

0 INDUSTRIAL AVE,
SUITE 3
LAHWAH NJ 07430

PHONE: 201.684.0055
FAX: 201.684.0066



July 31, 2021

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

RE: Notice of Exempt Modification
401-411 Lopus Road Beacon Falls, CT, 06403
Latitude: 41.4328333
Longitude: -73.07022222
T-Mobile Site#: CT11487B - Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 135-foot level 149-foot Monopole at the existing facility at 401-411 Lopus Road in Beacon Falls, CT. The property is owned by Global Tower Properties LLC. The tower is owned by American Tower. T-Mobile now intends to remove (6) antennas and replace them with (6) L2500/N2500/L2100 antennas. The new antennas support 5G services and will be installed at the same 135-foot level of the monopole.

Planned Modifications:

Tower:

Install New:

- (3) AIR6649 B41 Antennas
- (3) APX16DWV-16DWV-S-E-A20 Antennas
- (3) Radio 4424 B25
- (3) Radio 4414 B66A

Existing to Remain:

- (3) APXVAARR24_43-U-NA20 Antennas
- (3) Radio 4449 B71 B85
- (3) 1B-AWS TMAs
- (6) 1 5/8" Coax Cables
- (3) 6x12 Hybrid Cables

To Be Removed:

- (3) AIR21 KRC11823 B2A B4P Antennas
- (3) AIR21 KRC118023 B4A B2P Antennas

Ground Work:

Remove (1) S12000 Outdoor

Install (1) Enclosure, (1) B160, (1) BB6648

This tower was originally approved by the Town of Beacon Falls on March 20, 2004. Documentation on the original approval of the tower is enclosed with the submission. The proposed modification complies with all previous approvals.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to First Selectman Gerard Smith, Elected Official, and Keith Rosenfield, Town Planner, as well as the property and tower owner.

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

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

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

Sincerely,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Gerard Smith - First Selectman of Beacon Falls

Keith Rosenfield - Town Planner

Global Tower Properties LLC - Property Owner

American Tower - Tower Owner

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

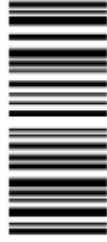
1 LBS

1 OF 1

SHIP TO:
FIRST SELECTMAN
GERARD SMITH
10 MAPLE AVENUE
BEACON FALLS CT 06403



CT 067 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9989 4772



BILLING: P/P

Reference #1: CT11487B



TM

XOL 21.06.14 NV45 29.0A 07/2021*

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
TOWN PLANNER
KEITH ROSENFELD
10 MAPLE AVENUE
BEACON FALLS CT 06403



CT 067 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9534 4766



BILLING: P/P

Reference #1: CT11487B



TM

XOL 21.06.14 NV45 29.0A 07/2021*

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

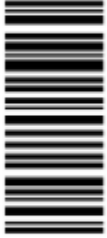
1 LBS

1 OF 1

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

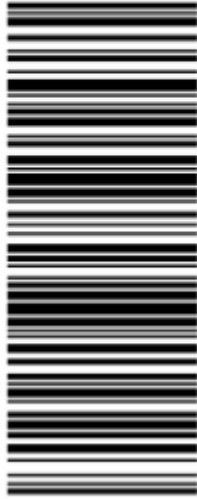


MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9946 4781



BILLING: P/P

Reference #1: CT11487B

XOL 21.06.14 NV45 29.6A 07/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
GLOBAL TOWER PROPERTIES LLC
SUITE 300
750 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487

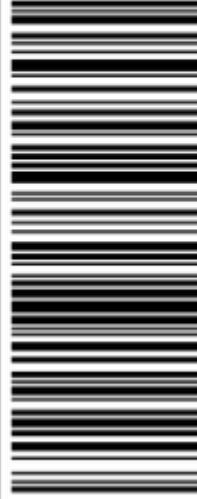


FL 332 6-07



UPS GROUND

TRACKING #: 1Z V25 742 03 9330 1538



BILLING: P/P

Reference #1: CT11487B

XOL 21.06.14 NV45 31.6A 07/2021*



TM

Shipment Details

Tracking Number: [1ZV257420393301538](#)
Global Tower Properties LLC
750 Park of Commerce Drive

Ship To: Suite 300
BOCA RATON, FL 33487
US

UPS Service: UPS GROUND

Package Weight: 1.0 LBS

Reference Number 1: [CT11487B](#)

Hundreds of electronics deals & offers,
updated daily.

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Please do not reply directly to this email. UPS will not receive any reply message.

Hello, your package has been delivered.

Delivery Date: Wednesday, 07/28/2021

Delivery Time: 1:57 PM

Left At: RECEIVER

Signed by: DENISE

TRANSCEND WIRELESS

Tracking Number: [1ZV257420395344766](#)

Ship To: KEITH ROSENFELD
10 MAPLE AVENUE
BEACON FALLS, CT 06403
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CT11487B](#)

Hello, your package has been delivered.

Delivery Date: Wednesday, 07/28/2021

Delivery Time: 1:57 PM

Left At: RECEIVER

Signed by: DENISE

TRANSCEND WIRELESS

Tracking Number: [1ZV257420399894772](#)

Ship To: GERARD SMITH
10 MAPLE AVENUE
BEACON FALLS, CT 06403
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CT11487B](#)



Hello, your package has been delivered.

Delivery Date: Wednesday, 07/28/2021

Delivery Time: 11:42 AM

Left At: INSIDE DELIV

Signed by: ANCRI

TRANSCEND WIRELESS

Tracking Number: [1ZV257420399464781](#)

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

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: [CT11487B](#)

Detailed Parcel Information

GIS ID
003-001-0016

Parcel ID
003-001-0016

Unique ID
2864

Owner
GLOBAL TOWER
PROPERTIES LLC

Location
401 LOPUS RD

MAILING ADDRESS
750 PARK OF COMMERCE
BLVD SUITE 300
BOCA RATON FL 33487

No Photo Available

Quick Links:

[Quick Map](#) [Online Card](#) [FEMA Firm Panel](#) [Tax Map](#)

Scroll Down For Complete Property Detail

PARCEL VALUATIONS

	Appraised Value	Assessed Value
Buildings	275000	192500
Land	0	0
TOTAL:		

PROPERTY INFORMATION

Total Acres	0.0000
Land Use	Telecommunications
Land Class Code	270
Zoning	IPD
Census Tract	
Neighborhood	300
Lot Description	

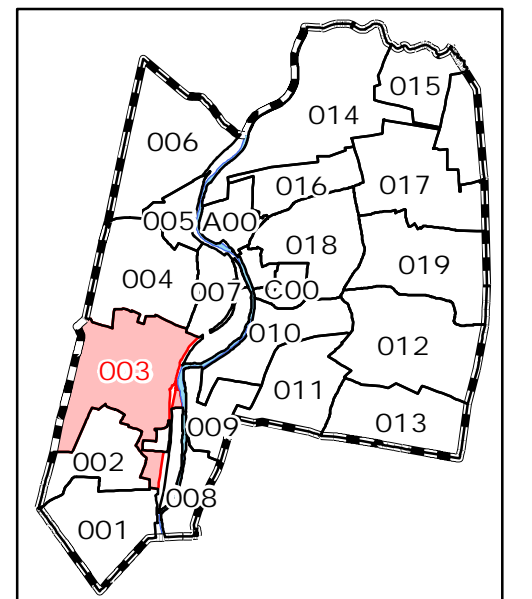
LAST SALE INFORMATION

Sale Date	10/5/2012
Sale Price	0
Book / Page	. .



Town of Beacon Falls

Assessor Tax Maps



Map:003

- Centerline
- Town Border
- Railroad
- Parcel Lines
- River
- 112.75' Dimensions
- 0015 .27Ac Lot / Acre
- 45 Address
- 003 Block

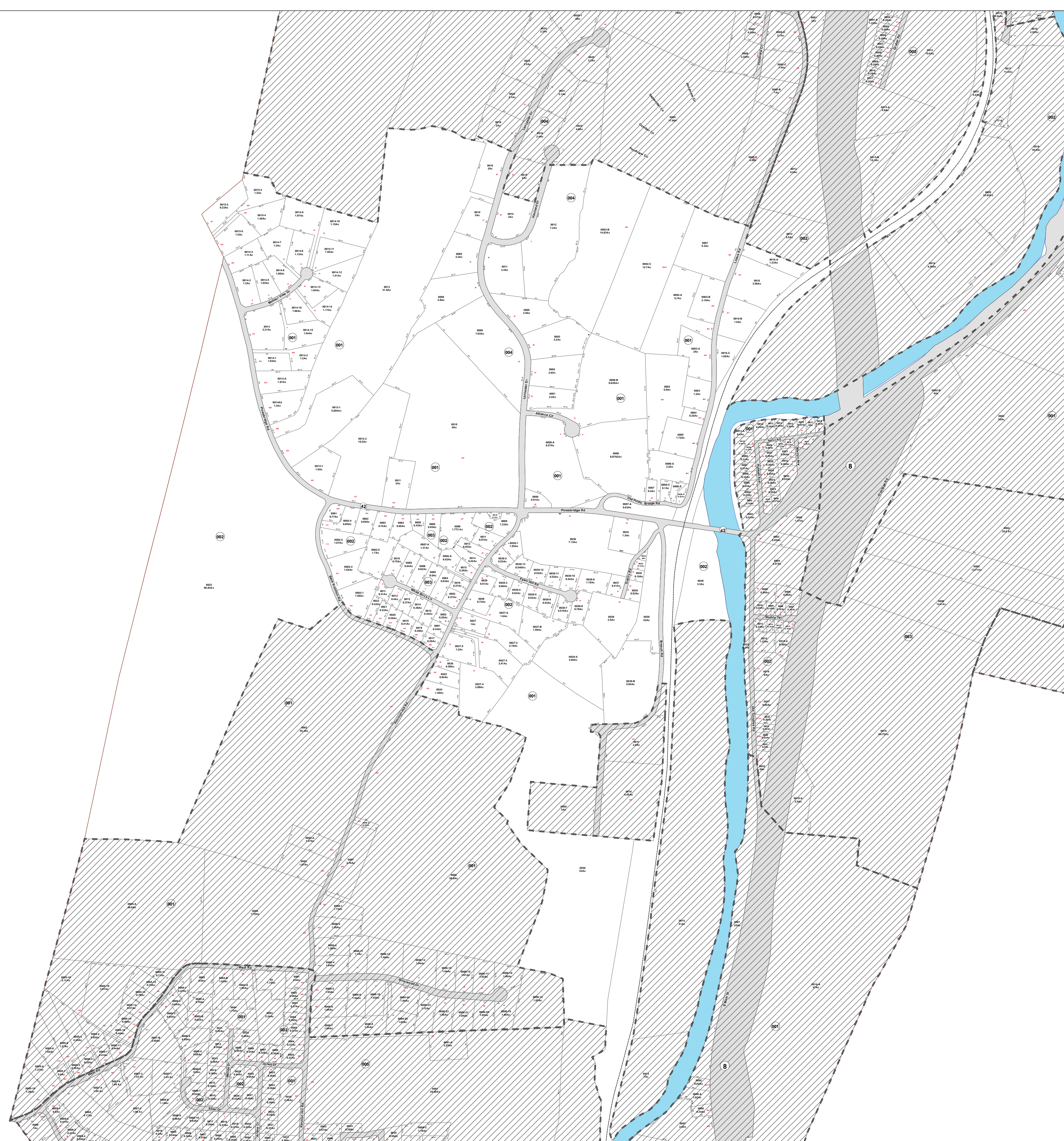


0 360 720 Feet

Map Produced May 2021

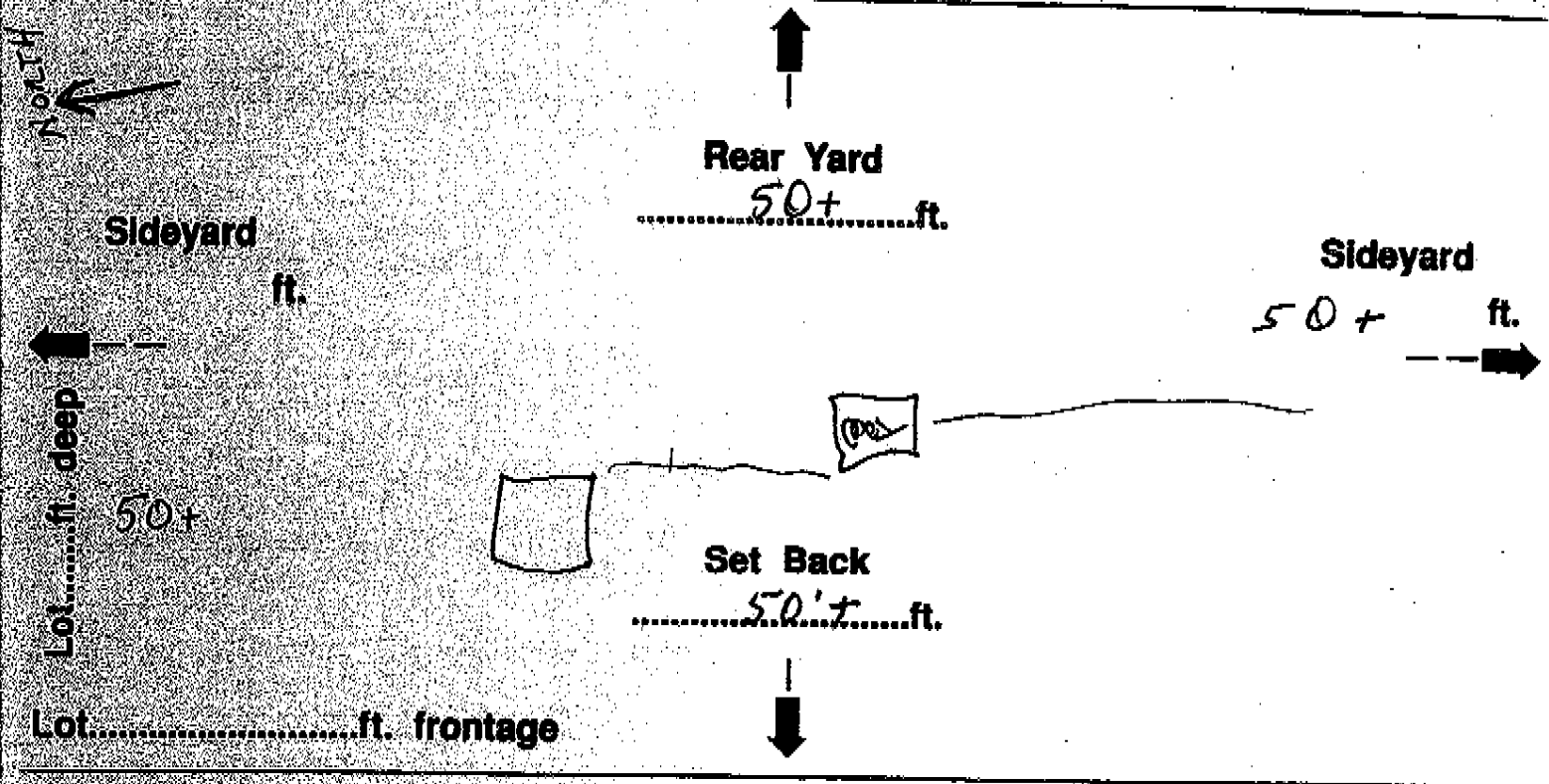
Map Coordinates based on NAD 83 Connecticut State Plane Feet

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



PLOT PLAN

Indicate location of garage or accessory building with dashed lines



401 LOPUS ROAD Street

Application for Certificate of Zoning Compliance

Date 10-27-05

NEW CINGULAR WIRELESS PCS, LLC of 500 ENTERPRISE DRIVE
Name of Applicant Street Address

ROCKY HILL, CT 06067 hereby applies to the Beacon Falls Zoning Commission
City State

for a certificate of Zoning Compliance for

CINGULAR CELL TOWER SITE AT BEACON FALLS PUBLIC WORKS
Site and Location - Zone

GARAGE ON LOPUS RD. MONOPOLE TOWER IN FENCED COMPOUND; EQUIPMENT SHELTER; COAXIAL CABLES; ANTENNAS.
NEW CINGULAR WIRELESS PCS, LLC

Applicant's Signature STEVEN L. LEVINE

Date Approved 10/27/05

Zoning Enforcement Officer

FEE: \$10.00

TOWN TO OWN

Town of Beacon Falls

Record of Building Permit

No. 011

Owner Cingular

Owner's Address 500 Enterprise Dr Rocky Hill

Site Location Lopus Road Town Garage

Construction: New Alteration Addition Repair
Garage Shed Other CELL TOWER

One family residence

Permit Number #P-11-6-2005 Date Issued Nov 3 2005

Value of Permit 250,000.00

Fee Paid \$ 1792.00 Pd check # 1072

Application Approved John Petersen
Building Inspector



APPLICATION FOR BUILDING PERMIT
CONNECTICUT STATE BUILDING CODE (SBC 111.0)
CITY/TOWN OF BEACON FALLS



1. 10-27-05 (Please Print or Type All Entries)
Date

2. PUBLIC WORKS GARAGE, LOPUS ROAD, B. FALLS 3. MAP 3 BLK 1 LOT 16
Property Location Street Address Lot #

4. TOWN OF BEACON FALLS
Owner's Name (As it appears in the Land Records)

5. TOWN HALL BEACON FALLS CT 06403
Street Address Town State Zip Code

6. _____
Home Phone # Work Phone # Fax # Mobile Phone #

7. NEW CINGULAR WIRELESS PCS, LLC (STEVE LEVINE)
Applicant's Name

8. 500 ENTERPRISE DR. ROCKY HILL CT 06002
Street Address Town State Zip Code

9. _____ 860-513-7636 860-513-7190 203-556-1655
Home Phone # Work Phone # Fax # Mobile Phone #

10. TO BE DETERMINED 11. _____
Contractor/General Contractor Registration #

12. Permit Type: a) Building Permit Estimated Cost \$ 250,000⁰⁰
 Foundation Superstructure
 Tenant Fitout Other
b) Electrical Permit Estimated Cost _____
c) Mechanical Permit Estimated Cost _____
d) Plumbing Permit Estimated Cost _____
e) Demolition Permit* Estimated Cost _____
f) Other _____ Estimated Cost _____

TOTAL \$ 250,000⁰⁰

13. Project Type: a) New Construction f) Relocation
b) Addition g) Change of Use
c) Alteration h) Article 32
d) Repair/Replacement i) Designated Historic Structure
e) Demolition*
CELL TOWER, FENCED COMPOUND, EQUIPMENT SHELTER, COAX CABLES, MOVE OIL TANK

Is Structure within the 100 year flood plain Yes No

14. Construction Type: 1A 1B 2A 2B 2C 3A 3B 4 5A 5B

15. Use Group(s): A-1 B H-1 I-1 M S-1
 A-2 H-2 I-2 S-2 UNMANNED
 A-3 F-1 H-3 I-3 R-1
 A-4 F-2 H-4 R-2 U
 A-5 R-3

Mixed Use: N/A Yes No Separated Nonseparated

STATE OF CONNECTICUT/OFFICE OF STATE BUILDING INSPECTOR
(Over)

16. LOPUS ROAD - PUBLIC WORKS GARAGE 17. 3-1-16
Property Location Street Address Lot #

18. Height of building: Stories: 1 Feet: 10'

19. Total Sq. Ft. of Building: 240 SQ. FT

20. List below the gross square footage of each story, above and below grade:

Story	Area in Sq. Ft.	Story	Area in Sq. Ft.	Story	Area in Sq. Ft.
<u>1</u>	<u>240</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>

21. Architect's Information: (Attach as applicable) License # 22038

TELECOM ENGINEERING
MIKE PATEL
" "

22. Engineers Information: (Attach as applicable) License # 22038

23. Interior Design: (Attach as Applicable) Registration # N/A

24. Documents Submitted /Attached:

- Zoning Building Plans Site Plans Building Sections Building Elevations Health
- Reports Calculations Details Photographs Threshold Review*
- Correspondence Authorization of Applicant Other Than Owner Manufacturer's Literature
- Statement of Special Inspections* Other (describe) _____

25. Estimated Cost of Construction \$ 250,000.00
(Value of Labor & Materials)

CERTIFICATION: I hereby certify that: I am the owner of record of the named property or that the proposed work is authorized by the owner of record and/or I have been authorized to make this application as an authorized agent, and we agree to conform to all applicable laws, regulations and ordinances. All information contained within is true and accurate to the best of my knowledge and belief.

NEW CINCINNATI WIRELESS PCS, LLC
BY [Signature]
Signature of Owner/Authorized Agent
STEVEN L. LEVINE

ITEMS 26 - 29 ARE FOR BUILDING OFFICIAL'S USE ONLY

26. Building Permit Fee: \$ 1792.00

27. Plan Review Fee: 0.00

28. Certificate of Occupancy Fee: 0.00

29. Other Fees: 0.00

TOTAL FEE: Cash Check \$ 1792.00

#P-11-6-2005
11/3/2005

Completed Application Received Date: 10/27/2005

[Signature] check # 1072

[Signature]
(Signature Building Official)



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

E-Mail: siting.council@po.state.ct.us

www.ct.gov/csc

October 24, 2005

Steven Levine
Real Estate Consultant
New Cingular Wireless PCS, LLC
500 Enterprise Drive
Rocky Hill, CT 06067-3900

RE: **TS-CING-006-051007** - New Cingular Wireless PCS, LLC. request for an order to approve tower sharing at an existing telecommunications facility located at Beacon Falls Public Works Department garage, Lopus Road, Beacon Falls, Connecticut.

Dear Mr. Levine:

At a public meeting held October 19, 2005, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

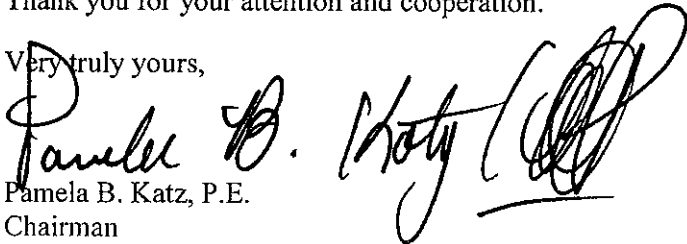
This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction. Please be advised that the validity of this action shall expire one year from the date of this letter.

The proposed shared use is to be implemented as specified in your letter dated October 7, 2005 and additional information received October 17, 2005, including the placement of all necessary equipment and shelters within the tower compound.

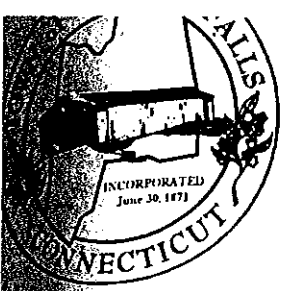
Thank you for your attention and cooperation.

Very truly yours,


Pamela B. Katz, P.E.
Chairman

PBK/laf

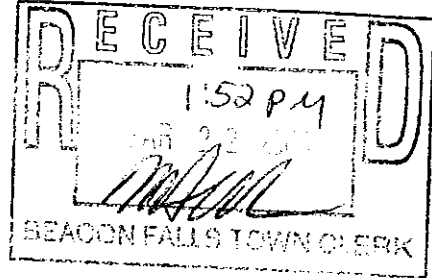
c: The Honorable Susan Ann Cable, First Selectman, Town of Beacon Falls
Brian Herb, Zoning Enforcement Officer, Town of Beacon Falls



Town of BEACON FALLS
Connecticut

Planning and Zoning Commission

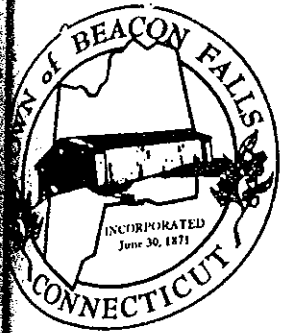
Board of Selectman
10 Maple Avenue
Beacon Falls, CT. 06403



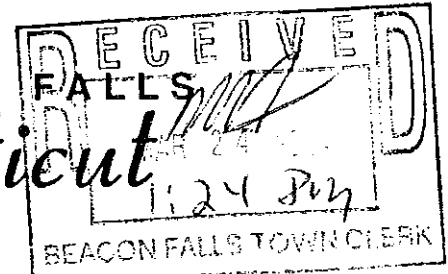
The Beacon Falls Planning and Zoning Commission, after review of site plan proposed by AT&T, respectfully recommends acceptance.

If you have any questions or concerns please contact Chairman Jeff Burkitt.

Mary Ellen Fernandes
Mary Ellen Fernandes
Clerk, P & Z Commission
March 20, 2004



TOWN of BEACON FALLS
Connecticut



**Planning and Zoning Commission
Regular Meeting Minutes
March 18, 2004
Draft Minutes Subject to Modification**

I Call to Order

Chairman Burkitt called the regular meeting of the Beacon Falls Planning and Zoning Commission to order at 7:30 P.M.

Present: Chairman Burkitt, Commissioners Carl Vitale, Peter Betkoski, Richard Franco, David Chadderton and Bill Abromaitis.

Absent: Kevin McDuffie

II Approval of Minutes

A motion to approve the minutes of the Feb 2004 regular meeting as submitted was made by Comm. Abromaitis and 2nd by Comm. Franco. All in favor. A motion to approve the minutes of Public Hearing on 6 month moratorium was made by Comm. Vitale and 2nd by Comm. Abromaitis. All in favor. A motion to approve the minutes of the Public Hearing on Pond Spring was made by Comm. Abromaitis and 2nd by Comm. Franco. All in favor.

III Comments from the Public

John Smith, E.J. Smith Company came forward and requested an extension for filing of the mylar for application P-2003-115 Smith Farms-Section IV. Chairman Burkitt stated that this would be handled under Old Business.

IV Zoning Enforcement Officers Report

A written report was submitted. Discussion followed. A motion to accept report as submitted was made by Comm. Abromaitis and 2nd by Comm. McDuffie. All in favor. Charlie Edwards requested permission to have site trailer on project for 18 months. Comm. Chadderton made a motion to grant request for construction trailer for up to 18 months or more specifically September 18, 2005. Seconded by Comm. Abromaitis. All in favor.

V Town Engineers Report

An written report was submitted. Discussion followed. A motion to accept report as submitted was made by Comm. Abromaitis and was 2nd by Comm. Franco. All in favor.

VI Comprehensive Plan of Conservation and Development

No report.

MAR 24 2004

VII Old Business

A joint discussion between the Board of Selectman, Atty. Civitello, Planning & Zoning and Atty. Buemi. After hearing from both attorneys, it was decided that this discussion does not belong before the Planning and Zoning Commission.

- 1) Application P-2003-114SP- Chatfield/Woodhaven – A motion to set a Public Hearing date for May 4, 2004 at 7:30 PM was made by Comm. Vitale and 2nd by Comm. Abromaitis. All in favor.
- 3) Fawn Hill Estates – A motion to send a letter to Board of Selectman to recommend reducing the maintenance bond was made by Comm. Vitale and 2nd by Comm. Abromaitis. All in favor.
- 2) Pond Spring Village – Site Plan – Accept for review.
- 4) E J Smith – A motion to grant request of extension to file mylar was made by Comm. Chadderton and 2nd by Comm. Abromaitis. All in favor.

VIII New Business

- 1) Application P-2004-120- 6 month moratorium – A motion to table to April 15, 2004 was made by Comm. Vitale and 2nd by Comm. Betkoski. All in favor.
- 2) Joyce Van Lines – Application accepted under review.
- 3) Earth Works – Application accepted under review.

IX New Applications

- 1) ATT Cell Tower – A motion to recommend to Board of Selectman to accept was made by Comm. Chadderton and 2nd by Comm. Abromaitis. All in favor.
- 2) Cotton Hollow Rd – Multi unit – A brief discussion resulted in a motion to Table until issues are resolved was made by Comm. Chadderton and 2nd by Comm. Franco. All in favor.
- 3) Oakwood Estates – A motion to set Public Hearing for May 4, 2004 at 7:00 PM was made by Comm. Abromaitis and 2nd by Comm. Franco. All in favor.
- 4) Westwind Estates – Resubdivision Lot 22 & 23 – Public Hearing date set for March 18, 2004 at 7:15 P.M.
- 5) Charlie Edwards – Lot Line Revisions – A motion to approve was made by Comm. Chadderton and 2nd by Comm. Vitale. All in favor.



X Correspondence and Payment of Bills

The following bills were submitted for payment:

- Nafis & Young \$ 552.50 / M.E. Fernandes \$ 192.00 / Wtby Republican \$102.90
Nutmeg Printers \$394.00 / Fasano, Ippitio & Lee \$730.00 / Karen Wilson \$115.00. A motion to accept Payment of Bills as submitted was made by Comm. Abromaitis and 2nd by Comm. Franco. All in favor.
A motion to accept all correspondence and place on file was made by Comm. Chadderton and 2nd by Comm. Franco. All in favor.

XI Executive Session

A motion to go into executive session was made by Comm. Chadderton and 2nd by Comm. Vitale. All in favor. A motion to come out of executive session was made by Comm. Vitale and 2nd by Comm. Abromaitis. All in favor.

MAR 24 2004

XII Petitions from Commissioners

No activity

XII Adjournment

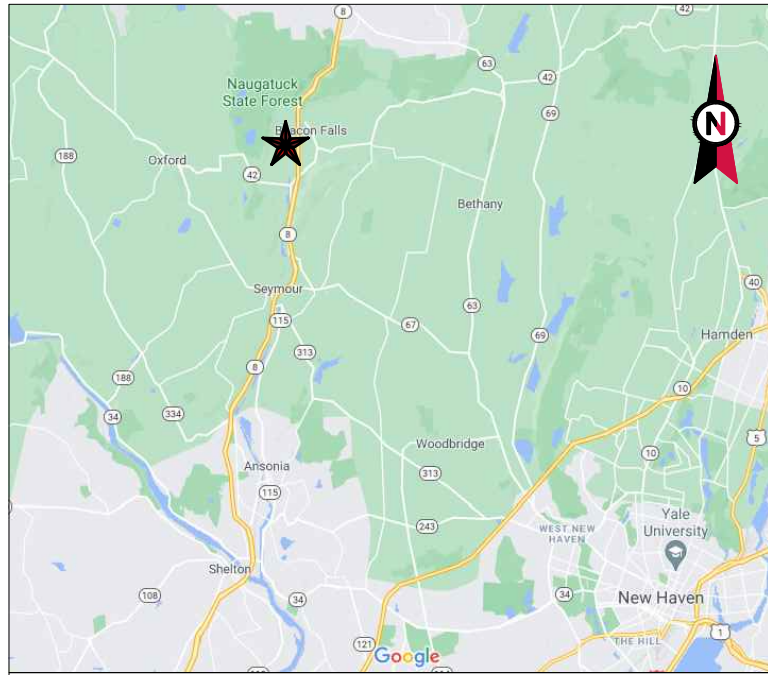
A motion to adjourn was made by Comm. Chadderton and 2nd by Comm. Abromaitis. All in favor.

