588.3	38.56	147	137
175.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	38.31	791	810
175.0	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.0	38.31	309	110
175.0	RFS APXVAALL24	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.0	38.31	997	332
150.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	36.66	116	162
150.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	36.66	127	286
150.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	36.66	185	189
150.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.0	36.66	587	209
150.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	36.66	313	152

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

Code: ANSI/TIA-222-H  
 Engineering Number: 13677851\_C3\_03

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### Tower Loading

150.0 Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	36.66	757	810
150.0 Site Pro 1 STK-U	3	64	2.5	12.5	2.4	2.4	0.75	0.75	0.0	0.0	36.66	130	172
75.00 Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	30.07	23	9
75.00 Stand-Off	1	100	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.07	77	90
<b>Totals</b>	<b>79</b>	<b>6865</b>	<b>493.1</b>									<b>8349</b>	<b>6179</b>

### Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
187.0	Allgon 7770.00	3	120	6.2	4.6	11.0	5.0	0.80	0.65	2.0	104.8	6.37	52	381
187.0	CCI DMP65R-BU8D	6	327	20.4	8.0	20.7	7.7	0.80	0.63	0.0	0.0	6.35	332	2076
187.0	Ericsson RRUS 4449	3	115	2.6	1.5	13.2	9.4	0.80	0.50	0.0	0.0	6.35	17	387
187.0	Ericsson RRUS 4478	3	93	2.2	1.3	13.2	7.3	0.80	0.50	0.0	0.0	6.35	14	315
187.0	Ericsson RRUS 8843	3	114	2.2	1.2	13.2	10.9	0.80	0.50	0.0	0.0	6.35	14	384
187.0	Flat Light Sector	3	605	28.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.35	256	2054
187.0	LGP Allgon	6	11	0.5	0.4	6.3	3.0	0.80	0.50	2.0	12.0	6.37	6	74
187.0	Powerwave Allgon	6	31	1.6	1.2	9.2	2.6	0.80	0.50	2.0	41.3	6.37	21	203
187.0	Raycap DC6-48-60-	1	56	2.5	1.7	18.2	6.4	0.80	1.00	0.0	0.0	6.35	11	59
187.0	Raycap DC9-48-60-	1	104	5.8	2.6	18.3	10.2	0.80	1.00	0.0	0.0	6.35	25	107
175.0	Ericsson Radio 4449	3	116	2.2	1.3	13.2	10.5	0.80	0.50	0.0	0.0	6.23	14	393
175.0	Ericsson RRUS 11 B2	3	100	3.5	1.6	17.0	7.2	0.80	0.67	4.0	121.2	6.27	30	330
175.0	Ericsson RRUS 11 B4	3	100	3.5	1.6	17.0	7.2	0.80	0.67	4.0	121.2	6.27	30	330
175.0	Generic Round	3	550	25.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.23	229	1831
175.0	RFS APX16DWV-	3	120	8.1	4.7	13.3	3.1	0.80	0.60	0.0	0.0	6.23	61	385
175.0	RFS APXVAALL24	3	388	22.8	8.0	24.0	8.5	0.80	0.63	0.0	0.0	6.23	182	1237
150.0	Alcatel-Lucent 1900	3	114	3.0	2.1	11.1	10.7	0.80	0.67	0.0	0.0	5.96	25	377
150.0	Alcatel-Lucent	6	92	2.3	1.3	13.0	9.8	0.80	0.50	0.0	0.0	5.96	28	618
150.0	Alcatel-Lucent TD-	3	133	4.9	2.2	18.6	6.7	0.80	0.61	0.0	0.0	5.96	37	441
150.0	Commscope NNVV-	3	245	14.1	6.0	19.6	7.8	0.80	0.64	0.0	0.0	5.96	110	781
150.0	RFS APXVTM14-ALU-	3	148	7.8	4.7	12.6	6.3	0.80	0.66	0.0	0.0	5.96	63	477
150.0	Round Sector Frame	3	545	25.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	5.96	217	1815
150.0	Site Pro 1 STK-U	3	79	3.0	12.5	2.4	2.4	0.75	0.75	0.0	0.0	5.96	26	274
75.00	Generic GPS	1	28	1.3	1.0	9.0	6.0	1.00	1.00	0.0	0.0	4.89	5	30
75.00	Stand-Off	1	130	4.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.89	16	150
<b>Totals</b>		<b>79</b>	<b>14137</b>	<b>658.5</b>									<b>1824</b>	<b>15510</b>

### Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
187.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	133.9	9.17	67	105
187.0	CCI DMP65R-BU8D	6	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.0	9.14	420	574
187.0	Ericsson RRUS 4449	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.0	9.14	18	213
187.0	Ericsson RRUS 4478	3	59	1.6	1.3	13.2	7.3	0.80	0.50	0.0	0.0	9.14	15	178
187.0	Ericsson RRUS 8843	3	72	1.6	1.2	13.2	10.9	0.80	0.50	0.0	0.0	9.14	15	216
187.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	9.14	235	1200
187.0	LGP Allgon	6	6	0.2	0.4	6.3	3.0	0.80	0.50	2.0	8.6	9.17	4	33
187.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	41.3	9.17	21	85
187.0	Raycap DC6-48-60-	1	16	2.0	1.7	18.2	6.4	0.80	1.00	0.0	0.0	9.14	13	16
187.0	Raycap DC9-48-60-	1	16	4.8	2.6	18.3	10.2	0.80	1.00	0.0	0.0	9.14	30	16
175.0	Ericsson Radio 4449	3	75	1.6	1.3	13.2	10.5	0.80	0.50	0.0	0.0	8.97	15	225
175.0	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	137.7	9.03	34	152
175.0	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.67	4.0	137.7	9.03	34	152

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

Code: ANSI/TIA-222-H  
 Engineering Number: 13677851\_C3\_03

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**Tower Loading**

175.0	Generic Round	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.97	185	900
175.0	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.60	0.0	0.0	8.97	72	122
175.0	RFS APXVAALL24	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.0	8.97	233	368
150.0	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	0.80	0.67	0.0	0.0	8.58	27	180
150.0	Alcatel-Lucent	6	53	1.7	1.3	13.0	9.8	0.80	0.50	0.0	0.0	8.58	30	317
150.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	0.80	0.61	0.0	0.0	8.58	43	210
150.0	Commscope NNVV-	3	77	12.3	6.0	19.6	7.8	0.80	0.64	0.0	0.0	8.58	138	232
150.0	RFS APXVTM14-ALU-	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	8.58	73	169
150.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.58	177	900
150.0	Site Pro 1 STK-U	3	64	2.5	12.5	2.4	2.4	0.75	0.75	0.0	0.0	8.58	30	191
75.00	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	7.04	5	10
75.00	Stand-Off	1	100	3.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.04	18	100
	<b>Totals</b>	<b>79</b>	<b>6865</b>	<b>493.1</b>									<b>1955</b>	<b>6865</b>

