



Filed by:

G. Scott Shepherd, Site Development Specialist II - SBA Communications  
134 Flanders Rd., Suite 125, Westborough, MA 01581  
508.251.0720 x 3807 - GShepherd@sbsite.com

May 19, 2020

Melanie A. Bachman  
Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

**Notice of Exempt Modification**  
**60 Rice Lane, Beacon Falls, CT 06403**  
**41.455689 N**  
**-73.039866 W**  
**T-Mobile #: CT11299D\_L600**

Dear Ms. Bachman:

T-Mobile currently maintains eleven (11) antennas at the 142.9-foot level of the existing 160-foot Monopole Tower at 60 Rice Lane in Beacon Falls, CT. The tower is owned by SBA Properties. The property is owned by Charles Edwards. T-Mobile plans to remove and replace eight (8) 1900/2100, 600/700 MHz antennas. The new antennas would be installed at the 142.9-foot level of the tower.

**Please note:** Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines. *In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.*

Planned Modifications:

TOWER

Remove:

- (1) AIR 32 B4A B12P panel
- (1) 1-5/8" Coax

Remove and Replace:

- (3) LNX6515 Antenna (Remove) – (3) APXVAARR24\_43U-NA20 Antenna 600/700 MHz (Replace)
- (3) AIR 3246 B66 panel (Remove) – (3) AIR 32 KRD901146-1\_B66A\_B2A (Replace)
- (1) AIR 32 B4A B2P panel (Remove) – (1) APXVAARR18\_43U-NA20 Antenna 600/700 MHz (Replace)
- (3) Ericsson RUS01 B12 radio (Replace) – (3) Ericsson 4449 B71+B12 radio (Replace)
- (1) Ericsson RRUS11B12 (Remove) – (1) Ericsson 4415 B66A (Replace)

Install New:

- (1) AIR 32 KRD901146-1\_B66A\_B2A
- (1) Ericsson 4449 B71+B12 radio
- (1) 1-5/8" Fiber

Existing Equipment to Remain:

- (3) AIR 21 KRC118023-1\_B2A-B4P 1900/2100 MHz Antenna
- (3) Ericsson KRY 112 144/1 TMAs
- Platform w/Handrail and V-brace @ 142'
- (2) 1-1/4" Fiber
- (10) 1-5/8" Coax
- (1) 1-5/8" Fiber

Entitlements:

- N/A

GROUND

Install New:

- Equipment inside existing 6131 cabinet

This facility was approved by the Town of Beacon Falls' Planning & Zoning Commission during their Regular Meeting of December 16, 1999. Approval was given for a monopole tower. The fire department was to be given space for their 12' whip antennas at 80' above ground level for zero compensation. SBA was additionally to cover the cost of the whip antenna, cabling and installation. Easement materials were to be filed and a Performance Bond set. There were no post construction stipulations made. Please see attached.

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 the Town of Beacon Falls' First Selectman, Christopher Bielik, and Zoning Enforcement Officer, Mike Mormile, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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 modification 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 modification 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 telecommunication facility constitute an exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

G. Scott Shepherd  
Site Development Specialist II  
SBA COMMUNICATIONS CORPORATION  
134 Flanders Rd., Suite 125  
Westborough, MA 01581  
508.251.0720 x3804 + T  
508.366.2610 + F  
508.868.6000 + C  
[GShepherd@sbsite.com](mailto:GShepherd@sbsite.com)

Attachments

cc: First Selectman Christopher Bielik / with attachments  
*Town of Beacon Falls, 10 Maple Ave., Beacon Falls, CT 06403*  
Mike Mormile, Zoning Enforcement Officer / with attachments  
*Town of Beacon Falls, 10 Maple Ave., Beacon Falls, CT 06403*  
Charles Edwards / with attachments  
*30 Lorraine Drive, Beacon Falls, CT 06403*

Exhibit List

Exhibit 1	Check Copy	
Exhibit 2	Notification Receipts	
Exhibit 3	Property Card	X
Exhibit 4	Property Map	X
Exhibit 5	Original Zoning Approval	Town of Beacon Falls P&Z Commission 12/16/99
Exhibit 6	Construction Drawings	Infinigy 8/14/19
Exhibit 7	Structural Analysis	TES 7/15/19
Exhibit 8	Mount Analysis	GEO Structural 6/12/19
Exhibit 9	EME Report	Transcom Engineering 5/23/19

## EXHIBIT 1

Normally, Exhibit would contain a copy of the check for the filing fee.

## EXHIBIT 2

Normally, Exhibit 2 would contain the FedEx labels of the recipients of the enclosed filing.

# EXHIBIT 3

EDWARDS CHARLES  
 30 LORRAINE DRIVE  
 BEACON FALLS, CT 06403  
 Census: 3411

Neighborhood Number  
 5

Neighborhood Name  
 East Side

TAXING DISTRICT INFORMATION

Jurisdiction Name BEACON FALLS  
 Area 006  
 Routing Number 017-002-0002

Transfer of Ownership

Owner	Consideration	Transfer Date	Deed Type	Deed Book/Page
EDWARDS	0	08/29/2002		131 14 & 30
NA	0	05/25/1999		112 411

Valuation Record

Site Description  
 Topography High  
 Public Utilities Sewer  
 Street or Road Unpaved  
 Neighborhood Static  
 Zoning: R-1  
 Legal Acres: 49.7600

Assessment Year	2006	2007	2011	2016				
Reason for Change	2006 Reval	2007	2011 Reval	2016 Reval				
2016 Market L	348520	348520	259360	202480				
I	0	0	0	0				
T	348520	348520	259360	202480				
70% Assessed L	78170	78170	48160	81070				
I	0	0	0	0				
T	78170	78170	48160	81070				

Land Size

Land Type	Rating, Soil ID - or - Actual Frontage	Acreage - or - Effective Frontage	Square Feet - or - Effective Depth	Influence Factor
Primary Commercial Res Excess Acres PA490 Forest		0.5200 49.2400 49.2400		U 100%

Physical Characteristics

Tax ID 017-002-0002

Printed 04/26/2019

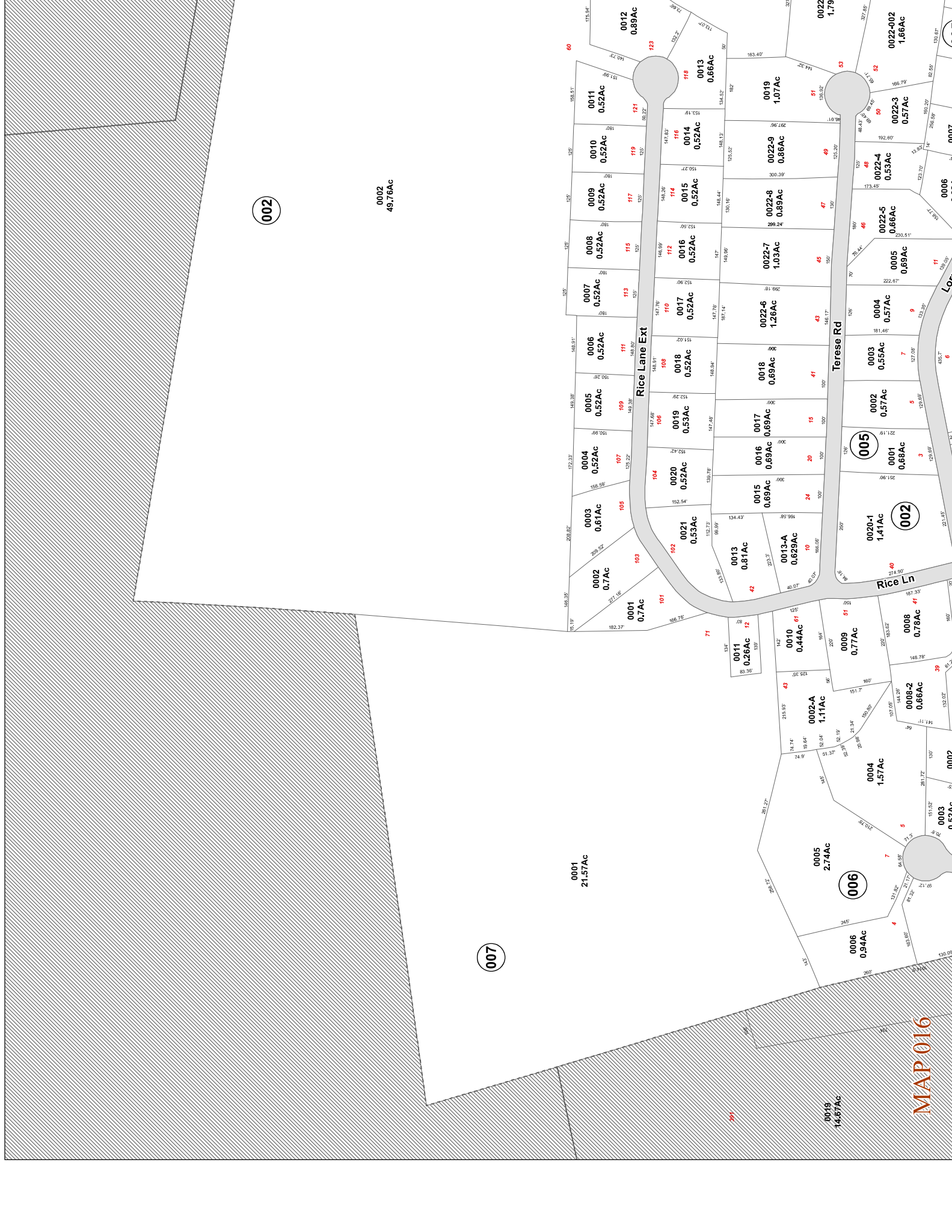


Special Features	
Description	

Summary of Improvements								
ID	USE	Story Height	Const Type	Grade	Year Cons	Eff Year	Cond	Size or Area
01	TOWERMON	0.00		AVG	2011	2011	AV	160



# EXHIBIT 4



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# EXHIBIT 5

TOWN OF BEACON FALLS  
 Planning & Zoning Commission  
 10 Maple Avenue  
 Beacon Falls CT 06403

Regular Meeting  
 December 16, 1999  
 Minutes

DEC 20 1999  
 3:40 PM  
*Paula D. Balaz*

**Draft Minutes Subject to Modification Prior to Approval**

**I. Call to Order**

Chairman Harvey called the Regular Meeting of the Beacon Falls Planning and Zoning Commission to order at 7:30 PM in the Public Meeting Room.

Chairman Harvey recessed the Regular Meeting at 7:31 PM to continue the Public Hearing.

Present: Chairman Mary Harvey, Commissioners Evan Betts, David Moran, Donald Perkins and Lynn Sirowich

Absent: Commissioners David D'Amico, Ellen Schultz and William Ambromaitis.

Chairman Harvey reconvened the Regular Meeting at 7:55 PM

**II. Approval of Minutes**

November 18, 1999 Public Hearing-Application P-99-86, Frank Kerski

Correction: Page 1, Commissioner Sirowich was not present at the meeting.

Motion: Commissioner Moran made a motion seconded by Commissioner Perkins to approve as Submitted the revised minutes of the November 18, 1999 Public Hearing. All voted in favor and the motion was carried 5-0.

November 18, 1999 Regular Meeting

Correction: Page 1, Section II should reflect that the motion was carried 5-0-1.

Motion: Commissioner Perkins made a motion seconded by Commissioner Betts to approve as submitted the revised minutes of the November 18, 1999 meeting. All voted in favor and the motion was carried 5-0.

**III. Correspondence and Payment of Bills**

Correspondence and Payment of Bills was tabled until the January 21, 1999 meeting.

**IV. Comments from the Public**

There were no comments from the Public

**V. Zoning Enforcement Officer's Report**

ZEO Tarascio was not present and therefore no report was submitted.

**VI. Town Engineer's Report**

*Beacon Falls*

SITE # 10125-003  
 FILE TYPE Zoning  
 SECTION Zoning

Town Engineer Sudimick distributed his report dated December 16, 1999 and reviewed activity pertaining to the Stop & Shop Development

**I. Town Engineer's Report (Continued)**

**Motion:** Commissioner Betts made a motion seconded by Commission Sirowich to approve and include the Town Engineer's Report in the minutes. All voted in favor and the motion carried 5-0.

**II. Gravel**

No Activity, no discussion

**Motion:** Commissioner Perkins made a motion to add to the agenda under Old Business the Sprint Application as #5 and Doug Crossley as #6. Seconded by Commissioner Betts.

**III. Old Business:**

**1. Application P-94-30, Hockanum Glen Subdivision (Monthly Report)**

No one was present representing the applicant. Town Engineer Sudimick asked if the Planning and Zoning Commission had ever sent correspondence to the First Selectman's Office regarding the acceptance of the road in Hockanum Glen. Commissioner Harvey said she would look into the matter.

**2. Application P-98-67, Haley Ridge Subdivision, James Martin (Monthly Report)**

Mr. Martin stated that the Driveway Maintenance & Easement Agreements were filed today at the Town Hall for Lots 19, 20, 21 & 22.

Mr. Martin requested his bond be reduced to 10%. He was referred to the Town Engineer's Report which notes items to be completed prior to approval of a reduction in the bond.

**3. Application P-99-85, Rebecca Betkowski, Proposed Child Development Center**  
Discussion by the Commissioners

**Motion:** Commissioner Perkins made a motion seconded by Commissioner Sirowich to table this application to the January 21, 1999 Regular Meeting to allow the members of the Planning & Zoning Commission to investigate the concerns of the Beacon Street residents.

**4. Application P-99-83, C.B.L., Inc., Wood Ridge Section 2 Subdivision.**  
Tabled until the January 21, 1999 Regular Meeting.

**5. Sprint PCS**

Steven T. Carty, representing Sprint as the Engineer for the project submitted revised plans that have addressed concerns of Town Engineer Sudimick.

**Motion:** Commissioner Sirowich made a motion seconded by Commission Betts that the plans as submitted be approved with conditions that the Easement must be filed in the Beacon Falls Land Records and that a Performance Bond be set. All voted in favor and the motion was carried 5-0.

**6. Mr. Doug Crossley, represented by Attorney Mark Malley. Mr. Malley presented a lot line revision for a parcel of land on Bethany Road. Mr. Crossley currently owns three parcel of land which are adjacent to one another. Two of the lots are on Bethany Road and are each 75 feet wide by 150 feet deep. These two parcels are one behind the other so that there is only 75foot frontage on**

Sprint assigned lease to  
SBA - 12/99

DEC 20 1999



Beacon Falls  
CT 02049-5

Zoning

November 28, 1999

Ted Smith  
Chief  
Beacon Hose Co. #1  
35 North Main St.  
Beacon Falls, CT 06403

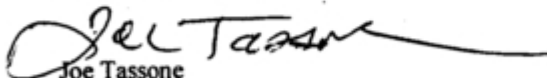
**RE: 10125-003/Beacon Falls (11/23/99 meeting)**

Dear Ted,

As per our meeting last Tuesday, the following is a summary of the issues we discussed:

- 1) SBA Inc. will provide space on our monopole tower for your **12ft. whip antenna at 80ft. AGL** (Above Ground Level). Rent for this space on the tower will be \$0 per month.
  - 2) SBA Inc. will install your antenna and the approx. 6ft. side mount on to our tower at no cost to Beacon Hose Co. #1 .
  - 3) SBA Inc. will pay for your 12ft. whip antenna and coax cable, which the total shall not exceed \$1000.
  - 4) Beacon Hose Co. #1 will be responsible for : a) equipment shed b) emergency power\* c) utilities to power your antenna.
- I understand that emergency power is a concern for you. However, there probably will not be a generator at the site for some time.
  - Please mail me back the completed "Collocation Application" as soon as possible so we can begin to make the appropriate arrangements. Thank you for your cooperation. SBA Inc. looks forward to building a relationship with Beacon Hose Co. #1.
  - I look forward to seeing you again at the **Dec. 16, 1999** Beacon Falls Zoning Commission meeting .

Sincerely yours,

  
Joe Tassone  
Project Manager  
SBA, Inc.

cc. Julie Reibold (NE Communications)  
Randy Freschlin (SBA)  
Steven Carty (SEA Consultants)  
Charlie Edwards (Land Owner)  
Paul McGinn (SBA)

JFT:jft

# EXHIBIT 6

# SITE NAME: CTBEACON FALLS/RT 8

60 RICE LANE  
BEACON FALLS, CT 06403

**SITE NUMBER: CT11299D**  
**PROJECT: T-MOBILE L600**

**CONFIGURATION: 4SEC-67D92DB**

## T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
ANTENNA/TMA/RRU	
SECTOR A:	ACCESS NOT PERMITTED
SECTOR B:	ACCESS NOT PERMITTED
SECTOR C:	ACCESS NOT PERMITTED
SECTOR D:	ACCESS NOT PERMITTED
GPS/LMU:	UNRESTRICTED* (*CAUTION: OSHA-APPROVED PORTABLE 8' STEP-LADDER REQUIRED)
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

PLANS PREPARED FOR:

**T-Mobile**

T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



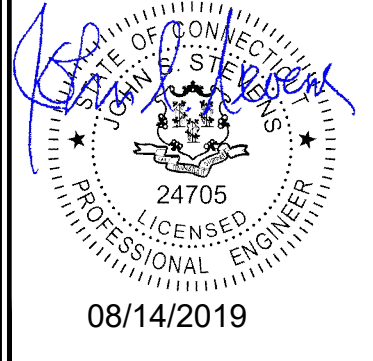
SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:

**INFINIGY**

INFINIGY ENGINEERING, PLLC  
1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

60 RICE LANE  
BEACON FALLS, CT 06403

SHEET DESCRIPTION:

TITLE SHEET

SHEET NUMBER:

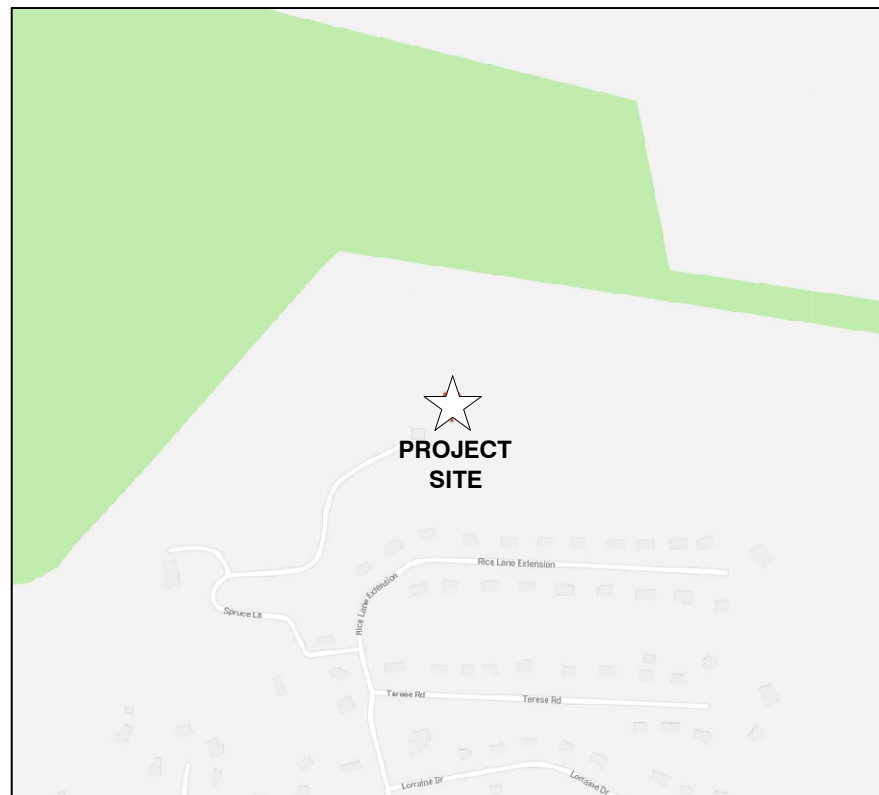
T-1

### GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE NORTHEAST, LLC REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

### SPECIAL CONSTRUCTION NOTES

- TOWER OWNER SHALL PROVIDE GLOBAL STRUCTURAL STABILITY ANALYSIS OF EXISTING ANTENNA SUPPORT STRUCTURE. GENERAL CONTRACTOR SCOPE OF WORK SHALL INCLUDE ALL REQUIRED STRUCTURAL MODIFICATIONS, RE-BUNDLING OF COAXIAL CABLES OR OTHER SPECIAL MODIFICATIONS AS OUTLINED THEREIN.
- TOWER IS ASSUMED TO BE PROPERLY CONSTRUCTED AND MAINTAINED. ALL STRUCTURAL MEMBERS AND THEIR CONNECTION ARE ASSUMED TO BE IN GOOD CONDITION AND ARE FREE FROM DEFECTS WITH NO DETERIORATION TO ITS MEMBER CAPACITIES.
- T-MOBILE WORK IS CONTINGENT ON THE FOLLOWING:
  - \* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS.
  - \* COMPLETION OF AN MOUNT STRUCTURAL ANALYSIS OR ASSESSMENT.
  - \* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED GLOBAL AND MOUNT ANALYSIS/ASSESSMENT.



### PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY T-MOBILE COLLOCATION
SBA BUSINESS ADDRESS:	60 RICE LANE BEACON FALLS, CT 06403
LATITUDE:	41° 27' 20.48" N
LONGITUDE:	73° 02' 23.52" W
GROUND ELEVATION:	625' AMSL
ZONING JURISDICTION:	BASED ON INFORMATION PROVIDED BY T-MOBILE, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS AN ELIGIBLE FACILITY UNDER THE TAX RELIEF ACT OF 2012, 47 USC 1455(A), AND IS SUBJECT TO AN EXPEDITED ELIGIBLE FACILITIES REQUEST/REVIEW AND ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMITS, SITE PLAN REVIEW)
CODE COMPLIANCE:	1. BUILDING CODE IBC 2015 2. TIA-EIA-222-G 3. NFPA 70 2014 - NATIONAL ELECTRIC CODE
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVE BOCA RATON FL 33487
SBA SITE ID:	CT02049-S
SBA SITE NAME:	BEACON FALLS
SBA REGIONAL SITE MANAGER:	STEPHEN ROTH (860) 539-4920 SROTH@SBASITE.COM.COM

### DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
G-1	GENERAL NOTES	0
A-1	SITE PLAN	0
A-2	TOWER ELEVATION	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	EQUIPMENT & MOUNTING DETAILS	0
A-5	ANTENNA SCHEDULE	0
A-6	RFDS	0
E-1	ELECTRICAL & GROUNDING DETAILS	0

### APPROVALS

PROJECT MANAGER	DATE
CONSTRUCTION	DATE
RF ENGINEERING	DATE
ZONING / SITE ACQ.	DATE
OPERATIONS	DATE
TOWER OWNER	DATE

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**GROUNDING NOTES**

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER SURCITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

**GENERAL NOTES**

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
  
CONTRACTOR – SBA COMMUNICATIONS CORP.  
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)  
OWNER – T-MOBILE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE B (FY = 35 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:  
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.  
  
SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:  
  
AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;  
  
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), STEEL CONSTRUCTION MANUAL, 13TH EDITION;  
  
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL  
  
ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.  
  
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

**ABBREVIATIONS**

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BTCW	BARE TINNED SOLID COPPER WIRE	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BGR	BURIED GROUND RING	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BTS	BASE TRANSCEIVER STATION	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
EXISTING	EXISTING OR (E)	PROPOSED	NEW OR (P)	TYP	TYPICAL
EGB	EQUIPMENT GROUND BAR	N.T.S.	NOT TO SCALE	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	RAD	RADIATION CENTERLINE (ANTENNA)		
		REF	REFERENCE		

PLANS PREPARED FOR:



**T-MOBILE NORTHEAST LLC**  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



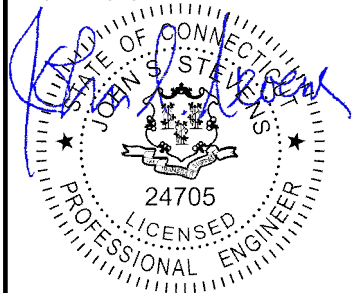
SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:



INFINIGY ENGINEERING, PLLC  
1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:



08/14/2019

CHECKED BY:

APPROVED BY:

REVISIONS:

DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION	08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

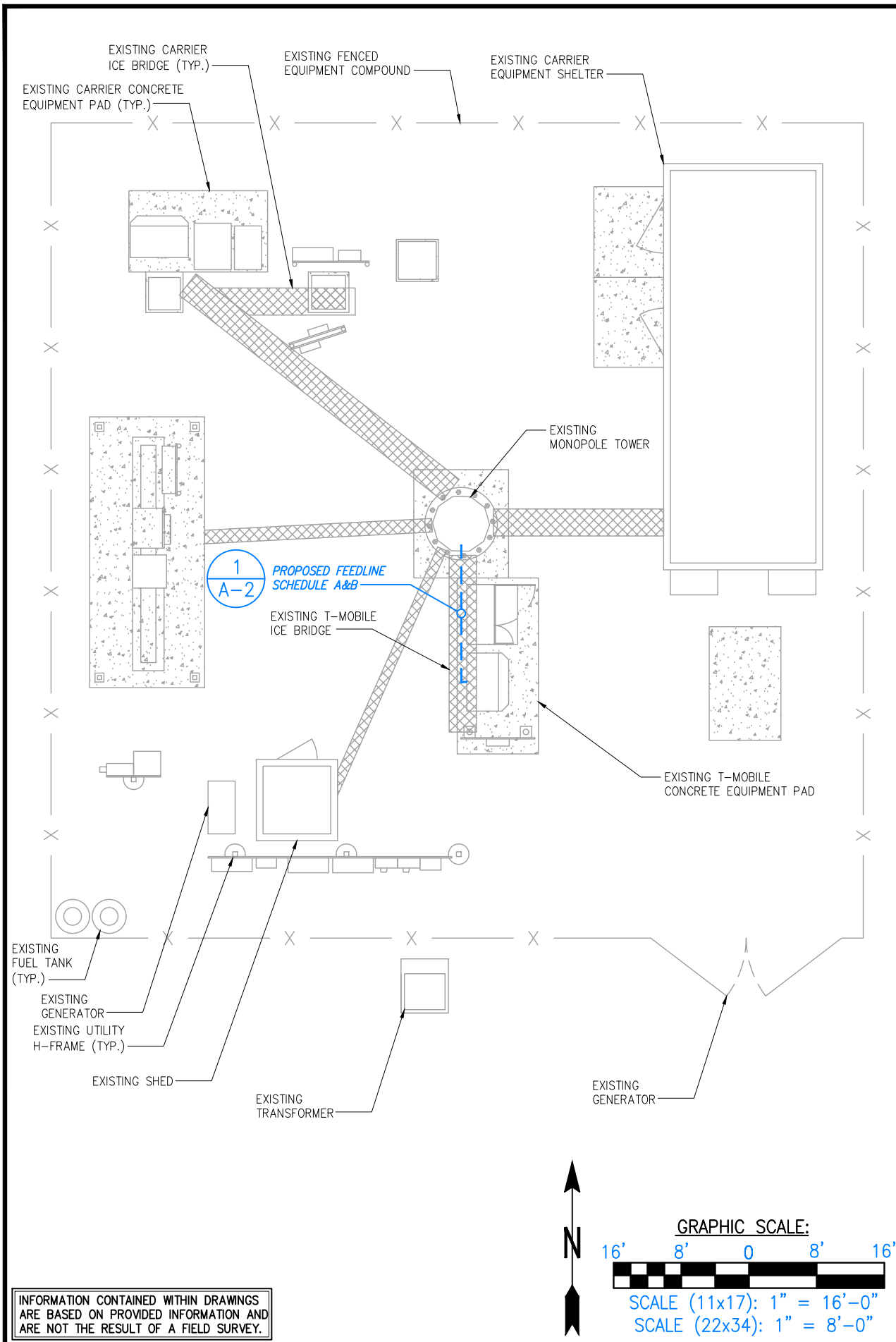
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BEACON FALLS, CT 06403

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GENERAL NOTES

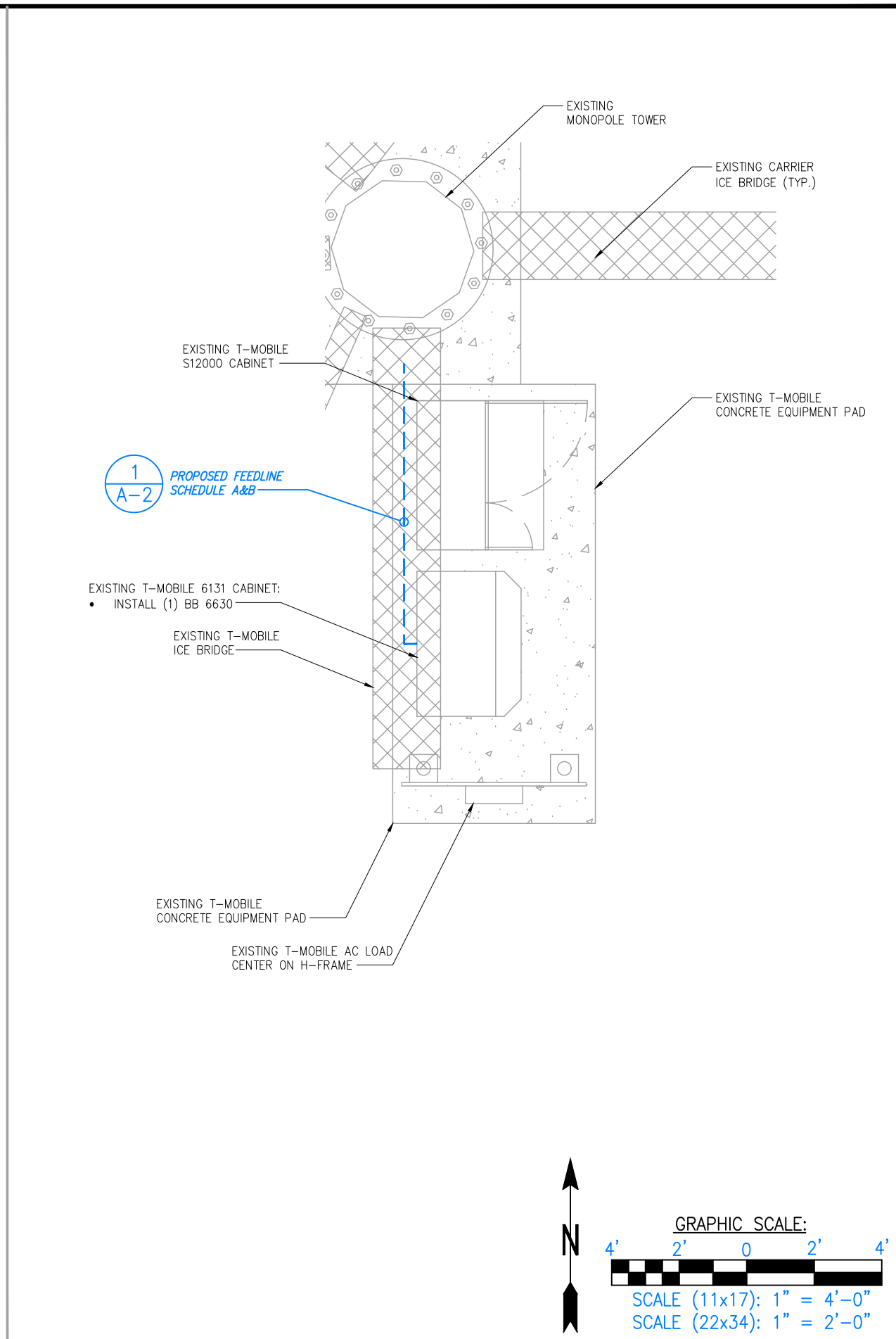
SHEET NUMBER:

G-1



SITE PLAN

SCALE: AS NOTED 1



EQUIPMENT SITE PLAN

NO SCALE 2

PLANS PREPARED FOR:

**T-Mobile**

T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:

**SBA**

SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:

**INFINIGY**

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1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:

STATE OF CONNECTICUT  
STATE SYSTEMS  
24705  
LICENSED PROFESSIONAL ENGINEER

08/14/2019

CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

60 RICE LANE  
BEACON FALLS, CT 06403

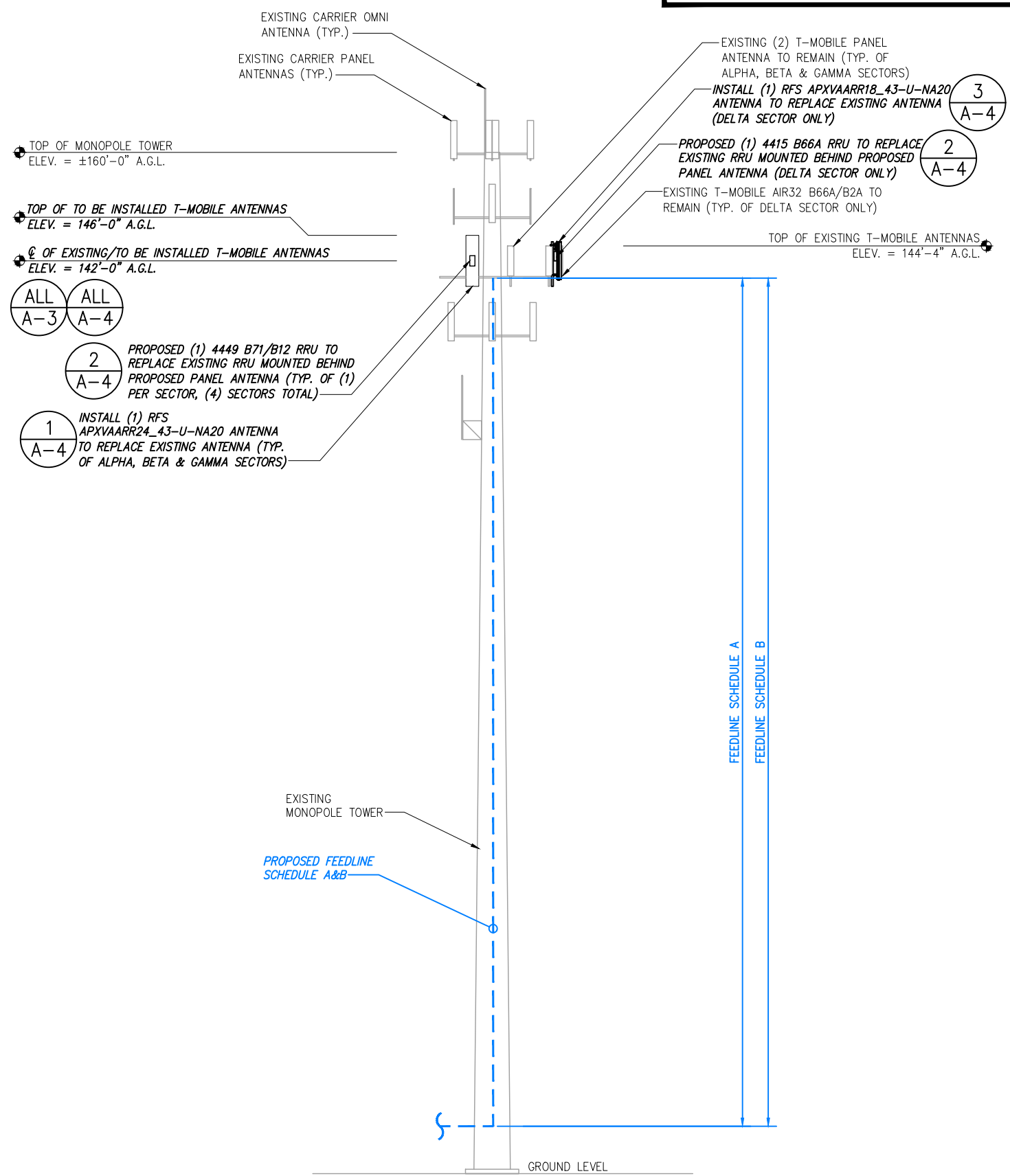
SHEET DESCRIPTION:

SITE PLAN

SHEET NUMBER:

A-1

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY T-MOBILE IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY T-MOBILE. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.



FEEDLINE SCHEDULE	FEEDLINE DESCRIPTION	LOCATION
A	<b>EXISTING TO REMAIN:</b> (10) 1-5/8" COAX (1) 1-5/8" FIBER (2) 1-1/4" FIBER <b>EXISTING TO REMOVE:</b> (1) 1-5/8" COAX	FROM CABINET TOP TO RAD
B	<b>PROPOSED:</b> (1) 1-5/8" FIBER	FROM CABINET TOP TO RAD

**NOTE:**  
 EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON COLOCATION APPLICATION AND SBA RECORD, NOT FIELD OBSERVATIONS. RFDs AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

**NOTE:**  
 VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

TOWER ELEVATION

NO SCALE

1

PLANS PREPARED FOR:

**T-Mobile**  
**T-MOBILE NORTHEAST LLC**  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766

PROJECT MANAGER:

**SBA**

SBA COMMUNICATIONS CORP.  
 134 FLANDERS ROAD, SUITE 125  
 WESTBOROUGH, MA 01581  
 TEL: (508) 251-0720

PLANS PREPARED BY:

**INFINIGY**

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 1033 Watervliet Shaker Rd  
 Albany, NY 12205  
 Office # (518) 690-0790  
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 JOB NUMBER 656-003

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SITE NUMBER:

CT11299D

SITE ADDRESS:

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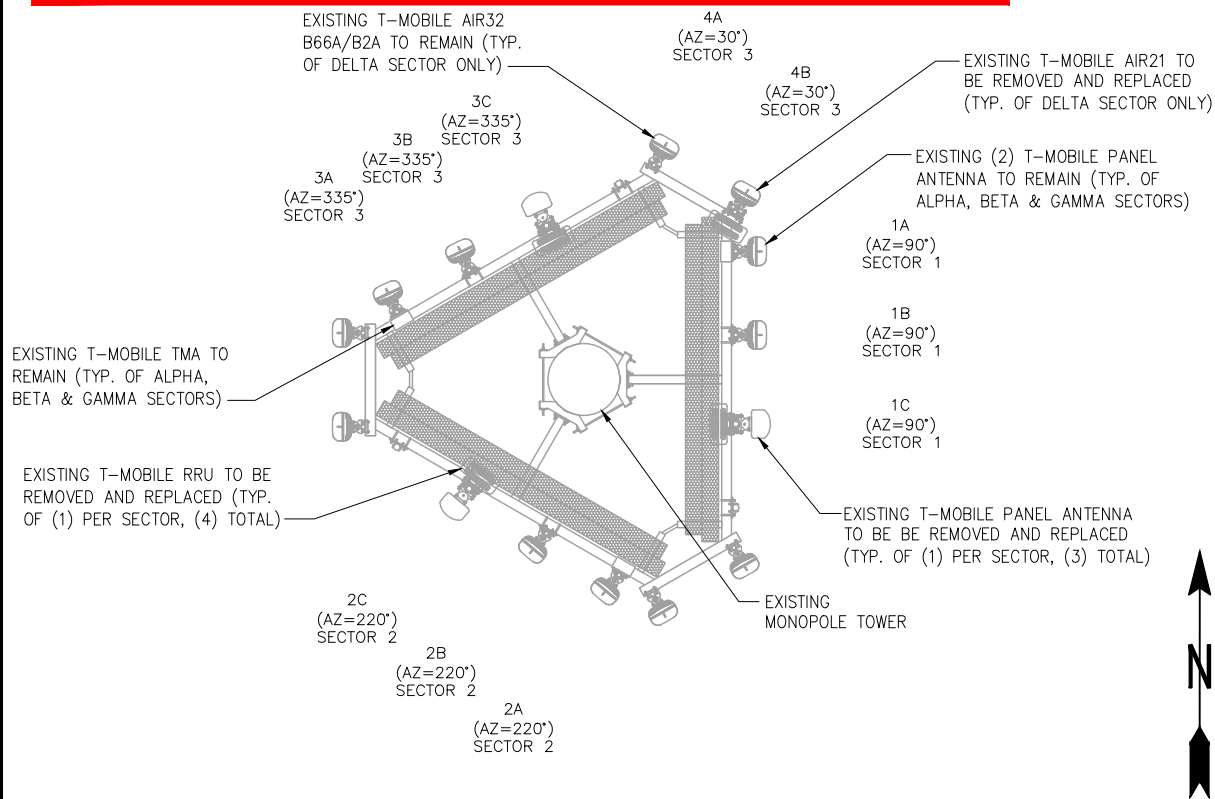
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TOWER ELEVATION

SHEET NUMBER:

A-2

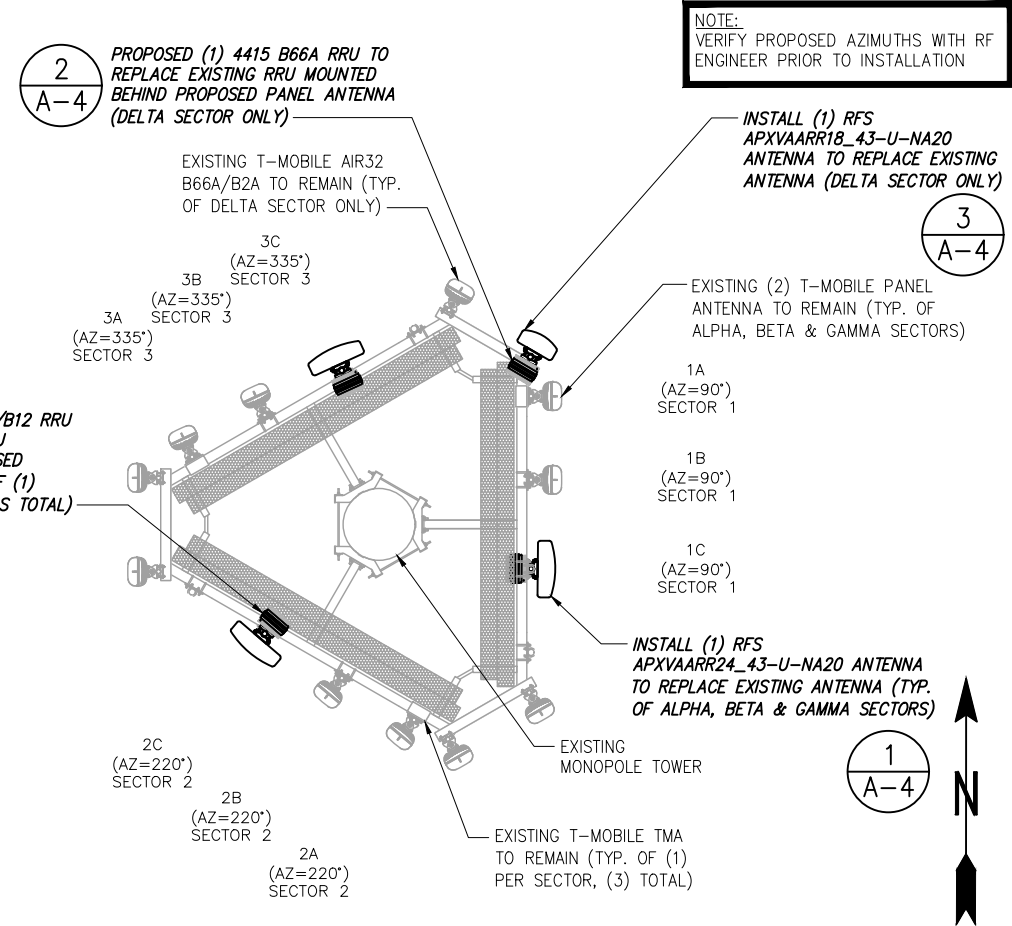
**SPECIAL CONSTRUCTION NOTE:**  
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



EXISTING ANTENNA & RRH LAYOUT

NO SCALE

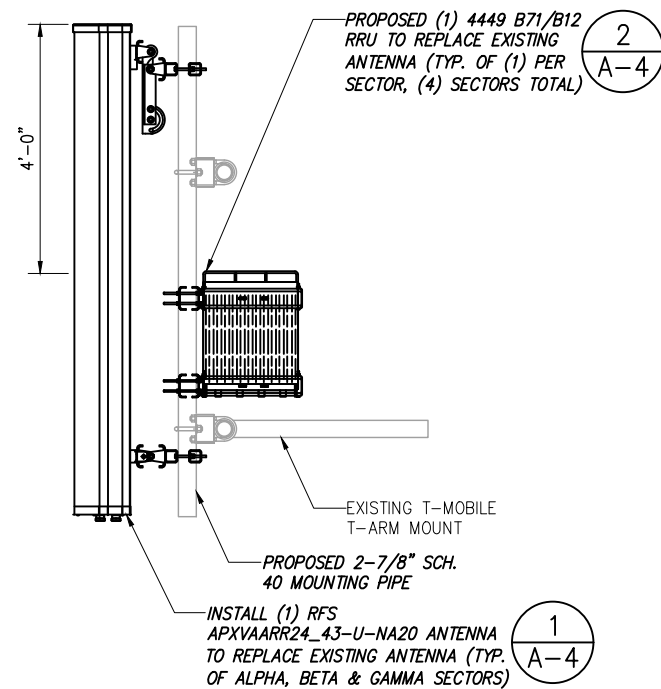
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FINAL ANTENNA & RRH LAYOUT

NO SCALE

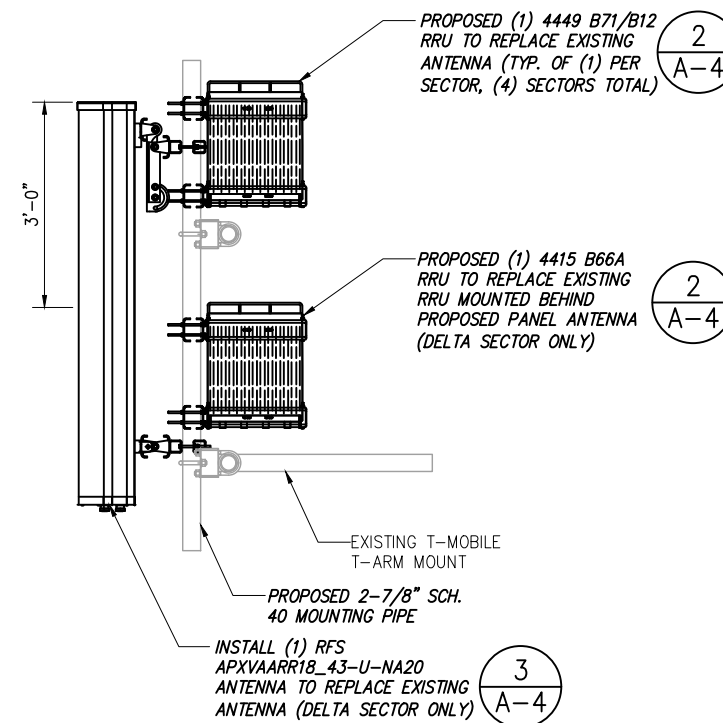
2



ANTENNA ATTACHMENT DETAIL (ALPHA, BETA & GAMMA SECTORS)

NO SCALE

3



ANTENNA ATTACHMENT DETAIL (DELTA SECTOR)

NO SCALE

4

NOTE:  
 VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION

PLANS PREPARED FOR:

**T-Mobile**

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PROJECT MANAGER:



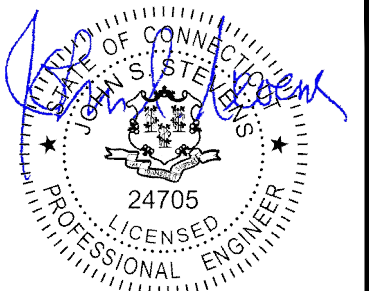
SBA COMMUNICATIONS CORP.  
 134 FLANDERS ROAD, SUITE 125  
 WESTBOROUGH, MA 01581  
 TEL: (508) 251-0720

PLANS PREPARED BY:

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 1033 Watervliet Shaker Rd  
 Albany, NY 12205  
 Office # (518) 690-0790  
 Fax # (518) 690-0793  
 JOB NUMBER 656-003

ENGINEERING LICENSE:



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SITE NUMBER:

CT11299D

SITE ADDRESS:

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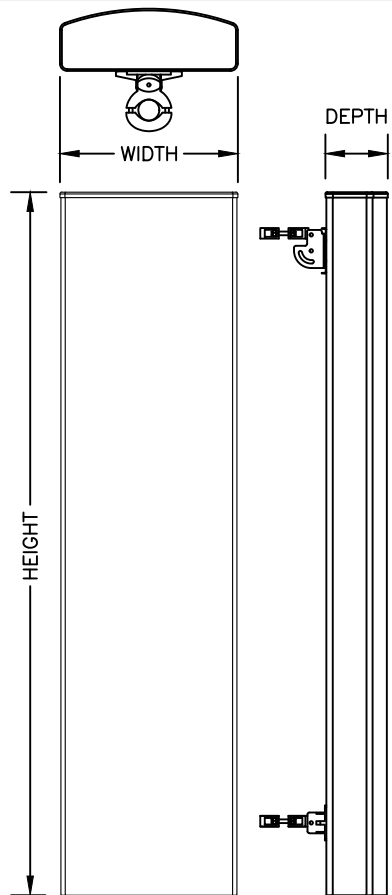
ANTENNA LAYOUT  
 & MOUNTING DETAILS

SHEET NUMBER:

A-3

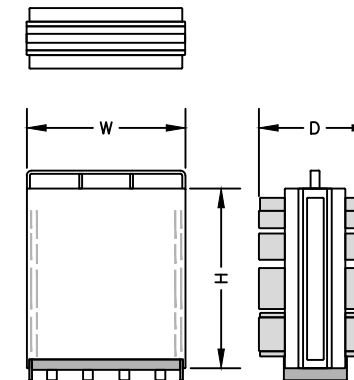
**RFS ANTENNA SPECIFICATIONS**

MANUF.	RFS
MODEL #	APXVAARR24_43-U-NA20
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.7"
WEIGHT	128± LBS.



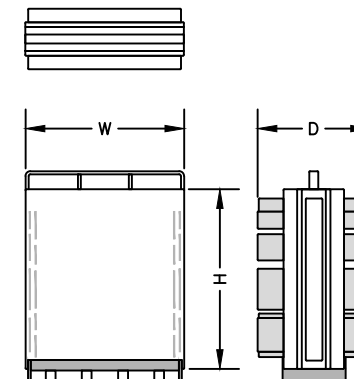
**RRU SPECIFICATIONS**

MANUF.	ERICSSON
MODEL #	4415 B66A
HEIGHT	16.5"
WIDTH	13.4"
DEPTH	5.9"
WEIGHT	46± LBS.



**RRU SPECIFICATIONS**

MANUF.	ERICSSON
MODEL #	4449 B71+B12
HEIGHT	13.1"
WIDTH	14.9"
DEPTH	9.2"
WEIGHT	74± LBS.



ANTENNA DETAIL

NO SCALE

1

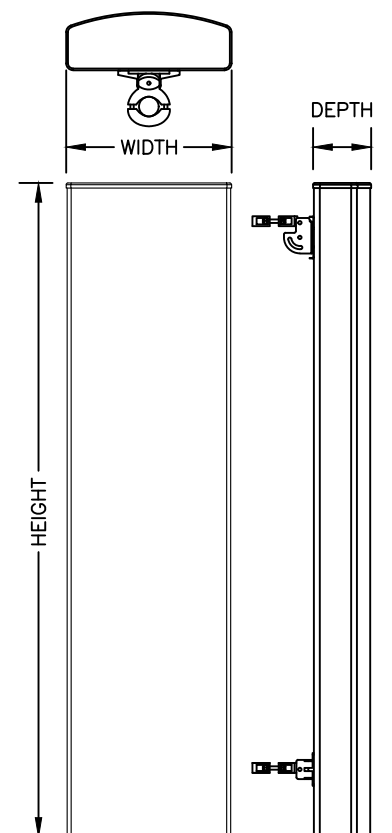
RRU DETAIL

NO SCALE

2

**RFS ANTENNA SPECIFICATIONS**

MANUF.	RFS
MODEL #	APXVAARR18_43-U-NA20
HEIGHT	72.0"
WIDTH	6.65"
DEPTH	3.15"
WEIGHT	31.5± LBS.



ANTENNA DETAIL

NO SCALE

3

DETAIL NOT USED

NO SCALE

4

PLANS PREPARED FOR:



T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



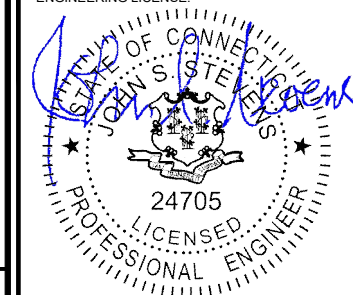
SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

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Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:



08/14/2019

CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

60 RICE LANE  
BEACON FALLS, CT 06403

SHEET DESCRIPTION:

EQUIPMENT &  
MOUNTING DETAILS

SHEET NUMBER:

A-4

PLANS PREPARED FOR:



**T-MOBILE NORTHEAST LLC**  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



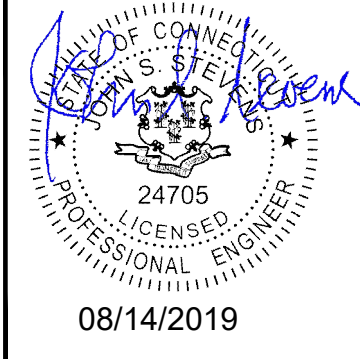
**SBA COMMUNICATIONS CORP.**  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:



**INFINIGY ENGINEERING, PLLC**  
1033 Watervliet Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:



**FINAL ANTENNA CONFIGURATION**

SECTOR	BAND	ANTENNA MODEL	ANTENNA RAD	AZIMUTH	ELECTRICAL TILT	MECHANICAL TILT	RADIOS	TMAS	CABLE FEED LINES	CABLE LENGTH
A	G1900/U1900/U2100	AIR21 KRC118023-1_B2A_B4P	142'-0"	90°	2'/2'	0°	--	TWIN STYLE 1B-AWS	(E) (2) 1-5/8" COAX	±180'*
	L1900/L2100	AIR32 KRD901146-1_B66A_B2A	142'-0"	90°	2'	0°	--	--	(E) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
	L700/L600	APXVAARR24_43-U-NA20	142'-0"	90°	2'	0°	RADIO 4449 B71+B12	--	(P) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
B	G1900/U1900/U2100	AIR21 KRC118023-1_B2A_B4P	142'-0"	220°	2'/2'	0°	--	TWIN STYLE 1B-AWS	(E) (2) 1-5/8" COAX	±180'*
	L1900/L2100	AIR32 KRD901146-1_B66A_B2A	142'-0"	220°	2'	0°	--	--	(E) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
	L700/L600	APXVAARR24_43-U-NA20	142'-0"	220°	2'	0°	RADIO 4449 B71+B12	--	(P) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
C	G1900/U1900/U2100	AIR21 KRC118023-1_B2A_B4P	142'-0"	335°	2'/2'	0°	--	TWIN STYLE 1B-AWS	(E) (2) 1-5/8" COAX	±180'*
	L1900/L2100	AIR32 KRD901146-1_B66A_B2A	142'-0"	335°	2'	0°	--	--	(E) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
	L700/L600	APXVAARR24_43-U-NA20	142'-0"	335°	2'	0°	RADIO 4449 B71+B12	--	(P) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
D	L1900/L2100	AIR32 KRD901146-1_B66A_B2A	142'-0"	30°	2'/2'	0°	--	--	(E) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*
	L700/L600/U2100	APXVAARR18_43-U-NA20	142'-0"	30°	2'/2'/2'	0°	RADIO 4415 B66A RADIO 4449 B71+B12	--	(P) (1) SHARED 6x12 HYBRID CABLE TRUNK	±180'*

\* PROPOSED CABLE LENGTH WAS DETERMINED USING THE SUM OF THE RAD CENTER OF ANTENNAS, AND DISTANCE FROM EXISTING EQUIPMENT AREA TO TOWER BASE WITH AN ADDITIONAL 20% BUFFER. LENGTH TO BE VERIFIED IN FIELD PRIOR TO ORDERING MATERIALS.

CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

60 RICE LANE  
BEACON FALLS, CT 06403

SHEET DESCRIPTION:

ANTENNA SCHEDULE

SHEET NUMBER:

A-5

Sector 1 (Proposed) view from behind											
Coverage Type	A - Outdoor Macro										
Antenna	1			2				3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)			Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo)				RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	90			90				90			
M. Tilt	0			0				0			
Height	142			142				142			
Ports	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Active Tech.	U1900 G1900	U2100	L2100	L2100	L1900	L1900	L700 L600	L700 L600			
Dark Tech.											
Restricted Tech.											
Decomm. Tech.											
E. Tilt	2	2	2				2				
Cables		1-5/8" Coax - 150 ft. (x2)									
TMA's		Generic Twin Style 1B - AWS (AtAntenna)									
Diplexers/ Combiners											
Radio							Radio 4449 B71+B1 2 (At Antenna)	SHARED Radio 4449 B71+B1 2 (At Antenna)			
Sector Equipment											

SECTOR 1

Sector 2 (Proposed) view from behind											
Coverage Type	A - Outdoor Macro										
Antenna	1			2				3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)			Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo)				RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	220			220				220			
M. Tilt	0			0				0			
Height	142			142				142			
Ports	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Active Tech.	U1900 G1900	U2100	L2100	L2100	L1900	L1900	L700 L600	L700 L600			
Dark Tech.											
Restricted Tech.											
Decomm. Tech.											
E. Tilt	2	2	2				2				
Cables		1-5/8" Coax - 150 ft. (x2)									
TMA's		Generic Twin Style 1B - AWS (AtAntenna)									
Diplexers/ Combiners											
Radio							Radio 4449 B71+B1 2 (At Antenna)	SHARED Radio 4449 B71+B1 2 (At Antenna)			
Sector Equipment											

SECTOR 2

Sector 3 (Proposed) view from behind											
Coverage Type	A - Outdoor Macro										
Antenna	1			2				3			
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)			Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo)				RFS - APXVAARR24_43-U-NA20 (Octo)			
Azimuth	335			335				335			
M. Tilt	0			0				0			
Height	142			142				142			
Ports	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Active Tech.	U1900 G1900	U2100	L2100	L2100	L1900	L1900	L700 L600	L700 L600			
Dark Tech.											
Restricted Tech.											
Decomm. Tech.											
E. Tilt	2	2	2				2				
Cables		1-5/8" Coax - 150 ft. (x2)									
TMA's		Generic Twin Style 1B - AWS (AtAntenna)									
Diplexers/ Combiners											
Radio							Radio 4449 B71+B1 2 (At Antenna)	SHARED Radio 4449 B71+B1 2 (At Antenna)			
Sector Equipment											

SECTOR 3

Sector 4 (Proposed) view from behind											
Coverage Type	A - Outdoor Macro										
Antenna	1					2					
Antenna Model	Ericsson - AIR32 KRD901146-1_B66A_B2A (Octo)					RFS - APXVAARR18_43-U-NA20 (Octo)					
Azimuth	30					30					
M. Tilt	0					0					
Height	142					142					
Ports	P1	P2	P3	P4	P5	P6	P7	P8			
Active Tech.	L2100	L2100	L1900	L1900	L700 L600	L700 L600			U2100		
Dark Tech.											
Restricted Tech.											
Decomm. Tech.											
E. Tilt	2		2		2	2			2		
Cables											
TMA's											
Diplexers/ Combiners											
Radio					Radio 4449 B71+B12 (At Antenna)	SHARED Radio 4449 B71+B12 (At Antenna)			Radio 4415 B66A (At Antenna)		
Sector Equipment											

SECTOR 4

PLANS PREPARED FOR:



T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



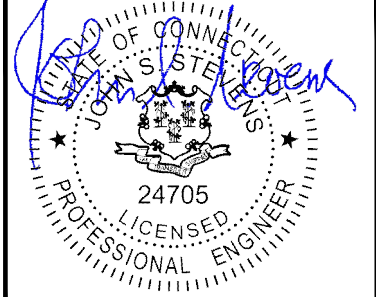
SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:



INFINIGY ENGINEERING, PLLC  
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Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793  
JOB NUMBER 656-003

ENGINEERING LICENSE:



08/14/2019

CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV.
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

60 RICE LANE  
BEACON FALLS, CT 06403

SHEET DESCRIPTION:

RFDS

SHEET NUMBER:

A-6



**T-MOBILE NORTHEAST LLC**  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766

PROJECT MANAGER:



SBA COMMUNICATIONS CORP.  
134 FLANDERS ROAD, SUITE 125  
WESTBOROUGH, MA 01581  
TEL: (508) 251-0720

PLANS PREPARED BY:



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ENGINEERING LICENSE:



CHECKED BY:

APPROVED BY:

REVISIONS:	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		08/13/19	MAP	0

SITE NUMBER:

CT11299D

SITE ADDRESS:

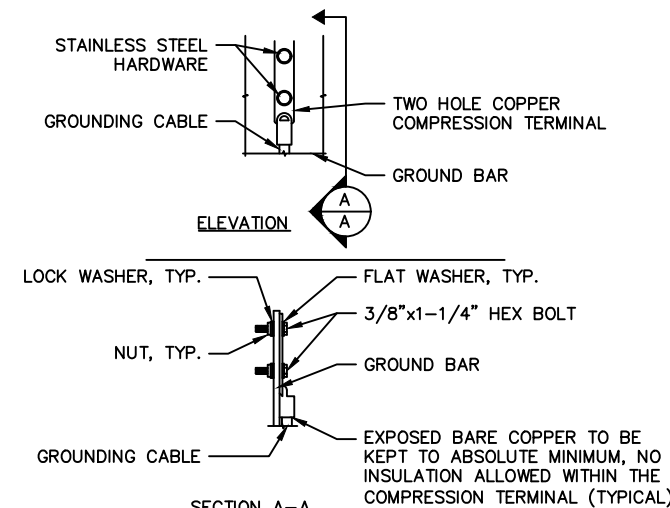
60 RICE LANE  
BEACON FALLS, CT 06403

SHEET DESCRIPTION:

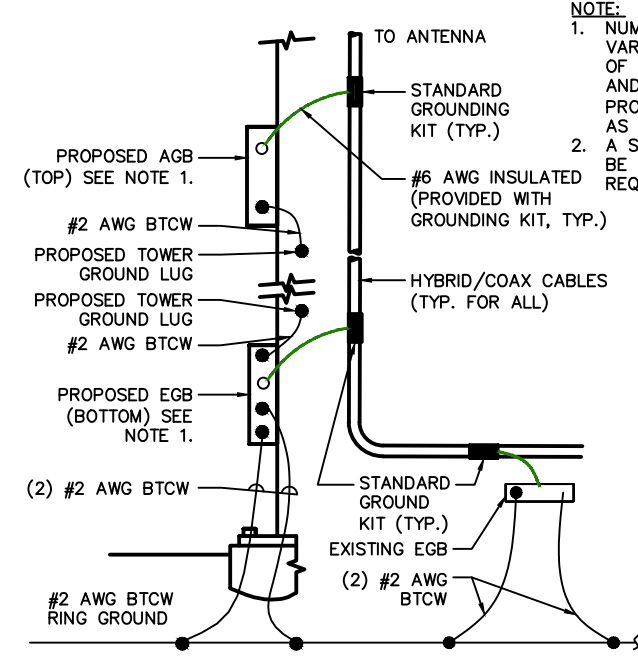
**ELECTRICAL & GROUNDING DETAILS**

SHEET NUMBER:

E-1

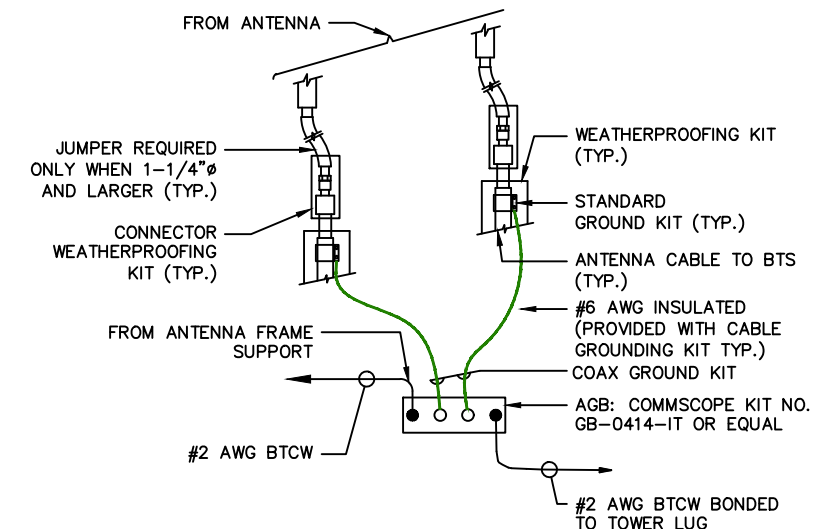


**TYPICAL GROUND BAR CONNECTION DETAIL**  
SCALE: N.T.S.



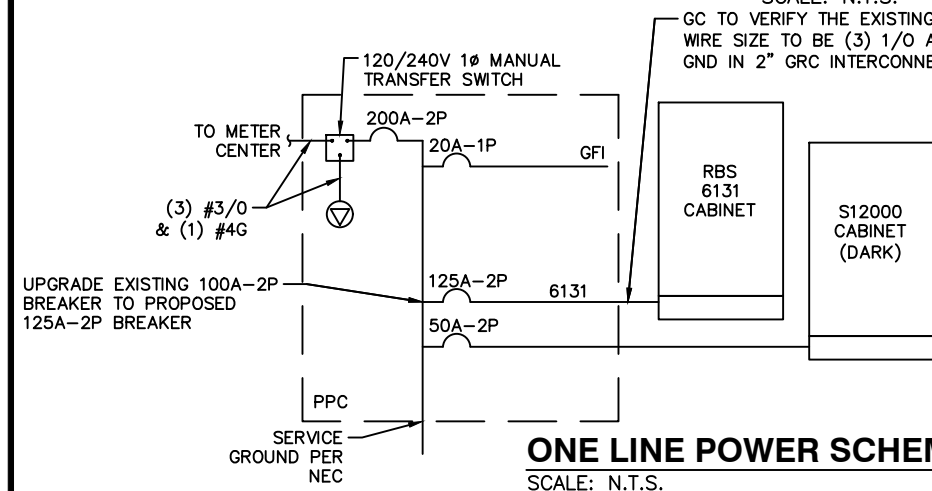
**TOWER BOTTOM CABLE GROUNDING DETAIL**  
SCALE: N.T.S.

**NOTE:**  
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, AND CONNECTION ORIENTATION. PROVIDE ADDITIONAL AGB/EGB AS REQUIRED.  
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED

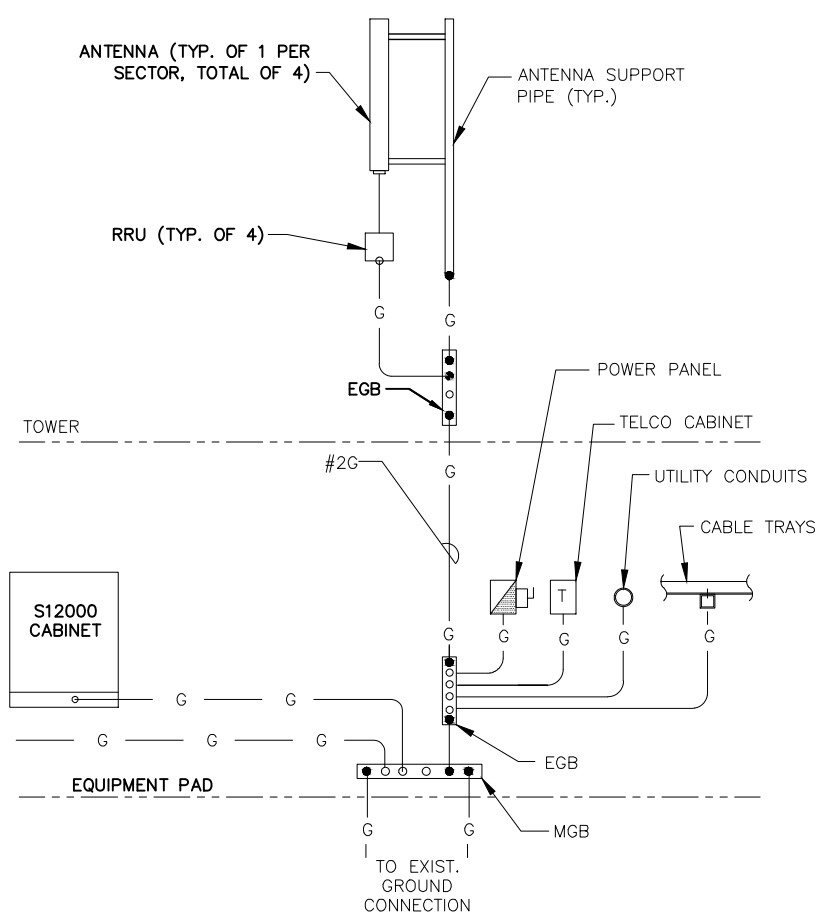


**TOWER TOP CABLE GROUNDING DETAIL**  
SCALE: N.T.S.

**NOTE:**  
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB.



**ONE LINE POWER SCHEMATIC**  
SCALE: N.T.S.



**GROUNDING RISER DIAGRAM**  
SCALE: NONE

**SYMBOL LEGEND**

(X)	SPECIAL WORK NOTE
■	EXOTHERMIC CONNECTION
●	MECHANICAL CONNECTION
□	CABLE GROUNDING KIT

- ELECTRICAL & GROUNDING NOTES:**
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) 2014 AS WELL AS APPLICABLE STATE AND LOCAL CODES.
  - ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
  - THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATIONS INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
  - GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
  - ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
  - RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
  - ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION AS REQUIRED BY NEC.
  - RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
  - RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON DRAWING A-1. PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
  - ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
  - GROUNDING SHALL COMPLY WITH NEC ART. 250.
  - GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
  - USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
  - ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
  - ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
  - CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN BTS UNIT).
  - CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LYGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
  - APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
  - BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
  - BOND ANTENNA EGB'S AND MGB TO WATER MAIN/GROUND RING.
  - TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
  - VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.



# EXHIBIT 7



**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## Structural Analysis Report

Existing 160 ft Nudd Corporation Monopole  
Customer Name: SBA Communications Corp  
Customer Site Number: CT02049-S  
Customer Site Name: Beacon Falls  
Carrier Name: T-Mobile (App#: 116923, V1)  
Carrier Site ID / Name: CT11299D / CTBeacon Falls/Rt8  
Site Location: 60 Rice Lane  
Beacon Falls, Connecticut  
New Haven County  
Latitude: 41.455689  
Longitude: -73.039866

**Analysis Result:**

Max Structural Usage: 88.8% [Pass]

Max Foundation Usage: 65.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification : N/A

Report Prepared By : Linfeng Chen



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## Introduction

The purpose of this report is to summarize the analysis results on the 160 ft Nudd Corporation Monopole to support the proposed antennas and transmission lines in addition to those currently installed.

The pending modification by **TES** listed under Sources of Information was also considered completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Tower Drawing prepared by Fred A. Nudd, Project #7342 dated 1/14/00
<b>Foundation Drawing</b>	Foundation Drawing prepared by Fred A. Nudd, Project #7342 dated 1/14/00
<b>Geotechnical Report</b>	Geotechnical Report prepared by SEA Consultants; Ref #99339.02-A dated 8/2/99
<b>Modification Drawings</b>	Modification Drawing prepared by O2Wireless Solutions, Job #2230-022 dated 5/23/02 Modification Drawing prepared by FDH, Project #09-04232E S2 dated 1/03/09 Modification Drawing prepared by FDH, Project #12-04772E S3 dated 10/15/13 Modification Drawing prepared by TES, Job #20939 Rev3 dated 9/28/16 TES, Job# 20939 Rev3, Dated 09/28/16
<b>Pending Modification</b>	TES Pending Job # 71100

## Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

<b>Wind Speed Used in the Analysis:</b>	118.0 mph (3-Sec. Gust)
<b>Basic Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	ANSI/TIA/EIA 222-H / 2018 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	SS = 0.198, S1 = 0.054

This structural analysis is based upon the tower being classified as Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

## Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	165.0	1	Andrew - DB222 - Whip	Low Profile Platform	(1) 7/8"	BFFD
2	162.0	6	Decibel - DB846F65ZAXY - Panel		(18) 1 5/8" (1) 1 5/8" Fiber	Verizon
3		9	Andrew - SBNHH-1D65B - Panel			
4		3	Alcatel Lucent - RRH2x90-AWS - RRU			
5		1	Celwave - DB-T1-6Z-8AB-OZ - Dist. Box			
6	152.0	3	RFS - APXVSP18-C-A20 - Panel	Low Profile Platform	(3) 1-1/4" (1) 1-1/4"	Sprint
7		3	ALU - 1900MHz - RRU			
8		3	ALU - 800MHz - Filter			
9		3	ALU - 800 MHz - RRU			
10	150.0	4	RFS - ACU-A20-N - RET	Platform w Handrail (Commscope MT-195-12) and V-Brace (VSR-MS-8)	(11) 1 5/8" (1) 1 5/8" Fiber (2) 1-1/4" Fiber	T-Mobile
11		3	RFS - APXVTM14-C-120 - Panel			
12	142.9	3	Alcatel Lucent - TD-RRH8x20-25 - RRU	Platform w Handrail (Commscope MT-195-12) and V-Brace (VSR-MS-8)	(11) 1 5/8" (1) 1 5/8" Fiber (2) 1-1/4" Fiber	T-Mobile
-		3	Ericsson KRY 112 144/1 TMA			
-		3	Ericsson RUS01 B12 - RRU			
-		1	Ericsson RRUS11B12 - RRU			
-		3	Commscope LNX-6515DS-A1M - Panel			
-		1	Ericsson AIR 32 B4A/B2P - Panel			
-		1	Ericsson AIR 21 B4A B12P - Panel			
-		3	Ericsson AIR 3246 B66 - Panel			
-	3	Ericsson AIR 21 B2A/B4P - Panel				
20	133.0	3	Raycap DC6-48-60-18-8F Junction Box	T-Frames* (3) SitePro 1 P/N RMV12-NP W/ (3) 2-1/2" (2.88" O.D.) Pipe Masts	(6) 1 1/4" (6) 1 5/8" (6) 3/4" DC Power** (2) 3/8" Fiber	AT&T
21		3	Kathrein 800 10121 - Panel			
22		3	Kathrein 800-10965 - Panel			
23		1	Cci TPA-65R-LCUUUU-H8 - Panel			
24		2	Quintel QS66512-2 - Panel			
25		6	Powerwave LGP21401 TMA			
26		3	Ericsson RRUS-32 RRU			
27		3	Ericsson B2/B66A 8843 RRU			
28	3	Ericsson B5/B12 4449 RRU				
29	115.0	1	DB222 - Whip	(1) 3 ft. Standoff	(1) 7/8"	BFFD
30	40.0	1	GPS	Standoff	(1) 1/2"	Sprint

\*Modified by HUDSON Design, Site No. CT5416 (LTE 4C/5C), Dated 01/24/19.

\*\* (4) 3/4" DC inside 3" Conduit

**Proposed Carrier’s Final Configuration of Antennas, Mounts and Transmission Lines**

Information pertaining to the proposed carrier’s final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
13	142.0	3	Ericsson KRY 112 144/1 TMA	Platform w/ HR & Bracing	(10) 1 5/8" (2) 1 5/8" Fiber (2) 1-1/4" Fiber	T-Mobile
14		3	Ericsson AIR 21 B2A/B4P - Panel			
15		4	Ericsson Air 32 KRD901146-1_B66A_B2A - Panel			
16		3	RFS APXVAARR24_43-U-NA20 - Panel			
17		1	RFS APXVAARR18_43-U-NA20 - Panel			
18		4	Ericsson Radio 4449 B71+B12 RRUs			
19		1	Ericsson Radio 4415 B66A RRUs			

See the attached coax layout for the line placement considered in the analysis.

## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate	Flange Connection	Reinforce Plate
Max. Usage:	<b>74.8%</b>	<b>53.8%</b>	<b>54.2%</b>	<b>88.8%</b>	<b>88.6%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3921.2	33.6	52.4

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

### **Operational Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-H for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.5931 degrees under the operational wind speed as specified in the Analysis Criteria.

### **Conclusions**

Based on the analysis results, the structure and its foundation will be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the design ANSI/TIA/EIA 222-H standards under a basic wind speed of 118 mph no ice and 50 mph with 1" radial ice after the following pending modification is successfully completed.

- Pending modification design drawing by **TES** Job # 71100

## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.



# Usage Diagram - Max Ratio 74.75% at 96.0ft

**Structure:** CT02049-S-SBA  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-H  
**Exposure:** B  
**Gh:** 1.1

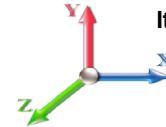
7/15/2019



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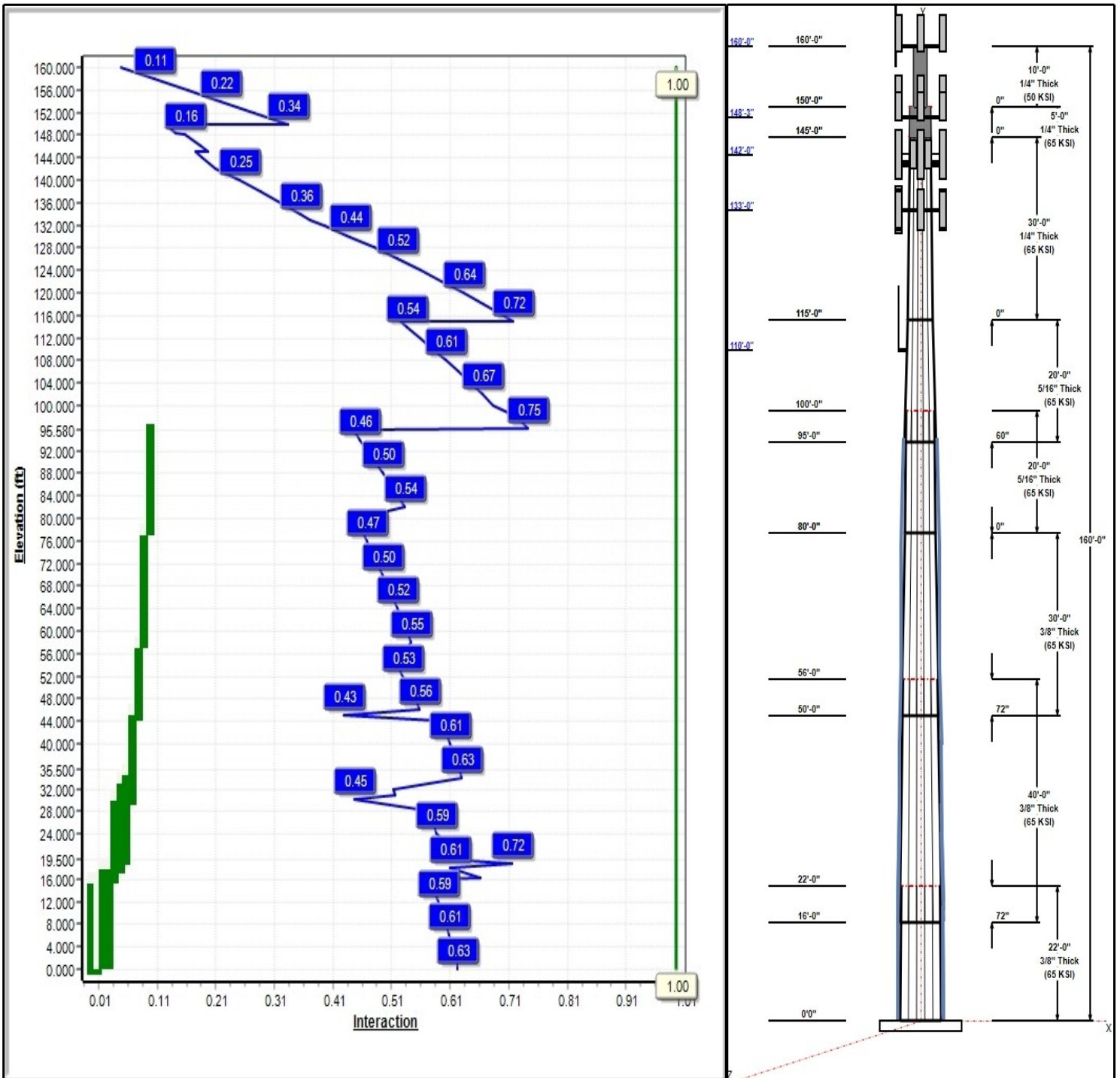
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.00

**Load Case : 1.2D + 1.0W 118 mph Wind**



**Iterations:** 27

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## Structure: CT02049-S-SBA

**Type:** Custom  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 12 Sided  
**Taper:** 0.00000

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### Shaft Properties

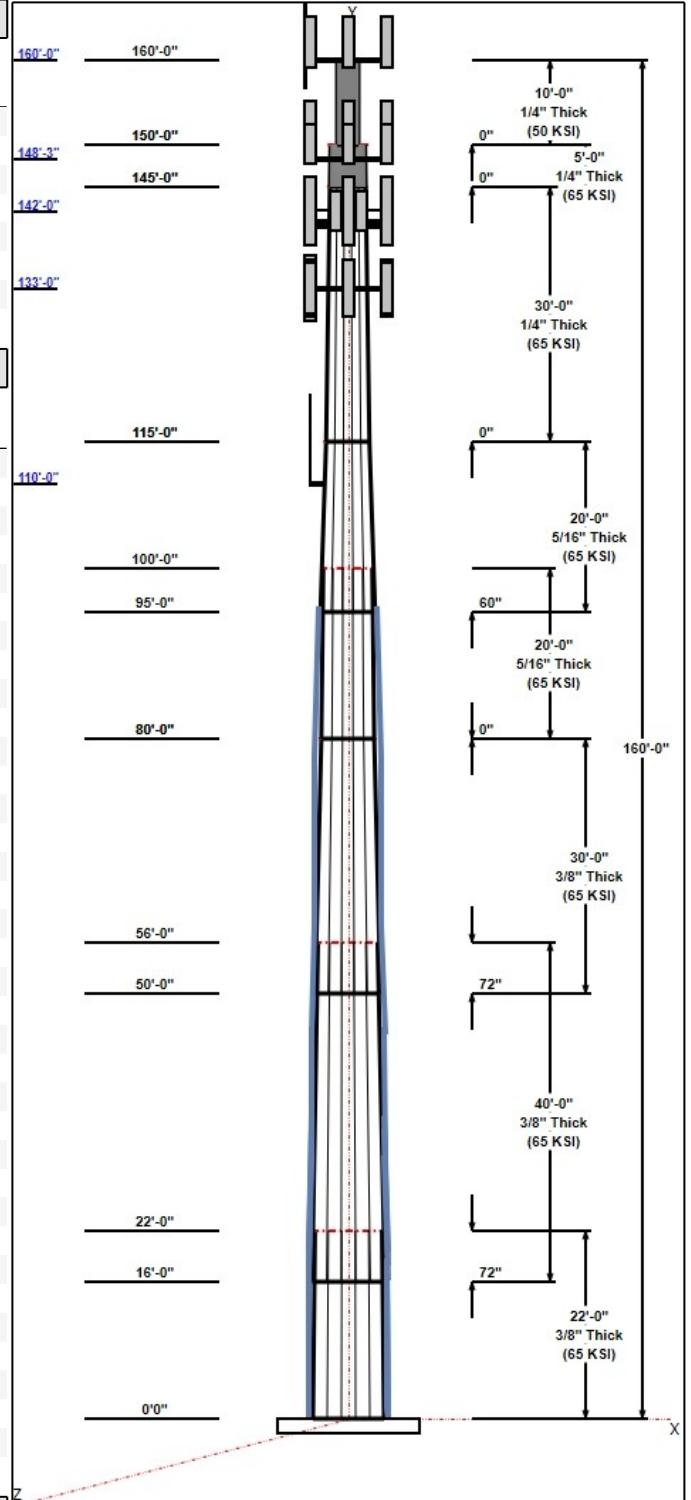
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	22.00	46.11	50.38	0.375		0.19400	65
2	40.00	40.26	48.02	0.375	Slip	0.19400	65
3	30.00	36.35	42.17	0.375	Slip	0.19400	65
4	20.00	32.48	36.35	0.313	Butt	0.19400	65
5	20.00	30.19	34.07	0.313	Slip	0.19400	65
6	30.00	24.38	30.19	0.250	Butt	0.19400	65
7	5.00	24.38	24.38	0.250	Butt	0.19400	65
8	10.00	16.00	16.00	0.250	Butt	0.00000	50

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
160.00	162.00	1	DB222	BFFD
160.00	162.00	6	DB846F65ZAXY	Verizon
160.00	162.00	1	Low Profile Platform	Verizon
160.00	162.00	1	6' Lightning rod	--
160.00	162.00	3	RRH2x90-AWS	Verizon
160.00	162.00	9	SBNHH-1D65B	Verizon
160.00	162.00	1	DB-T1-6Z-8AB-OZ	Verizon
148.30	152.00	3	APXVSPP18-C-A20	Sprint
148.30	150.00	3	APXVTM14-C-120	Sprint
148.30	152.00	3	1900MHz RRH	Sprint
148.30	152.00	3	800 MHz RRH	Sprint
148.30	152.00	3	ALU 800MHz External	Sprint
148.30	150.00	3	TD-RRH8x20-25	Sprint
148.30	152.00	4	ACU-A20-N	Sprint
148.30	148.30	1	Low Profile Platform	Sprint
142.00	142.70	3	Ericsson KRY 112 144/1	T-Mobile
142.00	142.00	3	Ericsson AIR 21 B2A/B4P	T-Mobile
142.00	142.00	4	Ericsson Air 32	T-Mobile
142.00	142.00	3	RFS	T-Mobile
142.00	142.00	1	RFS	T-Mobile
142.00	142.00	4	Ericsson Radio 4449	T-Mobile
142.00	142.00	1	Ericsson Radio 4415 B66A	T-Mobile
142.00	142.00	1	Platform w/ HR & Bracing	T-Mobile
133.00	133.00	3	Kathrein 800 10121	AT&T
133.00	133.00	3	Kathrein 800-10965	AT&T
133.00	133.00	1	Cci TPA-65R-LCUUUU-H8	AT&T
133.00	133.00	2	Quintel QS66512-2	AT&T
133.00	133.00	2	(3) SitePro 1 P/N	AT&T
133.00	133.00	6	Powerwave LGP21401	AT&T
133.00	133.00	3	Ericsson RRUS-32 RRU	AT&T
133.00	133.00	3	Ericsson B2/B66A 8843	AT&T
133.00	133.00	3	Ericsson B5/B12 4449	AT&T
133.00	133.00	3	Raycap DC6-48-60-18-8F	AT&T
110.00	115.29	1	DB222	BFFD
110.00	110.00	1	3 ft Standoff	BFFD
40.00	40.00	1	GPS	Sprint

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	160.00	Inside	1 5/8" Coax	Verizon
0.00	160.00	Outside	1 5/8" Hybrid	Verizon



**Structure: CT02049-S-SBA**

**Type:** Custom  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 12 Sided  
**Taper:** 0.00000

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0.00	160.00	Outside	7/8" Coax	BFFD
0.00	148.30	Inside	1-1/4" Hybrid	Sprint
0.00	148.30	Inside	1-1/4" Hybrid	Sprint
0.00	142.00	Inside	1 5/8" Coax	T-Mobile
0.00	142.00	Outside	1 5/8" Fiber	T-Mobile
0.00	142.00	Outside	1-1/4" Fiber	T-Mobile
0.00	133.00	Inside	1 1/4" Coax	AT&T
0.00	133.00	Inside	1 5/8" Coax	AT&T
0.00	133.00	Inside	3/4" DC Power	AT&T
0.00	133.00	Inside	3/8" Fiber	AT&T
0.00	110.00	Outside	7/8" Coax	BFFD
0.00	98.00	Outside	1.25" Reinforcing plate	
0.00	40.00	Inside	1/2" Coax	Sprint
0.00	32.00	Outside	1.25" Reinforcing plate	

**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" F1554 105	105.0	Radial

**Base Plate**

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.5000	63.0	50.0	Round

**Reactions**

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 118 mph Wind	3921.2	33.6	52.4
0.9D + 1.0W 118 mph Wind	3874.0	33.5	39.3
1.2D + 1.0Di + 1.0Wi 50 mph Wind	959.3	8.0	72.4
1.2D + 1.0Ev + 1.0Eh	386.0	3.5	52.4
0.9D + 1.0Ev + 1.0Eh	381.2	3.5	39.3
1.0D + 1.0W 60 mph Wind	1007.0	8.7	43.7

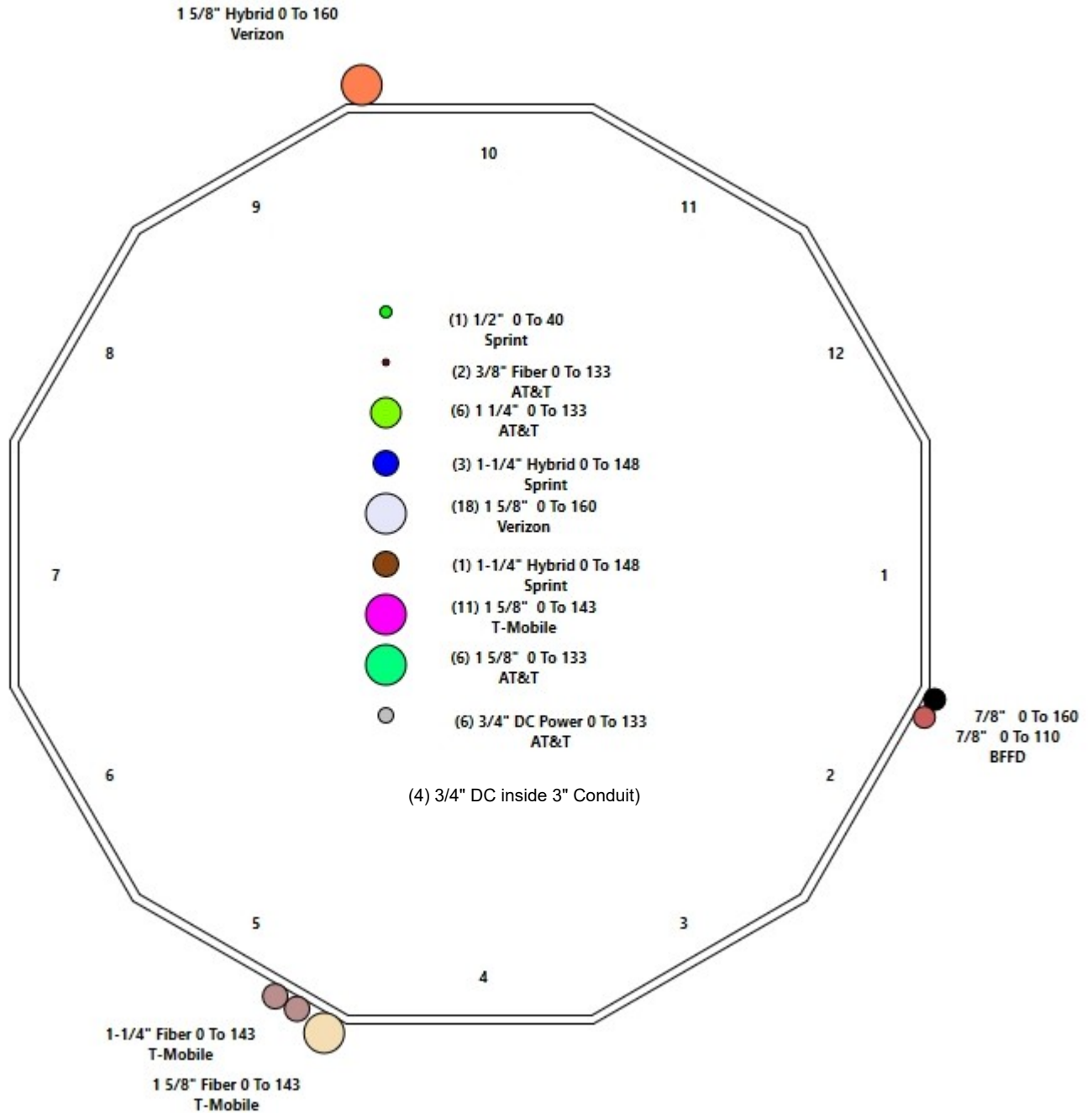
# Structure: CT02049-S-SBA - Coax Line Placement

**Type:** Monopole  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)

7/15/2019



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## Shaft Properties

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	22.000	0.3750	65		0.00	4,327
2	12	40.000	0.3750	65	Slip	72.00	7,193
3	12	30.000	0.3750	65	Slip	72.00	4,794
4	12	20.000	0.3125	65	Flange	0.00	2,335
5	12	20.000	0.3125	65	Slip	60.00	2,179
6	12	30.000	0.2500	65	Flange	0.00	2,221
7	R	5.000	0.2500	65	Flange	0.00	316
8	R	10.000	0.2500	50	Flange	0.00	421
<b>Total Shaft Weight:</b>							<b>23,786</b>

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	50.38	0.00	60.38	19265.63	33.85	134.33	46.11	22.00	55.22	14741.2	30.80	122.9	0.194000
2	48.02	16.00	57.53	16670.65	32.17	128.06	40.26	56.00	48.16	9779.90	26.62	107.3	0.194000
3	42.17	50.00	50.47	11256.46	27.99	112.47	36.35	80.00	43.45	7178.88	23.83	96.95	0.194000
4	36.35	80.00	36.27	6013.63	29.03	116.34	32.48	100.00	32.36	4273.08	25.70	103.9	0.194000
5	34.07	95.00	33.97	4940.86	27.07	109.02	30.19	115.00	30.06	3425.51	23.74	96.61	0.194000
6	30.19	115.0	24.10	2757.64	30.21	120.76	24.38	145.00	19.42	1441.83	23.98	97.50	0.194000
7	24.38	145.0	18.95	1379.54	0.00	97.50	24.38	150.00	18.19	1219.74	0.00	97.50	0.194000
8	16.00	150.0	12.37	383.86	0.00	64.00	16.00	160.00	12.37	383.86	0.00	64.00	0.000000

### Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty	
0.00	16.25	3	PLT C10x30(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
0.00	1.00	3	SOL 2 1/4" William R71	128	150	5.62	5/8" Hollo Bolt	12.00	5/8" Hollo Bolt	3.00		
1.00	18.75	2	LNP LP6X100-BW-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8
1.00	18.75	1	LNP LP6x100-B2-20T	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00		8
16.25	31.00	3	PLT C10x15.3(1.5" Hole)	65	80	0.00	AJM20&sleeve	20.00	AJM20&sleeve	3.00		
18.00	34.00	2	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
19.50	35.50	1	LNP LP6X100-G-20TT	65	80	0.00	5/8" Hollo Bolt	24.00	5/8" Hollo Bolt	3.00	10	10
30.00	46.00	3	PLT 6"X1-1/4"(1.25" Hole)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00	8	8
45.16	58.00	3	PLT 7" x 1.25"(1.25"Hole)	65	80	0.00	AJM20&sleeve	12.00	AJM20&sleeve	3.00	13	
58.00	78.00	3	PLT 5.5"x1 1/4"(1.25"hol)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		
78.00	95.58	3	PLT 5.5"x1 1/4"(1.25"hol)	65	80	0.00	AJM20&sleeve	18.00	AJM20&sleeve	3.00		10

## Load Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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### Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	160.00	DB222	1	16.00	2.25	1.00	62.50	6.317	1.00	0.00	2.00
2	160.00	DB846F65ZAXY	6	21.00	7.05	0.93	145.05	7.851	0.93	0.00	2.00
3	160.00	Low Profile Platform	1	1200.00	22.00	1.00	1902.61	33.851	1.00	0.00	2.00
4	160.00	6' Lightning rod	1	6.50	0.38	1.00	30.86	1.110	1.00	0.00	2.00
5	160.00	RRH2x90-AWS	3	44.00	2.66	0.67	84.75	3.526	0.67	0.00	2.00
6	160.00	SBNHH-1D65B	9	40.00	8.16	0.81	167.81	9.011	0.81	0.00	2.00
7	160.00	DB-T1-6Z-8AB-OZ	1	44.00	4.80	1.00	134.88	5.373	1.00	0.00	2.00
8	148.30	APXVSPP18-C-A20	3	57.00	8.02	0.83	172.10	9.880	0.83	0.00	3.70
9	148.30	APXVTM14-C-120	3	56.00	6.34	0.76	155.70	7.065	0.77	0.00	1.70
10	148.30	1900MHz RRH	3	44.00	3.80	0.67	116.69	4.726	0.67	0.00	3.70
11	148.30	800 MHz RRH	3	53.00	2.49	0.67	102.25	3.252	0.67	0.00	3.70
12	148.30	ALU 800MHz External Notch Filt	3	8.80	0.78	0.67	20.55	1.211	0.67	0.00	3.70
13	148.30	TD-RRH8x20-25	3	70.00	4.05	0.67	138.53	4.577	0.67	0.00	1.70
14	148.30	ACU-A20-N	4	1.00	0.14	0.67	3.86	0.338	0.67	0.00	3.70
15	148.30	Low Profile Platform	1	1200.00	17.50	1.00	1897.29	26.855	1.00	0.00	0.00
16	142.00	Ericsson KRY 112 144/1 TMA	3	11.00	0.41	0.70	18.15	0.725	0.70	0.00	0.70
17	142.00	Ericsson AIR 21 B2A/B4P	3	83.00	6.09	0.86	187.76	6.801	0.86	0.00	0.00
18	142.00	Ericsson Air 32	4	132.20	6.51	0.87	247.00	7.293	0.87	0.00	0.00
19	142.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	393.32	21.484	0.70	0.00	0.00
20	142.00	RFS APXVAARR18_43-U-NA20	1	106.00	14.67	0.70	315.33	15.690	0.70	0.00	0.00
21	142.00	Ericsson Radio 4449 B71+B12 RRUs	4	70.00	1.65	0.67	111.43	1.993	0.67	0.00	0.00
22	142.00	Ericsson Radio 4415 B66A RRUs	1	44.10	1.86	0.67	75.55	2.240	0.67	0.00	0.00
23	142.00	Platform w/ HR & Bracing	1	2246.00	51.70	1.00	4325.11	77.065	1.00	0.00	0.00
24	133.00	Kathrein 800 10121	3	46.30	5.15	0.79	121.96	6.538	0.79	0.00	0.00
25	133.00	Kathrein 800-10965	3	108.60	13.81	0.71	295.10	14.836	0.71	0.00	0.00
26	133.00	Cci TPA-65R-LCUUUU-H8	1	105.00	12.75	0.79	280.26	13.784	0.79	0.00	0.00
27	133.00	Quintel QS66512-2	2	111.00	8.13	0.92	251.89	8.966	0.92	0.00	0.00
28	133.00	(3) SitePro 1 P/N RMV12-NP W/3	2	1357.77	21.34	1.00	2231.84	39.003	1.00	0.00	0.00
29	133.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.67	30.57	1.841	0.67	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	77.00	3.87	0.67	146.63	3.822	0.67	0.00	0.00
31	133.00	Ericsson B2/B66A 8843 RRU	3	72.00	1.64	0.67	102.86	1.967	0.67	0.00	0.00
32	133.00	Ericsson B5/B12 4449 RRU	3	71.00	1.97	0.67	106.16	2.330	0.67	0.00	0.00
33	133.00	Raycap DC6-48-60-18-8F Junction	3	31.80	0.92	1.00	72.52	1.208	1.00	0.00	0.00
34	110.00	DB222	1	16.00	2.65	1.00	60.79	7.264	1.00	0.00	5.29
35	110.00	3 ft Standoff	1	40.00	2.63	1.00	91.89	6.488	1.00	0.00	0.00
36	40.00	GPS	1	10.00	1.00	1.00	27.13	1.416	1.00	0.00	0.00
<b>Totals:</b>			<b>97</b>	<b>12,239.04</b>			<b>24,889.92</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	160.00	(18) 1 5/8" Coax	0.00	Inside
0.00	160.00	(1) 1 5/8" Hybrid	2.00	Outside
0.00	160.00	(1) 7/8" Coax	0.00	Outside
0.00	148.30	(1) 1-1/4" Hybrid	0.00	Inside
0.00	148.30	(3) 1-1/4" Hybrid	0.00	Inside

## Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice		Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)		
0.00	142.00	(10) 1 5/8" Coax		0.00						
0.00	142.00	(2) 1 5/8" Fiber		2.00						
0.00	142.00	(2) 1-1/4" Fiber		0.00						
0.00	133.00	(6) 1 1/4" Coax		0.00						
0.00	133.00	(6) 1 5/8" Coax		0.00						
0.00	133.00	(6) 3/4" DC Power		0.00						
0.00	133.00	(2) 3/8" Fiber		0.00						
0.00	110.00	(1) 7/8" Coax		0.00						
0.00	98.00	(3) 1.25" Reinforcing plate		1.25						
0.00	40.00	(1) 1/2" Coax		0.00						
0.00	32.00	(3) 1.25" Reinforcing plate		2.50						

## Shaft Section Properties

**Structure:** CT02049-S-SBA

**Code:** EIA/TIA-222-H

7/15/2019

**Site Name:** Beacon Falls

**Exposure:** B

**Height:** 160.00 (ft)

**Crest Height:** 0.00

**Base Elev:** 0.000 (ft)

**Site Class:** D - Stiff Soil

**Gh:** 1.1

**Topography:** 1

**Struct Class:** II

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**Increment Length:** 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
0.00	RB1 RB2	0.3750	50.375	60.375	19265.6	33.85	134.33	65	68	0.0	38.70	17446.6	13285.7	
1.00	RT2 RB3 RB4	0.3750	50.181	60.141	19042.2	33.71	133.82	65	68	205.0	44.46	16928.4	13002.7	151.2
2.00		0.3750	49.987	59.906	18820.6	33.57	133.30	65	68	204.2	44.46	16802.1	12906.2	151.2
4.00		0.3750	49.599	59.438	18382.5	33.30	132.26	65	68	406.1	44.46	16551.1	12714.2	302.5
6.00		0.3750	49.211	58.969	17951.2	33.02	131.23	65	69	402.9	44.46	16301.9	12523.7	302.5
8.00		0.3750	48.823	58.501	17526.7	32.74	130.19	65	69	399.7	44.46	16054.6	12334.6	302.5
10.00		0.3750	48.435	58.032	17109.0	32.46	129.16	65	69	396.5	44.46	15809.2	12147.0	302.5
12.00		0.3750	48.047	57.564	16698.0	32.19	128.13	65	70	393.3	44.46	15565.7	11960.8	302.5
14.00		0.3750	47.659	57.095	16293.5	31.91	127.09	65	70	390.2	44.46	15324.1	11776.1	302.5
16.00	Bot - Section 2	0.3750	47.271	56.627	15895.7	31.63	126.06	65	70	387.0	44.46	15084.3	11592.8	302.5
16.25	RT1 RB5	0.3750	47.222	56.568	15846.5	31.60	125.93	65	70	97.1	31.47	11629.5	8035.3	26.8
18.00	RB6	0.3750	46.883	56.158	15504.4	31.36	125.02	65	71	676.7	43.47	16818.9	9640.8	259.0
18.75	RT3 RT4	0.3750	46.737	55.983	15359.4	31.25	124.63	65	71	288.5	25.47	9684.9	5724.4	65.0
19.50	RB7	0.3750	46.592	55.807	15215.2	31.15	124.25	65	71	287.6	31.47	9639.7	9639.7	80.4
20.00		0.3750	46.495	55.690	15119.6	31.08	123.99	65	71	191.2	31.47	9602.0	9602.0	53.6
22.00	Top - Section 1	0.3750	46.857	56.127	15478.5	31.34	124.95	65	71	761.0	31.47	9452.1	9452.1	214.3
24.00		0.3750	46.469	55.659	15094.1	31.06	123.92	65	71	380.4	31.47	9303.4	9303.4	214.3
26.00		0.3750	46.081	55.190	14716.1	30.78	122.88	65	71	377.2	31.47	9155.8	9155.8	214.3
28.00		0.3750	45.693	54.721	14344.5	30.51	121.85	65	71	374.0	31.47	9009.5	9009.5	214.3
30.00	RB8	0.3750	45.305	54.253	13979.2	30.23	120.81	65	72	370.8	53.97	14995.2	14995.2	367.4
31.00	RT5	0.3750	45.111	54.019	13798.9	30.09	120.30	65	72	184.2	40.50	10892.0	10892.0	137.8
32.00		0.3750	44.917	53.784	13620.2	29.95	119.78	65	72	183.4	40.50	10801.3	10801.3	137.8
34.00	RT6	0.3750	44.529	53.316	13267.3	29.67	118.74	65	72	364.4	28.50	8669.2	5940.9	194.0
35.50	RT7	0.3750	44.238	52.965	13006.7	29.47	117.97	65	73	271.2	22.50	5854.7	5854.7	114.8
36.00		0.3750	44.141	52.847	12920.6	29.40	117.71	65	73	90.0	22.50	5829.9	5829.9	38.3
38.00		0.3750	43.753	52.379	12580.0	29.12	116.67	65	73	358.1	22.50	5731.3	5731.3	153.1
40.00		0.3750	43.365	51.910	12245.5	28.84	115.64	65	73	354.9	22.50	5633.5	5633.5	153.1
42.00		0.3750	42.977	51.442	11916.9	28.56	114.61	65	74	351.7	22.50	5536.5	5536.5	153.1
44.00		0.3750	42.589	50.973	11594.2	28.29	113.57	65	74	348.5	22.50	5440.4	5440.4	153.1
45.16	RB9	0.3750	42.364	50.702	11409.8	28.13	112.97	65	74	200.7	48.75	11681.9	11681.9	192.4
46.00	RT8	0.3750	42.201	50.505	11277.5	28.01	112.54	65	74	144.6	26.25	6250.3	6250.3	75.0
48.00		0.3750	41.813	50.036	10966.5	27.73	111.50	65	74	342.1	26.25	6140.1	6140.1	178.6
50.00	Bot - Section 3	0.3750	41.425	49.568	10661.4	27.46	110.47	65	75	338.9	26.25	6031.0	6031.0	178.6
52.00		0.3750	41.037	49.099	10361.9	27.18	109.43	65	75	677.6	26.25	6132.8	6132.8	178.6
54.00		0.3750	40.649	48.631	10068.1	26.90	108.40	65	75	671.3	26.25	6023.7	6023.7	178.6
56.00	Top - Section 2	0.3750	41.011	49.068	10342.0	27.16	109.36	65	75	664.9	26.25	5915.6	5915.6	178.6
58.00	RT9 RB10	0.3750	40.623	48.599	10048.6	26.88	108.33	65	75	332.3	20.63	4547.7	4547.7	140.4
60.00		0.3750	40.235	48.131	9760.8	26.61	107.29	65	76	329.2	20.63	4464.3	4464.3	140.4
62.00		0.3750	39.847	47.662	9478.5	26.33	106.26	65	76	326.0	20.63	4381.7	4381.7	140.4
64.00		0.3750	39.459	47.194	9201.7	26.05	105.22	65	76	322.8	20.63	4299.9	4299.9	140.4
66.00		0.3750	39.071	46.725	8930.4	25.77	104.19	65	77	319.6	20.63	4218.8	4218.8	140.4
68.00		0.3750	38.683	46.257	8664.5	25.50	103.15	65	77	316.4	20.63	4138.5	4138.5	140.4
70.00		0.3750	38.295	45.788	8403.8	25.22	102.12	65	77	313.2	20.63	4059.0	4059.0	140.4
72.00		0.3750	37.907	45.320	8148.5	24.94	101.09	65	78	310.0	20.63	3980.3	3980.3	140.4
74.00		0.3750	37.519	44.851	7898.4	24.66	100.05	65	78	306.8	20.63	3902.4	3902.4	140.4
76.00		0.3750	37.131	44.383	7653.5	24.39	99.02	65	78	303.6	20.63	3825.2	3825.2	140.4
78.00	RT10 RB11	0.3750	36.743	43.914	7413.6	24.11	97.98	65	78	300.5	20.63	3748.8	3748.8	140.4
80.00	Top - Section 3	0.3750	36.355	43.446	7178.9	23.83	96.95	65	79	297.3	20.63	3673.2	3673.2	140.4
80.00	Bot - Section 4	0.3125	36.355	36.268	6013.6	28.60	116.34	65	73					
82.00		0.3125	35.967	35.877	5821.5	28.70	115.09	65	73	245.5	20.63	3598.3	3598.3	140.4



Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in^2)	Ixp (in^4)	Iyp (in^4)	Weight (lb)
84.00		0.3125	35.579	35.487	5633.5	28.36	113.85	65	74	242.8	20.63	3524.2	3524.2	140.4
86.00		0.3125	35.191	35.096	5449.6	28.03	112.61	65	74	240.2	20.63	3451.0	3451.0	140.4
88.00		0.3125	34.803	34.706	5269.8	27.70	111.37	65	75	237.5	20.63	3378.4	3378.4	140.4
90.00		0.3125	34.415	34.316	5093.9	27.37	110.13	65	75	234.9	20.63	3306.7	3306.7	140.4
92.00		0.3125	34.027	33.925	4922.0	27.03	108.89	65	75	232.2	20.63	3235.7	3235.7	140.4
94.00		0.3125	33.639	33.535	4754.0	26.70	107.64	65	76	229.6	20.63	3165.5	3165.5	140.4
95.00	Bot - Section 5	0.3125	33.445	33.340	4671.5	26.53	107.02	65	76	113.8	20.63	3130.7	3130.7	70.2
95.58	RT11	0.3125	33.332	33.226	4624.0	26.44	106.66	65	76	132.6	20.63	3223.1	3223.1	40.7
96.00		0.3125	33.251	33.144	4589.9	26.37	106.40	65	76	95.8				
98.00		0.3125	32.863	32.754	4429.6	26.03	105.16	65	76	452.8				
100.00	Top - Section 4	0.3125	33.100	32.992	4527.1	26.24	105.92	65	76	447.4				
102.00		0.3125	32.712	32.602	4368.2	25.90	104.68	65	76	223.2				
104.00		0.3125	32.324	32.212	4213.2	25.57	103.44	65	77	220.5				
106.00		0.3125	31.936	31.821	4061.8	25.24	102.20	65	77	217.9				
108.00		0.3125	31.548	31.431	3914.1	24.91	100.95	65	78	215.2				
110.00		0.3125	31.160	31.040	3770.1	24.57	99.71	65	78	212.6				
112.00		0.3125	30.772	30.650	3629.6	24.24	98.47	65	78	209.9				
114.00		0.3125	30.384	30.259	3492.7	23.91	97.23	65	79	207.3				
115.00	Top - Section 5	0.3125	30.190	30.064	3425.5	23.74	96.61	65	79	102.6				
115.00	Bot - Section 6	0.2500	30.190	24.102	2757.6	29.68	120.76	65	72					
116.00		0.2500	29.996	23.946	2704.4	30.01	119.98	65	72	81.7				
118.00		0.2500	29.608	23.633	2599.9	29.59	118.43	65	72	161.9				
120.00		0.2500	29.220	23.321	2498.2	29.17	116.88	65	73	159.8				
122.00		0.2500	28.832	23.009	2399.2	28.76	115.33	65	73	157.6				
124.00		0.2500	28.444	22.696	2302.8	28.34	113.78	65	74	155.5				
126.00		0.2500	28.056	22.384	2209.0	27.93	112.22	65	74	153.4				
128.00		0.2500	27.668	22.071	2117.8	27.51	110.67	65	75	151.3				
130.00		0.2500	27.280	21.759	2029.2	27.10	109.12	65	75	149.1				
132.00		0.2500	26.892	21.447	1943.0	26.68	107.57	65	76	147.0				
133.00		0.2500	26.698	21.291	1900.9	26.47	106.79	65	76	72.7				
134.00		0.2500	26.504	21.134	1859.4	26.26	106.02	65	76	72.2				
136.00		0.2500	26.116	20.822	1778.2	25.85	104.46	65	77	142.8				
138.00		0.2500	25.728	20.510	1699.3	25.43	102.91	65	77	140.6				
140.00		0.2500	25.340	20.197	1622.9	25.02	101.36	65	77	138.5				
142.00		0.2500	24.952	19.885	1548.7	24.60	99.81	65	78	136.4				
144.00		0.2500	24.564	19.573	1476.9	24.18	98.26	65	78	134.3				
145.00	Top - Section 6	0.2500	24.370	19.417	1441.8	23.98	97.48	65	79	66.3				
145.00	Bot - Section 7	0.2500	24.375	18.948	1379.5	23.98	97.48	65	55					
146.00		0.2500	24.181	18.795	1346.5	0.00	96.72	65	55	64.2				
148.00		0.2500	23.793	18.491	1282.1	0.00	95.17	65	55	126.9				
148.30		0.2500	23.735	18.445	1272.6	0.00	94.94	65	55	18.9				
150.00	Top - Section 7	0.2500	23.405	18.186	1219.7	0.00	93.62	65	55	105.9				
150.00	Bot - Section 8	0.2500	16.000	12.370	383.9	0.00	93.62	50	50					
152.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
154.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
156.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
158.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
160.00		0.2500	16.000	12.370	383.9	0.00	64.00	50	50	84.2				
<b>Total Weight</b>										<b>23786.1</b>	<b>9302.9</b>			

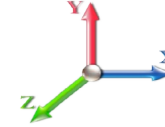
## Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Page:</b> 10
	<b>Struct Class:</b> II	



**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.70	23.174	25.49	424.23	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	23.174	25.49	422.60	1.089 *	0.000	1.00	4.338	4.73	120.4	0.0	246.1
2.00		1.00	0.70	23.174	25.49	420.97	1.091 *	0.000	1.00	4.321	4.71	120.2	0.0	245.1
4.00		1.00	0.70	23.174	25.49	417.70	1.093 *	0.000	2.00	8.592	9.39	239.5	0.0	487.3
6.00		1.00	0.70	23.174	25.49	414.43	1.097 *	0.000	2.00	8.525	9.35	238.3	0.0	483.5
8.00		1.00	0.70	23.174	25.49	411.16	1.100 *	0.000	2.00	8.458	9.31	237.2	0.0	479.7
10.00		1.00	0.70	23.174	25.49	407.90	1.104 *	0.000	2.00	8.391	9.26	236.1	0.0	475.8
12.00		1.00	0.70	23.174	25.49	404.63	1.107 *	0.000	2.00	8.324	9.22	234.9	0.0	472.0
14.00		1.00	0.70	23.174	25.49	401.36	1.111 *	0.000	2.00	8.257	9.17	233.8	0.0	468.2
16.00	Bot - Section 2	1.00	0.70	23.174	25.49	398.09	1.114 *	0.000	2.00	8.190	9.13	232.7	0.0	464.4
16.25	RT1 RB5	1.00	0.70	23.174	25.49	397.69	1.117 *	0.000	0.25	1.035	1.16	29.5	0.0	116.5
18.00	RB6	1.00	0.70	23.174	25.49	394.83	1.118 *	0.000	1.75	7.217	8.07	205.8	0.0	812.0
18.75	RT3 RT4	1.00	0.70	23.174	25.49	393.60	1.121 *	0.000	0.75	3.077	3.45	87.9	0.0	346.2
19.50	RB7	1.00	0.70	23.174	25.49	392.38	1.122 *	0.000	0.75	3.068	3.44	87.8	0.0	345.1
20.00		1.00	0.70	23.174	25.49	391.56	1.123 *	0.000	0.50	2.040	2.29	58.4	0.0	229.5
22.00	Top - Section 1	1.00	0.70	23.174	25.49	388.29	1.126 *	0.000	2.00	8.118	9.14	233.0	0.0	913.2
24.00		1.00	0.70	23.174	25.49	391.34	1.122 *	0.000	2.00	8.052	9.04	230.3	0.0	456.5
26.00		1.00	0.70	23.174	25.49	388.07	1.126 *	0.000	2.00	7.985	8.99	229.2	0.0	452.6
28.00		1.00	0.70	23.174	25.49	384.81	1.130 *	0.000	2.00	7.918	8.95	228.1	0.0	448.8
30.00	RB8	1.00	0.70	23.193	25.51	381.70	1.134 *	0.000	2.00	7.851	8.90	227.1	0.0	445.0
31.00	RT5	1.00	0.71	23.412	25.75	381.85	1.137 *	0.000	1.00	3.900	4.43	114.2	0.0	221.1
32.00		1.00	0.71	23.625	25.99	381.93	1.139 *	0.000	1.00	3.883	4.42	114.9	0.0	220.1
34.00	RT6	1.00	0.73	24.038	26.44	381.93	0.988 *	0.000	2.00	7.717	7.63	201.6	0.0	437.3
35.50	RT7	1.00	0.74	24.336	26.77	381.78	0.991 *	0.000	1.50	5.744	5.69	152.3	0.0	325.5
36.00		1.00	0.74	24.433	26.88	381.71	0.992 *	0.000	0.50	1.906	1.89	50.8	0.0	108.0
38.00		1.00	0.75	24.814	27.30	381.28	0.994 *	0.000	2.00	7.583	7.54	205.7	0.0	429.7
40.00	Appurtenance(s)	1.00	0.76	25.180	27.70	380.68	0.997 *	0.000	2.00	7.516	7.49	207.5	0.0	425.8
42.00		1.00	0.77	25.534	28.09	379.91	1.000 *	0.000	2.00	7.449	7.45	209.2	0.0	422.0
44.00		1.00	0.78	25.875	28.46	379.00	1.003 *	0.000	2.00	7.382	7.40	210.7	0.0	418.2
45.16	RB9	1.00	0.79	26.068	28.68	378.40	1.005 *	0.000	1.16	4.251	4.27	122.5	0.0	240.8
46.00	RT8	1.00	0.79	26.206	28.83	377.93	1.007 *	0.000	0.84	3.064	3.09	88.9	0.0	173.6
48.00		1.00	0.80	26.527	29.18	376.74	1.009 *	0.000	2.00	7.248	7.31	213.4	0.0	410.5
50.00	Bot - Section 3	1.00	0.81	26.838	29.52	375.43	1.012 *	0.000	2.00	7.181	7.27	214.6	0.0	406.7
52.00		1.00	0.82	27.140	29.85	374.00	1.016 *	0.000	2.00	7.244	7.36	219.6	0.0	813.2
54.00		1.00	0.83	27.435	30.18	372.47	1.019 *	0.000	2.00	7.177	7.31	220.7	0.0	805.5
56.00	Top - Section 2	1.00	0.84	27.721	30.49	370.84	1.022 *	0.000	2.00	7.110	7.27	221.6	0.0	797.9
58.00	RT9 RB10	1.00	0.85	28.000	30.80	376.05	1.019 *	0.000	2.00	7.043	7.18	221.1	0.0	398.8
60.00		1.00	0.85	28.273	31.10	374.27	1.022 *	0.000	2.00	6.976	7.13	221.8	0.0	395.0
62.00		1.00	0.86	28.539	31.39	372.40	1.026 *	0.000	2.00	6.909	7.09	222.5	0.0	391.2
64.00		1.00	0.87	28.799	31.68	370.45	1.029 *	0.000	2.00	6.842	7.04	223.1	0.0	387.3
66.00		1.00	0.88	29.053	31.96	368.42	1.033 *	0.000	2.00	6.775	7.00	223.7	0.0	383.5
68.00		1.00	0.89	29.302	32.23	366.32	1.037 *	0.000	2.00	6.708	6.95	224.2	0.0	379.7
70.00		1.00	0.89	29.546	32.50	364.15	1.041 *	0.000	2.00	6.641	6.91	224.6	0.0	375.9
72.00		1.00	0.90	29.785	32.76	361.92	1.044 *	0.000	2.00	6.574	6.87	224.9	0.0	372.0
74.00		1.00	0.91	30.019	33.02	359.62	1.048 *	0.000	2.00	6.507	6.82	225.2	0.0	368.2
76.00		1.00	0.91	30.248	33.27	357.26	1.052 *	0.000	2.00	6.440	6.78	225.5	0.0	364.4
78.00	RT10 RB11	1.00	0.92	30.474	33.52	354.84	1.056 *	0.000	2.00	6.373	6.73	225.7	0.0	360.5

## Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00 Top - Section 3	1.00	0.93	30.695	33.76	352.36	1.060 *	0.000	2.00	6.306	6.69	225.8	0.0	356.7
82.00	1.00	0.93	30.912	34.00	349.84	1.065 *	0.000	2.00	6.239	6.64	225.9	0.0	294.6
84.00	1.00	0.94	31.126	34.24	347.25	1.069 *	0.000	2.00	6.172	6.60	225.9	0.0	291.4
86.00	1.00	0.95	31.336	34.47	344.62	1.073 *	0.000	2.00	6.106	6.55	225.9	0.0	288.2
88.00	1.00	0.95	31.542	34.70	341.95	1.078 *	0.000	2.00	6.039	6.51	225.9	0.0	285.0
90.00	1.00	0.96	31.746	34.92	339.22	1.083 *	0.000	2.00	5.972	6.46	225.8	0.0	281.8
92.00	1.00	0.96	31.946	35.14	336.45	1.087 *	0.000	2.00	5.905	6.42	225.6	0.0	278.7
94.00	1.00	0.97	32.142	35.36	333.64	1.092 *	0.000	2.00	5.838	6.38	225.4	0.0	275.5
95.00 Bot - Section 5	1.00	0.97	32.240	35.46	332.22	1.096 *	0.000	1.00	2.894	3.17	112.5	0.0	136.5
95.58 RT11	1.00	0.98	32.296	35.53	331.39	1.098 *	0.000	0.58	1.702	1.87	66.4	0.0	159.1
96.00	1.00	0.98	32.336	35.57	330.78	1.099 *	0.000	0.42	1.229	1.35	48.0	0.0	114.9
98.00	1.00	0.98	32.527	35.78	327.89	1.102 *	0.000	2.00	5.812	6.41	229.2	0.0	543.3
100.00 Top - Section 4	1.00	0.99	32.716	35.99	324.95	1.002 *	0.000	2.00	5.745	5.76	207.2	0.0	536.9
102.00	1.00	0.99	32.901	36.19	328.25	1.000 *	0.000	2.00	5.678	5.68	205.4	0.0	267.8
104.00	1.00	1.00	33.084	36.39	325.26	1.004 *	0.000	2.00	5.611	5.63	204.9	0.0	264.7
106.00	1.00	1.00	33.265	36.59	322.23	1.008 *	0.000	2.00	5.544	5.59	204.4	0.0	261.5
108.00	1.00	1.01	33.443	36.79	319.17	1.012 *	0.000	2.00	5.477	5.54	203.9	0.0	258.3
110.00 Appurtenance(s)	1.00	1.02	33.619	36.98	316.07	1.016 *	0.000	2.00	5.410	5.50	203.3	0.0	255.1
112.00	1.00	1.02	33.792	37.17	312.94	1.021 *	0.000	2.00	5.343	5.45	202.7	0.0	251.9
114.00	1.00	1.03	33.964	37.36	309.77	1.025 *	0.000	2.00	5.276	5.41	202.1	0.0	248.7
115.00 Top - Section 5	1.00	1.03	34.049	37.45	308.18	1.029 *	0.000	1.00	2.613	2.69	100.7	0.0	123.2
116.00	1.00	1.03	34.133	37.55	306.58	1.031 *	0.000	1.00	2.596	2.68	100.5	0.0	98.1
118.00	1.00	1.04	34.300	37.73	303.35	1.034 *	0.000	2.00	5.142	5.32	200.7	0.0	194.3
120.00	1.00	1.04	34.465	37.91	300.10	1.039 *	0.000	2.00	5.075	5.28	200.0	0.0	191.7
122.00	1.00	1.05	34.628	38.09	296.81	1.044 *	0.000	2.00	5.008	5.23	199.2	0.0	189.2
124.00	1.00	1.05	34.790	38.27	293.50	1.050 *	0.000	2.00	4.941	5.19	198.5	0.0	186.6
126.00	1.00	1.06	34.949	38.44	290.16	1.055 *	0.000	2.00	4.874	5.14	197.7	0.0	184.1
128.00	1.00	1.06	35.107	38.62	286.79	1.060 *	0.000	2.00	4.807	5.10	196.8	0.0	181.5
130.00	1.00	1.07	35.262	38.79	283.40	1.066 *	0.000	2.00	4.741	5.05	196.0	0.0	179.0
132.00	1.00	1.07	35.417	38.96	279.98	1.072 *	0.000	2.00	4.674	5.01	195.1	0.0	176.4
133.00 Appurtenance(s)	1.00	1.07	35.493	39.04	278.26	1.076 *	0.000	1.00	2.312	2.49	97.1	0.0	87.3
134.00	1.00	1.07	35.569	39.13	276.53	1.079 *	0.000	1.00	2.295	2.48	96.9	0.0	86.6
136.00	1.00	1.08	35.720	39.29	273.06	1.084 *	0.000	2.00	4.540	4.92	193.3	0.0	171.3
138.00	1.00	1.08	35.869	39.46	269.56	1.090 *	0.000	2.00	4.473	4.87	192.3	0.0	168.8
140.00	1.00	1.09	36.017	39.62	266.04	1.096 *	0.000	2.00	4.406	4.83	191.4	0.0	166.2
142.00 Appurtenance(s)	1.00	1.09	36.163	39.78	262.50	1.103 *	0.000	2.00	4.339	4.79	190.4	0.0	163.7
144.00	1.00	1.10	36.308	39.94	258.94	0.950	0.000	2.00	4.272	4.06	162.1	0.0	161.1
145.00 Top - Section 6	1.00	1.10	36.380	40.02	257.15	0.950	0.000	1.00	2.111	2.01	80.2	0.0	79.6
146.00	1.00	1.10	36.451	40.10	246.70	0.600	0.000	1.00	2.023	1.21	48.7	0.0	77.1
148.00	1.00	1.11	36.593	40.25	243.21	0.600	0.000	2.00	3.998	2.40	96.6	0.0	152.3
148.30 Appurtenance(s)	1.00	1.11	36.615	40.28	242.69	0.600	0.000	0.30	0.594	0.36	14.4	0.0	22.6
150.00 Top - Section 7	1.00	1.11	36.734	40.41	239.71	0.600	0.000	1.70	3.339	2.00	81.0	0.0	127.1
152.00	1.00	1.11	36.873	40.56	164.18	0.645 *	0.000	2.00	2.667	1.72	69.8	0.0	101.0
154.00	1.00	1.12	37.011	40.71	164.48	0.645 *	0.000	2.00	2.667	1.72	70.0	0.0	101.0
156.00	1.00	1.12	37.148	40.86	164.79	0.645 *	0.000	2.00	2.667	1.72	70.3	0.0	101.0
158.00	1.00	1.13	37.283	41.01	165.09	0.645 *	0.000	2.00	2.667	1.72	70.5	0.0	101.0
160.00 Appurtenance(s)	1.00	1.13	37.418	41.16	165.38	0.645 *	0.000	2.00	2.667	1.72	70.8	0.0	101.0

\* Cf Adjusted by Linear Load Ra Effect

<b>Totals:</b>	<b>160.00</b>	<b>16,217.6</b>	<b>28,543.3</b>
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## Discrete Appurtenance Forces

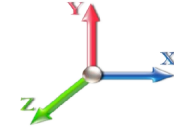
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	SBNHH-1D65B	9	37.551	41.306	0.81	1.00	59.49	432.00	0.000	2.000	2457.13	0.00	4914.26
2	160.00	RRH2x90-AWS	3	37.551	41.306	0.67	1.00	5.35	158.40	0.000	2.000	220.85	0.00	441.69
3	160.00	6' Lightning rod	1	37.551	41.306	1.00	1.00	0.38	7.80	0.000	2.000	15.70	0.00	31.39
4	160.00	Low Profile Platform	1	37.551	41.306	1.00	1.00	22.00	1440.00	0.000	2.000	908.73	0.00	1817.45
5	160.00	DB846F65ZAXY	6	37.551	41.306	0.93	1.00	39.34	151.20	0.000	2.000	1624.93	0.00	3249.85
6	160.00	DB222	1	37.551	41.306	1.00	1.00	2.25	19.20	0.000	2.000	92.94	0.00	185.88
7	160.00	DB-T1-6Z-8AB-0Z	1	37.551	41.306	1.00	1.00	4.80	52.80	0.000	2.000	198.27	0.00	396.54
8	148.30	APXVTM14-C-120	3	36.734	40.407	0.61	0.80	11.59	201.60	0.000	1.700	468.51	0.00	796.46
9	148.30	1900MHz RRH	3	36.873	40.561	0.54	0.80	6.11	158.40	0.000	3.700	247.84	0.00	917.01
10	148.30	800 MHz RRH	3	36.873	40.561	0.54	0.80	4.00	190.80	0.000	3.700	162.40	0.00	600.89
11	148.30	APXVSP18-C-A20	3	36.873	40.561	0.66	0.80	15.98	205.20	0.000	3.700	647.99	0.00	2397.56
12	148.30	ACU-A20-N	4	36.873	40.561	0.54	0.80	0.30	4.80	0.000	3.700	12.17	0.00	45.05
13	148.30	ALU 800MHz External	3	36.873	40.561	0.54	0.80	1.25	31.68	0.000	3.700	50.87	0.00	188.23
14	148.30	TD-RRH8x20-25	3	36.734	40.407	0.54	0.80	6.51	252.00	0.000	1.700	263.15	0.00	447.35
15	148.30	Low Profile Platform	1	36.615	40.276	1.00	1.00	17.50	1440.00	0.000	0.000	704.83	0.00	0.00
16	142.00	Platform w/ HR & Bracing	1	36.163	39.780	1.00	1.00	51.70	2695.20	0.000	0.000	2056.60	0.00	0.00
17	142.00	Ericsson Radio 4415	1	36.163	39.780	0.50	0.75	0.93	52.92	0.000	0.000	37.18	0.00	0.00
18	142.00	Ericsson Radio 4449	4	36.163	39.780	0.50	0.75	3.32	336.00	0.000	0.000	131.93	0.00	0.00
19	142.00	RFS	1	36.163	39.780	0.52	0.75	7.70	127.20	0.000	0.000	306.37	0.00	0.00
20	142.00	Ericsson Air 32	4	36.163	39.780	0.65	0.75	16.99	634.56	0.000	0.000	675.90	0.00	0.00
21	142.00	Ericsson AIR 21 B2A/B4P	3	36.163	39.780	0.65	0.75	11.78	298.80	0.000	0.000	468.77	0.00	0.00
22	142.00	Ericsson KRY 112 144/1	3	36.214	39.835	0.52	0.75	0.65	39.60	0.000	0.700	25.72	0.00	18.01
23	142.00	RFS	3	36.163	39.780	0.52	0.75	31.88	460.80	0.000	0.000	1268.09	0.00	0.00
24	133.00	(3) SitePro 1 P/N	2	35.493	39.042	0.75	0.75	32.01	3258.65	0.000	0.000	1249.74	0.00	0.00
25	133.00	Kathrein 800 10121	3	35.493	39.042	0.63	0.80	9.76	166.68	0.000	0.000	381.22	0.00	0.00
26	133.00	Kathrein 800-10965	3	35.493	39.042	0.57	0.80	23.53	390.96	0.000	0.000	918.75	0.00	0.00
27	133.00	Cci TPA-65R-LCUUUU-H8	1	35.493	39.042	0.63	0.80	8.06	126.00	0.000	0.000	314.60	0.00	0.00
28	133.00	Quintel QS66512-2	2	35.493	39.042	0.74	0.80	11.97	266.40	0.000	0.000	467.23	0.00	0.00
29	133.00	Powerwave LGP21401	6	35.493	39.042	0.54	0.80	4.15	101.52	0.000	0.000	161.97	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	35.493	39.042	0.54	0.80	6.22	277.20	0.000	0.000	242.96	0.00	0.00
31	133.00	Ericsson B2/B66A 8843	3	35.493	39.042	0.54	0.80	2.64	259.20	0.000	0.000	102.96	0.00	0.00
32	133.00	Ericsson B5/B12 4449	3	35.493	39.042	0.54	0.80	3.17	255.60	0.000	0.000	123.68	0.00	0.00
33	133.00	Raycap DC6-48-60-18-8F	3	35.493	39.042	0.80	0.80	2.21	114.48	0.000	0.000	86.21	0.00	0.00
34	110.00	3 ft Standoff	1	33.619	36.981	1.00	1.00	2.63	48.00	0.000	0.000	97.26	0.00	0.00
35	110.00	DB222	1	34.073	37.481	1.00	1.00	2.65	19.20	0.000	5.292	99.32	0.00	525.59
36	40.00	GPS	1	25.180	27.698	1.00	1.00	1.00	12.00	0.000	0.000	27.70	0.00	0.00

**Totals:**                      **14,686.85**                      **17,320.47**

## Total Applied Force Summary

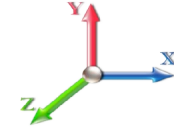
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		120.45	308.53	0.00	0.00
2.00		120.17	307.57	0.00	0.00
4.00		239.48	612.28	0.00	0.00
6.00		238.35	608.45	0.00	0.00
8.00		237.21	604.62	0.00	0.00
10.00		236.08	600.80	0.00	0.00
12.00		234.94	596.97	0.00	0.00
14.00		233.81	593.15	0.00	0.00
16.00		232.67	589.32	0.00	0.00
16.25		29.46	132.10	0.00	0.00
18.00		205.76	921.33	0.00	0.00
18.75		87.92	393.06	0.00	0.00
19.50		87.76	391.99	0.00	0.00
20.00		58.42	260.73	0.00	0.00
22.00		232.98	1038.13	0.00	0.00
24.00		230.33	581.41	0.00	0.00
26.00		229.19	577.58	0.00	0.00
28.00		228.06	573.76	0.00	0.00
30.00		227.11	569.93	0.00	0.00
31.00		114.19	283.53	0.00	0.00
32.00		114.95	282.57	0.00	0.00
34.00		201.63	562.28	0.00	0.00
35.50		152.32	419.20	0.00	0.00
36.00		50.83	139.25	0.00	0.00
38.00		205.71	554.63	0.00	0.00
40.00	(1) attachments	235.21	562.80	0.00	0.00
42.00		209.17	546.59	0.00	0.00
44.00		210.70	542.77	0.00	0.00
45.16		122.54	313.05	0.00	0.00
46.00		88.93	225.89	0.00	0.00
48.00		213.41	535.11	0.00	0.00
50.00		214.60	531.29	0.00	0.00
52.00		219.61	937.75	0.00	0.00
54.00		220.66	930.10	0.00	0.00
56.00		221.62	922.44	0.00	0.00
58.00		221.06	523.38	0.00	0.00
60.00		221.83	519.55	0.00	0.00
62.00		222.52	515.73	0.00	0.00
64.00		223.14	511.90	0.00	0.00
66.00		223.68	508.07	0.00	0.00
68.00		224.16	504.25	0.00	0.00
70.00		224.58	500.42	0.00	0.00
72.00		224.94	496.60	0.00	0.00
74.00		225.24	492.77	0.00	0.00
76.00		225.48	488.94	0.00	0.00
78.00		225.66	485.12	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00		225.80	481.29	0.00	0.00
82.00		225.88	419.16	0.00	0.00
84.00		225.92	415.97	0.00	0.00
86.00		225.91	412.79	0.00	0.00
88.00		225.85	409.60	0.00	0.00
90.00		225.75	406.41	0.00	0.00
92.00		225.61	403.22	0.00	0.00
94.00		225.43	400.03	0.00	0.00
95.00		112.46	198.82	0.00	0.00
95.58		66.38	195.26	0.00	0.00
96.00		48.05	141.06	0.00	0.00
98.00		229.20	667.88	0.00	0.00
100.00		207.16	661.50	0.00	0.00
102.00		205.41	392.41	0.00	0.00
104.00		204.94	389.23	0.00	0.00
106.00		204.43	386.04	0.00	0.00
108.00		203.88	382.85	0.00	0.00
110.00	(2) attachments	399.89	446.86	0.00	525.59
112.00		202.70	375.22	0.00	0.00
114.00		202.07	372.03	0.00	0.00
115.00		100.66	184.82	0.00	0.00
116.00		100.49	159.76	0.00	0.00
118.00		200.71	317.60	0.00	0.00
120.00		199.99	315.05	0.00	0.00
122.00		199.24	312.50	0.00	0.00
124.00		198.46	309.95	0.00	0.00
126.00		197.66	307.40	0.00	0.00
128.00		196.83	304.85	0.00	0.00
130.00		195.98	302.30	0.00	0.00
132.00		195.10	299.75	0.00	0.00
133.00	(29) attachments	4146.44	5365.60	0.00	0.00
134.00		96.88	133.01	0.00	0.00
136.00		193.27	264.12	0.00	0.00
138.00		192.32	261.57	0.00	0.00
140.00		191.35	259.01	0.00	0.00
142.00	(20) attachments	5160.93	4901.54	0.00	18.01
144.00		162.08	219.09	0.00	0.00
145.00		80.25	108.59	0.00	0.00
146.00		48.67	106.05	0.00	0.00
148.00		96.55	210.23	0.00	0.00
148.30	(23) attachments	2572.12	2515.80	0.00	5392.55
150.00		80.95	168.63	0.00	0.00
152.00		69.76	149.84	0.00	0.00
154.00		70.03	149.84	0.00	0.00
156.00		70.28	149.84	0.00	0.00
158.00		70.54	149.84	0.00	0.00
160.00	(22) attachments	5589.32	2411.24	0.00	11037.06
	<b>Totals:</b>	<b>33,538.12</b>	<b>52,393.12</b>	<b>0.00</b>	<b>16,973.21</b>

## Linear Appurtenance Segment Forces (Factored)

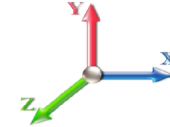
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	23.174	0.00	1.32
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	0.62
1.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	23.174	0.00	2.64
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	2.29
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	0.62
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.147	23.174	0.00	0.00
1.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.147	23.174	0.00	0.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	23.174	0.00	1.32
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	0.62
2.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	23.174	0.00	2.64
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	2.29
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	0.62
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.148	23.174	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.148	23.174	0.00	0.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	23.174	0.00	2.64
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	1.25
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	23.174	0.00	5.28
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	4.58
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	1.25
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.151	23.174	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.150	1.151	23.174	0.00	0.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	23.174	0.00	2.64
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	1.25
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	23.174	0.00	5.28
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	4.58
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	1.25
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.152	1.155	23.174	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.152	1.155	23.174	0.00	0.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	23.174	0.00	2.64
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	1.25
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	23.174	0.00	5.28
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	4.58
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	1.25
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.158	23.174	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.153	1.158	23.174	0.00	0.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	23.174	0.00	2.64
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	1.25
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	23.174	0.00	5.28
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	4.58
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	1.25
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.162	23.174	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.154	1.162	23.174	0.00	0.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	23.174	0.00	2.64
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	1.25
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	23.174	0.00	5.28
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	4.58
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	1.25

## Linear Appurtenance Segment Forces (Factored)

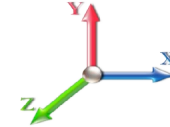
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	23.174	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.155	1.166	23.174	0.00	0.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	23.174	0.00	2.64
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	1.25
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	23.174	0.00	5.28
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	4.58
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	1.25
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.156	1.169	23.174	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.156	1.169	23.174	0.00	0.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	23.174	0.00	2.64
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	1.25
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	23.174	0.00	5.28
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	4.58
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	1.25
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.158	1.173	23.174	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.158	1.173	23.174	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	23.174	0.00	0.33
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.16
16.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	23.174	0.00	0.66
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.57
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.16
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.158	1.175	23.174	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.158	1.175	23.174	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	23.174	0.00	2.31
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	1.09
18.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	23.174	0.00	4.62
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	4.01
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	1.09
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.159	1.177	23.174	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.159	1.177	23.174	0.00	0.00
18.75	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	23.174	0.00	0.99
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	0.47
18.75	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	23.174	0.00	1.98
18.75	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	1.72
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	0.47
18.75	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.180	23.174	0.00	0.00
18.75	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.180	23.174	0.00	0.00
19.50	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	23.174	0.00	0.99
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.47
19.50	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	23.174	0.00	1.98
19.50	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	1.72
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.47
19.50	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.181	23.174	0.00	0.00
19.50	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.181	23.174	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	23.174	0.00	0.66
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	0.31
20.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	23.174	0.00	1.32



## Linear Appurtenance Segment Forces (Factored)

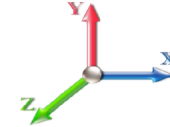
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
20.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	1.14
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	0.31
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.161	1.183	23.174	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.161	1.183	23.174	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	2.64
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	1.25
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	5.28
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	4.58
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	1.25
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	23.174	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	23.174	0.00	0.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	23.174	0.00	2.64
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	1.25
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	23.174	0.00	5.28
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	4.58
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	1.25
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.160	1.181	23.174	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.160	1.181	23.174	0.00	0.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	2.64
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	1.25
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	5.28
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	4.58
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	1.25
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	23.174	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	23.174	0.00	0.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	23.174	0.00	2.64
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	1.25
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	23.174	0.00	5.28
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	4.58
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	1.25
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.163	1.189	23.174	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.163	1.189	23.174	0.00	0.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	23.193	0.00	2.64
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	1.25
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	23.193	0.00	5.28
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	4.58
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	1.25
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.165	1.194	23.193	0.00	0.00
30.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.165	1.194	23.193	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	23.412	0.00	1.32
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	0.62
31.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	23.412	0.00	2.64
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	2.29
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	0.62
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.197	23.412	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.197	23.412	0.00	0.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	23.625	0.00	1.32

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

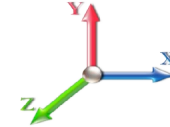


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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	0.62
32.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	23.625	0.00	2.64
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	2.29
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	0.62
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.199	23.625	0.00	0.00
32.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.199	23.625	0.00	0.00
34.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	24.038	0.00	2.64
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	1.25
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	24.038	0.00	5.28
34.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	4.58
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	1.25
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.113	1.040	24.038	0.00	0.00
35.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	24.336	0.00	1.98
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	0.94
35.50	1 5/8" Fiber	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	24.336	0.00	3.96
35.50	1-1/4" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	3.43
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	0.94
35.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.114	1.043	24.336	0.00	0.00
36.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	24.433	0.00	0.66
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	0.31
36.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	24.433	0.00	1.32
36.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	1.14
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	0.31
36.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.115	1.044	24.433	0.00	0.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	24.814	0.00	2.64
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	1.25
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	24.814	0.00	5.28
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	4.58
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	1.25
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.115	1.046	24.814	0.00	0.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	25.180	0.00	2.64
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	1.25
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	25.180	0.00	5.28
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	4.58
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	1.25
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.116	1.049	25.180	0.00	0.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	25.534	0.00	2.64
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	1.25
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	25.534	0.00	5.28
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	4.58
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	1.25
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.117	1.052	25.534	0.00	0.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	25.875	0.00	2.64
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	1.25
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	25.875	0.00	5.28
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	4.58
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	1.25

## Linear Appurtenance Segment Forces (Factored)

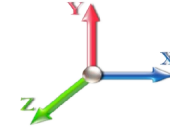
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.119	1.056	25.875	0.00	0.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	26.068	0.00	1.53
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	0.72
45.16	1 5/8" Fiber	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	26.068	0.00	3.06
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	2.66
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	0.72
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.119	1.058	26.068	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	26.206	0.00	1.11
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	0.52
46.00	1 5/8" Fiber	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	26.206	0.00	2.22
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	1.92
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	0.52
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.120	1.060	26.206	0.00	0.00
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	26.527	0.00	2.64
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	1.25
48.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	26.527	0.00	5.28
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	4.58
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	1.25
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.121	1.062	26.527	0.00	0.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	26.838	0.00	2.64
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	1.25
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	26.838	0.00	5.28
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	4.58
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	1.25
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.122	1.066	26.838	0.00	0.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	27.140	0.00	2.64
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	1.25
52.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	27.140	0.00	5.28
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	4.58
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	1.25
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.123	1.069	27.140	0.00	0.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	27.435	0.00	2.64
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	1.25
54.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	27.435	0.00	5.28
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	4.58
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	1.25
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.072	27.435	0.00	0.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	27.721	0.00	2.64
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	1.25
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	27.721	0.00	5.28
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	4.58
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	1.25
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	27.721	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	28.000	0.00	2.64
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	1.25
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	28.000	0.00	5.28
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	4.58

## Linear Appurtenance Segment Forces (Factored)

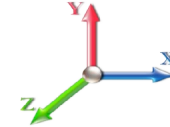
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	1.25
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.073	28.000	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	28.273	0.00	2.64
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	1.25
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	28.273	0.00	5.28
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	4.58
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	1.25
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	28.273	0.00	0.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	28.539	0.00	2.64
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	1.25
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	28.539	0.00	5.28
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	4.58
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	1.25
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.127	1.080	28.539	0.00	0.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	28.799	0.00	2.64
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	1.25
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	28.799	0.00	5.28
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	4.58
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	1.25
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.128	1.084	28.799	0.00	0.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	29.053	0.00	2.64
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	1.25
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	29.053	0.00	5.28
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	4.58
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	1.25
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.129	1.087	29.053	0.00	0.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	29.302	0.00	2.64
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	1.25
68.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	29.302	0.00	5.28
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	4.58
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	1.25
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.130	1.091	29.302	0.00	0.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	29.546	0.00	2.64
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	1.25
70.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	29.546	0.00	5.28
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	4.58
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	1.25
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.132	1.095	29.546	0.00	0.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	29.785	0.00	2.64
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	1.25
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	29.785	0.00	5.28
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	4.58
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	1.25
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.133	1.099	29.785	0.00	0.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	30.019	0.00	2.64
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	1.25
74.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	30.019	0.00	5.28

## Linear Appurtenance Segment Forces (Factored)

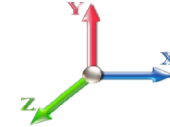
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	4.58
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	1.25
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.134	1.103	30.019	0.00	0.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	30.248	0.00	2.64
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	1.25
76.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	30.248	0.00	5.28
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	4.58
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	1.25
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.136	1.108	30.248	0.00	0.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	30.474	0.00	2.64
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	1.25
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	30.474	0.00	5.28
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	4.58
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	1.25
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.137	1.112	30.474	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	30.695	0.00	2.64
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	1.25
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	30.695	0.00	5.28
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	4.58
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	1.25
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.139	1.116	30.695	0.00	0.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	30.912	0.00	2.64
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	1.25
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	30.912	0.00	5.28
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	4.58
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	1.25
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.140	1.121	30.912	0.00	0.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	31.126	0.00	2.64
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	1.25
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	31.126	0.00	5.28
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	4.58
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	1.25
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.142	1.125	31.126	0.00	0.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	31.336	0.00	2.64
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	1.25
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	31.336	0.00	5.28
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	4.58
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	1.25
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.143	1.130	31.336	0.00	0.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	31.542	0.00	2.64
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	1.25
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	31.542	0.00	5.28
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	4.58
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	1.25
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.135	31.542	0.00	0.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	31.746	0.00	2.64
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	1.25

## Linear Appurtenance Segment Forces (Factored)

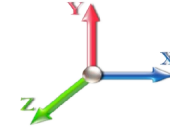
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	31.746	0.00	5.28
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	4.58
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	1.25
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.147	1.140	31.746	0.00	0.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	31.946	0.00	2.64
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	1.25
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	31.946	0.00	5.28
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	4.58
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	1.25
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.148	1.145	31.946	0.00	0.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	32.142	0.00	2.64
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	1.25
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	32.142	0.00	5.28
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	4.58
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	1.25
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.150	32.142	0.00	0.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	32.240	0.00	1.32
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	0.62
95.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	32.240	0.00	2.64
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	2.29
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	0.62
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.151	1.154	32.240	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	32.296	0.00	0.77
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	0.36
95.58	1 5/8" Fiber	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	32.296	0.00	1.53
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	1.33
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	0.36
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.152	1.156	32.296	0.00	0.00
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	32.336	0.00	0.55
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.26
96.00	1 5/8" Fiber	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	32.336	0.00	1.11
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.96
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.26
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.152	1.157	32.336	0.00	0.00
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	32.527	0.00	2.64
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	1.25
98.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	32.527	0.00	5.28
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	4.58
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	1.25
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.160	32.527	0.00	0.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	32.716	0.00	2.64
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	1.25
100.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	32.716	0.00	5.28
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	4.58
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	1.25
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	32.901	0.00	2.64
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	1.25

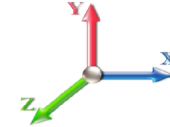
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
102.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	32.901	0.00	5.28
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	4.58
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	1.25
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	33.084	0.00	2.64
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	1.25
104.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	33.084	0.00	5.28
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	4.58
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	1.25
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	33.265	0.00	2.64
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	1.25
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	33.265	0.00	5.28
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	4.58
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	1.25
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	33.443	0.00	2.64
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	1.25
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	33.443	0.00	5.28
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	4.58
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	1.25
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	33.619	0.00	2.64
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	1.25
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	33.619	0.00	5.28
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	4.58
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	1.25
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	33.792	0.00	2.64
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	33.792	0.00	1.25
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	33.792	0.00	5.28
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	33.792	0.00	4.58
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	33.964	0.00	2.64
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	33.964	0.00	1.25
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	33.964	0.00	5.28
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	33.964	0.00	4.58
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	34.049	0.00	1.32
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	34.049	0.00	0.62
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	34.049	0.00	2.64
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	34.049	0.00	2.29
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	34.133	0.00	1.32
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	34.133	0.00	0.62
116.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	34.133	0.00	2.64
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	34.133	0.00	2.29
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	34.300	0.00	2.64
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	34.300	0.00	1.25
118.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	34.300	0.00	5.28
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	34.300	0.00	4.58
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	34.465	0.00	2.64
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	34.465	0.00	1.25
120.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	34.465	0.00	5.28
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	34.465	0.00	4.58

## Linear Appurtenance Segment Forces (Factored)

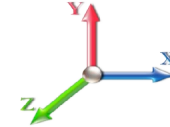
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	34.628	0.00	2.64
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	34.628	0.00	1.25
122.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	34.628	0.00	5.28
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	34.628	0.00	4.58
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	34.790	0.00	2.64
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	34.790	0.00	1.25
124.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	34.790	0.00	5.28
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	34.790	0.00	4.58
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	34.949	0.00	2.64
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	34.949	0.00	1.25
126.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	34.949	0.00	5.28
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	34.949	0.00	4.58
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	35.107	0.00	2.64
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	35.107	0.00	1.25
128.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	35.107	0.00	5.28
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	35.107	0.00	4.58
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	35.262	0.00	2.64
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	35.262	0.00	1.25
130.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	35.262	0.00	5.28
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	35.262	0.00	4.58
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	35.417	0.00	2.64
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	35.417	0.00	1.25
132.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	35.417	0.00	5.28
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	35.417	0.00	4.58
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	35.493	0.00	1.32
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	35.493	0.00	0.62
133.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	35.493	0.00	2.64
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	35.493	0.00	2.29
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	35.569	0.00	1.32
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	35.569	0.00	0.62
134.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	35.569	0.00	2.64
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	35.569	0.00	2.29
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	35.720	0.00	2.64
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	35.720	0.00	1.25
136.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	35.720	0.00	5.28
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	35.720	0.00	4.58
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	35.869	0.00	2.64
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	35.869	0.00	1.25
138.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	35.869	0.00	5.28
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	35.869	0.00	4.58
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	36.017	0.00	2.64
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	36.017	0.00	1.25
140.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	36.017	0.00	5.28
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	36.017	0.00	4.58
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	36.163	0.00	2.64
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	36.163	0.00	1.25
142.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	36.163	0.00	5.28



## Linear Appurtenance Segment Forces (Factored)

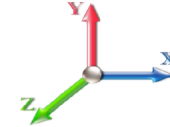
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0W 118 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	36.163	0.00	4.58
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	36.308	0.00	2.64
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	36.308	0.00	1.25
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	36.380	0.00	1.32
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	36.380	0.00	0.62
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	36.451	0.00	1.32
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	36.451	0.00	0.62
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	36.593	0.00	2.64
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	36.593	0.00	1.25
148.30	1 5/8" Hybrid	Yes	0.30	0.000	2.00	0.05	0.00	0.084	0.000	36.615	0.00	0.40
148.30	7/8" Coax	Yes	0.30	0.000	0.00	0.00	0.00	0.084	0.000	36.615	0.00	0.19
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	36.734	0.00	2.24
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	36.734	0.00	1.06
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	36.873	0.00	2.64
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	36.873	0.00	1.25
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.011	0.00	2.64
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.011	0.00	1.25
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.148	0.00	2.64
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.148	0.00	1.25
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.283	0.00	2.64
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.283	0.00	1.25
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.418	0.00	2.64
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.418	0.00	1.25
<b>Totals:</b>											<b>0.0</b>	<b>1,079.7</b>







## Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00 Top - Section 3	1.00	0.93	30.695	33.76	352.36	1.060 *	0.000	2.00	6.306	6.69	225.8	0.0	267.5
82.00	1.00	0.93	30.912	34.00	349.84	1.065 *	0.000	2.00	6.239	6.64	225.9	0.0	220.9
84.00	1.00	0.94	31.126	34.24	347.25	1.069 *	0.000	2.00	6.172	6.60	225.9	0.0	218.6
86.00	1.00	0.95	31.336	34.47	344.62	1.073 *	0.000	2.00	6.106	6.55	225.9	0.0	216.2
88.00	1.00	0.95	31.542	34.70	341.95	1.078 *	0.000	2.00	6.039	6.51	225.9	0.0	213.8
90.00	1.00	0.96	31.746	34.92	339.22	1.083 *	0.000	2.00	5.972	6.46	225.8	0.0	211.4
92.00	1.00	0.96	31.946	35.14	336.45	1.087 *	0.000	2.00	5.905	6.42	225.6	0.0	209.0
94.00	1.00	0.97	32.142	35.36	333.64	1.092 *	0.000	2.00	5.838	6.38	225.4	0.0	206.6
95.00 Bot - Section 5	1.00	0.97	32.240	35.46	332.22	1.096 *	0.000	1.00	2.894	3.17	112.5	0.0	102.4
95.58 RT11	1.00	0.98	32.296	35.53	331.39	1.098 *	0.000	0.58	1.702	1.87	66.4	0.0	119.4
96.00	1.00	0.98	32.336	35.57	330.78	1.099 *	0.000	0.42	1.229	1.35	48.0	0.0	86.2
98.00	1.00	0.98	32.527	35.78	327.89	1.102 *	0.000	2.00	5.812	6.41	229.2	0.0	407.5
100.00 Top - Section 4	1.00	0.99	32.716	35.99	324.95	1.002 *	0.000	2.00	5.745	5.76	207.2	0.0	402.7
102.00	1.00	0.99	32.901	36.19	328.25	1.000 *	0.000	2.00	5.678	5.68	205.4	0.0	200.9
104.00	1.00	1.00	33.084	36.39	325.26	1.004 *	0.000	2.00	5.611	5.63	204.9	0.0	198.5
106.00	1.00	1.00	33.265	36.59	322.23	1.008 *	0.000	2.00	5.544	5.59	204.4	0.0	196.1
108.00	1.00	1.01	33.443	36.79	319.17	1.012 *	0.000	2.00	5.477	5.54	203.9	0.0	193.7
110.00 Appurtenance(s)	1.00	1.02	33.619	36.98	316.07	1.016 *	0.000	2.00	5.410	5.50	203.3	0.0	191.3
112.00	1.00	1.02	33.792	37.17	312.94	1.021 *	0.000	2.00	5.343	5.45	202.7	0.0	188.9
114.00	1.00	1.03	33.964	37.36	309.77	1.025 *	0.000	2.00	5.276	5.41	202.1	0.0	186.5
115.00 Top - Section 5	1.00	1.03	34.049	37.45	308.18	1.029 *	0.000	1.00	2.613	2.69	100.7	0.0	92.4
116.00	1.00	1.03	34.133	37.55	306.58	1.031 *	0.000	1.00	2.596	2.68	100.5	0.0	73.6
118.00	1.00	1.04	34.300	37.73	303.35	1.034 *	0.000	2.00	5.142	5.32	200.7	0.0	145.7
120.00	1.00	1.04	34.465	37.91	300.10	1.039 *	0.000	2.00	5.075	5.28	200.0	0.0	143.8
122.00	1.00	1.05	34.628	38.09	296.81	1.044 *	0.000	2.00	5.008	5.23	199.2	0.0	141.9
124.00	1.00	1.05	34.790	38.27	293.50	1.050 *	0.000	2.00	4.941	5.19	198.5	0.0	140.0
126.00	1.00	1.06	34.949	38.44	290.16	1.055 *	0.000	2.00	4.874	5.14	197.7	0.0	138.1
128.00	1.00	1.06	35.107	38.62	286.79	1.060 *	0.000	2.00	4.807	5.10	196.8	0.0	136.1
130.00	1.00	1.07	35.262	38.79	283.40	1.066 *	0.000	2.00	4.741	5.05	196.0	0.0	134.2
132.00	1.00	1.07	35.417	38.96	279.98	1.072 *	0.000	2.00	4.674	5.01	195.1	0.0	132.3
133.00 Appurtenance(s)	1.00	1.07	35.493	39.04	278.26	1.076 *	0.000	1.00	2.312	2.49	97.1	0.0	65.4
134.00	1.00	1.07	35.569	39.13	276.53	1.079 *	0.000	1.00	2.295	2.48	96.9	0.0	65.0
136.00	1.00	1.08	35.720	39.29	273.06	1.084 *	0.000	2.00	4.540	4.92	193.3	0.0	128.5
138.00	1.00	1.08	35.869	39.46	269.56	1.090 *	0.000	2.00	4.473	4.87	192.3	0.0	126.6
140.00	1.00	1.09	36.017	39.62	266.04	1.096 *	0.000	2.00	4.406	4.83	191.4	0.0	124.7
142.00 Appurtenance(s)	1.00	1.09	36.163	39.78	262.50	1.103 *	0.000	2.00	4.339	4.79	190.4	0.0	122.8
144.00	1.00	1.10	36.308	39.94	258.94	0.950	0.000	2.00	4.272	4.06	162.1	0.0	120.8
145.00 Top - Section 6	1.00	1.10	36.380	40.02	257.15	0.950	0.000	1.00	2.111	2.01	80.2	0.0	59.7
146.00	1.00	1.10	36.451	40.10	246.70	0.600	0.000	1.00	2.023	1.21	48.7	0.0	57.8
148.00	1.00	1.11	36.593	40.25	243.21	0.600	0.000	2.00	3.998	2.40	96.6	0.0	114.2
148.30 Appurtenance(s)	1.00	1.11	36.615	40.28	242.69	0.600	0.000	0.30	0.594	0.36	14.4	0.0	17.0
150.00 Top - Section 7	1.00	1.11	36.734	40.41	239.71	0.600	0.000	1.70	3.339	2.00	81.0	0.0	95.4
152.00	1.00	1.11	36.873	40.56	164.18	0.645 *	0.000	2.00	2.667	1.72	69.8	0.0	75.8
154.00	1.00	1.12	37.011	40.71	164.48	0.645 *	0.000	2.00	2.667	1.72	70.0	0.0	75.8
156.00	1.00	1.12	37.148	40.86	164.79	0.645 *	0.000	2.00	2.667	1.72	70.3	0.0	75.8
158.00	1.00	1.13	37.283	41.01	165.09	0.645 *	0.000	2.00	2.667	1.72	70.5	0.0	75.8
160.00 Appurtenance(s)	1.00	1.13	37.418	41.16	165.38	0.645 *	0.000	2.00	2.667	1.72	70.8	0.0	75.8

\* Cf Adjusted by Linear Load Ra Effect

<b>Totals:</b>	<b>160.00</b>	<b>16,217.6</b>	<b>21,407.5</b>
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## Discrete Appurtenance Forces

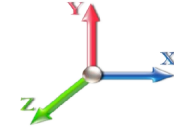
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	SBNHH-1D65B	9	37.551	41.306	0.81	1.00	59.49	324.00	0.000	2.000	2457.13	0.00	4914.26
2	160.00	RRH2x90-AWS	3	37.551	41.306	0.67	1.00	5.35	118.80	0.000	2.000	220.85	0.00	441.69
3	160.00	6' Lightning rod	1	37.551	41.306	1.00	1.00	0.38	5.85	0.000	2.000	15.70	0.00	31.39
4	160.00	Low Profile Platform	1	37.551	41.306	1.00	1.00	22.00	1080.00	0.000	2.000	908.73	0.00	1817.45
5	160.00	DB846F65ZAXY	6	37.551	41.306	0.93	1.00	39.34	113.40	0.000	2.000	1624.93	0.00	3249.85
6	160.00	DB222	1	37.551	41.306	1.00	1.00	2.25	14.40	0.000	2.000	92.94	0.00	185.88
7	160.00	DB-T1-6Z-8AB-0Z	1	37.551	41.306	1.00	1.00	4.80	39.60	0.000	2.000	198.27	0.00	396.54
8	148.30	APXVTM14-C-120	3	36.734	40.407	0.61	0.80	11.59	151.20	0.000	1.700	468.51	0.00	796.46
9	148.30	1900MHz RRH	3	36.873	40.561	0.54	0.80	6.11	118.80	0.000	3.700	247.84	0.00	917.01
10	148.30	800 MHz RRH	3	36.873	40.561	0.54	0.80	4.00	143.10	0.000	3.700	162.40	0.00	600.89
11	148.30	APXVSP18-C-A20	3	36.873	40.561	0.66	0.80	15.98	153.90	0.000	3.700	647.99	0.00	2397.56
12	148.30	ACU-A20-N	4	36.873	40.561	0.54	0.80	0.30	3.60	0.000	3.700	12.17	0.00	45.05
13	148.30	ALU 800MHz External	3	36.873	40.561	0.54	0.80	1.25	23.76	0.000	3.700	50.87	0.00	188.23
14	148.30	TD-RRH8x20-25	3	36.734	40.407	0.54	0.80	6.51	189.00	0.000	1.700	263.15	0.00	447.35
15	148.30	Low Profile Platform	1	36.615	40.276	1.00	1.00	17.50	1080.00	0.000	0.000	704.83	0.00	0.00
16	142.00	Platform w/ HR & Bracing	1	36.163	39.780	1.00	1.00	51.70	2021.40	0.000	0.000	2056.60	0.00	0.00
17	142.00	Ericsson Radio 4415	1	36.163	39.780	0.50	0.75	0.93	39.69	0.000	0.000	37.18	0.00	0.00
18	142.00	Ericsson Radio 4449	4	36.163	39.780	0.50	0.75	3.32	252.00	0.000	0.000	131.93	0.00	0.00
19	142.00	RFS	1	36.163	39.780	0.52	0.75	7.70	95.40	0.000	0.000	306.37	0.00	0.00
20	142.00	Ericsson Air 32	4	36.163	39.780	0.65	0.75	16.99	475.92	0.000	0.000	675.90	0.00	0.00
21	142.00	Ericsson AIR 21 B2A/B4P	3	36.163	39.780	0.65	0.75	11.78	224.10	0.000	0.000	468.77	0.00	0.00
22	142.00	Ericsson KRY 112 144/1	3	36.214	39.835	0.52	0.75	0.65	29.70	0.000	0.700	25.72	0.00	18.01
23	142.00	RFS	3	36.163	39.780	0.52	0.75	31.88	345.60	0.000	0.000	1268.09	0.00	0.00
24	133.00	(3) SitePro 1 P/N	2	35.493	39.042	0.75	0.75	32.01	2443.99	0.000	0.000	1249.74	0.00	0.00
25	133.00	Kathrein 800 10121	3	35.493	39.042	0.63	0.80	9.76	125.01	0.000	0.000	381.22	0.00	0.00
26	133.00	Kathrein 800-10965	3	35.493	39.042	0.57	0.80	23.53	293.22	0.000	0.000	918.75	0.00	0.00
27	133.00	Cci TPA-65R-LCUUUU-H8	1	35.493	39.042	0.63	0.80	8.06	94.50	0.000	0.000	314.60	0.00	0.00
28	133.00	Quintel QS66512-2	2	35.493	39.042	0.74	0.80	11.97	199.80	0.000	0.000	467.23	0.00	0.00
29	133.00	Powerwave LGP21401	6	35.493	39.042	0.54	0.80	4.15	76.14	0.000	0.000	161.97	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	35.493	39.042	0.54	0.80	6.22	207.90	0.000	0.000	242.96	0.00	0.00
31	133.00	Ericsson B2/B66A 8843	3	35.493	39.042	0.54	0.80	2.64	194.40	0.000	0.000	102.96	0.00	0.00
32	133.00	Ericsson B5/B12 4449	3	35.493	39.042	0.54	0.80	3.17	191.70	0.000	0.000	123.68	0.00	0.00
33	133.00	Raycap DC6-48-60-18-8F	3	35.493	39.042	0.80	0.80	2.21	85.86	0.000	0.000	86.21	0.00	0.00
34	110.00	3 ft Standoff	1	33.619	36.981	1.00	1.00	2.63	36.00	0.000	0.000	97.26	0.00	0.00
35	110.00	DB222	1	34.073	37.481	1.00	1.00	2.65	14.40	0.000	5.292	99.32	0.00	525.59
36	40.00	GPS	1	25.180	27.698	1.00	1.00	1.00	9.00	0.000	0.000	27.70	0.00	0.00