Respectfully Submitted,

Mary Ellen Fernandes

Mary Ellen Fernandes

Clerk, March 20, 2004

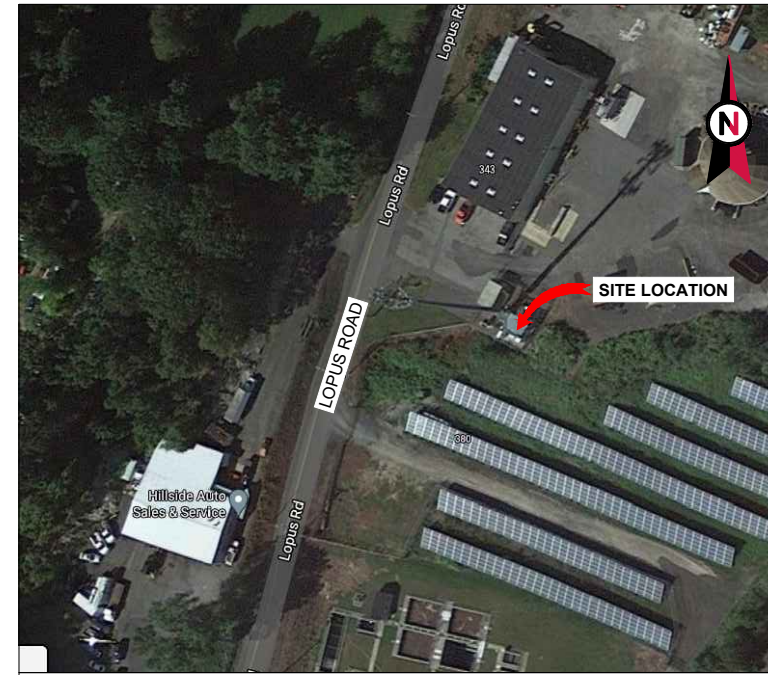


VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: BEACON FALLS CT
 ATC SITE NUMBER: 370641
 T-MOBILE SITE NAME: CT487/BEACONFALLS
 T-MOBILE SITE NUMBER: CT11487B
 SITE ADDRESS: 401-411 LOPUS ROAD
 BEACON FALLS, CT, 06403



LOCATION MAP

T-MOBILE ANCHOR ANTENNA AMENDMENT PLAN
 67D5A998C CONFIGURATION

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. 2015 INTERNATIONAL BUILDING CODE (IBC) 2. 2017 NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 401-411 LOPUS ROAD BEACON FALLS, CT, 06403 COUNTY: NEW HAVEN <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.43283333 LONGITUDE: -73.07022222 GROUND ELEVATION: 162' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) AIR21 KRC118023-1_B2A_B4P ANTENNA(S), AND (3) AIR21 KRC118023-A_B2P_B4A ANTENNA(S) INSTALL (3) AIR6449 B41 ANTENNA(S), (3) APX16DWV-16DWV-S-E-A20 ANTENNA(S), (3) 4424 B25 RRU(S), (3) 4415 B66A RRU(S) EXISTING (3) APXVAARR24_43-U-NA20 ANTENNA(S), (3) 4449 B71 B85 RRU(S), (3) 1B-AWS TMA(S), (6) 1 5/8" COAX CABLE(S), AND (3) 6X12 (1 5/8") HYBRID CABLE(S) TO REMAIN <u>GROUND WORK:</u> REMOVE (1) S12000 OUTDOOR INSTALL (1) ENCLOSURE 6160, (1) B160, (1) BB 6648 EXISTING (1) RBS 6131, (1) DUW30, (1) DUG20, (2)BB 6630, AND (6) RU22 TO REMAIN	SHEET NO: G-001 G-002 C-101 C-102 C-201 C-401 C-501 E-501 R-601 R-602 R-603 R-604 R-605	DESCRIPTION: TITLE SHEET GENERAL NOTES DETAILED SITE PLAN DETAILED GROUND PLAN TOWER ELEVATION ANTENNA INFORMATION & SCHEDULE CONSTRUCTION DETAILS GROUNDING DETAILS SUPPLEMENTAL SUPPLEMENTAL SUPPLEMENTAL SUPPLEMENTAL	REV: 0 0 0 0 0 0 0 0 0 0	DATE: 07/08/21 07/08/21 07/08/21 07/08/21 07/08/21 07/08/21 07/08/21 07/08/21 07/08/21	BY: DJC DJC DJC DJC DJC DJC DJC DJC DJC
	<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> GLOBAL TOWER PROPERTIES, LLC 750 PARK OF COMMERCE BLVD SUITE 300 BOCO RATON, FL 33487	<u>APPLICANT:</u> T-MOBILE DAN REID DREID @TRANSCENDWIRELESS.COM	THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE <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>UTILITY COMPANIES</u> POWER COMPANY: CONNETICUT LIGHT AND POWER PHONE: (888) 783-6617 TELEPHONE COMPANY: AT&T PHONE: (800) 288-2020		<u>PROJECT LOCATION DIRECTIONS</u> FROM HAMDEN: PROCEED FROM HEAD EAST ON CT-10 / DIXWELL AVE TOWARD OLD DIXWELL AVE 0.3 MI TURN RIGHT ONTO WHITNEY AVE 0.3 MI TAKE THE RAMP ON THE RIGHT FOR CT-15 SOUTH AND HEAD TOWARD NEW HAVEN 5.0 MI AT EXIT 59, HEAD RIGHT ON THE RAMP FOR CT-69 TOWARD NEW HAVEN / WOODBRIDGE 0.2 MI TURN LEFT ONTO CT-69 / LITCHFIELD TPKE 0.3 MI TURN LEFT ONTO LANDIN ST 0.2 MI TURN RIGHT ONTO CT-63 / AMITY RD 2.9 MI TURN LEFT ONTO CT-67 / SEYMOUR RD 4.0 MI TAKE THE RAMP ON THE RIGHT FOR CT-8 NORTH AND HEAD TOWARD WATERBURY 2.1 MI AT EXIT 23, HEAD RIGHT ON THE RAMP FOR CT-42 TOWARD INDUSTRIAL PARK / OXFORD 0.2 MI TURN LEFT ONTO CT-42 / S MAIN ST, THEN IMMEDIATELY TURN RIGHT ONTO OLD PINES BRIDGE RD 0.7 MI. ROAD NAME CHANGES TO LOPUS RD 0.4 MI SITE IS ON THE LEFT					



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/04/21
0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641
 ATC SITE NAME:
BEACON FALLS CT
 T-MOBILE SITE NAME:
CT487/BEACONFALLS
 SITE ADDRESS:
 401-411 LOPUS ROAD
 BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
 Kyle Frechart
 D8BEE252A3804C1...



DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

TITLE SHEET

SHEET NUMBER: G-001	REVISION: 0
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GENERAL CONSTRUCTION NOTES:

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

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

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.



Kimley»Horn

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/04/21
0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641
ATC SITE NAME:
BEACON FALLS CT
T-MOBILE SITE NAME:
CT487/BEACONFALLS
SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Freehart
D8BEE252A3804C1



DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

GENERAL NOTES

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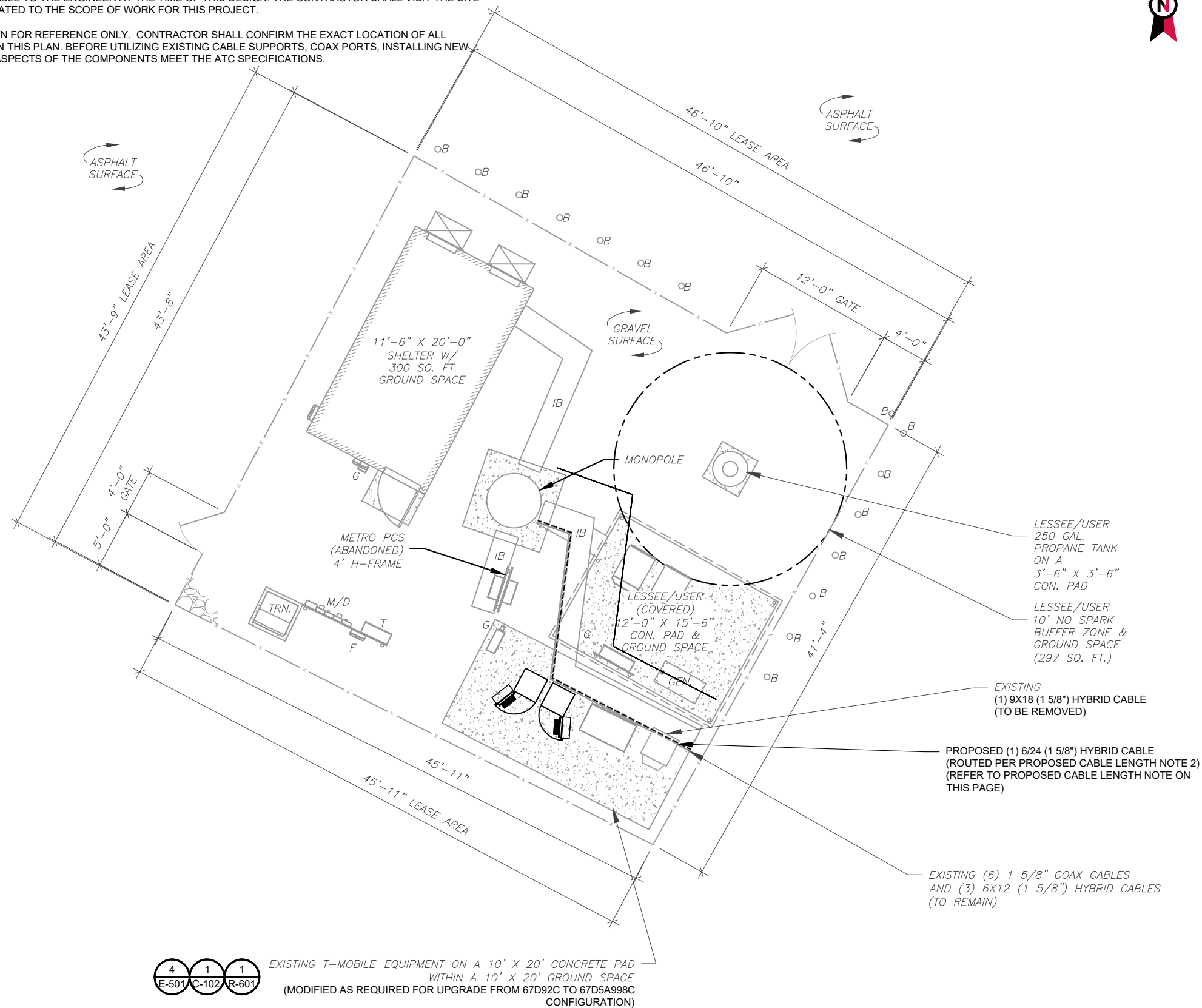
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SITE PLAN NOTES:

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.

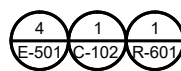


LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK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



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **189'**. 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. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.



EXISTING T-MOBILE EQUIPMENT ON A 10' X 20' CONCRETE PAD WITHIN A 10' X 20' GROUND SPACE (MODIFIED AS REQUIRED FOR UPGRADE FROM 67D92C TO 67D5A998C CONFIGURATION)



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T-MOBILE SITE NAME:
CT487/BEACONFALLS
SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Frechart
D8BEE252A3804C1...



DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

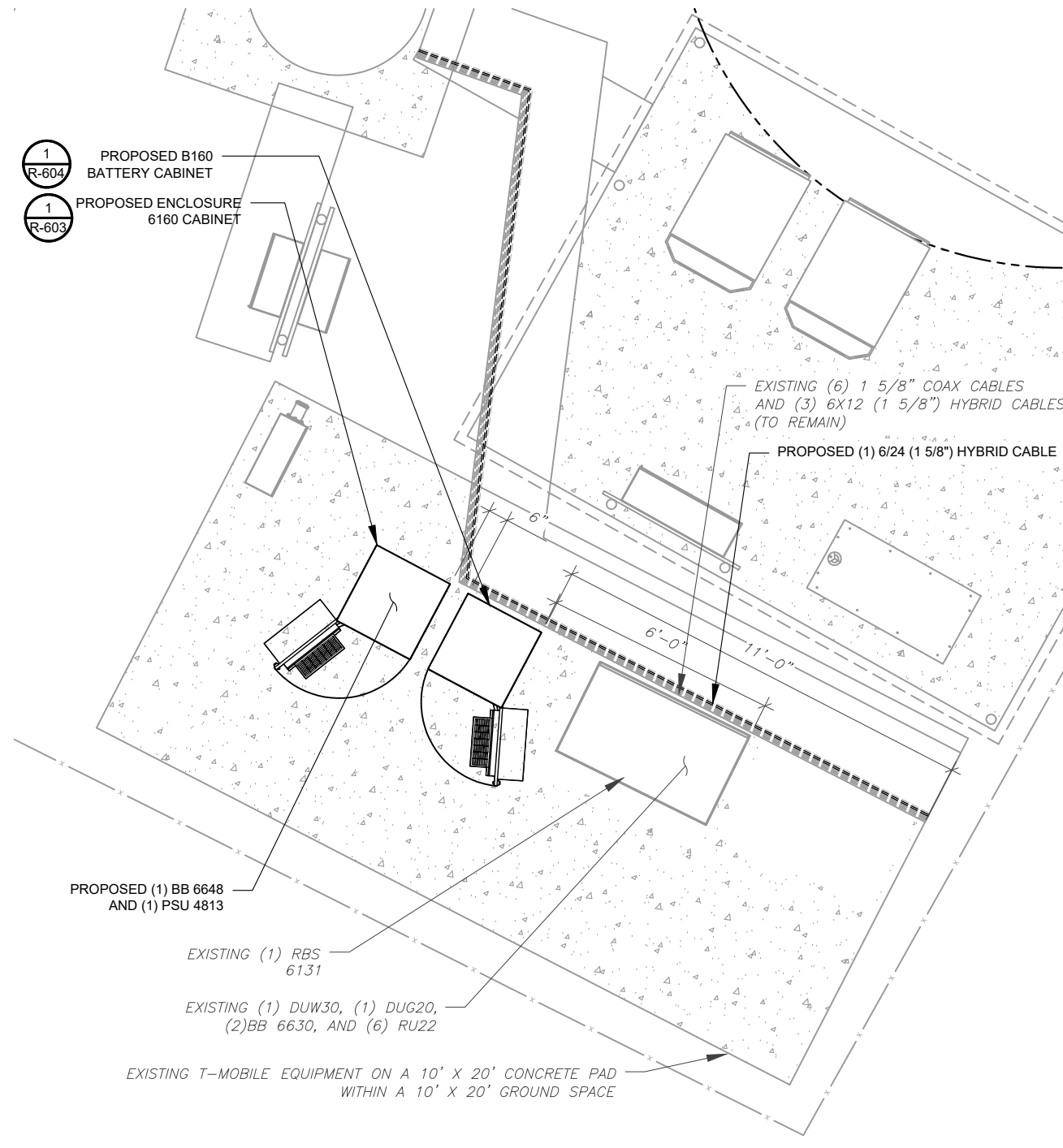
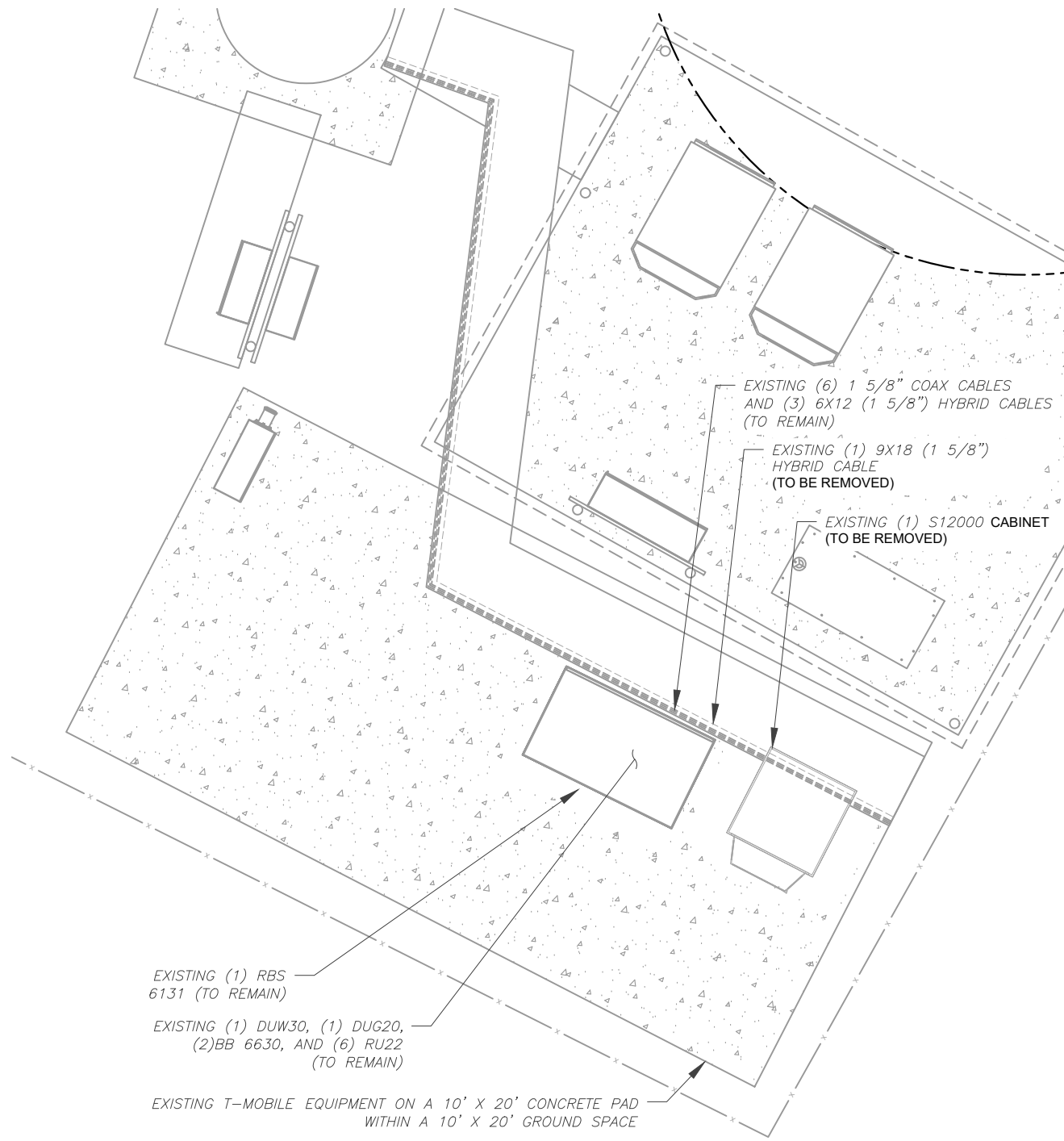
DETAILED SITE PLAN	
SHEET NUMBER: C-101	REVISION: 0

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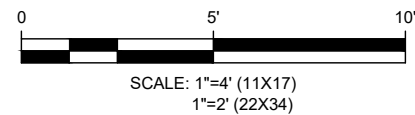
SITE PLAN NOTES:

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

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



1 EXISTING GROUND EQUIPMENT LAYOUT



2 PROPOSED GROUND EQUIPMENT LAYOUT



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BEACON FALLS CT

T-MOBILE SITE NAME:
CT487/BEACONFALLS

SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Frechart
D8BEE252A3804C1...

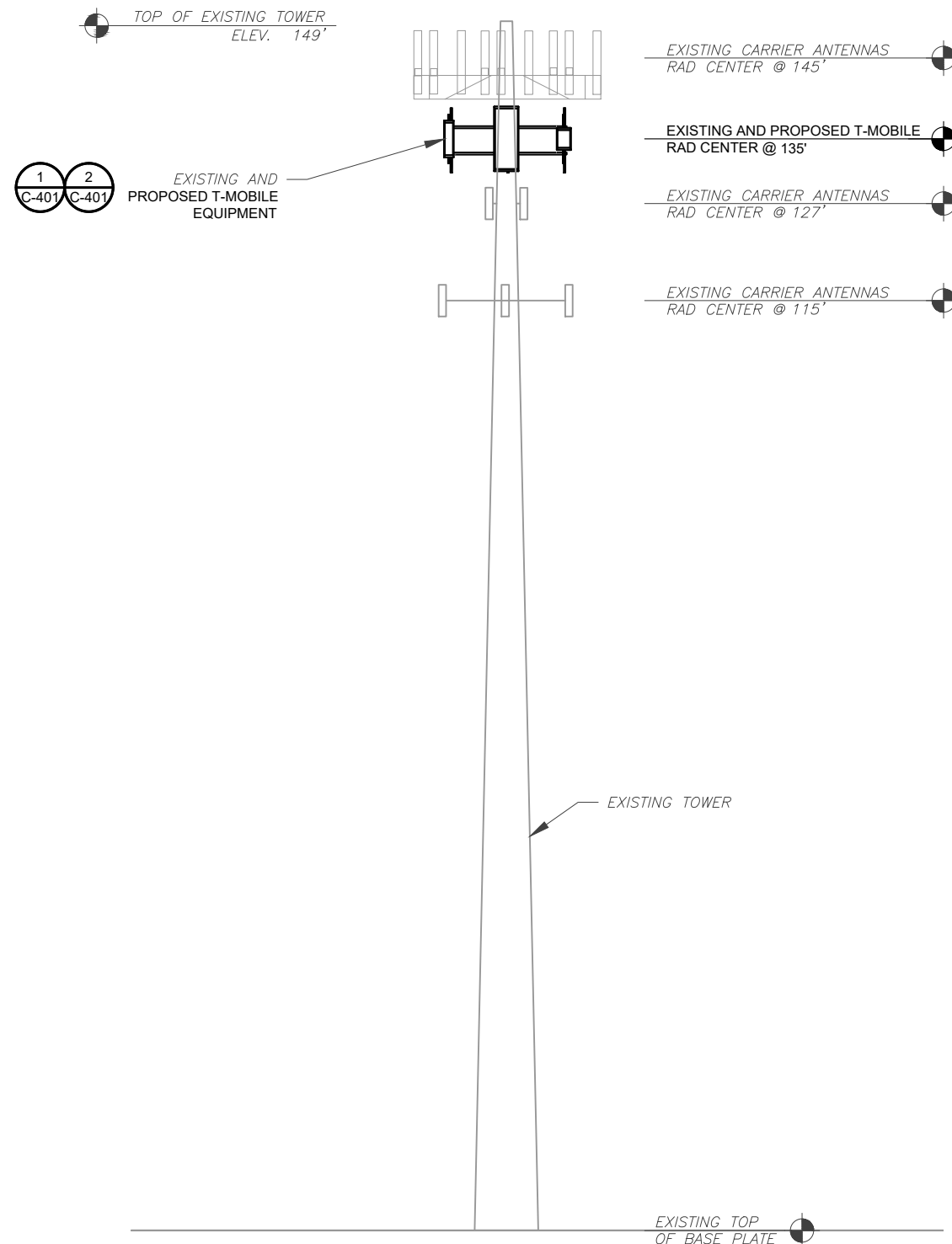


DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	0

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PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 06/04/21, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

TOWER NOTE:

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

1 TOWER ELEVATION
SCALE: N.T.S.



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0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641
ATC SITE NAME:
BEACON FALLS CT
T-MOBILE SITE NAME:
CT487/BEACONFALLS
SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Frechart
D8BEE252A3804C1...

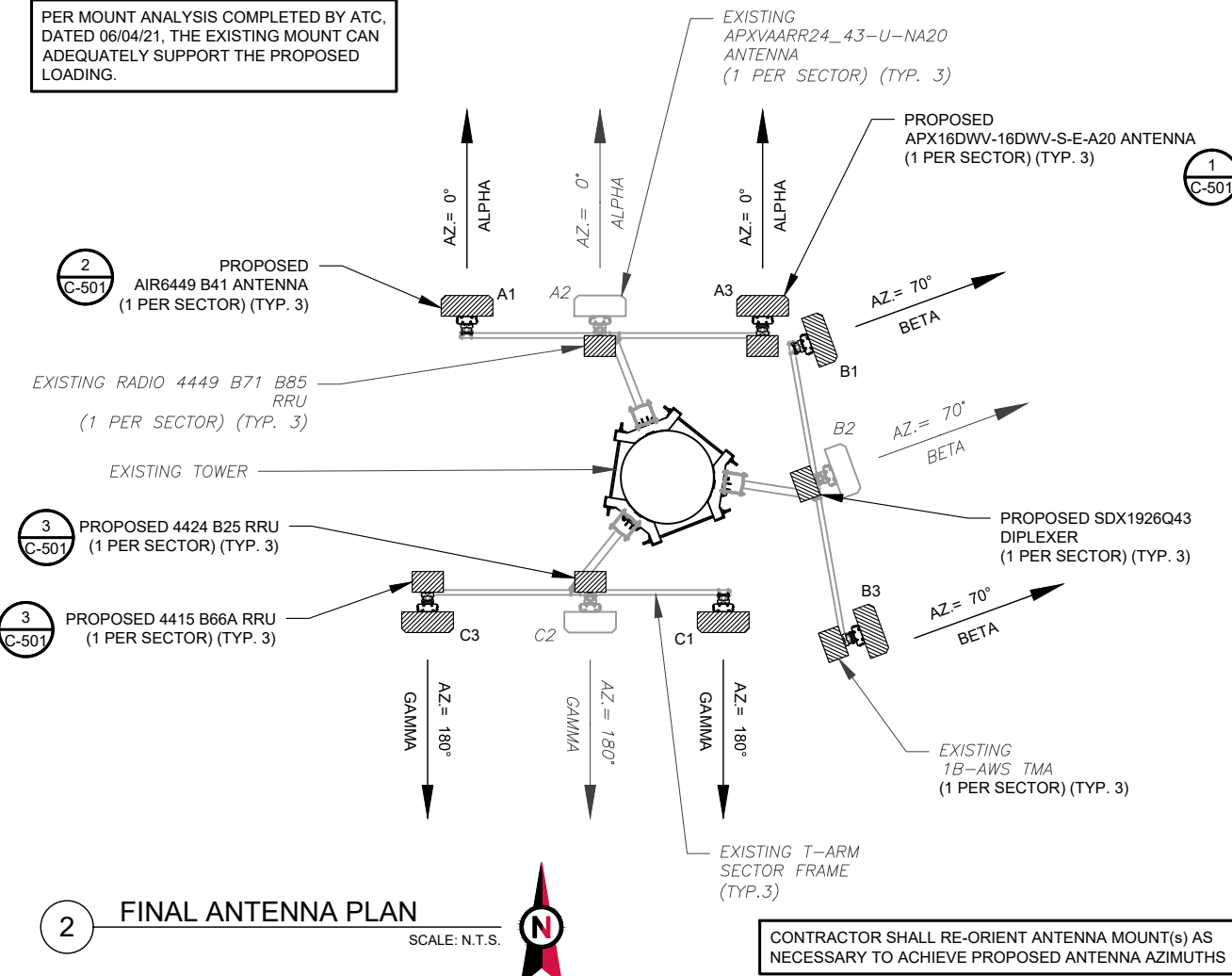
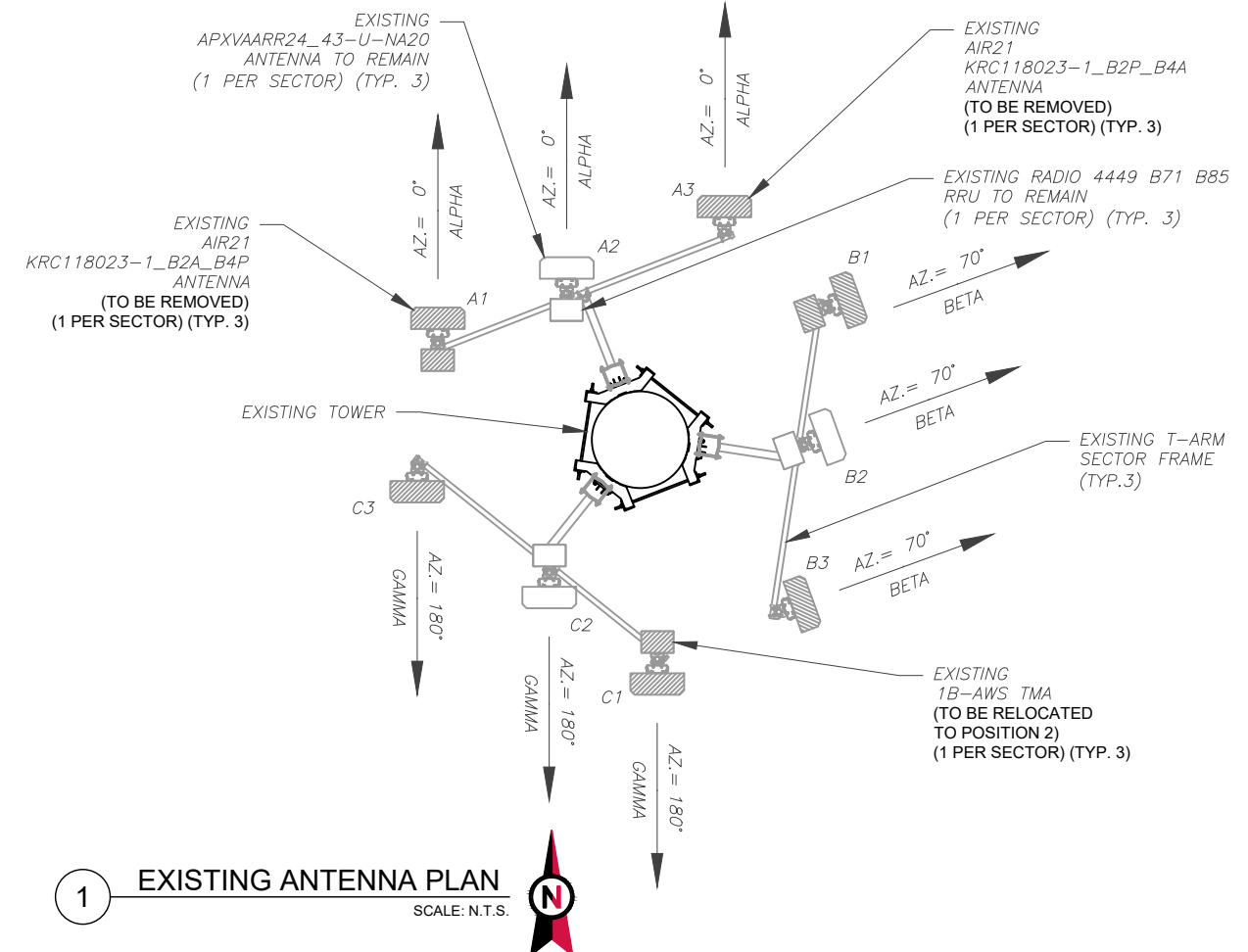


DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	0

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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	135'	0°	A1	AIR21 KRC118023-1_B2A_B4_P	L1900/G1900/U2100	0°/2°	RMV	1B-AWS	REL
			A2	APXVAARR24_43-U-NA20	L700/L600/N600	0°/2°	RMN	4449 B71 B85	RMN
			A3	AIR21 KRC118023-1_B2P_B4_A	L2100	0°/2°	RMV	-	-
BETA	135'	70°	B1	AIR21 KRC118023-1_B2A_B4_P	L1900/G1900/U2100	0°/2°	RMV	1B-AWS	REL
			B2	APXVAARR24_43-U-NA20	L700/L600/N600	0°/2°	RMN	4449 B71 B85	RMN
			B3	AIR21 KRC118023-1_B2P_B4_A	L2100	0°/2°	RMV	-	-
GAMMA	135'	180°	C1	AIR21 KRC118023-1_B2A_B4_P	L1900/G1900/U2100	0°/2°	RMV	1B-AWS	REL
			C2	APXVAARR24_43-U-NA20	L700/L600/N600	0°/2°	RMN	4449 B71 B85	RMN
			C3	AIR21 KRC118023-1_B2P_B4_A	L2100	0°/2°	RMV	-	-

NOTES

- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
- 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	135'	0°	A1	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			A2	APXVAARR24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100	0°/2°	RMN	4424 B25 1B-AWS 4449 B71 B85	ADD REL RMN
			A3	APX16DWV-16DWV-S-E-A20	L2100	0°/2°	ADD	4415 B66A	ADD
BETA	135'	70°	B1	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			B2	APXVAARR24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100	0°/2°	RMN	4424 B25 1B-AWS 4449 B71 B85	ADD REL RMN
			B3	APX16DWV-16DWV-S-E-A20	L2100	0°/2°	ADD	4415 B66A	ADD
GAMMA	135'	180°	C1	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			C2	APXVAARR24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100	0°/2°	RMN	4424 B25 1B-AWS 4449 B71 B85	ADD REL RMN
			C3	APX16DWV-16DWV-S-E-A20	L2100	0°/2°	ADD	4415 B66A	ADD

