



**Tower Engineering Solutions**

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**Structural Analysis Report**

**Existing 158 ft PennSummit Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT46131-A**

**Customer Site Name: Easton-Everetts Rd**

**Carrier Name: Sprint Nextel**

**Carrier Site ID / Name: CT03XC362 / Easton-Everetts Rd**

**Site Location: 206 Everett Road**

**Easton, Connecticut**

**Fairfield County**

**Latitude: 41.290333**

**Longitude: -73.282666**

**Analysis Result:**

**Max Structural Usage: 100.0% [Pass]**

**Max Foundation Usage: 92.0% [Pass]**

**Additional Usage Caused by Mount Modification: + 3.6%**



*Handwritten signature and date:*  
3/8/18

**Report Prepared by: Matthew Baker**

## Introduction

The purpose of this report is to summarize the analysis results on the 158 ft PennSummit Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Paul J. Ford for PennSummit Tubular, Job #29202-0378, Design #5951, Dated 12/19/02
<b>Foundation Drawing</b>	Paul J. Ford for PennSummit Tubular, Job #29202-0378, Design #5951, Dated 12/19/02
<b>Geotechnical Report</b>	Tectonic Engineering Consultants W.O. #1170.C912, Dated 03/30/00
<b>Modification Drawings</b>	Vertical Solutions Project #131141.01 As-Built, Dated 11/06/2013

## Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. 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>	Ultimate Design Wind Speed $V_{ult} = 130.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
<b>Operational Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Structure Class:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_S = 0.212$ , $S_1 = 0.066$

This structural analysis is based upon the tower being classified as a 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
-	158.5	3	KMW - ETCR-654L12H6 - Panel	Low Profile Platform w/ Collar Mount	(4) 1 1/4" Fiber	Sprint Nextel
-		3	RFS - ACU-A20-N - RET			
-		3	ALU - 1900 MHz - RRU			
-		6	ALU - 800 MHz - RRU			
-		3	ALU - TD-RRH8x20-25 - RRU			
-		3	Alu - 800 Filters			
-	149.0	12	Decibel - DB844H90E-XY - Panel	Low Profile Platform	(12) 1 1/4"	
9	138.0	6	RFS - APX16DWV-16DWVS-E-A20 - Panel	Low Profile Platform w/ Handrail and V-Brace tie-back	(12) 1 1/4"	T-Mobile
10		3	RFS - APXV18-206516S-A20 - Panel			
11		3	Commscope - LNX-6515DS-A1M - Panel			
12		3	Ericsson - KRY 112 144/1 - TMA			
13		3	Kathrein - 782 11056 - Bias T			
14	128.0	6	Andrew - DB846F65ZAXY – Panel	Low Profile Platform	(6) 1 5/8" (2) 1 5/8" Fiber	Verizon
15		6	Andrew - JAHH-65B-R3B - Panel			
16		3	Alcatel Lucent - RRH2x60-700 - RRH			
17		3	Alcatel Lucent - RRH4X45-AWS - RRH			
18		2	RFS - DB-T1-6Z-8AB-OZ - SP			
19	118.0	3	Powerwave - P65-16-XLH-RR – Panel	Low Profile Platform	(12) 1 1/4" (1) 3/8" RET (2) 5/8" DC inside (1) 3" Innerduct	AT&T
20		6	Powerwave - 7770 - Panel			
21		6	Powerwave - LGP21401 - TMA			
22		3	Powerwave - TT19-08BP111-001 - TMA			
23		6	Ericsson - RRUS-11 - RRU			
24		1	Raycap - DC6-48-60-18 - SP			
-	75.0	1	GPS	Pipe Mount	(1) 1/2"	Sprint

## 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
1	158.5	3	RFS - APXVSP18-C-A20 - Panel	Low Profile Platform w/ Collar Mount, Handrail Kit (SitePro HRK14-U) and Platform Reinforcement Kit (SitePro PRK-1245L)	(4) 1 1/4" Fiber	Sprint Nextel
2		3	Commscope - DT465B-2XR - Panel			
3		3	RFS - ACU-A20-N - RET			
4		3	ALU - 1900 MHz - RRU			
5		6	ALU - 800 MHz - RRU			
6		3	ALU - TD-RRH8x20-25 - RRU			
7		3	Alu - 800 Filters			
8	149.0	12	<b>Decibel - DB844H90E-XY - Panel*</b>	<b>Low Profile Platform*</b>	<b>(12) 1 1/4"*</b>	
25	75.0	1	GPS	Pipe Mount	(1) 1/2"	

\*Equipment has been decommissioned but remains installed.