**Totals:** 11,015.14 17,320.47

## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

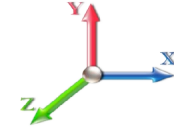


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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 27

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		120.45	231.40	0.00	0.00
2.00		120.17	230.68	0.00	0.00
4.00		239.48	459.21	0.00	0.00
6.00		238.35	456.34	0.00	0.00
8.00		237.21	453.47	0.00	0.00
10.00		236.08	450.60	0.00	0.00
12.00		234.94	447.73	0.00	0.00
14.00		233.81	444.86	0.00	0.00
16.00		232.67	441.99	0.00	0.00
16.25		29.46	99.07	0.00	0.00
18.00		205.76	691.00	0.00	0.00
18.75		87.92	294.80	0.00	0.00
19.50		87.76	293.99	0.00	0.00
20.00		58.42	195.55	0.00	0.00
22.00		232.98	778.59	0.00	0.00
24.00		230.33	436.06	0.00	0.00
26.00		229.19	433.19	0.00	0.00
28.00		228.06	430.32	0.00	0.00
30.00		227.11	427.45	0.00	0.00
31.00		114.19	212.65	0.00	0.00
32.00		114.95	211.93	0.00	0.00
34.00		201.63	421.71	0.00	0.00
35.50		152.32	314.40	0.00	0.00
36.00		50.83	104.44	0.00	0.00
38.00		205.71	415.97	0.00	0.00
40.00	(1) attachments	235.21	422.10	0.00	0.00
42.00		209.17	409.94	0.00	0.00
44.00		210.70	407.07	0.00	0.00
45.16		122.54	234.79	0.00	0.00
46.00		88.93	169.42	0.00	0.00
48.00		213.41	401.33	0.00	0.00
50.00		214.60	398.47	0.00	0.00
52.00		219.61	703.31	0.00	0.00
54.00		220.66	697.57	0.00	0.00
56.00		221.62	691.83	0.00	0.00
58.00		221.06	392.53	0.00	0.00
60.00		221.83	389.66	0.00	0.00
62.00		222.52	386.79	0.00	0.00
64.00		223.14	383.92	0.00	0.00
66.00		223.68	381.06	0.00	0.00
68.00		224.16	378.19	0.00	0.00
70.00		224.58	375.32	0.00	0.00
72.00		224.94	372.45	0.00	0.00
74.00		225.24	369.58	0.00	0.00
76.00		225.48	366.71	0.00	0.00
78.00		225.66	363.84	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00		225.80	360.97	0.00	0.00
82.00		225.88	314.37	0.00	0.00
84.00		225.92	311.98	0.00	0.00
86.00		225.91	309.59	0.00	0.00
88.00		225.85	307.20	0.00	0.00
90.00		225.75	304.81	0.00	0.00
92.00		225.61	302.41	0.00	0.00
94.00		225.43	300.02	0.00	0.00
95.00		112.46	149.11	0.00	0.00
95.58		66.38	146.45	0.00	0.00
96.00		48.05	105.80	0.00	0.00
98.00		229.20	500.91	0.00	0.00
100.00		207.16	496.12	0.00	0.00
102.00		205.41	294.31	0.00	0.00
104.00		204.94	291.92	0.00	0.00
106.00		204.43	289.53	0.00	0.00
108.00		203.88	287.14	0.00	0.00
110.00	(2) attachments	399.89	335.14	0.00	525.59
112.00		202.70	281.42	0.00	0.00
114.00		202.07	279.03	0.00	0.00
115.00		100.66	138.62	0.00	0.00
116.00		100.49	119.82	0.00	0.00
118.00		200.71	238.20	0.00	0.00
120.00		199.99	236.29	0.00	0.00
122.00		199.24	234.37	0.00	0.00
124.00		198.46	232.46	0.00	0.00
126.00		197.66	230.55	0.00	0.00
128.00		196.83	228.64	0.00	0.00
130.00		195.98	226.72	0.00	0.00
132.00		195.10	224.81	0.00	0.00
133.00	(29) attachments	4146.44	4024.20	0.00	0.00
134.00		96.88	99.76	0.00	0.00
136.00		193.27	198.09	0.00	0.00
138.00		192.32	196.17	0.00	0.00
140.00		191.35	194.26	0.00	0.00
142.00	(20) attachments	5160.93	3676.16	0.00	18.01
144.00		162.08	164.32	0.00	0.00
145.00		80.25	81.44	0.00	0.00
146.00		48.67	79.53	0.00	0.00
148.00		96.55	157.67	0.00	0.00
148.30	(23) attachments	2572.12	1886.85	0.00	5392.55
150.00		80.95	126.47	0.00	0.00
152.00		69.76	112.38	0.00	0.00
154.00		70.03	112.38	0.00	0.00
156.00		70.28	112.38	0.00	0.00
158.00		70.54	112.38	0.00	0.00
160.00	(22) attachments	5589.32	1808.43	0.00	11037.06
	<b>Totals:</b>	<b>33,538.12</b>	<b>39,294.84</b>	<b>0.00</b>	<b>16,973.21</b>



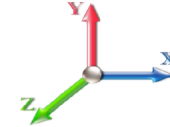
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	23.174	0.00	0.99
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	0.47
1.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	23.174	0.00	1.98
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	1.72
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	23.174	0.00	0.47
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.147	23.174	0.00	0.00
1.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.147	23.174	0.00	0.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	23.174	0.00	0.99
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	0.47
2.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	23.174	0.00	1.98
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	1.72
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	23.174	0.00	0.47
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.148	23.174	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.148	23.174	0.00	0.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	23.174	0.00	1.98
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	0.94
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	23.174	0.00	3.96
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	3.43
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	23.174	0.00	0.94
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.151	23.174	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.150	1.151	23.174	0.00	0.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	23.174	0.00	1.98
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	0.94
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	23.174	0.00	3.96
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	3.43
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	23.174	0.00	0.94
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.152	1.155	23.174	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.152	1.155	23.174	0.00	0.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	23.174	0.00	1.98
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	0.94
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	23.174	0.00	3.96
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	3.43
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	23.174	0.00	0.94
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.158	23.174	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.153	1.158	23.174	0.00	0.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	23.174	0.00	1.98
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	0.94
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	23.174	0.00	3.96
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	3.43
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	23.174	0.00	0.94
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.162	23.174	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.154	1.162	23.174	0.00	0.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	23.174	0.00	1.98
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	0.94
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	23.174	0.00	3.96
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	3.43
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	23.174	0.00	0.94

## Linear Appurtenance Segment Forces (Factored)

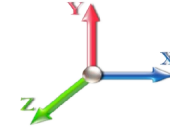
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	23.174	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.155	1.166	23.174	0.00	0.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	23.174	0.00	1.98
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	0.94
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	23.174	0.00	3.96
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	3.43
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	23.174	0.00	0.94
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.156	1.169	23.174	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.156	1.169	23.174	0.00	0.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	23.174	0.00	1.98
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	0.94
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	23.174	0.00	3.96
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	3.43
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	23.174	0.00	0.94
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.158	1.173	23.174	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.158	1.173	23.174	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	23.174	0.00	0.25
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.12
16.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	23.174	0.00	0.50
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.43
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	23.174	0.00	0.12
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.158	1.175	23.174	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.158	1.175	23.174	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	23.174	0.00	1.73
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	0.82
18.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	23.174	0.00	3.47
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	3.01
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	23.174	0.00	0.82
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.159	1.177	23.174	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.159	1.177	23.174	0.00	0.00
18.75	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	23.174	0.00	0.74
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	0.35
18.75	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	23.174	0.00	1.49
18.75	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	1.29
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	23.174	0.00	0.35
18.75	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.180	23.174	0.00	0.00
18.75	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.180	23.174	0.00	0.00
19.50	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	23.174	0.00	0.74
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.35
19.50	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	23.174	0.00	1.49
19.50	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	1.29
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.35
19.50	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.181	23.174	0.00	0.00
19.50	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.181	23.174	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	23.174	0.00	0.50
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	0.23
20.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	23.174	0.00	0.99

## Linear Appurtenance Segment Forces (Factored)

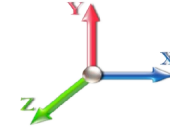
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
20.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	0.86
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	23.174	0.00	0.23
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.161	1.183	23.174	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.161	1.183	23.174	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	1.98
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	0.94
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	3.96
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	3.43
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	0.94
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	23.174	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	23.174	0.00	0.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	23.174	0.00	1.98
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.94
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	23.174	0.00	3.96
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	3.43
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	23.174	0.00	0.94
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.160	1.181	23.174	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.160	1.181	23.174	0.00	0.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	1.98
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	0.94
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	23.174	0.00	3.96
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	3.43
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	23.174	0.00	0.94
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	23.174	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	23.174	0.00	0.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	23.174	0.00	1.98
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	0.94
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	23.174	0.00	3.96
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	3.43
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	23.174	0.00	0.94
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.163	1.189	23.174	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.163	1.189	23.174	0.00	0.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	23.193	0.00	1.98
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	0.94
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	23.193	0.00	3.96
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	3.43
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	23.193	0.00	0.94
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.165	1.194	23.193	0.00	0.00
30.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.165	1.194	23.193	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	23.412	0.00	0.99
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	0.47
31.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	23.412	0.00	1.98
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	1.72
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	23.412	0.00	0.47
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.197	23.412	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.197	23.412	0.00	0.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	23.625	0.00	0.99

## Linear Appurtenance Segment Forces (Factored)

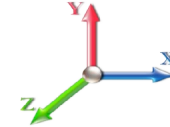
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	0.47
32.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	23.625	0.00	1.98
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	1.72
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	23.625	0.00	0.47
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.199	23.625	0.00	0.00
32.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.199	23.625	0.00	0.00
34.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	24.038	0.00	1.98
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	0.94
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	24.038	0.00	3.96
34.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	3.43
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	24.038	0.00	0.94
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.113	1.040	24.038	0.00	0.00
35.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	24.336	0.00	1.49
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	0.70
35.50	1 5/8" Fiber	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	24.336	0.00	2.97
35.50	1-1/4" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	2.58
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	24.336	0.00	0.70
35.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.114	1.043	24.336	0.00	0.00
36.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	24.433	0.00	0.50
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	0.23
36.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	24.433	0.00	0.99
36.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	0.86
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	24.433	0.00	0.23
36.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.115	1.044	24.433	0.00	0.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	24.814	0.00	1.98
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	0.94
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	24.814	0.00	3.96
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	3.43
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	24.814	0.00	0.94
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.115	1.046	24.814	0.00	0.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	25.180	0.00	1.98
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	0.94
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	25.180	0.00	3.96
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	3.43
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	25.180	0.00	0.94
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.116	1.049	25.180	0.00	0.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	25.534	0.00	1.98
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	0.94
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	25.534	0.00	3.96
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	3.43
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	25.534	0.00	0.94
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.117	1.052	25.534	0.00	0.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	25.875	0.00	1.98
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	0.94
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	25.875	0.00	3.96
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	3.43
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	25.875	0.00	0.94

## Linear Appurtenance Segment Forces (Factored)

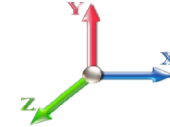
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.119	1.056	25.875	0.00	0.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	26.068	0.00	1.15
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	0.54
45.16	1 5/8" Fiber	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	26.068	0.00	2.30
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	1.99
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	26.068	0.00	0.54
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.119	1.058	26.068	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	26.206	0.00	0.83
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	0.39
46.00	1 5/8" Fiber	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	26.206	0.00	1.66
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	1.44
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	26.206	0.00	0.39
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.120	1.060	26.206	0.00	0.00
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	26.527	0.00	1.98
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	0.94
48.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	26.527	0.00	3.96
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	3.43
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	26.527	0.00	0.94
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.121	1.062	26.527	0.00	0.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	26.838	0.00	1.98
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	0.94
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	26.838	0.00	3.96
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	3.43
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	26.838	0.00	0.94
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.122	1.066	26.838	0.00	0.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	27.140	0.00	1.98
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	0.94
52.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	27.140	0.00	3.96
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	3.43
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	27.140	0.00	0.94
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.123	1.069	27.140	0.00	0.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	27.435	0.00	1.98
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	0.94
54.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	27.435	0.00	3.96
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	3.43
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	27.435	0.00	0.94
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.072	27.435	0.00	0.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	27.721	0.00	1.98
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	0.94
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	27.721	0.00	3.96
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	3.43
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	27.721	0.00	0.94
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	27.721	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	28.000	0.00	1.98
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	0.94
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	28.000	0.00	3.96
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	3.43

## Linear Appurtenance Segment Forces (Factored)

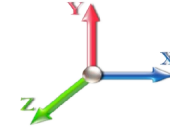
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	28.000	0.00	0.94
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.073	28.000	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	28.273	0.00	1.98
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	0.94
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	28.273	0.00	3.96
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	3.43
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	28.273	0.00	0.94
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	28.273	0.00	0.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	28.539	0.00	1.98
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	0.94
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	28.539	0.00	3.96
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	3.43
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	28.539	0.00	0.94
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.127	1.080	28.539	0.00	0.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	28.799	0.00	1.98
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	0.94
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	28.799	0.00	3.96
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	3.43
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	28.799	0.00	0.94
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.128	1.084	28.799	0.00	0.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	29.053	0.00	1.98
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	0.94
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	29.053	0.00	3.96
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	3.43
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	29.053	0.00	0.94
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.129	1.087	29.053	0.00	0.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	29.302	0.00	1.98
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	0.94
68.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	29.302	0.00	3.96
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	3.43
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	29.302	0.00	0.94
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.130	1.091	29.302	0.00	0.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	29.546	0.00	1.98
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	0.94
70.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	29.546	0.00	3.96
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	3.43
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	29.546	0.00	0.94
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.132	1.095	29.546	0.00	0.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	29.785	0.00	1.98
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	0.94
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	29.785	0.00	3.96
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	3.43
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	29.785	0.00	0.94
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.133	1.099	29.785	0.00	0.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	30.019	0.00	1.98
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	0.94
74.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	30.019	0.00	3.96

## Linear Appurtenance Segment Forces (Factored)

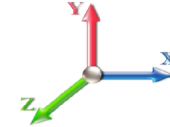
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	3.43
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	30.019	0.00	0.94
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.134	1.103	30.019	0.00	0.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	30.248	0.00	1.98
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	0.94
76.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	30.248	0.00	3.96
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	3.43
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	30.248	0.00	0.94
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.136	1.108	30.248	0.00	0.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	30.474	0.00	1.98
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	0.94
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	30.474	0.00	3.96
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	3.43
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	30.474	0.00	0.94
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.137	1.112	30.474	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	30.695	0.00	1.98
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	0.94
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	30.695	0.00	3.96
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	3.43
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	30.695	0.00	0.94
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.139	1.116	30.695	0.00	0.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	30.912	0.00	1.98
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	0.94
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	30.912	0.00	3.96
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	3.43
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	30.912	0.00	0.94
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.140	1.121	30.912	0.00	0.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	31.126	0.00	1.98
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	0.94
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	31.126	0.00	3.96
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	3.43
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	31.126	0.00	0.94
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.142	1.125	31.126	0.00	0.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	31.336	0.00	1.98
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	0.94
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	31.336	0.00	3.96
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	3.43
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	31.336	0.00	0.94
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.143	1.130	31.336	0.00	0.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	31.542	0.00	1.98
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	0.94
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	31.542	0.00	3.96
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	3.43
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	31.542	0.00	0.94
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.135	31.542	0.00	0.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	31.746	0.00	1.98
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	0.94

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

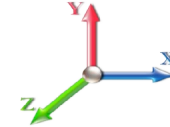


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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00




**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	31.746	0.00	3.96
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	3.43
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	31.746	0.00	0.94
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.147	1.140	31.746	0.00	0.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	31.946	0.00	1.98
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	0.94
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	31.946	0.00	3.96
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	3.43
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	31.946	0.00	0.94
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.148	1.145	31.946	0.00	0.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	32.142	0.00	1.98
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	0.94
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	32.142	0.00	3.96
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	3.43
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	32.142	0.00	0.94
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.150	32.142	0.00	0.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	32.240	0.00	0.99
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	0.47
95.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	32.240	0.00	1.98
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	1.72
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	32.240	0.00	0.47
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.151	1.154	32.240	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	32.296	0.00	0.57
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	0.27
95.58	1 5/8" Fiber	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	32.296	0.00	1.15
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	1.00
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	32.296	0.00	0.27
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.152	1.156	32.296	0.00	0.00
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	32.336	0.00	0.42
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.20
96.00	1 5/8" Fiber	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	32.336	0.00	0.83
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.72
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	32.336	0.00	0.20
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.152	1.157	32.336	0.00	0.00
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	32.527	0.00	1.98
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	0.94
98.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	32.527	0.00	3.96
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	3.43
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	32.527	0.00	0.94
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.160	32.527	0.00	0.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	32.716	0.00	1.98
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	0.94
100.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	32.716	0.00	3.96
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	3.43
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	32.716	0.00	0.94
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	32.901	0.00	1.98
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	0.94



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA			<b>Code:</b> EIA/TIA-222-H			7/15/2019		
<b>Site Name:</b> Beacon Falls			<b>Exposure:</b> B					
<b>Height:</b> 160.00 (ft)			<b>Crest Height:</b> 0.00					
<b>Base Elev:</b> 0.000 (ft)			<b>Site Class:</b> D - Stiff Soil			Page: 41		
<b>Gh:</b> 1.1		<b>Topography:</b> 1		<b>Struct Class:</b> II				

<b>Load Case:</b> 0.9D + 1.0W 118 mph Wind			<b>Iterations</b> 27
<b>Dead Load Factor</b>	0.90		
<b>Wind Load Factor</b>	1.00		

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
102.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	32.901	0.00	3.96
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	3.43
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	32.901	0.00	0.94
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	33.084	0.00	1.98
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	0.94
104.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	33.084	0.00	3.96
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	3.43
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	33.084	0.00	0.94
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	33.265	0.00	1.98
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	0.94
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	33.265	0.00	3.96
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	3.43
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	33.265	0.00	0.94
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	33.443	0.00	1.98
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	0.94
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	33.443	0.00	3.96
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	3.43
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	33.443	0.00	0.94
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	33.619	0.00	1.98
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	0.94
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	33.619	0.00	3.96
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	3.43
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	33.619	0.00	0.94
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	33.792	0.00	1.98
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	33.792	0.00	0.94
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	33.792	0.00	3.96
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	33.792	0.00	3.43
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	33.964	0.00	1.98
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	33.964	0.00	0.94
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	33.964	0.00	3.96
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	33.964	0.00	3.43
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	34.049	0.00	0.99
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	34.049	0.00	0.47
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	34.049	0.00	1.98
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	34.049	0.00	1.72
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	34.133	0.00	0.99
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	34.133	0.00	0.47
116.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	34.133	0.00	1.98
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	34.133	0.00	1.72
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	34.300	0.00	1.98
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	34.300	0.00	0.94
118.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	34.300	0.00	3.96
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	34.300	0.00	3.43
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	34.465	0.00	1.98
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	34.465	0.00	0.94
120.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	34.465	0.00	3.96
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	34.465	0.00	3.43

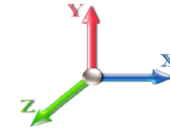
## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT02049-S-SBA      **Code:** EIA/TIA-222-H      7/15/2019  
**Site Name:** Beacon Falls      **Exposure:** B  
**Height:** 160.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 0.000 (ft)      **Site Class:** D - Stiff Soil  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      Page: 42



**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	34.628	0.00	1.98
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	34.628	0.00	0.94
122.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	34.628	0.00	3.96
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	34.628	0.00	3.43
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	34.790	0.00	1.98
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	34.790	0.00	0.94
124.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	34.790	0.00	3.96
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	34.790	0.00	3.43
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	34.949	0.00	1.98
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	34.949	0.00	0.94
126.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	34.949	0.00	3.96
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	34.949	0.00	3.43
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	35.107	0.00	1.98
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	35.107	0.00	0.94
128.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	35.107	0.00	3.96
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	35.107	0.00	3.43
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	35.262	0.00	1.98
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	35.262	0.00	0.94
130.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	35.262	0.00	3.96
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	35.262	0.00	3.43
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	35.417	0.00	1.98
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	35.417	0.00	0.94
132.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	35.417	0.00	3.96
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	35.417	0.00	3.43
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	35.493	0.00	0.99
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	35.493	0.00	0.47
133.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	35.493	0.00	1.98
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	35.493	0.00	1.72
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	35.569	0.00	0.99
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	35.569	0.00	0.47
134.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	35.569	0.00	1.98
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	35.569	0.00	1.72
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	35.720	0.00	1.98
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	35.720	0.00	0.94
136.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	35.720	0.00	3.96
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	35.720	0.00	3.43
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	35.869	0.00	1.98
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	35.869	0.00	0.94
138.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	35.869	0.00	3.96
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	35.869	0.00	3.43
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	36.017	0.00	1.98
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	36.017	0.00	0.94
140.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	36.017	0.00	3.96
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	36.017	0.00	3.43
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	36.163	0.00	1.98
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	36.163	0.00	0.94
142.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	36.163	0.00	3.96

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

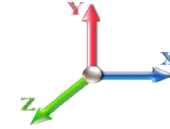


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**Load Case:** 0.9D + 1.0W 118 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.00



**Iterations** 27

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	36.163	0.00	3.43
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	36.308	0.00	1.98
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	36.308	0.00	0.94
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	36.380	0.00	0.99
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	36.380	0.00	0.47
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	36.451	0.00	0.99
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	36.451	0.00	0.47
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	36.593	0.00	1.98
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	36.593	0.00	0.94
148.30	1 5/8" Hybrid	Yes	0.30	0.000	2.00	0.05	0.00	0.084	0.000	36.615	0.00	0.30
148.30	7/8" Coax	Yes	0.30	0.000	0.00	0.00	0.00	0.084	0.000	36.615	0.00	0.14
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	36.734	0.00	1.68
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	36.734	0.00	0.80
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	36.873	0.00	1.98
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	36.873	0.00	0.94
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.011	0.00	1.98
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.011	0.00	0.94
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.148	0.00	1.98
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.148	0.00	0.94
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.283	0.00	1.98
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.283	0.00	0.94
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	37.418	0.00	1.98
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	37.418	0.00	0.94
<b>Totals:</b>											<b>0.0</b>	<b>809.8</b>







## Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00 Top - Section 3	1.00	0.93	5.511	6.06	0.00	1.339 *	1.093	2.00	6.671	8.94	54.2	103.4	460.1
82.00	1.00	0.93	5.550	6.11	0.00	1.345 *	1.095	2.00	6.605	8.88	54.2	102.6	397.2
84.00	1.00	0.94	5.589	6.15	0.00	1.350 *	1.098	2.00	6.538	8.83	54.3	101.8	393.2
86.00	1.00	0.95	5.626	6.19	0.00	1.356 *	1.101	2.00	6.472	8.78	54.3	100.9	389.1
88.00	1.00	0.95	5.663	6.23	0.00	1.362 *	1.103	2.00	6.406	8.72	54.3	100.1	385.1
90.00	1.00	0.96	5.700	6.27	0.00	1.367 *	1.106	2.00	6.340	8.67	54.4	99.2	381.1
92.00	1.00	0.96	5.736	6.31	0.00	1.373 *	1.108	2.00	6.274	8.62	54.4	98.4	377.0
94.00	1.00	0.97	5.771	6.35	0.00	1.380 *	1.110	2.00	6.208	8.56	54.4	97.5	373.0
95.00 Bot - Section 5	1.00	0.97	5.789	6.37	0.00	1.384 *	1.112	1.00	3.079	4.26	27.1	48.5	185.1
95.58 RT11	1.00	0.98	5.799	6.38	0.00	1.387 *	1.112	0.58	1.810	2.51	16.0	28.6	187.7
96.00	1.00	0.98	5.806	6.39	0.00	1.388 *	1.113	0.42	1.307	1.81	11.6	20.7	135.6
98.00	1.00	0.98	5.840	6.42	0.00	1.392 *	1.115	2.00	6.183	8.61	55.3	97.5	640.8
100.00 Top - Section 4	1.00	0.99	5.874	6.46	0.00	1.266 *	1.117	2.00	6.117	7.74	50.0	96.6	633.5
102.00	1.00	0.99	5.907	6.50	0.00	1.263 *	1.119	2.00	6.051	7.64	49.6	95.7	363.5
104.00	1.00	1.00	5.940	6.53	0.00	1.268 *	1.122	2.00	5.985	7.59	49.6	94.8	359.4
106.00	1.00	1.00	5.973	6.57	0.00	1.273 *	1.124	2.00	5.918	7.53	49.5	93.9	355.3
108.00	1.00	1.01	6.005	6.61	0.00	1.278 *	1.126	2.00	5.852	7.48	49.4	92.9	351.2
110.00 Appurtenance(s)	1.00	1.02	6.036	6.64	0.00	1.284 *	1.128	2.00	5.786	7.43	49.3	92.0	347.1
112.00	1.00	1.02	6.067	6.67	0.00	1.289 *	1.130	2.00	5.720	7.37	49.2	91.1	343.0
114.00	1.00	1.03	6.098	6.71	0.00	1.295 *	1.132	2.00	5.653	7.32	49.1	90.1	338.8
115.00 Top - Section 5	1.00	1.03	6.113	6.72	0.00	1.299 *	1.133	1.00	2.802	3.64	24.5	44.8	168.0
116.00	1.00	1.03	6.128	6.74	0.00	1.302 *	1.134	1.00	2.785	3.63	24.5	44.6	142.7
118.00	1.00	1.04	6.158	6.77	0.00	1.307 *	1.136	2.00	5.521	7.21	48.9	88.2	282.5
120.00	1.00	1.04	6.188	6.81	0.00	1.313 *	1.138	2.00	5.455	7.16	48.7	87.3	279.0
122.00	1.00	1.05	6.217	6.84	0.00	1.319 *	1.140	2.00	5.388	7.11	48.6	86.3	275.5
124.00	1.00	1.05	6.246	6.87	0.00	1.326 *	1.142	2.00	5.322	7.06	48.5	85.3	271.9
126.00	1.00	1.06	6.275	6.90	0.00	1.332 *	1.143	2.00	5.256	7.00	48.3	84.3	268.4
128.00	1.00	1.06	6.303	6.93	0.00	1.339 *	1.145	2.00	5.189	6.95	48.2	83.4	264.9
130.00	1.00	1.07	6.331	6.96	0.00	1.346 *	1.147	2.00	5.123	6.90	48.0	82.4	261.3
132.00	1.00	1.07	6.359	6.99	0.00	1.354 *	1.149	2.00	5.056	6.84	47.9	81.4	257.8
133.00 Appurtenance(s)	1.00	1.07	6.373	7.01	0.00	1.359 *	1.150	1.00	2.503	3.40	23.8	40.4	127.7
134.00	1.00	1.07	6.386	7.02	0.00	1.363 *	1.150	1.00	2.487	3.39	23.8	40.2	126.8
136.00	1.00	1.08	6.413	7.05	0.00	1.369 *	1.152	2.00	4.924	6.74	47.5	79.4	250.7
138.00	1.00	1.08	6.440	7.08	0.00	1.377 *	1.154	2.00	4.857	6.69	47.4	78.3	247.1
140.00	1.00	1.09	6.467	7.11	0.00	1.385 *	1.155	2.00	4.791	6.63	47.2	77.3	243.6
142.00 Appurtenance(s)	1.00	1.09	6.493	7.14	0.00	1.393 *	1.157	2.00	4.725	6.58	47.0	76.3	240.0
144.00	1.00	1.10	6.519	7.17	0.00	1.200	1.159	2.00	4.658	6.53	46.8	75.3	236.4
145.00 Top - Section 6	1.00	1.10	6.532	7.19	0.00	1.200	1.160	1.00	2.304	2.76	19.9	37.4	117.0
146.00	1.00	1.10	6.545	7.20	0.00	1.200	1.160	1.00	2.217	2.66	19.1	35.9	113.0
148.00	1.00	1.11	6.570	7.23	0.00	1.200	1.162	2.00	4.385	5.26	38.0	70.8	223.1
148.30 Appurtenance(s)	1.00	1.11	6.574	7.23	0.00	1.200	1.162	0.30	0.652	0.78	5.7	10.6	33.2
150.00 Top - Section 7	1.00	1.11	6.595	7.25	0.00	1.200	1.163	1.70	3.669	4.40	31.9	59.4	186.5
152.00	1.00	1.11	6.620	7.28	0.00	1.290 *	1.165	2.00	3.055	3.94	28.7	48.9	149.9
154.00	1.00	1.12	6.645	7.31	0.00	1.290 *	1.167	2.00	3.056	3.94	28.8	48.9	150.0
156.00	1.00	1.12	6.670	7.34	0.00	1.290 *	1.168	2.00	3.056	3.94	28.9	49.0	150.0
158.00	1.00	1.13	6.694	7.36	0.00	1.290 *	1.170	2.00	3.057	3.94	29.0	49.1	150.1
160.00 Appurtenance(s)	1.00	1.13	6.718	7.39	0.00	1.290 *	1.171	2.00	3.057	3.94	29.1	49.1	150.2
<b>Totals:</b>									<b>160.00</b>		<b>3,983.0</b>		<b>36,322.7</b>

\* Cf Adjusted by Linear Load Ra Effect

## Discrete Appurtenance Forces

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		<b>Page:</b> 48



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	160.00	SBNHH-1D65B	9	6.742	7.416	0.81	1.00	65.69	1582.26	0.000	2.000	487.20	0.00	974.39
2	160.00	RRH2x90-AWS	3	6.742	7.416	0.67	1.00	7.09	228.44	0.000	2.000	52.56	0.00	105.12
3	160.00	6' Lightning rod	1	6.742	7.416	1.00	1.00	1.11	26.86	0.000	2.000	8.23	0.00	16.46
4	160.00	Low Profile Platform	1	6.742	7.416	1.00	1.00	33.85	1542.61	0.000	2.000	251.05	0.00	502.09
5	160.00	DB846F65ZAXY	6	6.742	7.416	0.93	1.00	43.81	895.51	0.000	2.000	324.88	0.00	649.76
6	160.00	DB222	1	6.742	7.416	1.00	1.00	6.32	45.80	0.000	2.000	46.85	0.00	93.70
7	160.00	DB-T1-6Z-8AB-0Z	1	6.742	7.416	1.00	1.00	5.37	143.68	0.000	2.000	39.85	0.00	79.70
8	148.30	APXVTM14-C-120	3	6.595	7.255	0.61	0.80	12.99	500.71	0.000	1.700	94.24	0.00	160.20
9	148.30	1900MHz RRH	3	6.620	7.282	0.54	0.80	7.60	282.88	0.000	3.700	55.34	0.00	204.75
10	148.30	800 MHz RRH	3	6.620	7.282	0.54	0.80	5.23	275.25	0.000	3.700	38.08	0.00	140.89
11	148.30	APXVSP18-C-A20	3	6.620	7.282	0.66	0.80	19.68	402.01	0.000	3.700	143.33	0.00	530.33
12	148.30	ACU-A20-N	4	6.620	7.282	0.54	0.80	0.72	11.04	0.000	3.700	5.27	0.00	19.50
13	148.30	ALU 800MHz External	3	6.620	7.282	0.54	0.80	1.95	51.93	0.000	3.700	14.18	0.00	52.46
14	148.30	TD-RRH8x20-25	3	6.595	7.255	0.54	0.80	7.36	457.60	0.000	1.700	53.39	0.00	90.77
15	148.30	Low Profile Platform	1	6.574	7.231	1.00	1.00	26.86	1537.29	0.000	0.000	194.20	0.00	0.00
16	142.00	Platform w/ HR & Bracing	1	6.493	7.142	1.00	1.00	77.06	3770.31	0.000	0.000	550.42	0.00	0.00
17	142.00	Ericsson Radio 4415	1	6.493	7.142	0.50	0.75	1.13	74.17	0.000	0.000	8.04	0.00	0.00
18	142.00	Ericsson Radio 4449	4	6.493	7.142	0.50	0.75	4.01	501.72	0.000	0.000	28.62	0.00	0.00
19	142.00	RFS	1	6.493	7.142	0.52	0.75	8.24	336.53	0.000	0.000	58.83	0.00	0.00
20	142.00	Ericsson Air 32	4	6.493	7.142	0.65	0.75	19.04	1093.76	0.000	0.000	135.96	0.00	0.00
21	142.00	Ericsson AIR 21 B2A/B4P	3	6.493	7.142	0.65	0.75	13.16	613.08	0.000	0.000	93.99	0.00	0.00
22	142.00	Ericsson KRY 112 144/1	3	6.502	7.152	0.52	0.75	1.14	51.74	0.000	0.700	8.17	0.00	5.72
23	142.00	RFS	3	6.493	7.142	0.52	0.75	33.84	1256.77	0.000	0.000	241.68	0.00	0.00
24	133.00	(3) SitePro 1 P/N	2	6.373	7.010	0.75	0.75	58.50	4522.34	0.000	0.000	410.11	0.00	0.00
25	133.00	Kathrein 800 10121	3	6.373	7.010	0.63	0.80	12.40	294.97	0.000	0.000	86.89	0.00	0.00
26	133.00	Kathrein 800-10965	3	6.373	7.010	0.57	0.80	25.28	950.47	0.000	0.000	177.22	0.00	0.00
27	133.00	Cci TPA-65R-LCUUUU-H8	1	6.373	7.010	0.63	0.80	8.71	301.26	0.000	0.000	61.07	0.00	0.00
28	133.00	Quintel QS66512-2	2	6.373	7.010	0.74	0.80	13.20	548.18	0.000	0.000	92.52	0.00	0.00
29	133.00	Powerwave LGP21401	6	6.373	7.010	0.54	0.80	5.92	157.73	0.000	0.000	41.49	0.00	0.00
30	133.00	Ericsson RRUS-32 RRU	3	6.373	7.010	0.54	0.80	6.15	486.09	0.000	0.000	43.09	0.00	0.00
31	133.00	Ericsson B2/B66A 8843	3	6.373	7.010	0.54	0.80	3.16	315.77	0.000	0.000	22.18	0.00	0.00
32	133.00	Ericsson B5/B12 4449	3	6.373	7.010	0.54	0.80	3.75	320.28	0.000	0.000	26.27	0.00	0.00
33	133.00	Raycap DC6-48-60-18-8F	3	6.373	7.010	0.80	0.80	2.90	183.55	0.000	0.000	20.33	0.00	0.00
34	110.00	3 ft Standoff	1	6.036	6.640	1.00	1.00	6.49	76.89	0.000	0.000	43.08	0.00	0.00
35	110.00	DB222	1	6.118	6.729	1.00	1.00	7.26	44.09	0.000	5.292	48.88	0.00	258.67
36	40.00	GPS	1	4.521	4.973	1.00	1.00	1.42	21.13	0.000	0.000	7.04	0.00	0.00
<b>Totals:</b>								<b>23,904.67</b>			<b>4,014.49</b>			



## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

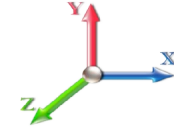


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.00



**Iterations** 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		28.06	370.37	0.00	0.00
2.00		28.05	373.88	0.00	0.00
4.00		56.02	754.14	0.00	0.00
6.00		55.84	755.73	0.00	0.00
8.00		55.64	755.63	0.00	0.00
10.00		55.43	754.58	0.00	0.00
12.00		55.21	752.90	0.00	0.00
14.00		54.99	750.78	0.00	0.00
16.00		54.77	748.33	0.00	0.00
16.25		6.93	152.21	0.00	0.00
18.00		48.44	1063.00	0.00	0.00
18.75		20.71	453.91	0.00	0.00
19.50		20.67	452.96	0.00	0.00
20.00		13.76	301.43	0.00	0.00
22.00		54.92	1201.69	0.00	0.00
24.00		54.33	745.57	0.00	0.00
26.00		54.10	742.22	0.00	0.00
28.00		53.86	738.76	0.00	0.00
30.00		53.67	735.20	0.00	0.00
31.00		27.00	366.22	0.00	0.00
32.00		27.18	365.30	0.00	0.00
34.00		47.71	718.76	0.00	0.00
35.50		36.06	536.56	0.00	0.00
36.00		12.04	178.37	0.00	0.00
38.00		48.73	711.02	0.00	0.00
40.00	(1) attachments	56.23	728.20	0.00	0.00
42.00		49.61	702.69	0.00	0.00
44.00		50.01	698.65	0.00	0.00
45.16		29.09	403.38	0.00	0.00
46.00		21.12	291.25	0.00	0.00
48.00		50.71	690.45	0.00	0.00
50.00		51.03	686.29	0.00	0.00
52.00		52.21	1094.38	0.00	0.00
54.00		52.49	1086.35	0.00	0.00
56.00		52.75	1078.28	0.00	0.00
58.00		52.65	678.78	0.00	0.00
60.00		52.86	674.49	0.00	0.00
62.00		53.06	670.18	0.00	0.00
64.00		53.24	665.85	0.00	0.00
66.00		53.41	661.49	0.00	0.00
68.00		53.56	657.12	0.00	0.00
70.00		53.69	652.73	0.00	0.00
72.00		53.81	648.31	0.00	0.00
74.00		53.92	643.88	0.00	0.00
76.00		54.01	639.44	0.00	0.00
78.00		54.10	634.98	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00		54.17	630.50	0.00	0.00
82.00		54.23	567.71	0.00	0.00
84.00		54.28	563.84	0.00	0.00
86.00		54.31	559.96	0.00	0.00
88.00		54.34	556.07	0.00	0.00
90.00		54.36	552.16	0.00	0.00
92.00		54.37	548.24	0.00	0.00
94.00		54.37	544.32	0.00	0.00
95.00		27.14	270.77	0.00	0.00
95.58		16.01	237.45	0.00	0.00
96.00		11.59	171.58	0.00	0.00
98.00		55.30	812.41	0.00	0.00
100.00		50.03	794.91	0.00	0.00
102.00		49.65	525.03	0.00	0.00
104.00		49.58	521.02	0.00	0.00
106.00		49.50	517.01	0.00	0.00
108.00		49.41	512.99	0.00	0.00
110.00	(2) attachments	141.27	629.94	0.00	258.67
112.00		49.21	498.41	0.00	0.00
114.00		49.11	494.35	0.00	0.00
115.00		24.48	245.76	0.00	0.00
116.00		24.45	220.47	0.00	0.00
118.00		48.87	438.15	0.00	0.00
120.00		48.75	434.71	0.00	0.00
122.00		48.61	431.26	0.00	0.00
124.00		48.48	427.80	0.00	0.00
126.00		48.33	424.34	0.00	0.00
128.00		48.18	420.87	0.00	0.00
130.00		48.03	417.39	0.00	0.00
132.00		47.87	413.91	0.00	0.00
133.00	(29) attachments	1005.00	8286.40	0.00	0.00
134.00		23.81	189.63	0.00	0.00
136.00		47.54	376.40	0.00	0.00
138.00		47.37	372.90	0.00	0.00
140.00		47.19	369.40	0.00	0.00
142.00	(20) attachments	1172.71	8063.97	0.00	5.72
144.00		40.08	307.42	0.00	0.00
145.00		19.87	152.50	0.00	0.00
146.00		19.15	148.50	0.00	0.00
148.00		38.03	294.17	0.00	0.00
148.30	(23) attachments	603.69	3562.59	0.00	1198.90
150.00		31.94	239.15	0.00	0.00
152.00		28.70	211.84	0.00	0.00
154.00		28.81	211.94	0.00	0.00
156.00		28.92	212.03	0.00	0.00
158.00		29.03	212.12	0.00	0.00
160.00	(22) attachments	1239.76	4677.36	0.00	2421.22
	<b>Totals:</b>	<b>7,997.53</b>	<b>72,438.37</b>	<b>0.00</b>	<b>3,884.51</b>

## Linear Appurtenance Segment Forces (Factored)

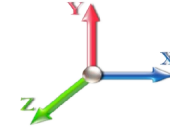
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.28	0.00	0.149	1.147	4.161	0.00	3.36
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	4.161	0.00	1.94
1.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.28	0.00	0.149	1.147	4.161	0.00	6.11
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	4.161	0.00	4.53
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	4.161	0.00	1.94
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.22	0.00	0.149	1.147	4.161	0.00	3.05
1.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.33	0.00	0.149	1.147	4.161	0.00	3.05
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.29	0.00	0.149	1.148	4.161	0.00	3.53
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	4.161	0.00	2.08
2.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.29	0.00	0.149	1.148	4.161	0.00	6.36
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	4.161	0.00	4.72
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	4.161	0.00	2.08
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.23	0.00	0.149	1.148	4.161	0.00	3.29
2.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.33	0.00	0.149	1.148	4.161	0.00	3.29
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.60	0.00	0.150	1.151	4.161	0.00	7.43
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	4.161	0.00	4.45
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.60	0.00	0.150	1.151	4.161	0.00	13.26
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	4.161	0.00	9.85
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	4.161	0.00	4.45
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.48	0.00	0.150	1.151	4.161	0.00	7.11
4.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.69	0.00	0.150	1.151	4.161	0.00	7.11
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.61	0.00	0.152	1.155	4.161	0.00	7.67
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	4.161	0.00	4.65
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.61	0.00	0.152	1.155	4.161	0.00	13.60
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	4.161	0.00	10.12
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	4.161	0.00	4.65
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.49	0.00	0.152	1.155	4.161	0.00	7.44
6.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.70	0.00	0.152	1.155	4.161	0.00	7.44
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.62	0.00	0.153	1.158	4.161	0.00	7.85
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	4.161	0.00	4.79
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.62	0.00	0.153	1.158	4.161	0.00	13.86
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	4.161	0.00	10.32
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	4.161	0.00	4.79
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.50	0.00	0.153	1.158	4.161	0.00	7.69
8.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.71	0.00	0.153	1.158	4.161	0.00	7.69
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.63	0.00	0.154	1.162	4.161	0.00	7.99
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	4.161	0.00	4.91
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.63	0.00	0.154	1.162	4.161	0.00	14.06
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	4.161	0.00	10.48
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	4.161	0.00	4.91
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.50	0.00	0.154	1.162	4.161	0.00	7.88
10.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.71	0.00	0.154	1.162	4.161	0.00	7.88
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.63	0.00	0.155	1.166	4.161	0.00	8.12
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	4.161	0.00	5.01
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.63	0.00	0.155	1.166	4.161	0.00	14.23
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	4.161	0.00	10.61
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	4.161	0.00	5.01

## Linear Appurtenance Segment Forces (Factored)

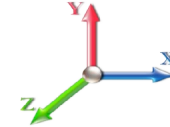
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.51	0.00	0.155	1.166	4.161	0.00	8.05
12.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.72	0.00	0.155	1.166	4.161	0.00	8.05
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.64	0.00	0.156	1.169	4.161	0.00	8.22
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	4.161	0.00	5.10
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.64	0.00	0.156	1.169	4.161	0.00	14.38
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	4.161	0.00	10.73
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	4.161	0.00	5.10
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.51	0.00	0.156	1.169	4.161	0.00	8.19
14.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.72	0.00	0.156	1.169	4.161	0.00	8.19
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.64	0.00	0.158	1.173	4.161	0.00	8.32
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	4.161	0.00	5.17
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.64	0.00	0.158	1.173	4.161	0.00	14.52
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	4.161	0.00	10.83
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	4.161	0.00	5.17
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.52	0.00	0.158	1.173	4.161	0.00	8.32
16.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.73	0.00	0.158	1.173	4.161	0.00	8.32
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.08	0.00	0.158	1.175	4.161	0.00	1.04
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	4.161	0.00	0.65
16.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.08	0.00	0.158	1.175	4.161	0.00	1.82
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	4.161	0.00	1.36
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	4.161	0.00	0.65
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.06	0.00	0.158	1.175	4.161	0.00	1.04
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.09	0.00	0.158	1.175	4.161	0.00	1.04
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.57	0.00	0.159	1.177	4.161	0.00	7.35
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	4.161	0.00	4.59
18.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.57	0.00	0.159	1.177	4.161	0.00	12.81
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	4.161	0.00	9.56
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	4.161	0.00	4.59
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.46	0.00	0.159	1.177	4.161	0.00	7.38
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.64	0.00	0.159	1.177	4.161	0.00	7.38
18.75	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.24	0.00	0.160	1.180	4.161	0.00	3.16
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	4.161	0.00	1.98
18.75	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.24	0.00	0.160	1.180	4.161	0.00	5.50
18.75	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	4.161	0.00	4.11
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	4.161	0.00	1.98
18.75	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.20	0.00	0.160	1.180	4.161	0.00	3.18
18.75	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.27	0.00	0.160	1.180	4.161	0.00	3.18
19.50	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.24	0.00	0.160	1.181	4.161	0.00	3.17
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	1.98
19.50	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.24	0.00	0.160	1.181	4.161	0.00	5.52
19.50	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	4.12
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	1.98
19.50	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.20	0.00	0.160	1.181	4.161	0.00	3.19
19.50	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.27	0.00	0.160	1.181	4.161	0.00	3.19
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.16	0.00	0.161	1.183	4.161	0.00	2.12
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	4.161	0.00	1.33
20.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.16	0.00	0.161	1.183	4.161	0.00	3.69

## Linear Appurtenance Segment Forces (Factored)

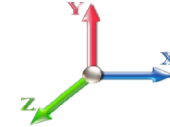
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
20.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	4.161	0.00	2.75
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	4.161	0.00	1.33
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.13	0.00	0.161	1.183	4.161	0.00	2.14
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.18	0.00	0.161	1.183	4.161	0.00	2.14
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.65	0.00	0.162	1.185	4.161	0.00	8.55
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	5.36
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.65	0.00	0.162	1.185	4.161	0.00	14.84
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	11.09
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	5.36
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.53	0.00	0.162	1.185	4.161	0.00	8.64
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.74	0.00	0.162	1.185	4.161	0.00	8.64
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.160	1.181	4.161	0.00	8.61
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	5.42
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.160	1.181	4.161	0.00	14.94
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	11.16
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	4.161	0.00	5.42
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.53	0.00	0.160	1.181	4.161	0.00	8.73
24.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.74	0.00	0.160	1.181	4.161	0.00	8.73
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.162	1.185	4.161	0.00	8.68
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	5.47
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.162	1.185	4.161	0.00	15.02
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	11.23
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	4.161	0.00	5.47
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.53	0.00	0.162	1.185	4.161	0.00	8.81
26.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.74	0.00	0.162	1.185	4.161	0.00	8.81
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.163	1.189	4.161	0.00	8.73
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	4.161	0.00	5.52
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.163	1.189	4.161	0.00	15.10
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	4.161	0.00	11.29
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	4.161	0.00	5.52
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.54	0.00	0.163	1.189	4.161	0.00	8.89
28.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.74	0.00	0.163	1.189	4.161	0.00	8.89
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.66	0.00	0.165	1.194	4.164	0.00	8.79
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	4.164	0.00	5.56
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.66	0.00	0.165	1.194	4.164	0.00	15.18
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	4.164	0.00	11.35
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	4.164	0.00	5.56
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.54	0.00	0.165	1.194	4.164	0.00	8.96
30.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.75	0.00	0.165	1.194	4.164	0.00	8.96
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.33	0.00	0.166	1.197	4.203	0.00	4.41
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	4.203	0.00	2.79
31.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.33	0.00	0.166	1.197	4.203	0.00	7.61
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	4.203	0.00	5.69
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	4.203	0.00	2.79
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.27	0.00	0.166	1.197	4.203	0.00	4.50
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.37	0.00	0.166	1.197	4.203	0.00	4.50
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.33	0.00	0.166	1.199	4.242	0.00	4.42

## Linear Appurtenance Segment Forces (Factored)

**Structure:** CT02049-S-SBA  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 1.1

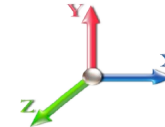
**Code:** EIA/TIA-222-H  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

7/15/2019  
  
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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	4.242	0.00	2.80
32.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.33	0.00	0.166	1.199	4.242	0.00	7.62
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	4.242	0.00	5.70
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	4.242	0.00	2.80
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.27	0.00	0.166	1.199	4.242	0.00	4.51
32.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.37	0.00	0.166	1.199	4.242	0.00	4.51
34.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.113	1.040	4.316	0.00	8.89
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	4.316	0.00	5.64
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.113	1.040	4.316	0.00	15.31
34.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	4.316	0.00	11.46
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	4.316	0.00	5.64
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.54	0.00	0.113	1.040	4.316	0.00	9.09
35.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.50	0.00	0.114	1.043	4.369	0.00	6.69
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	4.369	0.00	4.25
35.50	1 5/8" Fiber	Yes	1.50	0.000	2.00	0.50	0.00	0.114	1.043	4.369	0.00	11.52
35.50	1-1/4" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	4.369	0.00	8.62
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	4.369	0.00	4.25
35.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.41	0.00	0.114	1.043	4.369	0.00	6.85
36.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.17	0.00	0.115	1.044	4.387	0.00	2.23
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	4.387	0.00	1.42
36.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.17	0.00	0.115	1.044	4.387	0.00	3.84
36.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	4.387	0.00	2.88
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	4.387	0.00	1.42
36.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.14	0.00	0.115	1.044	4.387	0.00	2.29
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.115	1.046	4.455	0.00	8.98
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	4.455	0.00	5.72
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.115	1.046	4.455	0.00	15.44
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	4.455	0.00	11.56
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	4.455	0.00	5.72
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.115	1.046	4.455	0.00	9.21
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.116	1.049	4.521	0.00	9.02
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	4.521	0.00	5.75
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.116	1.049	4.521	0.00	15.50
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	4.521	0.00	11.60
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	4.521	0.00	5.75
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.116	1.049	4.521	0.00	9.27
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.67	0.00	0.117	1.052	4.584	0.00	9.06
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	4.584	0.00	5.79
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.67	0.00	0.117	1.052	4.584	0.00	15.55
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	4.584	0.00	11.65
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	4.584	0.00	5.79
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.117	1.052	4.584	0.00	9.32
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.119	1.056	4.646	0.00	9.10
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	4.646	0.00	5.82
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.119	1.056	4.646	0.00	15.61
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	4.646	0.00	11.69
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	4.646	0.00	5.82

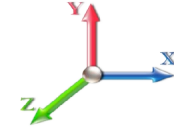
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	<b>7/15/2019</b>	
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B		
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00		
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil		
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II	<b>Page:</b> 55



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.119	1.056	4.646	0.00	9.37
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.39	0.00	0.119	1.058	4.680	0.00	5.29
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	4.680	0.00	3.39
45.16	1 5/8" Fiber	Yes	1.16	0.000	2.00	0.39	0.00	0.119	1.058	4.680	0.00	9.07
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	4.680	0.00	6.79
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	4.680	0.00	3.39
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.32	0.00	0.119	1.058	4.680	0.00	5.45
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.28	0.00	0.120	1.060	4.705	0.00	3.84
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	4.705	0.00	2.46
46.00	1 5/8" Fiber	Yes	0.84	0.000	2.00	0.28	0.00	0.120	1.060	4.705	0.00	6.58
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	4.705	0.00	4.93
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	4.705	0.00	2.46
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.23	0.00	0.120	1.060	4.705	0.00	3.96
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.121	1.062	4.763	0.00	9.17
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	4.763	0.00	5.88
48.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.121	1.062	4.763	0.00	15.71
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	4.763	0.00	11.77
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	4.763	0.00	5.88
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.55	0.00	0.121	1.062	4.763	0.00	9.47
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.122	1.066	4.819	0.00	9.21
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	4.819	0.00	5.91
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.122	1.066	4.819	0.00	15.76
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	4.819	0.00	11.81
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	4.819	0.00	5.91
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.122	1.066	4.819	0.00	9.52
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.123	1.069	4.873	0.00	9.24
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	4.873	0.00	5.94
52.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.123	1.069	4.873	0.00	15.80
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	4.873	0.00	11.85
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	4.873	0.00	5.94
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.123	1.069	4.873	0.00	9.56
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.124	1.072	4.926	0.00	9.27
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	4.926	0.00	5.96
54.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.124	1.072	4.926	0.00	15.85
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	4.926	0.00	11.88
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	4.926	0.00	5.96
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.124	1.072	4.926	0.00	9.61
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.68	0.00	0.125	1.076	4.977	0.00	9.30
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	4.977	0.00	5.99
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.68	0.00	0.125	1.076	4.977	0.00	15.89
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	4.977	0.00	11.92
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	4.977	0.00	5.99
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.125	1.076	4.977	0.00	9.65
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.124	1.073	5.027	0.00	9.33
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	5.027	0.00	6.02
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.124	1.073	5.027	0.00	15.93
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	5.027	0.00	11.95