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1 5/8"	(3) 6X12 (1 5/8")	RMN
-	-	-	(1) 9X18 (1 5/8")	RMV

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1 5/8"	(3) 6X12 (1 5/8")	RMN
-	-	-	(1) 6/24 (1 5/8")	ADD



Kimley»Horn

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

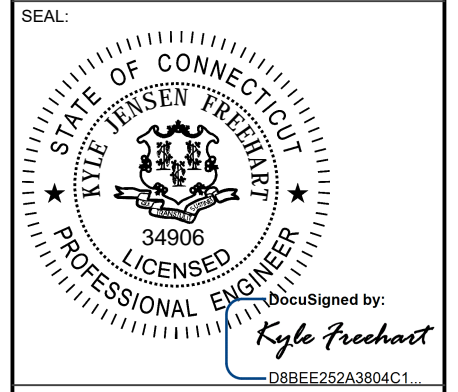
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A	PRELIM	ARC	06/04/21
0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641

ATC SITE NAME:
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T-MOBILE SITE NAME:
CT487/BEACONFALLS

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BEACON FALLS, CT, 06403



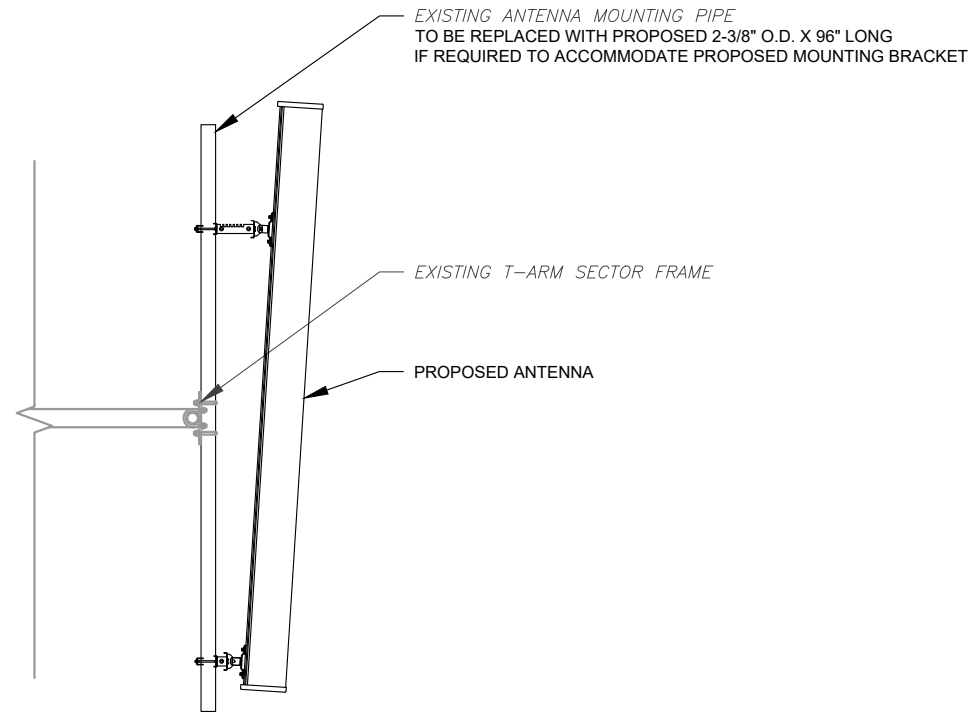
DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

ANTENNA INFORMATION & SCHEDULE

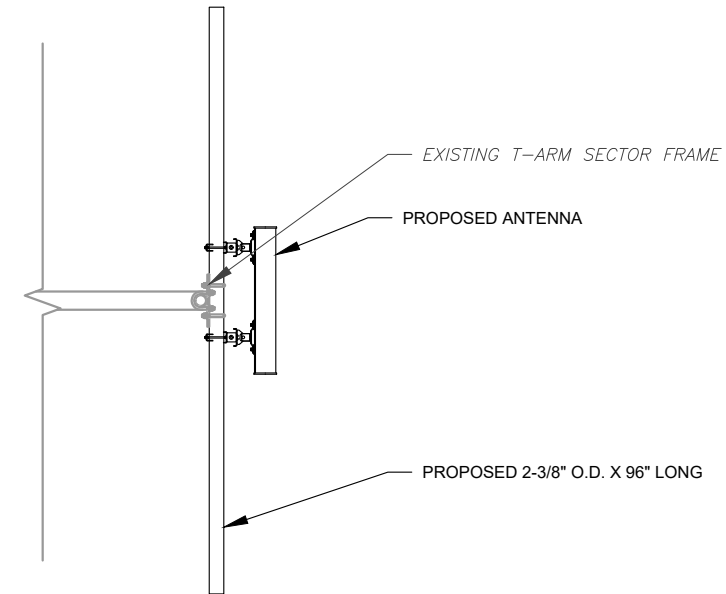
SHEET NUMBER:
C-401

REVISION:
0

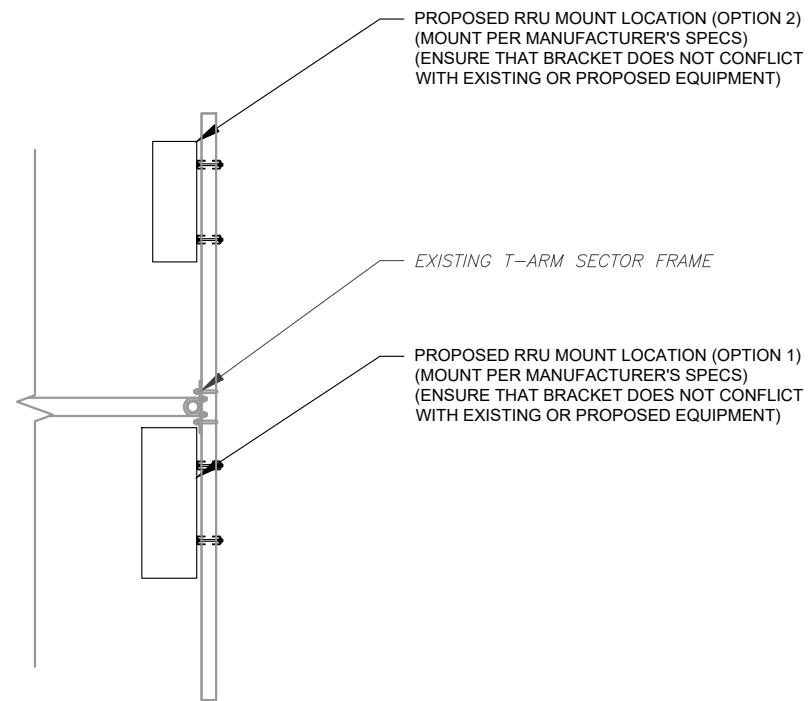
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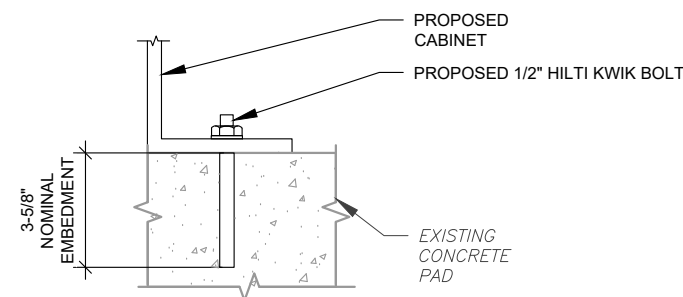
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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



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



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

4 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE



Kimley»Horn

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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/04/21
0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641

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BEACON FALLS CT

T-MOBILE SITE NAME:
CT487/BEACONFALLS

SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Freehart
D8BEE252A3804C1...

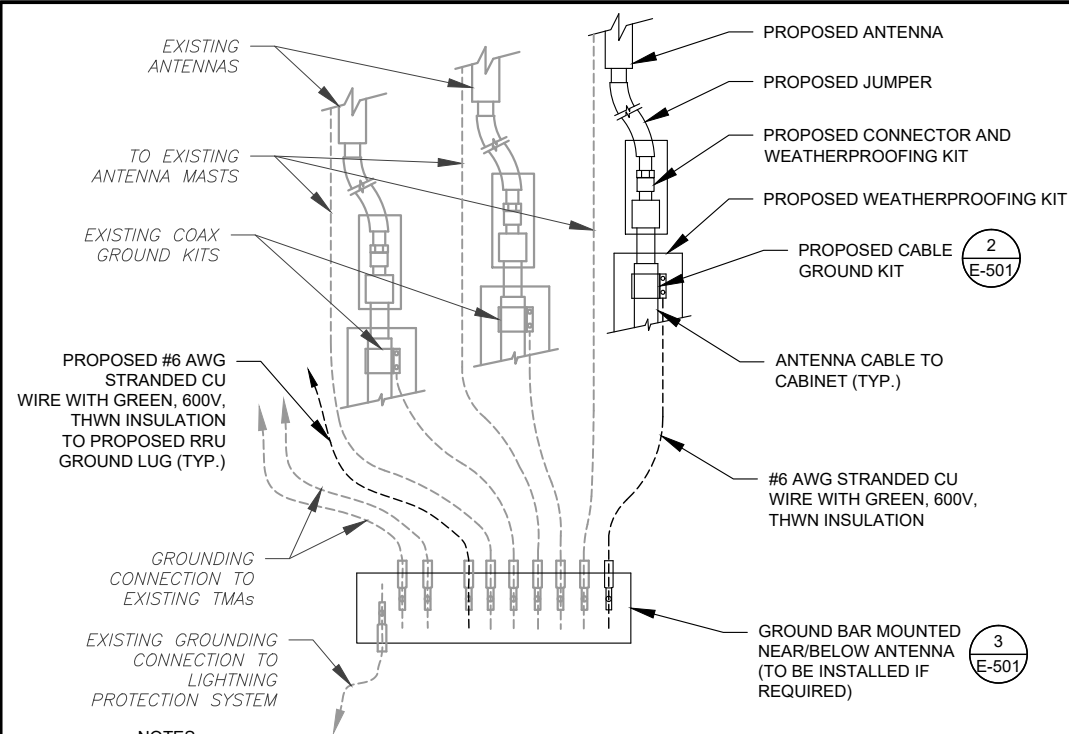


DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

**CONSTRUCTION
DETAILS**

SHEET NUMBER: C-501	REVISION: 0
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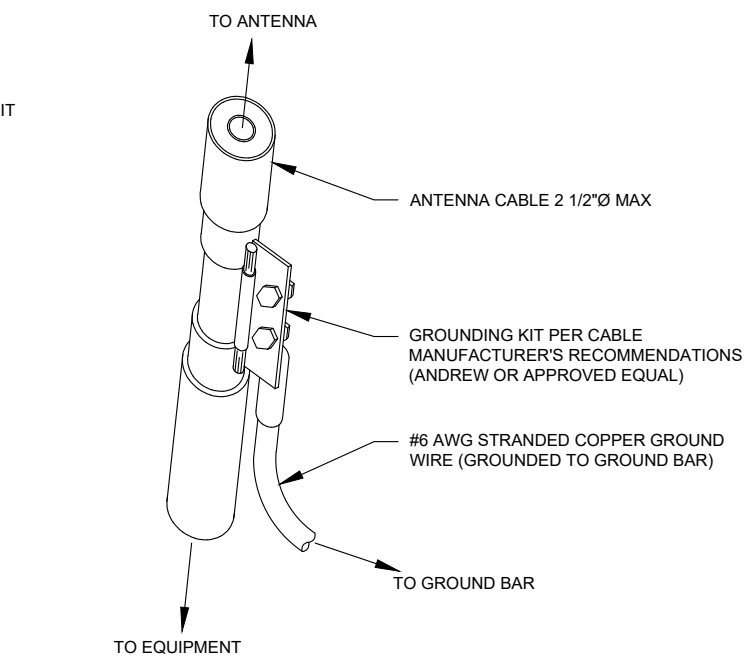
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NOTES:

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

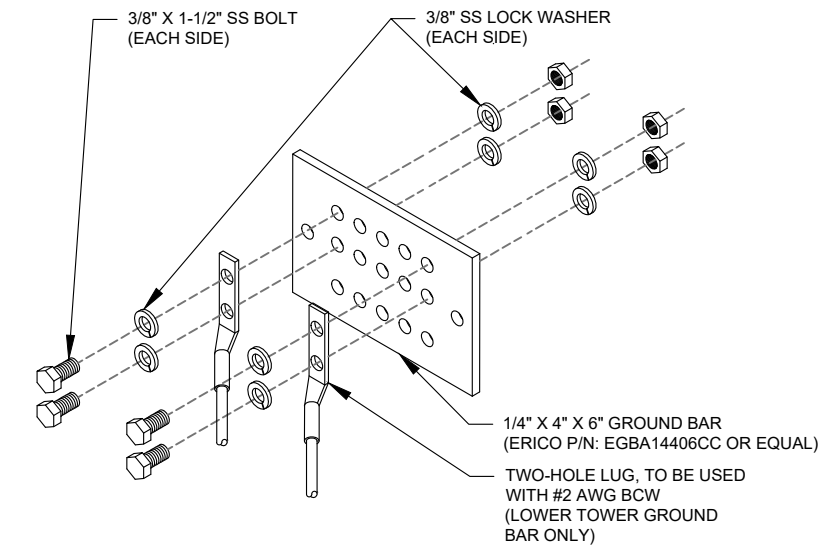
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

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

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



GROUND BAR NOTES:

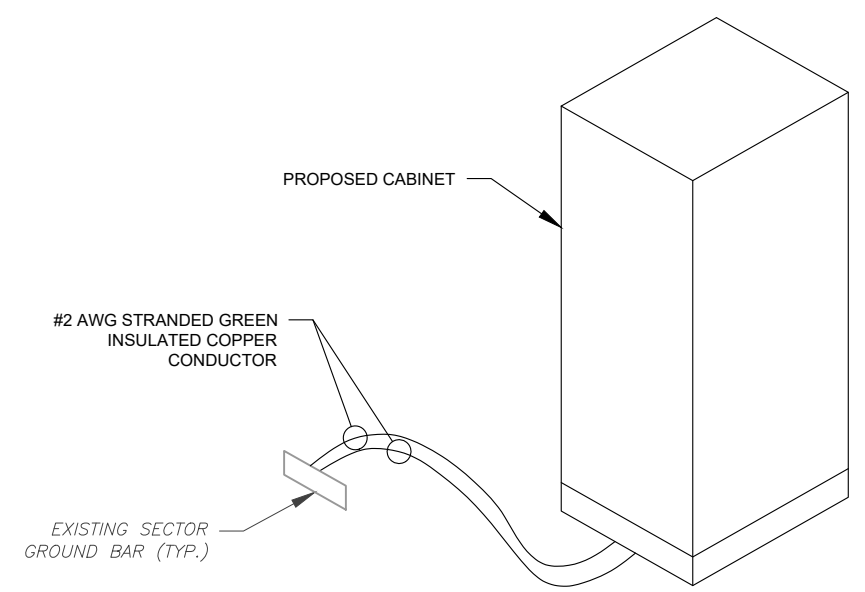
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

ELECTRICAL NOTES:

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

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



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



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

REV.	DESCRIPTION	BY	DATE
A	PRELIM	ARC	06/04/21
0	ISSUED FOR CONSTRUCTION	DJC	07/08/21

ATC SITE NUMBER:
370641

ATC SITE NAME:
BEACON FALLS CT

T-MOBILE SITE NAME:
CT487/BEACONFALLS

SITE ADDRESS:
401-411 LOPUS ROAD
BEACON FALLS, CT, 06403

SEAL:

DocuSigned by:
Kyle Freehart
D8BEE252A3804C1...



DATE DRAWN:	07/08/21
ATC JOB NO:	13677854
CUSTOMER ID:	CT487/BEACONFALLS
CUSTOMER #:	CT11487B

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

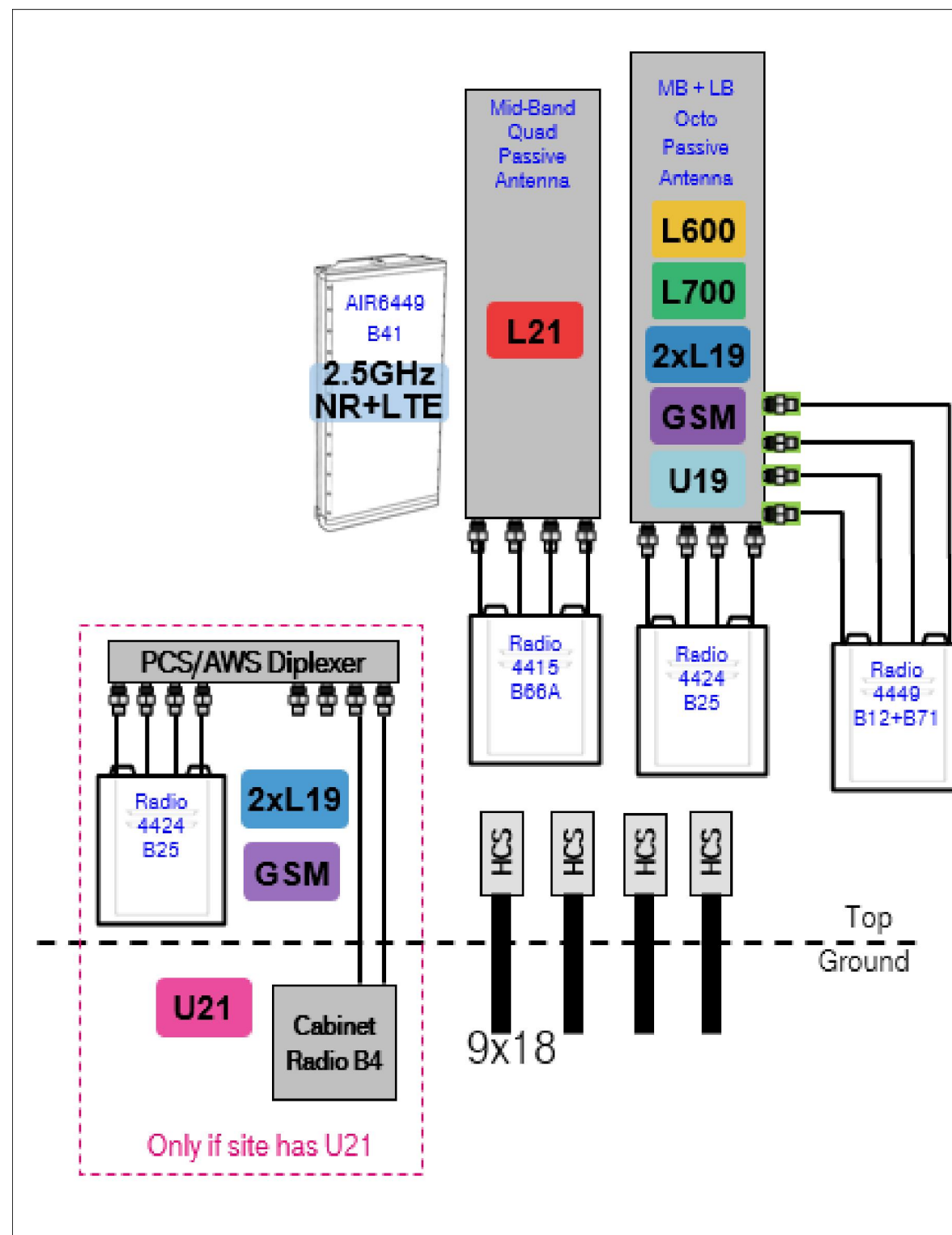
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Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 67D92C Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 (U2100) DUG20 (G1900) BB 6630 (L2100) BB 6630 (L700, L600, N600)	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG* (x 3)	
Radio	RU22 (x 6) U2100	

Proposed RAN Equipment			
Template: 67D5A998C Outdoor			
Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUW30 (U2100) DUG20 (G1900) BB 6630 (L2100) BB 6630 (L700, L600, N600)	BB 6648 (L2500, N2500)	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	Ericsson Hybrid Trunk 6/24 4AWG 60m PSU 4813	
Radio	RU22 (x 6) U2100		
Transport System		CSR IXRe V2 (Gen2)	

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

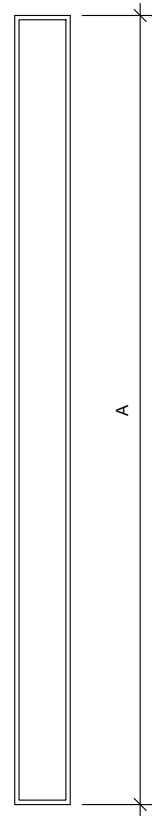


2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

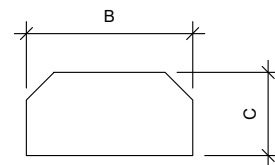
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SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: 0



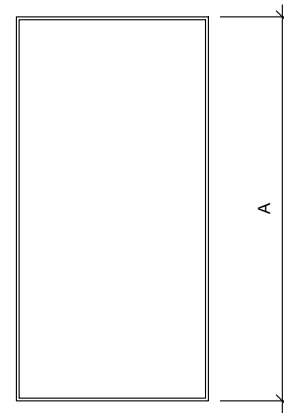
FRONT VIEW



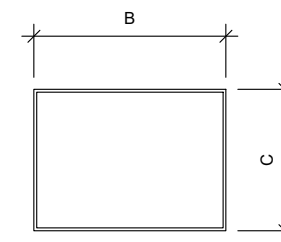
TOP VIEW

1 ANTENNA SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0
APX16DWV-16DWVS-E-A20	55.9"	13.3"	3.1"	40.7



FRONT VIEW



TOP VIEW

2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RRUS 4415 B66	15.0"	13.2"	5.4"	46
4424 B25	17.1"	14.4"	11.3"	86

SUPPLEMENTAL

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



Enclosure 6160 AC

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

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

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

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

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

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



Preliminary technical specification for Enclosure 6160 AC

CAPACITY

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

MECHANICAL SPECIFICATION

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

POWER SYSTEM

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

SUPPLEMENTAL

SHEET NUMBER:

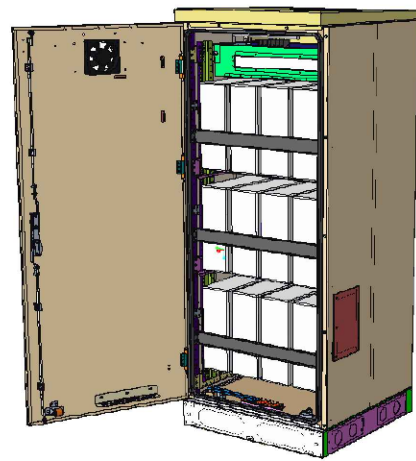
R-603

REVISION:

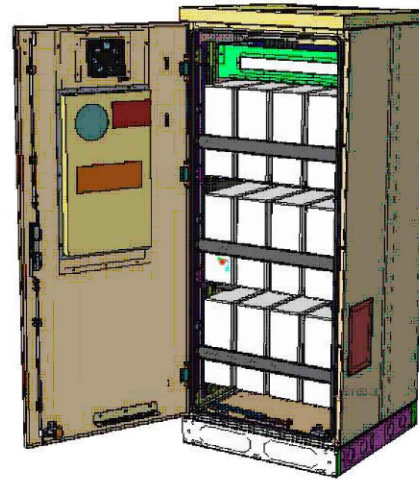
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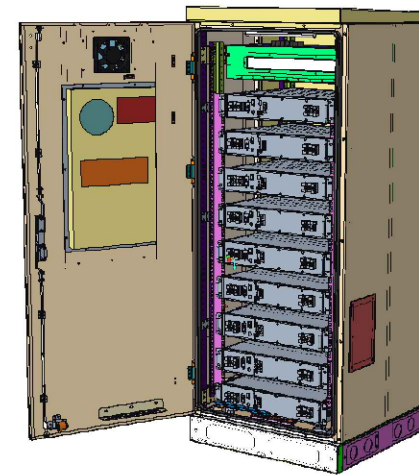
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

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

Enclosure B160

Capacity

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

Electrical specification

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

Mechanical specification

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

Environmental specification

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

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

SUPPLEMENTAL

SHEET NUMBER:

R-604

REVISION:

0

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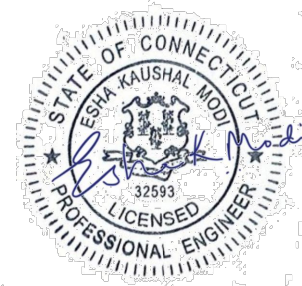
Mount Analysis Report


ATC Site Name : Beacon Falls CT, CT
ATC Site Number : 370641
Engineering Number : 13677854_C8_03
Mount Elevation : 133.5 ft
Carrier : T-Mobile
Carrier Site Name : CT487/BeaconFalls
Carrier Site Number : CT11487B
Site Location : 401-411 Lopus Road
 Beacon Falls, CT 06403-0000
 41.43283333 , -73.07022222
County : New Haven
Date : June 4, 2021
Max Usage : 89%
Result : Pass

Prepared By:
Alan Samboy
Structural Engineer



Reviewed By:



Authorized by "EOR"
07 Jun 2021 10:28:14 

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 133.5 ft.

Supporting Documents

Radio Frequency Data Sheet	RFDS ID #CT11487B, dated May 7, 2021
Reference Photos	Site photos from 2020

Analysis

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

Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.199, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

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



AMERICAN TOWER®
CORPORATION

Mount Analysis Report


ATC Site Name : Beacon Falls CT, CT
ATC Site Number : 370641
Engineering Number : 13677854_C8_03
Mount Elevation : 133.5 ft
Carrier : T-Mobile
Carrier Site Name : CT487/BeaconFalls
Carrier Site Number : CT11487B
Site Location : 401-411 Lopus Road
Beacon Falls, CT 06403-0000
41.43283333 , -73.07022222
County : New Haven
Date : June 4, 2021
Max Usage : 89%
Result : Pass

Prepared By:
Alan Samboy
Structural Engineer

Alan Samboy

Reviewed By:



Authorized by "EOR"
07 Jun 2021 10:28:14 

COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents 1

Analysis 1

Conclusion 1

Application Loading 2

Structure Usages 2

Mount Layout 3

Equipment Layout 4

Standard Conditions 7

Calculations Attached



Introduction

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Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.199, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

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



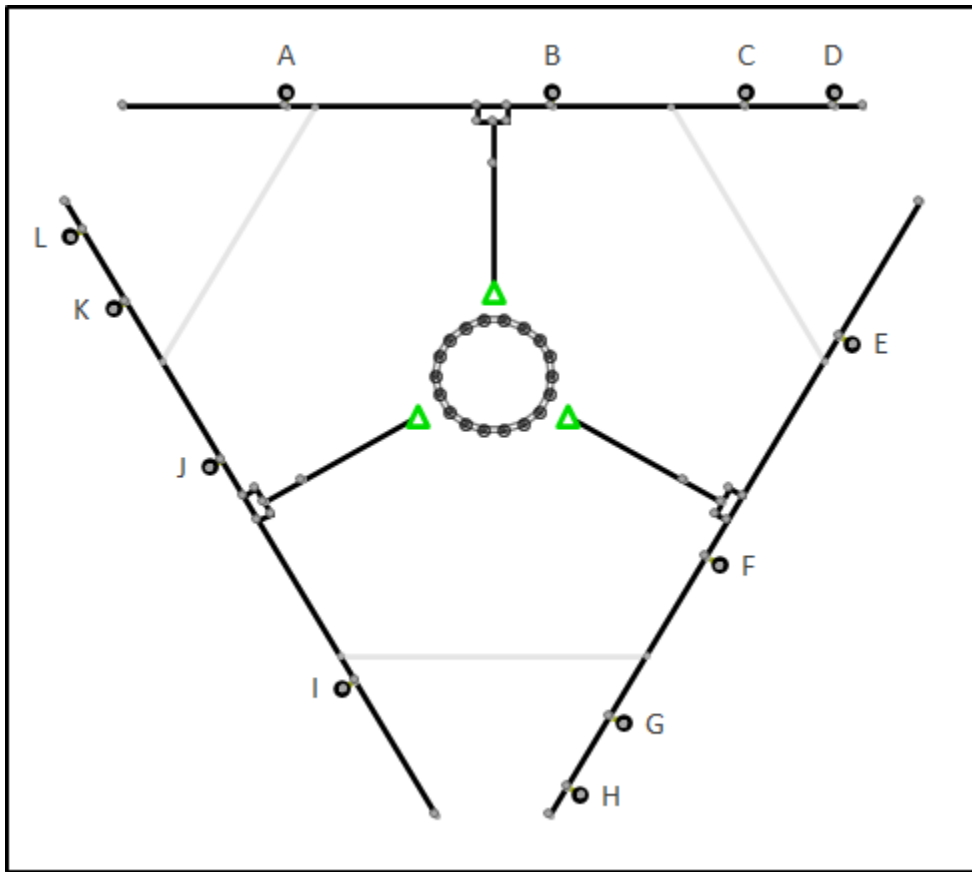
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
133.5	135.0	3	RFS APXVAARR24_43-U-NA20
		3	Ericsson Air6449 B41
		3	RFS APX16DWV-16DWVS-E-A20
		3	Ericsson KRY 112 144/1
		3	Commscope SDX1926Q-43
		3	Ericsson 4424 B25
		3	Ericsson Radio 4449 B71 B85A
		3	Ericsson RRUS 4415 B66

Structure Usages

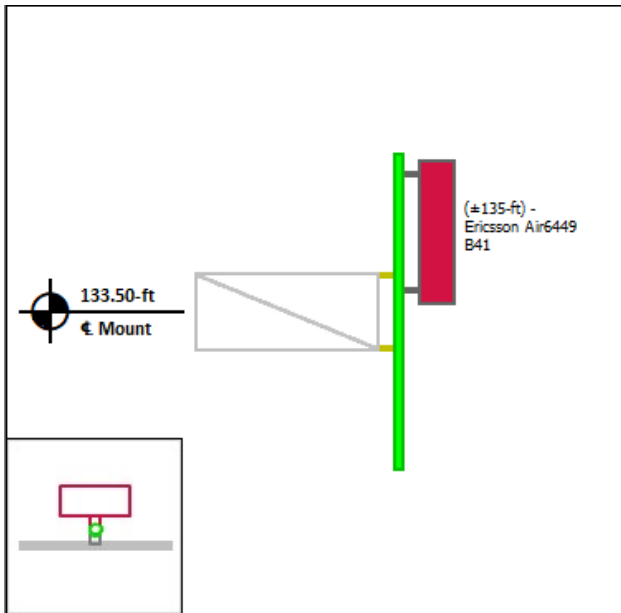
Structural Component	Controlling Usage	Pass/Fail
Horizontals	68%	Pass
Verticals	0%	Pass
Diagonals	10%	Pass
Mount Pipes	89%	Pass
Serviceability	N/A	Pass