Site Number: 10027

Code:

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Site Name: SALEM CT, CT

Engineering Number: 13677851\_C3\_03

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Customer: T-MOBILE

## Tower Loading

### Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	187.0	0.33" (8.7mm) Fiber	1	0.33	0.05	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	187.0	0.39" (10mm) Fiber	1	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	187.0	0.65" (16.4mm) 8	2	0.65	0.31	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	187.0	0.78" (19.7mm) 8	3	0.78	0.59	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	187.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	187.0	Waveguide	1	2.00	6.00	100	2	Individual	0.00	N	1.00	1.00	0.00
0.00	175.0	1 5/8" (1.63")-	1	1.63	1.61	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	175.0	1 5/8" Hybriflex	3	1.98	1.30	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	175.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	150.0	1 1/4" Hybriflex	4	1.54	1.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	150.0	1 5/8" Coax	6	1.98	0.82	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	150.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	75.00	1/2" Coax	1	0.63	0.15	100	1	Individual	0.00	N	1.00	1.00	0.00



Site Number: 10027  
 Site Name: SALEM CT, CT  
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 Engineering Number: 13677851\_C3\_03

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### Equivalent Lateral Force Method

Spectral Response Acceleration for Short Period ( $S_g$ ):	0.20
Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.05
Long-Period Transition Period ( $T_L$ - Seconds):	6
Importance Factor ( $I_p$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.22
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.09
Seismic Response Coefficient ( $C_s$ ):	0.03
Upper Limit $C_s$ :	0.03
Lower Limit $C_s$ :	0.03
Period based on Rayleigh Method (sec):	1.04
Redundancy Factor ( $\rho$ ):	1.30
Seismic Force Distribution Exponent (k):	1.27
Total Unfactored Dead Load:	43.25 k
Seismic Base Shear (E):	1.69 k

#### LoadCase 1.2D + 1.0Ev + 1.0Eh

#### Seismic

Section	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
10	180.00	1,121	823,219	0.060	100	1,394
9	160.00	1,998	1,263,37	0.091	154	2,485
8	145.00	1,349	752,819	0.054	92	1,678
7	130.00	3,182	1,545,58	0.112	188	3,958
6	110.00	3,238	1,271,73	0.092	155	4,027
5	90.00	3,679	1,119,84	0.081	137	4,576
4	70.00	4,863	1,075,58	0.078	131	6,049
3	50.00	4,983	718,641	0.052	88	6,197
2	30.00	5,908	445,211	0.032	54	7,348
1	10.00	6,059	113,033	0.008	14	7,536
Allgon 7770.00	187.00	105	80,949	0.006	10	131
CCI DMP65R-BU8D	187.00	574	442,675	0.032	54	714
Ericsson RRUS 4449 B5, B12	187.00	213	164,211	0.012	20	265
Ericsson RRUS 4478 B14 (15")	187.00	178	137,382	0.010	17	222
Ericsson RRUS 8843 B2, B66A	187.00	216	166,524	0.012	20	269
Flat Light Sector Frame	187.00	1,200	925,131	0.067	113	1,492
LGP Allgon LGP21903	187.00	33	25,441	0.002	3	41
Powerwave Allgon LGP21401	187.00	85	65,222	0.005	8	105
Raycap DC6-48-60-18-8C	187.00	16	12,335	0.001	2	20
Raycap DC9-48-60-24-8C-EV	187.00	16	12,335	0.001	2	20
Ericsson Radio 4449 B71 B85A	175.00	225	159,441	0.012	19	280
Ericsson RRUS 11 B2	175.00	152	107,782	0.008	13	189
Ericsson RRUS 11 B4	175.00	152	107,782	0.008	13	189
Generic Round Sector Frame	175.00	900	637,766	0.046	78	1,119
RFS APX16DWV-16DWVS-E-A20	175.00	122	86,524	0.006	11	152

Site Number: 10027

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Site Name: SALEM CT, CT

Engineering Number: 13677851\_C3\_03

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Customer: T-MOBILE

**Equivalent Lateral Force Method**

RFS APXVAALL24 43-U-NA20	175.00	368	261,059	0.019	32	458
Alcatel-Lucent 1900 MHz 4X45 RRH	150.00	180	104,862	0.008	13	224
Alcatel-Lucent RRH2x50-08	150.00	317	184,906	0.013	23	395
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	150.00	210	122,338	0.009	15	261
Commscope NNVV-65B-R4	150.00	232	135,271	0.010	16	289
RFS APXVTM14-ALU-I20	150.00	169	98,220	0.007	12	210
Round Sector Frame	150.00	900	524,308	0.038	64	1,119
Site Pro 1 STK-U Stabilizer	150.00	191	111,503	0.008	14	238
Generic GPS	75.00	10	2,414	0.000	0	12
Stand-Off	75.00	100	24,143	0.002	3	124
		43,246	13,829,576	1.000	1,687	53,786