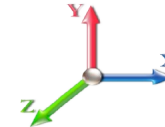
## Linear Appurtenance Segment Forces (Factored)

Structure: CT02049-S-SBA	Code: EIA/TIA-222-H	7/15/2019
Site Name: Beacon Falls	Exposure: B	
Height: 160.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor**    1.20  
**Wind Load Factor**    1.00



**Iterations**    26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	5.027	0.00	6.02
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.124	1.073	5.027	0.00	9.69
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.125	1.076	5.076	0.00	9.36
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	5.076	0.00	6.04
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.125	1.076	5.076	0.00	15.97
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	5.076	0.00	11.98
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	5.076	0.00	6.04
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.125	1.076	5.076	0.00	9.73
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.127	1.080	5.124	0.00	9.39
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	5.124	0.00	6.06
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.127	1.080	5.124	0.00	16.01
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	5.124	0.00	12.01
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	5.124	0.00	6.06
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.127	1.080	5.124	0.00	9.77
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.128	1.084	5.171	0.00	9.42
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	5.171	0.00	6.09
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.128	1.084	5.171	0.00	16.05
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	5.171	0.00	12.05
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	5.171	0.00	6.09
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.56	0.00	0.128	1.084	5.171	0.00	9.80
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.129	1.087	5.216	0.00	9.45
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	5.216	0.00	6.11
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.129	1.087	5.216	0.00	16.09
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	5.216	0.00	12.08
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	5.216	0.00	6.11
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.129	1.087	5.216	0.00	9.84
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.130	1.091	5.261	0.00	9.48
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	5.261	0.00	6.13
68.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.130	1.091	5.261	0.00	16.13
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	5.261	0.00	12.10
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	5.261	0.00	6.13
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.130	1.091	5.261	0.00	9.88
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.132	1.095	5.305	0.00	9.50
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	5.305	0.00	6.16
70.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.132	1.095	5.305	0.00	16.16
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	5.305	0.00	12.13
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	5.305	0.00	6.16
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.132	1.095	5.305	0.00	9.91
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.133	1.099	5.348	0.00	9.53
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	5.348	0.00	6.18
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.133	1.099	5.348	0.00	16.20
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	5.348	0.00	12.16
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	5.348	0.00	6.18
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.133	1.099	5.348	0.00	9.95
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.69	0.00	0.134	1.103	5.390	0.00	9.55
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	5.390	0.00	6.20
74.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.69	0.00	0.134	1.103	5.390	0.00	16.23



## Linear Appurtenance Segment Forces (Factored)

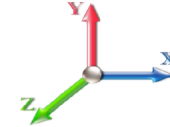
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	5.390	0.00	12.19
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	5.390	0.00	6.20
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.134	1.103	5.390	0.00	9.98
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.136	1.108	5.431	0.00	9.58
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	5.431	0.00	6.22
76.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.136	1.108	5.431	0.00	16.27
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	5.431	0.00	12.22
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	5.431	0.00	6.22
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.136	1.108	5.431	0.00	10.01
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.137	1.112	5.471	0.00	9.60
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	5.471	0.00	6.24
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.137	1.112	5.471	0.00	16.30
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	5.471	0.00	12.24
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	5.471	0.00	6.24
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.137	1.112	5.471	0.00	10.04
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.139	1.116	5.511	0.00	9.62
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	5.511	0.00	6.26
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.139	1.116	5.511	0.00	16.33
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	5.511	0.00	12.27
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	5.511	0.00	6.26
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.139	1.116	5.511	0.00	10.07
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.140	1.121	5.550	0.00	9.65
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	5.550	0.00	6.28
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.140	1.121	5.550	0.00	16.36
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	5.550	0.00	12.29
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	5.550	0.00	6.28
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.140	1.121	5.550	0.00	10.10
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.142	1.125	5.589	0.00	9.67
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	5.589	0.00	6.29
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.142	1.125	5.589	0.00	16.39
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	5.589	0.00	12.32
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	5.589	0.00	6.29
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.57	0.00	0.142	1.125	5.589	0.00	10.13
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.143	1.130	5.626	0.00	9.69
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	5.626	0.00	6.31
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.143	1.130	5.626	0.00	16.42
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	5.626	0.00	12.34
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	5.626	0.00	6.31
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.143	1.130	5.626	0.00	10.16
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.145	1.135	5.663	0.00	9.71
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	5.663	0.00	6.33
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.70	0.00	0.145	1.135	5.663	0.00	16.45
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	5.663	0.00	12.36
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	5.663	0.00	6.33
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.58	0.00	0.145	1.135	5.663	0.00	10.19
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.70	0.00	0.147	1.140	5.700	0.00	9.73
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	5.700	0.00	6.35



## Linear Appurtenance Segment Forces (Factored)

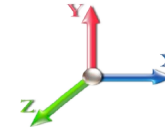
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor**     1.20  
**Wind Load Factor**     1.00



**Iterations**     26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
102.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.117	1.052	5.907	0.00	16.64
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	5.907	0.00	12.52
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	5.907	0.00	6.45
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.119	1.056	5.940	0.00	9.87
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	5.940	0.00	6.46
104.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.119	1.056	5.940	0.00	16.67
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	5.940	0.00	12.54
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	5.940	0.00	6.46
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.120	1.061	5.973	0.00	9.89
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	5.973	0.00	6.48
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.120	1.061	5.973	0.00	16.69
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	5.973	0.00	12.56
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	5.973	0.00	6.48
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.122	1.065	6.005	0.00	9.91
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	6.005	0.00	6.49
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.122	1.065	6.005	0.00	16.72
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	6.005	0.00	12.58
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	6.005	0.00	6.49
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.123	1.070	6.036	0.00	9.93
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	6.036	0.00	6.51
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.123	1.070	6.036	0.00	16.74
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	6.036	0.00	12.60
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	6.036	0.00	6.51
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.125	1.074	6.067	0.00	9.94
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	6.067	0.00	6.52
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.125	1.074	6.067	0.00	16.77
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	6.067	0.00	12.62
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.126	1.079	6.098	0.00	9.96
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	6.098	0.00	6.54
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.126	1.079	6.098	0.00	16.79
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	6.098	0.00	12.63
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.128	1.083	6.113	0.00	4.98
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	6.113	0.00	3.27
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.36	0.00	0.128	1.083	6.113	0.00	8.40
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	6.113	0.00	6.32
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.128	1.085	6.128	0.00	4.99
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	6.128	0.00	3.28
116.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.36	0.00	0.128	1.085	6.128	0.00	8.41
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	6.128	0.00	6.33
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.130	1.089	6.158	0.00	9.99
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	6.158	0.00	6.57
118.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.130	1.089	6.158	0.00	16.84
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	6.158	0.00	12.67
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.131	1.094	6.188	0.00	10.01
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	6.188	0.00	6.58
120.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.131	1.094	6.188	0.00	16.86
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	6.188	0.00	12.69

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



<b>Load Case:</b> 1.2D + 1.0Di + 1.0Wi 50 mph Wind	<b>Iterations</b> 26
<b>Dead Load Factor</b> 1.20	
<b>Wind Load Factor</b> 1.00	

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.133	1.099	6.217	0.00	10.03
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	6.217	0.00	6.60
122.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.133	1.099	6.217	0.00	16.88
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	6.217	0.00	12.71
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.135	1.105	6.246	0.00	10.04
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	6.246	0.00	6.61
124.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.135	1.105	6.246	0.00	16.90
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	6.246	0.00	12.72
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.71	0.00	0.137	1.110	6.275	0.00	10.06
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	6.275	0.00	6.62
126.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.71	0.00	0.137	1.110	6.275	0.00	16.92
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	6.275	0.00	12.74
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.139	1.116	6.303	0.00	10.07
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	6.303	0.00	6.64
128.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.139	1.116	6.303	0.00	16.95
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	6.303	0.00	12.76
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.141	1.122	6.331	0.00	10.09
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	6.331	0.00	6.65
130.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.141	1.122	6.331	0.00	16.97
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	6.331	0.00	12.78
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.143	1.128	6.359	0.00	10.11
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	6.359	0.00	6.66
132.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.143	1.128	6.359	0.00	16.99
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	6.359	0.00	12.79
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.144	1.133	6.373	0.00	5.06
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	6.373	0.00	3.33
133.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.36	0.00	0.144	1.133	6.373	0.00	8.50
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	6.373	0.00	6.40
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.145	1.136	6.386	0.00	5.06
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	6.386	0.00	3.34
134.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.36	0.00	0.145	1.136	6.386	0.00	8.50
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	6.386	0.00	6.40
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.147	1.141	6.413	0.00	10.14
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	6.413	0.00	6.69
136.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.147	1.141	6.413	0.00	17.03
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	6.413	0.00	12.82
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.149	1.147	6.440	0.00	10.15
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	6.440	0.00	6.70
138.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.149	1.147	6.440	0.00	17.05
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	6.440	0.00	12.84
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.151	1.154	6.467	0.00	10.16
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	6.467	0.00	6.71
140.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.151	1.154	6.467	0.00	17.07
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	6.467	0.00	12.86
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.154	1.161	6.493	0.00	10.18
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	6.493	0.00	6.72
142.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.72	0.00	0.154	1.161	6.493	0.00	17.09

## Linear Appurtenance Segment Forces (Factored)

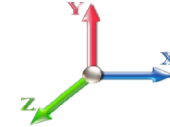
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	6.493	0.00	12.87
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.078	0.000	6.519	0.00	10.19
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	6.519	0.00	6.74
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.079	0.000	6.532	0.00	5.10
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	6.532	0.00	3.37
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.36	0.00	0.082	0.000	6.545	0.00	5.10
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	6.545	0.00	3.37
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.083	0.000	6.570	0.00	10.22
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	6.570	0.00	6.76
148.30	1 5/8" Hybrid	Yes	0.30	0.000	2.00	0.11	0.00	0.084	0.000	6.574	0.00	1.53
148.30	7/8" Coax	Yes	0.30	0.000	0.00	0.00	0.00	0.084	0.000	6.574	0.00	1.01
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.61	0.00	0.085	0.000	6.595	0.00	8.70
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	6.595	0.00	5.75
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.620	0.00	10.25
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.620	0.00	6.78
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.645	0.00	10.26
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.645	0.00	6.79
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.670	0.00	10.28
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.670	0.00	6.80
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.694	0.00	10.29
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.694	0.00	6.82
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.72	0.00	0.125	1.075	6.718	0.00	10.30
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	6.718	0.00	6.83
<b>Totals:</b>											<b>0.0</b>	<b>4,127.7</b>





## Seismic Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

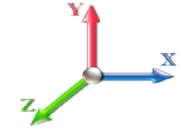


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**Load Case:** 1.2D + 1.0Ev + 1.0Eh

**Iterations** 25

<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.21	<b>Ss</b> 0.20
<b>Dead Load Factor</b> 1.20	<b>Seismic Load Factor</b> 1.00	<b>Sd1</b> 0.09
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.26	<b>SA</b> 0.02
	<b>Seismic Importance Factor</b> 1.00	



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
1.00	RT2 RB3 RB4	205.04	0.00	0.01	0.00	10.39	
2.00		204.25	0.00	0.01	0.01	11.59	
4.00		406.10	0.00	0.03	0.01	26.48	
6.00		402.91	0.00	0.04	0.02	28.55	
8.00		399.73	0.00	0.04	0.02	29.93	
10.00		396.54	0.01	0.05	0.03	30.86	
12.00		393.35	0.01	0.06	0.03	31.48	
14.00		390.16	0.01	0.06	0.04	31.87	
16.00	Bot - Section 2	386.97	0.02	0.06	0.04	32.09	
16.25	RT1 RB5	97.07	0.02	0.06	0.04	8.06	
18.00	RB6	676.67	0.02	0.07	0.04	56.77	
18.75	RT3 RT4	288.50	0.03	0.07	0.04	24.29	
19.50	RB7	287.61	0.03	0.07	0.04	24.29	
20.00		191.24	0.03	0.07	0.04	16.19	
22.00	Top - Section 1	760.98	0.04	0.07	0.04	64.87	
24.00		380.38	0.04	0.07	0.04	32.61	
26.00		377.19	0.05	0.07	0.04	32.51	
28.00		374.00	0.06	0.07	0.04	32.38	
30.00	RB8	370.82	0.07	0.07	0.04	32.26	
31.00	RT5	184.21	0.07	0.07	0.04	16.06	
32.00		183.42	0.08	0.07	0.04	16.03	
34.00	RT6	364.44	0.09	0.07	0.04	32.01	
35.50	RT7	271.24	0.09	0.07	0.04	23.91	
36.00		90.01	0.10	0.07	0.04	7.95	
38.00		358.06	0.11	0.07	0.04	31.78	
40.00	Appurtenance(s)	364.87	0.12	0.07	0.03	32.57	
42.00		351.69	0.13	0.07	0.03	31.57	
44.00		348.50	0.14	0.07	0.03	31.46	
45.16	RB9	200.67	0.15	0.07	0.03	18.17	
46.00	RT8	144.64	0.16	0.07	0.03	13.12	
48.00		342.12	0.17	0.07	0.03	31.19	
50.00	Bot - Section 3	338.93	0.18	0.06	0.03	31.01	
52.00		677.65	0.20	0.06	0.02	62.15	
54.00		671.27	0.22	0.06	0.02	61.58	
56.00	Top - Section 2	664.89	0.23	0.06	0.02	60.87	
58.00	RT9 RB10	332.34	0.25	0.06	0.02	30.25	
60.00		329.15	0.27	0.05	0.02	29.67	
62.00		325.96	0.28	0.05	0.01	28.94	
64.00		322.78	0.30	0.04	0.01	28.03	
66.00		319.59	0.32	0.04	0.01	26.91	
68.00		316.40	0.34	0.04	0.01	25.55	
70.00		313.21	0.36	0.03	0.01	23.94	
72.00		310.02	0.38	0.02	0.01	22.05	
74.00		306.83	0.40	0.02	0.01	19.90	
76.00		303.64	0.43	0.01	0.01	17.50	



## Seismic Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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78.00	RT10 RB11	300.46	0.45	0.00	0.01	14.91
80.00	Top - Section 3	297.27	0.47	-0.01	0.01	12.22
82.00		245.49	0.50	-0.01	0.01	7.95
84.00		242.84	0.52	-0.02	0.01	5.78
86.00		240.18	0.55	-0.03	0.01	3.77
88.00		237.52	0.57	-0.04	0.01	1.98
90.00		234.87	0.60	-0.05	0.01	0.44
92.00		232.21	0.62	-0.06	0.02	-0.82
94.00		229.55	0.65	-0.07	0.02	-1.82
95.00	Bot - Section 5	113.78	0.67	-0.08	0.02	-1.10
95.58	RT11	132.62	0.67	-0.08	0.03	-1.41
96.00		95.75	0.68	-0.08	0.03	-1.07
98.00		452.75	0.71	-0.09	0.03	-6.12
100.00	Top - Section 4	447.44	0.74	-0.10	0.04	-6.65
102.00		223.20	0.77	-0.11	0.05	-3.41
104.00		220.55	0.80	-0.11	0.05	-3.27
106.00		217.89	0.83	-0.12	0.06	-2.95
108.00		215.23	0.86	-0.12	0.07	-2.47
110.00	Appurtenance(s)	268.57	0.89	-0.12	0.08	-2.32
112.00		209.92	0.93	-0.12	0.10	-1.06
114.00		207.26	0.96	-0.12	0.11	-0.15
115.00	Top - Section 5	102.63	0.98	-0.12	0.12	0.17
116.00		81.75	0.99	-0.11	0.13	0.35
118.00		161.90	1.03	-0.10	0.15	1.63
120.00		159.77	1.06	-0.09	0.17	2.64
122.00		157.65	1.10	-0.07	0.19	3.74
124.00		155.52	1.14	-0.05	0.21	4.92
126.00		153.40	1.17	-0.02	0.23	6.17
128.00		151.27	1.21	0.01	0.26	7.50
130.00		149.15	1.25	0.05	0.29	8.90
132.00		147.02	1.29	0.10	0.32	10.37
133.00	Appurtenance(s)	4419.9	1.31	0.13	0.34	336.84
134.00		72.18	1.33	0.16	0.36	5.93
136.00		142.77	1.37	0.22	0.40	13.48
138.00		140.64	1.41	0.30	0.44	15.12
140.00		138.52	1.45	0.38	0.48	16.82
142.00	Appurtenance(s)	4007.2	1.49	0.47	0.53	545.33
144.00		134.27	1.53	0.58	0.58	20.35
145.00	Top - Section 6	66.34	1.55	0.64	0.61	10.59
146.00		64.22	1.57	0.70	0.63	10.78
148.00		126.88	1.62	0.83	0.69	23.46
148.30	Appurtenance(s)	2089.2	1.62	0.85	0.70	391.74
150.00	Top - Section 7	105.95	1.66	0.98	0.76	21.48
152.00		84.18	1.71	1.14	0.82	18.65
154.00		84.18	1.75	1.32	0.90	20.29
156.00		84.18	1.80	1.52	0.97	22.01
158.00		84.18	1.84	1.74	1.05	23.80
160.00	Appurtenance(s)	1968.6	1.89	1.98	1.14	600.10
<b>Totals:</b>		<b>36,025.1</b>				<b>3,467.2</b>
						<b>Total Wind: 33,538.1</b>

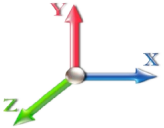
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

# Calculated Forces

**Structure:** CT02049-S-SBA **Code:** EIA/TIA-222-H 7/15/2019  
**Site Name:** Beacon Falls **Exposure:** B  
**Height:** 160.00 (ft) **Crest Height:** 0.00  
**Base Elev:** 0.000 (ft) **Site Class:** D - Stiff Soil  
**Gh:** 1.1 **Topography:** 1 **Struct Class:** II



<b>Load Case:</b> 1.2D + 1.0Ev + 1.0Eh				<b>Iterations</b> 25	
<b>Gust Response Factor</b>	1.10		<b>Sds</b> 0.21		<b>Ss</b> 0.20
<b>Dead Load Factor</b>	1.20		<b>Seismic Load Factor</b>	1.00	<b>S1</b> 0.05
<b>Wind Load Factor</b>	0.00		<b>Structure Frequency (f1)</b>	0.26	<b>SA</b> 0.02 <b>Seismic Importance Factor</b> 1.00



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-52.39	-3.50	0.00	-385.96	0.00	385.96	3683.82	1059.58	4414.92	3756.66	0.00	0.00	0.00	0.069
1.00	-52.08	-3.49	0.00	-382.46	0.00	382.46	3677.71	1055.47	4380.73	3735.77	0.00	0.00	0.00	0.069
2.00	-51.78	-3.49	0.00	-378.96	0.00	378.96	3671.54	1051.36	4346.67	3714.86	0.00	-0.01	-0.01	0.069
4.00	-51.16	-3.47	0.00	-371.99	0.00	371.99	3659.00	1043.14	4278.95	3673.00	0.01	-0.01	-0.01	0.068
6.00	-50.55	-3.44	0.00	-365.05	0.00	365.05	3646.20	1034.91	4211.76	3631.09	0.01	-0.02	-0.02	0.067
8.00	-49.95	-3.42	0.00	-358.17	0.00	358.17	3633.16	1026.69	4145.10	3589.13	0.02	-0.03	-0.03	0.066
10.00	-49.35	-3.39	0.00	-351.33	0.00	351.33	3619.85	1018.47	4078.97	3547.13	0.04	-0.03	-0.03	0.066
12.00	-48.75	-3.37	0.00	-344.54	0.00	344.54	3606.29	1010.25	4013.38	3505.10	0.05	-0.04	-0.04	0.065
14.00	-48.16	-3.34	0.00	-337.80	0.00	337.80	3592.48	1002.02	3948.31	3463.03	0.07	-0.05	-0.05	0.064
16.00	-47.57	-3.31	0.00	-331.12	0.00	331.12	3578.41	993.80	3883.78	3420.94	0.09	-0.05	-0.05	0.063
16.25	-47.44	-3.31	0.00	-330.29	0.00	330.29	3576.63	992.77	3875.75	3415.68	0.09	-0.05	-0.05	0.073
18.00	-46.51	-3.25	0.00	-324.51	0.00	324.51	3564.09	985.58	3819.78	3378.83	0.12	-0.06	-0.06	0.066
18.75	-46.12	-3.23	0.00	-322.07	0.00	322.07	3558.65	982.50	3795.92	3363.04	0.13	-0.06	-0.06	0.078
19.50	-45.73	-3.21	0.00	-319.64	0.00	319.64	3553.18	979.41	3772.13	3347.24	0.14	-0.07	-0.07	0.067
20.00	-45.47	-3.20	0.00	-318.04	0.00	318.04	3549.51	977.36	3756.31	3336.71	0.14	-0.07	-0.07	0.066
22.00	-44.43	-3.13	0.00	-311.65	0.00	311.65	3563.12	985.03	3815.51	3376.01	0.17	-0.08	-0.08	0.067
24.00	-43.85	-3.11	0.00	-305.38	0.00	305.38	3548.52	976.81	3752.08	3333.89	0.21	-0.08	-0.08	0.065
26.00	-43.27	-3.08	0.00	-299.17	0.00	299.17	3533.67	968.58	3689.18	3291.77	0.24	-0.09	-0.09	0.064
28.00	-42.70	-3.05	0.00	-293.01	0.00	293.01	3518.56	960.36	3626.81	3249.64	0.28	-0.10	-0.10	0.063
30.00	-42.13	-3.02	0.00	-286.91	0.00	286.91	3503.20	952.14	3564.97	3207.53	0.33	-0.11	-0.11	0.049
31.00	-41.84	-3.01	0.00	-283.89	0.00	283.89	3495.43	948.03	3534.25	3186.48	0.35	-0.11	-0.11	0.057
32.00	-41.56	-2.99	0.00	-280.88	0.00	280.88	3487.59	943.92	3503.66	3165.43	0.37	-0.11	-0.11	0.056
34.00	-41.00	-2.96	0.00	-274.89	0.00	274.89	3471.72	935.70	3442.89	3123.35	0.42	-0.12	-0.12	0.068
35.50	-40.58	-2.94	0.00	-270.45	0.00	270.45	3459.65	929.53	3397.66	3091.80	0.46	-0.12	-0.12	0.069
36.00	-40.44	-2.94	0.00	-268.98	0.00	268.98	3455.59	927.47	3382.65	3081.29	0.47	-0.13	-0.13	0.068
38.00	-39.88	-2.91	0.00	-263.10	0.00	263.10	3439.21	919.25	3322.94	3039.26	0.52	-0.13	-0.13	0.068
40.00	-39.32	-2.88	0.00	-257.28	0.00	257.28	3422.57	911.03	3263.76	2997.28	0.58	-0.14	-0.14	0.067
42.00	-38.77	-2.85	0.00	-251.51	0.00	251.51	3405.68	902.81	3205.11	2955.34	0.64	-0.15	-0.15	0.066
44.00	-38.23	-2.83	0.00	-245.80	0.00	245.80	3388.54	894.58	3146.99	2913.44	0.71	-0.16	-0.16	0.065
45.16	-37.92	-2.81	0.00	-242.52	0.00	242.52	3378.48	889.81	3113.53	2889.17	0.75	-0.16	-0.16	0.047
46.00	-37.69	-2.80	0.00	-240.16	0.00	240.16	3371.14	886.36	3089.41	2871.61	0.78	-0.17	-0.17	0.061
48.00	-37.16	-2.77	0.00	-234.57	0.00	234.57	3353.48	878.14	3032.36	2829.83	0.85	-0.17	-0.17	0.060
50.00	-36.62	-2.74	0.00	-229.02	0.00	229.02	3335.57	869.92	2975.84	2788.13	0.92	-0.18	-0.18	0.060
52.00	-35.69	-2.68	0.00	-223.54	0.00	223.54	3317.41	861.69	2919.85	2746.50	1.00	-0.19	-0.19	0.058
54.00	-34.76	-2.62	0.00	-218.17	0.00	218.17	3298.98	853.47	2864.39	2704.94	1.08	-0.20	-0.20	0.057
56.00	-33.83	-2.56	0.00	-212.92	0.00	212.92	3316.18	861.14	2916.12	2743.71	1.16	-0.20	-0.20	0.058
58.00	-33.31	-2.54	0.00	-207.80	0.00	207.80	3297.74	852.92	2860.70	2702.16	1.25	-0.21	-0.21	0.060
60.00	-32.79	-2.51	0.00	-202.72	0.00	202.72	3279.05	844.70	2805.81	2660.71	1.34	-0.22	-0.22	0.059
62.00	-32.27	-2.48	0.00	-197.71	0.00	197.71	3260.10	836.48	2751.45	2619.34	1.43	-0.23	-0.23	0.059
64.00	-31.76	-2.46	0.00	-192.74	0.00	192.74	3240.90	828.25	2697.62	2578.08	1.53	-0.24	-0.24	0.058
66.00	-31.25	-2.43	0.00	-187.83	0.00	187.83	3221.44	820.03	2644.33	2536.92	1.63	-0.24	-0.24	0.057
68.00	-30.75	-2.41	0.00	-182.96	0.00	182.96	3201.73	811.81	2591.56	2495.87	1.74	-0.25	-0.25	0.056
70.00	-30.25	-2.39	0.00	-178.14	0.00	178.14	3181.76	803.59	2539.33	2454.94	1.84	-0.26	-0.26	0.055
72.00	-29.75	-2.37	0.00	-173.37	0.00	173.37	3161.54	795.36	2487.63	2414.13	1.95	-0.27	-0.27	0.055
74.00	-29.26	-2.35	0.00	-168.64	0.00	168.64	3141.06	787.14	2436.47	2373.45	2.07	-0.28	-0.28	0.054
76.00	-28.77	-2.33	0.00	-163.94	0.00	163.94	3120.33	778.92	2385.83	2332.91	2.18	-0.28	-0.28	0.053
78.00	-28.28	-2.32	0.00	-159.27	0.00	159.27	3099.34	770.70	2335.73	2292.51	2.30	-0.29	-0.29	0.052

## Calculated Forces

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019	
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B		
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00		
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil		
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II	Page: 67



80.00	-27.80	-2.31	0.00	-154.63	0.00	154.63	3078.09	762.47	2286.15	2252.26	2.43	-0.30	0.052
80.00	-27.80	-2.31	0.00	-154.63	0.00	154.63	2384.58	636.50	1911.75	1750.88	2.43	-0.30	0.056
82.00	-27.38	-2.30	0.00	-150.02	0.00	150.02	2370.62	629.65	1870.81	1721.73	2.56	-0.31	0.061
84.00	-26.97	-2.30	0.00	-145.41	0.00	145.41	2356.42	622.80	1830.32	1692.63	2.69	-0.32	0.060
86.00	-26.55	-2.30	0.00	-140.81	0.00	140.81	2341.95	615.94	1790.27	1663.57	2.82	-0.33	0.059
88.00	-26.14	-2.30	0.00	-136.22	0.00	136.22	2327.23	609.09	1750.66	1634.56	2.96	-0.33	0.058
90.00	-25.74	-2.30	0.00	-131.63	0.00	131.63	2312.26	602.24	1711.49	1605.61	3.10	-0.34	0.057
92.00	-25.33	-2.30	0.00	-127.03	0.00	127.03	2297.03	595.39	1672.77	1576.72	3.25	-0.35	0.055
94.00	-24.93	-2.30	0.00	-122.43	0.00	122.43	2281.55	588.54	1634.49	1547.90	3.40	-0.36	0.054
95.00	-24.73	-2.30	0.00	-120.13	0.00	120.13	2273.71	585.11	1615.51	1533.52	3.47	-0.36	0.054
95.58	-24.54	-2.30	0.00	-118.80	0.00	118.80	2269.13	583.12	1604.56	1525.19	3.52	-0.37	0.053
95.58	-24.54	-2.30	0.00	-118.80	0.00	118.80	2269.13	583.12	1604.56	1525.19	3.52	-0.37	0.053
96.00	-24.40	-2.30	0.00	-117.84	0.00	117.84	2265.81	581.68	1596.65	1519.16	3.55	-0.37	0.088
98.00	-23.73	-2.30	0.00	-113.23	0.00	113.23	2249.81	574.83	1559.25	1490.50	3.71	-0.38	0.087
100.00	-23.07	-2.30	0.00	-108.62	0.00	108.62	2259.61	579.02	1582.04	1508.00	3.87	-0.40	0.082
102.00	-22.67	-2.31	0.00	-104.01	0.00	104.01	2243.52	572.17	1544.82	1479.37	4.04	-0.41	0.080
104.00	-22.28	-2.31	0.00	-99.40	0.00	99.40	2227.17	565.31	1508.04	1450.84	4.21	-0.43	0.079
106.00	-21.90	-2.31	0.00	-94.78	0.00	94.78	2210.57	558.46	1471.71	1422.40	4.40	-0.44	0.077
108.00	-21.51	-2.31	0.00	-90.16	0.00	90.16	2193.71	551.61	1435.82	1394.06	4.58	-0.45	0.074
110.00	-21.07	-2.31	0.00	-85.53	0.00	85.53	2176.60	544.76	1400.37	1365.84	4.77	-0.46	0.072
112.00	-20.69	-2.32	0.00	-80.90	0.00	80.90	2159.23	537.91	1365.36	1337.73	4.97	-0.48	0.070
114.00	-20.32	-2.32	0.00	-76.27	0.00	76.27	2141.61	531.05	1330.80	1309.73	5.17	-0.49	0.068
115.00	-20.13	-2.32	0.00	-73.95	0.00	73.95	2132.70	527.63	1313.68	1295.79	5.28	-0.49	0.067
115.00	-20.13	-2.32	0.00	-73.95	0.00	73.95	1556.62	422.98	1055.35	949.74	5.28	-0.49	0.091
116.00	-19.97	-2.32	0.00	-71.63	0.00	71.63	1551.43	420.24	1041.71	940.38	5.38	-0.50	0.089
118.00	-19.66	-2.32	0.00	-67.00	0.00	67.00	1540.84	414.76	1014.72	921.68	5.59	-0.52	0.085
120.00	-19.34	-2.32	0.00	-62.36	0.00	62.36	1529.99	409.28	988.07	902.99	5.81	-0.53	0.082
122.00	-19.03	-2.32	0.00	-57.72	0.00	57.72	1518.89	403.80	961.78	884.33	6.04	-0.54	0.078
124.00	-18.72	-2.31	0.00	-53.09	0.00	53.09	1507.54	398.32	935.85	865.70	6.27	-0.56	0.074
126.00	-18.41	-2.31	0.00	-48.46	0.00	48.46	1495.93	392.84	910.27	847.11	6.50	-0.57	0.070
128.00	-18.10	-2.30	0.00	-43.85	0.00	43.85	1484.06	387.35	885.04	828.56	6.75	-0.58	0.065
130.00	-17.80	-2.29	0.00	-39.25	0.00	39.25	1471.95	381.87	860.17	810.06	6.99	-0.59	0.061
132.00	-17.50	-2.28	0.00	-34.66	0.00	34.66	1459.57	376.39	835.65	791.62	7.24	-0.60	0.056
133.00	-12.14	-1.89	0.00	-32.38	0.00	32.38	1453.29	373.65	823.53	782.42	7.37	-0.61	0.050
134.00	-12.01	-1.88	0.00	-30.49	0.00	30.49	1446.94	370.91	811.49	773.23	7.50	-0.61	0.048
136.00	-11.74	-1.87	0.00	-26.73	0.00	26.73	1434.06	365.43	787.68	754.91	7.76	-0.62	0.044
138.00	-11.48	-1.85	0.00	-22.99	0.00	22.99	1420.92	359.95	764.23	736.67	8.02	-0.63	0.039
140.00	-11.22	-1.83	0.00	-19.29	0.00	19.29	1407.52	354.47	741.13	718.50	8.28	-0.64	0.035
142.00	-6.33	-1.23	0.00	-15.62	0.00	15.62	1393.87	348.98	718.38	700.42	8.55	-0.64	0.027
144.00	-6.11	-1.21	0.00	-13.16	0.00	13.16	1379.97	343.50	695.99	682.44	8.82	-0.65	0.024
145.00	-6.00	-1.20	0.00	-11.94	0.00	11.94	1372.92	340.76	684.93	673.48	8.96	-0.65	0.022
145.00	-6.00	-1.20	0.00	-11.94	0.00	11.94	931.20	332.53	24157.3	604.09	8.96	-0.65	0.026
146.00	-5.89	-1.19	0.00	-10.74	0.00	10.74	925.24	329.86	23770.3	594.77	9.09	-0.65	0.024
148.00	-5.68	-1.16	0.00	-8.37	0.00	8.37	913.32	324.51	23005.8	576.36	9.37	-0.66	0.021
148.30	-3.17	-0.74	0.00	-8.02	0.00	8.02	911.53	323.71	22892.2	573.63	9.41	-0.66	0.017
150.00	-3.00	-0.72	0.00	-6.76	0.00	6.76	901.40	319.16	22253.7	558.24	9.64	-0.66	0.015
150.00	-3.00	-0.72	0.00	-6.76	0.00	6.76	556.65	167.00	10296.1	213.69	9.64	-0.66	0.037
152.00	-2.85	-0.70	0.00	-5.32	0.00	5.32	556.65	167.00	10296.1	213.69	9.92	-0.66	0.030
154.00	-2.70	-0.68	0.00	-3.92	0.00	3.92	556.65	167.00	10296.1	213.69	10.20	-0.67	0.023
156.00	-2.55	-0.65	0.00	-2.56	0.00	2.56	556.65	167.00	10296.1	213.69	10.48	-0.67	0.017
158.00	-2.40	-0.63	0.00	-1.26	0.00	1.26	556.65	167.00	10296.1	213.69	10.76	-0.68	0.010
160.00	0.00	-0.60	0.00	0.00	0.00	0.00	556.65	167.00	10296.1	213.69	11.05	-0.68	0.000

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 0.9D + 1.0Ev + 1.0Eh

**Iterations** 25

<b>Gust Response Factor</b> 1.10	<b>Sds</b> 0.21	<b>Ss</b> 0.20	
<b>Dead Load Factor</b> 0.90	<b>Seismic Load Factor</b> 1.00	<b>Sd1</b> 0.09	
<b>Wind Load Factor</b> 0.00	<b>Structure Frequency (f1)</b> 0.26	<b>SA</b> 0.02	

**Seismic Importance Factor** 1.00

Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00	RB1 RB2	0.00	0.00	0.00	0.00	0.00	
1.00	RT2 RB3 RB4	205.04	0.00	0.01	0.00	10.39	
2.00		204.25	0.00	0.01	0.01	11.59	
4.00		406.10	0.00	0.03	0.01	26.48	
6.00		402.91	0.00	0.04	0.02	28.55	
8.00		399.73	0.00	0.04	0.02	29.93	
10.00		396.54	0.01	0.05	0.03	30.86	
12.00		393.35	0.01	0.06	0.03	31.48	
14.00		390.16	0.01	0.06	0.04	31.87	
16.00	Bot - Section 2	386.97	0.02	0.06	0.04	32.09	
16.25	RT1 RB5	97.07	0.02	0.06	0.04	8.06	
18.00	RB6	676.67	0.02	0.07	0.04	56.77	
18.75	RT3 RT4	288.50	0.03	0.07	0.04	24.29	
19.50	RB7	287.61	0.03	0.07	0.04	24.29	
20.00		191.24	0.03	0.07	0.04	16.19	
22.00	Top - Section 1	760.98	0.04	0.07	0.04	64.87	
24.00		380.38	0.04	0.07	0.04	32.61	
26.00		377.19	0.05	0.07	0.04	32.51	
28.00		374.00	0.06	0.07	0.04	32.38	
30.00	RB8	370.82	0.07	0.07	0.04	32.26	
31.00	RT5	184.21	0.07	0.07	0.04	16.06	
32.00		183.42	0.08	0.07	0.04	16.03	
34.00	RT6	364.44	0.09	0.07	0.04	32.01	
35.50	RT7	271.24	0.09	0.07	0.04	23.91	
36.00		90.01	0.10	0.07	0.04	7.95	
38.00		358.06	0.11	0.07	0.04	31.78	
40.00	Appurtenance(s)	364.87	0.12	0.07	0.03	32.57	
42.00		351.69	0.13	0.07	0.03	31.57	
44.00		348.50	0.14	0.07	0.03	31.46	
45.16	RB9	200.67	0.15	0.07	0.03	18.17	
46.00	RT8	144.64	0.16	0.07	0.03	13.12	
48.00		342.12	0.17	0.07	0.03	31.19	
50.00	Bot - Section 3	338.93	0.18	0.06	0.03	31.01	
52.00		677.65	0.20	0.06	0.02	62.15	
54.00		671.27	0.22	0.06	0.02	61.58	
56.00	Top - Section 2	664.89	0.23	0.06	0.02	60.87	
58.00	RT9 RB10	332.34	0.25	0.06	0.02	30.25	
60.00		329.15	0.27	0.05	0.02	29.67	
62.00		325.96	0.28	0.05	0.01	28.94	
64.00		322.78	0.30	0.04	0.01	28.03	
66.00		319.59	0.32	0.04	0.01	26.91	
68.00		316.40	0.34	0.04	0.01	25.55	
70.00		313.21	0.36	0.03	0.01	23.94	
72.00		310.02	0.38	0.02	0.01	22.05	
74.00		306.83	0.40	0.02	0.01	19.90	
76.00		303.64	0.43	0.01	0.01	17.50	

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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78.00	RT10 RB11	300.46	0.45	0.00	0.01	14.91
80.00	Top - Section 3	297.27	0.47	-0.01	0.01	12.22
82.00		245.49	0.50	-0.01	0.01	7.95
84.00		242.84	0.52	-0.02	0.01	5.78
86.00		240.18	0.55	-0.03	0.01	3.77
88.00		237.52	0.57	-0.04	0.01	1.98
90.00		234.87	0.60	-0.05	0.01	0.44
92.00		232.21	0.62	-0.06	0.02	-0.82
94.00		229.55	0.65	-0.07	0.02	-1.82
95.00	Bot - Section 5	113.78	0.67	-0.08	0.02	-1.10
95.58	RT11	132.62	0.67	-0.08	0.03	-1.41
96.00		95.75	0.68	-0.08	0.03	-1.07
98.00		452.75	0.71	-0.09	0.03	-6.12
100.00	Top - Section 4	447.44	0.74	-0.10	0.04	-6.65
102.00		223.20	0.77	-0.11	0.05	-3.41
104.00		220.55	0.80	-0.11	0.05	-3.27
106.00		217.89	0.83	-0.12	0.06	-2.95
108.00		215.23	0.86	-0.12	0.07	-2.47
110.00	Appurtenance(s)	268.57	0.89	-0.12	0.08	-2.32
112.00		209.92	0.93	-0.12	0.10	-1.06
114.00		207.26	0.96	-0.12	0.11	-0.15
115.00	Top - Section 5	102.63	0.98	-0.12	0.12	0.17
116.00		81.75	0.99	-0.11	0.13	0.35
118.00		161.90	1.03	-0.10	0.15	1.63
120.00		159.77	1.06	-0.09	0.17	2.64
122.00		157.65	1.10	-0.07	0.19	3.74
124.00		155.52	1.14	-0.05	0.21	4.92
126.00		153.40	1.17	-0.02	0.23	6.17
128.00		151.27	1.21	0.01	0.26	7.50
130.00		149.15	1.25	0.05	0.29	8.90
132.00		147.02	1.29	0.10	0.32	10.37
133.00	Appurtenance(s)	4419.9	1.31	0.13	0.34	336.84
134.00		72.18	1.33	0.16	0.36	5.93
136.00		142.77	1.37	0.22	0.40	13.48
138.00		140.64	1.41	0.30	0.44	15.12
140.00		138.52	1.45	0.38	0.48	16.82
142.00	Appurtenance(s)	4007.2	1.49	0.47	0.53	545.33
144.00		134.27	1.53	0.58	0.58	20.35
145.00	Top - Section 6	66.34	1.55	0.64	0.61	10.59
146.00		64.22	1.57	0.70	0.63	10.78
148.00		126.88	1.62	0.83	0.69	23.46
148.30	Appurtenance(s)	2089.2	1.62	0.85	0.70	391.74
150.00	Top - Section 7	105.95	1.66	0.98	0.76	21.48
152.00		84.18	1.71	1.14	0.82	18.65
154.00		84.18	1.75	1.32	0.90	20.29
156.00		84.18	1.80	1.52	0.97	22.01
158.00		84.18	1.84	1.74	1.05	23.80
160.00	Appurtenance(s)	1968.6	1.89	1.98	1.14	600.10
<b>Totals:</b>		<b>36,025.1</b>				<b>3,467.2</b>
						<b>Total Wind: 33,538.1</b>

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

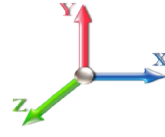
## Calculated Forces

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 0.9D + 1.0Ev + 1.0Eh	<b>Iterations:</b> 25
<b>Gust Response Factor:</b> 1.10	<b>Sds:</b> 0.21
<b>Dead Load Factor:</b> 0.90	<b>Sd1:</b> 0.09
<b>Seismic Load Factor:</b> 1.00	<b>Ss:</b> 0.20
<b>Wind Load Factor:</b> 0.00	<b>S1:</b> 0.05
<b>Structure Frequency (f1):</b> 0.26	<b>SA:</b> 0.02
<b>Seismic Importance Factor:</b> 1.00	



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-39.29	-3.50	0.00	-381.25	0.00	381.25	3683.82	1059.58	4414.92	3756.66	0.00	0.00	0.00	0.067
1.00	-39.06	-3.49	0.00	-377.74	0.00	377.74	3677.71	1055.47	4380.73	3735.77	0.00	0.00	0.00	0.066
2.00	-38.83	-3.48	0.00	-374.25	0.00	374.25	3671.54	1051.36	4346.67	3714.86	0.00	0.00	-0.01	0.066
4.00	-38.37	-3.46	0.00	-367.28	0.00	367.28	3659.00	1043.14	4278.95	3673.00	0.01	0.01	-0.01	0.065
6.00	-37.92	-3.44	0.00	-360.36	0.00	360.36	3646.20	1034.91	4211.76	3631.09	0.01	0.01	-0.02	0.064
8.00	-37.46	-3.41	0.00	-353.48	0.00	353.48	3633.16	1026.69	4145.10	3589.13	0.02	0.02	-0.03	0.064
10.00	-37.01	-3.39	0.00	-346.65	0.00	346.65	3619.85	1018.47	4078.97	3547.13	0.04	0.04	-0.03	0.063
12.00	-36.56	-3.36	0.00	-339.88	0.00	339.88	3606.29	1010.25	4013.38	3505.10	0.05	0.05	-0.04	0.062
14.00	-36.12	-3.33	0.00	-333.16	0.00	333.16	3592.48	1002.02	3948.31	3463.03	0.07	0.07	-0.05	0.061
16.00	-35.68	-3.30	0.00	-326.50	0.00	326.50	3578.41	993.80	3883.78	3420.94	0.09	0.09	-0.05	0.061
16.25	-35.58	-3.29	0.00	-325.68	0.00	325.68	3576.63	992.77	3875.75	3415.68	0.09	0.09	-0.05	0.070
18.00	-34.88	-3.24	0.00	-319.91	0.00	319.91	3564.09	985.58	3819.78	3378.83	0.11	0.11	-0.06	0.064
18.75	-34.59	-3.22	0.00	-317.48	0.00	317.48	3558.65	982.50	3795.92	3363.04	0.12	0.12	-0.06	0.075
19.50	-34.30	-3.19	0.00	-315.07	0.00	315.07	3553.18	979.41	3772.13	3347.24	0.13	0.13	-0.07	0.064
20.00	-34.10	-3.18	0.00	-313.47	0.00	313.47	3549.51	977.36	3756.31	3336.71	0.14	0.14	-0.07	0.064
22.00	-33.32	-3.12	0.00	-307.11	0.00	307.11	3563.12	985.03	3815.51	3376.01	0.17	0.17	-0.08	0.064
24.00	-32.88	-3.09	0.00	-300.88	0.00	300.88	3548.52	976.81	3752.08	3333.89	0.20	0.20	-0.08	0.062
26.00	-32.45	-3.06	0.00	-294.70	0.00	294.70	3533.67	968.58	3689.18	3291.77	0.24	0.24	-0.09	0.061
28.00	-32.02	-3.03	0.00	-288.58	0.00	288.58	3518.56	960.36	3626.81	3249.64	0.28	0.28	-0.10	0.060
30.00	-31.59	-3.00	0.00	-282.52	0.00	282.52	3503.20	952.14	3564.97	3207.53	0.32	0.32	-0.10	0.047
31.00	-31.38	-2.99	0.00	-279.52	0.00	279.52	3495.43	948.03	3534.25	3186.48	0.34	0.34	-0.11	0.054
32.00	-31.17	-2.97	0.00	-276.53	0.00	276.53	3487.59	943.92	3503.66	3165.43	0.37	0.37	-0.11	0.054
34.00	-30.75	-2.94	0.00	-270.59	0.00	270.59	3471.72	935.70	3442.89	3123.35	0.41	0.41	-0.12	0.066
35.50	-30.43	-2.92	0.00	-266.17	0.00	266.17	3459.65	929.53	3397.66	3091.80	0.45	0.45	-0.12	0.066
36.00	-30.33	-2.91	0.00	-264.71	0.00	264.71	3455.59	927.47	3382.65	3081.29	0.46	0.46	-0.12	0.065
38.00	-29.91	-2.89	0.00	-258.88	0.00	258.88	3439.21	919.25	3322.94	3039.26	0.52	0.52	-0.13	0.065
40.00	-29.49	-2.86	0.00	-253.11	0.00	253.11	3422.57	911.03	3263.76	2997.28	0.57	0.57	-0.14	0.064
42.00	-29.08	-2.83	0.00	-247.40	0.00	247.40	3405.68	902.81	3205.11	2955.34	0.64	0.64	-0.15	0.063
44.00	-28.67	-2.80	0.00	-241.74	0.00	241.74	3388.54	894.58	3146.99	2913.44	0.70	0.70	-0.16	0.062
45.16	-28.44	-2.78	0.00	-238.50	0.00	238.50	3378.48	889.81	3113.53	2889.17	0.74	0.74	-0.16	0.045
46.00	-28.27	-2.77	0.00	-236.16	0.00	236.16	3371.14	886.36	3089.41	2871.61	0.77	0.77	-0.16	0.058
48.00	-27.86	-2.74	0.00	-230.62	0.00	230.62	3353.48	878.14	3032.36	2829.83	0.84	0.84	-0.17	0.058
50.00	-27.47	-2.71	0.00	-225.14	0.00	225.14	3335.57	869.92	2975.84	2788.13	0.91	0.91	-0.18	0.057
52.00	-26.76	-2.65	0.00	-219.71	0.00	219.71	3317.41	861.69	2919.85	2746.50	0.98	0.98	-0.19	0.056
54.00	-26.06	-2.59	0.00	-214.41	0.00	214.41	3298.98	853.47	2864.39	2704.94	1.06	1.06	-0.19	0.055
56.00	-25.37	-2.53	0.00	-209.22	0.00	209.22	3316.18	861.14	2916.12	2743.71	1.15	1.15	-0.20	0.055
58.00	-24.98	-2.50	0.00	-204.16	0.00	204.16	3297.74	852.92	2860.70	2702.16	1.23	1.23	-0.21	0.057
60.00	-24.59	-2.48	0.00	-199.15	0.00	199.15	3279.05	844.70	2805.81	2660.71	1.32	1.32	-0.22	0.057
62.00	-24.20	-2.45	0.00	-194.20	0.00	194.20	3260.10	836.48	2751.45	2619.34	1.41	1.41	-0.22	0.056
64.00	-23.82	-2.42	0.00	-189.30	0.00	189.30	3240.90	828.25	2697.62	2578.08	1.51	1.51	-0.23	0.055
66.00	-23.44	-2.40	0.00	-184.46	0.00	184.46	3221.44	820.03	2644.33	2536.92	1.61	1.61	-0.24	0.054
68.00	-23.06	-2.37	0.00	-179.66	0.00	179.66	3201.73	811.81	2591.56	2495.87	1.71	1.71	-0.25	0.054
70.00	-22.68	-2.35	0.00	-174.92	0.00	174.92	3181.76	803.59	2539.33	2454.94	1.82	1.82	-0.26	0.053
72.00	-22.31	-2.33	0.00	-170.22	0.00	170.22	3161.54	795.36	2487.63	2414.13	1.92	1.92	-0.26	0.052
74.00	-21.94	-2.31	0.00	-165.56	0.00	165.56	3141.06	787.14	2436.47	2373.45	2.04	2.04	-0.27	0.051
76.00	-21.57	-2.30	0.00	-160.93	0.00	160.93	3120.33	778.92	2385.83	2332.91	2.15	2.15	-0.28	0.051
78.00	-21.21	-2.28	0.00	-156.34	0.00	156.34	3099.34	770.70	2335.73	2292.51	2.27	2.27	-0.29	0.050

## Calculated Forces

**Structure:** CT02049-S-SBA      **Code:** EIA/TIA-222-H      7/15/2019  
**Site Name:** Beacon Falls      **Exposure:** B  
**Height:** 160.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 0.000 (ft)      **Site Class:** D - Stiff Soil  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      Page: 71



80.00	-20.85	-2.27	0.00	-151.78	0.00	151.78	3078.09	762.47	2286.15	2252.26	2.39	-0.29	0.049
80.00	-20.85	-2.27	0.00	-151.78	0.00	151.78	2384.58	636.50	1911.75	1750.88	2.39	-0.29	0.053
82.00	-20.53	-2.26	0.00	-147.24	0.00	147.24	2370.62	629.65	1870.81	1721.73	2.52	-0.30	0.058
84.00	-20.22	-2.26	0.00	-142.71	0.00	142.71	2356.42	622.80	1830.32	1692.63	2.65	-0.31	0.057
86.00	-19.91	-2.26	0.00	-138.19	0.00	138.19	2341.95	615.94	1790.27	1663.57	2.78	-0.32	0.056
88.00	-19.60	-2.26	0.00	-133.68	0.00	133.68	2327.23	609.09	1750.66	1634.56	2.91	-0.33	0.055
90.00	-19.30	-2.26	0.00	-129.17	0.00	129.17	2312.26	602.24	1711.49	1605.61	3.05	-0.34	0.054
92.00	-19.00	-2.26	0.00	-124.65	0.00	124.65	2297.03	595.39	1672.77	1576.72	3.20	-0.35	0.053
94.00	-18.70	-2.26	0.00	-120.14	0.00	120.14	2281.55	588.54	1634.49	1547.90	3.34	-0.35	0.052
95.00	-18.55	-2.26	0.00	-117.88	0.00	117.88	2273.71	585.11	1615.51	1533.52	3.42	-0.36	0.051
95.58	-18.40	-2.26	0.00	-116.57	0.00	116.57	2269.13	583.12	1604.56	1525.19	3.46	-0.36	0.050
95.58	-18.40	-2.26	0.00	-116.57	0.00	116.57	2269.13	583.12	1604.56	1525.19	3.46	-0.36	0.050
96.00	-18.29	-2.26	0.00	-115.62	0.00	115.62	2265.81	581.68	1596.65	1519.16	3.49	-0.36	0.084
98.00	-17.79	-2.26	0.00	-111.10	0.00	111.10	2249.81	574.83	1559.25	1490.50	3.65	-0.38	0.082
100.00	-17.30	-2.26	0.00	-106.58	0.00	106.58	2259.61	579.02	1582.04	1508.00	3.81	-0.39	0.078
102.00	-17.00	-2.26	0.00	-102.06	0.00	102.06	2243.52	572.17	1544.82	1479.37	3.98	-0.40	0.077
104.00	-16.71	-2.27	0.00	-97.53	0.00	97.53	2227.17	565.31	1508.04	1450.84	4.15	-0.42	0.075
106.00	-16.42	-2.27	0.00	-93.00	0.00	93.00	2210.57	558.46	1471.71	1422.40	4.33	-0.43	0.073
108.00	-16.13	-2.27	0.00	-88.46	0.00	88.46	2193.71	551.61	1435.82	1394.06	4.51	-0.44	0.071
110.00	-15.80	-2.27	0.00	-83.92	0.00	83.92	2176.60	544.76	1400.37	1365.84	4.70	-0.46	0.069
112.00	-15.51	-2.27	0.00	-79.39	0.00	79.39	2159.23	537.91	1365.36	1337.73	4.89	-0.47	0.067
114.00	-15.23	-2.27	0.00	-74.84	0.00	74.84	2141.61	531.05	1330.80	1309.73	5.09	-0.48	0.064
115.00	-15.10	-2.27	0.00	-72.57	0.00	72.57	2132.70	527.63	1313.68	1295.79	5.19	-0.49	0.063
115.00	-15.10	-2.27	0.00	-72.57	0.00	72.57	1556.62	422.98	1055.35	949.74	5.19	-0.49	0.086
116.00	-14.98	-2.27	0.00	-70.30	0.00	70.30	1551.43	420.24	1041.71	940.38	5.30	-0.49	0.084
118.00	-14.74	-2.27	0.00	-65.76	0.00	65.76	1540.84	414.76	1014.72	921.68	5.51	-0.51	0.081
120.00	-14.50	-2.27	0.00	-61.21	0.00	61.21	1529.99	409.28	988.07	902.99	5.72	-0.52	0.077
122.00	-14.27	-2.27	0.00	-56.67	0.00	56.67	1518.89	403.80	961.78	884.33	5.94	-0.53	0.074
124.00	-14.03	-2.26	0.00	-52.14	0.00	52.14	1507.54	398.32	935.85	865.70	6.17	-0.55	0.070
126.00	-13.80	-2.26	0.00	-47.61	0.00	47.61	1495.93	392.84	910.27	847.11	6.40	-0.56	0.065
128.00	-13.57	-2.25	0.00	-43.09	0.00	43.09	1484.06	387.35	885.04	828.56	6.64	-0.57	0.061
130.00	-13.35	-2.24	0.00	-38.59	0.00	38.59	1471.95	381.87	860.17	810.06	6.88	-0.58	0.057
132.00	-13.12	-2.23	0.00	-34.10	0.00	34.10	1459.57	376.39	835.65	791.62	7.12	-0.59	0.052
133.00	-9.10	-1.85	0.00	-31.87	0.00	31.87	1453.29	373.65	823.53	782.42	7.25	-0.60	0.047
134.00	-9.00	-1.85	0.00	-30.01	0.00	30.01	1446.94	370.91	811.49	773.23	7.37	-0.60	0.045
136.00	-8.80	-1.83	0.00	-26.32	0.00	26.32	1434.06	365.43	787.68	754.91	7.63	-0.61	0.041
138.00	-8.61	-1.82	0.00	-22.65	0.00	22.65	1420.92	359.95	764.23	736.67	7.89	-0.62	0.037
140.00	-8.41	-1.80	0.00	-19.01	0.00	19.01	1407.52	354.47	741.13	718.50	8.15	-0.63	0.032
142.00	-4.74	-1.22	0.00	-15.41	0.00	15.41	1393.87	348.98	718.38	700.42	8.41	-0.63	0.025
144.00	-4.58	-1.19	0.00	-12.98	0.00	12.98	1379.97	343.50	695.99	682.44	8.68	-0.64	0.022
145.00	-4.50	-1.18	0.00	-11.79	0.00	11.79	1372.92	340.76	684.93	673.48	8.81	-0.64	0.021
145.00	-4.50	-1.18	0.00	-11.79	0.00	11.79	931.20	332.53	24157.3	604.09	8.81	-0.64	0.024
146.00	-4.42	-1.17	0.00	-10.60	0.00	10.60	925.24	329.86	23770.3	594.77	8.94	-0.64	0.023
148.00	-4.26	-1.15	0.00	-8.26	0.00	8.26	913.32	324.51	23005.8	576.36	9.21	-0.64	0.019
148.30	-2.38	-0.73	0.00	-7.92	0.00	7.92	911.53	323.71	22892.2	573.63	9.25	-0.65	0.016
150.00	-2.25	-0.71	0.00	-6.67	0.00	6.67	901.40	319.16	22253.7	558.24	9.48	-0.65	0.014
150.00	-2.25	-0.71	0.00	-6.67	0.00	6.67	556.65	167.00	10296.1	213.69	9.48	-0.65	0.035
152.00	-2.14	-0.69	0.00	-5.25	0.00	5.25	556.65	167.00	10296.1	213.69	9.76	-0.65	0.028
154.00	-2.03	-0.67	0.00	-3.87	0.00	3.87	556.65	167.00	10296.1	213.69	10.03	-0.66	0.022
156.00	-1.91	-0.65	0.00	-2.53	0.00	2.53	556.65	167.00	10296.1	213.69	10.31	-0.66	0.015
158.00	-1.80	-0.62	0.00	-1.24	0.00	1.24	556.65	167.00	10296.1	213.69	10.58	-0.67	0.009
160.00	0.00	-0.60	0.00	0.00	0.00	0.00	556.65	167.00	10296.1	213.69	10.86	-0.67	0.000

# Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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<b>Load Case:</b> 1.0D + 1.0W 60 mph Wind		<b>Iterations</b> 26
<b>Dead Load Factor</b>	1.00	
<b>Wind Load Factor</b>	1.00	

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00	RB1 RB2	1.00	0.70	5.991	6.59	215.71	0.950	0.000	0.00	0.000	0.00	0.0	0.0	0.0
1.00	RT2 RB3 RB4	1.00	0.70	5.991	6.59	214.88	1.089 *	0.000	1.00	4.338	4.73	31.1	0.0	205.0
2.00		1.00	0.70	5.991	6.59	214.05	1.091 *	0.000	1.00	4.321	4.71	31.1	0.0	204.2
4.00		1.00	0.70	5.991	6.59	212.39	1.093 *	0.000	2.00	8.592	9.39	61.9	0.0	406.1
6.00		1.00	0.70	5.991	6.59	210.73	1.097 *	0.000	2.00	8.525	9.35	61.6	0.0	402.9
8.00		1.00	0.70	5.991	6.59	209.07	1.100 *	0.000	2.00	8.458	9.31	61.3	0.0	399.7
10.00		1.00	0.70	5.991	6.59	207.41	1.104 *	0.000	2.00	8.391	9.26	61.0	0.0	396.5
12.00		1.00	0.70	5.991	6.59	205.74	1.107 *	0.000	2.00	8.324	9.22	60.7	0.0	393.3
14.00		1.00	0.70	5.991	6.59	204.08	1.111 *	0.000	2.00	8.257	9.17	60.4	0.0	390.2
16.00	Bot - Section 2	1.00	0.70	5.991	6.59	202.42	1.114 *	0.000	2.00	8.190	9.13	60.2	0.0	387.0
16.25	RT1 RB5	1.00	0.70	5.991	6.59	202.21	1.117 *	0.000	0.25	1.035	1.16	7.6	0.0	97.1
18.00	RB6	1.00	0.70	5.991	6.59	200.76	1.118 *	0.000	1.75	7.217	8.07	53.2	0.0	676.7
18.75	RT3 RT4	1.00	0.70	5.991	6.59	200.14	1.121 *	0.000	0.75	3.077	3.45	22.7	0.0	288.5
19.50	RB7	1.00	0.70	5.991	6.59	199.51	1.122 *	0.000	0.75	3.068	3.44	22.7	0.0	287.6
20.00		1.00	0.70	5.991	6.59	199.10	1.123 *	0.000	0.50	2.040	2.29	15.1	0.0	191.2
22.00	Top - Section 1	1.00	0.70	5.991	6.59	197.44	1.126 *	0.000	2.00	8.118	9.14	60.2	0.0	761.0
24.00		1.00	0.70	5.991	6.59	198.99	1.122 *	0.000	2.00	8.052	9.04	59.5	0.0	380.4
26.00		1.00	0.70	5.991	6.59	197.33	1.126 *	0.000	2.00	7.985	8.99	59.3	0.0	377.2
28.00		1.00	0.70	5.991	6.59	195.66	1.130 *	0.000	2.00	7.918	8.95	59.0	0.0	374.0
30.00	RB8	1.00	0.70	5.997	6.60	194.08	1.134 *	0.000	2.00	7.851	8.90	58.7	0.0	370.8
31.00	RT5	1.00	0.71	6.053	6.66	194.16	1.137 *	0.000	1.00	3.900	4.43	29.5	0.0	184.2
32.00		1.00	0.71	6.108	6.72	194.20	1.139 *	0.000	1.00	3.883	4.42	29.7	0.0	183.4
34.00	RT6	1.00	0.73	6.215	6.84	194.20	0.988 *	0.000	2.00	7.717	7.63	52.1	0.0	364.4
35.50	RT7	1.00	0.74	6.292	6.92	194.13	0.991 *	0.000	1.50	5.744	5.69	39.4	0.0	271.2
36.00		1.00	0.74	6.317	6.95	194.09	0.992 *	0.000	0.50	1.906	1.89	13.1	0.0	90.0
38.00		1.00	0.75	6.416	7.06	193.87	0.994 *	0.000	2.00	7.583	7.54	53.2	0.0	358.1
40.00	Appurtenance(s)	1.00	0.76	6.510	7.16	193.57	0.997 *	0.000	2.00	7.516	7.49	53.7	0.0	354.9
42.00		1.00	0.77	6.602	7.26	193.18	1.000 *	0.000	2.00	7.449	7.45	54.1	0.0	351.7
44.00		1.00	0.78	6.690	7.36	192.71	1.003 *	0.000	2.00	7.382	7.40	54.5	0.0	348.5
45.16	RB9	1.00	0.79	6.740	7.41	192.40	1.005 *	0.000	1.16	4.251	4.27	31.7	0.0	200.7
46.00	RT8	1.00	0.79	6.775	7.45	192.17	1.007 *	0.000	0.84	3.064	3.09	23.0	0.0	144.6
48.00		1.00	0.80	6.858	7.54	191.56	1.009 *	0.000	2.00	7.248	7.31	55.2	0.0	342.1
50.00	Bot - Section 3	1.00	0.81	6.939	7.63	190.90	1.012 *	0.000	2.00	7.181	7.27	55.5	0.0	338.9
52.00		1.00	0.82	7.017	7.72	190.17	1.016 *	0.000	2.00	7.244	7.36	56.8	0.0	677.6
54.00		1.00	0.83	7.093	7.80	189.39	1.019 *	0.000	2.00	7.177	7.31	57.1	0.0	671.3
56.00	Top - Section 2	1.00	0.84	7.167	7.88	188.56	1.022 *	0.000	2.00	7.110	7.27	57.3	0.0	664.9
58.00	RT9 RB10	1.00	0.85	7.239	7.96	191.21	1.019 *	0.000	2.00	7.043	7.18	57.2	0.0	332.3
60.00		1.00	0.85	7.310	8.04	190.31	1.022 *	0.000	2.00	6.976	7.13	57.4	0.0	329.2
62.00		1.00	0.86	7.379	8.12	189.36	1.026 *	0.000	2.00	6.909	7.09	57.5	0.0	326.0
64.00		1.00	0.87	7.446	8.19	188.36	1.029 *	0.000	2.00	6.842	7.04	57.7	0.0	322.8
66.00		1.00	0.88	7.512	8.26	187.33	1.033 *	0.000	2.00	6.775	7.00	57.8	0.0	319.6
68.00		1.00	0.89	7.576	8.33	186.27	1.037 *	0.000	2.00	6.708	6.95	58.0	0.0	316.4
70.00		1.00	0.89	7.639	8.40	185.16	1.041 *	0.000	2.00	6.641	6.91	58.1	0.0	313.2
72.00		1.00	0.90	7.701	8.47	184.03	1.044 *	0.000	2.00	6.574	6.87	58.2	0.0	310.0
74.00		1.00	0.91	7.761	8.54	182.86	1.048 *	0.000	2.00	6.507	6.82	58.2	0.0	306.8
76.00		1.00	0.91	7.821	8.60	181.66	1.052 *	0.000	2.00	6.440	6.78	58.3	0.0	303.6
78.00	RT10 RB11	1.00	0.92	7.879	8.67	180.43	1.056 *	0.000	2.00	6.373	6.73	58.3	0.0	300.5



## Wind Loading - Shaft

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00 Top - Section 3	1.00	0.93	7.936	8.73	179.17	1.060 *	0.000	2.00	6.306	6.69	58.4	0.0	297.3
82.00	1.00	0.93	7.992	8.79	177.88	1.065 *	0.000	2.00	6.239	6.64	58.4	0.0	245.5
84.00	1.00	0.94	8.047	8.85	176.57	1.069 *	0.000	2.00	6.172	6.60	58.4	0.0	242.8
86.00	1.00	0.95	8.102	8.91	175.23	1.073 *	0.000	2.00	6.106	6.55	58.4	0.0	240.2
88.00	1.00	0.95	8.155	8.97	173.87	1.078 *	0.000	2.00	6.039	6.51	58.4	0.0	237.5
90.00	1.00	0.96	8.208	9.03	172.49	1.083 *	0.000	2.00	5.972	6.46	58.4	0.0	234.9
92.00	1.00	0.96	8.259	9.09	171.08	1.087 *	0.000	2.00	5.905	6.42	58.3	0.0	232.2
94.00	1.00	0.97	8.310	9.14	169.65	1.092 *	0.000	2.00	5.838	6.38	58.3	0.0	229.6
95.00 Bot - Section 5	1.00	0.97	8.335	9.17	168.92	1.096 *	0.000	1.00	2.894	3.17	29.1	0.0	113.8
95.58 RT11	1.00	0.98	8.350	9.18	168.50	1.098 *	0.000	0.58	1.702	1.87	17.2	0.0	132.6
96.00	1.00	0.98	8.360	9.20	168.19	1.099 *	0.000	0.42	1.229	1.35	12.4	0.0	95.8
98.00	1.00	0.98	8.410	9.25	166.72	1.102 *	0.000	2.00	5.812	6.41	59.3	0.0	452.8
100.00 Top - Section 4	1.00	0.99	8.459	9.30	165.23	1.002 *	0.000	2.00	5.745	5.76	53.6	0.0	447.4
102.00	1.00	0.99	8.507	9.36	166.91	1.000 *	0.000	2.00	5.678	5.68	53.1	0.0	223.2
104.00	1.00	1.00	8.554	9.41	165.39	1.004 *	0.000	2.00	5.611	5.63	53.0	0.0	220.5
106.00	1.00	1.00	8.601	9.46	163.85	1.008 *	0.000	2.00	5.544	5.59	52.9	0.0	217.9
108.00	1.00	1.01	8.647	9.51	162.29	1.012 *	0.000	2.00	5.477	5.54	52.7	0.0	215.2
110.00 Appurtenance(s)	1.00	1.02	8.692	9.56	160.71	1.016 *	0.000	2.00	5.410	5.50	52.6	0.0	212.6
112.00	1.00	1.02	8.737	9.61	159.12	1.021 *	0.000	2.00	5.343	5.45	52.4	0.0	209.9
114.00	1.00	1.03	8.781	9.66	157.51	1.025 *	0.000	2.00	5.276	5.41	52.2	0.0	207.3
115.00 Top - Section 5	1.00	1.03	8.803	9.68	156.70	1.029 *	0.000	1.00	2.613	2.69	26.0	0.0	102.6
116.00	1.00	1.03	8.825	9.71	155.89	1.031 *	0.000	1.00	2.596	2.68	26.0	0.0	81.7
118.00	1.00	1.04	8.868	9.75	154.25	1.034 *	0.000	2.00	5.142	5.32	51.9	0.0	161.9
120.00	1.00	1.04	8.911	9.80	152.59	1.039 *	0.000	2.00	5.075	5.28	51.7	0.0	159.8
122.00	1.00	1.05	8.953	9.85	150.92	1.044 *	0.000	2.00	5.008	5.23	51.5	0.0	157.6
124.00	1.00	1.05	8.995	9.89	149.24	1.050 *	0.000	2.00	4.941	5.19	51.3	0.0	155.5
126.00	1.00	1.06	9.036	9.94	147.54	1.055 *	0.000	2.00	4.874	5.14	51.1	0.0	153.4
128.00	1.00	1.06	9.077	9.98	145.83	1.060 *	0.000	2.00	4.807	5.10	50.9	0.0	151.3
130.00	1.00	1.07	9.117	10.03	144.10	1.066 *	0.000	2.00	4.741	5.05	50.7	0.0	149.1
132.00	1.00	1.07	9.157	10.07	142.36	1.072 *	0.000	2.00	4.674	5.01	50.4	0.0	147.0
133.00 Appurtenance(s)	1.00	1.07	9.177	10.09	141.49	1.076 *	0.000	1.00	2.312	2.49	25.1	0.0	72.7
134.00	1.00	1.07	9.196	10.12	140.61	1.079 *	0.000	1.00	2.295	2.48	25.0	0.0	72.2
136.00	1.00	1.08	9.235	10.16	138.84	1.084 *	0.000	2.00	4.540	4.92	50.0	0.0	142.8
138.00	1.00	1.08	9.274	10.20	137.07	1.090 *	0.000	2.00	4.473	4.87	49.7	0.0	140.6
140.00	1.00	1.09	9.312	10.24	135.28	1.096 *	0.000	2.00	4.406	4.83	49.5	0.0	138.5
142.00 Appurtenance(s)	1.00	1.09	9.350	10.28	133.48	1.103 *	0.000	2.00	4.339	4.79	49.2	0.0	136.4
144.00	1.00	1.10	9.387	10.33	131.66	0.950	0.000	2.00	4.272	4.06	41.9	0.0	134.3
145.00 Top - Section 6	1.00	1.10	9.406	10.35	130.75	0.950	0.000	1.00	2.111	2.01	20.7	0.0	66.3
146.00	1.00	1.10	9.424	10.37	125.44	0.600	0.000	1.00	2.023	1.21	12.6	0.0	64.2
148.00	1.00	1.11	9.461	10.41	123.67	0.600	0.000	2.00	3.998	2.40	25.0	0.0	126.9
148.30 Appurtenance(s)	1.00	1.11	9.467	10.41	123.40	0.600	0.000	0.30	0.594	0.36	3.7	0.0	18.9
150.00 Top - Section 7	1.00	1.11	9.497	10.45	121.88	0.600	0.000	1.70	3.339	2.00	20.9	0.0	105.9
152.00	1.00	1.11	9.533	10.49	83.48	0.645 *	0.000	2.00	2.667	1.72	18.0	0.0	84.2
154.00	1.00	1.12	9.569	10.53	83.64	0.645 *	0.000	2.00	2.667	1.72	18.1	0.0	84.2
156.00	1.00	1.12	9.604	10.56	83.79	0.645 *	0.000	2.00	2.667	1.72	18.2	0.0	84.2
158.00	1.00	1.13	9.639	10.60	83.94	0.645 *	0.000	2.00	2.667	1.72	18.2	0.0	84.2
160.00 Appurtenance(s)	1.00	1.13	9.674	10.64	84.09	0.645 *	0.000	2.00	2.667	1.72	18.3	0.0	84.2

\* Cf Adjusted by Linear Load Ra Effect

<b>Totals:</b>	<b>160.00</b>	<b>4,193.0</b>	<b>23,786.1</b>
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## Discrete Appurtenance Forces

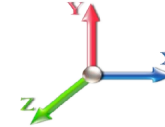
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)			
1	160.00	SBNHH-1D65B	9	9.709	10.679	0.81	1.00	59.49	360.00	0.000	2.000	635.28	0.00	1270.56			
2	160.00	RRH2x90-AWS	3	9.709	10.679	0.67	1.00	5.35	132.00	0.000	2.000	57.10	0.00	114.20			
3	160.00	6' Lightning rod	1	9.709	10.679	1.00	1.00	0.38	6.50	0.000	2.000	4.06	0.00	8.12			
4	160.00	Low Profile Platform	1	9.709	10.679	1.00	1.00	22.00	1200.00	0.000	2.000	234.95	0.00	469.90			
5	160.00	DB846F65ZAXY	6	9.709	10.679	0.93	1.00	39.34	126.00	0.000	2.000	420.12	0.00	840.24			
6	160.00	DB222	1	9.709	10.679	1.00	1.00	2.25	16.00	0.000	2.000	24.03	0.00	48.06			
7	160.00	DB-T1-6Z-8AB-0Z	1	9.709	10.679	1.00	1.00	4.80	44.00	0.000	2.000	51.26	0.00	102.52			
8	148.30	APXVTM14-C-120	3	9.497	10.447	0.61	0.80	11.59	168.00	0.000	1.700	121.13	0.00	205.92			
9	148.30	1900MHz RRH	3	9.533	10.487	0.54	0.80	6.11	132.00	0.000	3.700	64.08	0.00	237.09			
10	148.30	800 MHz RRH	3	9.533	10.487	0.54	0.80	4.00	159.00	0.000	3.700	41.99	0.00	155.36			
11	148.30	APXVSPP18-C-A20	3	9.533	10.487	0.66	0.80	15.98	171.00	0.000	3.700	167.54	0.00	619.88			
12	148.30	ACU-A20-N	4	9.533	10.487	0.54	0.80	0.30	4.00	0.000	3.700	3.15	0.00	11.65			
13	148.30	ALU 800MHz External	3	9.533	10.487	0.54	0.80	1.25	26.40	0.000	3.700	13.15	0.00	48.67			
14	148.30	TD-RRH8x20-25	3	9.497	10.447	0.54	0.80	6.51	210.00	0.000	1.700	68.04	0.00	115.66			
15	148.30	Low Profile Platform	1	9.467	10.413	1.00	1.00	17.50	1200.00	0.000	0.000	182.23	0.00	0.00			
16	142.00	Platform w/ HR & Bracing	1	9.350	10.285	1.00	1.00	51.70	2246.00	0.000	0.000	531.73	0.00	0.00			
17	142.00	Ericsson Radio 4415	1	9.350	10.285	0.50	0.75	0.93	44.10	0.000	0.000	9.61	0.00	0.00			
18	142.00	Ericsson Radio 4449	4	9.350	10.285	0.50	0.75	3.32	280.00	0.000	0.000	34.11	0.00	0.00			
19	142.00	RFS	1	9.350	10.285	0.52	0.75	7.70	106.00	0.000	0.000	79.21	0.00	0.00			
20	142.00	Ericsson Air 32	4	9.350	10.285	0.65	0.75	16.99	528.80	0.000	0.000	174.75	0.00	0.00			
21	142.00	Ericsson AIR 21 B2A/B4P	3	9.350	10.285	0.65	0.75	11.78	249.00	0.000	0.000	121.20	0.00	0.00			
22	142.00	Ericsson KRY 112 144/1	3	9.363	10.299	0.52	0.75	0.65	33.00	0.000	0.700	6.65	0.00	4.66			
23	142.00	RFS	3	9.350	10.285	0.52	0.75	31.88	384.00	0.000	0.000	327.86	0.00	0.00			
24	133.00	(3) SitePro 1 P/N	2	9.177	10.094	0.75	0.75	32.01	2715.54	0.000	0.000	323.12	0.00	0.00			
25	133.00	Kathrein 800 10121	3	9.177	10.094	0.63	0.80	9.76	138.90	0.000	0.000	98.56	0.00	0.00			
26	133.00	Kathrein 800-10965	3	9.177	10.094	0.57	0.80	23.53	325.80	0.000	0.000	237.54	0.00	0.00			
27	133.00	Cci TPA-65R-LCUUUU-H8	1	9.177	10.094	0.63	0.80	8.06	105.00	0.000	0.000	81.34	0.00	0.00			
28	133.00	Quintel QS66512-2	2	9.177	10.094	0.74	0.80	11.97	222.00	0.000	0.000	120.80	0.00	0.00			
29	133.00	Powerwave LGP21401	6	9.177	10.094	0.54	0.80	4.15	84.60	0.000	0.000	41.88	0.00	0.00			
30	133.00	Ericsson RRUS-32 RRU	3	9.177	10.094	0.54	0.80	6.22	231.00	0.000	0.000	62.82	0.00	0.00			
31	133.00	Ericsson B2/B66A 8843	3	9.177	10.094	0.54	0.80	2.64	216.00	0.000	0.000	26.62	0.00	0.00			
32	133.00	Ericsson B5/B12 4449	3	9.177	10.094	0.54	0.80	3.17	213.00	0.000	0.000	31.98	0.00	0.00			
33	133.00	Raycap DC6-48-60-18-8F	3	9.177	10.094	0.80	0.80	2.21	95.40	0.000	0.000	22.29	0.00	0.00			
34	110.00	3 ft Standoff	1	8.692	9.561	1.00	1.00	2.63	40.00	0.000	0.000	25.15	0.00	0.00			
35	110.00	DB222	1	8.810	9.690	1.00	1.00	2.65	16.00	0.000	5.292	25.68	0.00	135.89			
36	40.00	GPS	1	6.510	7.161	1.00	1.00	1.00	10.00	0.000	0.000	7.16	0.00	0.00			
<b>Totals:</b>								<b>12,239.04</b>							<b>4,478.15</b>		

## Total Applied Force Summary

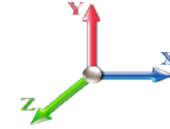
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
1.00		31.14	257.11	0.00	0.00
2.00		31.07	256.31	0.00	0.00
4.00		61.92	510.23	0.00	0.00
6.00		61.62	507.04	0.00	0.00
8.00		61.33	503.85	0.00	0.00
10.00		61.04	500.67	0.00	0.00
12.00		60.74	497.48	0.00	0.00
14.00		60.45	494.29	0.00	0.00
16.00		60.16	491.10	0.00	0.00
16.25		7.62	110.08	0.00	0.00
18.00		53.20	767.78	0.00	0.00
18.75		22.73	327.55	0.00	0.00
19.50		22.69	326.66	0.00	0.00
20.00		15.10	217.27	0.00	0.00
22.00		60.24	865.10	0.00	0.00
24.00		59.55	484.51	0.00	0.00
26.00		59.26	481.32	0.00	0.00
28.00		58.96	478.13	0.00	0.00
30.00		58.72	474.94	0.00	0.00
31.00		29.52	236.28	0.00	0.00
32.00		29.72	235.48	0.00	0.00
34.00		52.13	468.57	0.00	0.00
35.50		39.38	349.33	0.00	0.00
36.00		13.14	116.05	0.00	0.00
38.00		53.18	462.19	0.00	0.00
40.00	(1) attachments	60.81	469.00	0.00	0.00
42.00		54.08	455.49	0.00	0.00
44.00		54.48	452.30	0.00	0.00
45.16		31.68	260.88	0.00	0.00
46.00		22.99	188.24	0.00	0.00
48.00		55.18	445.93	0.00	0.00
50.00		55.48	442.74	0.00	0.00
52.00		56.78	781.46	0.00	0.00
54.00		57.05	775.08	0.00	0.00
56.00		57.30	768.70	0.00	0.00
58.00		57.15	436.15	0.00	0.00
60.00		57.35	432.96	0.00	0.00
62.00		57.53	429.77	0.00	0.00
64.00		57.69	426.58	0.00	0.00
66.00		57.83	423.39	0.00	0.00
68.00		57.96	420.21	0.00	0.00
70.00		58.06	417.02	0.00	0.00
72.00		58.16	413.83	0.00	0.00
74.00		58.23	410.64	0.00	0.00
76.00		58.30	407.45	0.00	0.00
78.00		58.34	404.26	0.00	0.00

## Total Applied Force Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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80.00		58.38	401.08	0.00	0.00
82.00		58.40	349.30	0.00	0.00
84.00		58.41	346.64	0.00	0.00
86.00		58.41	343.99	0.00	0.00
88.00		58.39	341.33	0.00	0.00
90.00		58.37	338.67	0.00	0.00
92.00		58.33	336.02	0.00	0.00
94.00		58.28	333.36	0.00	0.00
95.00		29.08	165.68	0.00	0.00
95.58		17.16	162.72	0.00	0.00
96.00		12.42	117.55	0.00	0.00
98.00		59.26	556.56	0.00	0.00
100.00		53.56	551.25	0.00	0.00
102.00		53.11	327.01	0.00	0.00
104.00		52.99	324.35	0.00	0.00
106.00		52.85	321.70	0.00	0.00
108.00		52.71	319.04	0.00	0.00
110.00	(2) attachments	103.39	372.38	0.00	135.89
112.00		52.41	312.69	0.00	0.00
114.00		52.24	310.03	0.00	0.00
115.00		26.03	154.02	0.00	0.00
116.00		25.98	133.13	0.00	0.00
118.00		51.89	264.67	0.00	0.00
120.00		51.71	262.54	0.00	0.00
122.00		51.51	260.42	0.00	0.00
124.00		51.31	258.29	0.00	0.00
126.00		51.10	256.17	0.00	0.00
128.00		50.89	254.04	0.00	0.00
130.00		50.67	251.91	0.00	0.00
132.00		50.44	249.79	0.00	0.00
133.00	(29) attachments	1072.05	4471.34	0.00	0.00
134.00		25.05	110.85	0.00	0.00
136.00		49.97	220.10	0.00	0.00
138.00		49.72	217.97	0.00	0.00
140.00		49.47	215.85	0.00	0.00
142.00	(20) attachments	1334.34	4084.62	0.00	4.66
144.00		41.91	182.58	0.00	0.00
145.00		20.75	90.49	0.00	0.00
146.00		12.58	88.37	0.00	0.00
148.00		24.96	175.19	0.00	0.00
148.30	(23) attachments	665.01	2096.50	0.00	1394.22
150.00		20.93	140.53	0.00	0.00
152.00		18.04	124.86	0.00	0.00
154.00		18.10	124.86	0.00	0.00
156.00		18.17	124.86	0.00	0.00
158.00		18.24	124.86	0.00	0.00
160.00	(22) attachments	1445.10	2009.36	0.00	2853.59
	<b>Totals:</b>	<b>8,671.16</b>	<b>43,660.94</b>	<b>0.00</b>	<b>4,388.36</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II

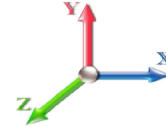


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 26

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
1.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	5.991	0.00	1.10
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	5.991	0.00	0.52
1.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.147	5.991	0.00	2.20
1.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	5.991	0.00	1.91
1.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.147	5.991	0.00	0.52
1.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.147	5.991	0.00	0.00
1.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.147	5.991	0.00	0.00
2.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	5.991	0.00	1.10
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	5.991	0.00	0.52
2.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.149	1.148	5.991	0.00	2.20
2.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	5.991	0.00	1.91
2.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.149	1.148	5.991	0.00	0.52
2.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.149	1.148	5.991	0.00	0.00
2.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.149	1.148	5.991	0.00	0.00
4.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	5.991	0.00	2.20
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	5.991	0.00	1.04
4.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.151	5.991	0.00	4.40
4.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	5.991	0.00	3.82
4.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.151	5.991	0.00	1.04
4.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.151	5.991	0.00	0.00
4.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.150	1.151	5.991	0.00	0.00
6.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	5.991	0.00	2.20
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	5.991	0.00	1.04
6.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.152	1.155	5.991	0.00	4.40
6.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	5.991	0.00	3.82
6.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.152	1.155	5.991	0.00	1.04
6.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.152	1.155	5.991	0.00	0.00
6.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.152	1.155	5.991	0.00	0.00
8.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	5.991	0.00	2.20
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	5.991	0.00	1.04
8.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.158	5.991	0.00	4.40
8.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	5.991	0.00	3.82
8.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.158	5.991	0.00	1.04
8.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.158	5.991	0.00	0.00
8.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.153	1.158	5.991	0.00	0.00
10.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	5.991	0.00	2.20
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	5.991	0.00	1.04
10.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.162	5.991	0.00	4.40
10.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	5.991	0.00	3.82
10.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.162	5.991	0.00	1.04
10.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.154	1.162	5.991	0.00	0.00
10.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.154	1.162	5.991	0.00	0.00
12.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	5.991	0.00	2.20
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	5.991	0.00	1.04
12.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.155	1.166	5.991	0.00	4.40
12.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	5.991	0.00	3.82
12.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.155	1.166	5.991	0.00	1.04

## Linear Appurtenance Segment Forces (Factored)

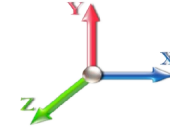
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
12.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.155	1.166	5.991	0.00	0.00
12.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.155	1.166	5.991	0.00	0.00
14.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	5.991	0.00	2.20
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	5.991	0.00	1.04
14.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.156	1.169	5.991	0.00	4.40
14.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	5.991	0.00	3.82
14.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.156	1.169	5.991	0.00	1.04
14.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.156	1.169	5.991	0.00	0.00
14.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.156	1.169	5.991	0.00	0.00
16.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	5.991	0.00	2.20
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	5.991	0.00	1.04
16.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.158	1.173	5.991	0.00	4.40
16.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	5.991	0.00	3.82
16.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.158	1.173	5.991	0.00	1.04
16.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.158	1.173	5.991	0.00	0.00
16.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.158	1.173	5.991	0.00	0.00
16.25	1 5/8" Hybrid	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	5.991	0.00	0.28
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	5.991	0.00	0.13
16.25	1 5/8" Fiber	Yes	0.25	0.000	2.00	0.04	0.00	0.158	1.175	5.991	0.00	0.55
16.25	1-1/4" Fiber	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	5.991	0.00	0.48
16.25	7/8" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.158	1.175	5.991	0.00	0.13
16.25	1.25" Reinforcing	Yes	0.25	0.000	1.25	0.03	0.00	0.158	1.175	5.991	0.00	0.00
16.25	1.25" Reinforcing	Yes	0.25	0.000	2.50	0.05	0.00	0.158	1.175	5.991	0.00	0.00
18.00	1 5/8" Hybrid	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	5.991	0.00	1.93
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	5.991	0.00	0.91
18.00	1 5/8" Fiber	Yes	1.75	0.000	2.00	0.29	0.00	0.159	1.177	5.991	0.00	3.85
18.00	1-1/4" Fiber	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	5.991	0.00	3.34
18.00	7/8" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.159	1.177	5.991	0.00	0.91
18.00	1.25" Reinforcing	Yes	1.75	0.000	1.25	0.18	0.00	0.159	1.177	5.991	0.00	0.00
18.00	1.25" Reinforcing	Yes	1.75	0.000	2.50	0.36	0.00	0.159	1.177	5.991	0.00	0.00
18.75	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	5.991	0.00	0.83
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	5.991	0.00	0.39
18.75	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.180	5.991	0.00	1.65
18.75	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	5.991	0.00	1.43
18.75	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.180	5.991	0.00	0.39
18.75	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.180	5.991	0.00	0.00
18.75	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.180	5.991	0.00	0.00
19.50	1 5/8" Hybrid	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	5.991	0.00	0.83
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	0.39
19.50	1 5/8" Fiber	Yes	0.75	0.000	2.00	0.13	0.00	0.160	1.181	5.991	0.00	1.65
19.50	1-1/4" Fiber	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	1.43
19.50	7/8" Coax	Yes	0.75	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	0.39
19.50	1.25" Reinforcing	Yes	0.75	0.000	1.25	0.08	0.00	0.160	1.181	5.991	0.00	0.00
19.50	1.25" Reinforcing	Yes	0.75	0.000	2.50	0.16	0.00	0.160	1.181	5.991	0.00	0.00
20.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	5.991	0.00	0.55
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	5.991	0.00	0.26
20.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.161	1.183	5.991	0.00	1.10

## Linear Appurtenance Segment Forces (Factored)

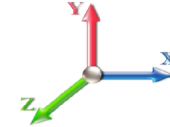
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
20.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	5.991	0.00	0.95
20.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.161	1.183	5.991	0.00	0.26
20.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.161	1.183	5.991	0.00	0.00
20.00	1.25" Reinforcing	Yes	0.50	0.000	2.50	0.10	0.00	0.161	1.183	5.991	0.00	0.00
22.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	5.991	0.00	2.20
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	1.04
22.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	5.991	0.00	4.40
22.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	3.82
22.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	1.04
22.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	5.991	0.00	0.00
22.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	5.991	0.00	0.00
24.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	5.991	0.00	2.20
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	1.04
24.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.160	1.181	5.991	0.00	4.40
24.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	3.82
24.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.160	1.181	5.991	0.00	1.04
24.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.160	1.181	5.991	0.00	0.00
24.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.160	1.181	5.991	0.00	0.00
26.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	5.991	0.00	2.20
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	1.04
26.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.162	1.185	5.991	0.00	4.40
26.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	3.82
26.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.162	1.185	5.991	0.00	1.04
26.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.162	1.185	5.991	0.00	0.00
26.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.162	1.185	5.991	0.00	0.00
28.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	5.991	0.00	2.20
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	5.991	0.00	1.04
28.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.163	1.189	5.991	0.00	4.40
28.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	5.991	0.00	3.82
28.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.163	1.189	5.991	0.00	1.04
28.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.163	1.189	5.991	0.00	0.00
28.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.163	1.189	5.991	0.00	0.00
30.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	5.997	0.00	2.20
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	5.997	0.00	1.04
30.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.165	1.194	5.997	0.00	4.40
30.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	5.997	0.00	3.82
30.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.165	1.194	5.997	0.00	1.04
30.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.165	1.194	5.997	0.00	0.00
30.00	1.25" Reinforcing	Yes	2.00	0.000	2.50	0.42	0.00	0.165	1.194	5.997	0.00	0.00
31.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	6.053	0.00	1.10
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	6.053	0.00	0.52
31.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.197	6.053	0.00	2.20
31.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	6.053	0.00	1.91
31.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.197	6.053	0.00	0.52
31.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.197	6.053	0.00	0.00
31.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.197	6.053	0.00	0.00
32.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	6.108	0.00	1.10

## Linear Appurtenance Segment Forces (Factored)

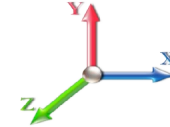
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	6.108	0.00	0.52
32.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.166	1.199	6.108	0.00	2.20
32.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	6.108	0.00	1.91
32.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.166	1.199	6.108	0.00	0.52
32.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.166	1.199	6.108	0.00	0.00
32.00	1.25" Reinforcing	Yes	1.00	0.000	2.50	0.21	0.00	0.166	1.199	6.108	0.00	0.00
34.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	6.215	0.00	2.20
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	6.215	0.00	1.04
34.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.113	1.040	6.215	0.00	4.40
34.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	6.215	0.00	3.82
34.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.113	1.040	6.215	0.00	1.04
34.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.113	1.040	6.215	0.00	0.00
35.50	1 5/8" Hybrid	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	6.292	0.00	1.65
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	6.292	0.00	0.78
35.50	1 5/8" Fiber	Yes	1.50	0.000	2.00	0.25	0.00	0.114	1.043	6.292	0.00	3.30
35.50	1-1/4" Fiber	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	6.292	0.00	2.86
35.50	7/8" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.114	1.043	6.292	0.00	0.78
35.50	1.25" Reinforcing	Yes	1.50	0.000	1.25	0.16	0.00	0.114	1.043	6.292	0.00	0.00
36.00	1 5/8" Hybrid	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	6.317	0.00	0.55
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	6.317	0.00	0.26
36.00	1 5/8" Fiber	Yes	0.50	0.000	2.00	0.08	0.00	0.115	1.044	6.317	0.00	1.10
36.00	1-1/4" Fiber	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	6.317	0.00	0.95
36.00	7/8" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.115	1.044	6.317	0.00	0.26
36.00	1.25" Reinforcing	Yes	0.50	0.000	1.25	0.05	0.00	0.115	1.044	6.317	0.00	0.00
38.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	6.416	0.00	2.20
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	6.416	0.00	1.04
38.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.115	1.046	6.416	0.00	4.40
38.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	6.416	0.00	3.82
38.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.115	1.046	6.416	0.00	1.04
38.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.115	1.046	6.416	0.00	0.00
40.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	6.510	0.00	2.20
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	6.510	0.00	1.04
40.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.116	1.049	6.510	0.00	4.40
40.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	6.510	0.00	3.82
40.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.116	1.049	6.510	0.00	1.04
40.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.116	1.049	6.510	0.00	0.00
42.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	6.602	0.00	2.20
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	6.602	0.00	1.04
42.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	6.602	0.00	4.40
42.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	6.602	0.00	3.82
42.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	6.602	0.00	1.04
42.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.117	1.052	6.602	0.00	0.00
44.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	6.690	0.00	2.20
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	6.690	0.00	1.04
44.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	6.690	0.00	4.40
44.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	6.690	0.00	3.82
44.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	6.690	0.00	1.04



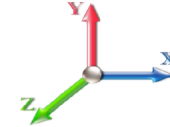
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
44.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.119	1.056	6.690	0.00	0.00
45.16	1 5/8" Hybrid	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	6.740	0.00	1.28
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	6.740	0.00	0.60
45.16	1 5/8" Fiber	Yes	1.16	0.000	2.00	0.19	0.00	0.119	1.058	6.740	0.00	2.55
45.16	1-1/4" Fiber	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	6.740	0.00	2.21
45.16	7/8" Coax	Yes	1.16	0.000	0.00	0.00	0.00	0.119	1.058	6.740	0.00	0.60
45.16	1.25" Reinforcing	Yes	1.16	0.000	1.25	0.12	0.00	0.119	1.058	6.740	0.00	0.00
46.00	1 5/8" Hybrid	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	6.775	0.00	0.92
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	6.775	0.00	0.44
46.00	1 5/8" Fiber	Yes	0.84	0.000	2.00	0.14	0.00	0.120	1.060	6.775	0.00	1.85
46.00	1-1/4" Fiber	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	6.775	0.00	1.60
46.00	7/8" Coax	Yes	0.84	0.000	0.00	0.00	0.00	0.120	1.060	6.775	0.00	0.44
46.00	1.25" Reinforcing	Yes	0.84	0.000	1.25	0.09	0.00	0.120	1.060	6.775	0.00	0.00
48.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	6.858	0.00	2.20
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	6.858	0.00	1.04
48.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.121	1.062	6.858	0.00	4.40
48.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	6.858	0.00	3.82
48.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.121	1.062	6.858	0.00	1.04
48.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.121	1.062	6.858	0.00	0.00
50.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	6.939	0.00	2.20
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	6.939	0.00	1.04
50.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.066	6.939	0.00	4.40
50.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	6.939	0.00	3.82
50.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.066	6.939	0.00	1.04
50.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.122	1.066	6.939	0.00	0.00
52.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	7.017	0.00	2.20
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	7.017	0.00	1.04
52.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.069	7.017	0.00	4.40
52.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	7.017	0.00	3.82
52.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.069	7.017	0.00	1.04
52.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.123	1.069	7.017	0.00	0.00
54.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	7.093	0.00	2.20
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	7.093	0.00	1.04
54.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.072	7.093	0.00	4.40
54.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	7.093	0.00	3.82
54.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.072	7.093	0.00	1.04
54.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.072	7.093	0.00	0.00
56.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	7.167	0.00	2.20
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.167	0.00	1.04
56.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	7.167	0.00	4.40
56.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.167	0.00	3.82
56.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.167	0.00	1.04
56.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	7.167	0.00	0.00
58.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	7.239	0.00	2.20
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	7.239	0.00	1.04
58.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.124	1.073	7.239	0.00	4.40
58.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	7.239	0.00	3.82

## Linear Appurtenance Segment Forces (Factored)

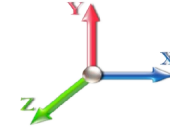
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
58.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.124	1.073	7.239	0.00	1.04
58.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.124	1.073	7.239	0.00	0.00
60.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	7.310	0.00	2.20
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.310	0.00	1.04
60.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.076	7.310	0.00	4.40
60.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.310	0.00	3.82
60.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.076	7.310	0.00	1.04
60.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.125	1.076	7.310	0.00	0.00
62.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	7.379	0.00	2.20
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	7.379	0.00	1.04
62.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.127	1.080	7.379	0.00	4.40
62.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	7.379	0.00	3.82
62.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.127	1.080	7.379	0.00	1.04
62.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.127	1.080	7.379	0.00	0.00
64.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	7.446	0.00	2.20
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	7.446	0.00	1.04
64.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.128	1.084	7.446	0.00	4.40
64.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	7.446	0.00	3.82
64.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.128	1.084	7.446	0.00	1.04
64.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.128	1.084	7.446	0.00	0.00
66.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	7.512	0.00	2.20
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	7.512	0.00	1.04
66.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.129	1.087	7.512	0.00	4.40
66.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	7.512	0.00	3.82
66.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.129	1.087	7.512	0.00	1.04
66.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.129	1.087	7.512	0.00	0.00
68.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	7.576	0.00	2.20
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	7.576	0.00	1.04
68.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.091	7.576	0.00	4.40
68.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	7.576	0.00	3.82
68.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.091	7.576	0.00	1.04
68.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.130	1.091	7.576	0.00	0.00
70.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	7.639	0.00	2.20
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	7.639	0.00	1.04
70.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.132	1.095	7.639	0.00	4.40
70.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	7.639	0.00	3.82
70.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.132	1.095	7.639	0.00	1.04
70.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.132	1.095	7.639	0.00	0.00
72.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	7.701	0.00	2.20
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	7.701	0.00	1.04
72.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	7.701	0.00	4.40
72.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	7.701	0.00	3.82
72.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	7.701	0.00	1.04
72.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.133	1.099	7.701	0.00	0.00
74.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	7.761	0.00	2.20
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	7.761	0.00	1.04
74.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.134	1.103	7.761	0.00	4.40

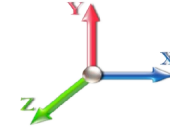
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
74.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	7.761	0.00	3.82
74.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.134	1.103	7.761	0.00	1.04
74.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.134	1.103	7.761	0.00	0.00
76.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	7.821	0.00	2.20
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	7.821	0.00	1.04
76.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.136	1.108	7.821	0.00	4.40
76.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	7.821	0.00	3.82
76.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.136	1.108	7.821	0.00	1.04
76.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.136	1.108	7.821	0.00	0.00
78.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	7.879	0.00	2.20
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	7.879	0.00	1.04
78.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.112	7.879	0.00	4.40
78.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	7.879	0.00	3.82
78.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.112	7.879	0.00	1.04
78.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.137	1.112	7.879	0.00	0.00
80.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	7.936	0.00	2.20
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	7.936	0.00	1.04
80.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	7.936	0.00	4.40
80.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	7.936	0.00	3.82
80.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	7.936	0.00	1.04
80.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.139	1.116	7.936	0.00	0.00
82.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	7.992	0.00	2.20
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	7.992	0.00	1.04
82.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.140	1.121	7.992	0.00	4.40
82.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	7.992	0.00	3.82
82.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.140	1.121	7.992	0.00	1.04
82.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.140	1.121	7.992	0.00	0.00
84.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	8.047	0.00	2.20
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	8.047	0.00	1.04
84.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.142	1.125	8.047	0.00	4.40
84.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	8.047	0.00	3.82
84.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.142	1.125	8.047	0.00	1.04
84.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.142	1.125	8.047	0.00	0.00
86.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	8.102	0.00	2.20
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	8.102	0.00	1.04
86.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.130	8.102	0.00	4.40
86.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	8.102	0.00	3.82
86.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.130	8.102	0.00	1.04
86.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.143	1.130	8.102	0.00	0.00
88.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	8.155	0.00	2.20
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	8.155	0.00	1.04
88.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.145	1.135	8.155	0.00	4.40
88.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	8.155	0.00	3.82
88.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.145	1.135	8.155	0.00	1.04
88.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.145	1.135	8.155	0.00	0.00
90.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	8.208	0.00	2.20
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	8.208	0.00	1.04

## Linear Appurtenance Segment Forces (Factored)

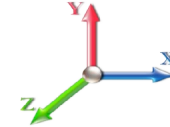
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
90.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.140	8.208	0.00	4.40
90.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	8.208	0.00	3.82
90.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.140	8.208	0.00	1.04
90.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.147	1.140	8.208	0.00	0.00
92.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	8.259	0.00	2.20
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	8.259	0.00	1.04
92.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.148	1.145	8.259	0.00	4.40
92.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	8.259	0.00	3.82
92.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.148	1.145	8.259	0.00	1.04
92.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.148	1.145	8.259	0.00	0.00
94.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	8.310	0.00	2.20
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	8.310	0.00	1.04
94.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.150	1.150	8.310	0.00	4.40
94.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	8.310	0.00	3.82
94.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.150	1.150	8.310	0.00	1.04
94.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.150	1.150	8.310	0.00	0.00
95.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	8.335	0.00	1.10
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	8.335	0.00	0.52
95.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.151	1.154	8.335	0.00	2.20
95.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	8.335	0.00	1.91
95.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.151	1.154	8.335	0.00	0.52
95.00	1.25" Reinforcing	Yes	1.00	0.000	1.25	0.10	0.00	0.151	1.154	8.335	0.00	0.00
95.58	1 5/8" Hybrid	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	8.350	0.00	0.64
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	8.350	0.00	0.30
95.58	1 5/8" Fiber	Yes	0.58	0.000	2.00	0.10	0.00	0.152	1.156	8.350	0.00	1.28
95.58	1-1/4" Fiber	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	8.350	0.00	1.11
95.58	7/8" Coax	Yes	0.58	0.000	0.00	0.00	0.00	0.152	1.156	8.350	0.00	0.30
95.58	1.25" Reinforcing	Yes	0.58	0.000	1.25	0.06	0.00	0.152	1.156	8.350	0.00	0.00
96.00	1 5/8" Hybrid	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	8.360	0.00	0.46
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	8.360	0.00	0.22
96.00	1 5/8" Fiber	Yes	0.42	0.000	2.00	0.07	0.00	0.152	1.157	8.360	0.00	0.92
96.00	1-1/4" Fiber	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	8.360	0.00	0.80
96.00	7/8" Coax	Yes	0.42	0.000	0.00	0.00	0.00	0.152	1.157	8.360	0.00	0.22
96.00	1.25" Reinforcing	Yes	0.42	0.000	1.25	0.04	0.00	0.152	1.157	8.360	0.00	0.00
98.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	8.410	0.00	2.20
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	8.410	0.00	1.04
98.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.153	1.160	8.410	0.00	4.40
98.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	8.410	0.00	3.82
98.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.153	1.160	8.410	0.00	1.04
98.00	1.25" Reinforcing	Yes	2.00	0.000	1.25	0.21	0.00	0.153	1.160	8.410	0.00	0.00
100.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	8.459	0.00	2.20
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	8.459	0.00	1.04
100.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.118	1.055	8.459	0.00	4.40
100.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	8.459	0.00	3.82
100.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.118	1.055	8.459	0.00	1.04
102.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	8.507	0.00	2.20
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	8.507	0.00	1.04

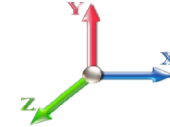
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
102.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.117	1.052	8.507	0.00	4.40
102.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	8.507	0.00	3.82
102.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.117	1.052	8.507	0.00	1.04
104.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	8.554	0.00	2.20
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	8.554	0.00	1.04
104.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.119	1.056	8.554	0.00	4.40
104.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	8.554	0.00	3.82
104.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.119	1.056	8.554	0.00	1.04
106.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	8.601	0.00	2.20
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	8.601	0.00	1.04
106.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.120	1.061	8.601	0.00	4.40
106.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	8.601	0.00	3.82
106.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.120	1.061	8.601	0.00	1.04
108.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	8.647	0.00	2.20
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	8.647	0.00	1.04
108.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.122	1.065	8.647	0.00	4.40
108.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	8.647	0.00	3.82
108.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.122	1.065	8.647	0.00	1.04
110.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	8.692	0.00	2.20
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	8.692	0.00	1.04
110.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.123	1.070	8.692	0.00	4.40
110.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	8.692	0.00	3.82
110.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.123	1.070	8.692	0.00	1.04
112.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	8.737	0.00	2.20
112.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	8.737	0.00	1.04
112.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.074	8.737	0.00	4.40
112.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.074	8.737	0.00	3.82
114.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	8.781	0.00	2.20
114.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	8.781	0.00	1.04
114.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.126	1.079	8.781	0.00	4.40
114.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.126	1.079	8.781	0.00	3.82
115.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	8.803	0.00	1.10
115.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	8.803	0.00	0.52
115.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.083	8.803	0.00	2.20
115.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.083	8.803	0.00	1.91
116.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	8.825	0.00	1.10
116.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	8.825	0.00	0.52
116.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.128	1.085	8.825	0.00	2.20
116.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.128	1.085	8.825	0.00	1.91
118.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	8.868	0.00	2.20
118.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	8.868	0.00	1.04
118.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.130	1.089	8.868	0.00	4.40
118.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.130	1.089	8.868	0.00	3.82
120.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	8.911	0.00	2.20
120.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	8.911	0.00	1.04
120.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.131	1.094	8.911	0.00	4.40
120.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.131	1.094	8.911	0.00	3.82

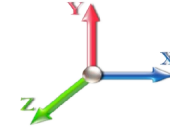
## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
122.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	8.953	0.00	2.20
122.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	8.953	0.00	1.04
122.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.133	1.099	8.953	0.00	4.40
122.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.133	1.099	8.953	0.00	3.82
124.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	8.995	0.00	2.20
124.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	8.995	0.00	1.04
124.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.135	1.105	8.995	0.00	4.40
124.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.135	1.105	8.995	0.00	3.82
126.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	9.036	0.00	2.20
126.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	9.036	0.00	1.04
126.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.137	1.110	9.036	0.00	4.40
126.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.137	1.110	9.036	0.00	3.82
128.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	9.077	0.00	2.20
128.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	9.077	0.00	1.04
128.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.139	1.116	9.077	0.00	4.40
128.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.139	1.116	9.077	0.00	3.82
130.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	9.117	0.00	2.20
130.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	9.117	0.00	1.04
130.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.141	1.122	9.117	0.00	4.40
130.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.141	1.122	9.117	0.00	3.82
132.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	9.157	0.00	2.20
132.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	9.157	0.00	1.04
132.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.143	1.128	9.157	0.00	4.40
132.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.143	1.128	9.157	0.00	3.82
133.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	9.177	0.00	1.10
133.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	9.177	0.00	0.52
133.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.144	1.133	9.177	0.00	2.20
133.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.144	1.133	9.177	0.00	1.91
134.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	9.196	0.00	1.10
134.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	9.196	0.00	0.52
134.00	1 5/8" Fiber	Yes	1.00	0.000	2.00	0.17	0.00	0.145	1.136	9.196	0.00	2.20
134.00	1-1/4" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.145	1.136	9.196	0.00	1.91
136.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	9.235	0.00	2.20
136.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	9.235	0.00	1.04
136.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.147	1.141	9.235	0.00	4.40
136.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.147	1.141	9.235	0.00	3.82
138.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	9.274	0.00	2.20
138.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	9.274	0.00	1.04
138.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.149	1.147	9.274	0.00	4.40
138.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.149	1.147	9.274	0.00	3.82
140.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	9.312	0.00	2.20
140.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	9.312	0.00	1.04
140.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.151	1.154	9.312	0.00	4.40
140.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.151	1.154	9.312	0.00	3.82
142.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	9.350	0.00	2.20
142.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	9.350	0.00	1.04
142.00	1 5/8" Fiber	Yes	2.00	0.000	2.00	0.33	0.00	0.154	1.161	9.350	0.00	4.40

## Linear Appurtenance Segment Forces (Factored)

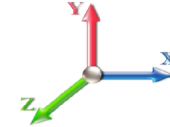
<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00



**Iterations** 26

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
142.00	1-1/4" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.154	1.161	9.350	0.00	3.82
144.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.078	0.000	9.387	0.00	2.20
144.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.078	0.000	9.387	0.00	1.04
145.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.079	0.000	9.406	0.00	1.10
145.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.079	0.000	9.406	0.00	0.52
146.00	1 5/8" Hybrid	Yes	1.00	0.000	2.00	0.17	0.00	0.082	0.000	9.424	0.00	1.10
146.00	7/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.082	0.000	9.424	0.00	0.52
148.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.083	0.000	9.461	0.00	2.20
148.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.083	0.000	9.461	0.00	1.04
148.30	1 5/8" Hybrid	Yes	0.30	0.000	2.00	0.05	0.00	0.084	0.000	9.467	0.00	0.33
148.30	7/8" Coax	Yes	0.30	0.000	0.00	0.00	0.00	0.084	0.000	9.467	0.00	0.16
150.00	1 5/8" Hybrid	Yes	1.70	0.000	2.00	0.28	0.00	0.085	0.000	9.497	0.00	1.87
150.00	7/8" Coax	Yes	1.70	0.000	0.00	0.00	0.00	0.085	0.000	9.497	0.00	0.88
152.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	9.533	0.00	2.20
152.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	9.533	0.00	1.04
154.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	9.569	0.00	2.20
154.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	9.569	0.00	1.04
156.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	9.604	0.00	2.20
156.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	9.604	0.00	1.04
158.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	9.639	0.00	2.20
158.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	9.639	0.00	1.04
160.00	1 5/8" Hybrid	Yes	2.00	0.000	2.00	0.33	0.00	0.125	1.075	9.674	0.00	2.20
160.00	7/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.125	1.075	9.674	0.00	1.04
<b>Totals:</b>											<b>0.0</b>	<b>899.7</b>