Mount Layout

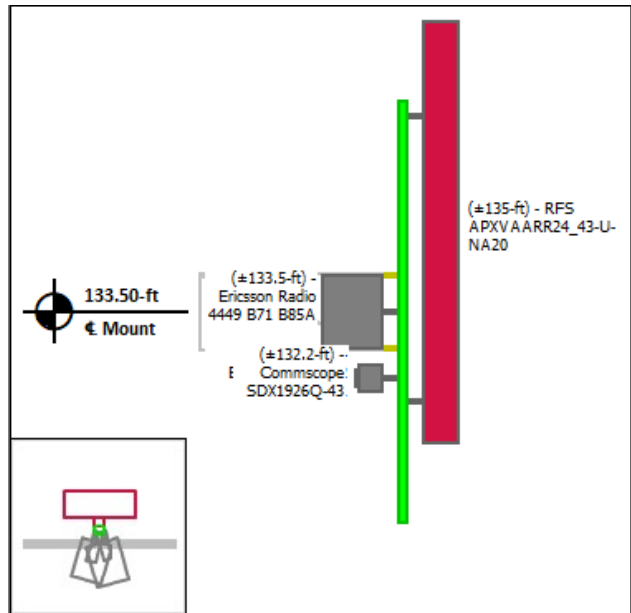


Equipment Layout

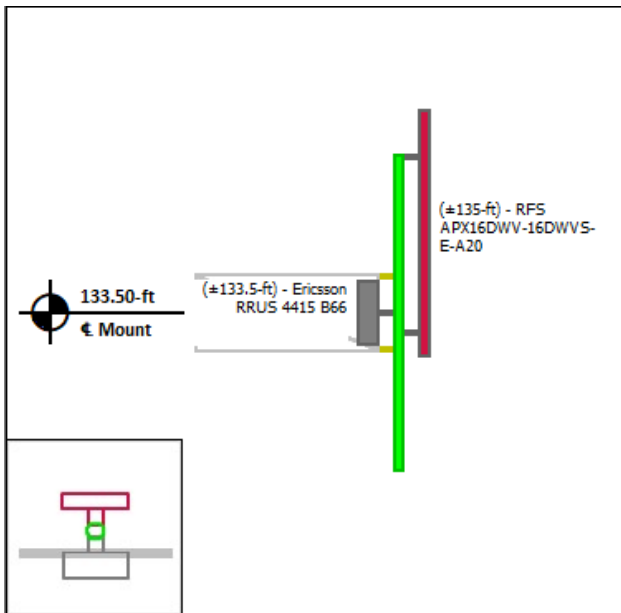
Mount Pipe A



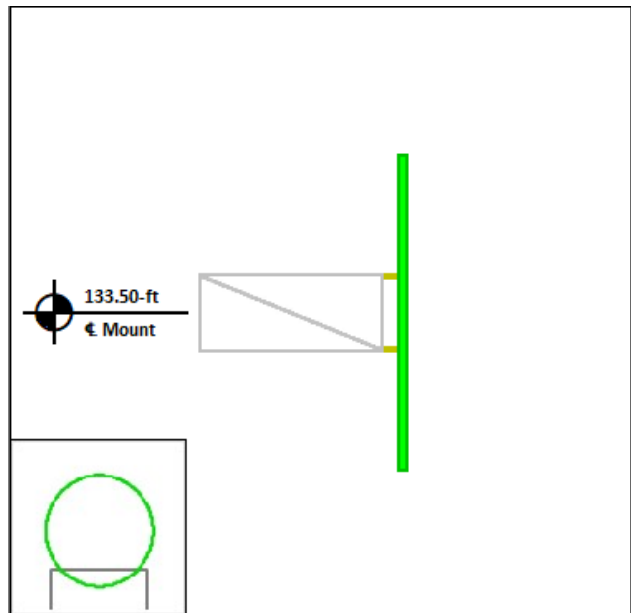
Mount Pipe B



Mount Pipe C

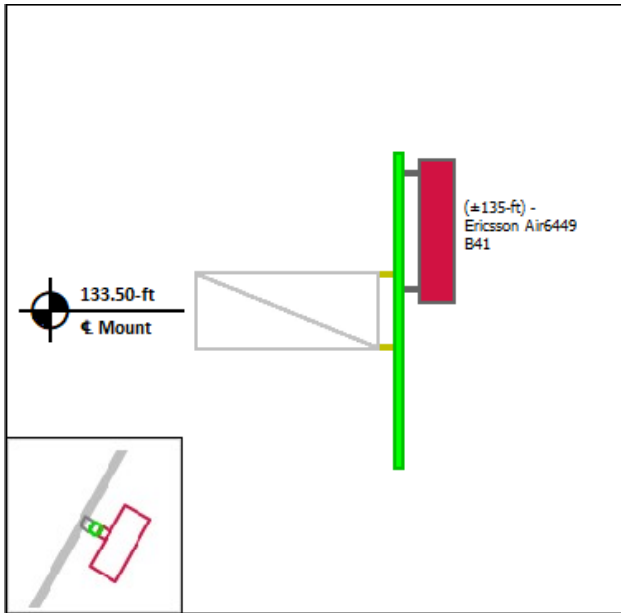


Mount Pipe D

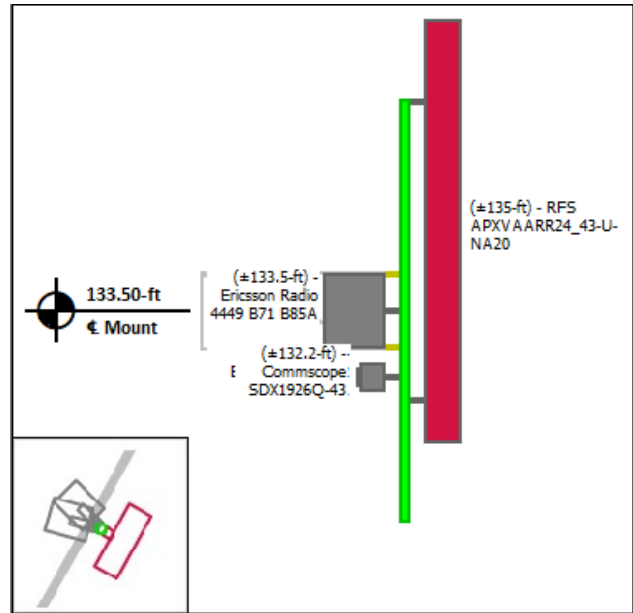


Equipment Layout Cont'd.

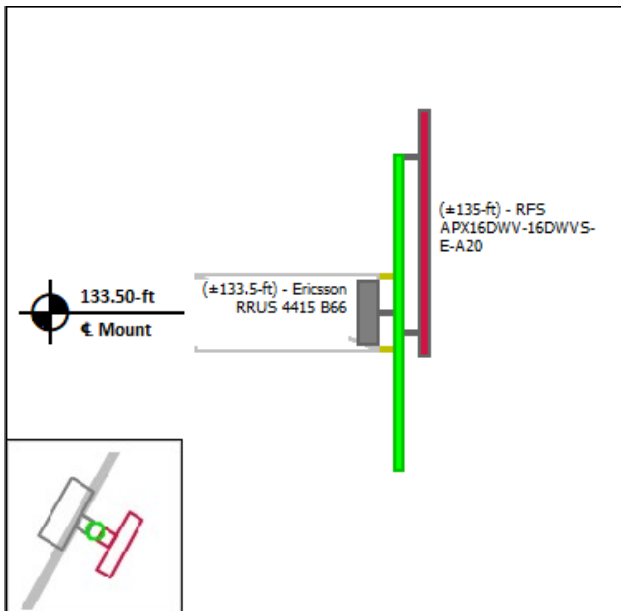
Mount Pipe E



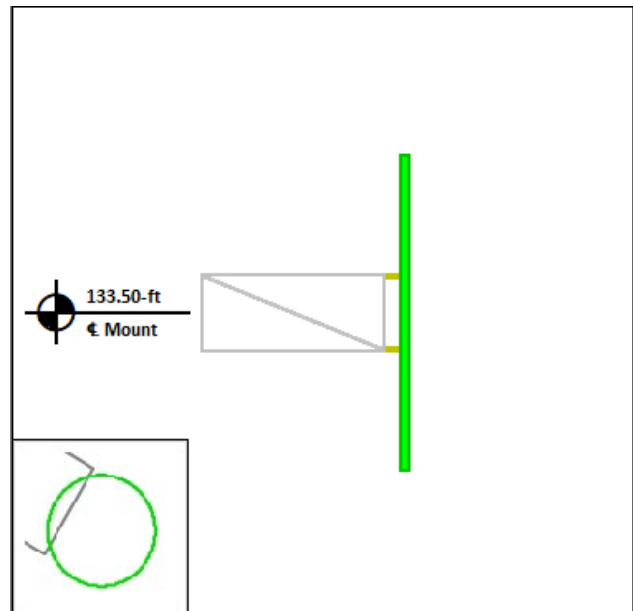
Mount Pipe F



Mount Pipe G

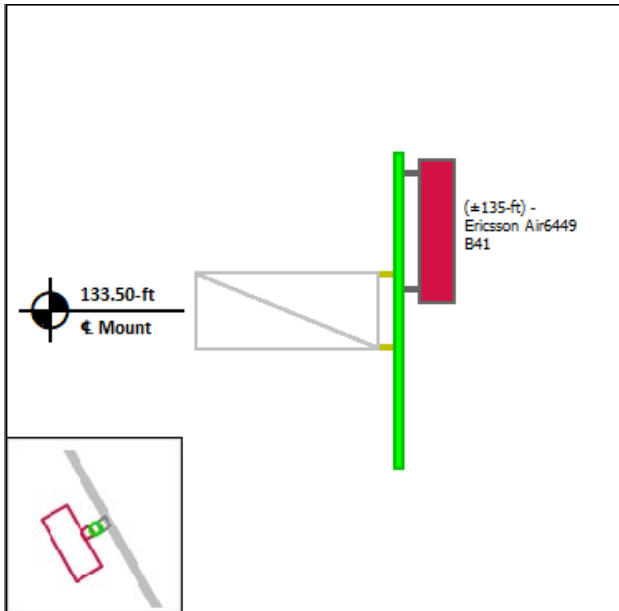


Mount Pipe H

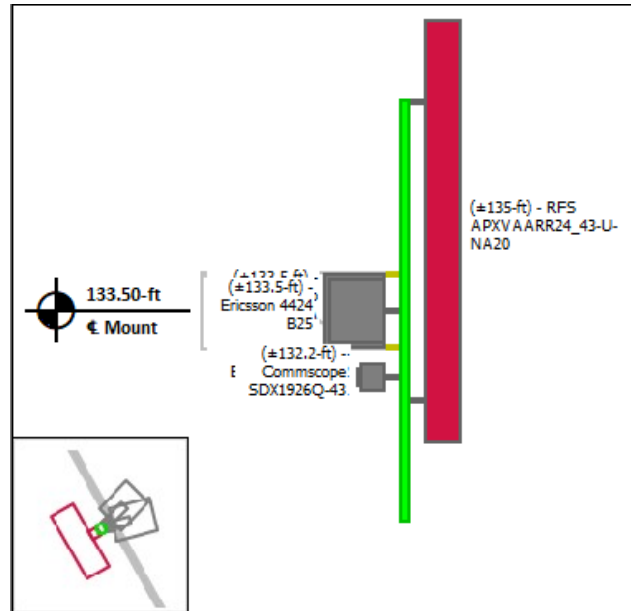


Equipment Layout Cont'd.

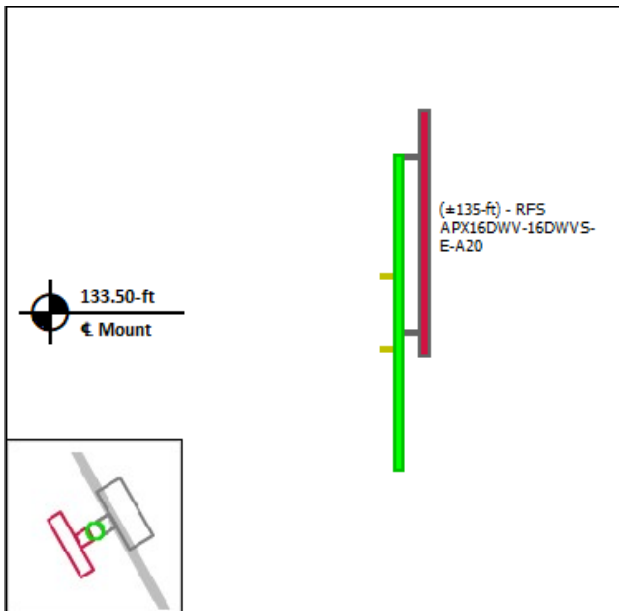
Mount Pipe I



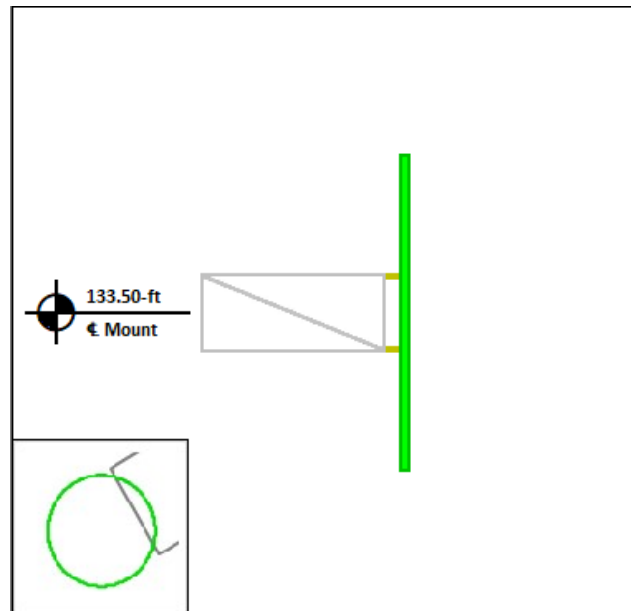
Mount Pipe J



Mount Pipe K



Mount Pipe L





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: 370641
Project Number: 13677854_C8_03
Carrier: T-Mobile
Mount Elevation: 133.5 ft
Date: 6/4/2021

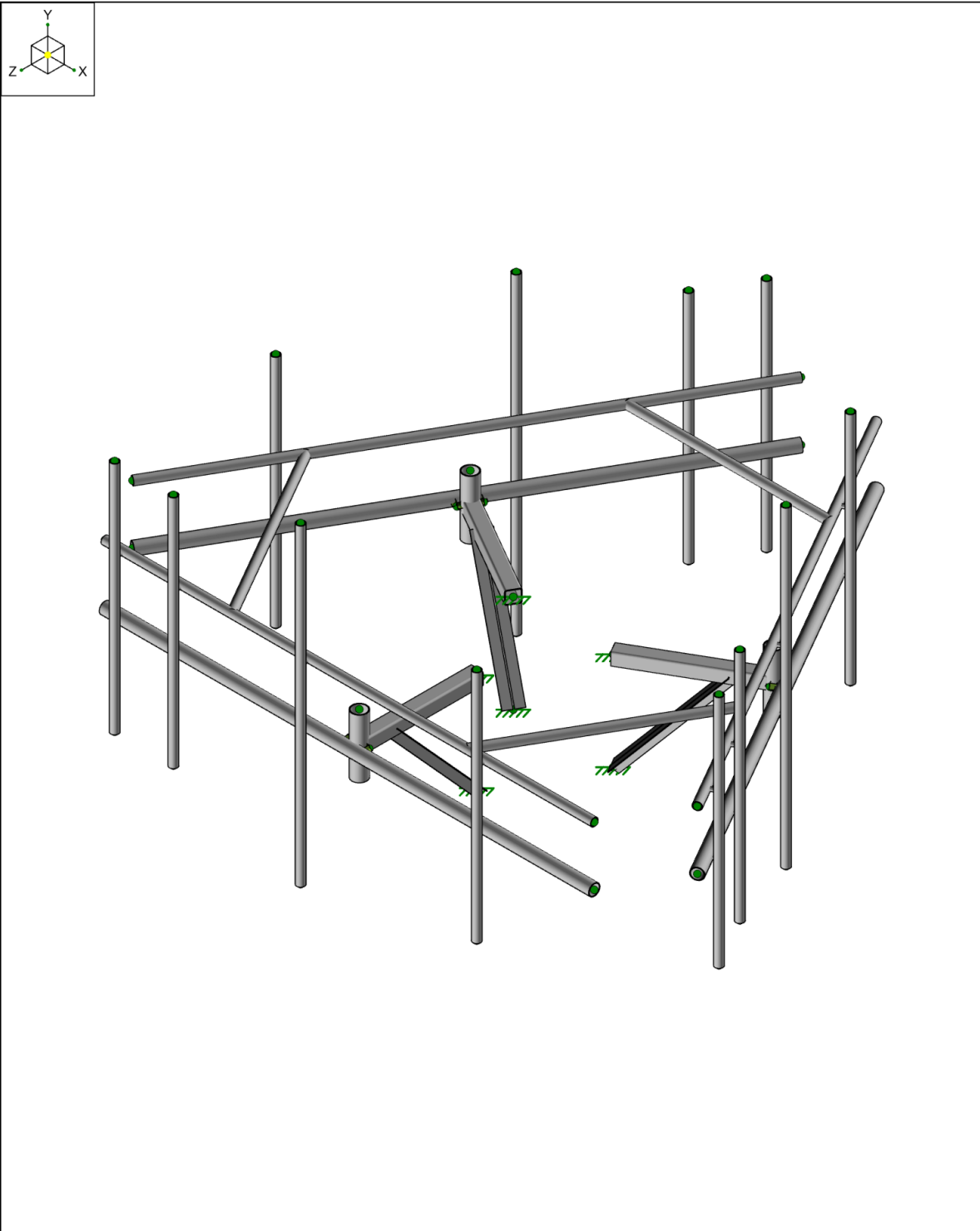
Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.07	
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	118	mph
Velocity Pressure	q_z	36.1	psf
Height Escalation Factor	K_{iz}	1.15	
Thickness of Radial Glaze Ice	T_{iz}	1.15	in

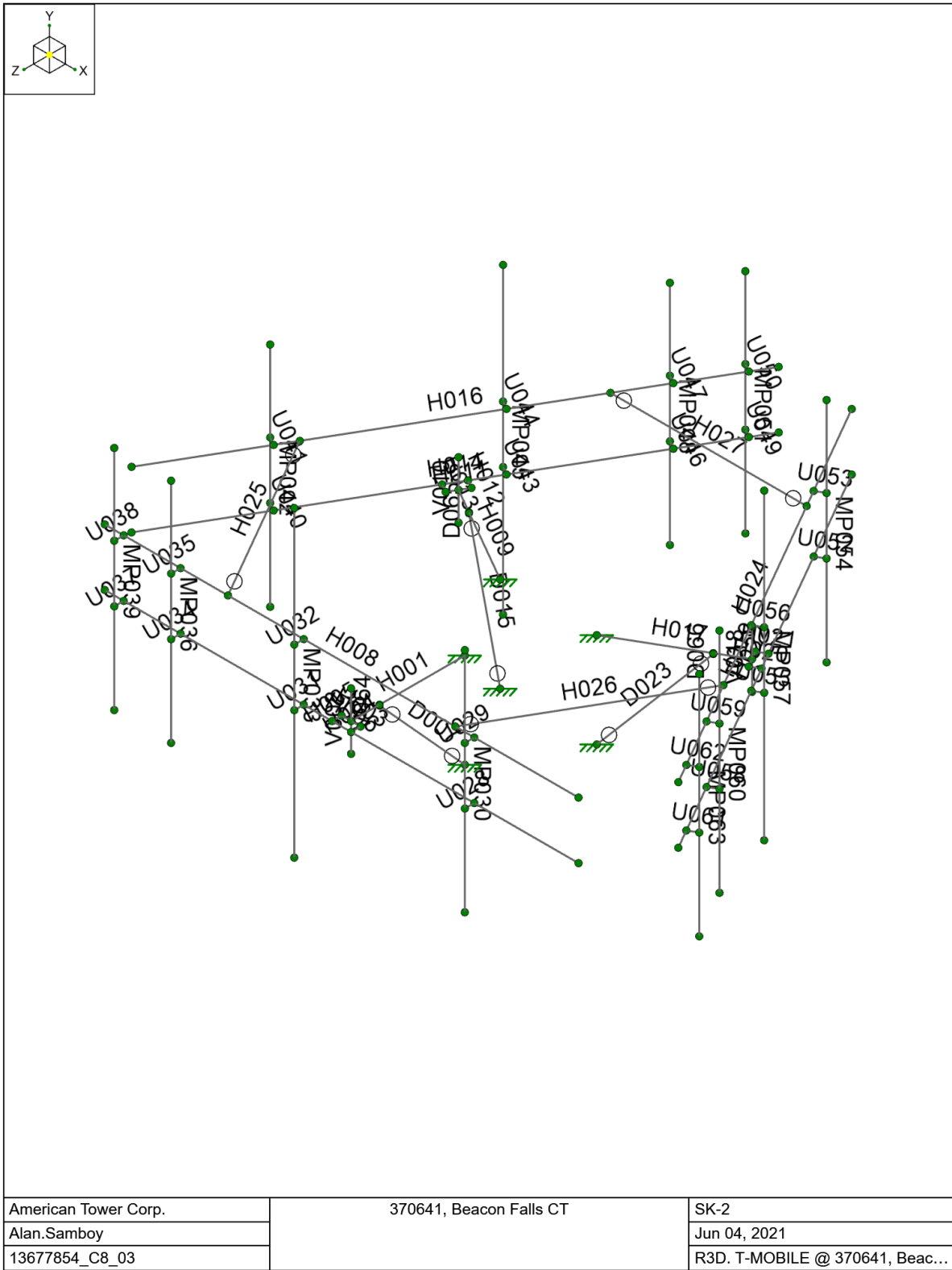
Seismic Load Calculations			
Short Period DSRAP	S_{D5}	0.212	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.106	
Amplification Factor	A	1.0	
Total Weight	W	2484.9	lbs
Total Shear Force	V_s	263.7	lbs
Horizontal Seismic Load	E_h	263.7	lbs
Vertical Seismic Load	E_v	105.5	lbs

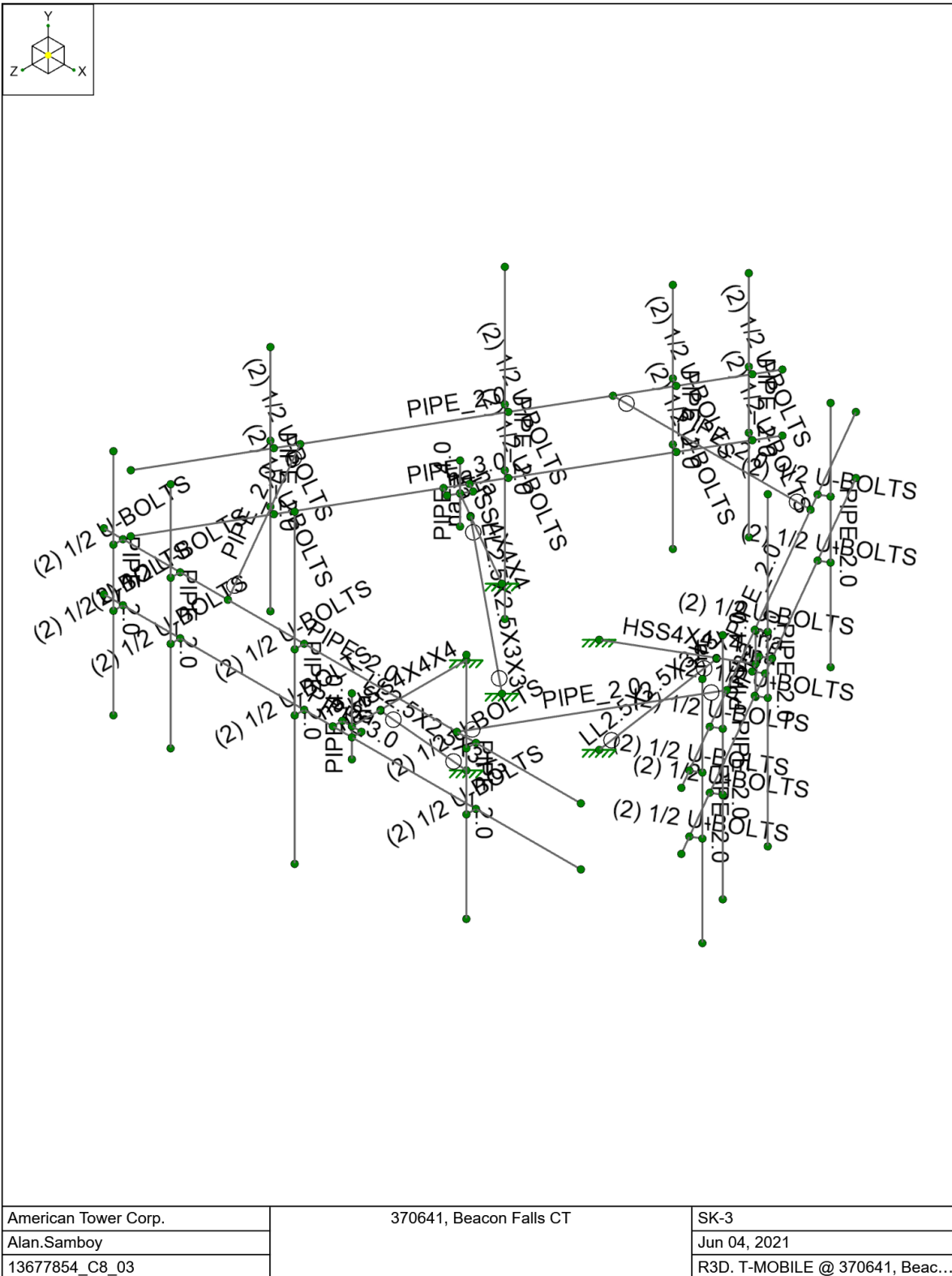
Antenna Calculations (Elevations per Application/RFDS)*								
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
RFS APXVAARR24_43-U-NA20	95.9	24.0	8.7	127.9	20.24	3.48	22.71	4.50
Ericsson Air6449 B41	33.1	20.6	8.6	104.0	5.68	1.56	6.76	2.12
RFS APX16DWV-16DWVS-E-A20	55.9	13.3	3.1	40.7	6.59	1.26	8.04	2.28
Ericsson KRY 112 144/1	6.9	6.1	2.7	11.0	0.35	0.09	0.64	0.22
Commscope SDX1926Q-43	4.2	6.9	2.9	6.2	0.24	0.10	0.50	0.28
Ericsson 4424 B25	17.1	14.4	11.3	86.0	2.05	1.61	2.70	2.20
Ericsson Radio 4449 B71 B85A	15.0	13.2	10.5	75.0	1.65	1.31	2.23	1.85
Ericsson RRUS 4415 B66	15.0	13.2	5.4	46.0	1.65	0.68	2.23	1.12

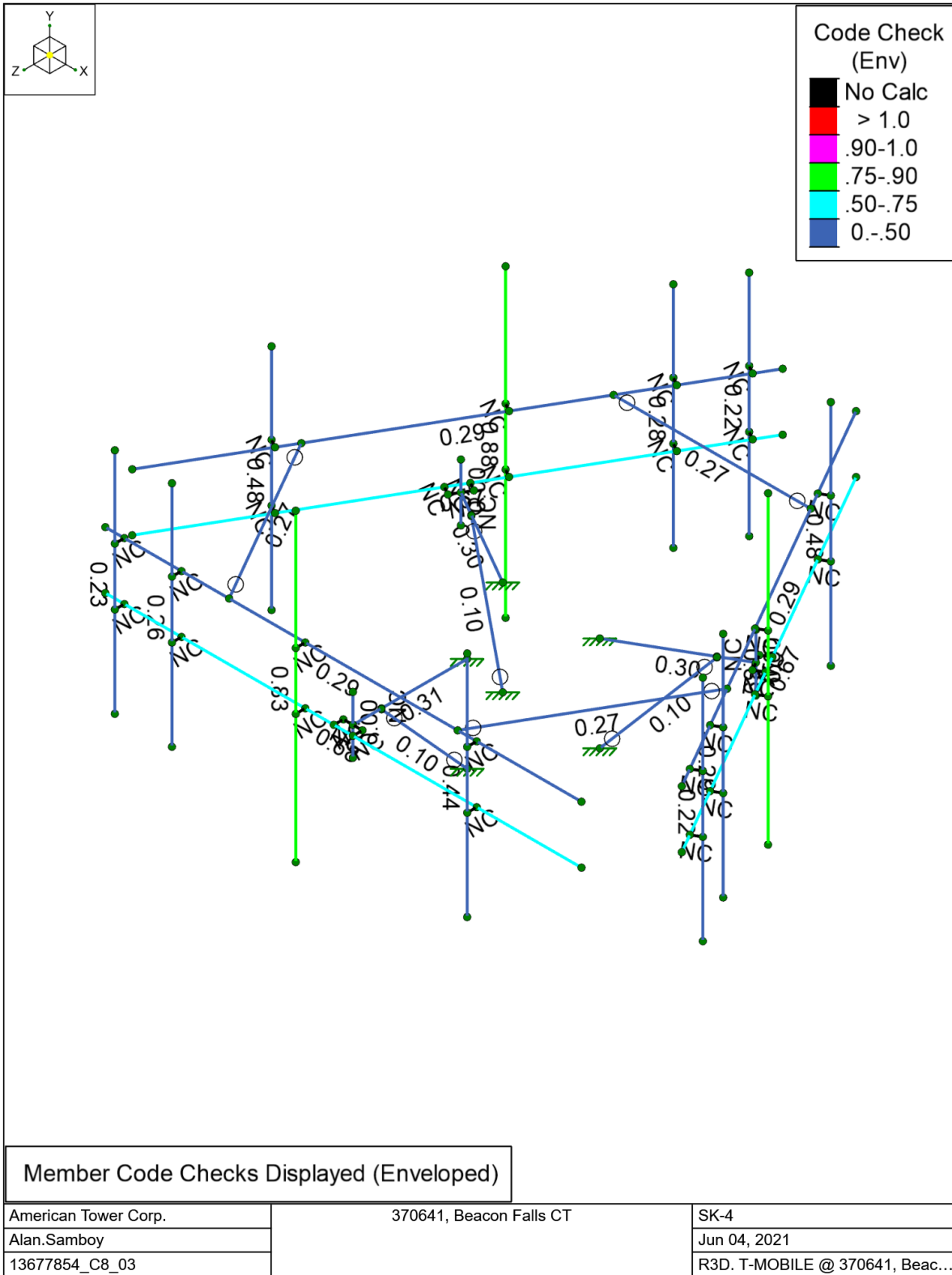
* Equipment with EPA values N/A were not considered in the mount analysis

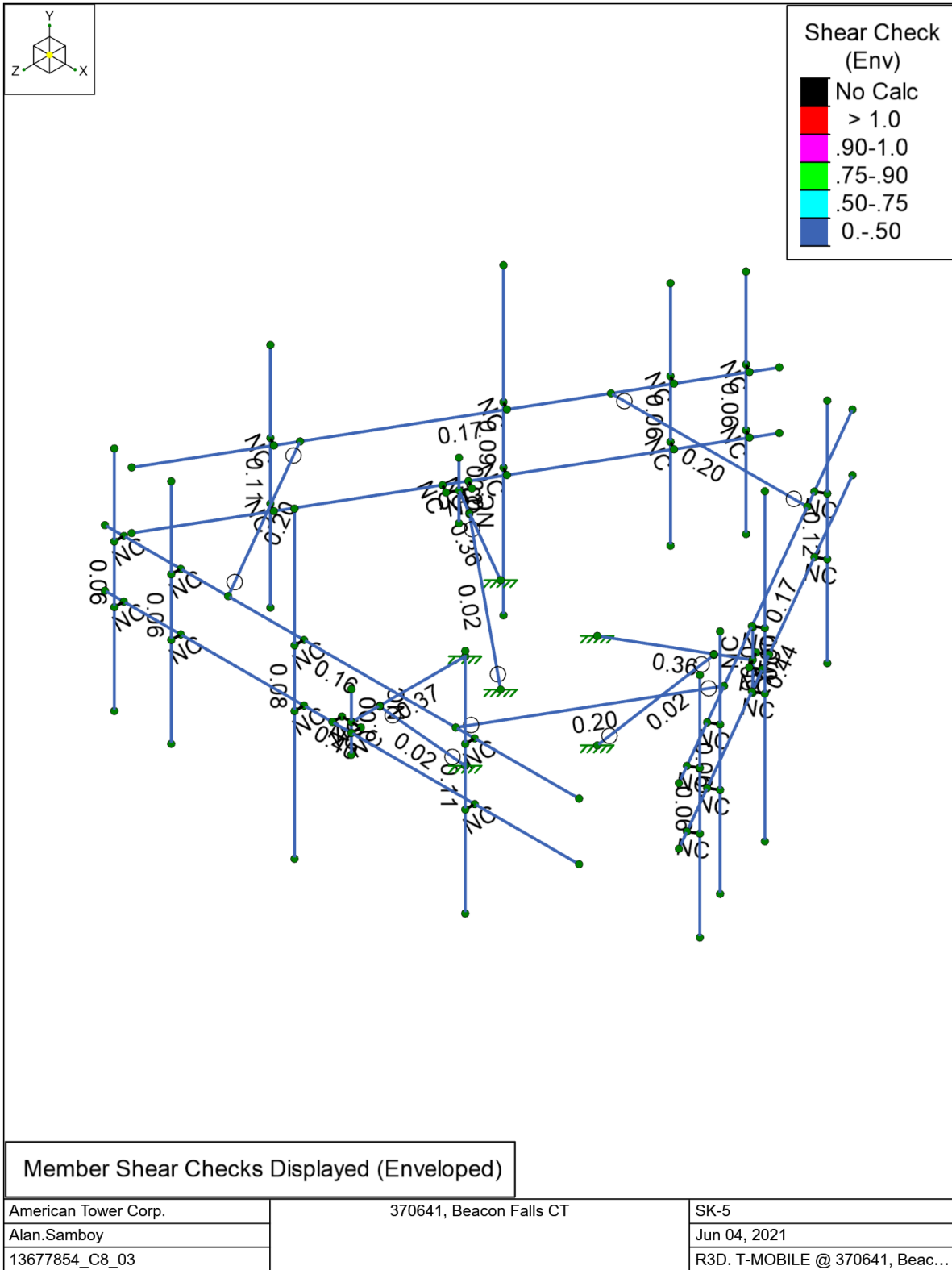


American Tower Corp.	370641, Beacon Falls CT	SK-1
Alan.Samboy		Jun 04, 2021
13677854_C8_03		R3D. T-MOBILE @ 370641, Beac...