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

**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
10	180.00	1,121	823,219	0.060	100	960
9	160.00	1,998	1,263,37	0.091	154	1,711
8	145.00	1,349	752,819	0.054	92	1,155
7	130.00	3,182	1,545,58	0.112	188	2,725
6	110.00	3,238	1,271,73	0.092	155	2,772
5	90.00	3,679	1,119,84	0.081	137	3,150
4	70.00	4,863	1,075,58	0.078	131	4,164
3	50.00	4,983	718,641	0.052	88	4,267
2	30.00	5,908	445,211	0.032	54	5,059
1	10.00	6,059	113,033	0.008	14	5,188
Allgon 7770.00	187.00	105	80,949	0.006	10	90
CCI DMP65R-BU8D	187.00	574	442,675	0.032	54	492
Ericsson RRUS 4449 B5, B12	187.00	213	164,211	0.012	20	182
Ericsson RRUS 4478 B14 (15")	187.00	178	137,382	0.010	17	153
Ericsson RRUS 8843 B2, B66A	187.00	216	166,524	0.012	20	185
Flat Light Sector Frame	187.00	1,200	925,131	0.067	113	1,028
LGP Allgon LGP21903	187.00	33	25,441	0.002	3	28
Powerwave Allgon LGP21401	187.00	85	65,222	0.005	8	72
Raycap DC6-48-60-18-8C	187.00	16	12,335	0.001	2	14
Raycap DC9-48-60-24-8C-EV	187.00	16	12,335	0.001	2	14
Ericsson Radio 4449 B71 B85A	175.00	225	159,441	0.012	19	193
Ericsson RRUS 11 B2	175.00	152	107,782	0.008	13	130
Ericsson RRUS 11 B4	175.00	152	107,782	0.008	13	130
Generic Round Sector Frame	175.00	900	637,766	0.046	78	771
RFS APX16DWV-16DWVS-E-A20	175.00	122	86,524	0.006	11	105
RFS APXVAALL24 43-U-NA20	175.00	368	261,059	0.019	32	315
Alcatel-Lucent 1900 MHz 4X45 RRH	150.00	180	104,862	0.008	13	154
Alcatel-Lucent RRH2x50-08	150.00	317	184,906	0.013	23	272
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	150.00	210	122,338	0.009	15	180
Commscope NNVV-65B-R4	150.00	232	135,271	0.010	16	199
RFS APXVTM14-ALU-I20	150.00	169	98,220	0.007	12	144
Round Sector Frame	150.00	900	524,308	0.038	64	771
Site Pro 1 STK-U Stabilizer	150.00	191	111,503	0.008	14	164
Generic GPS	75.00	10	2,414	0.000	0	9
Stand-Off	75.00	100	24,143	0.002	3	86
		43,246	13,829,576	1.000	1,687	37,030

Site Number: 10027

Code: ANSI/TIA-222-H

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Site Name: SALEM CT, CT

Engineering Number: 13677851\_C3\_03

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Customer: T-MOBILE

## Equivalent Lateral Force Method

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

Code: ANSI/TIA-222-H  
 Engineering Number: 13677851\_C3\_03

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### Force/Stress Summary

Section: 1		U20		Bot Elev (ft): 0.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 2.25"	-258.12	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	512.40	0	0	0.00	0.00	50 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.3125	-6.27	1.2D + 1.0W Normal	21.91	50	50	50	190.6	36.0	16.47	1	1	55.22	43.50	38 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 2.25"	222.41	0.9D + 1.0W 60 deg	50	65	536.80	0	0	0.00	0.00		41	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.3125	6.06	1.2D + 1.0W 90 deg	36	58	54.80	1	1	55.22	26.64	20.54	29	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		208.62	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		242.41	1.2D + 1.0W Normal	0.00	0		
Bot Tension		227.99	0.9D + 1.0W 60 deg	654.15	12	6	1.25" A687
Bot Compression		264.39	1.2D + 1.0W Normal	610.54	45		

Section: 2		U18		Bot Elev (ft): 20.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 2.25"	-236.37	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	512.40	0	0	0.00	0.00	46 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.3125	-6.22	1.2D + 1.0W 90 deg	20.15	50	50	50	175.3	36.0	19.47	1	1	55.22	43.50	31 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 2.25"	204.46	0.9D + 1.0W 60 deg	50	65	536.80	0	0	0.00	0.00		38	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.3125	5.99	1.2D + 1.0W 90 deg	36	58	54.80	1	1	55.22	26.64	20.54	29	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		189.13	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		218.28	1.2D + 1.0W Normal	0.00	0		
Bot Tension		208.62	0.9D + 1.0W 60 deg	523.32	40	6	1.25" A325
Bot Compression		0.00		0.00	0		

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

Code: ANSI/TIA-222-H  
 Engineering Number: 13677851\_C3\_03

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### Force/Stress Summary

Section: 3		U16		Bot Elev (ft): 40.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 2"	-211.56	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	399.90	0	0	0.00	0.00	52 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.3125	-5.93	1.2D + 1.0W 90 deg	18.44	50	50	50	187.9	36.0	14.43	1	1	55.22	43.50	41 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 2"	184.96	0.9D + 1.0W 60 deg	50	65	424.10	0	0	0.00	0.00		43	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.3125	5.70	1.2D + 1.0W 90 deg	36	58	44.69	1	1	55.22	26.64	17.14	33	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		168.97	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		193.21	1.2D + 1.0W Normal	0.00	0		
Bot Tension		189.13	0.9D + 1.0W 60 deg	523.32	36	6	1.25" A325
Bot Compression		0.00		0.00	0		

Section: 4		U14		Bot Elev (ft): 60.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 2"	-186.40	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	399.90	0	0	0.00	0.00	46 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.3125	-5.62	1.2D + 1.0W 90 deg	16.80	50	50	50	171.2	36.0	17.39	1	1	55.22	43.50	32 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 2"	162.18	1.2D + 1.0W 60 deg	50	65	424.10	0	0	0.00	0.00		38	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.3125	5.42	1.2D + 1.0W 90 deg	36	58	44.69	1	1	55.22	26.64	17.14	31	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		147.67	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		167.35	1.2D + 1.0W Normal	0.00	0		
Bot Tension		168.97	0.9D + 1.0W 60 deg	523.32	32	6	1.25" A325
Bot Compression		0.00		0.00	0		

Site Number: 10027  
 Site Name: SALEM CT, CT  
 Customer: T-MOBILE

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### Force/Stress Summary

Section: 5		U12		Bot Elev (ft): 80.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 1.75"	-160.24	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	300.70	0	0	0.00	0.00	53 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-5.23	1.2D + 1.0W 90 deg	15.24	50	50	50	153.4	36.0	13.25	1	1	35.34	20.88	39 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 1.75"	141.09	1.2D + 1.0W 60 deg	50	65	324.70	0	0	0.00	0.00		43	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	4.97	1.2D + 1.0W 90 deg	36	58	29.06	1	1	35.34	12.72	10.16	48	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		125.73	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		141.48	1.2D + 1.0W Normal	0.00	0		
Bot Tension		147.67	0.9D + 1.0W 60 deg	327.10	45	6	1 A325
Bot Compression		0.00		0.00	0		

Section: 6		U10		Bot Elev (ft): 100.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 1.5"	-134.08	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	214.90	0	0	0.00	0.00	62 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-5.14	1.2D + 1.0W 90 deg	13.79	50	50	50	138.9	36.0	16.17	1	1	35.34	20.88	31 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 1.5"	120.21	0.9D + 1.0W 60 deg	50	65	238.60	0	0	0.00	0.00		50	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	4.81	1.2D + 1.0W 90 deg	36	58	29.06	1	1	35.34	12.72	10.16	47	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		101.46	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		114.00	1.2D + 1.0W Normal	0.00	0		
Bot Tension		125.73	0.9D + 1.0W 60 deg	327.10	38	6	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 10027  
 Site Name: SALEM CT, CT  
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### Force/Stress Summary