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
Max. Usage:	<b>100.0%</b>	<b>81.0%</b>	<b>74.3%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5165.1	43.2	56.9

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-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6562 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

## 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 analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. 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.
7. 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.
8. 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.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

## Usage Diagram - Max Ratio 97.47% at 39.0ft

**Structure:** CT46131-A-SBA  
**Site Name:** Easton-Everetts Rd  
**Height:** 158.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-G  
**Exposure:** C  
**Gh:** 1.1

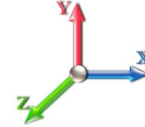
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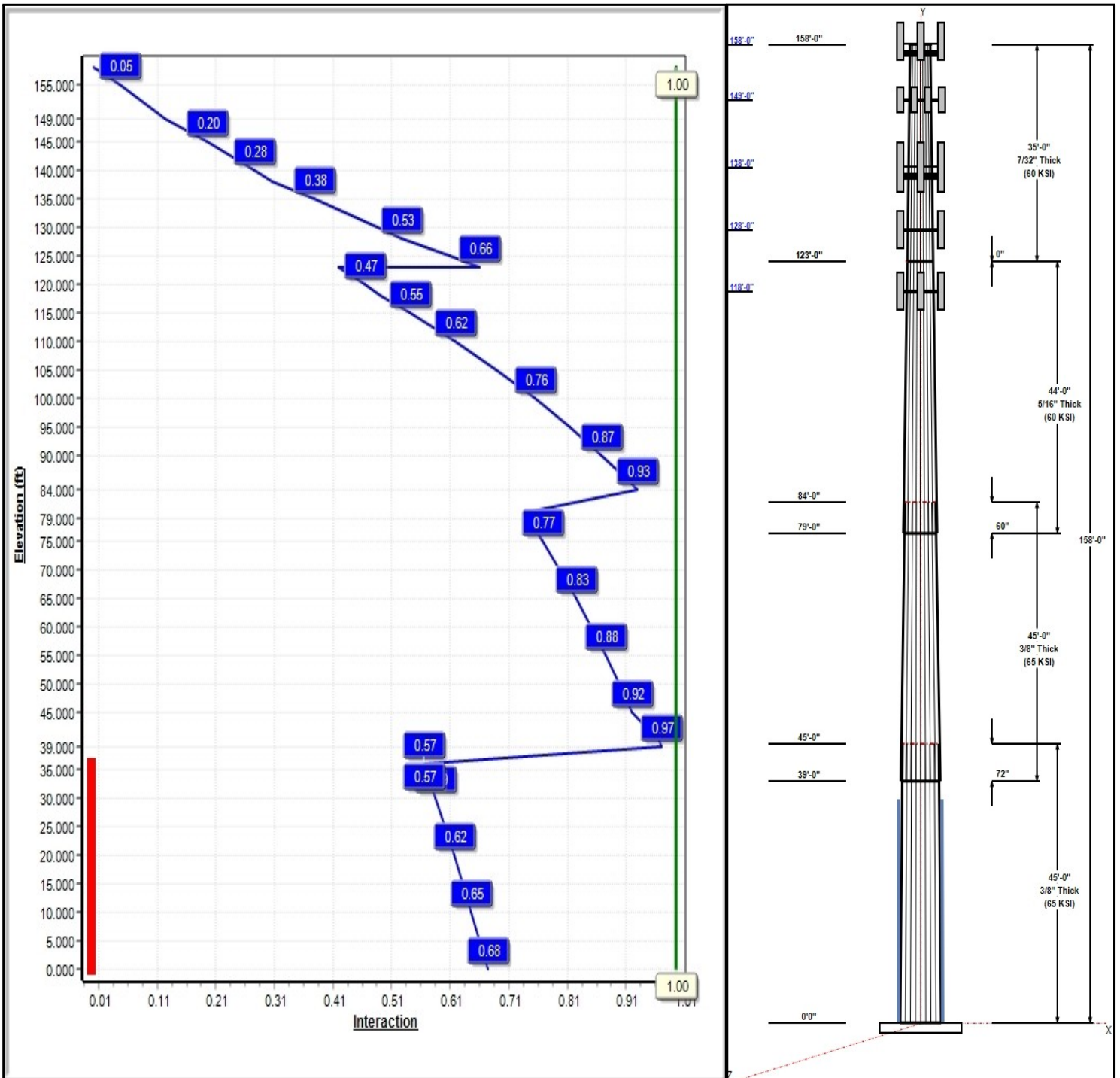
**Dead Load Factor:** 1.20  
**Wind Load Factor:** 1.60