## Calculated Forces

**Structure:** CT02049-S-SBA  
**Site Name:** Beacon Falls  
**Height:** 160.00 (ft)  
**Base Elev:** 0.000 (ft)  
**Gh:** 1.1

**Topography:** 1

**Code:** EIA/TIA-222-H 7/15/2019  
**Exposure:** B  
**Crest Height:** 0.00  
**Site Class:** D - Stiff Soil  
**Struct Class:** II

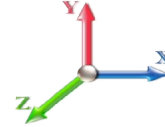


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00  
**Wind Load Factor** 1.00

Iterations 26



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 Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-43.66	-8.67	0.00	-1007.0	0.00	1007.01	3683.82	1059.58	4414.92	3756.66	0.00	0.000	0.000	0.166
1.00	-43.40	-8.65	0.00	-998.34	0.00	998.34	3677.71	1055.47	4380.73	3735.77	0.00	-0.009	0.000	0.166
2.00	-43.14	-8.63	0.00	-989.69	0.00	989.69	3671.54	1051.36	4346.67	3714.86	0.00	-0.018	0.000	0.165
4.00	-42.63	-8.58	0.00	-972.43	0.00	972.43	3659.00	1043.14	4278.95	3673.00	0.02	-0.035	0.000	0.163
6.00	-42.12	-8.53	0.00	-955.28	0.00	955.28	3646.20	1034.91	4211.76	3631.09	0.03	-0.053	0.000	0.162
8.00	-41.61	-8.48	0.00	-938.22	0.00	938.22	3633.16	1026.69	4145.10	3589.13	0.06	-0.070	0.000	0.160
10.00	-41.11	-8.43	0.00	-921.26	0.00	921.26	3619.85	1018.47	4078.97	3547.13	0.09	-0.088	0.000	0.158
12.00	-40.61	-8.38	0.00	-904.40	0.00	904.40	3606.29	1010.25	4013.38	3505.10	0.13	-0.106	0.000	0.157
14.00	-40.11	-8.33	0.00	-887.63	0.00	887.63	3592.48	1002.02	3948.31	3463.03	0.18	-0.124	0.000	0.155
16.00	-39.62	-8.28	0.00	-870.97	0.00	870.97	3578.41	993.80	3883.78	3420.94	0.24	-0.142	0.000	0.153
16.25	-39.51	-8.28	0.00	-868.90	0.00	868.90	3576.63	992.77	3875.75	3415.68	0.25	-0.144	0.000	0.176
18.00	-38.74	-8.23	0.00	-854.41	0.00	854.41	3564.09	985.58	3819.78	3378.83	0.30	-0.162	0.000	0.162
18.75	-38.41	-8.21	0.00	-848.24	0.00	848.24	3558.65	982.50	3795.92	3363.04	0.33	-0.169	0.000	0.190
19.50	-38.09	-8.19	0.00	-842.08	0.00	842.08	3553.18	979.41	3772.13	3347.24	0.35	-0.177	0.000	0.161
20.00	-37.87	-8.19	0.00	-837.98	0.00	837.98	3549.51	977.36	3756.31	3336.71	0.37	-0.182	0.000	0.160
22.00	-37.00	-8.13	0.00	-821.61	0.00	821.61	3563.12	985.03	3815.51	3376.01	0.45	-0.201	0.000	0.162
24.00	-36.51	-8.09	0.00	-805.34	0.00	805.34	3548.52	976.81	3752.08	3333.89	0.54	-0.220	0.000	0.156
26.00	-36.03	-8.04	0.00	-789.17	0.00	789.17	3533.67	968.58	3689.18	3291.77	0.64	-0.239	0.000	0.154
28.00	-35.55	-7.99	0.00	-773.10	0.00	773.10	3518.56	960.36	3626.81	3249.64	0.74	-0.258	0.000	0.153
30.00	-35.07	-7.93	0.00	-757.13	0.00	757.13	3503.20	952.14	3564.97	3207.53	0.85	-0.276	0.000	0.119
31.00	-34.83	-7.91	0.00	-749.19	0.00	749.19	3495.43	948.03	3534.25	3186.48	0.91	-0.284	0.000	0.137
32.00	-34.60	-7.88	0.00	-741.29	0.00	741.29	3487.59	943.92	3503.66	3165.43	0.97	-0.292	0.000	0.136
34.00	-34.13	-7.84	0.00	-725.52	0.00	725.52	3471.72	935.70	3442.89	3123.35	1.10	-0.309	0.000	0.167
35.50	-33.78	-7.80	0.00	-713.76	0.00	713.76	3459.65	929.53	3397.66	3091.80	1.20	-0.325	0.000	0.166
36.00	-33.66	-7.80	0.00	-709.86	0.00	709.86	3455.59	927.47	3382.65	3081.29	1.23	-0.331	0.000	0.166
38.00	-33.19	-7.76	0.00	-694.26	0.00	694.26	3439.21	919.25	3322.94	3039.26	1.38	-0.352	0.000	0.164
40.00	-32.72	-7.70	0.00	-678.75	0.00	678.75	3422.57	911.03	3263.76	2997.28	1.53	-0.373	0.000	0.162
42.00	-32.26	-7.66	0.00	-663.34	0.00	663.34	3405.68	902.81	3205.11	2955.34	1.69	-0.395	0.000	0.160
44.00	-31.81	-7.61	0.00	-648.02	0.00	648.02	3388.54	894.58	3146.99	2913.44	1.86	-0.416	0.000	0.158
45.16	-31.55	-7.58	0.00	-639.20	0.00	639.20	3378.48	889.81	3113.53	2889.17	1.96	-0.429	0.000	0.114
46.00	-31.36	-7.56	0.00	-632.83	0.00	632.83	3371.14	886.36	3089.41	2871.61	2.04	-0.435	0.000	0.148
48.00	-30.91	-7.52	0.00	-617.70	0.00	617.70	3353.48	878.14	3032.36	2829.83	2.23	-0.455	0.000	0.146
50.00	-30.46	-7.47	0.00	-602.66	0.00	602.66	3335.57	869.92	2975.84	2788.13	2.42	-0.476	0.000	0.144
52.00	-29.68	-7.42	0.00	-587.73	0.00	587.73	3317.41	861.69	2919.85	2746.50	2.63	-0.496	0.000	0.140
54.00	-28.90	-7.36	0.00	-572.89	0.00	572.89	3298.98	853.47	2864.39	2704.94	2.84	-0.516	0.000	0.138
56.00	-28.13	-7.31	0.00	-558.17	0.00	558.17	3316.18	861.14	2916.12	2743.71	3.06	-0.536	0.000	0.140
58.00	-27.70	-7.26	0.00	-543.55	0.00	543.55	3297.74	852.92	2860.70	2702.16	3.29	-0.556	0.000	0.144
60.00	-27.26	-7.20	0.00	-529.04	0.00	529.04	3279.05	844.70	2805.81	2660.71	3.52	-0.577	0.000	0.142
62.00	-26.83	-7.15	0.00	-514.63	0.00	514.63	3260.10	836.48	2751.45	2619.34	3.77	-0.598	0.000	0.140
64.00	-26.40	-7.10	0.00	-500.33	0.00	500.33	3240.90	828.25	2697.62	2578.08	4.03	-0.619	0.000	0.138
66.00	-25.97	-7.05	0.00	-486.13	0.00	486.13	3221.44	820.03	2644.33	2536.92	4.29	-0.639	0.000	0.136
68.00	-25.55	-6.99	0.00	-472.04	0.00	472.04	3201.73	811.81	2591.56	2495.87	4.56	-0.660	0.000	0.134
70.00	-25.13	-6.94	0.00	-458.05	0.00	458.05	3181.76	803.59	2539.33	2454.94	4.84	-0.681	0.000	0.131
72.00	-24.72	-6.89	0.00	-444.17	0.00	444.17	3161.54	795.36	2487.63	2414.13	5.13	-0.701	0.000	0.129
74.00	-24.31	-6.83	0.00	-430.40	0.00	430.40	3141.06	787.14	2436.47	2373.45	5.43	-0.722	0.000	0.127
76.00	-23.90	-6.78	0.00	-416.74	0.00	416.74	3120.33	778.92	2385.83	2332.91	5.74	-0.742	0.000	0.124
78.00	-23.49	-6.72	0.00	-403.19	0.00	403.19	3099.34	770.70	2335.73	2292.51	6.05	-0.763	0.000	0.122
80.00	-23.09	-6.66	0.00	-389.75	0.00	389.75	3078.09	762.47	2286.15	2252.26	6.38	-0.783	0.000	0.120



**Calculated Forces**

**Structure:** CT02049-S-SBA      **Code:** EIA/TIA-222-H      7/15/2019  
**Site Name:** Beacon Falls      **Exposure:** B  
**Height:** 160.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 0.000 (ft)      **Site Class:** D - Stiff Soil  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      **Page:** 89



80.00	-23.09	-6.66	0.00	-389.75	0.00	389.75	2384.58	636.50	1911.75	1750.88	6.38	-0.783	0.000	0.129
82.00	-22.74	-6.61	0.00	-376.42	0.00	376.42	2370.62	629.65	1870.81	1721.73	6.71	-0.803	0.000	0.141
84.00	-22.39	-6.56	0.00	-363.20	0.00	363.20	2356.42	622.80	1830.32	1692.63	7.05	-0.825	0.000	0.138
86.00	-22.04	-6.50	0.00	-350.09	0.00	350.09	2341.95	615.94	1790.27	1663.57	7.40	-0.847	0.000	0.135
88.00	-21.70	-6.45	0.00	-337.09	0.00	337.09	2327.23	609.09	1750.66	1634.56	7.76	-0.869	0.000	0.132
90.00	-21.36	-6.39	0.00	-324.20	0.00	324.20	2312.26	602.24	1711.49	1605.61	8.13	-0.891	0.000	0.128
92.00	-21.02	-6.33	0.00	-311.42	0.00	311.42	2297.03	595.39	1672.77	1576.72	8.51	-0.913	0.000	0.125
94.00	-20.69	-6.28	0.00	-298.76	0.00	298.76	2281.55	588.54	1634.49	1547.90	8.89	-0.934	0.000	0.122
95.00	-20.52	-6.25	0.00	-292.48	0.00	292.48	2273.71	585.11	1615.51	1533.52	9.09	-0.945	0.000	0.120
95.58	-20.36	-6.23	0.00	-288.86	0.00	288.86	2269.13	583.12	1604.56	1525.19	9.21	-0.951	0.000	0.117
95.58	-20.36	-6.23	0.00	-288.86	0.00	288.86	2269.13	583.12	1604.56	1525.19	9.21	-0.951	0.000	0.117
96.00	-20.24	-6.22	0.00	-286.24	0.00	286.24	2265.81	581.68	1596.65	1519.16	9.29	-0.955	0.000	0.197
98.00	-19.68	-6.17	0.00	-273.80	0.00	273.80	2249.81	574.83	1559.25	1490.50	9.70	-0.990	0.000	0.193
100.00	-19.13	-6.11	0.00	-261.47	0.00	261.47	2259.61	579.02	1582.04	1508.00	10.12	-1.024	0.000	0.182
102.00	-18.80	-6.06	0.00	-249.24	0.00	249.24	2243.52	572.17	1544.82	1479.37	10.56	-1.058	0.000	0.177
104.00	-18.47	-6.02	0.00	-237.11	0.00	237.11	2227.17	565.31	1508.04	1450.84	11.01	-1.090	0.000	0.172
106.00	-18.15	-5.97	0.00	-225.08	0.00	225.08	2210.57	558.46	1471.71	1422.40	11.47	-1.121	0.000	0.167
108.00	-17.83	-5.92	0.00	-213.15	0.00	213.15	2193.71	551.61	1435.82	1394.06	11.95	-1.152	0.000	0.161
110.00	-17.45	-5.82	0.00	-201.18	0.00	201.18	2176.60	544.76	1400.37	1365.84	12.44	-1.182	0.000	0.155
112.00	-17.14	-5.77	0.00	-189.55	0.00	189.55	2159.23	537.91	1365.36	1337.73	12.94	-1.211	0.000	0.150
114.00	-16.83	-5.71	0.00	-178.02	0.00	178.02	2141.61	531.05	1330.80	1309.73	13.45	-1.240	0.000	0.144
115.00	-16.67	-5.69	0.00	-172.30	0.00	172.30	2132.70	527.63	1313.68	1295.79	13.71	-1.254	0.000	0.141
115.00	-16.67	-5.69	0.00	-172.30	0.00	172.30	1556.62	422.98	1055.35	949.74	13.71	-1.254	0.000	0.192
116.00	-16.54	-5.67	0.00	-166.62	0.00	166.62	1551.43	420.24	1041.71	940.38	13.98	-1.269	0.000	0.188
118.00	-16.27	-5.62	0.00	-155.28	0.00	155.28	1540.84	414.76	1014.72	921.68	14.52	-1.302	0.000	0.179
120.00	-16.01	-5.57	0.00	-144.05	0.00	144.05	1529.99	409.28	988.07	902.99	15.07	-1.335	0.000	0.170
122.00	-15.74	-5.52	0.00	-132.91	0.00	132.91	1518.89	403.80	961.78	884.33	15.63	-1.367	0.000	0.161
124.00	-15.48	-5.47	0.00	-121.88	0.00	121.88	1507.54	398.32	935.85	865.70	16.21	-1.397	0.000	0.151
126.00	-15.23	-5.42	0.00	-110.94	0.00	110.94	1495.93	392.84	910.27	847.11	16.81	-1.426	0.000	0.141
128.00	-14.97	-5.37	0.00	-100.10	0.00	100.10	1484.06	387.35	885.04	828.56	17.41	-1.453	0.000	0.131
130.00	-14.72	-5.32	0.00	-89.36	0.00	89.36	1471.95	381.87	860.17	810.06	18.02	-1.478	0.000	0.121
132.00	-14.47	-5.27	0.00	-78.72	0.00	78.72	1459.57	376.39	835.65	791.62	18.65	-1.502	0.000	0.110
133.00	-10.03	-4.08	0.00	-73.45	0.00	73.45	1453.29	373.65	823.53	782.42	18.96	-1.513	0.000	0.101
134.00	-9.92	-4.05	0.00	-69.37	0.00	69.37	1446.94	370.91	811.49	773.23	19.28	-1.524	0.000	0.097
136.00	-9.70	-4.00	0.00	-61.27	0.00	61.27	1434.06	365.43	787.68	754.91	19.92	-1.544	0.000	0.088
138.00	-9.48	-3.95	0.00	-53.27	0.00	53.27	1420.92	359.95	764.23	736.67	20.58	-1.562	0.000	0.079
140.00	-9.26	-3.90	0.00	-45.37	0.00	45.37	1407.52	354.47	741.13	718.50	21.23	-1.579	0.000	0.070
142.00	-5.22	-2.45	0.00	-37.57	0.00	37.57	1393.87	348.98	718.38	700.42	21.90	-1.593	0.000	0.057
144.00	-5.03	-2.40	0.00	-32.67	0.00	32.67	1379.97	343.50	695.99	682.44	22.57	-1.606	0.000	0.052
145.00	-4.94	-2.38	0.00	-30.27	0.00	30.27	1372.92	340.76	684.93	673.48	22.91	-1.612	0.000	0.049
145.00	-4.94	-2.38	0.00	-30.27	0.00	30.27	931.20	332.53	24157.3	604.09	22.91	-1.612	0.000	0.055
146.00	-4.86	-2.37	0.00	-27.89	0.00	27.89	925.24	329.86	23770.3	594.77	23.24	-1.618	0.000	0.052
148.00	-4.68	-2.34	0.00	-23.16	0.00	23.16	913.32	324.51	23005.8	576.36	23.92	-1.629	0.000	0.045
148.30	-2.60	-1.61	0.00	-21.06	0.00	21.06	911.53	323.71	22892.2	573.63	24.03	-1.630	0.000	0.040
150.00	-2.46	-1.59	0.00	-18.32	0.00	18.32	901.40	319.16	22253.7	558.24	24.61	-1.638	0.000	0.036
150.00	-2.46	-1.59	0.00	-18.32	0.00	18.32	556.65	167.00	10296.1	213.69	24.61	-1.638	0.000	0.090
152.00	-2.34	-1.57	0.00	-15.14	0.00	15.14	556.65	167.00	10296.1	213.69	25.30	-1.645	0.000	0.075
154.00	-2.21	-1.55	0.00	-12.01	0.00	12.01	556.65	167.00	10296.1	213.69	25.99	-1.666	0.000	0.060
156.00	-2.09	-1.53	0.00	-8.91	0.00	8.91	556.65	167.00	10296.1	213.69	26.69	-1.681	0.000	0.046
158.00	-1.97	-1.50	0.00	-5.86	0.00	5.86	556.65	167.00	10296.1	213.69	27.40	-1.692	0.000	0.031
160.00	0.00	-1.45	0.00	-2.85	0.00	2.85	556.65	167.00	10296.1	213.69	28.11	-1.698	0.000	0.013

## Final Analysis Summary

<b>Structure:</b> CT02049-S-SBA	<b>Code:</b> EIA/TIA-222-H	7/15/2019
<b>Site Name:</b> Beacon Falls	<b>Exposure:</b> B	
<b>Height:</b> 160.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		<b>Page:</b> 90



### Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 118 mph Wind	33.6	0.00	52.38	0.00	0.00	3921.24
0.9D + 1.0W 118 mph Wind	33.5	0.00	39.28	0.00	0.00	3874.01
1.2D + 1.0Di + 1.0Wi 50 mph Wind	8.0	0.00	72.44	0.00	0.00	959.31
1.2D + 1.0Ev + 1.0Eh	3.5	0.00	52.39	0.00	0.00	385.96
0.9D + 1.0Ev + 1.0Eh	3.5	0.00	39.29	0.00	0.00	381.25
1.0D + 1.0W 60 mph Wind	8.7	0.00	43.66	0.00	0.00	1007.01

### Max Stresses

Load Case	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)	Elev (ft)	Stress Ratio
1.2D + 1.0W 118 mph Wind	-22.85	-24.30	0.00	-1117.5	0.00	-1117.5	2265.81	581.68	1596.65	1519.16	96.00	0.747
0.9D + 1.0W 118 mph Wind	-16.79	-23.88	0.00	-1095.9	0.00	-1095.9	2265.81	581.68	1596.65	1519.16	96.00	0.731
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-36.98	-6.03	0.00	-277.49	0.00	-277.49	2265.81	581.68	1596.65	1519.16	96.00	0.199
1.2D + 1.0Ev + 1.0Eh	-20.13	-2.32	0.00	-73.95	0.00	-73.95	2132.70	527.63	1313.68	1295.79	115.00	0.091
0.9D + 1.0Ev + 1.0Eh	-15.10	-2.27	0.00	-72.57	0.00	-72.57	2132.70	527.63	1313.68	1295.79	115.00	0.086
1.0D + 1.0W 60 mph Wind	-20.24	-6.22	0.00	-286.24	0.00	-286.24	2265.81	581.68	1596.65	1519.16	96.00	0.197

### Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Lower Termination				Upper Termination				Max Member			
			VQ/I (lb/in)	Vu (kips)	phi Vn (kips)	MQ/I (kips)	phi Vn (kips)	Num Req'd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Req'd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	16.3	(3) PLT-C10x30(1.5" Hole)	-255.8	-5.12	37.1	334.0	37.1	9	0	323.7	37.1			336.39	505.1	468.64	0.718
0.0	1.0	(3) SOL-2 1/4" William R71	128.5	1.54	25.3	179.6	25.3	8	0	179.2	25.3	8	0	179.58	459.1	468.91	0.391
1.0	18.8	(2) LNP-LP6X100-BW-20T	186.2	4.47	25.3	211.6	25.3	9	0	225.5	25.3	9	8	234.23	297.8	292.50	0.801
1.0	18.8	(1) LNP-LP6x100-B2-20T	-178.5	-4.28	25.3	204.4	25.3	9	0	185.8	25.3	8	8	224.56	297.8	292.50	0.768
16.3	31.0	(3) PLT-C10x15.3(1.5" Hole)	-255.8	-5.12	37.1	196.4	37.1			133.4	37.1	4	0	219.46	257.8	247.80	0.886
18.0	34.0	(2) LNP-LP6X100-G-20TT	187.4	4.50	25.3	192.1	25.3	8	10	194.1	25.3	8	10	230.72	297.8	292.50	0.789
19.5	35.5	(1) LNP-LP6X100-G-20TT	187.4	4.50	25.3	229.8	25.3	10	10	193.4	25.3	8	10	229.82	297.8	292.50	0.786
30.0	46.0	(3) PLT-6"X1-1/4"(1.25" Hole)	287.4	5.17	37.1	213.5	37.1	6	8	211.1	37.1	6	8	304.09	413.6	356.25	0.854
45.2	58.0	(3) PLT-7" x 1.25"(1.25"Hole)	-335.4	-4.02	37.1	247.3	37.1	7	13	294.1	37.1			321.35	498.6	431.25	0.745
58.0	78.0	(3) PLT-5.5"x1 1/4"(1.25"hol)	-326.6	-5.88	37.1	251.0	37.1			221.0	37.1			251.04	379.1	318.75	0.788
78.0	95.6	(3) PLT-5.5"x1 1/4"(1.25"hol)	-375.2	-6.75	37.1	221.0	37.1			208.7	37.1	6	10	239.52	379.1	318.75	0.751



# Monopole Mat Foundation Design

Date

7/15/2019

<b>Customer Name:</b>	T-Mobile	<b>EIA/TIA Standard:</b>	EIA-222-H
<b>Site Name:</b>		<b>Structure Height (Ft.):</b>	160
<b>Site Number:</b>	CT02049-S-SBA	<b>Engineer Name:</b>	H. You
<b>Engr. Number:</b>	80074	<b>Engineer Login ID:</b>	

**Foundation Info Obtained from:**

Drawings/Calculations

**Structure Type:**

Monopole

**Analysis or Design?**

Analysis

**Base Reactions (Factored):**

Axial Load (Kips):	52.4	Shear Force (Kips):	33.6
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3921.2

Allowable overstress %: 5.0%

**Foundation Geometries:**

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.0	Depth of Base BG (ft.):	4.8
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	28	Width of Pad (ft.):	28
Final Length of pad (ft)	28.0	Final width of pad (ft):	28.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

**Material Properties and Rebar Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	10	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	30	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	26	Qty. of Rebar in Pad (W):	26	

Apply 1.35 factor for e/w Per G: 1.35

**Soil Design Parameters:**

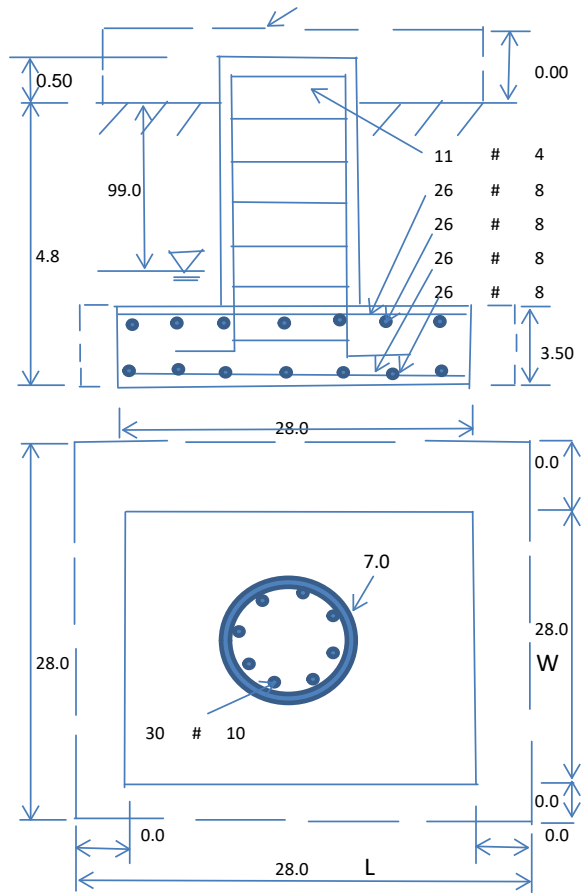
Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	6000	Ultimate Skin Friction:	0	Psf
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No	
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	969.17	Total Dry Soil Weight (Kips):	111.45
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	111.45	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2813.27	Total Dry Concrete Weight (Kips):	421.99
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	421.99	Total Vertical Load on Base (Kips):	585.83

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	2101	<	Allowable Factored Soil Bearing (psf):	4500	0.47	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7454.7	>	Design Factored Momont (kips-ft):	4099	0.55	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.82					OK!



**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00		

Load/  
Capacity  
Ratio**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	1.27	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	6154.8	> Design Factored Moment (Mu, Kips-Ft):	3981.7	0.65	OK!
Calculated Shear Capacity (Kips):	724.1	> Design Factored Shear (Kips):	33.6	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	2057.4	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7297.9	> Design Factored Axial Load (Pu Kips):	52.4	0.01	OK!
Moment & Axial Strength Combination:	0.65	OK! Check Tie Spacing (Design/Required):		0.5	OK!
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI			

**(2).Concrete Pad:**

One-Way Design Shear Capacity (L-Direction, Kips):	1062.8	> One-Way Factored Shear (L-D. Kips):	242.5	0.23	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1062.8	> One-Way Factored Shear (W-D., Kips)	242.5	0.23	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	993.8	> One-Way Factored Shear (C-C, Kips):	234.2	0.24	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct. ):	0.0016	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0016		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	3492.1	> Moment at Bottom ( L-Dir. K-Ft):	1562.8	0.45	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	3492.1	> Moment at Bottom ( W-Dir. K-Ft):	1562.8	0.45	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	4918.4	> Moment at Bottom ( C-C Dir. K-Ft):	2210.1	0.45	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct. ):	0.0016	OK! Upper Steel Reinf. Ratio (W-Dir. ):	0.0016		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	3492.1	> Moment at the top (L-Dir K-Ft):	687.0	0.20	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	3492.1	> Moment at the top (W-Dir K-Ft):	687.0	0.20	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	4918.4	> Moment at the top (C-C Dir. K-Ft):	642.4	0.13	OK!

**(3).Check Punching Shear Capacity due to Moment in the Pier:**

Moment transferred by punching shear:	1568.5	k-ft.	Max. factored shear stress $v_{u,CD}$ :	3.8	Psi
Max. factored shear stress $v_{u,AB}$ :	9.2	Psi	Factored shear Strength $\phi v_n$ :	164.3	Psi
Max. factored shear stress $v_u$ :	9.2	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!

# EXHIBIT 8

## Antenna Mount Structural Analysis



Source: SBA Date: 05.20.2019

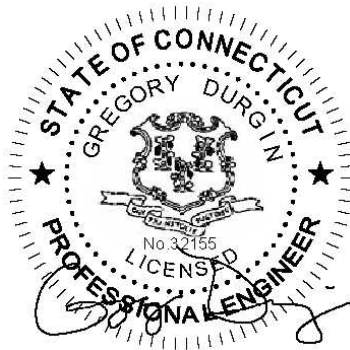
**SBA Site:** CT02049-S Beacon Falls  
**T-Mobile Site Number:** CT11299D  
**Project:** L600 Project

**Prepared For:** T-Mobile

**Mount Description:** (3) Nudd T-Arms  
w/ Handrail and Kickers  
**Site Location:** 60 Rice Ln, Beacon Falls, CT  
New Haven County  
41.455689°, -73.039866°

**Design Codes:** ANSI/TIA-222-G  
IBC 2015 w/ 2018 CT Building Code

**Analysis Load Case:** T-Mobile Final Configuration  
**Analysis Result:** Adequate @ 97% Capacity



Revision 0  
June 12, 2019

## **1.0 Introduction**

An antenna mount structural analysis has been performed on T-Mobile's existing mount assembly located at the CT02049-S Beacon Falls communications site in New Haven County, CT considering the final equipment loading configuration listed in Section 3.0.

## **2.0 Analysis Criteria**

An elastic three-dimensional model of the mount structure has been analyzed pursuant to the following criteria considering wind forces in 30° increments:

- 2018 Connecticut State Building Code.
- IBC 2015 - International Building Code.
- ANSI/TIA-222-G - Structural Standard for Antenna Supporting Structures and Antennas.
- AISC - Steel Construction Manual.
- ANSI/AWS D1.1 - Structural Welding Code.

Wind w/o ice = 125 mph (3-sec gust Ultimate Wind Speed)
Wind w/o ice = 97 mph (3-sec gust Basic Wind Speed)
Wind w/ ice = 50 mph (3-sec gust Basic) with 3/4" Design Ice, Escalated with Height
Topographic Category 1; Exposure Category B; Structure Class (Risk Category) II
Gust Effect Factor = 1.0; Directionality Factor = 0.95
Site Class D "Stiff Soil"; $F_a = 1.6$ ; $F_v = 2.4$ ; $S_{DS} = 0.203$
Maintenance Loads**:
$L_m = 500$ lb @ Worst Case Mount Pipe (Concurrent with 30 mph Wind Speed)
$L_v = 250$ lb @ Worst Case Member Location (Center Span or Cantilever)
** The mount face horizontal boom rails of T-Arm mount assemblies are not rated for rigging, hoisting or maintenance loading.

The following documents were provided:

- Mount and Tower Record Documents  
SBA
- Mount Structural Analysis  
Centek, 10/5/18.
- Tower Structural Analysis  
TES, 1/30/17.
- Colo Application  
SBA 600 MHz, App # 116923 v1.
- RFDS  
T-Mobile L600 Project, R4.1, CT11299D, 5/9/19.

The results of the analysis are illustrated in Section 4.0. If any of the existing or proposed conditions reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

### **3.0 Appurtenance Information**

***Table 3.1 – T-Mobile Final Configuration<sup>1,2,3</sup>***

<b>COR</b>	<b>(Quantity) Appurtenance Make/Model</b>	<b>Mount Description</b>
<b>142.0'±</b>	<b>(3) ERICSSON AIR21 B2A/B4P</b>	<b>(3) Nudd T-Arms w/ Handrail and Kickers</b>
	<b>(3) ERICSSON AIR32 B66A/B2A</b>	
	<b>(3) RFS APXVAARR24_43-U-NA20</b>	
	<b>(3) ERICSSON 4449 B71+B12 RRH</b>	
	<b>(3) Twin Style 1B AWS TMA</b>	
	<b>(1) ERICSSON AIR32 B66A/B2A</b>	
	<b>(1) RFS APXVAARR18_43-U-NA20</b>	
	<b>(1) ERICSSON 4449 B71+B12 RRH</b>	
	<b>(1) ERICSSON 4415 B66A RRH</b>	

- 1. Refer to antenna installation Construction Drawings (by others, when applicable) for additional information regarding final antenna and equipment orientations.**



## 4.0 Analysis Results

**Table 4.1 – Existing Mount Capacity**

Load Case	Governing Mount Component <sup>1</sup>	% Capacity <sup>2</sup>	Result
Final T-Mobile Configuration	Standoff Vert Pipe	52%	<b>Adequate</b>
	Bottom Rail	90%	
	Mount Pipe	63%	
	PRK Double Angles	58%	
	Top Handrail	45%	
	Collar	97%	

1. Refer to the Calculations & Software Output portion of this report for mount component and structural information.
2. Listed results are expressed as a percentage of available mount member capacity based upon the assumed material strengths listed in Table 4.2. 105% is an acceptable allowable stress percentage for mount components.

**Table 4.2 – Structural Component Material Strengths**

Structural Component	Nominal Strength/Material <sup>1</sup>
Pipe	F <sub>y</sub> = 35 ksi (A53, Gr. B)
Tube	F <sub>y</sub> = 46 ksi (A500, Gr. B)
Structural Shapes (L, C, W, etc.), Plate / Bar	F <sub>y</sub> = 36 ksi (A36)
Uni-Strut	F <sub>y</sub> = 33 ksi (A570, Gr. 33)
Connection Bolts	A325
Stainless Steel Bolts	18-8 Stainless, Grade 316/304 F <sub>y</sub> = 74 ksi (Yield) & F <sub>u</sub> = 29 ksi (Tension)
U-Bolts / Threaded Rod	SAE J429 Grade 2 (Substitution: ASTM A449) F <sub>y</sub> = 57 ksi (Yield) & F <sub>u</sub> = 74 ksi (Tension)
Welds	E70XX Electrodes

1. Strengths listed were assumed for this analysis and are based upon ASTM, AISC, RCSC, AWS and ACI preferred specification values. Values and materials are consistent with industry standards. Material strengths were taken from original design documents when available.

## **5.0 Conclusion & Recommendations**

Based on T-Mobile's final equipment loading configuration, the mount assembly has sufficient capacity to support the loading considered in this analysis pursuant to the listed standards.

Antennas and equipment shall be installed centered vertically on the mount front face bottom rail (limit vertical installation eccentricity) with a maximum vertical eccentricity of 12" for panels and 18" for RRHs. If this assumption is incorrect, the results of this analysis will be inaccurate and not valid. This analysis accounts for the vertical eccentricities required to install all panel antennas at the same relative top tip elevation.

All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study, nor have they been provided a mount mapping to verify existing conditions and the results of this analysis are based solely on the information provided.

This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If any of the existing or proposed conditions (appurtenance loading, member sizes, etc.) reported in this analysis are not properly represented, please contact our office immediately to request an amended report.

Prepared by:



**Jesse Drennen, PE, MLE**  
208.761.7986  
[jesse.drennen@geostructural.com](mailto:jesse.drennen@geostructural.com)

Reviewed and Approved by:



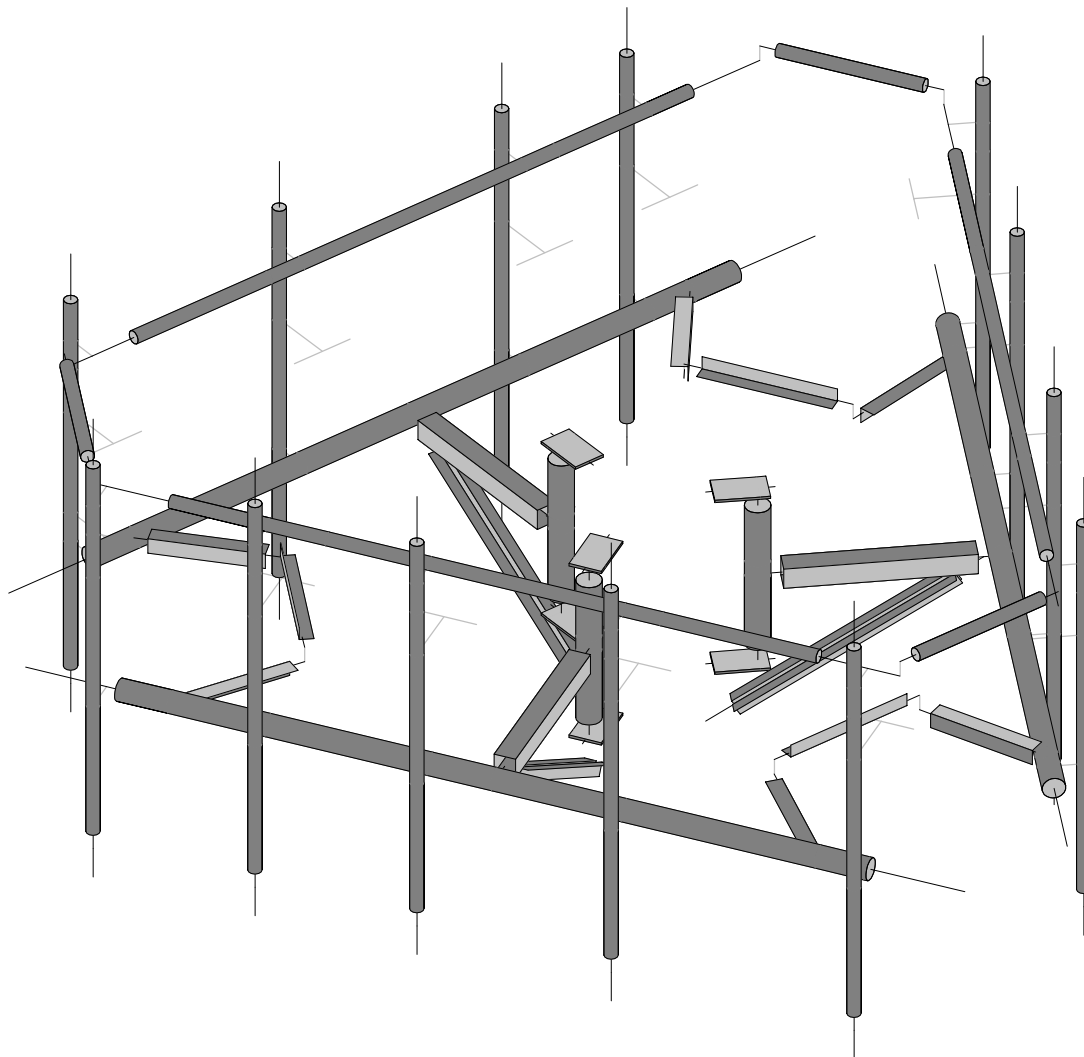
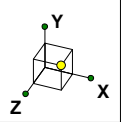
**Don George, PE, SE, MLSE**  
208.602.6569  
[don.george@geostructural.com](mailto:don.george@geostructural.com)

## **6.0 Standard Conditions**

- All data required to complete our structural analysis was furnished by our client and provided record data. GeoStructural has not conducted a site visit or independent study to verify existing conditions and the results of this analysis are based solely on the information provided. It has been assumed that the tower, antenna support structure and foundation have been constructed according to the provided existing drawings, previous structural analysis reports, mapping documents, etc.
- The default Structure Classification is Class II in accordance with ANSI/TIA-222-G §A.2.2 & §A.15.3 and has been assumed for this analysis. The owner shall verify this classification conforms with original or desired reliability criteria.
- This analysis assumes that the structure has been properly installed and maintained in accordance with ANSI/TIA-222-G §15.5 and that no physical deterioration has occurred in any of the components of the structure. Damaged, missing, or rusted members were not considered.
- This analysis verifies the adequacy of the main components of the structure. Not all connections, welds, bolts, plates, etc. were individually detailed and analyzed. Where not specifically analyzed, the existing connection plates, welds, bolts, etc. were assumed adequate to develop the full capacity of the main structural members.
- No consideration has been made for unusual or extreme wind events, rime/in-cloud ice loadings, harmonic or nodal vibration, vortex shedding or other similar conditions.
- It is the owner's responsibility to determine the appropriate design wind speed and amount of ice accumulation beyond code minimum values that should be considered in the analysis.
- This analysis report does not constitute a maintenance and condition assessment. No certifications regarding maintenance and condition are expressed or implied. If desired, GeoStructural can provide these services under a subsequent contract.
- This analysis only encompasses the antenna mount assembly. The tower, overall mount support structure, foundation, etc. are beyond the scope of this analysis. If desired, GeoStructural can provide these services under a subsequent contract.

## **7.0 Calculations & Software Output**

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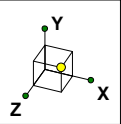
Jesse Drennen, PE

CT11299D

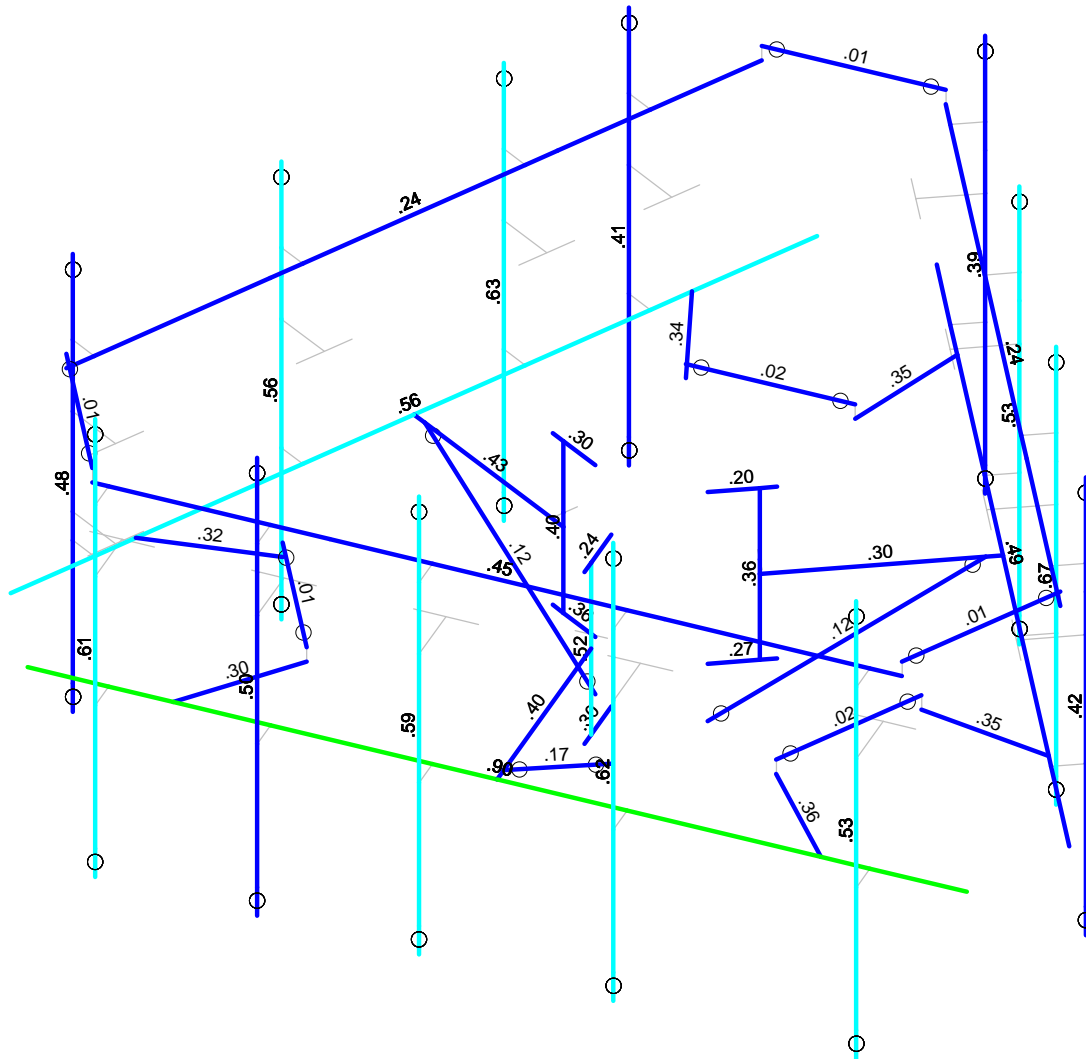
SK - 1

June 12, 2019 at 6:24 PM

CT11299D\_Mount Analysis\_R0 19...



Code Check ( Env )	
Black	No Calc
Red	> 1.0
Pink	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

GeoStructural, LLC

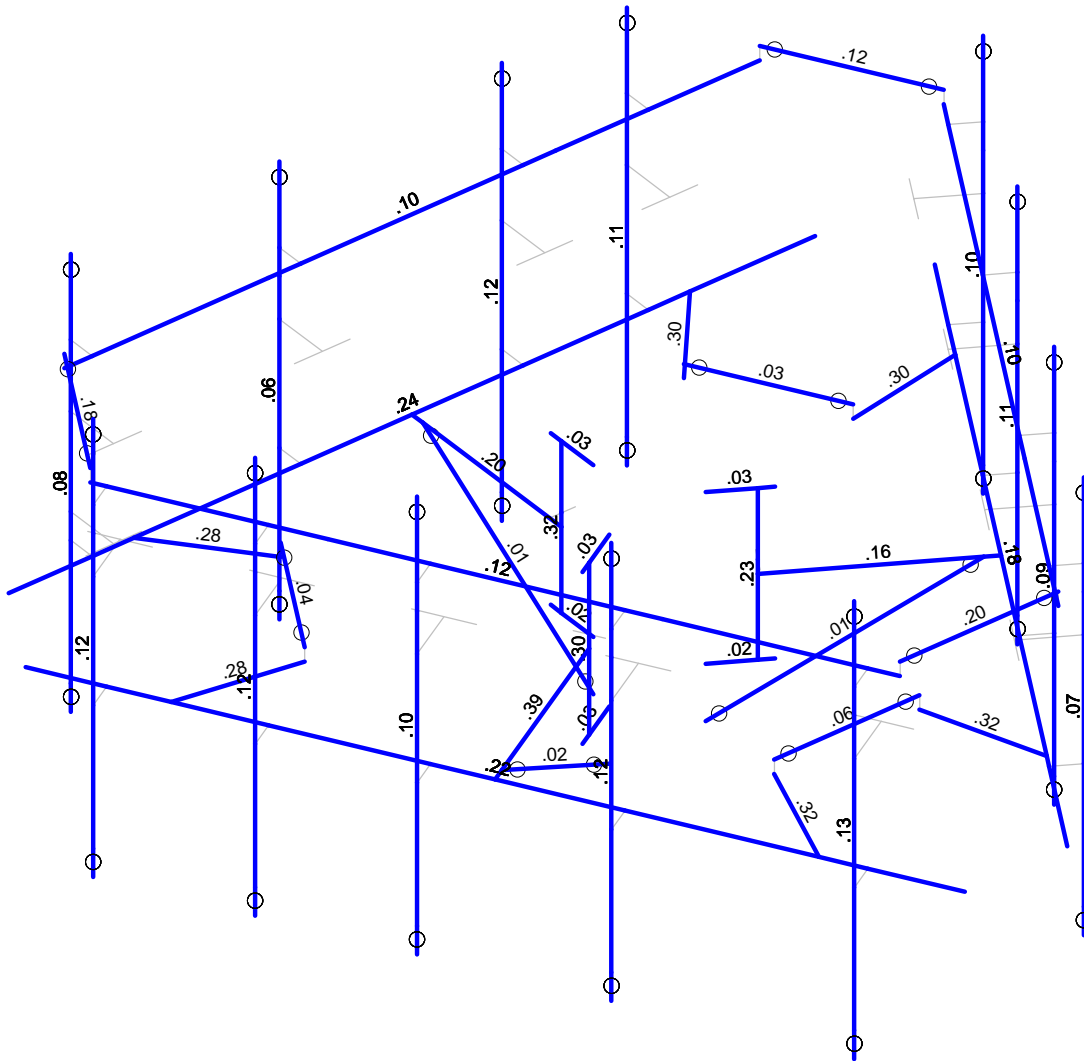
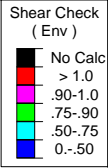
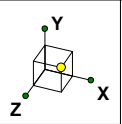
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CT11299D

SK - 2

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Member Shear Checks Displayed (Enveloped)  
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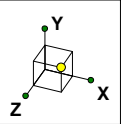
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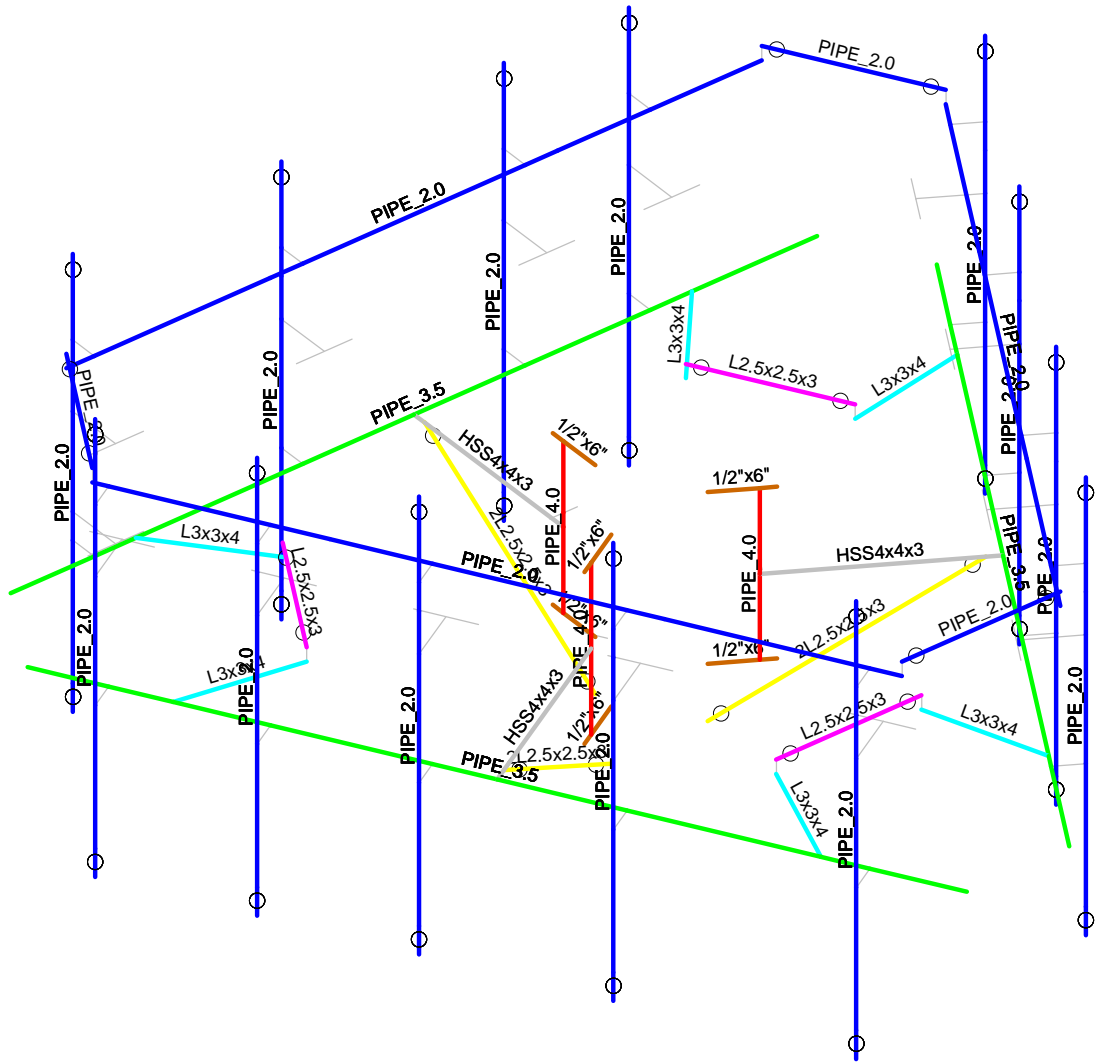
SK - 3

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CT11299D\_Mount Analysis\_R0 19...



Material Sets	
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<span style="color: green;">■</span>	A36 Gr.36
<span style="color: red;">■</span>	A500 Gr.B Rect
<span style="color: gray;">■</span>	A53 Gr.B



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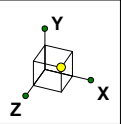
CT11299D

SK - 4

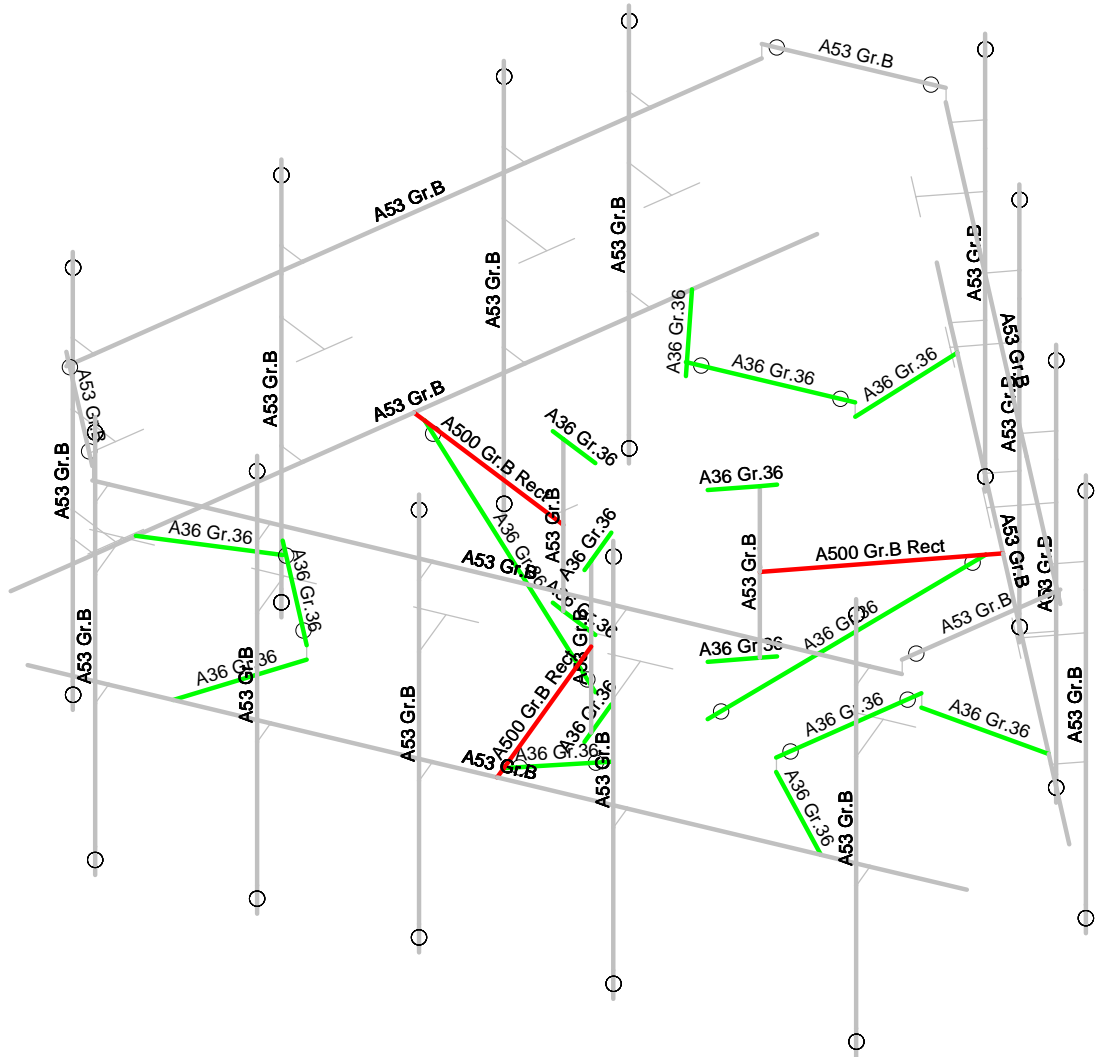
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CT11299D\_Mount Analysis\_R0 19...