Section: 7		U8		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 1.5"	-105.80	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	214.90	0	0	0.00	0.00	49 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-5.13	1.2D + 1.0W 90 deg	12.50	50	50	50	125.9	36.0	19.69	1	1	35.34	20.88	26 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 1.5"	93.98	1.2D + 1.0W 60 deg	50	65	238.60	0	0	0.00	0.00		39	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	5.21	1.2D + 1.0W 90 deg	36	58	29.06	1	1	35.34	12.72	10.16	51	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		73.78	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		83.52	1.2D + 1.0W Normal	0.00	0		
Bot Tension		101.46	0.9D + 1.0W 60 deg	327.10	31	6	1 A325
Bot Compression		0.00		0.00	0		

Section: 8		U-6.0		Bot Elev (ft): 140.0				Height (ft): 10.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	12B - 12"BD 1.25"	-71.95	1.2D + 1.0W Normal	10.02	100	100	100	0.0	0.0	142.50	0	0	0.00	0.00	50 User Input
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.1875	-6.36	1.2D + 1.0W Normal	11.41	50	50	50	138.4	36.0	13.48	1	1	35.34	20.88	47 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	12B - 12"BD 1.25"	63.67	1.2D + 1.0W 60 deg	50	65	165.70	0	0	0.00	0.00		38	User Input
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.1875	5.79	0.9D + 1.0W 60 deg	36	58	22.93	1	1	35.34	12.72	9.14	63	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		58.79	0.9D + 1.0W 60 deg	0.00	0	0	
Top Compression		67.50	1.2D + 1.0W Normal	0.00	0		
Bot Tension		73.78	0.9D + 1.0W 60 deg	327.10	23	6	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 10027  
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### Force/Stress Summary

Section: 9		H-5.0		Bot Elev (ft): 150.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 2" SOLID	-63.42	1.2D + 1.0W Normal	2.41	100	100	100	57.8	50.0	110.77	0	0	0.00	0.00	57 Member X
HORIZ	SOL - 1" SOLID	-1.46	1.2D + 1.0W 60 deg	4.509	100	100	100	140.7	50.0	8.97	0	0	0.00	0.00	16 Member X
DIAG	SOL - 1" SOLID	-3.30	1.2D + 1.0W 90 deg	5.513	50	50	50	119.1	50.0	12.51	0	0	0.00	0.00	26 Member X
Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SOL - 2" SOLID	59.43	1.2D + 1.0W 60 deg	50	65	141.37	0	0	0.00	0.00		42	Member		
HORIZ	SOL - 1" SOLID	1.54	1.2D + 1.0W Normal	50	65	35.34	0	0	0.00	0.00	0.00	4	Member		
DIAG	SOL - 1" SOLID	3.61	1.2D + 1.0W 90 deg	50	65	35.34	0	0	0.00	0.00	0.00	10	Member		
Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		21.76	0.9D + 1.0W 60 deg	87.50	25	0									
Top Compression		26.58	1.2D + 1.0W Normal	141.40	19										
Bot Tension		58.79	0.9D + 1.0W 60 deg	327.10	18	6	1 A325								
Bot Compression		0.00		0.00	0										

Section: 10		S-4.5		Bot Elev (ft): 170.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SOL - 1 1/2" SOLID	-24.02	1.2D + 1.0W Normal	2.41	100	100	100	77.0	50.0	51.54	0	0	0.00	0.00	46 Member X
HORIZ	SOL - 3/4" SOLID	-1.15	1.2D + 1.0W Normal	4.491	100	100	100	186.8	50.0	2.86	0	0	0.00	0.00	40 Member X
DIAG	SOL - 3/4" SOLID	-3.06	1.2D + 1.0W 90 deg	5.068	50	50	50	145.9	50.0	4.69	0	0	0.00	0.00	65 Member X
Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SOL - 1 1/2" SOLID	21.83	0.9D + 1.0W 60 deg	50	65	79.52	0	0	0.00	0.00		27	Member		
HORIZ	SOL - 3/4" SOLID	1.13	1.2D + 1.0W 60 deg	50	65	19.88	0	0	0.00	0.00	0.00	5	Member		
DIAG	SOL - 3/4" SOLID	3.07	1.2D + 1.0W 90 deg	50	65	19.88	0	0	0.00	0.00	0.00	15	Member		
Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		0.00		0.00	0	0									
Top Compression		0.24	1.2D + 1.0Ev + 1.0Eh	0.00	0										
Bot Tension		21.76	0.9D + 1.0W 60 deg	0.00	0										
Bot Compression		0.00		0.00	0										