Company : American Tower Corp.
 Designer : Alan.Samboy
 Job Number : 13677854_C8_03
 Model Name : 370641, Beacon Falls CT

6/4/2021
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Node Boundary Conditions

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Y Rot [k-in/rad]	Z Rot [k-in/rad]
1	N031	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N047	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N011	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N001	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N021	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N037	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N001	N002	HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
2	V002	N004	N003	PIPE 4.0	Column	None	A53 Gr. B	Typical
3	H003	N005	N007	RIGID	None	None	RIGID	Typical
4	H004	N005	N006	RIGID	None	None	RIGID	Typical
5	H005	N007	N008	RIGID	None	None	RIGID	Typical
6	H006	N009	N010	PIPE 3.0	Beam	None	A53 Gr. B	Typical
7	D007	N011	N012	LL2.5X2.5X3X3	Column	None	A36	Typical
8	H008	N013	N014	PIPE 2.0	Beam	None	A53 Gr. B	Typical
9	H009	N021	N022	HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
10	V010	N024	N023	PIPE 4.0	Column	None	A53 Gr. B	Typical
11	H011	N025	N027	RIGID	None	None	RIGID	Typical
12	H012	N025	N026	RIGID	None	None	RIGID	Typical
13	H013	N027	N028	RIGID	None	None	RIGID	Typical
14	H014	N029	N030	PIPE 3.0	Beam	None	A53 Gr. B	Typical
15	D015	N031	N032	LL2.5X2.5X3X3	Column	None	A36	Typical
16	H016	N033	N034	PIPE 2.0	Beam	None	A53 Gr. B	Typical
17	H017	N037	N038	HSS4X4X4	Beam	None	A500 Gr. B [SQR]	Typical
18	V018	N040	N039	PIPE 4.0	Column	None	A53 Gr. B	Typical
19	H019	N041	N043	RIGID	None	None	RIGID	Typical
20	H020	N041	N042	RIGID	None	None	RIGID	Typical
21	H021	N043	N044	RIGID	None	None	RIGID	Typical
22	H022	N045	N046	PIPE 3.0	Beam	None	A53 Gr. B	Typical
23	D023	N047	N048	LL2.5X2.5X3X3	Column	None	A36	Typical
24	H024	N049	N050	PIPE 2.0	Beam	None	A53 Gr. B	Typical
25	H025	N016	N036	PIPE 2.0	Beam	None	A53 Gr. B	Typical
26	H026	N051	N015	PIPE 2.0	Beam	None	A53 Gr. B	Typical
27	H027	N035	N052	PIPE 2.0	Beam	None	A53 Gr. B	Typical
28	U028	N017	N053	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
29	U029	N054	N055	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
30	MP030	N056	N057	PIPE 2.0	Column	None	A53 Gr. B	Typical
31	U031	N018	N058	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
32	U032	N059	N060	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
33	MP033	N061	N062	PIPE 2.0	Column	None	A53 Gr. B	Typical
34	U034	N019	N063	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
35	U035	N064	N065	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
36	MP036	N066	N067	PIPE 2.0	Column	None	A53 Gr. B	Typical
37	U037	N020	N068	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
38	U038	N069	N070	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
39	MP039	N071	N072	PIPE 2.0	Column	None	A53 Gr. B	Typical
40	U040	N073	N081	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
41	U041	N082	N083	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
42	MP042	N084	N085	PIPE 2.0	Column	None	A53 Gr. B	Typical
43	U043	N074	N086	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
44	U044	N087	N088	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
45	MP045	N089	N090	PIPE 2.0	Column	None	A53 Gr. B	Typical
46	U046	N075	N091	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
47	U047	N092	N093	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
48	MP048	N094	N095	PIPE 2.0	Column	None	A53 Gr. B	Typical
49	U049	N076	N096	(2) 1/2 U-BOLTS	Beam	None	A36	Typical



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13677854_C8_03
 Model Name : 370641, Beacon Falls CT

6/4/2021
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Member Primary Data (Continued)

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
50	U050	N097	N098	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
51	MP051	N099	N100	PIPE 2.0	Column	None	A53 Gr. B	Typical
52	U052	N077	N101	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
53	U053	N102	N103	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
54	MP054	N104	N105	PIPE 2.0	Column	None	A53 Gr. B	Typical
55	U055	N078	N106	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
56	U056	N107	N108	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
57	MP057	N109	N110	PIPE 2.0	Column	None	A53 Gr. B	Typical
58	U058	N079	N111	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
59	U059	N112	N113	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
60	MP060	N114	N115	PIPE 2.0	Column	None	A53 Gr. B	Typical
61	U061	N080	N116	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
62	U062	N117	N118	(2) 1/2 U-BOLTS	Beam	None	A36	Typical
63	MP063	N119	N120	PIPE 2.0	Column	None	A53 Gr. B	Typical
64	V064	N012	N121	RIGID	None	None	RIGID	Typical
65	D065	N032	N123	RIGID	None	None	RIGID	Typical
66	D066	N048	N122	RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001			Yes			None
2	V002			Yes	** NA **		None
3	H003			Yes	** NA **		None
4	H004			Yes	** NA **		None
5	H005			Yes	** NA **		None
6	H006			Yes			None
7	D007	BenPIN	BenPIN	Yes	** NA **		None
8	H008			Yes			None
9	H009			Yes			None
10	V010			Yes	** NA **		None
11	H011			Yes	** NA **		None
12	H012			Yes	** NA **		None
13	H013			Yes	** NA **		None
14	H014			Yes			None
15	D015	BenPIN	BenPIN	Yes	** NA **		None
16	H016			Yes			None
17	H017			Yes			None
18	V018			Yes	** NA **		None
19	H019			Yes	** NA **		None
20	H020			Yes	** NA **		None
21	H021			Yes	** NA **		None
22	H022			Yes			None
23	D023	BenPIN	BenPIN	Yes	** NA **		None
24	H024			Yes			None
25	H025	BenPIN	BenPIN	Yes			None
26	H026	BenPIN	BenPIN	Yes			None
27	H027	BenPIN	BenPIN	Yes			None
28	U028			Yes		Exclude	None
29	U029			Yes		Exclude	None
30	MP030			Yes	** NA **		None
31	U031			Yes		Exclude	None
32	U032			Yes		Exclude	None
33	MP033			Yes	** NA **		None
34	U034			Yes		Exclude	None
35	U035			Yes		Exclude	None
36	MP036			Yes	** NA **		None
37	U037			Yes		Exclude	None
38	U038			Yes		Exclude	None



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13677854_C8_03
 Model Name : 370641, Beacon Falls CT

6/4/2021
 3:16:18 PM
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Member Advanced Data (Continued)

	Label	I Release	J Release	Physical	Deflection Ratio Options	Activation	Seismic DR
39	MP039			Yes	** NA **		None
40	U040			Yes		Exclude	None
41	U041			Yes		Exclude	None
42	MP042			Yes	** NA **		None
43	U043			Yes		Exclude	None
44	U044			Yes		Exclude	None
45	MP045			Yes	** NA **		None
46	U046			Yes		Exclude	None
47	U047			Yes		Exclude	None
48	MP048			Yes	** NA **		None
49	U049			Yes		Exclude	None
50	U050			Yes		Exclude	None
51	MP051			Yes	** NA **		None
52	U052			Yes		Exclude	None
53	U053			Yes		Exclude	None
54	MP054			Yes	** NA **		None
55	U055			Yes		Exclude	None
56	U056			Yes		Exclude	None
57	MP057			Yes	** NA **		None
58	U058			Yes		Exclude	None
59	U059			Yes		Exclude	None
60	MP060			Yes	** NA **		None
61	U061			Yes		Exclude	None
62	U062			Yes		Exclude	None
63	MP063			Yes	** NA **		None
64	V064			Yes	** NA **		None
65	D065			Yes	** NA **		None
66	D066			Yes	** NA **		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	K y-y	K z-z	Function
1	H001	HSS4X4X4	36	Lbyy	0.65	0.65	Lateral
2	V002	PIPE 4.0	18	Lbyy	0.65	0.65	Lateral
3	H006	PIPE 3.0	150	Lbyy	1	1	Lateral
4	D007	LL2.5X2.5X3X3	40.175	Lbyy	1	1	Lateral
5	H008	PIPE 2.0	150	Lbyy	1	1	Lateral
6	H009	HSS4X4X4	36	Lbyy	0.65	0.65	Lateral
7	V010	PIPE 4.0	18	Lbyy	0.65	0.65	Lateral
8	H014	PIPE 3.0	150	Lbyy	1	1	Lateral
9	D015	LL2.5X2.5X3X3	40.175	Lbyy	1	1	Lateral
10	H016	PIPE 2.0	150	Lbyy	1	1	Lateral
11	H017	HSS4X4X4	36	Lbyy	0.65	0.65	Lateral
12	V018	PIPE 4.0	18	Lbyy	0.65	0.65	Lateral
13	H022	PIPE 3.0	150	Lbyy	1	1	Lateral
14	D023	LL2.5X2.5X3X3	40.175	Lbyy	1	1	Lateral
15	H024	PIPE 2.0	150	Lbyy	1	1	Lateral
16	H025	PIPE 2.0	62.129	Lbyy	1	1	Lateral
17	H026	PIPE 2.0	62.129	Lbyy	1	1	Lateral
18	H027	PIPE 2.0	62.129	Lbyy	1	1	Lateral
19	U028	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
20	U029	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
21	MP030	PIPE 2.0	72	Lbyy	2.1	2.1	Lateral
22	U031	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
23	U032	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
24	MP033	PIPE 2.0	96	Lbyy	2.1	2.1	Lateral
25	U034	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
26	U035	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
27	MP036	PIPE 2.0	72	Lbyy	2.1	2.1	Lateral



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13677854_C8_03
 Model Name : 370641, Beacon Falls CT

6/4/2021
 3:16:18 PM
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Hot Rolled Steel Design Parameters (Continued)

Label	Shape	Length [in]	Lcomp top [in]	K y-y	K z-z	Function
28	U037	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
29	U038	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
30	MP039	PIPE 2.0	72	Lbyy	2.1	Lateral
31	U040	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
32	U041	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
33	MP042	PIPE 2.0	72	Lbyy	2.1	Lateral
34	U043	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
35	U044	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
36	MP045	PIPE 2.0	96	Lbyy	2.1	Lateral
37	U046	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
38	U047	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
39	MP048	PIPE 2.0	72	Lbyy	2.1	Lateral
40	U049	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
41	U050	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
42	MP051	PIPE 2.0	72	Lbyy	2.1	Lateral
43	U052	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
44	U053	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
45	MP054	PIPE 2.0	72	Lbyy	2.1	Lateral
46	U055	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
47	U056	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
48	MP057	PIPE 2.0	96	Lbyy	2.1	Lateral
49	U058	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
50	U059	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
51	MP060	PIPE 2.0	72	Lbyy	2.1	Lateral
52	U061	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
53	U062	(2) 1/2 U-BOLTS	3	Lbyy	0.5	Lateral
54	MP063	PIPE 2.0	72	Lbyy	2.1	Lateral

Hot Rolled Steel Properties

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

Envelope Node Reactions

Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC		
1	N031	max	358.353	22	3228.543	28	199.971	22	2.306	163	1.324	133	1.331	163
2		min	-2513.429	28	-468.207	22	-1449.309	28	-1.041	133	-2.933	163	-0.601	133
3	N047	max	2516.701	36	3232.98	36	209.343	18	1.041	176	1.324	176	1.331	218
4		min	-375.028	18	-489.284	18	-1451.701	36	-2.305	218	-2.933	218	-0.601	176
5	N011	max	21.628	17	3191.974	32	2869.414	32	0	219	1.312	76	1.191	76
6		min	-21.857	23	-357.016	14	-315.575	14	0	1	-2.971	118	-2.697	118
7	N001	max	1091.864	6	1089.894	14	1973.828	14	1077.997	8	2632.995	6	1995.328	86
8		min	-1089.608	12	-1914.657	8	-4057.13	8	-701.373	14	-2638.255	12	-4441.547	116
9	N021	max	3692.178	4	1201.082	22	2694.414	3	3578.617	170	2517.051	11	2592.269	161
10		min	-1887.052	22	-2025.477	4	-1650.288	21	-1957.7	128	-2506.479	5	-1014.82	21
11	N037	max	2298.932	17	1221.952	18	2330.372	13	1533.369	175	2427.463	10	1838.815	213
12		min	-4103.446	11	-2045.311	12	-1281.837	19	-4025.111	217	-2427.953	4	-1403.502	183
13	Totals:	max	4234.513	5	5830.666	30	3942.235	2						
14		min	-4234.513	23	2198.744	24	-3942.235	20						

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
1	H001	HSS4X4X4	0.306	27	118	0.368	27	y	116	137315.307	139518	16180.5	16180.5	1.527	H3-6
2	V002	PIPE 4.0	0	9	5	0	9	5	92956.9	93240	10631.25	10631.25	1.562	H1-1b	
3	H006	PIPE 3.0	0.676	78.125	116	0.403	78.125	8	28250.554	65205	5748.75	5748.75	3	H1-1b	
4	D007	LL2.5X2.5X3X3	0.095	0	32	0.017	40.175	y	118	45044.195	58320	3954.307	2549.586	1	H1-1b*



Company : American Tower Corp.
 Designer : Alan.Sambo
 Job Number : 13677854_C8_03
 Model Name : 370641, Beacon Falls CT

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
5	H008	PIPE 2.0	0.292	85.938	116	0.157	87.5	8	6295.422	32130	1871.625	1871.625	1.439	H1-1b	
6	H009	HSS4X4X4	0.303	27	162	0.363	27	y	160	137315.307	139518	16180.5	16180.5	1.528	H3-6
7	V010	PIPE 4.0	0	9	2	0	9	2	92956.9	93240	10631.25	10631.25	1.316	H1-1b	
8	H014	PIPE 3.0	0.668	71.875	160	0.429	71.875	4	28250.554	65205	5748.75	5748.75	3	H1-1b	
9	D015	LL2.5X2.5X3X3	0.096	0	28	0.017	40.175	y	162	45044.195	58320	3954.307	2549.586	1.136	H1-1b*
10	H016	PIPE 2.0	0.288	64.063	160	0.17	62.5	4	6295.422	32130	1871.625	1871.625	1.445	H1-1b	
11	H017	HSS4X4X4	0.304	27	218	0.364	27	y	216	137315.307	139518	16180.5	16180.5	1.528	H3-6
12	V018	PIPE 4.0	0	9	11	0	9	11	92956.9	93240	10631.25	10631.25	1.561	H1-1b	
13	H022	PIPE 3.0	0.669	71.875	216	0.441	71.875	12	28250.554	65205	5748.75	5748.75	3	H1-1b	
14	D023	LL2.5X2.5X3X3	0.096	0	36	0.017	40.175	y	218	45044.195	58320	3954.307	2549.586	1.136	H1-1b*
15	H024	PIPE 2.0	0.288	64.063	217	0.166	62.5	12	6295.422	32130	1871.625	1871.625	1.442	H1-1b	
16	H025	PIPE 2.0	0.268	31.065	71	0.205	62.129	117	23298.558	32130	1871.625	1871.625	1.31	H1-1b	
17	H026	PIPE 2.0	0.268	31.065	72	0.203	62.129	217	23298.558	32130	1871.625	1871.625	1.31	H1-1b	
18	H027	PIPE 2.0	0.268	31.065	73	0.202	62.129	161	23298.558	32130	1871.625	1871.625	1.31	H1-1b	
19	MP030	PIPE 2.0	0.444	43.5	2	0.11	43.5	7	6195.892	32130	1871.625	1871.625	3	H1-1b	
20	MP033	PIPE 2.0	0.828	55	2	0.078	55	2	3485.189	32130	1871.625	1871.625	3	H1-1b	
21	MP036	PIPE 2.0	0.265	43.5	13	0.063	43.5	12	6195.892	32130	1871.625	1871.625	2.4	H1-1b	
22	MP039	PIPE 2.0	0.228	25.5	119	0.06	43.5	119	6195.892	32130	1871.625	1871.625	3	H1-1b	
23	MP042	PIPE 2.0	0.485	43.5	10	0.113	43.5	3	6195.892	32130	1871.625	1871.625	2.257	H1-1b	
24	MP045	PIPE 2.0	0.879	55	10	0.09	55	10	3485.189	32130	1871.625	1871.625	1.735	H1-1b	
25	MP048	PIPE 2.0	0.277	43.5	10	0.057	43.5	9	6195.892	32130	1871.625	1871.625	1.674	H1-1b	
26	MP051	PIPE 2.0	0.225	25.5	163	0.059	43.5	163	6195.892	32130	1871.625	1871.625	3	H1-1b	
27	MP054	PIPE 2.0	0.478	43.5	6	0.118	43.5	11	6195.892	32130	1871.625	1871.625	2.135	H1-1b	
28	MP057	PIPE 2.0	0.891	55	6	0.087	55	6	3485.189	32130	1871.625	1871.625	1.782	H1-1b	
29	MP060	PIPE 2.0	0.289	43.5	6	0.065	43.5	5	6195.892	32130	1871.625	1871.625	1.918	H1-1b	
30	MP063	PIPE 2.0	0.225	25.5	211	0.059	43.5	219	6195.892	32130	1871.625	1871.625	3	H1-1b	



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 149 ft Monopole
ATC Site Name : Beacon Falls CT, CT
ATC Asset Number : 370641
Engineering Number : 13677854_C3_02
Proposed Carrier : T-MOBILE
Carrier Site Name : CT487/BeaconFalls
Carrier Site Number : CT11487B
Site Location : 401-411 Lopus Road
Beacon Falls, CT 06403-0000
41.432800,-73.070200
County : New Haven
Date : June 9, 2021
Max Usage : 40%
Result : Pass

Prepared By:
Rebecca Malz
Structural Engineer

Reviewed By:



Authorized by "EOR"
09 Jun 2021 09:48:52

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment	2
Structure Usages	3
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 149 ft monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	EEI Job #13674, dated October 19, 2005
Foundation Drawing	EEI Job #13674, dated October 19, 2005
Geotechnical Report	Tectonic Project #3917.BEACON, dated August 17, 2005
Mount Analysis	ATC Project #13677854_C8_03, dated June 4, 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.

Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.20, S_1 = 0.05$
Site Class:	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. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
145.0	6	Powerwave Allgon 7020.00 Dual Band RET	Triangular Low Profile Platform	(1) 3" conduit (1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
	6	Powerwave Allgon LGP21401			
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	Ericsson RRUS 32 B2			
	6	Allgon 7770.00			
	3	CCI HPA-65R-BUU-H6			
	6	Powerwave Allgon LGP13519			
	3	Ericsson RRUS 11 (Band 12)			
135.0	3	RFS APXVAARR24_43-U-NA20	T-Arm	(3) 1 5/8" (1.63"-41.3mm) Fiber (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson KRY 112 144/1			
127.0	3	Generic 34" x 6" Panel	Flush	(6) 1 5/8" Coax	METRO PCS INC
115.0	4	Samsung B5/B13 RRH-BR04C	Triangular Low Profile Platform	(2) 1 5/8" Hybriflex	VERIZON WIRELESS
	2	Samsung B2/B66A RRH-BR049			
	1	RFS DB-B1-6C-12AB-0Z			
	2	Samsung MT6407-77A			
	4	JMA Wireless MX06FRO660-02			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
135.0	3	Ericsson Radio 4449 B12,B71	-	(1) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
	3	Ericsson AIR 21 B4A B2P			
	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
135.0	3	Commscope SDX1926Q-43	T-Arm	(1) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson RRUS 4415 B66			
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson 4424 B25			
	3	Ericsson Air6449 B41			
	3	RFS APX16DWV-16DWVS-E-A20			

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

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	31%	Pass
Shaft	35%	Pass
Base Plate	18%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	3,762.3	5,079.1	1,905.8	38%
Shear (Kips)	34.9	47.1	18.9	40%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.6.2

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
135.0	Commscope SDX1926Q-43	T-MOBILE	0.784	0.706
	Ericsson RRUS 4415 B66			
	Ericsson Radio 4449 B71 B85A			
	Ericsson 4424 B25			
	Ericsson Air6449 B41			
RFS APX16DWV-16DWVS-E-A20				

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



Standard Conditions

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

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

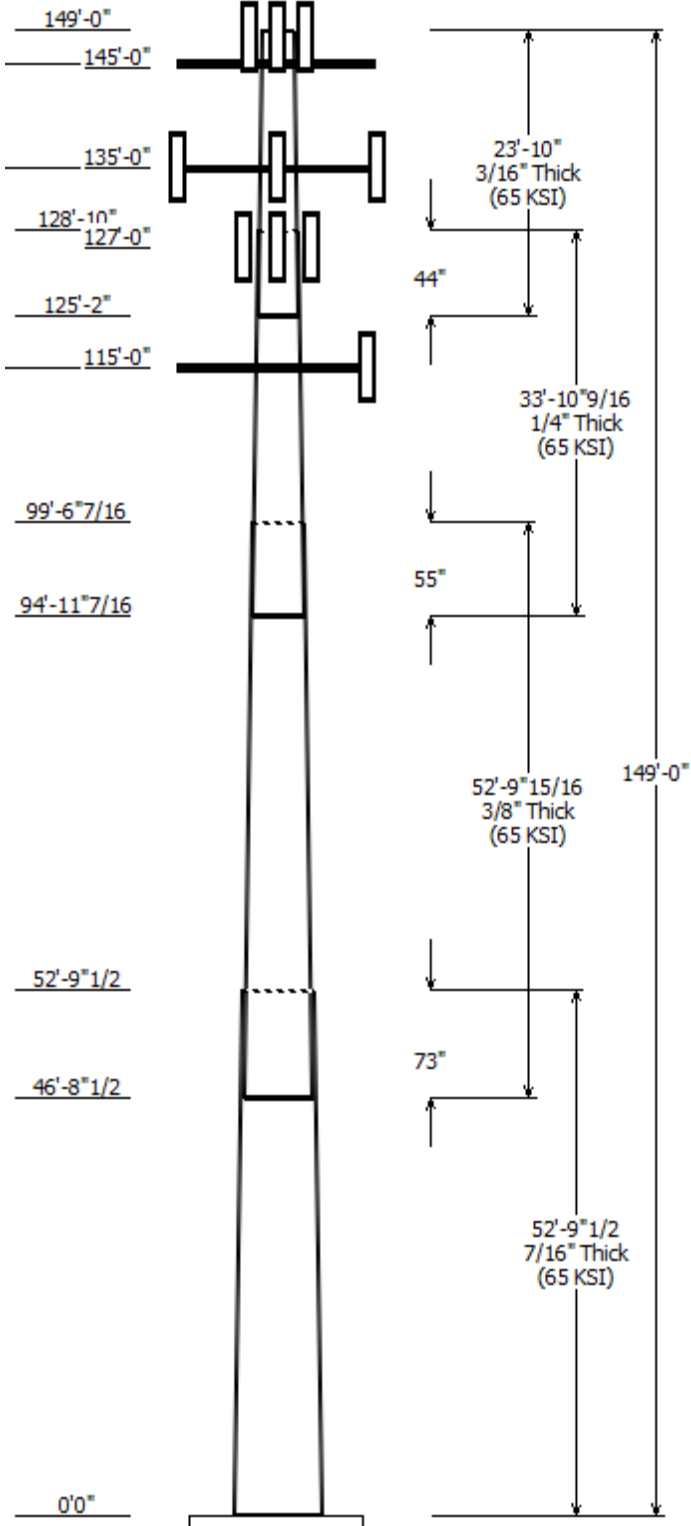
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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

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

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

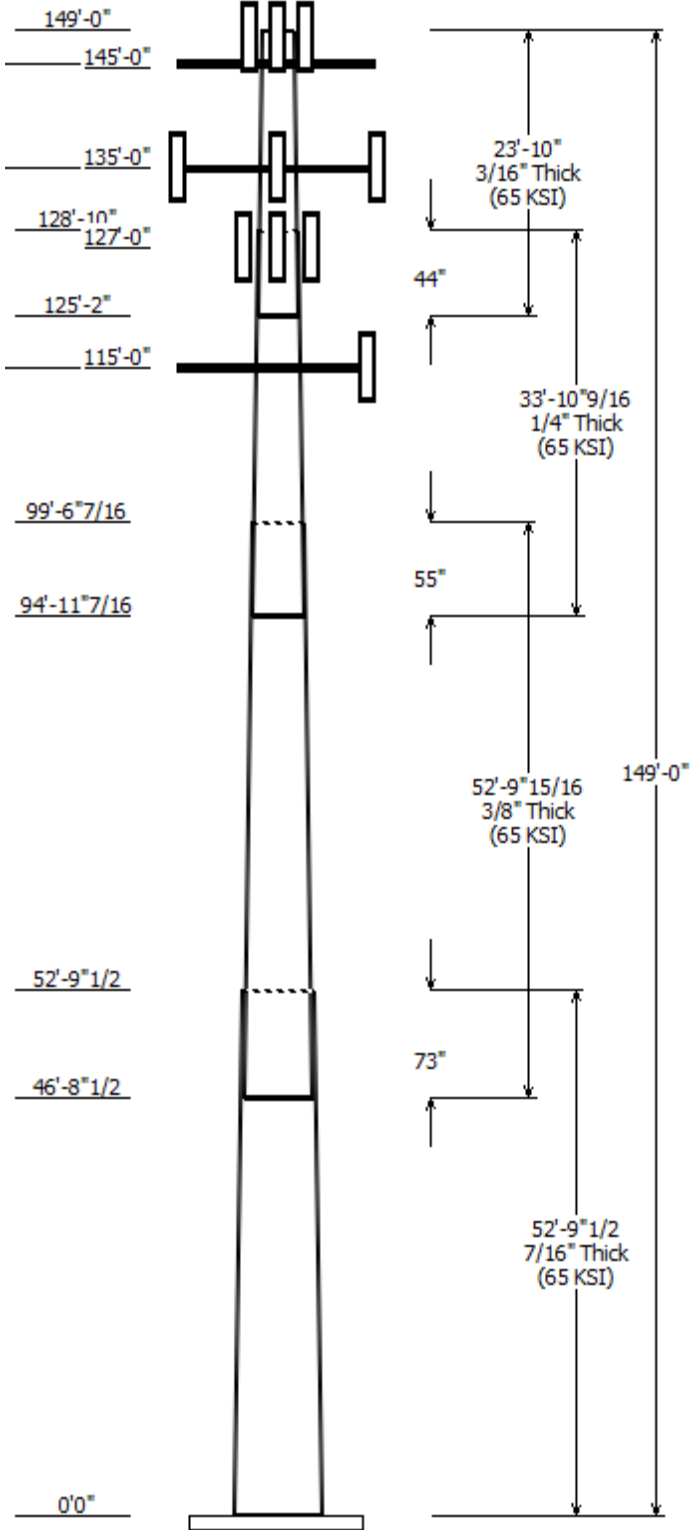
Job Information	
Client : T-MOBILE	Code: ANSI/TIA-222-H
Pole : 370641	
Location : Beacon Falls CT, CT	
Description : 149 ft EEI Monopole	Risk Category : II
Shape : 18 Sides	Exposure : B
Height : 149.00 (ft)	Topo Method : Method 1
Base Elev (ft): 0.00	Topographic Category : 1
Taper: 0.262584(in/ft)	



Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom				
1	52.790	42.13	56.00	0.438		0.000	18 Sides 65
2	52.830	30.61	44.48	0.375	Slip Joint	73.000	18 Sides 65
3	33.880	23.42	32.31	0.250	Slip Joint	55.000	18 Sides 65
4	23.833	18.50	24.75	0.188	Slip Joint	44.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
145.500	145.500	1	Generic Flat Low Profile Platf
145.000	147.000	3	CCI HPA-65R-BUU-H6
145.000	147.000	6	Allgon 7770.00
145.000	145.000	3	Ericsson RRUS 32 B2
145.000	147.000	3	Ericsson RRUS 11 (Band 12)
145.000	147.000	6	Powerwave Allgon LGP21401
145.000	145.000	6	Powerwave Allgon 7020.00
145.000	147.000	6	Powerwave Allgon LGP13519
145.000	147.000	1	Raycap DC6-48-60-18-8F
135.000	135.000	3	Generic Flat T-Arm
135.000	135.000	3	RFS APXVAARR24_43-U-NA20
135.000	135.000	3	RFS APX16DWV-16DWVS-E-A20
135.000	135.000	3	Ericsson Air6449 B41
135.000	135.000	3	Ericsson 4424 B25
135.000	135.000	3	Ericsson Radio 4449 B71 B85A
135.000	135.000	3	Ericsson RRUS 4415 B66
135.000	137.000	3	Ericsson KRY 112 144/1
135.000	135.000	3	Commscope SDX1926Q-43
127.000	127.000	3	Generic 34" x 6" Panel
115.000	115.000	1	Generic Round Low Profile
115.000	115.000	2	Samsung MT6407-77A
115.000	117.000	1	RFS DB-B1-6C-12AB-0Z
115.000	115.000	2	Samsung B2/B66A RRH-BR049
115.000	115.000	4	JMA Wireless MX06FRO660-02
115.000	115.000	4	Samsung B5/B13 RRH-BR04C

Linear Appurtenance			
Elev (ft)			
From	To	Description	Exposed To Wind
0.000	115.0	1 5/8" Hybriflex	No
0.000	127.0	1 5/8" Coax	No
0.000	135.0	1 5/8" (1.63"-	No
0.000	135.0	1 5/8" Coax	No
0.000	135.0	1 5/8" Hybriflex	No
0.000	145.0	0.39" (10mm)	No
0.000	145.0	0.78" (19.7mm) 8	No
0.000	145.0	1 5/8" Coax	No
0.000	145.0	2" conduit	No
0.000	147.0	3" conduit	No