Material Sets	
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<span style="color: green;">■</span>	A36 Gr.36
<span style="color: red;">■</span>	A500 Gr.B Rect
<span style="color: gray;">■</span>	A53 Gr.B



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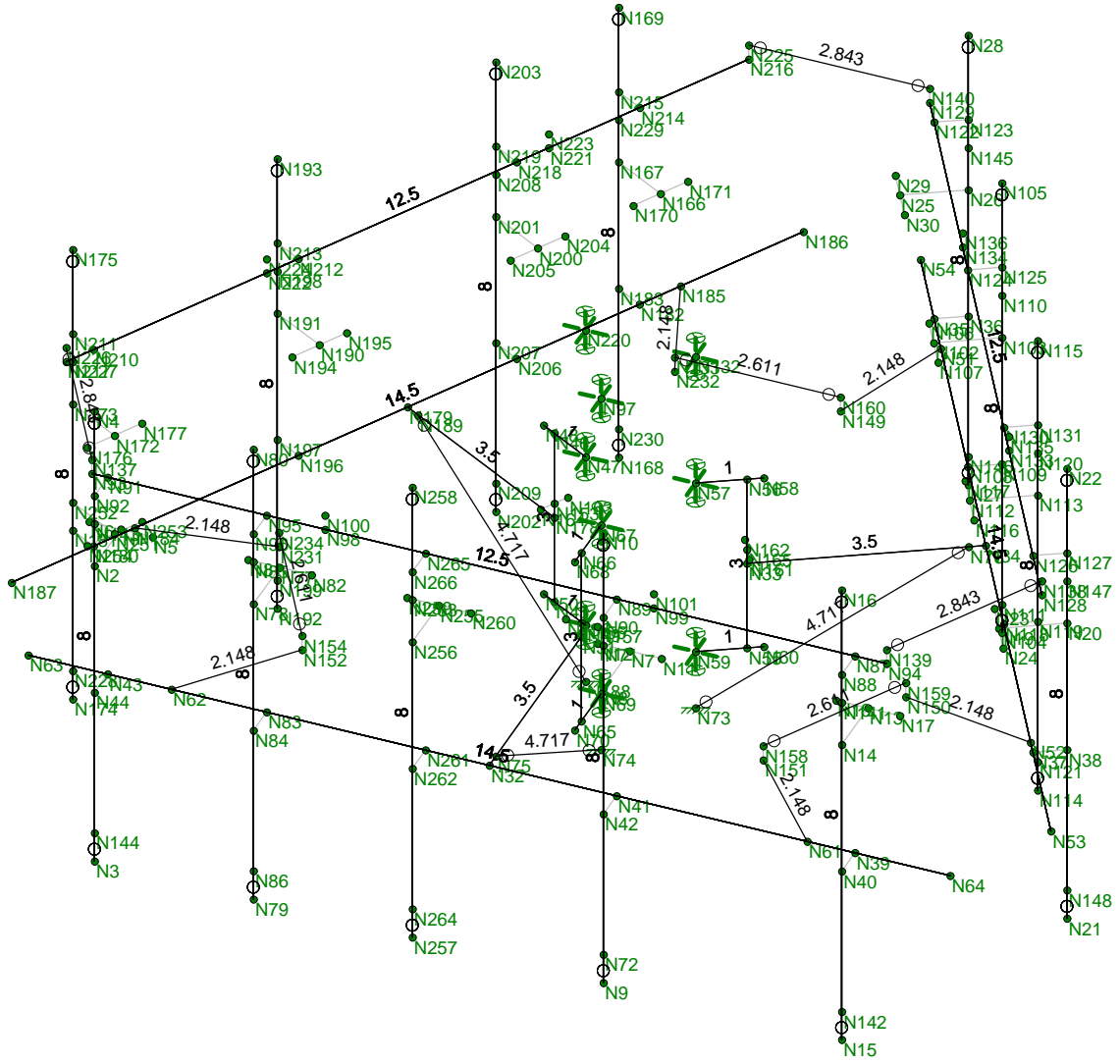
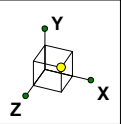
Jesse Drennen, PE

CT11299D

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June 12, 2019 at 6:24 PM

CT11299D\_Mount Analysis\_R0 19...



Member Length (ft) Displayed  
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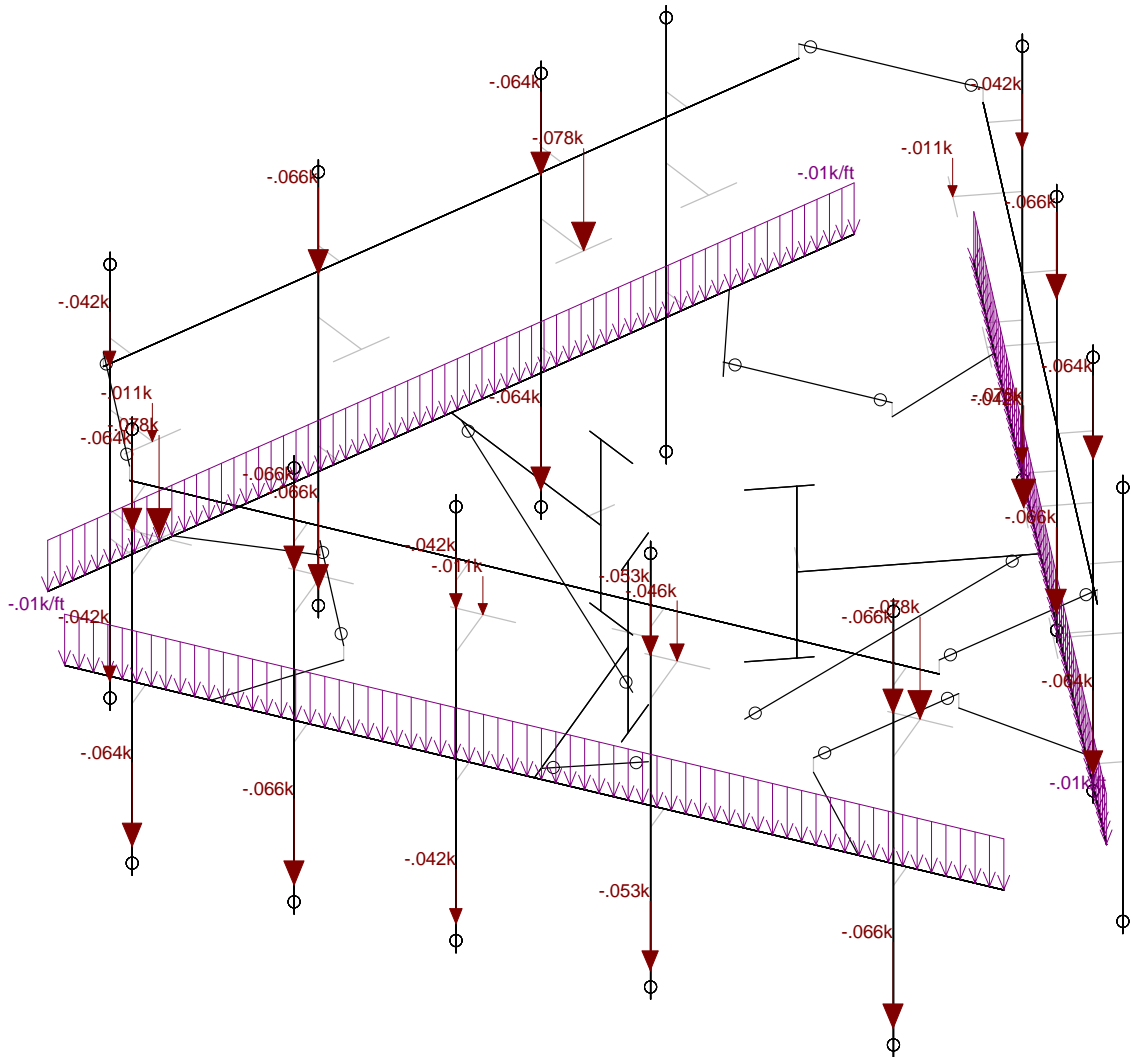
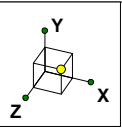
Jesse Drennen, PE

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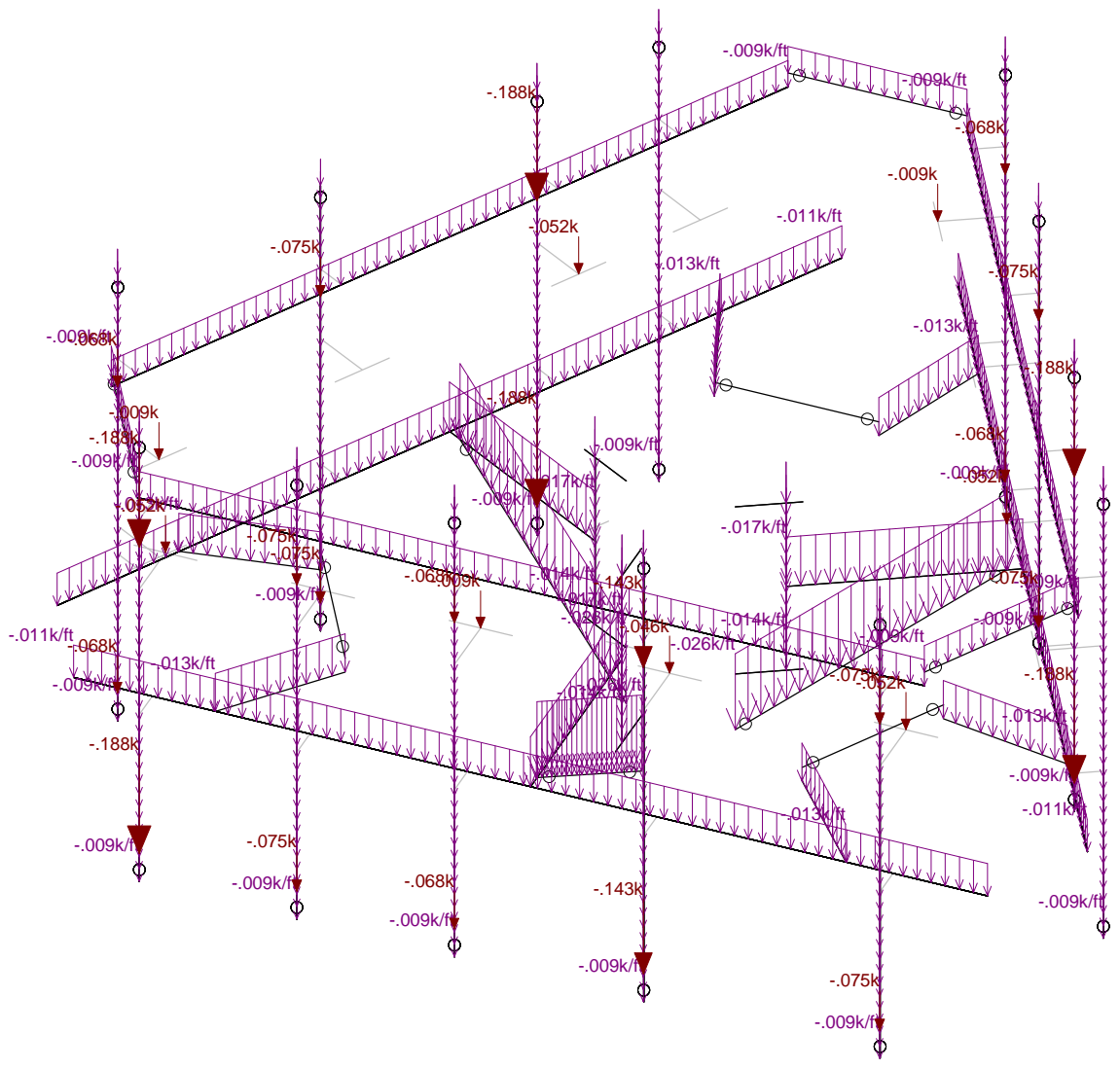
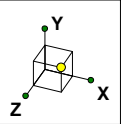


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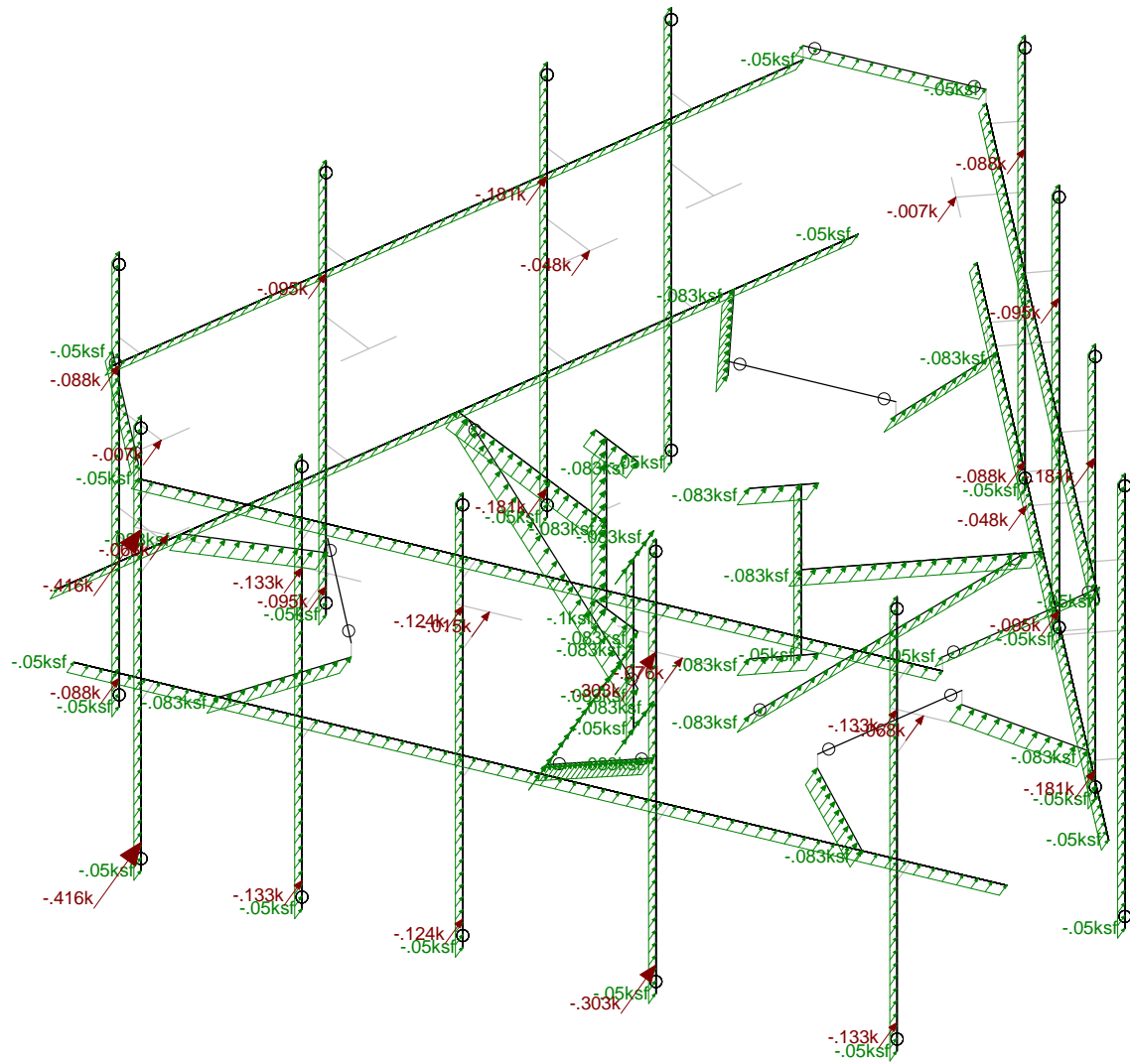
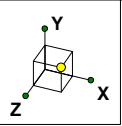


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GeoStructural, LLC  
Jesse Drennen, PE

CT11299D

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CT11299D\_Mount Analysis\_R0 19...



Loads: BLC 5, Woz  
Envelope Only Solution

GeoStructural, LLC

Jesse Drennen, PE

CT11299D

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June 12, 2019 at 6:25 PM

CT11299D\_Mount Analysis\_R0 19...





### Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	D	DL		-1		31		3		
2	Di	SL				31		49		
3	Lm [500]	LL				1				
4	Lv [250]	LL				2				
5	Woz	WL				31		53		
6	Wox	WL				31		53		
7	Wiz	WL				31		53		
8	Wix	WL				31		53		
9	Ez	EL				31				
10	Ex	EL				31				

### Load Combination Design

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
1	1) 1.4D				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
8	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
10	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
12	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
13	2) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
14	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
15	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
16	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
17	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
18	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
19	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
21	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
23	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
24	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
25	3) 0.9D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
26	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
27	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
28	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
29	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
30	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
31	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
32	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
33	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
34	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
35	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
36	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
37	4) 1.2D+1.0...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
38	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
39	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
40	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
41	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes



### Load Combination Design (Continued)

	Description	ASIF	CD	Service	Hot Rol...	Cold Form...	Wood	Concrete	Masonry	Aluminum	Stainless	Connection
42	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
43	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
44	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
45	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
46	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
47	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
48	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
49	5) 1.2D+1.5L...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
50	6) 1.2D+1.5Lv				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
51	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
52	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
53	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
54	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
55	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
56	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
57	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
58	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
59	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
60	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
61	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
62	7) (1.2+0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
63	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
64	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
65	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
66	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
67	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
68	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
69	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
70	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
71	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
72	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
73	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
74	8) (0.9-0.2Sd...				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

### Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
3	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A500 Gr.B RND_1	29000	11154	.3	.65	.527	42	1.4	58	1.3
8	A500 Gr.B Rect 1	29000	11154	.3	.65	.527	46	1.4	58	1.3
9	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

### Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PIPE 1.5	PIPE 1.5	Beam	None	A53 Gr.B	Typical	.749	.293	.293	.586
2	PIPE 2.0	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	PIPE 2.5	PIPE 2.5	Beam	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
4	PIPE 3.0	PIPE 3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
5	PIPE 3.5	PIPE 3.5	Beam	None	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
6	PIPE 4.0	PIPE 4.0	Beam	None	A53 Gr.B	Typical	2.96	6.82	6.82	13.6





**Hot Rolled Steel Section Sets (Continued)**

	Label	Shape	Type	Design List	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
7	PIPE 5.0	PIPE 5.0	Beam	None	A53 Gr.B	Typical	4.01	14.3	14.3	28.6
8	HSS2x2x3	HSS2x2x3	Beam	None	A500 Gr.B Rect	Typical	1.19	.641	.641	1.09
9	HSS3x3x3	HSS3x3x3	Beam	None	A500 Gr.B Rect	Typical	1.89	2.46	2.46	4.03
10	HSS4x4x3	HSS4x4x3	Beam	None	A500 Gr.B Rect	Typical	2.58	6.21	6.21	10
11	HSS4x4x4	HSS4x4x4	Beam	None	A500 Gr.B Rect	Typical	3.37	7.8	7.8	12.8
12	HSS5x5x4	HSS5x5x4	Beam	None	A500 Gr.B Rect	Typical	4.3	16	16	25.8
13	C3x3.5	C3x3.5	Beam	None	A36 Gr.36	Typical	1.09	.169	1.57	.023
14	C4x4.5	C4x4.5	Beam	None	A36 Gr.36	Typical	1.38	.289	3.65	.032
15	C5x6.7	C5x6.7	Beam	None	A36 Gr.36	Typical	1.97	.47	7.48	.055
16	L2.5x2.5x3	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical	.901	.535	.535	.011
17	L2.5x2.5x4	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
18	L3x3x3	L3x3x3	Beam	None	A36 Gr.36	Typical	1.09	.948	.948	.014
19	L3x3x4	L3x3x4	Beam	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
20	L3x3x6	L3x3x6	Beam	None	A36 Gr.36	Typical	2.11	1.75	1.75	.101
21	L3.5x3.5x4	L3.5x3.5x4	Beam	None	A36 Gr.36	Typical	1.7	2	2	.039
22	L4x4x4	L4x4x4	Beam	None	A36 Gr.36	Typical	1.93	3	3	.044
23	1/2"x6"	1/2"x6"	Beam	None	A36 Gr.36	Typical	3	.063	9	.237
24	2L2.5x2.5x3	LL2.5x2.5x3x3	Beam	None	A36 Gr.36	Typical	1.8	2.46	1.07	.023

**Joint Boundary Conditions**

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N67	Reaction	Reaction	Reaction		Reaction	
2	N47	Reaction	Reaction	Reaction		Reaction	
3	N49	Reaction	Reaction	Reaction		Reaction	
4	N69	Reaction	Reaction	Reaction		Reaction	
5	N59	Reaction	Reaction	Reaction		Reaction	
6	N57	Reaction	Reaction	Reaction		Reaction	
7	N73	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
8	N74	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
9	N97	Reaction	Reaction	Reaction		Reaction	
10	N132	Reaction	Reaction	Reaction		Reaction	
11	N188	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
12	N220	Reaction	Reaction	Reaction		Reaction	

**Member Primary Data**

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2			RIGID	None	None	RIGID	Typical
2	M2	N3	N4			PIPE 2.0	Beam	None	A53 Gr.B	Typical
3	M3	N5	N6			RIGID	None	None	RIGID	Typical
4	M4	N7	N8			RIGID	None	None	RIGID	Typical
5	M5	N9	N10			PIPE 2.0	Beam	None	A53 Gr.B	Typical
6	M6	N11	N12			RIGID	None	None	RIGID	Typical
7	M7	N13	N14			RIGID	None	None	RIGID	Typical
8	M8	N15	N16			PIPE 2.0	Beam	None	A53 Gr.B	Typical
9	M9	N17	N18			RIGID	None	None	RIGID	Typical
10	M10	N19	N20			RIGID	None	None	RIGID	Typical
11	M11	N21	N22			PIPE 2.0	Beam	None	A53 Gr.B	Typical
12	M12	N23	N24			RIGID	None	None	RIGID	Typical
13	M13	N25	N26			RIGID	None	None	RIGID	Typical
14	M14	N27	N28			PIPE 2.0	Beam	None	A53 Gr.B	Typical
15	M15	N29	N30			RIGID	None	None	RIGID	Typical
16	M16	N31	N32			HSS4x4x3	Beam	None	A500 Gr.B...	Typical
17	M17	N33	N34			HSS4x4x3	Beam	None	A500 Gr.B...	Typical
18	M18	N35	N36			RIGID	None	None	RIGID	Typical

**Member Primary Data (Continued)**

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
19	M19	N37	N38			RIGID	None	None	RIGID	Typical
20	M20	N39	N40			RIGID	None	None	RIGID	Typical
21	M21	N41	N42			RIGID	None	None	RIGID	Typical
22	M22	N43	N44			RIGID	None	None	RIGID	Typical
23	M23	N45	N46			PIPE 4.0	Beam	None	A53 Gr.B	Typical
24	M24	N47	N48		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
25	M25	N49	N50		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
26	M26	N51	N149		180	L3x3x4	Beam	None	A36 Gr.36	Typical
27	M27	N52	N150		90	L3x3x4	Beam	None	A36 Gr.36	Typical
28	M28	N53	N54			PIPE 3.5	Beam	None	A53 Gr.B	Typical
29	M29	N55	N56			PIPE 4.0	Beam	None	A53 Gr.B	Typical
30	M30	N57	N58		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
31	M31	N59	N60		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
32	M32	N61	N151		180	L3x3x4	Beam	None	A36 Gr.36	Typical
33	M33	N62	N152		90	L3x3x4	Beam	None	A36 Gr.36	Typical
34	M34	N63	N64			PIPE 3.5	Beam	None	A53 Gr.B	Typical
35	M35	N65	N66			PIPE 4.0	Beam	None	A53 Gr.B	Typical
36	M36	N67	N68		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
37	M37	N69	N70		90	1/2"x6"	Beam	None	A36 Gr.36	Typical
38	M38	N74	N75			2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
39	M39	N73	N76			2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
40	M40	N77	N78			RIGID	None	None	RIGID	Typical
41	M41	N79	N80			PIPE 2.0	Beam	None	A53 Gr.B	Typical
42	M42	N81	N82			RIGID	None	None	RIGID	Typical
43	M43	N83	N84			RIGID	None	None	RIGID	Typical
44	M44	N87	N88			RIGID	None	None	RIGID	Typical
45	M45	N89	N90			RIGID	None	None	RIGID	Typical
46	M46	N91	N92			RIGID	None	None	RIGID	Typical
47	M47	N93	N94			PIPE 2.0	Beam	None	A53 Gr.B	Typical
48	M48	N95	N96			RIGID	None	None	RIGID	Typical
49	M49	N100	N98			RIGID	None	None	RIGID	Typical
50	M50	N101	N99			RIGID	None	None	RIGID	Typical
51	M51	N97	N100		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
52	M52	N97	N101		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
53	M53	N102	N103			RIGID	None	None	RIGID	Typical
54	M54	N104	N105			PIPE 2.0	Beam	None	A53 Gr.B	Typical
55	M55	N106	N107			RIGID	None	None	RIGID	Typical
56	M56	N108	N109			RIGID	None	None	RIGID	Typical
57	M57	N112	N113			RIGID	None	None	RIGID	Typical
58	M58	N114	N115			PIPE 2.0	Beam	None	A53 Gr.B	Typical
59	M59	N116	N117			RIGID	None	None	RIGID	Typical
60	M60	N118	N119			RIGID	None	None	RIGID	Typical
61	M61	N122	N123			RIGID	None	None	RIGID	Typical
62	M62	N124	N125			RIGID	None	None	RIGID	Typical
63	M63	N126	N127			RIGID	None	None	RIGID	Typical
64	M64	N128	N129			PIPE 2.0	Beam	None	A53 Gr.B	Typical
65	M65	N130	N131			RIGID	None	None	RIGID	Typical
66	M66	N135	N133			RIGID	None	None	RIGID	Typical
67	M67	N136	N134			RIGID	None	None	RIGID	Typical
68	M68	N132	N135		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
69	M69	N132	N136		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
70	M70	N137	N93			RIGID	None	None	RIGID	Typical
71	M71	N138	N128			RIGID	None	None	RIGID	Typical
72	M72	N139	N94			RIGID	None	None	RIGID	Typical
73	M73	N140	N129			RIGID	None	None	RIGID	Typical
74	M74	N156	N157			RIGID	None	None	RIGID	Typical
75	M75	N154	N152			RIGID	None	None	RIGID	Typical

**Member Primary Data (Continued)**

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
76	M76	N158	N151			RIGID	None	None	RIGID	Typical
77	M77	N159	N150			RIGID	None	None	RIGID	Typical
78	M78	N160	N149			RIGID	None	None	RIGID	Typical
79	M79	N161	N162			RIGID	None	None	RIGID	Typical
80	M80	N163	N164			RIGID	None	None	RIGID	Typical
81	M81	N154	N164			PIPE 2.0	Beam	None	A53 Gr.B	Typical
82	M82	N159	N157			PIPE 2.0	Beam	None	A53 Gr.B	Typical
83	M83	N166	N167			RIGID	None	None	RIGID	Typical
84	M84	N168	N169			PIPE 2.0	Beam	None	A53 Gr.B	Typical
85	M85	N170	N171			RIGID	None	None	RIGID	Typical
86	M86	N172	N173			RIGID	None	None	RIGID	Typical
87	M87	N174	N175			PIPE 2.0	Beam	None	A53 Gr.B	Typical
88	M88	N176	N177			RIGID	None	None	RIGID	Typical
89	M89	N178	N179			HSS4x4x3	Beam	None	A500 Gr.B...	Typical
90	M90	N180	N181			RIGID	None	None	RIGID	Typical
91	M91	N182	N183			RIGID	None	None	RIGID	Typical
92	M92	N184	N231		180	L3x3x4	Beam	None	A36 Gr.36	Typical
93	M93	N185	N232		90	L3x3x4	Beam	None	A36 Gr.36	Typical
94	M94	N186	N187			PIPE 3.5	Beam	None	A53 Gr.B	Typical
95	M95	N188	N189			2L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
96	M96	N190	N191			RIGID	None	None	RIGID	Typical
97	M97	N192	N193			PIPE 2.0	Beam	None	A53 Gr.B	Typical
98	M98	N194	N195			RIGID	None	None	RIGID	Typical
99	M99	N196	N197			RIGID	None	None	RIGID	Typical
100	M100	N200	N201			RIGID	None	None	RIGID	Typical
101	M101	N202	N203			PIPE 2.0	Beam	None	A53 Gr.B	Typical
102	M102	N204	N205			RIGID	None	None	RIGID	Typical
103	M103	N206	N207			RIGID	None	None	RIGID	Typical
104	M104	N210	N211			RIGID	None	None	RIGID	Typical
105	M105	N212	N213			RIGID	None	None	RIGID	Typical
106	M106	N214	N215			RIGID	None	None	RIGID	Typical
107	M107	N216	N217			PIPE 2.0	Beam	None	A53 Gr.B	Typical
108	M108	N218	N219			RIGID	None	None	RIGID	Typical
109	M109	N223	N221			RIGID	None	None	RIGID	Typical
110	M110	N224	N222			RIGID	None	None	RIGID	Typical
111	M111	N220	N223		180	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
112	M112	N220	N224		90	L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
113	M113	N225	N216			RIGID	None	None	RIGID	Typical
114	M114	N226	N217			RIGID	None	None	RIGID	Typical
115	M115	N233	N232			RIGID	None	None	RIGID	Typical
116	M116	N234	N231			RIGID	None	None	RIGID	Typical
117	M117	N233	N162			PIPE 2.0	Beam	None	A53 Gr.B	Typical
118	M120	N226	N137			PIPE 2.0	Beam	None	A53 Gr.B	Typical
119	M121	N139	N138			PIPE 2.0	Beam	None	A53 Gr.B	Typical
120	M122	N140	N225			PIPE 2.0	Beam	None	A53 Gr.B	Typical
121	M129	N251	N252			RIGID	None	None	RIGID	Typical
122	M130	N253	N254			RIGID	None	None	RIGID	Typical
123	M131	N255	N256			RIGID	None	None	RIGID	Typical
124	M132	N257	N258			PIPE 2.0	Beam	None	A53 Gr.B	Typical
125	M133	N259	N260			RIGID	None	None	RIGID	Typical
126	M134	N261	N262			RIGID	None	None	RIGID	Typical
127	M135	N265	N266			RIGID	None	None	RIGID	Typical
128	M128	N154	N234			L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
129	M129A	N233	N160			L2.5x2.5x3	Beam	None	A36 Gr.36	Typical
130	M130A	N159	N158			L2.5x2.5x3	Beam	None	A36 Gr.36	Typical

**Member Advanced Data**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2	BenPIN	BenPIN				Yes				None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5	BenPIN	BenPIN				Yes				None
6	M6						Yes	** NA **			None
7	M7						Yes	** NA **			None
8	M8	BenPIN	BenPIN				Yes				None
9	M9						Yes	** NA **			None
10	M10						Yes	** NA **			None
11	M11	BenPIN	BenPIN				Yes				None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14	BenPIN	BenPIN				Yes				None
15	M15						Yes	** NA **			None
16	M16						Yes				None
17	M17						Yes				None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes				None
24	M24						Yes				None
25	M25						Yes				None
26	M26						Yes				None
27	M27						Yes				None
28	M28						Yes				None
29	M29						Yes				None
30	M30						Yes				None
31	M31						Yes				None
32	M32						Yes				None
33	M33						Yes				None
34	M34						Yes				None
35	M35						Yes				None
36	M36						Yes				None
37	M37						Yes				None
38	M38	BenPIN	BenPIN				Yes				None
39	M39	BenPIN	BenPIN				Yes				None
40	M40						Yes	** NA **			None
41	M41	BenPIN	BenPIN				Yes				None
42	M42						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	M45						Yes	** NA **			None
46	M46						Yes	** NA **			None
47	M47						Yes				None
48	M48						Yes	** NA **			None
49	M49						Yes	** NA **		Inactive	None
50	M50						Yes	** NA **		Inactive	None
51	M51	BenPIN	BenPIN				Yes			Inactive	None
52	M52	BenPIN	BenPIN				Yes			Inactive	None
53	M53						Yes	** NA **			None
54	M54	BenPIN	BenPIN				Yes				None
55	M55						Yes	** NA **			None
56	M56						Yes	** NA **			None

**Member Advanced Data (Continued)**

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
57	M57						Yes	** NA **			None
58	M58	BenPIN	BenPIN				Yes				None
59	M59						Yes	** NA **			None
60	M60						Yes	** NA **			None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None
63	M63						Yes	** NA **			None
64	M64						Yes				None
65	M65						Yes	** NA **			None
66	M66						Yes	** NA **		Inactive	None
67	M67						Yes	** NA **		Inactive	None
68	M68	BenPIN	BenPIN				Yes			Inactive	None
69	M69	BenPIN	BenPIN				Yes			Inactive	None
70	M70						Yes	** NA **			None
71	M71						Yes	** NA **			None
72	M72						Yes	** NA **			None
73	M73						Yes	** NA **			None
74	M74						Yes	** NA **			None
75	M75						Yes	** NA **			None
76	M76						Yes	** NA **			None
77	M77						Yes	** NA **			None
78	M78						Yes	** NA **			None
79	M79						Yes	** NA **			None
80	M80						Yes	** NA **			None
81	M81	BenPIN	BenPIN				Yes			Inactive	None
82	M82	BenPIN	BenPIN				Yes			Inactive	None
83	M83						Yes	** NA **			None
84	M84	BenPIN	BenPIN				Yes				None
85	M85						Yes	** NA **			None
86	M86						Yes	** NA **			None
87	M87	BenPIN	BenPIN				Yes				None
88	M88						Yes	** NA **			None
89	M89						Yes				None
90	M90						Yes	** NA **			None
91	M91						Yes	** NA **			None
92	M92						Yes				None
93	M93						Yes				None
94	M94						Yes				None
95	M95	BenPIN	BenPIN				Yes				None
96	M96						Yes	** NA **			None
97	M97	BenPIN	BenPIN				Yes				None
98	M98						Yes	** NA **			None
99	M99						Yes	** NA **			None
100	M100						Yes	** NA **			None
101	M101	BenPIN	BenPIN				Yes				None
102	M102						Yes	** NA **			None
103	M103						Yes	** NA **			None
104	M104						Yes	** NA **			None
105	M105						Yes	** NA **			None
106	M106						Yes	** NA **			None
107	M107						Yes				None
108	M108						Yes	** NA **			None
109	M109						Yes	** NA **		Inactive	None
110	M110						Yes	** NA **		Inactive	None
111	M111	BenPIN	BenPIN				Yes			Inactive	None
112	M112	BenPIN	BenPIN				Yes			Inactive	None
113	M113						Yes	** NA **			None



### Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
114	M114						Yes	** NA **			None
115	M115						Yes	** NA **			None
116	M116						Yes	** NA **			None
117	M117	BenPIN	BenPIN				Yes			Inactive	None
118	M120	BenPIN	BenPIN				Yes				None
119	M121	BenPIN	BenPIN				Yes				None
120	M122	BenPIN	BenPIN				Yes				None
121	M129						Yes	** NA **			None
122	M130						Yes	** NA **			None
123	M131						Yes	** NA **			None
124	M132	BenPIN	BenPIN				Yes				None
125	M133						Yes	** NA **			None
126	M134						Yes	** NA **			None
127	M135						Yes	** NA **			None
128	M128	BenPIN	BenPIN				Yes				None
129	M129A	BenPIN	BenPIN				Yes				None
130	M130A	BenPIN	BenPIN				Yes				None

### Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M2	PIPE 2.0	8			Lbyy						Lateral
2	M5	PIPE 2.0	8			Lbyy						Lateral
3	M8	PIPE 2.0	8			Lbyy						Lateral
4	M11	PIPE 2.0	8			Lbyy						Lateral
5	M14	PIPE 2.0	8			Lbyy						Lateral
6	M16	HSS4x4x3	3.5			Lbyy						Lateral
7	M17	HSS4x4x3	3.5			Lbyy						Lateral
8	M23	PIPE 4.0	3			Lbyy						Lateral
9	M24	1/2"x6"	1			Lbyy						Lateral
10	M25	1/2"x6"	1			Lbyy						Lateral
11	M26	L3x3x4	2.148			Lbyy						Lateral
12	M27	L3x3x4	2.148			Lbyy						Lateral
13	M28	PIPE 3.5	14.5			Lbyy						Lateral
14	M29	PIPE 4.0	3			Lbyy						Lateral
15	M30	1/2"x6"	1			Lbyy						Lateral
16	M31	1/2"x6"	1			Lbyy						Lateral
17	M32	L3x3x4	2.148			Lbyy						Lateral
18	M33	L3x3x4	2.148			Lbyy						Lateral
19	M34	PIPE 3.5	14.5			Lbyy						Lateral
20	M35	PIPE 4.0	3			Lbyy						Lateral
21	M36	1/2"x6"	1			Lbyy						Lateral
22	M37	1/2"x6"	1			Lbyy						Lateral
23	M38	2L2.5x2.5x3	4.717			Lbyy						Lateral
24	M39	2L2.5x2.5x3	4.717			Lbyy						Lateral
25	M41	PIPE 2.0	8			Lbyy						Lateral
26	M47	PIPE 2.0	12.5			Lbyy						Lateral
27	M51	L2.5x2.5x3	4.974			Lbyy						Lateral
28	M52	L2.5x2.5x3	4.974			Lbyy						Lateral
29	M54	PIPE 2.0	8			Lbyy						Lateral
30	M58	PIPE 2.0	8			Lbyy						Lateral
31	M64	PIPE 2.0	12.5			Lbyy						Lateral
32	M68	L2.5x2.5x3	4.974			Lbyy						Lateral
33	M69	L2.5x2.5x3	4.974			Lbyy						Lateral
34	M81	PIPE 2.0	4.698			Lbyy						Lateral
35	M82	PIPE 2.0	4.698			Lbyy						Lateral

**Hot Rolled Steel Design Parameters (Continued)**

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
36	M84	PIPE 2.0	8			Lbyy						Lateral
37	M87	PIPE 2.0	8			Lbyy						Lateral
38	M89	HSS4x4x3	3.5			Lbyy						Lateral
39	M92	L3x3x4	2.148			Lbyy						Lateral
40	M93	L3x3x4	2.148			Lbyy						Lateral
41	M94	PIPE 3.5	14.5			Lbyy						Lateral
42	M95	2L2.5x2.5x3	4.717			Lbyy						Lateral
43	M97	PIPE 2.0	8			Lbyy						Lateral
44	M101	PIPE 2.0	8			Lbyy						Lateral
45	M107	PIPE 2.0	12.5			Lbyy						Lateral
46	M111	L2.5x2.5x3	4.974			Lbyy						Lateral
47	M112	L2.5x2.5x3	4.974			Lbyy						Lateral
48	M117	PIPE 2.0	4.698			Lbyy						Lateral
49	M120	PIPE 2.0	2.843			Lbyy						Lateral
50	M121	PIPE 2.0	2.843			Lbyy						Lateral
51	M122	PIPE 2.0	2.843			Lbyy						Lateral
52	M132	PIPE 2.0	8			Lbyy						Lateral
53	M128	L2.5x2.5x3	2.611			Lbyy						Lateral
54	M129A	L2.5x2.5x3	2.611			Lbyy						Lateral
55	M130A	L2.5x2.5x3	2.611			Lbyy						Lateral

**Envelope Joint Reactions**

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N67	max	1.23	5	.177	27	.96	14	0	74	2.69	4	0	74
2		min	-1.139	47	.057	69	-3.7	32	0	1	-2.604	23	0	1
3	N47	max	2.59	5	.196	9	1.69	2	0	74	3.284	25	0	74
4		min	-.932	23	-.086	15	-1.028	20	0	1	-3.399	7	0	1
5	N49	max	2.037	4	.264	22	1.334	27	0	74	2.977	13	0	74
6		min	-.953	22	-.316	4	-.38	21	0	1	-2.759	19	0	1
7	N69	max	1.109	41	.16	14	.86	14	0	74	2.303	16	0	74
8		min	-.717	35	-.233	8	-2.918	32	0	1	-2.508	10	0	1
9	N59	max	.711	18	.222	18	.927	13	0	74	1.991	10	0	74
10		min	-1.996	12	-.242	12	-.456	19	0	1	-1.803	16	0	1
11	N57	max	.961	17	.189	31	1.595	2	0	74	2.11	22	0	74
12		min	-2.33	11	-.02	25	-.536	20	0	1	-2.228	4	0	1
13	N73	max	3.658	36	2.716	36	-.451	18	.001	12	0	12	0	18
14		min	.778	18	.539	18	-2.109	36	0	18	0	18	0	12
15	N74	max	.029	17	3.865	32	6.076	32	0	74	.003	38	.004	38
16		min	-.029	24	1.027	14	1.665	14	0	1	-.002	33	-.003	33
17	N97	max	0	74	0	74	0	74	0	74	0	74	0	74
18		min	0	1	0	1	0	1	0	1	0	1	0	1
19	N132	max	0	74	0	74	0	74	0	74	0	74	0	74
20		min	0	1	0	1	0	1	0	1	0	1	0	1
21	N188	max	-.652	21	2.848	27	-.395	22	0	19	0	13	0	19
22		min	-3.842	27	.462	21	-2.219	27	-.001	13	0	19	0	13
23	N220	max	0	74	0	74	0	74	0	74	0	74	0	74
24		min	0	1	0	1	0	1	0	1	0	1	0	1
25	Totals:	max	6.788	5	9.456	37	6.724	14						
26		min	-6.788	23	2.924	68	-6.724	8						



**Envelope AISC 14th(360-10): LRFD Steel Code Checks**

Member	Shape	Code ...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y...	phi*Mn z...	Cb	Eqn	
1	M34	PIPE 3.5	.899	7.25	2	.224	7.25	7	33.422	78.75	7.954	7.954	1...	H1-1b	
2	M58	PIPE 2.0	.671	3	5	.090	3	13	14.916	32.13	1.872	1.872	1...	H1-1b	
3	M101	PIPE 2.0	.628	3	11	.116	3	5	14.916	32.13	1.872	1.872	1...	H1-1b	
4	M5	PIPE 2.0	.623	3	2	.121	3	6	14.916	32.13	1.872	1.872	2...	H1-1b	
5	M2	PIPE 2.0	.611	3	2	.124	3	9	14.916	32.13	1.872	1.872	2...	H1-1b	
6	M132	PIPE 2.0	.593	3	2	.102	3	9	14.916	32.13	1.872	1.872	2...	H1-1b	
7	M94	PIPE 3.5	.562	7.25	10	.238	7.25	4	33.422	78.75	7.954	7.954	1...	H1-1b	
8	M97	PIPE 2.0	.558	3	10	.057	3	11	14.916	32.13	1.872	1.872	2...	H1-1b	
9	M8	PIPE 2.0	.530	3	3	.128	3	29	14.916	32.13	1.872	1.872	1...	H1-1b	
10	M54	PIPE 2.0	.527	3	6	.107	3	11	14.916	32.13	1.872	1.872	1...	H1-1b	
11	M35	PIPE 4.0	.518	1.5	32	.304	1.5	10	90.594	93.24	10.631	10.631	1...	H1-1b	
12	M41	PIPE 2.0	.498	3	36	.117	3	9	14.916	32.13	1.872	1.872	1...	H1-1b	
13	M28	PIPE 3.5	.495	7.25	5	.176	7.25	13	33.422	78.75	7.954	7.954	1...	H1-1b	
14	M87	PIPE 2.0	.485	3	10	.079	3	9	14.916	32.13	1.872	1.872	2...	H1-1b	
15	M47	PIPE 2.0	.445	11.979	42	.121	2.734	9	6.295	32.13	1.872	1.872	2...	H1-1b	
16	M89	HSS4x4x3	.434	0	13	.196	0	z	7	101.674	106.812	12.662	12.662	1...	H1-1b
17	M11	PIPE 2.0	.422	3	5	.075	3	27	14.916	32.13	1.872	1.872	2...	H1-1b	
18	M84	PIPE 2.0	.413	3	9	.114	3	7	14.916	32.13	1.872	1.872	1...	H1-1b	
19	M16	HSS4x4x3	.402	0	10	.386	3.281	y	48	101.674	106.812	12.662	12.662	1...	H1-1b
20	M23	PIPE 4.0	.399	1.5	6	.319	1.5	7	90.594	93.24	10.631	10.631	1...	H3-6	
21	M14	PIPE 2.0	.386	3	7	.097	3	9	14.916	32.13	1.872	1.872	1...	H1-1b	
22	M25	1/2"x6"	.363	.75	2	.016	0	y	12	67.552	97.2	1.012	12.15	1...	H1-1b
23	M29	PIPE 4.0	.361	1.5	12	.233	1.5	10	90.594	93.24	10.631	10.631	1...	H1-1b	
24	M32	L3x3x4	.359	0	10	.315	2.148	z	4	42.124	46.656	1.688	3.756	1...	H2-1
25	M27	L3x3x4	.353	0	16	.319	2.148	y	4	42.124	46.656	1.688	3.756	1...	H2-1
26	M26	L3x3x4	.347	0	8	.299	2.148	z	8	42.124	46.656	1.688	3.756	1...	H2-1
27	M93	L3x3x4	.343	0	8	.304	2.148	y	8	42.124	46.656	1.688	3.756	1...	H2-1
28	M92	L3x3x4	.324	0	11	.279	0	z	11	42.124	46.656	1.688	3.756	1...	H2-1
29	M37	1/2"x6"	.304	.75	9	.029	0	y	41	67.552	97.2	1.012	12.15	1...	H1-1b
30	M17	HSS4x4x3	.303	0	10	.161	3.281	y	27	101.674	106.812	12.662	12.662	1...	H1-1b
31	M33	L3x3x4	.301	0	12	.276	2.148	y	11	42.124	46.656	1.688	3.756	1...	H2-1
32	M24	1/2"x6"	.300	.75	8	.034	0	y	7	67.552	97.2	1.012	12.15	1...	H1-1b
33	M31	1/2"x6"	.266	.75	11	.016	0	y	10	67.552	97.2	1.012	12.15	1...	H1-1b
34	M36	1/2"x6"	.242	.75	10	.032	0	y	5	67.552	97.2	1.012	12.15	1...	H1-1b
35	M107	PIPE 2.0	.242	8.333	3	.101	12.109	39	6.295	32.13	1.872	1.872	3...	H1-1b	
36	M64	PIPE 2.0	.241	8.333	33	.102	.911	44	6.295	32.13	1.872	1.872	2...	H1-1b	
37	M30	1/2"x6"	.201	.75	5	.028	0	y	3	67.552	97.2	1.012	12.15	1...	H1-1b
38	M38	LL2.5x2.5x3x3	.166	0	32	.021	4.717	y	38	43.374	58.32	3.954	2.55	1	H1-1b*
39	M95	LL2.5x2.5x3x3	.122	0	27	.011	0	z	13	43.374	58.32	3.954	2.55	1...	H1-1b*
40	M39	LL2.5x2.5x3x3	.116	0	36	.009	4.717	y	36	43.374	58.32	3.954	2.55	1...	H1-1b*
41	M130A	L2.5x2.5x3	.017	1.305	10	.062	2.611	y	39	23.061	29.192	.873	1.899	1...	H2-1
42	M129A	L2.5x2.5x3	.015	1.305	2	.026	0	y	32	23.061	29.192	.873	1.899	1...	H2-1
43	M128	L2.5x2.5x3	.013	1.305	5	.037	2.611	y	39	23.061	29.192	.873	1.899	1...	H2-1
44	M121	PIPE 2.0	.009	1.422	29	.199	0	43	29.162	32.13	1.872	1.872	1...	H1-1b	
45	M122	PIPE 2.0	.008	1.422	33	.124	2.843	11	29.162	32.13	1.872	1.872	1...	H1-1b	
46	M120	PIPE 2.0	.008	1.422	33	.180	0	39	29.162	32.13	1.872	1.872	1...	H1-1b	

**Envelope Plate/Shell Principal Stresses**

Plate	Surf...Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [ksi]	LC	Angle [rad]	LC	Von Mises [ksi]	LC
No Data to Print ...										



# EXHIBIT 9

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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## Radio Frequency Emissions Analysis Report

**T-MOBILE** Existing Facility

**Site ID: CT11299D**

CTBeacon Falls/Rt 8  
60 Rice Lane  
Beacon Falls, CT 06403

**May 23, 2019**

**Transcom Engineering Project Number: 737001-0063**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>11.36 %</b>

# Transcom Engineering, Inc.

Wireless Network Design and Deployment

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May 23, 2019

T-MOBILE

Attn: Jason Overbey, RF Manager  
35 Griffin Road South  
Bloomfield, CT 6009

## Emissions Analysis for Site: **CT11299D – CTBeacon Falls/Rt 8**

Transcom Engineering, Inc (“Transcom”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **60 Rice Lane, Beacon Falls, CT**, 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.

Population 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 & 700 MHz 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) and 2100 MHz (AWS) 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.

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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.

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## CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **60 Rice Lane, Beacon Falls, CT**, 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	2	60
UMTS (Sectors A, B & C)	1900 MHz (PCS)	1	40
GSM (Sectors A, B & C)	1900 MHz (PCS)	1	15
UMTS	2100 MHz (AWS)	1	40
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20

*Table 1: Channel Data Table*

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The following antennas listed in *Table 2* were used in the modeling for transmission in the 600, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Ericsson AIR32 B66A / B2A	142
A	2	Ericsson AIR21 B2A/B4P	142
A	3	RFS APXVAARR24_43-U-NA20	142
B	1	Ericsson AIR32 B66A / B2A	142
B	2	Ericsson AIR21 B2A/B4P	142
B	3	RFS APXVAARR24_43-U-NA20	142
C	1	Ericsson AIR32 B66A / B2A	142
C	2	Ericsson AIR21 B2A/B4P	142
C	3	RFS APXVAARR24_43-U-NA20	142
D	1	Ericsson AIR32 B66A / B2A	142
D	2	RFS APXVAARR18_43-C-NA20	142

*Table 2: Antenna Data*

All calculations were done with respect to uncontrolled / general population threshold limits.

Cable losses were factored in the calculations for this site. Since the **2100 MHz (AWS) UMTS** radios for **Sectors A, B & C** are ground mounted the following cable loss values were used. For each ground mounted **2100 MHz (AWS) UMTS** radio there was **1.70 dB** of cable loss calculated into the system gains / losses for this site. These values were calculated based upon the manufacturers specifications for **150 feet of 1-5/8" coax**.

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## RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85	6	280	10,768.57	2.10
Antenna A2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9	3	95	3,191.86	0.61
Antenna A3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.13
Sector A Composite MPE%							<b>3.84</b>
Antenna B1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85	6	280	10,768.57	2.10
Antenna B2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9	3	95	3,191.86	0.61
Antenna B3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.13
Sector B Composite MPE%							<b>3.84</b>
Antenna C1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85	6	280	10,768.57	2.10
Antenna C2	Ericsson AIR21 B2A/B4P	1900 MHz (PCS) / 2100 MHz (AWS)	15.9	3	95	3,191.86	0.61
Antenna C3	RFS APXVAARR24_43-U-NA20	600 MHz / 700 MHz	12.95 / 13.35	4	120	2,443.03	1.13
Sector C Composite MPE%							<b>3.84</b>
Antenna D1	Ericsson AIR32 B66A / B2A	1900 MHz (PCS) / 2100 MHz (AWS)	15.85	0	0	0	0
Antenna D2	RFS APXVAARR18_43-C-NA20	600 MHz / 700 MHz / 2100 MHz (AWS)	12.85 / 13.55 / 17.15	0	0	0	0
Sector C Composite MPE%							<b>3.63</b>

*Table 3: T-MOBILE Emissions Levels*

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The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. **For this site, the sectors with the largest calculated MPE% are Sectors A, B & C.** *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value (Sectors A, B & C)	<b>3.84 %</b>
AT&T	3.64 %
Verizon Wireless	3.53 %
Clearwire	0.08 %
Sprint	0.02 %
Beacon Hose Co.	0.25 %
<b>Site Total MPE %:</b>	<b>11.36 %</b>

*Table 4: All Carrier MPE Contributions*

T-MOBILE Sector A Total:	3.84 %
T-MOBILE Sector B Total:	3.84 %
T-MOBILE Sector C Total:	3.84 %
T-MOBILE Sector D Total:	3.63 %
Site Total:	11.36 %

*Table 5: Site MPE Summary*



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FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). **For this site, the sectors with the largest calculated MPE% are Sectors A, B & C.**

T-MOBILE _ Frequency Band / Technology Max Power Values (Sectors A, B & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
T-Mobile 1900 MHz (PCS) LTE	4	1,538.37	142	11.96	1900 MHz (PCS)	1000	1.20%
T-Mobile 2100 MHz (AWS) LTE	2	2,307.55	142	8.97	2100 MHz (AWS)	1000	0.90%
T-Mobile 1900 MHz (PCS) UMTS	1	1,556.18	142	3.02	1900 MHz (PCS)	1000	0.30%
T-Mobile 1900 MHz (PCS) GSM	1	583.57	142	1.13	1900 MHz (PCS)	1000	0.11%
T-Mobile 2100 MHz (AWS) UMTS	1	1,052.11	142	2.04	2100 MHz (AWS)	1000	0.20%
T-Mobile 600 MHz LTE / 5G NR	2	788.97	142	3.07	600 MHz	400	0.77%
T-Mobile 700 MHz LTE	2	432.54	142	1.68	700 MHz	467	0.36%
						<b>Total:</b>	<b>3.84%</b>

*Table 6: T-MOBILE Maximum Sector MPE Power Values*

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## 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:	3.84 %
Sector B:	3.84 %
Sector C:	3.84 %
Sector D:	3.63 %
T-MOBILE Maximum Total (Sectors A, B & C):	3.84 %
Site Total:	11.36 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **11.36 %** 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.



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