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### Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal	11.55	00.00	0	1	0.00	264.18	-25.69	
	11.55	00.00	120	1a	8.81	-106.14	-6.67	
	11.55	00.00	240	1b	-8.81	-106.14	-6.67	
1.2D + 1.0W 60 deg	11.55	00.00	0	1	-1.19	137.30	-13.04	
	11.55	00.00	120	1a	-11.89	137.12	5.49	
	11.55	00.00	240	1b	-19.32	-222.53	-11.15	
1.2D + 1.0W 90 deg	11.55	00.00	0	1	-1.45	17.30	-1.29	
	11.55	00.00	120	1a	-19.25	226.43	10.31	
	11.55	00.00	240	1b	-17.13	-191.84	-9.02	
0.9D + 1.0W Normal	11.55	00.00	0	1	0.00	259.50	-25.37	
	11.55	00.00	120	1a	9.09	-110.29	-6.85	
	11.55	00.00	240	1b	-9.09	-110.29	-6.85	
0.9D + 1.0W 60 deg	11.55	00.00	0	1	-1.20	132.79	-12.71	
	11.55	00.00	120	1a	-11.61	132.61	5.32	
	11.55	00.00	240	1b	-19.60	-226.48	-11.31	
0.9D + 1.0W 90 deg	11.55	00.00	0	1	-1.46	12.98	-0.96	
	11.55	00.00	120	1a	-18.97	221.78	10.14	
	11.55	00.00	240	1b	-17.41	-195.84	-9.18	
1.2D + 1.0Di + 1.0Wi Normal	11.55	00.00	0	1	0.00	100.87	-4.19	
	11.55	00.00	120	1a	5.26	-3.72	-3.50	
	11.55	00.00	240	1b	-5.26	-3.72	-3.50	
1.2D + 1.0Di + 1.0Wi 60 deg	11.55	00.00	0	1	-0.38	65.50	-0.62	
	11.55	00.00	120	1a	-0.73	65.47	-0.02	
	11.55	00.00	240	1b	-8.37	-37.53	-4.83	
1.2D + 1.0Di + 1.0Wi 90 deg	11.55	00.00	0	1	-0.45	31.15	2.80	
	11.55	00.00	120	1a	-2.85	90.83	1.39	
	11.55	00.00	240	1b	-7.72	-28.54	-4.19	
1.2D + 1.0Ev + 1.0Eh Normal M1	11.55	00.00	0	1	0.00	30.01	-2.45	
	11.55	00.00	120	1a	-0.70	10.63	0.40	
	11.55	00.00	240	1b	0.70	10.63	0.40	
1.2D + 1.0Ev + 1.0Eh 60 deg M1	11.55	00.00	0	1	0.00	23.45	-1.89	
	11.55	00.00	120	1a	-1.64	23.45	0.95	
	11.55	00.00	240	1b	0.23	4.37	0.13	
1.2D + 1.0Ev + 1.0Eh 90 deg M1	11.55	00.00	0	1	0.00	17.09	-1.35	
	11.55	00.00	120	1a	-2.00	28.28	1.15	
	11.55	00.00	240	1b	0.35	5.91	0.20	
0.9D - 1.0Ev + 1.0Eh Normal M1	11.55	00.00	0	1	0.00	24.66	-2.03	
	11.55	00.00	120	1a	-0.33	5.32	0.19	
	11.55	00.00	240	1b	0.33	5.32	0.19	
0.9D - 1.0Ev + 1.0Eh 60 deg M1	11.55	00.00	0	1	0.00	18.12	-1.47	
	11.55	00.00	120	1a	-1.28	18.12	0.74	
	11.55	00.00	240	1b	-0.13	-0.94	-0.08	
0.9D - 1.0Ev + 1.0Eh 90 deg M1	11.55	00.00	0	1	0.00	11.77	-0.93	
	11.55	00.00	120	1a	-1.63	22.93	0.94	

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	11.55	00.00	240	1b	-0.02	0.60	-0.01
1.0D + 1.0W Service Normal	11.55	00.00	0	1	0.00	72.84	-6.92
	11.55	00.00	120	1a	1.42	-14.80	-1.21
	11.55	00.00	240	1b	-1.42	-14.80	-1.21
1.0D + 1.0W Service 60 deg	11.55	00.00	0	1	-0.30	42.82	-3.89
	11.55	00.00	120	1a	-3.52	42.78	1.68
	11.55	00.00	240	1b	-3.92	-42.35	-2.26
1.0D + 1.0W Service 90 deg	11.55	00.00	0	1	-0.36	14.42	-1.09
	11.55	00.00	120	1a	-5.28	63.91	2.84
	11.55	00.00	240	1b	-3.40	-35.08	-1.75

Max Uplift:	226.48(kip)	Moment Ice:	1,207.74 (kip-ft)	Moment:	4,276.16 (kip-ft)	1.2D + 1.0W Normal
Max Down:	264.18(kip)	Total Down Ice:	93.44 (kip)	Total Down:	51.89 (kip)	
Max Shear:	25.69 (kip)	Total Shear Ice:	11.20 (kip)	Total Shear:	39.02 (kip)	

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### Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
124 mph Normal with No Ice	70.00	0.177	0.0120	0.2911	0.2914
124 mph Normal with No Ice	150.00	0.970	0.0363	0.9395	0.9402
124 mph Normal with No Ice	175.19	1.441	0.0971	1.3528	1.3563
124 mph Normal with No Ice	187.22	1.690	0.1555	1.3081	1.3173
124 mph 60 degree with No Ice	70.00	0.172	0.0135	0.2842	0.2844
124 mph 60 degree with No Ice	150.00	0.952	0.0436	0.9256	0.9267
124 mph 60 degree with No Ice	175.19	1.416	0.3375	1.1164	1.1663
124 mph 60 degree with No Ice	187.22	1.661	0.4803	1.1193	1.2156
124 mph 90 degree with No Ice	70.00	0.173	-0.0153	0.2857	0.2861
124 mph 90 degree with No Ice	150.00	0.955	-0.0490	0.9379	0.9392
124 mph 90 degree with No Ice	175.19	1.420	-0.2095	1.0191	1.0307
124 mph 90 degree with No Ice	187.22	1.664	-0.2776	1.0554	1.0913
124 mph Normal with No Ice (Reduced DL)	70.00	0.177	0.0119	0.2905	0.2908
124 mph Normal with No Ice (Reduced DL)	150.00	0.967	0.0362	0.9361	0.9368
124 mph Normal with No Ice (Reduced DL)	175.19	1.437	0.0973	1.3486	1.3521
124 mph Normal with No Ice (Reduced DL)	187.22	1.685	0.1556	1.3040	1.3133
124 mph 60 deg with No Ice (Reduced DL)	70.00	0.172	0.0135	0.2836	0.2839
124 mph 60 deg with No Ice (Reduced DL)	150.00	0.949	0.0434	0.9233	0.9243
124 mph 60 deg with No Ice (Reduced DL)	175.19	1.412	0.3367	1.1122	1.1620
124 mph 60 deg with No Ice (Reduced DL)	187.22	1.656	0.4792	1.1154	1.2114
124 mph 90 deg with No Ice (Reduced DL)	70.00	0.172	-0.0153	0.2851	0.2855
124 mph 90 deg with No Ice (Reduced DL)	150.00	0.952	-0.0489	0.9350	0.9363
124 mph 90 deg with No Ice (Reduced DL)	175.19	1.416	-0.2093	1.0149	1.0268
124 mph 90 deg with No Ice (Reduced DL)	187.22	1.659	-0.2775	1.0514	1.0874
50 mph Normal with 1.00 in Radial Ice	70.00	0.050	0.0035	0.0817	0.0817
50 mph Normal with 1.00 in Radial Ice	150.00	0.268	0.0101	0.2583	0.2585
50 mph Normal with 1.00 in Radial Ice	175.19	0.394	0.0147	0.3498	0.3501
50 mph Normal with 1.00 in Radial Ice	187.22	0.460	0.0250	0.3385	0.3394
50 mph 60 deg with 1.00 in Radial Ice	70.00	0.050	-0.0036	0.0806	0.0806
50 mph 60 deg with 1.00 in Radial Ice	150.00	0.266	-0.0110	0.2526	0.2526
50 mph 60 deg with 1.00 in Radial Ice	175.19	0.390	0.0374	0.3010	0.3033
50 mph 60 deg with 1.00 in Radial Ice	187.22	0.456	0.0525	0.3003	0.3044
50 mph 90 deg with 1.00 in Radial Ice	70.00	0.050	-0.0043	0.0808	0.0809
50 mph 90 deg with 1.00 in Radial Ice	150.00	0.266	-0.0130	0.2547	0.2550
50 mph 90 deg with 1.00 in Radial Ice	175.19	0.391	-0.0446	0.2821	0.2830
50 mph 90 deg with 1.00 in Radial Ice	187.22	0.456	-0.0574	0.2876	0.2933
Seismic Normal M1	70.00	0.010	0.0007	0.0162	0.0162
Seismic Normal M1	150.00	0.056	0.0023	0.0590	0.0590
Seismic Normal M1	175.19	0.084	0.0015	0.0719	0.0719
Seismic Normal M1	187.22	0.099	0.0011	0.0703	0.0703
Seismic 60 deg M1	70.00	0.009	-0.0007	0.0160	0.0160
Seismic 60 deg M1	150.00	0.055	-0.0023	0.0581	0.0581
Seismic 60 deg M1	175.19	0.083	0.0014	0.0710	0.0710
Seismic 60 deg M1	187.22	0.097	0.0010	0.0688	0.0688
Seismic 90 deg M1	70.00	0.010	-0.0008	0.0162	0.0162
Seismic 90 deg M1	150.00	0.056	-0.0027	0.0592	0.0592
Seismic 90 deg M1	175.19	0.084	-0.0017	0.0723	0.0723
Seismic 90 deg M1	187.22	0.099	-0.0012	0.0703	0.0703
Seismic (Reduced DL) Normal M1	70.00	0.010	0.0007	0.0161	0.0161
Seismic (Reduced DL) Normal M1	150.00	0.056	0.0023	0.0580	0.0580
Seismic (Reduced DL) Normal M1	175.19	0.084	0.0015	0.0716	0.0716
Seismic (Reduced DL) Normal M1	187.22	0.099	0.0011	0.0699	0.0699
Seismic (Reduced DL) 60 deg M1	70.00	0.009	-0.0007	0.0159	0.0159
Seismic (Reduced DL) 60 deg M1	150.00	0.055	-0.0023	0.0565	0.0565
Seismic (Reduced DL) 60 deg M1	175.19	0.082	0.0013	0.0706	0.0706