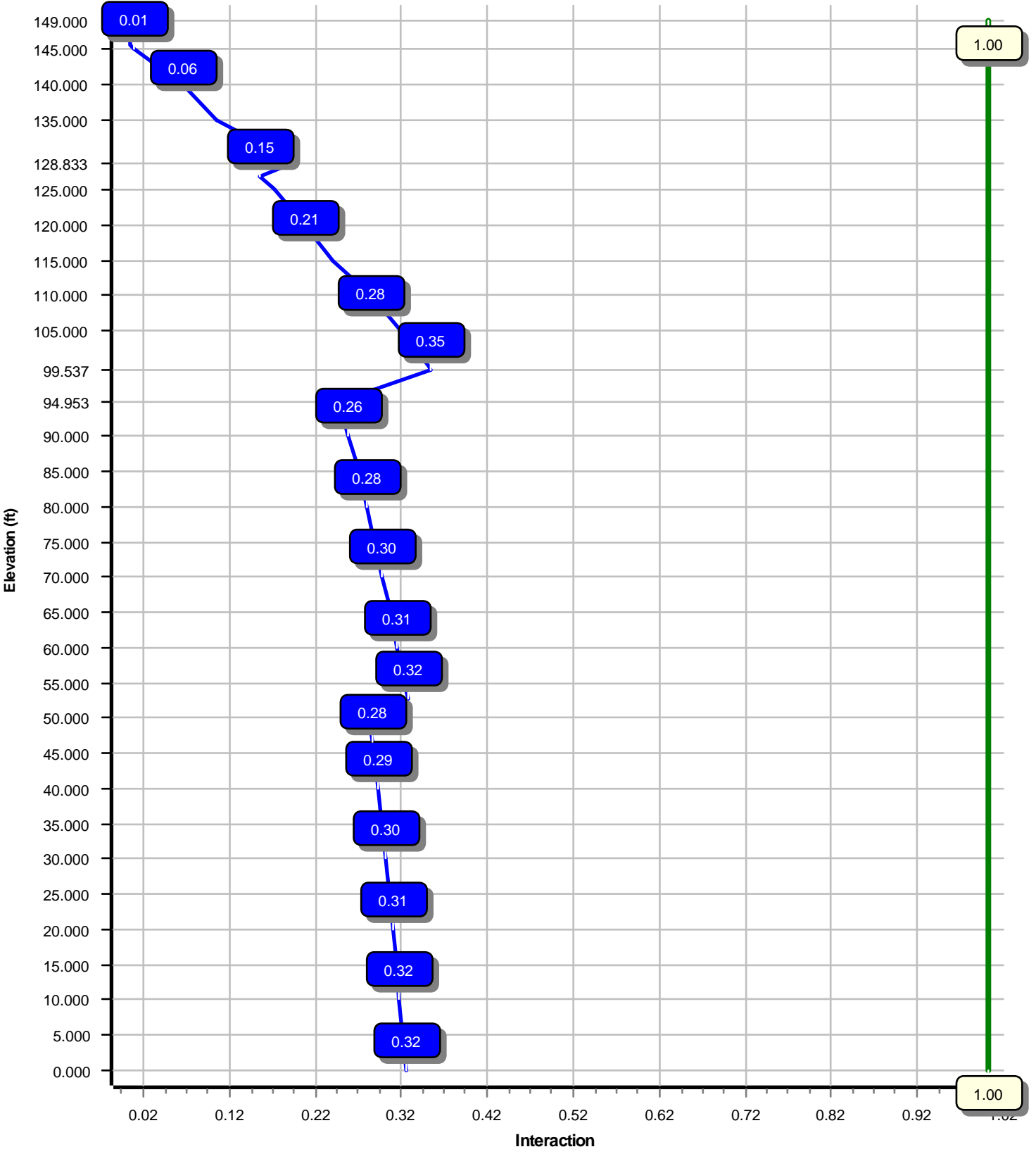


Load Cases	
1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	1905.83	18.86	44.63
0.9D + 1.0W	1889.74	18.85	33.47
1.2D + 1.0Di + 1.0Wi	514.39	5.25	56.55
1.2D + 1.0Ev + 1.0Eh	129.10	1.12	44.36
0.9D - 1.0Ev + 1.0Eh	127.76	1.12	30.61
1.0D + 1.0W	438.49	4.36	37.20

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000

Load Case : 1.2D + 1.0W
Max Ratio 35.25% at 99.5 ft



Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

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Customer: T-MOBILE

Analysis Parameters

Location :	New Haven County, CT	Height (ft) :	149
Code :	ANSI/TIA-222-H	Base Diameter (in) :	56.00
Shape :	18 Sides	Top Diameter (in) :	18.50
Pole Type :	Taper	Taper (in/ft) :	0.263
Pole Manufacturer :	EEL	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.99

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	118 mph
Risk Category:	II	Design Wind Speed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	161.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.00		
T _L (sec):	6	p:	1
S _s :	0.199	S ₁ :	0.054
F _a :	1.600	F _v :	2.400
S _{ds} :	0.212	S _{d1} :	0.086
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:17 AM

Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom					Top					Taper (in/ft)		
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)		W/t Ratio	D/t Ratio
1-18	52.790	0.4375	65		0.00	12,130	56.00	0.00	77.15	30093.2	21.16	128.00	42.13	52.79	57.90	12721.9	15.57	96.32	0.262584
2-18	52.830	0.3750	65	Slip	73.00	7,954	44.48	46.71	52.50	12906.4	19.51	118.63	30.61	99.54	35.99	4157.6	12.98	81.64	0.262584
3-18	33.880	0.2500	65	Slip	55.00	2,526	32.31	94.95	25.44	3305.6	21.38	129.27	23.42	128.83	18.39	1247.1	15.11	93.68	0.262584
4-18	23.833	0.1875	65	Slip	44.00	1,035	24.75	125.17	14.62	1115.3	21.87	132.04	18.50	149.00	10.90	461.7	15.99	98.67	0.262584
Shaft Weight						23,646													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
145.50	Generic Flat Low Profile Platform	1	1.00	0.000	1,875.00	26.100	1.00	2,414.28	38.813	1.00
145.00	Powerwave Allgon LGP13519	6	0.80	2.000	5.30	0.290	0.50	11.60	0.547	0.50
145.00	Powerwave Allgon 7020.00 Dual	6	0.80	0.000	2.20	0.339	0.50	8.99	0.611	0.50
145.00	Powerwave Allgon LGP21401	6	0.80	2.000	14.10	1.104	0.50	30.68	1.578	0.50
145.00	Raycap DC6-48-60-18-8F	1	0.80	2.000	31.80	1.470	1.00	72.81	1.934	1.00
145.00	Ericsson RRUS 11 (Band 12)	3	0.80	2.000	50.00	2.566	0.67	95.31	3.262	0.67
145.00	Ericsson RRUS 32 B2	3	0.80	0.000	53.00	2.743	0.67	101.88	3.520	0.67
145.00	Allgon 7770.00	6	0.80	2.000	35.00	5.508	0.65	117.88	6.191	0.65
145.00	CCI HPA-65R-BUU-H6	3	0.80	2.000	51.00	9.658	0.69	196.81	11.500	0.69
135.00	Commscope SDX1926Q-43	3	0.80	0.000	6.20	0.242	0.50	11.87	0.474	0.50
135.00	Ericsson KRY 112 144/1	3	0.80	2.000	11.00	0.351	0.50	18.10	0.619	0.50
135.00	Ericsson RRUS 4415 B66	3	0.80	0.000	46.00	1.650	0.50	74.57	2.210	0.50
135.00	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	114.68	2.210	0.50
135.00	Ericsson 4424 B25	3	0.80	0.000	86.00	2.052	0.67	134.11	2.675	0.67
135.00	Ericsson Air6449 B41	3	0.80	0.000	104.00	5.682	0.63	193.92	6.729	0.63
135.00	RFS APX16DWV-16DWVS-E-A20	3	0.80	0.000	40.70	6.586	0.60	117.78	8.015	0.60
135.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.67	484.87	18.296	0.67
135.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.243	0.63	386.93	22.690	0.63
127.00	Generic 34" x 6" Panel	3	1.00	0.000	20.00	1.899	0.50	47.27	2.772	0.50
115.00	Samsung B5/B13 RRH-BR04C	4	0.80	0.000	70.30	1.875	0.50	107.43	2.461	0.50
115.00	Samsung B2/B66A RRH-BR049	2	0.80	0.000	84.40	1.875	0.50	125.81	2.461	0.50
115.00	RFS DB-B1-6C-12AB-0Z	1	0.80	2.000	21.40	2.512	0.67	73.21	3.188	0.67
115.00	Samsung MT6407-77A	2	0.80	0.000	81.60	4.709	0.71	147.76	5.695	0.71
115.00	JMA Wireless MX06FRO660-02	4	0.80	0.000	46.00	9.872	0.71	201.63	11.653	0.71
115.00	Generic Round Low Profile	1	1.00	0.000	1,875.00	21.700	1.00	2,400.67	34.162	1.00
Totals	Num Loadings:25	79			7,889.90			13,693.53		

Linear Appurtenance Properties Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind Carrier
0.00	147.00	1	3" conduit	3.50	7.58	N	0	0.00	0.00	0	N AT&T MOBILITY
0.00	145.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	N AT&T MOBILITY
0.00	145.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	N AT&T MOBILITY
0.00	145.00	12	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N AT&T MOBILITY
0.00	145.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	N AT&T MOBILITY
0.00	135.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	N T-MOBILE
0.00	135.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N T-MOBILE
0.00	135.00	1	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	N T-MOBILE
0.00	127.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	N METRO PCS INC
0.00	115.00	2	1 5/8" Hybriflex	1.98	1.30	N	0	0.00	0.00	0	N VERIZON WIRELESS

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:17 AM

Customer: T-MOBILE

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:17 AM

Customer: T-MOBILE

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.4375	56.000	77.153	30,093.2	21.16	128.00	76.5	1058.	0.0	0.0
5.00		0.4375	54.687	75.330	28,009.9	20.63	125.00	77.1	1008.	0.0	1,297.2
10.00		0.4375	53.374	73.507	26,025.1	20.10	122.00	77.8	960.4	0.0	1,266.1
15.00		0.4375	52.061	71.683	24,136.3	19.57	119.00	78.4	913.1	0.0	1,235.1
20.00		0.4375	50.748	69.860	22,341.2	19.04	116.00	79.0	867.1	0.0	1,204.1
25.00		0.4375	49.435	68.037	20,637.4	18.51	113.00	79.6	822.2	0.0	1,173.1
30.00		0.4375	48.122	66.214	19,022.5	17.98	109.99	80.2	778.6	0.0	1,142.1
35.00		0.4375	46.810	64.391	17,494.1	17.46	106.99	80.9	736.1	0.0	1,111.1
40.00		0.4375	45.497	62.568	16,049.9	16.93	103.99	81.5	694.8	0.0	1,080.0
45.00		0.4375	44.184	60.745	14,687.4	16.40	100.99	82.1	654.7	0.0	1,049.0
46.71	Bot - Section 2	0.4375	43.736	60.123	14,240.6	16.22	99.97	82.3	641.3	0.0	351.0
50.00		0.4375	42.871	58.922	13,404.3	15.87	97.99	82.6	615.8	0.0	1,249.6
52.79	Top - Section 1	0.3750	42.888	50.600	11,554.4	18.76	114.37	79.3	530.6	0.0	1,039.1
55.00		0.3750	42.308	49.909	11,087.7	18.48	112.82	79.7	516.2	0.0	377.9
60.00		0.3750	40.995	48.346	10,078.5	17.87	109.32	80.4	484.2	0.0	835.8
65.00		0.3750	39.682	46.784	9,132.4	17.25	105.82	81.1	453.3	0.0	809.3
70.00		0.3750	38.369	45.221	8,247.6	16.63	102.32	81.8	423.4	0.0	782.7
75.00		0.3750	37.056	43.658	7,421.8	16.01	98.82	82.6	394.5	0.0	756.1
80.00		0.3750	35.743	42.096	6,653.0	15.40	95.32	82.6	366.6	0.0	729.5
85.00		0.3750	34.430	40.533	5,939.3	14.78	91.81	82.6	339.8	0.0	702.9
90.00		0.3750	33.117	38.970	5,278.5	14.16	88.31	82.6	313.9	0.0	676.3
94.95	Bot - Section 3	0.3750	31.817	37.422	4,674.1	13.55	84.84	82.6	289.3	0.0	643.8
95.00		0.3750	31.805	37.408	4,668.6	13.54	84.81	82.6	289.1	0.0	10.0
99.54	Top - Section 2	0.2500	31.113	24.489	2,947.2	20.53	124.45	77.2	186.6	0.0	951.9
100.0		0.2500	30.992	24.393	2,912.5	20.45	123.97	77.4	185.1	0.0	38.5
105.0		0.2500	29.679	23.351	2,555.0	19.52	118.71	78.4	169.6	0.0	406.2
110.0		0.2500	28.366	22.309	2,228.1	18.60	113.46	79.5	154.7	0.0	388.4
115.0		0.2500	27.053	21.267	1,930.3	17.67	108.21	80.6	140.5	0.0	370.7
120.0		0.2500	25.740	20.226	1,660.3	16.74	102.96	81.7	127.0	0.0	353.0
125.0		0.2500	24.427	19.184	1,416.7	15.82	97.71	82.6	114.2	0.0	335.3
125.1	Bot - Section 4	0.2500	24.383	19.149	1,409.1	15.79	97.53	82.6	113.8	0.0	10.9
127.0		0.2500	23.902	18.767	1,326.4	15.45	95.61	82.6	109.3	0.0	208.6
128.8	Top - Section 3	0.1875	23.795	14.049	989.3	20.97	126.91	76.7	81.9	0.0	204.4
130.0		0.1875	23.489	13.867	951.3	20.68	125.28	77.1	79.8	0.0	55.4
135.0		0.1875	22.176	13.086	799.4	19.44	118.27	78.5	71.0	0.0	229.3
140.0		0.1875	20.863	12.304	664.6	18.21	111.27	80.0	62.7	0.0	216.0
145.0		0.1875	19.550	11.523	545.8	16.97	104.27	81.4	55.0	0.0	202.7
145.5		0.1875	19.419	11.445	534.8	16.85	103.57	81.6	54.2	0.0	19.5
149.0		0.1875	18.500	10.898	461.7	15.99	98.67	82.6	49.2	0.0	133.0
23,645.5											

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:17 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

118 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		221.6	0.0					0.0	0.0	221.6	0.0	0.0	0.0
5.00		437.9	1,556.6					0.0	245.3	437.9	1,801.9	0.0	0.0
10.00		427.3	1,519.4					0.0	245.3	427.3	1,764.6	0.0	0.0
15.00		416.8	1,482.1					0.0	245.3	416.8	1,727.4	0.0	0.0
20.00		406.3	1,444.9					0.0	245.3	406.3	1,690.2	0.0	0.0
25.00		395.8	1,407.7					0.0	245.3	395.8	1,653.0	0.0	0.0
30.00		389.9	1,370.5					0.0	245.3	389.9	1,615.8	0.0	0.0
35.00		391.7	1,333.3					0.0	245.3	391.7	1,578.5	0.0	0.0
40.00		395.6	1,296.0					0.0	245.3	395.6	1,541.3	0.0	0.0
45.00		266.3	1,258.8					0.0	245.3	266.3	1,504.1	0.0	0.0
46.71	Bot - Section 2	201.1	421.2					0.0	83.7	201.1	504.9	0.0	0.0
50.00		246.0	1,499.5					0.0	161.6	246.0	1,661.1	0.0	0.0
52.79	Top - Section 1	202.0	1,246.9					0.0	136.9	202.0	1,383.8	0.0	0.0
55.00		290.2	453.5					0.0	108.4	290.2	561.9	0.0	0.0
60.00		400.3	1,003.0					0.0	245.3	400.3	1,248.3	0.0	0.0
65.00		396.5	971.1					0.0	245.3	396.5	1,216.4	0.0	0.0
70.00		391.6	939.2					0.0	245.3	391.6	1,184.5	0.0	0.0
75.00		385.7	907.3					0.0	245.3	385.7	1,152.6	0.0	0.0
80.00		379.0	875.4					0.0	245.3	379.0	1,120.7	0.0	0.0
85.00		371.4	843.5					0.0	245.3	371.4	1,088.8	0.0	0.0
90.00		361.5	811.6					0.0	245.3	361.5	1,056.9	0.0	0.0
94.95	Bot - Section 3	179.4	772.6					0.0	243.0	179.4	1,015.6	0.0	0.0
95.00		163.0	12.0					0.0	2.3	163.0	14.3	0.0	0.0
99.54	Top - Section 2	177.6	1,142.3					0.0	222.6	177.6	1,364.8	0.0	0.0
100.00		188.9	46.2					0.0	22.7	188.9	69.0	0.0	0.0
105.00		340.1	487.4					0.0	245.3	340.1	732.7	0.0	0.0
110.00		329.4	466.1					0.0	245.3	329.4	711.4	0.0	0.0
115.00	Appurtenance(s)	318.2	444.8	2,107.5	0.0	103.1	3,232.3	0.0	245.3	2,425.7	3,922.4	0.0	0.0
120.00		306.4	423.6					0.0	229.7	306.4	653.3	0.0	0.0
125.00		155.1	402.3					0.0	229.7	155.1	632.0	0.0	0.0
125.17	Bot - Section 4	59.2	13.0					0.0	7.7	59.2	20.7	0.0	0.0
127.00	Appurtenance(s)	107.7	250.3	111.6	0.0	0.0	72.0	0.0	84.2	219.3	406.5	0.0	0.0
128.83	Top - Section 3	87.0	245.3					0.0	73.4	87.0	318.7	0.0	0.0
130.00		173.4	66.5					0.0	46.7	173.4	113.2	0.0	0.0
135.00	Appurtenance(s)	273.1	275.1	3,034.5	0.0	33.7	2,913.5	0.0	200.2	3,307.5	3,388.8	0.0	0.0
140.00		259.6	259.2					0.0	133.9	259.6	393.0	0.0	0.0
145.00	Appurtenance(s)	138.6	243.2	1,921.5	0.0	3,417.7	1,000.1	0.0	133.9	2,060.1	1,377.2	0.0	0.0
145.50	Appurtenance(s)	96.0	23.4	1,063.2	0.0	0.0	2,250.0	0.0	4.5	1,159.2	2,278.0	0.0	0.0
149.00		83.8	159.7					0.0	13.6	83.8	173.3	0.0	0.0
Totals:										19,049.1	44,641.3	0.00	0.00

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:19 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

118 mph with No Ice

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.63	-18.86	0.00	-1,905.83	0.00	1,905.83	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.322
5.00	-42.80	-18.49	0.00	-1,811.52	0.00	1,811.52	5,229.56	1,322.03	6,477.96	5,836.15	0.05	-0.09	0.319
10.00	-41.00	-18.12	0.00	-1,719.08	0.00	1,719.08	5,144.17	1,290.04	6,168.24	5,600.81	0.19	-0.18	0.315
15.00	-39.25	-17.76	0.00	-1,628.47	0.00	1,628.47	5,056.74	1,258.04	5,866.11	5,367.95	0.42	-0.27	0.311
20.00	-37.53	-17.41	0.00	-1,539.66	0.00	1,539.66	4,967.26	1,226.05	5,571.56	5,137.73	0.76	-0.36	0.307
25.00	-35.85	-17.06	0.00	-1,452.62	0.00	1,452.62	4,875.75	1,194.05	5,284.60	4,910.34	1.19	-0.46	0.303
30.00	-34.21	-16.72	0.00	-1,367.32	0.00	1,367.32	4,782.19	1,162.06	5,005.22	4,685.92	1.72	-0.55	0.299
35.00	-32.61	-16.36	0.00	-1,283.74	0.00	1,283.74	4,686.58	1,130.06	4,733.44	4,464.66	2.35	-0.65	0.295
40.00	-31.05	-16.01	0.00	-1,201.92	0.00	1,201.92	4,588.94	1,098.07	4,469.24	4,246.71	3.09	-0.75	0.290
45.00	-29.53	-15.75	0.00	-1,121.90	0.00	1,121.90	4,489.25	1,066.07	4,212.62	4,032.24	3.94	-0.86	0.285
46.71	-29.01	-15.57	0.00	-1,095.01	0.00	1,095.01	4,454.76	1,055.15	4,126.76	3,959.86	4.25	-0.89	0.283
50.00	-27.34	-15.33	0.00	-1,043.73	0.00	1,043.73	4,377.60	1,034.08	3,963.59	3,812.78	4.89	-0.96	0.280
52.79	-25.94	-15.13	0.00	-1,000.96	0.00	1,000.96	3,613.14	888.02	3,410.01	3,157.53	5.48	-1.03	0.324
55.00	-25.36	-14.87	0.00	-967.53	0.00	967.53	3,578.23	875.90	3,317.57	3,083.97	5.96	-1.07	0.321
60.00	-24.09	-14.49	0.00	-893.20	0.00	893.20	3,497.79	848.48	3,113.10	2,919.41	7.15	-1.19	0.313
65.00	-22.86	-14.12	0.00	-820.74	0.00	820.74	3,415.31	821.05	2,915.14	2,757.59	8.47	-1.31	0.305
70.00	-21.65	-13.74	0.00	-750.16	0.00	750.16	3,330.78	793.63	2,723.68	2,598.67	9.91	-1.44	0.295
75.00	-20.48	-13.37	0.00	-681.45	0.00	681.45	3,243.59	766.20	2,538.72	2,442.34	11.48	-1.56	0.286
80.00	-19.34	-13.00	0.00	-614.59	0.00	614.59	3,127.49	738.78	2,360.26	2,269.78	13.18	-1.68	0.277
85.00	-18.24	-12.64	0.00	-549.57	0.00	549.57	3,011.40	711.35	2,188.31	2,103.54	15.01	-1.81	0.268
90.00	-17.17	-12.28	0.00	-486.38	0.00	486.38	2,895.30	683.93	2,022.86	1,943.62	16.97	-1.93	0.256
94.95	-16.15	-12.08	0.00	-425.55	0.00	425.55	2,780.28	656.76	1,865.37	1,791.43	19.05	-2.05	0.244
95.00	-16.13	-11.93	0.00	-424.99	0.00	424.99	2,779.20	656.50	1,863.91	1,790.03	19.07	-2.06	0.244
99.54	-14.76	-11.72	0.00	-370.85	0.00	370.85	1,702.59	429.78	1,198.10	1,080.94	21.07	-2.17	0.352
100.00	-14.68	-11.55	0.00	-365.42	0.00	365.42	1,698.09	428.09	1,188.67	1,073.80	21.28	-2.18	0.350
105.00	-13.93	-11.22	0.00	-307.65	0.00	307.65	1,648.46	409.81	1,089.32	997.54	23.65	-2.34	0.318
110.00	-13.20	-10.90	0.00	-251.53	0.00	251.53	1,596.78	391.52	994.30	922.79	26.19	-2.50	0.282
115.00	-9.37	-8.32	0.00	-196.93	0.00	196.93	1,543.06	373.24	903.62	849.74	28.89	-2.64	0.238
120.00	-8.72	-8.00	0.00	-155.31	0.00	155.31	1,487.30	354.96	817.27	778.54	31.72	-2.77	0.206
125.00	-8.09	-7.83	0.00	-115.29	0.00	115.29	1,425.26	336.68	735.26	707.26	34.69	-2.89	0.169
125.17	-8.06	-7.77	0.00	-113.99	0.00	113.99	1,422.68	336.07	732.60	704.69	34.79	-2.89	0.168
127.00	-7.66	-7.53	0.00	-99.74	0.00	99.74	1,394.30	329.36	703.67	676.72	35.91	-2.93	0.153
128.83	-7.35	-7.44	0.00	-85.93	0.00	85.93	970.32	246.56	525.75	471.29	37.04	-2.97	0.191
130.00	-7.24	-7.26	0.00	-77.26	0.00	77.26	961.96	243.36	512.20	461.12	37.77	-2.99	0.176
135.00	-4.02	-3.79	0.00	-40.90	0.00	40.90	924.86	229.65	456.11	418.16	40.95	-3.08	0.102
140.00	-3.64	-3.51	0.00	-21.97	0.00	21.97	885.72	215.94	403.28	376.35	44.20	-3.13	0.063
145.00	-2.38	-1.38	0.00	-1.01	0.00	1.01	844.53	202.23	353.69	335.86	47.50	-3.16	0.006
145.50	-0.17	-0.09	0.00	-0.33	0.00	0.33	840.30	200.86	348.91	331.89	47.83	-3.16	0.001
149.00	0.00	-0.08	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	50.15	-3.16	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:19 AM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

118 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		221.6	0.0					0.0	0.0	221.6	0.0	0.0	0.0
5.00		437.9	1,167.4					0.0	184.0	437.9	1,351.4	0.0	0.0
10.00		427.3	1,139.5					0.0	184.0	427.3	1,323.5	0.0	0.0
15.00		416.8	1,111.6					0.0	184.0	416.8	1,295.6	0.0	0.0
20.00		406.3	1,083.7					0.0	184.0	406.3	1,267.7	0.0	0.0
25.00		395.8	1,055.8					0.0	184.0	395.8	1,239.7	0.0	0.0
30.00		389.9	1,027.9					0.0	184.0	389.9	1,211.8	0.0	0.0
35.00		391.7	999.9					0.0	184.0	391.7	1,183.9	0.0	0.0
40.00		395.6	972.0					0.0	184.0	395.6	1,156.0	0.0	0.0
45.00		266.3	944.1					0.0	184.0	266.3	1,128.1	0.0	0.0
46.71	Bot - Section 2	201.1	315.9					0.0	62.8	201.1	378.7	0.0	0.0
50.00		246.0	1,124.6					0.0	121.2	246.0	1,245.8	0.0	0.0
52.79	Top - Section 1	202.0	935.2					0.0	102.7	202.0	1,037.8	0.0	0.0
55.00		290.2	340.1					0.0	81.3	290.2	421.4	0.0	0.0
60.00		400.3	752.3					0.0	184.0	400.3	936.2	0.0	0.0
65.00		396.5	728.3					0.0	184.0	396.5	912.3	0.0	0.0
70.00		391.6	704.4					0.0	184.0	391.6	888.4	0.0	0.0
75.00		385.7	680.5					0.0	184.0	385.7	864.4	0.0	0.0
80.00		379.0	656.6					0.0	184.0	379.0	840.5	0.0	0.0
85.00		371.4	632.6					0.0	184.0	371.4	816.6	0.0	0.0
90.00		361.5	608.7					0.0	184.0	361.5	792.7	0.0	0.0
94.95	Bot - Section 3	179.4	579.4					0.0	182.2	179.4	761.7	0.0	0.0
95.00		163.0	9.0					0.0	1.7	163.0	10.7	0.0	0.0
99.54	Top - Section 2	177.6	856.7					0.0	166.9	177.6	1,023.6	0.0	0.0
100.00		188.9	34.7					0.0	17.0	188.9	51.7	0.0	0.0
105.00		340.1	365.5					0.0	184.0	340.1	549.5	0.0	0.0
110.00		329.4	349.6					0.0	184.0	329.4	533.5	0.0	0.0
115.00	Appurtenance(s)	318.2	333.6	2,107.5	0.0	103.1	2,424.2	0.0	184.0	2,425.7	2,941.8	0.0	0.0
120.00		306.4	317.7					0.0	172.3	306.4	489.9	0.0	0.0
125.00		155.1	301.7					0.0	172.3	155.1	474.0	0.0	0.0
125.17	Bot - Section 4	59.2	9.8					0.0	5.7	59.2	15.5	0.0	0.0
127.00	Appurtenance(s)	107.7	187.7	111.6	0.0	0.0	54.0	0.0	63.2	219.3	304.9	0.0	0.0
128.83	Top - Section 3	87.0	184.0					0.0	55.0	87.0	239.0	0.0	0.0
130.00		173.4	49.9					0.0	35.0	173.4	84.9	0.0	0.0
135.00	Appurtenance(s)	273.1	206.4	3,034.5	0.0	33.7	2,185.1	0.0	150.1	3,307.5	2,541.6	0.0	0.0
140.00		259.6	194.4					0.0	100.4	259.6	294.8	0.0	0.0
145.00	Appurtenance(s)	138.6	182.4	1,921.5	0.0	3,417.7	750.1	0.0	100.4	2,060.1	1,032.9	0.0	0.0
145.50	Appurtenance(s)	96.0	17.6	1,063.2	0.0	0.0	1,687.5	0.0	3.4	1,159.2	1,708.5	0.0	0.0
149.00		83.8	119.7					0.0	10.2	83.8	130.0	0.0	0.0
Totals:										19,049.1	33,481.0	0.00	0.00

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:21 AM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