Site Number: 10027

Code:

ANSI/TIA-222-H

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Site Name: SALEM CT, CT

Engineering Number: 13677851\_C3\_03

5/27/2021 4:34:46 PM

Customer: T-MOBILE

Seismic (Reduced DL) 60 deg M1	187.22	0.097	0.0010	0.0685	0.0685
Seismic (Reduced DL) 90 deg M1	70.00	0.009	-0.0008	0.0161	0.0162
Seismic (Reduced DL) 90 deg M1	150.00	0.056	-0.0027	0.0577	0.0578
Seismic (Reduced DL) 90 deg M1	175.19	0.084	-0.0017	0.0719	0.0719
Seismic (Reduced DL) 90 deg M1	187.22	0.099	-0.0012	0.0699	0.0699
Serviceability - 60 mph Wind Normal	70.00	0.042	0.0028	0.0687	0.0688
Serviceability - 60 mph Wind Normal	150.00	0.228	0.0086	0.2222	0.2223
Serviceability - 60 mph Wind Normal	175.19	0.339	0.0203	0.3175	0.3181
Serviceability - 60 mph Wind Normal	187.22	0.397	0.0325	0.3068	0.3086
Serviceability - 60 mph Wind 60 deg	70.00	0.041	-0.0030	0.0671	0.0671
Serviceability - 60 mph Wind 60 deg	150.00	0.224	-0.0096	0.2155	0.2157
Serviceability - 60 mph Wind 60 deg	175.19	0.333	0.0408	0.2609	0.2641
Serviceability - 60 mph Wind 60 deg	187.22	0.390	0.0575	0.2625	0.2676
Serviceability - 60 mph Wind 90 deg	70.00	0.041	-0.0036	0.0674	0.0675
Serviceability - 60 mph Wind 90 deg	150.00	0.225	-0.0115	0.2201	0.2204
Serviceability - 60 mph Wind 90 deg	175.19	0.334	-0.0470	0.2394	0.2412
Serviceability - 60 mph Wind 90 deg	187.22	0.391	-0.0616	0.2475	0.2550

### Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	51.89	93.44	264.18	25.69	39.02	11.20	4276.16	1207.74

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

T-Mobile Existing Facility

Site ID: CTNHI43C

153 E Haddam Road  
Salem, Connecticut 06420

**July 14, 2021**

**EBI Project Number: 6221003656**

<b>Site Compliance Summary</b>	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>7.97%</b>

July 14, 2021

T-Mobile

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

Emissions Analysis for Site: CTNHI43C

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **153 E Haddam Road** in **Salem, 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 153 E Haddam Road in Salem, 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) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 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.
- 6) 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.
- 7) 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.
  - 8) The antennas used in this modeling are the RFS APX16DWV-I6DWV-S-E-A20 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector A, the RFS APX16DWV-I6DWV-S-E-A20 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24\_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s) in Sector B, the RFS APX16DWV-I6DWV-S-E-A20 for the 1900 MHz / 2100 MHz channel(s), the RFS APXVAALL24\_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.
  - 9) The antenna mounting height centerline of the proposed antennas is 175 feet above ground level (AGL).
  - 10) 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.
  - 11) All calculations were done with respect to uncontrolled / general population threshold limits.



## T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20
Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz
Gain:	15.9 dBd / 15.9 dBd	Gain:	15.9 dBd / 15.9 dBd	Gain:	15.9 dBd / 15.9 dBd
Height (AGL):	175 feet	Height (AGL):	175 feet	Height (AGL):	175 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts
ERP (W):	7,002.81	ERP (W):	7,002.81	ERP (W):	7,002.81
Antenna A1 MPE %:	0.88%	Antenna B1 MPE %:	0.88%	Antenna C1 MPE %:	0.88%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	175 feet	Height (AGL):	175 feet	Height (AGL):	175 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	1.24%	Antenna B2 MPE %:	1.24%	Antenna C2 MPE %:	1.24%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	2.13%
Sprint	2.66%
AT&T	3.18%
<b>Site Total MPE % :</b>	<b>7.97%</b>

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.13%
T-Mobile Sector B Total:	2.13%
T-Mobile Sector C Total:	2.13%
<b>Site Total MPE % :</b>	<b>7.97%</b>

### 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 1900 MHz UMTS	2	1167.14	175.0	2.94	1900 MHz UMTS	1000	0.29%
T-Mobile 2100 MHz LTE	2	2334.27	175.0	5.88	2100 MHz LTE	1000	0.59%
T-Mobile 600 MHz LTE	2	591.73	175.0	1.49	600 MHz LTE	400	0.37%
T-Mobile 600 MHz NR	1	1577.94	175.0	1.99	600 MHz NR	400	0.50%
T-Mobile 700 MHz LTE	2	695.22	175.0	1.75	700 MHz LTE	467	0.37%
						<b>Total:</b>	<b>2.13%</b>

• 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:	2.13%
Sector B:	2.13%
Sector C:	2.13%
T-Mobile Maximum MPE % (Sector A):	2.13%
Site Total:	7.97%
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **7.97%** 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.

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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### Section 1 - Site Information

**Site ID:** CTNH143C  
**Status:** Draft  
**Version:** 4  
**Project Type:** L600  
**Approved:** Not Approved  
**Approved By:** Not Approved  
**Last Modified:** 4/6/2021 1:58:52 PM  
**Last Modified By:** Michael.Low1@T-Mobile.com

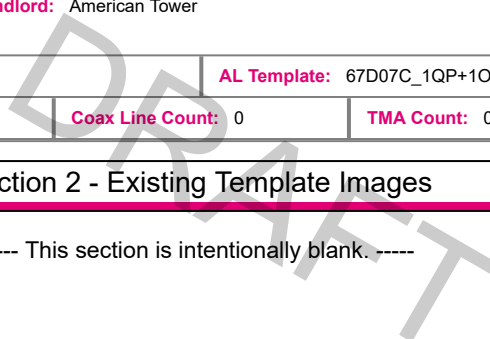
**Site Name:** CTNH143C  
**Site Class:** Self Support Tower  
**Site Type:** Structure Non Building  
**Plan Year:**  
**Market:** CONNECTICUT CT  
**Vendor:** Ericsson  
**Landlord:** American Tower

**Latitude:** 41.46847000  
**Longitude:** -72.27329000  
**Address:** 153 E Haddam Rd  
**City, State:** Salem, CT  
**Region:** NORTHEAST

<b>RAN Template:</b> 67D07C 6102 MUAC		<b>AL Template:</b> 67D07C_1QP+10P		
<b>Sector Count:</b> 3	<b>Antenna Count:</b> 6	<b>Coax Line Count:</b> 0	<b>TMA Count:</b> 0	<b>RRU Count:</b> 9

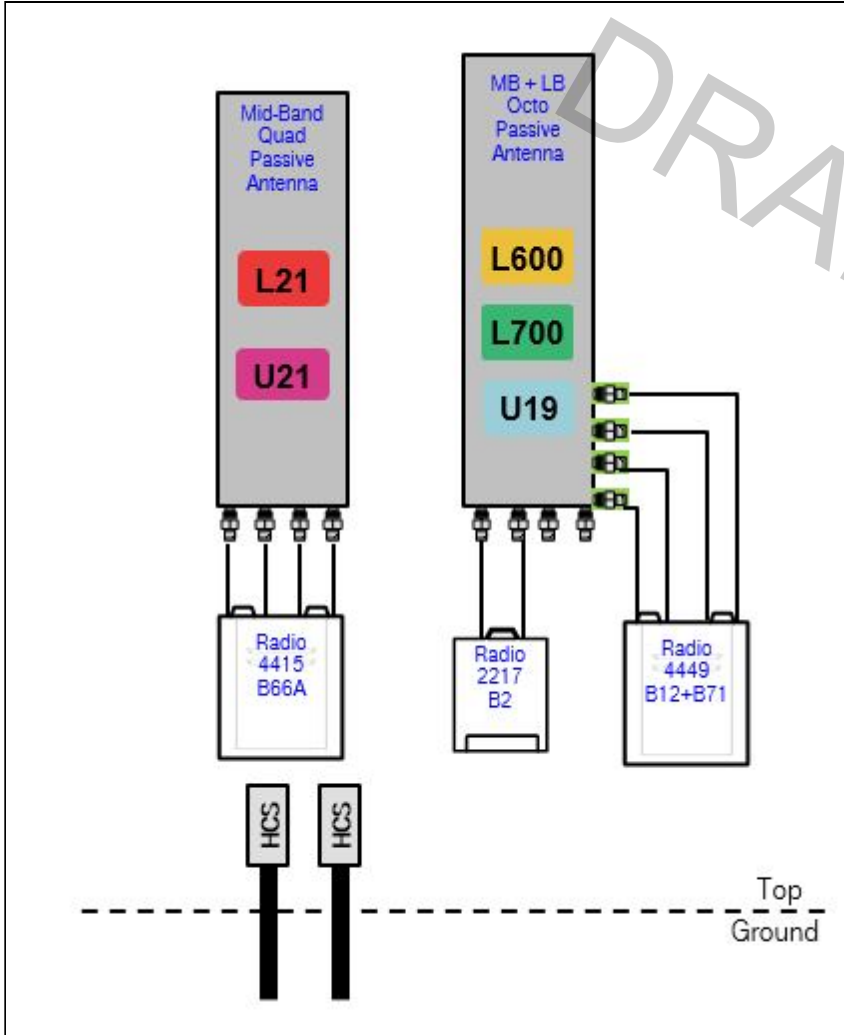
### Section 2 - Existing Template Images

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Section 3 - Proposed Template Images

67D07C.JPG



Notes:

Section 4 - Siteplan Images

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DRAFT

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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Print Name: Standard (2)  
PORs: L600\_5G POPs

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 707C Tower

Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Purcell SFX17 2824
Baseband	DUW30 U1900 BB 6630 L2100 L700	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	

Proposed RAN Equipment

Template: 67D07C 6102 MUAC

Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Purcell SFX17 2824
Baseband	DUW30 U1900 BB 6630 L2100 BB 6648 L700 L600 N600	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	
Functionality Groups	Ericsson Hybrid Trunk 6/24 4AWG *Select Length* (x 3)	

RAN Scope of Work:

Add (1) BB6648 for 600/700  
 Add (3) 6X24 HCS.  
 Remove existing 9x18 HCS

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+1OP
--	--

Section 6 - A&L Equipment

Existing Template: 707C\_Tower\_1QP\_1DP  
Proposed Template: 67D07C\_1QP+1OP

Sector 1 (Existing) view from behind

<b>Coverage Type</b>	A - Outdoor Macro		
<b>Antenna</b>	<b>1</b>	<b>2</b>	
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)	Andrew - LNX-6515DS-A1M (Dual)	
<b>Azimuth</b>	60	60	
<b>M. Tilt</b>	0	0	
<b>Height</b>	175	175	
<b>Ports</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>
<b>Active Tech.</b>	U1900	L2100	L700
<b>Dark Tech.</b>			
<b>Restricted Tech.</b>			
<b>Decomm. Tech.</b>			
<b>E. Tilt</b>	2	2	2
<b>Cables</b>			
<b>TMA's</b>			
<b>Diplexers / Combiners</b>			
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	RRUS11 B12 (At Antenna)
<b>Sector Equipment</b>			

Unconnected Equipment:

Scope of Work:

Add a B4 Dual pole antenna and a passive L700 antenna. Add RRU's at antenna. Add RET cables from RRU's to antenna for RET capability.