118 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.47	-18.85	0.00	-1,889.74	0.00	1,889.74	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.318
5.00	-32.09	-18.46	0.00	-1,795.48	0.00	1,795.48	5,229.56	1,322.03	6,477.96	5,836.15	0.05	-0.09	0.314
10.00	-30.74	-18.08	0.00	-1,703.16	0.00	1,703.16	5,144.17	1,290.04	6,168.24	5,600.81	0.19	-0.18	0.310
15.00	-29.41	-17.71	0.00	-1,612.76	0.00	1,612.76	5,056.74	1,258.04	5,866.11	5,367.95	0.42	-0.27	0.306
20.00	-28.12	-17.34	0.00	-1,524.23	0.00	1,524.23	4,967.26	1,226.05	5,571.56	5,137.73	0.75	-0.36	0.303
25.00	-26.86	-16.98	0.00	-1,437.54	0.00	1,437.54	4,875.75	1,194.05	5,284.60	4,910.34	1.18	-0.45	0.298
30.00	-25.62	-16.62	0.00	-1,352.64	0.00	1,352.64	4,782.19	1,162.06	5,005.22	4,685.92	1.70	-0.55	0.294
35.00	-24.41	-16.26	0.00	-1,269.53	0.00	1,269.53	4,686.58	1,130.06	4,733.44	4,464.66	2.33	-0.65	0.290
40.00	-23.23	-15.89	0.00	-1,188.23	0.00	1,188.23	4,588.94	1,098.07	4,469.24	4,246.71	3.06	-0.75	0.285
45.00	-22.09	-15.64	0.00	-1,108.78	0.00	1,108.78	4,489.25	1,066.07	4,212.62	4,032.24	3.90	-0.85	0.280
46.71	-21.70	-15.45	0.00	-1,082.09	0.00	1,082.09	4,454.76	1,055.15	4,126.76	3,959.86	4.21	-0.89	0.278
50.00	-20.44	-15.21	0.00	-1,031.21	0.00	1,031.21	4,377.60	1,034.08	3,963.59	3,812.78	4.85	-0.95	0.275
52.79	-19.39	-15.00	0.00	-988.79	0.00	988.79	3,613.14	888.02	3,410.01	3,157.53	5.42	-1.01	0.319
55.00	-18.95	-14.73	0.00	-955.63	0.00	955.63	3,578.23	875.90	3,317.57	3,083.97	5.90	-1.06	0.315
60.00	-18.00	-14.35	0.00	-881.96	0.00	881.96	3,497.79	848.48	3,113.10	2,919.41	7.08	-1.18	0.308
65.00	-17.06	-13.97	0.00	-810.19	0.00	810.19	3,415.31	821.05	2,915.14	2,757.59	8.38	-1.30	0.299
70.00	-16.16	-13.59	0.00	-740.33	0.00	740.33	3,330.78	793.63	2,723.68	2,598.67	9.81	-1.42	0.290
75.00	-15.27	-13.22	0.00	-672.35	0.00	672.35	3,243.59	766.20	2,538.72	2,442.34	11.36	-1.54	0.280
80.00	-14.42	-12.85	0.00	-606.26	0.00	606.26	3,127.49	738.78	2,360.26	2,269.78	13.04	-1.67	0.272
85.00	-13.59	-12.48	0.00	-542.02	0.00	542.02	3,011.40	711.35	2,188.31	2,103.54	14.85	-1.79	0.262
90.00	-12.78	-12.12	0.00	-479.61	0.00	479.61	2,895.30	683.93	2,022.86	1,943.62	16.79	-1.91	0.251
94.95	-12.01	-11.93	0.00	-419.57	0.00	419.57	2,780.28	656.76	1,865.37	1,791.43	18.84	-2.03	0.239
95.00	-12.00	-11.78	0.00	-419.02	0.00	419.02	2,779.20	656.50	1,863.91	1,790.03	18.86	-2.03	0.239
99.54	-10.97	-11.57	0.00	-365.59	0.00	365.59	1,702.59	429.78	1,198.10	1,080.94	20.84	-2.14	0.345
100.00	-10.90	-11.40	0.00	-360.23	0.00	360.23	1,698.09	428.09	1,188.67	1,073.80	21.05	-2.15	0.343
105.00	-10.34	-11.07	0.00	-303.23	0.00	303.23	1,648.46	409.81	1,089.32	997.54	23.39	-2.31	0.311
110.00	-9.79	-10.74	0.00	-247.90	0.00	247.90	1,596.78	391.52	994.30	922.79	25.90	-2.47	0.276
115.00	-6.94	-8.20	0.00	-194.09	0.00	194.09	1,543.06	373.24	903.62	849.74	28.56	-2.61	0.233
120.00	-6.45	-7.89	0.00	-153.07	0.00	153.07	1,487.30	354.96	817.27	778.54	31.36	-2.74	0.201
125.00	-5.98	-7.72	0.00	-113.64	0.00	113.64	1,425.26	336.68	735.26	707.26	34.29	-2.85	0.165
125.17	-5.96	-7.66	0.00	-112.35	0.00	112.35	1,422.68	336.07	732.60	704.69	34.39	-2.85	0.164
127.00	-5.66	-7.43	0.00	-98.31	0.00	98.31	1,394.30	329.36	703.67	676.72	35.49	-2.89	0.150
128.83	-5.42	-7.33	0.00	-84.69	0.00	84.69	970.32	246.56	525.75	471.29	36.61	-2.93	0.186
130.00	-5.34	-7.16	0.00	-76.14	0.00	76.14	961.96	243.36	512.20	461.12	37.33	-2.95	0.172
135.00	-2.97	-3.73	0.00	-40.31	0.00	40.31	924.86	229.65	456.11	418.16	40.47	-3.04	0.100
140.00	-2.69	-3.45	0.00	-21.68	0.00	21.68	885.72	215.94	403.28	376.35	43.68	-3.09	0.061
145.00	-1.77	-1.34	0.00	-0.99	0.00	0.99	844.53	202.23	353.69	335.86	46.94	-3.12	0.005
145.50	-0.13	-0.09	0.00	-0.32	0.00	0.32	840.30	200.86	348.91	331.89	47.27	-3.12	0.001
149.00	0.00	-0.08	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	49.55	-3.12	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:21 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	22 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		67.2	0.0					0.0	0.0	67.2	0.0	0.0	0.0
5.00		133.0	1,825.0					0.0	245.3	133.0	2,070.3	0.0	0.0
10.00		130.2	1,812.4					0.0	245.3	130.2	2,057.7	0.0	0.0
15.00		127.3	1,783.3					0.0	245.3	127.3	2,028.6	0.0	0.0
20.00		124.3	1,748.8					0.0	245.3	124.3	1,994.1	0.0	0.0
25.00		121.3	1,711.6					0.0	245.3	121.3	1,956.9	0.0	0.0
30.00		119.7	1,672.6					0.0	245.3	119.7	1,917.8	0.0	0.0
35.00		120.5	1,632.3					0.0	245.3	120.5	1,877.6	0.0	0.0
40.00		121.9	1,591.2					0.0	245.3	121.9	1,836.4	0.0	0.0
45.00		82.2	1,549.3					0.0	245.3	82.2	1,794.6	0.0	0.0
46.71	Bot - Section 2	62.1	520.1					0.0	83.7	62.1	603.8	0.0	0.0
50.00		76.0	1,691.0					0.0	161.6	76.0	1,852.5	0.0	0.0
52.79	Top - Section 1	62.5	1,407.4					0.0	136.9	62.5	1,544.3	0.0	0.0
55.00		89.9	579.6					0.0	108.4	89.9	688.0	0.0	0.0
60.00		124.2	1,281.5					0.0	245.3	124.2	1,526.8	0.0	0.0
65.00		123.2	1,243.2					0.0	245.3	123.2	1,488.5	0.0	0.0
70.00		122.0	1,204.6					0.0	245.3	122.0	1,449.9	0.0	0.0
75.00		120.4	1,165.8					0.0	245.3	120.4	1,411.0	0.0	0.0
80.00		118.6	1,126.7					0.0	245.3	118.6	1,372.0	0.0	0.0
85.00		116.5	1,087.4					0.0	245.3	116.5	1,332.7	0.0	0.0
90.00		113.7	1,047.9					0.0	245.3	113.7	1,293.2	0.0	0.0
94.95	Bot - Section 3	56.5	999.0					0.0	243.0	56.5	1,242.0	0.0	0.0
95.00		51.4	14.1					0.0	2.3	51.4	16.4	0.0	0.0
99.54	Top - Section 2	56.0	1,346.3					0.0	222.6	56.0	1,568.9	0.0	0.0
100.00		59.8	67.1					0.0	22.7	59.8	89.8	0.0	0.0
105.00		107.9	703.4					0.0	245.3	107.9	948.7	0.0	0.0
110.00		104.8	674.0					0.0	245.3	104.8	919.2	0.0	0.0
115.00	Appurtenance(s)	101.7	644.4	511.1	0.0	23.5	4,450.2	0.0	245.3	612.7	5,339.9	0.0	0.0
120.00		98.3	614.7					0.0	229.7	98.3	844.4	0.0	0.0
125.00		49.9	584.9					0.0	229.7	49.9	814.5	0.0	0.0
125.17	Bot - Section 4	19.1	19.1					0.0	7.7	19.1	26.8	0.0	0.0
127.00	Appurtenance(s)	34.7	317.0	29.3	0.0	0.0	135.9	0.0	84.2	64.0	537.2	0.0	0.0
128.83	Top - Section 3	28.1	310.9					0.0	73.4	28.1	384.3	0.0	0.0
130.00		56.2	107.8					0.0	46.7	56.2	154.5	0.0	0.0
135.00	Appurtenance(s)	88.8	443.0	676.7	0.0	10.7	4,621.2	0.0	200.2	765.6	5,264.4	0.0	0.0
140.00		85.0	418.2					0.0	133.9	85.0	552.1	0.0	0.0
145.00	Appurtenance(s)	45.5	393.3	420.7	0.0	737.3	2,233.6	0.0	133.9	466.3	2,760.8	0.0	0.0
145.50	Appurtenance(s)	31.7	38.4	283.9	0.0	0.0	2,673.0	0.0	4.5	315.6	2,716.0	0.0	0.0
149.00		27.7	259.7					0.0	13.6	27.7	273.4	0.0	0.0
								Totals:	5,301.81	56,549.6	0.00	0.00	

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:24 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-56.55	-5.25	0.00	-514.39	0.00	514.39	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.095
5.00	-54.48	-5.14	0.00	-488.16	0.00	488.16	5,229.56	1,322.03	6,477.96	5,836.15	0.01	-0.02	0.094
10.00	-52.42	-5.03	0.00	-462.48	0.00	462.48	5,144.17	1,290.04	6,168.24	5,600.81	0.05	-0.05	0.093
15.00	-50.39	-4.92	0.00	-437.36	0.00	437.36	5,056.74	1,258.04	5,866.11	5,367.95	0.11	-0.07	0.091
20.00	-48.39	-4.81	0.00	-412.76	0.00	412.76	4,967.26	1,226.05	5,571.56	5,137.73	0.20	-0.10	0.090
25.00	-46.43	-4.71	0.00	-388.70	0.00	388.70	4,875.75	1,194.05	5,284.60	4,910.34	0.32	-0.12	0.089
30.00	-44.51	-4.60	0.00	-365.16	0.00	365.16	4,782.19	1,162.06	5,005.22	4,685.92	0.46	-0.15	0.087
35.00	-42.63	-4.50	0.00	-342.14	0.00	342.14	4,686.58	1,130.06	4,733.44	4,464.66	0.63	-0.18	0.086
40.00	-40.79	-4.39	0.00	-319.65	0.00	319.65	4,588.94	1,098.07	4,469.24	4,246.71	0.83	-0.20	0.084
45.00	-39.00	-4.31	0.00	-297.71	0.00	297.71	4,489.25	1,066.07	4,212.62	4,032.24	1.06	-0.23	0.083
46.71	-38.39	-4.26	0.00	-290.35	0.00	290.35	4,454.76	1,055.15	4,126.76	3,959.86	1.14	-0.24	0.082
50.00	-36.54	-4.19	0.00	-276.32	0.00	276.32	4,377.60	1,034.08	3,963.59	3,812.78	1.31	-0.26	0.081
52.79	-35.00	-4.12	0.00	-264.65	0.00	264.65	3,613.14	888.02	3,410.01	3,157.53	1.47	-0.27	0.094
55.00	-34.31	-4.04	0.00	-255.53	0.00	255.53	3,578.23	875.90	3,317.57	3,083.97	1.60	-0.29	0.092
60.00	-32.78	-3.93	0.00	-235.31	0.00	235.31	3,497.79	848.48	3,113.10	2,919.41	1.92	-0.32	0.090
65.00	-31.29	-3.82	0.00	-215.66	0.00	215.66	3,415.31	821.05	2,915.14	2,757.59	2.27	-0.35	0.087
70.00	-29.84	-3.70	0.00	-196.58	0.00	196.58	3,330.78	793.63	2,723.68	2,598.67	2.65	-0.38	0.085
75.00	-28.42	-3.59	0.00	-178.08	0.00	178.08	3,243.59	766.20	2,538.72	2,442.34	3.07	-0.41	0.082
80.00	-27.05	-3.47	0.00	-160.14	0.00	160.14	3,127.49	738.78	2,360.26	2,269.78	3.52	-0.45	0.079
85.00	-25.72	-3.36	0.00	-142.77	0.00	142.77	3,011.40	711.35	2,188.31	2,103.54	4.01	-0.48	0.076
90.00	-24.42	-3.25	0.00	-125.97	0.00	125.97	2,895.30	683.93	2,022.86	1,943.62	4.53	-0.51	0.073
94.95	-23.18	-3.19	0.00	-109.87	0.00	109.87	2,780.28	656.76	1,865.37	1,791.43	5.07	-0.54	0.070
95.00	-23.17	-3.14	0.00	-109.72	0.00	109.72	2,779.20	656.50	1,863.91	1,790.03	5.08	-0.54	0.070
99.54	-21.60	-3.08	0.00	-95.47	0.00	95.47	1,702.59	429.78	1,198.10	1,080.94	5.61	-0.57	0.101
100.00	-21.51	-3.02	0.00	-94.04	0.00	94.04	1,698.09	428.09	1,188.67	1,073.80	5.67	-0.57	0.100
105.00	-20.56	-2.92	0.00	-78.92	0.00	78.92	1,648.46	409.81	1,089.32	997.54	6.29	-0.62	0.092
110.00	-19.64	-2.82	0.00	-64.31	0.00	64.31	1,596.78	391.52	994.30	922.79	6.96	-0.66	0.082
115.00	-14.30	-2.15	0.00	-50.19	0.00	50.19	1,543.06	373.24	903.62	849.74	7.67	-0.69	0.068
120.00	-13.46	-2.05	0.00	-39.43	0.00	39.43	1,487.30	354.96	817.27	778.54	8.41	-0.73	0.060
125.00	-12.64	-1.99	0.00	-29.17	0.00	29.17	1,425.26	336.68	735.26	707.26	9.19	-0.76	0.050
125.17	-12.62	-1.98	0.00	-28.84	0.00	28.84	1,422.68	336.07	732.60	704.69	9.22	-0.76	0.050
127.00	-12.08	-1.91	0.00	-25.21	0.00	25.21	1,394.30	329.36	703.67	676.72	9.51	-0.77	0.046
128.83	-11.70	-1.88	0.00	-21.72	0.00	21.72	970.32	246.56	525.75	471.29	9.80	-0.78	0.058
130.00	-11.54	-1.82	0.00	-19.53	0.00	19.53	961.96	243.36	512.20	461.12	9.99	-0.78	0.054
135.00	-6.29	-0.98	0.00	-10.42	0.00	10.42	924.86	229.65	456.11	418.16	10.83	-0.80	0.032
140.00	-5.74	-0.89	0.00	-5.50	0.00	5.50	885.72	215.94	403.28	376.35	11.68	-0.82	0.021
145.00	-2.98	-0.39	0.00	-0.30	0.00	0.30	844.53	202.23	353.69	335.86	12.54	-0.83	0.004
145.50	-0.27	-0.03	0.00	-0.11	0.00	0.11	840.30	200.86	348.91	331.89	12.62	-0.83	0.001
149.00	0.00	-0.03	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	13.23	-0.83	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:24 AM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W	Serviceability 60 mph	22 Iterations
Gust Response Factor :1.10		
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		51.3	0.0					0.0	0.0	51.3	0.0	0.0	0.0
5.00		101.3	1,297.2					0.0	204.4	101.3	1,501.6	0.0	0.0
10.00		98.9	1,266.1					0.0	204.4	98.9	1,470.5	0.0	0.0
15.00		96.4	1,235.1					0.0	204.4	96.4	1,439.5	0.0	0.0
20.00		94.0	1,204.1					0.0	204.4	94.0	1,408.5	0.0	0.0
25.00		91.6	1,173.1					0.0	204.4	91.6	1,377.5	0.0	0.0
30.00		90.2	1,142.1					0.0	204.4	90.2	1,346.5	0.0	0.0
35.00		90.6	1,111.1					0.0	204.4	90.6	1,315.5	0.0	0.0
40.00		91.5	1,080.0					0.0	204.4	91.5	1,284.4	0.0	0.0
45.00		61.6	1,049.0					0.0	204.4	61.6	1,253.4	0.0	0.0
46.71	Bot - Section 2	46.5	351.0					0.0	69.8	46.5	420.7	0.0	0.0
50.00		56.9	1,249.6					0.0	134.6	56.9	1,384.2	0.0	0.0
52.79	Top - Section 1	46.7	1,039.1					0.0	114.1	46.7	1,153.1	0.0	0.0
55.00		67.1	377.9					0.0	90.3	67.1	468.3	0.0	0.0
60.00		92.6	835.8					0.0	204.4	92.6	1,040.2	0.0	0.0
65.00		91.7	809.3					0.0	204.4	91.7	1,013.7	0.0	0.0
70.00		90.6	782.7					0.0	204.4	90.6	987.1	0.0	0.0
75.00		89.2	756.1					0.0	204.4	89.2	960.5	0.0	0.0
80.00		87.7	729.5					0.0	204.4	87.7	933.9	0.0	0.0
85.00		85.9	702.9					0.0	204.4	85.9	907.3	0.0	0.0
90.00		83.6	676.3					0.0	204.4	83.6	880.7	0.0	0.0
94.95	Bot - Section 3	41.5	643.8					0.0	202.5	41.5	846.3	0.0	0.0
95.00		37.7	10.0					0.0	1.9	37.7	11.9	0.0	0.0
99.54	Top - Section 2	41.1	951.9					0.0	185.5	41.1	1,137.3	0.0	0.0
100.00		43.7	38.5					0.0	18.9	43.7	57.5	0.0	0.0
105.00		78.7	406.2					0.0	204.4	78.7	610.6	0.0	0.0
110.00		76.2	388.4					0.0	204.4	76.2	592.8	0.0	0.0
115.00	Appurtenance(s)	73.6	370.7	487.5	0.0	23.8	2,693.6	0.0	204.4	561.1	3,268.7	0.0	0.0
120.00		70.9	353.0					0.0	191.4	70.9	544.4	0.0	0.0
125.00		35.9	335.3					0.0	191.4	35.9	526.7	0.0	0.0
125.17	Bot - Section 4	13.7	10.9					0.0	6.4	13.7	17.3	0.0	0.0
127.00	Appurtenance(s)	24.9	208.6	25.8	0.0	0.0	60.0	0.0	70.2	50.7	338.8	0.0	0.0
128.83	Top - Section 3	20.1	204.4					0.0	61.2	20.1	265.6	0.0	0.0
130.00		40.1	55.4					0.0	38.9	40.1	94.3	0.0	0.0
135.00	Appurtenance(s)	63.2	229.3	702.0	0.0	7.8	2,427.9	0.0	166.8	765.1	2,824.0	0.0	0.0
140.00		60.0	216.0					0.0	111.6	60.0	327.5	0.0	0.0
145.00	Appurtenance(s)	32.1	202.7	444.5	0.0	790.6	833.4	0.0	111.6	476.6	1,147.6	0.0	0.0
145.50	Appurtenance(s)	22.2	19.5	246.0	0.0	0.0	1,875.0	0.0	3.8	268.2	1,898.3	0.0	0.0
149.00		19.4	133.0					0.0	11.4	19.4	144.4	0.0	0.0
								Totals:		4,406.66	37,201.1	0.00	0.00

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.20	-4.36	0.00	-438.49	0.00	438.49	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.079
5.00	-35.70	-4.27	0.00	-416.68	0.00	416.68	5,229.56	1,322.03	6,477.96	5,836.15	0.01	-0.02	0.078
10.00	-34.23	-4.19	0.00	-395.31	0.00	395.31	5,144.17	1,290.04	6,168.24	5,600.81	0.04	-0.04	0.077
15.00	-32.78	-4.10	0.00	-374.39	0.00	374.39	5,056.74	1,258.04	5,866.11	5,367.95	0.10	-0.06	0.076
20.00	-31.37	-4.02	0.00	-353.89	0.00	353.89	4,967.26	1,226.05	5,571.56	5,137.73	0.17	-0.08	0.075
25.00	-30.00	-3.93	0.00	-333.81	0.00	333.81	4,875.75	1,194.05	5,284.60	4,910.34	0.27	-0.11	0.074
30.00	-28.65	-3.85	0.00	-314.14	0.00	314.14	4,782.19	1,162.06	5,005.22	4,685.92	0.39	-0.13	0.073
35.00	-27.33	-3.77	0.00	-294.88	0.00	294.88	4,686.58	1,130.06	4,733.44	4,464.66	0.54	-0.15	0.072
40.00	-26.05	-3.68	0.00	-276.03	0.00	276.03	4,588.94	1,098.07	4,469.24	4,246.71	0.71	-0.17	0.071
45.00	-24.79	-3.63	0.00	-257.61	0.00	257.61	4,489.25	1,066.07	4,212.62	4,032.24	0.91	-0.20	0.069
46.71	-24.37	-3.58	0.00	-251.42	0.00	251.42	4,454.76	1,055.15	4,126.76	3,959.86	0.98	-0.21	0.069
50.00	-22.98	-3.53	0.00	-239.62	0.00	239.62	4,377.60	1,034.08	3,963.59	3,812.78	1.12	-0.22	0.068
52.79	-21.83	-3.48	0.00	-229.78	0.00	229.78	3,613.14	888.02	3,410.01	3,157.53	1.26	-0.24	0.079
55.00	-21.36	-3.42	0.00	-222.09	0.00	222.09	3,578.23	875.90	3,317.57	3,083.97	1.37	-0.25	0.078
60.00	-20.32	-3.33	0.00	-204.99	0.00	204.99	3,497.79	848.48	3,113.10	2,919.41	1.64	-0.27	0.076
65.00	-19.31	-3.24	0.00	-188.34	0.00	188.34	3,415.31	821.05	2,915.14	2,757.59	1.95	-0.30	0.074
70.00	-18.32	-3.16	0.00	-172.12	0.00	172.12	3,330.78	793.63	2,723.68	2,598.67	2.28	-0.33	0.072
75.00	-17.36	-3.07	0.00	-156.33	0.00	156.33	3,243.59	766.20	2,538.72	2,442.34	2.64	-0.36	0.069
80.00	-16.42	-2.98	0.00	-140.98	0.00	140.98	3,127.49	738.78	2,360.26	2,269.78	3.03	-0.39	0.067
85.00	-15.51	-2.90	0.00	-126.06	0.00	126.06	3,011.40	711.35	2,188.31	2,103.54	3.45	-0.42	0.065
90.00	-14.63	-2.82	0.00	-111.56	0.00	111.56	2,895.30	683.93	2,022.86	1,943.62	3.90	-0.44	0.062
94.95	-13.79	-2.77	0.00	-97.60	0.00	97.60	2,780.28	656.76	1,865.37	1,791.43	4.38	-0.47	0.059
95.00	-13.77	-2.74	0.00	-97.47	0.00	97.47	2,779.20	656.50	1,863.91	1,790.03	4.38	-0.47	0.059
99.54	-12.64	-2.69	0.00	-85.05	0.00	85.05	1,702.59	429.78	1,198.10	1,080.94	4.84	-0.50	0.086
100.00	-12.58	-2.65	0.00	-83.80	0.00	83.80	1,698.09	428.09	1,188.67	1,073.80	4.89	-0.50	0.085
105.00	-11.97	-2.57	0.00	-70.55	0.00	70.55	1,648.46	409.81	1,089.32	997.54	5.43	-0.54	0.078
110.00	-11.37	-2.50	0.00	-57.68	0.00	57.68	1,596.78	391.52	994.30	922.79	6.02	-0.57	0.070
115.00	-8.11	-1.91	0.00	-45.16	0.00	45.16	1,543.06	373.24	903.62	849.74	6.64	-0.61	0.058
120.00	-7.56	-1.84	0.00	-35.62	0.00	35.62	1,487.30	354.96	817.27	778.54	7.29	-0.64	0.051
125.00	-7.04	-1.80	0.00	-26.44	0.00	26.44	1,425.26	336.68	735.26	707.26	7.97	-0.66	0.042
125.17	-7.02	-1.78	0.00	-26.15	0.00	26.15	1,422.68	336.07	732.60	704.69	7.99	-0.66	0.042
127.00	-6.68	-1.73	0.00	-22.88	0.00	22.88	1,394.30	329.36	703.67	676.72	8.25	-0.67	0.039
128.83	-6.42	-1.71	0.00	-19.71	0.00	19.71	970.32	246.56	525.75	471.29	8.51	-0.68	0.048
130.00	-6.32	-1.67	0.00	-17.72	0.00	17.72	961.96	243.36	512.20	461.12	8.67	-0.69	0.045
135.00	-3.51	-0.87	0.00	-9.38	0.00	9.38	924.86	229.65	456.11	418.16	9.41	-0.71	0.026
140.00	-3.18	-0.80	0.00	-5.04	0.00	5.04	885.72	215.94	403.28	376.35	10.15	-0.72	0.017
145.00	-2.04	-0.31	0.00	-0.23	0.00	0.23	844.53	202.23	353.69	335.86	10.91	-0.73	0.003
145.50	-0.14	-0.02	0.00	-0.07	0.00	0.07	840.30	200.86	348.91	331.89	10.99	-0.73	0.000
149.00	0.00	-0.02	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	11.52	-0.73	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number: 13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.20
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.05
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.21
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):	2.00
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	1.75
Total Unfactored Dead Load:	37.20 k
Seismic Base Shear (E):	1.12 k

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	147.25	144	903	0.010	12	179
37	145.25	23	142	0.002	2	29
36	142.50	314	1,855	0.021	24	390
35	137.50	328	1,816	0.021	23	407
34	132.50	396	2,058	0.024	27	492
33	129.42	94	470	0.005	6	117
32	127.92	266	1,298	0.015	17	330
31	126.08	279	1,328	0.015	17	346
30	125.08	17	81	0.001	1	21
29	122.50	527	2,385	0.028	31	654
28	117.50	544	2,292	0.026	30	676
27	112.50	575	2,244	0.026	29	715
26	107.50	593	2,136	0.025	28	737
25	102.50	611	2,024	0.023	26	759
24	99.77	57	182	0.002	2	71
23	97.27	1,137	3,440	0.040	44	1,413
22	94.98	12	34	0.000	0	15
21	92.48	846	2,343	0.027	30	1,051
20	87.50	881	2,213	0.026	29	1,094
19	82.50	907	2,057	0.024	27	1,127
18	77.50	934	1,897	0.022	24	1,160
17	72.50	960	1,736	0.020	22	1,193
16	67.50	987	1,575	0.018	20	1,226
15	62.50	1,014	1,413	0.016	18	1,259
14	57.50	1,040	1,253	0.014	16	1,292

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

13	53.90	468	504	0.006	6	582
12	51.40	1,153	1,141	0.013	15	1,433
11	48.35	1,384	1,231	0.014	16	1,720
10	45.85	421	341	0.004	4	523
9	42.50	1,253	890	0.010	11	1,557
8	37.50	1,284	732	0.008	9	1,596
7	32.50	1,315	584	0.007	8	1,634
6	27.50	1,346	446	0.005	6	1,673
5	22.50	1,377	321	0.004	4	1,711
4	17.50	1,409	211	0.002	3	1,750
3	12.50	1,440	120	0.001	2	1,789
2	7.50	1,471	50	0.001	1	1,827
1	2.50	1,502	7	0.000	0	1,866
Generic Flat Low Pro	145.50	1,875	11,477	0.133	148	2,330
Powerwave Allgon LGP	145.00	32	193	0.002	2	40
Powerwave Allgon 702	145.00	13	80	0.001	1	16
Powerwave Allgon LGP	145.00	85	515	0.006	7	105
Raycap DC6-48-60-18-	145.00	32	193	0.002	2	40
Ericsson RRUS 11 (Ba	145.00	150	913	0.011	12	186
Ericsson RRUS 32 B2	145.00	159	967	0.011	12	198
Allgon 7770.00	145.00	210	1,278	0.015	16	261
CCI HPA-65R-BUU-H6	145.00	153	931	0.011	12	190
Commscope SDX1926Q-4	135.00	19	100	0.001	1	23
Ericsson KRY 112 144	135.00	33	177	0.002	2	41
Ericsson RRUS 4415 B	135.00	138	741	0.009	10	171
Ericsson Radio 4449	135.00	225	1,208	0.014	16	280
Ericsson 4424 B25	135.00	258	1,385	0.016	18	321
Ericsson Air6449 B41	135.00	312	1,675	0.019	22	388
RFS APX16DWV-16DWVS-	135.00	122	656	0.008	8	152
Generic Flat T-Arm	135.00	938	5,033	0.058	65	1,165
RFS APXVAARR24_43-U-	135.00	384	2,060	0.024	27	477
Generic 34" x 6" Pan	127.00	60	289	0.003	4	75
Samsung B5/B13 RRH-B	115.00	281	1,140	0.013	15	349
Samsung B2/B66A RRH-	115.00	169	684	0.008	9	210
RFS DB-B1-6C-12AB-0Z	115.00	21	87	0.001	1	27
Samsung MT6407-77A	115.00	163	662	0.008	9	203
JMA Wireless MX06FRO	115.00	184	746	0.009	10	229
Generic Round Low Pr	115.00	1,875	7,603	0.088	98	2,330
		37,201	86,547	1.000	1,116	46,221

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
38	147.25	144	903	0.010	12	124
37	145.25	23	142	0.002	2	20
36	142.50	314	1,855	0.021	24	269
35	137.50	328	1,816	0.021	23	281
34	132.50	396	2,058	0.024	27	340
33	129.42	94	470	0.005	6	81
32	127.92	266	1,298	0.015	17	228
31	126.08	279	1,328	0.015	17	239
30	125.08	17	81	0.001	1	15
29	122.50	527	2,385	0.028	31	452
28	117.50	544	2,292	0.026	30	467
27	112.50	575	2,244	0.026	29	493
26	107.50	593	2,136	0.025	28	508
25	102.50	611	2,024	0.023	26	524
24	99.77	57	182	0.002	2	49
23	97.27	1,137	3,440	0.040	44	975
22	94.98	12	34	0.000	0	10

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

21	92.48	846	2,343	0.027	30	726
20	87.50	881	2,213	0.026	29	755
19	82.50	907	2,057	0.024	27	778
18	77.50	934	1,897	0.022	24	801
17	72.50	960	1,736	0.020	22	824
16	67.50	987	1,575	0.018	20	846
15	62.50	1,014	1,413	0.016	18	869
14	57.50	1,040	1,253	0.014	16	892
13	53.90	468	504	0.006	6	402
12	51.40	1,153	1,141	0.013	15	989
11	48.35	1,384	1,231	0.014	16	1,187
10	45.85	421	341	0.004	4	361
9	42.50	1,253	890	0.010	11	1,075
8	37.50	1,284	732	0.008	9	1,101
7	32.50	1,315	584	0.007	8	1,128
6	27.50	1,346	446	0.005	6	1,155
5	22.50	1,377	321	0.004	4	1,181
4	17.50	1,409	211	0.002	3	1,208
3	12.50	1,440	120	0.001	2	1,234
2	7.50	1,471	50	0.001	1	1,261
1	2.50	1,502	7	0.000	0	1,288
Generic Flat Low Pro	145.50	1,875	11,477	0.133	148	1,608
Powerwave Allgon LGP	145.00	32	193	0.002	2	27
Powerwave Allgon 702	145.00	13	80	0.001	1	11
Powerwave Allgon LGP	145.00	85	515	0.006	7	73
Raycap DC6-48-60-18-	145.00	32	193	0.002	2	27
Ericsson RRUS 11 (Ba	145.00	150	913	0.011	12	129
Ericsson RRUS 32 B2	145.00	159	967	0.011	12	136
Allgon 7770.00	145.00	210	1,278	0.015	16	180
CCI HPA-65R-BUU-H6	145.00	153	931	0.011	12	131
Commscope SDX1926Q-4	135.00	19	100	0.001	1	16
Ericsson KRY 112 144	135.00	33	177	0.002	2	28
Ericsson RRUS 4415 B	135.00	138	741	0.009	10	118
Ericsson Radio 4449	135.00	225	1,208	0.014	16	193
Ericsson 4424 B25	135.00	258	1,385	0.016	18	221
Ericsson Air6449 B41	135.00	312	1,675	0.019	22	268
RFS APX16DWV-16DWVS-	135.00	122	656	0.008	8	105
Generic Flat T-Arm	135.00	938	5,033	0.058	65	804
RFS APXVAARR24_43-U-	135.00	384	2,060	0.024	27	329
Generic 34" x 6" Pan	127.00	60	289	0.003	4	51
Samsung B5/B13 RRH-B	115.00	281	1,140	0.013	15	241
Samsung B2/B66A RRH-	115.00	169	684	0.008	9	145
RFS DB-B1-6C-12AB-0Z	115.00	21	87	0.001	1	18
Samsung MT6407-77A	115.00	163	662	0.008	9	140
JMA Wireless MX06FRO	115.00	184	746	0.009	10	158
Generic Round Low Pr	115.00	1,875	7,603	0.088	98	1,608
		37,201	86,547	1.000	1,116	31,902