<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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Sector 1 (Proposed) view from behind						
<b>Coverage Type</b>	A - Outdoor Macro					
<b>Antenna</b>	1			2		
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)			RFS - APXVAALL24_43-U-NA20 (Octo)		
<b>Azimuth</b>	60			60		
<b>M. Tilt</b>	0			0		
<b>Height</b>	175			175		
<b>Ports</b>	P1	P2	P3	P4	P5	P6
<b>Active Tech.</b>	U1900	L2100	L700 L600 N600	L700 L600 N600		
<b>Dark Tech.</b>						
<b>Restricted Tech.</b>						
<b>Decomm. Tech.</b>						
<b>E. Tilt</b>	2	2	2	2		
<b>Cables</b>	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2)		
<b>TMA's</b>						
<b>Diplexers / Combiners</b>						
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
<b>Sector Equipment</b>						
<b>Unconnected Equipment:</b>						
<b>Scope of Work:</b>						
Replace LB Dual in Position 2 with (1) LB/MB Octo. Replace RRUS11 B12 in Position 2 with (1) Radio 4449 B71+B12 for L600 and L700.						
*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.						

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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Sector 2 (Existing) view from behind			
<b>Coverage Type</b>	A - Outdoor Macro		
<b>Antenna</b>	1		2
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)	Andrew - LNX-6515DS-A1M (Dual)	
<b>Azimuth</b>	180	180	
<b>M. Tilt</b>	0	0	
<b>Height</b>	175	175	
<b>Ports</b>	P1	P2	P3
<b>Active Tech.</b>	U1900	L2100	L700
<b>Dark Tech.</b>			
<b>Restricted Tech.</b>			
<b>Decomm. Tech.</b>			
<b>E. Tilt</b>	2	2	2
<b>Cables</b>			
<b>TMA's</b>			
<b>Diplexers / Combiners</b>			
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	RRUS11 B12 (At Antenna)
<b>Sector Equipment</b>			
<b>Unconnected Equipment:</b>			
<b>Scope of Work:</b>			
Add a B4 Dual pole antenna and a passive L700 antenna. Add RRU's at antenna. Add RET cables from RRU's to antenna for RET capability.			

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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Sector 2 (Proposed) view from behind						
<b>Coverage Type</b>	A - Outdoor Macro					
<b>Antenna</b>	1			2		
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)			RFS - APXVAALL24_43-U-NA20 (Octo)		
<b>Azimuth</b>	180			180		
<b>M. Tilt</b>	0			0		
<b>Height</b>	175			175		
<b>Ports</b>	P1	P2	P3	P4	P5	P6
<b>Active Tech.</b>	U1900	L2100	L700 L600 N600	L700 L600 N600		
<b>Dark Tech.</b>						
<b>Restricted Tech.</b>						
<b>Decomm. Tech.</b>						
<b>E. Tilt</b>	2	2	2	2		
<b>Cables</b>	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2)		
<b>TMA's</b>						
<b>Diplexers / Combiners</b>						
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
<b>Sector Equipment</b>						

**Unconnected Equipment:**

**Scope of Work:**

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

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

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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Sector 3 (Existing) view from behind			
<b>Coverage Type</b>	A - Outdoor Macro		
<b>Antenna</b>	1		2
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)		Andrew - LNX-6515DS-A1M (Dual)
<b>Azimuth</b>	300		300
<b>M. Tilt</b>	0		0
<b>Height</b>	175		175
<b>Ports</b>	P1	P2	P3
<b>Active Tech.</b>	U1900	L2100	L700
<b>Dark Tech.</b>			
<b>Restricted Tech.</b>			
<b>Decomm. Tech.</b>			
<b>E. Tilt</b>	2	2	2
<b>Cables</b>			
<b>TMA's</b>			
<b>Diplexers / Combiners</b>			
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	RRUS11 B12 (At Antenna)
<b>Sector Equipment</b>			
<b>Unconnected Equipment:</b>			
<b>Scope of Work:</b>			
Add a B4 Dual pole antenna and a passive L700 antenna. Add RRU's at antenna. Add RET cables from RRU's to antenna for RET capability.			

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+1OP
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Sector 3 (Proposed) view from behind						
<b>Coverage Type</b>	A - Outdoor Macro					
<b>Antenna</b>	1			2		
<b>Antenna Model</b>	RFS - APX16DWV-16DWV-S-E-A20 (Quad)			RFS - APXVAALL24_43-U-NA20 (Octo)		
<b>Azimuth</b>	300			300		
<b>M. Tilt</b>	0			0		
<b>Height</b>	175			175		
<b>Ports</b>	<b>P1</b>	<b>P2</b>	<b>P3</b>	<b>P4</b>	<b>P5</b>	<b>P6</b>
<b>Active Tech.</b>	U1900	L2100	L700 L600 N600	L700 L600 N600		
<b>Dark Tech.</b>						
<b>Restricted Tech.</b>						
<b>Decomm. Tech.</b>						
<b>E. Tilt</b>	2	2	2	2		
<b>Cables</b>	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2)		
<b>TMA's</b>						
<b>Diplexers / Combiners</b>						
<b>Radio</b>	RRUS11 B2 (At Antenna)	RRUS11 B4 (At Antenna)	Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)		
<b>Sector Equipment</b>						

**Unconnected Equipment:**

**Scope of Work:**

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

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

<b>RAN Template:</b> 67D07C 6102 MUAC	<b>A&amp;L Template:</b> 67D07C_1QP+10P
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**Section 7 - Power Systems Equipment**

**Existing Power Systems Equipment**

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**Proposed Power Systems Equipment**