Site Number: 370641

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.36	-1.12	0.00	-129.10	0.00	129.10	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.030
5.00	-42.53	-1.12	0.00	-123.52	0.00	123.52	5,229.56	1,322.03	6,477.96	5,836.15	0.00	-0.01	0.029
10.00	-40.74	-1.12	0.00	-117.91	0.00	117.91	5,144.17	1,290.04	6,168.24	5,600.81	0.01	-0.01	0.029
15.00	-38.99	-1.13	0.00	-112.29	0.00	112.29	5,056.74	1,258.04	5,866.11	5,367.95	0.03	-0.02	0.029
20.00	-37.28	-1.12	0.00	-106.66	0.00	106.66	4,967.26	1,226.05	5,571.56	5,137.73	0.05	-0.02	0.028
25.00	-35.60	-1.12	0.00	-101.04	0.00	101.04	4,875.75	1,194.05	5,284.60	4,910.34	0.08	-0.03	0.028
30.00	-33.97	-1.12	0.00	-95.43	0.00	95.43	4,782.19	1,162.06	5,005.22	4,685.92	0.12	-0.04	0.027
35.00	-32.37	-1.11	0.00	-89.84	0.00	89.84	4,686.58	1,130.06	4,733.44	4,464.66	0.16	-0.05	0.027
40.00	-30.82	-1.10	0.00	-84.29	0.00	84.29	4,588.94	1,098.07	4,469.24	4,246.71	0.21	-0.05	0.027
45.00	-30.29	-1.10	0.00	-78.77	0.00	78.77	4,489.25	1,066.07	4,212.62	4,032.24	0.27	-0.06	0.026
46.71	-28.57	-1.08	0.00	-76.90	0.00	76.90	4,454.76	1,055.15	4,126.76	3,959.86	0.29	-0.06	0.026
50.00	-27.14	-1.07	0.00	-73.33	0.00	73.33	4,377.60	1,034.08	3,963.59	3,812.78	0.34	-0.07	0.025
52.79	-26.56	-1.06	0.00	-70.34	0.00	70.34	3,613.14	888.02	3,410.01	3,157.53	0.38	-0.07	0.030
55.00	-25.27	-1.05	0.00	-67.99	0.00	67.99	3,578.23	875.90	3,317.57	3,083.97	0.41	-0.07	0.029
60.00	-24.01	-1.03	0.00	-62.74	0.00	62.74	3,497.79	848.48	3,113.10	2,919.41	0.49	-0.08	0.028
65.00	-22.78	-1.01	0.00	-57.58	0.00	57.58	3,415.31	821.05	2,915.14	2,757.59	0.59	-0.09	0.028
70.00	-21.59	-0.99	0.00	-52.51	0.00	52.51	3,330.78	793.63	2,723.68	2,598.67	0.69	-0.10	0.027
75.00	-20.43	-0.97	0.00	-47.55	0.00	47.55	3,243.59	766.20	2,538.72	2,442.34	0.80	-0.11	0.026
80.00	-19.30	-0.94	0.00	-42.70	0.00	42.70	3,127.49	738.78	2,360.26	2,269.78	0.91	-0.12	0.025
85.00	-18.20	-0.92	0.00	-37.98	0.00	37.98	3,011.40	711.35	2,188.31	2,103.54	1.04	-0.13	0.024
90.00	-17.15	-0.89	0.00	-33.40	0.00	33.40	2,895.30	683.93	2,022.86	1,943.62	1.18	-0.13	0.023
94.95	-17.14	-0.89	0.00	-29.02	0.00	29.02	2,780.28	656.76	1,865.37	1,791.43	1.32	-0.14	0.022
95.00	-15.73	-0.84	0.00	-28.98	0.00	28.98	2,779.20	656.50	1,863.91	1,790.03	1.32	-0.14	0.022
99.54	-15.65	-0.84	0.00	-25.17	0.00	25.17	1,702.59	429.78	1,198.10	1,080.94	1.46	-0.15	0.032
100.00	-14.90	-0.81	0.00	-24.78	0.00	24.78	1,698.09	428.09	1,188.67	1,073.80	1.48	-0.15	0.032
105.00	-14.16	-0.78	0.00	-20.72	0.00	20.72	1,648.46	409.81	1,089.32	997.54	1.64	-0.16	0.029
110.00	-13.44	-0.76	0.00	-16.80	0.00	16.80	1,596.78	391.52	994.30	922.79	1.82	-0.17	0.027
115.00	-9.42	-0.57	0.00	-13.02	0.00	13.02	1,543.06	373.24	903.62	849.74	2.01	-0.18	0.021
120.00	-8.77	-0.54	0.00	-10.15	0.00	10.15	1,487.30	354.96	817.27	778.54	2.20	-0.19	0.019
125.00	-8.75	-0.54	0.00	-7.43	0.00	7.43	1,425.26	336.68	735.26	707.26	2.40	-0.20	0.017
125.17	-8.40	-0.52	0.00	-7.34	0.00	7.34	1,422.68	336.07	732.60	704.69	2.41	-0.20	0.016
127.00	-7.99	-0.50	0.00	-6.38	0.00	6.38	1,394.30	329.36	703.67	676.72	2.49	-0.20	0.015
128.83	-7.88	-0.50	0.00	-5.46	0.00	5.46	970.32	246.56	525.75	471.29	2.57	-0.20	0.020
130.00	-7.39	-0.47	0.00	-4.88	0.00	4.88	961.96	243.36	512.20	461.12	2.62	-0.20	0.018
135.00	-3.96	-0.27	0.00	-2.53	0.00	2.53	924.86	229.65	456.11	418.16	2.83	-0.21	0.010
140.00	-3.57	-0.24	0.00	-1.21	0.00	1.21	885.72	215.94	403.28	376.35	3.06	-0.21	0.007
145.00	-0.18	-0.01	0.00	-0.01	0.00	0.01	844.53	202.23	353.69	335.86	3.28	-0.22	0.000
145.50	0.00	0.00	0.00	0.00	0.00	0.00	840.30	200.86	348.91	331.89	3.30	-0.22	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	3.46	-0.22	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.61	-1.12	0.00	-127.76	0.00	127.76	5,312.91	1,354.03	6,795.27	6,073.81	0.00	0.00	0.027
5.00	-29.35	-1.12	0.00	-122.18	0.00	122.18	5,229.56	1,322.03	6,477.96	5,836.15	0.00	-0.01	0.027
10.00	-28.12	-1.12	0.00	-116.58	0.00	116.58	5,144.17	1,290.04	6,168.24	5,600.81	0.01	-0.01	0.026
15.00	-26.91	-1.12	0.00	-110.98	0.00	110.98	5,056.74	1,258.04	5,866.11	5,367.95	0.03	-0.02	0.026
20.00	-25.73	-1.12	0.00	-105.37	0.00	105.37	4,967.26	1,226.05	5,571.56	5,137.73	0.05	-0.02	0.026
25.00	-24.57	-1.12	0.00	-99.78	0.00	99.78	4,875.75	1,194.05	5,284.60	4,910.34	0.08	-0.03	0.025
30.00	-23.45	-1.11	0.00	-94.20	0.00	94.20	4,782.19	1,162.06	5,005.22	4,685.92	0.12	-0.04	0.025
35.00	-22.34	-1.10	0.00	-88.65	0.00	88.65	4,686.58	1,130.06	4,733.44	4,464.66	0.16	-0.04	0.025
40.00	-21.27	-1.09	0.00	-83.14	0.00	83.14	4,588.94	1,098.07	4,469.24	4,246.71	0.21	-0.05	0.024
45.00	-20.91	-1.09	0.00	-77.68	0.00	77.68	4,489.25	1,066.07	4,212.62	4,032.24	0.27	-0.06	0.024
46.71	-19.72	-1.07	0.00	-75.82	0.00	75.82	4,454.76	1,055.15	4,126.76	3,959.86	0.29	-0.06	0.024
50.00	-18.73	-1.06	0.00	-72.28	0.00	72.28	4,377.60	1,034.08	3,963.59	3,812.78	0.33	-0.07	0.023
52.79	-18.33	-1.05	0.00	-69.33	0.00	69.33	3,613.14	888.02	3,410.01	3,157.53	0.37	-0.07	0.027
55.00	-17.44	-1.04	0.00	-67.00	0.00	67.00	3,578.23	875.90	3,317.57	3,083.97	0.41	-0.07	0.027
60.00	-16.57	-1.02	0.00	-61.81	0.00	61.81	3,497.79	848.48	3,113.10	2,919.41	0.49	-0.08	0.026
65.00	-15.72	-1.00	0.00	-56.70	0.00	56.70	3,415.31	821.05	2,915.14	2,757.59	0.58	-0.09	0.025
70.00	-14.90	-0.98	0.00	-51.69	0.00	51.69	3,330.78	793.63	2,723.68	2,598.67	0.68	-0.10	0.024
75.00	-14.10	-0.96	0.00	-46.79	0.00	46.79	3,243.59	766.20	2,538.72	2,442.34	0.79	-0.11	0.024
80.00	-13.32	-0.93	0.00	-42.01	0.00	42.01	3,127.49	738.78	2,360.26	2,269.78	0.90	-0.12	0.023
85.00	-12.56	-0.90	0.00	-37.36	0.00	37.36	3,011.40	711.35	2,188.31	2,103.54	1.03	-0.12	0.022
90.00	-11.84	-0.87	0.00	-32.84	0.00	32.84	2,895.30	683.93	2,022.86	1,943.62	1.16	-0.13	0.021
94.95	-11.83	-0.87	0.00	-28.52	0.00	28.52	2,780.28	656.76	1,865.37	1,791.43	1.31	-0.14	0.020
95.00	-10.85	-0.83	0.00	-28.48	0.00	28.48	2,779.20	656.50	1,863.91	1,790.03	1.31	-0.14	0.020
99.54	-10.80	-0.82	0.00	-24.73	0.00	24.73	1,702.59	429.78	1,198.10	1,080.94	1.44	-0.15	0.029
100.00	-10.28	-0.80	0.00	-24.35	0.00	24.35	1,698.09	428.09	1,188.67	1,073.80	1.46	-0.15	0.029
105.00	-9.77	-0.77	0.00	-20.36	0.00	20.36	1,648.46	409.81	1,089.32	997.54	1.62	-0.16	0.026
110.00	-9.28	-0.74	0.00	-16.50	0.00	16.50	1,596.78	391.52	994.30	922.79	1.79	-0.17	0.024
115.00	-6.50	-0.56	0.00	-12.79	0.00	12.79	1,543.06	373.24	903.62	849.74	1.98	-0.18	0.019
120.00	-6.05	-0.53	0.00	-9.96	0.00	9.96	1,487.30	354.96	817.27	778.54	2.17	-0.19	0.017
125.00	-6.04	-0.53	0.00	-7.30	0.00	7.30	1,425.26	336.68	735.26	707.26	2.37	-0.20	0.015
125.17	-5.80	-0.52	0.00	-7.21	0.00	7.21	1,422.68	336.07	732.60	704.69	2.38	-0.20	0.014
127.00	-5.52	-0.49	0.00	-6.26	0.00	6.26	1,394.30	329.36	703.67	676.72	2.45	-0.20	0.013
128.83	-5.44	-0.49	0.00	-5.36	0.00	5.36	970.32	246.56	525.75	471.29	2.53	-0.20	0.017
130.00	-5.10	-0.46	0.00	-4.79	0.00	4.79	961.96	243.36	512.20	461.12	2.58	-0.20	0.016
135.00	-2.73	-0.26	0.00	-2.49	0.00	2.49	924.86	229.65	456.11	418.16	2.79	-0.21	0.009
140.00	-2.47	-0.24	0.00	-1.19	0.00	1.19	885.72	215.94	403.28	376.35	3.01	-0.21	0.006
145.00	-0.12	-0.01	0.00	-0.01	0.00	0.01	844.53	202.23	353.69	335.86	3.23	-0.21	0.000
145.50	0.00	0.00	0.00	0.00	0.00	0.00	840.30	200.86	348.91	331.89	3.26	-0.21	0.000
149.00	0.00	0.00	0.00	0.00	0.00	0.00	809.65	191.26	316.37	304.35	3.41	-0.21	0.000

Site Number: 370641

Code: ANSI/TIA-222-H

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Site Name: Beacon Falls CT, CT

Engineering Number:13677854_C3_02

6/9/2021 10:13:26 AM

Customer: T-MOBILE

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	18.86	0.00	44.63	0.00	0.00	1905.83	99.54	0.35
0.9D + 1.0W	18.85	0.00	33.47	0.00	0.00	1889.74	99.54	0.35
1.2D + 1.0Di + 1.0Wi	5.25	0.00	56.55	0.00	0.00	514.39	99.54	0.10
1.2D + 1.0Ev + 1.0Eh	1.12	0.00	44.36	0.00	0.00	129.10	99.54	0.03
0.9D - 1.0Ev + 1.0Eh	1.12	0.00	30.61	0.00	0.00	127.76	99.54	0.03
1.0D + 1.0W	4.36	0.00	37.20	0.00	0.00	438.49	99.54	0.09



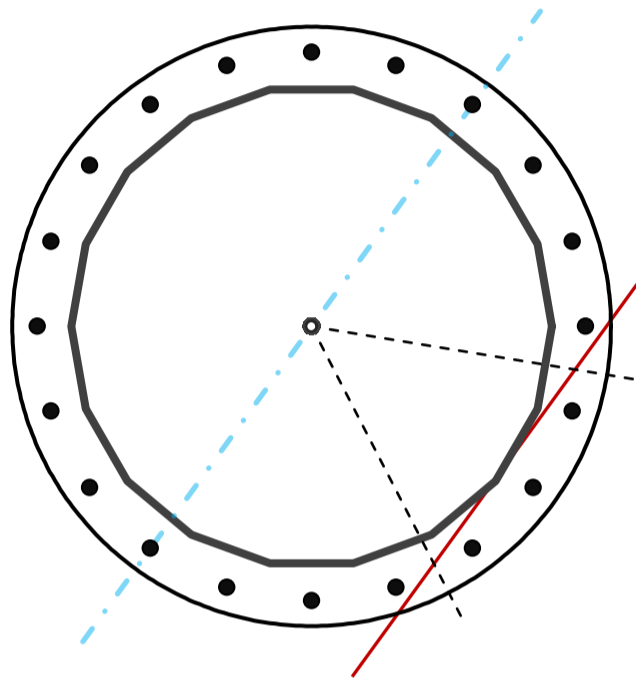
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	56	in
Thickness	7/16	in
Orientation Offset		°

Base Reactions		
Moment, Mu	1,905.8	k-ft
Axial, Pu	44.6	k
Shear, Vu	18.9	k
Neutral Axis	234	°

Report Capacities		
Component	Capacity	Result
Base Plate	18%	Pass
Anchor Rods	31%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ϕ	71	in
Thickness	2 1/2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset		°
Anchor Rod Detail	d	$\eta=0.5$
Clear Distance	3	in
Applied Moment, Mu	490.6	k
Bending Stress, ϕMn	2767.5	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	20	-
Diameter, ϕ	2 1/4	in
Bolt Circle	65	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	10.2	in
Orientation Offset		°
Applied Force, Pu	75.2	k
Anchor Rods, ϕPn	243.6	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	18.9	1905.8	1.00
Anchor Rod Forces	18.9	1905.8	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	75.9806	4.2211	0.2704		29325.69
Bolt	3.9761	3.2477	0.8393	4.5	31859.49
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Round	-
Diameter, D	71	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	43.646	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

Anchor Rods

Anchor Rod Quantity, N	20	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	65	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	75.2	k
Applied Shear, Vu	0.5	k
Compressive Capacity, ϕP_n	243.6	k
Tensile Capacity, ϕR_n	0.309	OK
Interaction Capacity	0.313	OK

External Base Plate

Chord Length AA	37.500	in
Additional AA	5.000	in
Section Modulus, Z	66.406	in ³
Applied Moment, Mu	490.6	k-ft
Bending Capacity, ϕM_n	3585.9	k-ft
Capacity, Mu/ ϕM_n	0.137	OK

Chord Length AB	36.170	in
Additional AB	5.000	in
Section Modulus, Z	64.329	in ³
Applied Moment, Mu	396.0	k-ft
Bending Capacity, ϕM_n	3473.8	k-ft
Capacity, Mu/ ϕM_n	0.114	OK

Bend Line Length	32.800	in
Additional Bend Line	0.000	in
Section Modulus, Z	51.250	in ³
Applied Moment, Mu	490.6	k-ft
Bending Capacity, ϕM_n	2767.5	k-ft
Capacity, Mu/ ϕM_n	0.177	OK

Internal Base Plate

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

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

T-Mobile Existing Facility

Site ID: CT11487B

CT487/BeaconFalls
401-411 Lopus Road
Beacon Falls, Connecticut 06403

June 23, 2021

EBI Project Number: 6221003176

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	39.52%

June 23, 2021

T-Mobile

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

Emissions Analysis for Site: CT11487B - CT487/BeaconFalls

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **401-411 Lopus Road in Beacon Falls, 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 401-411 Lopus Road in Beacon Falls, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

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

- 6) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 9) 1 LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 10) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 11) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 12) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 13) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz

/ 2100 MHz channel(s), the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 15) The antenna mounting height centerline of the proposed antennas is 135 feet above ground level (AGL).
- 16) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
- 17) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	135 feet	Height (AGL):	135 feet	Height (AGL):	135 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A1 MPE %:	7.85%	Antenna B1 MPE %:	7.85%	Antenna C1 MPE %:	7.85%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	135 feet	Height (AGL):	135 feet	Height (AGL):	135 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	500 Watts	Total TX Power (W):	500 Watts	Total TX Power (W):	500 Watts
ERP (W):	15,462.91	ERP (W):	15,462.91	ERP (W):	15,462.91
Antenna A2 MPE %:	4.56%	Antenna B2 MPE %:	4.56%	Antenna C2 MPE %:	4.56%
Antenna #:	3	Antenna #:	3	Antenna #:	3
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:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	135 feet	Height (AGL):	135 feet	Height (AGL):	135 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A3 MPE %:	1.01%	Antenna B3 MPE %:	1.01%	Antenna C3 MPE %:	1.01%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	13.42%
Verizon	23.45%
AT&T	2.17%
Metro PCS	0.48%
Site Total MPE % :	39.52%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	13.42%
T-Mobile Sector B Total:	13.42%
T-Mobile Sector C Total:	13.42%
Site Total MPE % :	39.52%

T-Mobile Maximum MPE Power Values (Sector A)							
T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	11044.63	135.0	23.86	2500 MHz LTE IC & 2C Traffic	1000	2.39%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	1074.06	135.0	2.32	2500 MHz LTE IC & 2C Broadcast	1000	0.23%
T-Mobile 2500 MHz NR Traffic	1	22089.26	135.0	47.72	2500 MHz NR Traffic	1000	4.77%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	135.0	4.64	2500 MHz NR Broadcast	1000	0.46%
T-Mobile 600 MHz LTE	2	591.73	135.0	2.56	600 MHz LTE	400	0.64%
T-Mobile 600 MHz NR	1	1577.94	135.0	3.41	600 MHz NR	400	0.85%
T-Mobile 700 MHz LTE	2	648.82	135.0	2.80	700 MHz LTE	467	0.60%
T-Mobile 1900 MHz GSM	4	1101.85	135.0	9.52	1900 MHz GSM	1000	0.95%
T-Mobile 1900 MHz LTE	2	2203.69	135.0	9.52	1900 MHz LTE	1000	0.95%
T-Mobile 2100 MHz UMTS	2	1294.56	135.0	5.59	2100 MHz UMTS	1000	0.56%
T-Mobile 2100 MHz LTE	2	2334.27	135.0	10.09	2100 MHz LTE	1000	1.01%
						Total:	13.42%

• 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:	13.42%
Sector B:	13.42%
Sector C:	13.42%
T-Mobile Maximum MPE % (Sector A):	13.42%
Site Total:	39.52%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **39.52%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
 L600_5G POPs

Section 1 - Site Information

Site ID: CT11487B
Status: Draft
Version: 5
Project Type: Anchor
Approved: Not Approved
Approved By: Not Approved
Last Modified: 4/30/2021 11:42:33 AM
Last Modified By: Dominic.Kallas2@T-Mobile.com

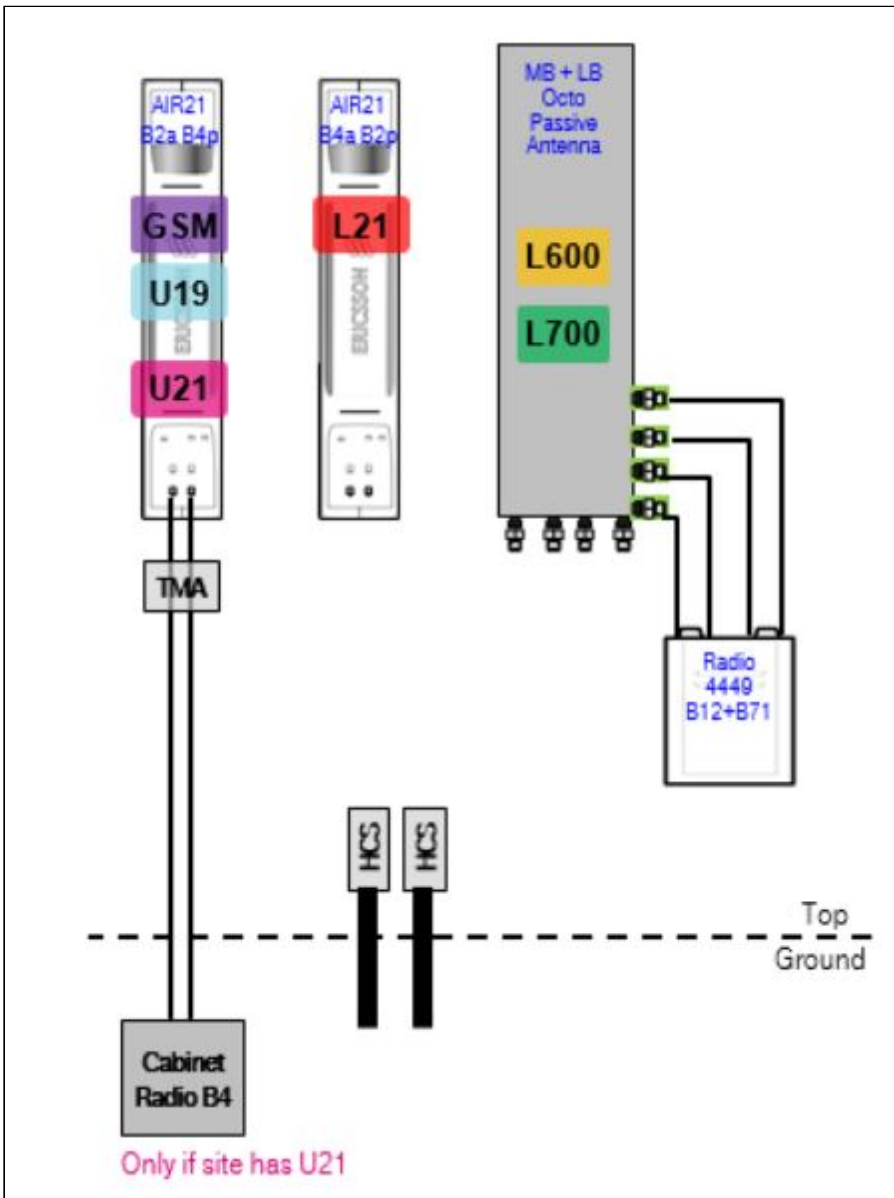
Site Name: CT487/BeaconFalls
Site Class: Monopole
Site Type: Structure Non Building
Plan Year: 2021
Market: CONNECTICUT CT
Vendor: Ericsson
Landlord: Town of Beacon Falls

Latitude: 41.43259736
Longitude: -73.07038460
Address: 139 Lopus Road
City, State: Beacon Falls, CT
Region: NORTHEAST

RAN Template: 67D5A998C Outdoor		AL Template: 67D5998C_1xAIR+1QP+1OP		
Sector Count: 3	Antenna Count: 9	Coax Line Count: 6	TMA Count: 3	RRU Count: 9

Section 2 - Existing Template Images

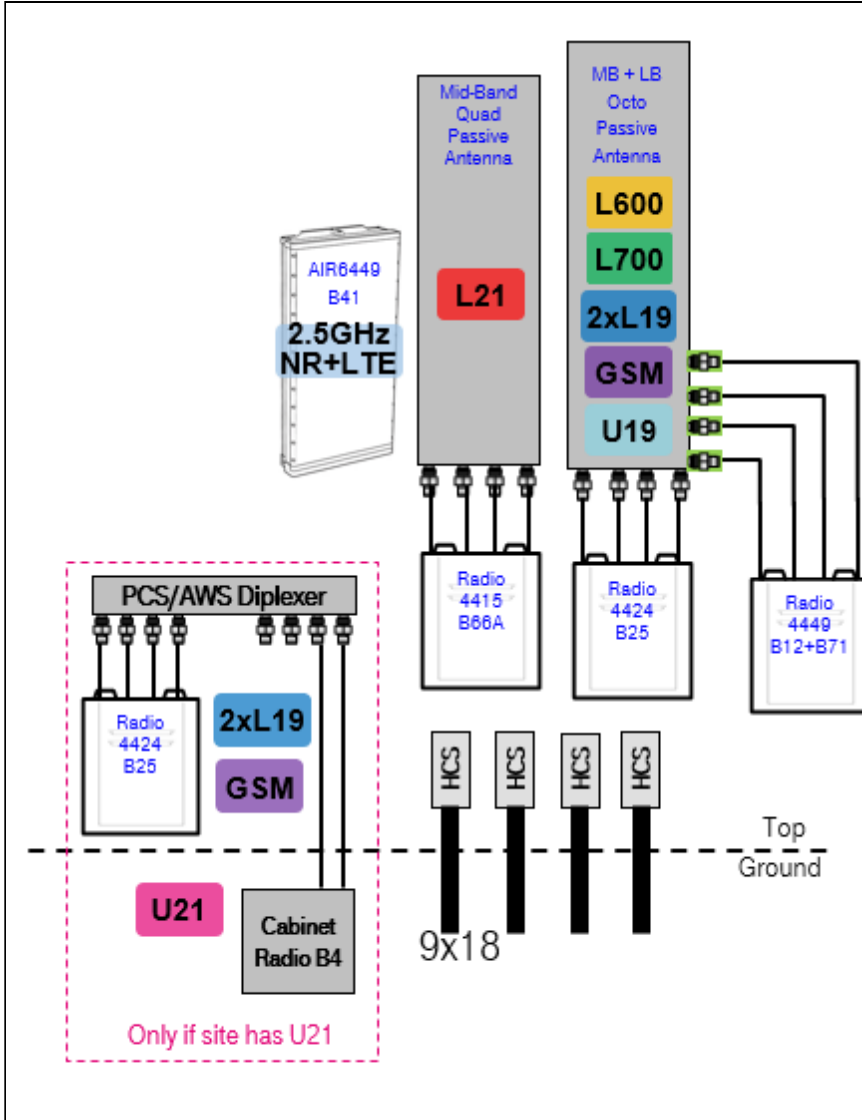
67D02C.JPG



Notes:

Section 3 - Proposed Template Images

67D5998C_1xAIR+1QP+1OP.PNG



Notes:

Section 4 - Siteplan Images

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RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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Section 5 - RAN Equipment

Existing RAN Equipment

Template: 67D92C Outdoor

Enclosure	1	2
Enclosure Type	RBS 6131	S12000 Outdoor
Baseband	DUW30 U2100 DUG20 G1900 BB 6630 L1900 L2100 BB 6630 L700 L600 N600	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG* (x 3)	
Radio	RU22 (x 6) U2100	

Proposed RAN Equipment

Template: 67D5A998C Outdoor

Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUW30 U2100 DUG20 G1900 BB 6630 L2100 L1900 BB 6630 L700 L600 N600	BB 6648 L2500 N2500	
Hybrid Cable System	Ericsson 6x12 HCS *Select Length & AWG* (x 3)	Ericsson Hybrid Trunk 6/24 4AWG 60m PSU 4813	
Radio	RU22 (x 6) U2100		
Transport System		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

- Remove Nortel Cabinet.
- Add (1) Enclosure 6160.
- Add (1) iXRe Router to new Enclosure 6160.
- Add (1) BB6648 for L2500 and N2500 (MMBB - Mixed Mode Baseband) to new Enclosure 6160.
- Add (1) PSU4813 Voltage Booster to new Enclosure 6160.
- Add (1) Battery Cabinet B160.
- Existing: (6) Coaxial Lines (4) HCS.
- Keep (6) Coaxial Lines for U2100.
- Remove 9X18 HCS.
- Add (1) 6X24 HCS terminating at the Enclosure 6160. Connect DC for the AIR6449 B41 to the PSU4813 Voltage Booster.

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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Section 6 - A&L Equipment

Existing Template: 67D92C_2xAIR+1OP
 Proposed Template: 67D5998C_1xAIR+1QP+1OP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro								
Antenna	1		2			3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)			
Azimuth	0		0			0			
M. Tilt									
Height	135		135			135			
Ports	P1	P2	P3	P4	P5	P6	P7	P8	
Active Tech.	L1900 G1900	U2100	L700 L600 N600	L700 L600 N600			L2100		
Dark Tech.									
Restricted Tech.									
Decomm. Tech.	U1900								
E. Tilt	2	2	2	2			2		
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2) Fiber Jumper - 15 ft.	Coax Jumper (x2)			Fiber Jumper - 15 ft. (x2)		
TMA's		Generic Twin Style 1B - AWS (AtAntenna)							
Diplexers / Combiners									
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)					
Sector Equipment									

Unconnected Equipment:

Scope of Work:

Add (1) new mount between existing AIR21 antennae for new Position 2. Need to reinforce T-Arms.
 Add (1) LB/MB Octo to Position 2.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAARR24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	0		0				0	
M. Tilt	0		0				0	
Height	135		135				135	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						Generic Twin Style 1B - AWS (AtAntenna)		
Diplexers / Combiners					Commscope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Commscope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Add handrail kit.
- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.

Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.

Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

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

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
 L600_5G POPs

Sector 2 (Existing) view from behind									
Coverage Type	A - Outdoor Macro								
Antenna	1		2			3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)			
Azimuth	70		70			70			
M. Tilt									
Height	135		135			135			
Ports	P1	P2	P3	P4	P5	P6	P7	P8	
Active Tech.	L1900 G1900	U2100	L700 L600 N600	L700 L600 N600			L2100		
Dark Tech.									
Restricted Tech.									
Decomm. Tech.	U1900								
E. Tilt	2	2	2	2			2		
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2) Fiber Jumper - 15 ft.	Coax Jumper (x2)			Fiber Jumper - 15 ft. (x2)		
TMA's	Generic Twin Style 1B - AWS (AtAntenna)								
Diplexers / Combiners									
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)					
Sector Equipment									

Unconnected Equipment:

Scope of Work:

Add (1) new mount between existing AIR21 antennae for new Position 2. Need to reinforce T-Arms.
 Add (1) LB/MB Octo to Position 2.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAARR24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	70		70				70	
M. Tilt	0		0				0	
Height	135		135				135	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						Generic Twin Style 1B - AWS (AtAntenna)		
Diplexers / Combiners					Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Add handrail kit.
- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.

Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.

Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

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

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
 L600_5G POPs

Sector 3 (Existing) view from behind										
Coverage Type	A - Outdoor Macro									
Antenna	1		2			3				
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		RFS - APXVAARR24_43-U-NA20 (Octo)			Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)				
Azimuth	180		180			180				
M. Tilt										
Height	135		135			135				
Ports	P1		P2		P3	P4	P5	P6	P7	P8
Active Tech.	L1900	G1900	U2100	L700	L700				L2100	
Dark Tech.				L600	L600					
Restricted Tech.				N600	N600					
Decomm. Tech.	U1900									
E. Tilt	2	2	2	2					2	
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2)	Coax Jumper (x2)					Fiber Jumper - 15 ft. (x2)	
TMA's		Generic Twin Style 1B - AWS (AtAntenna)								
Diplexers / Combiners										
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)						
Sector Equipment										

Unconnected Equipment:

Scope of Work:

Add (1) new mount between existing AIR21 antennae for new Position 2. Need to reinforce T-Arms.
 Add (1) LB/MB Octo to Position 2.
 Add (1) Radio 4449 B71+B12 to Position 2 for L600 and L700.

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAARR24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	180		180				180	
M. Tilt	0		0				0	
Height	135		135				135	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 170 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's						Generic Twin Style 1B - AWS (AtAntenna)		
Diplexers / Combiners					Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B8 5 (At Antenna)	SHARED Radio 4449 B71+B8 5 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Add handrail kit.
- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.

Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.

Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

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

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

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11487B_Anchor_5_draft
Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Section 7 - Power Systems Equipment

Existing Power Systems Equipment

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

Proposed Power Systems Equipment