**Load Case : 1.2D + 1.6W 101 mph Wind**



**Iterations:** 24

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## Structure: CT46131-A-SBA

**Type:** Tapered  
**Site Name:** Easton-Everetts Rd  
**Height:** 158.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.20320

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### Shaft Properties

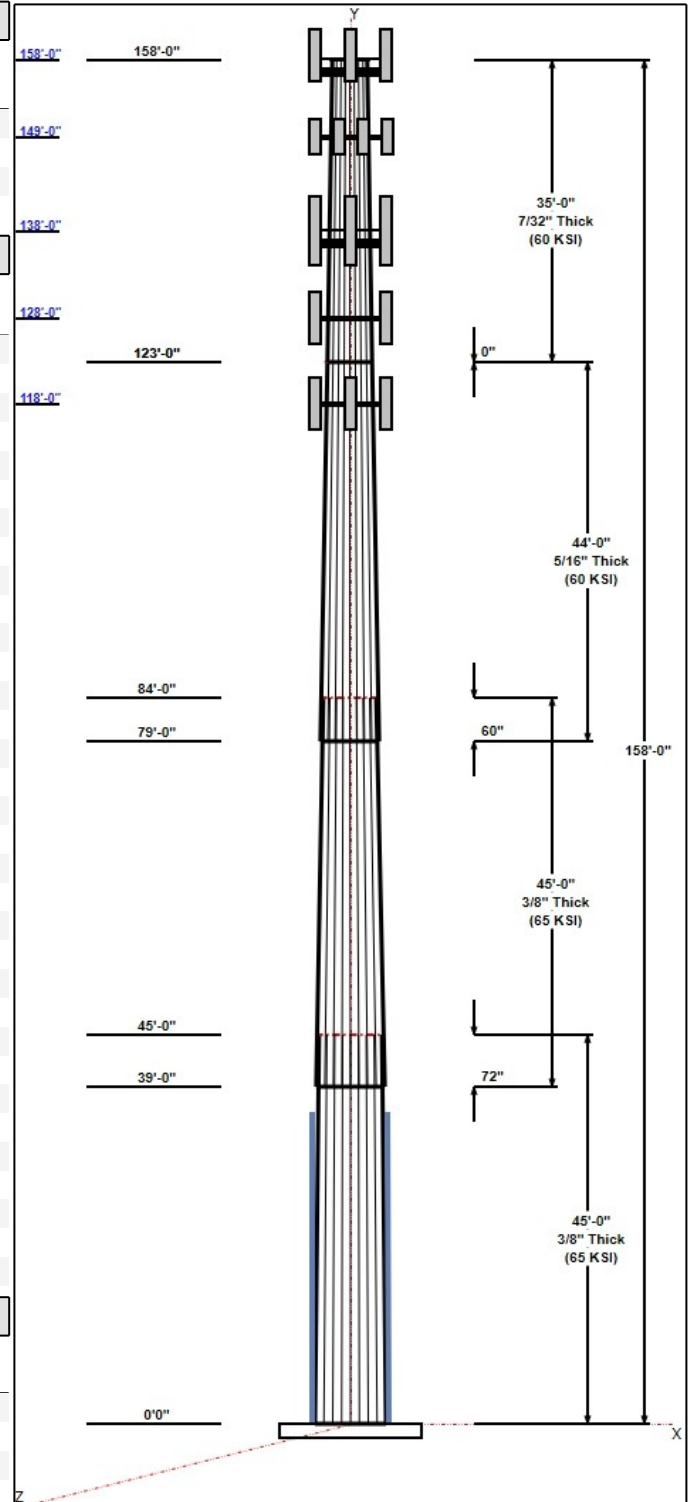
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	45.59	54.73	0.375		0.20320	65
2	45.00	38.41	47.56	0.375	Slip	0.20320	65
3	44.00	31.11	40.05	0.313	Slip	0.20320	60
4	35.00	24.00	31.11	0.219	Butt	0.20320	60

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
158.00	158.50	6	ALU - 800 MHz - RRU	Sprint Nextel
158.00	158.50	1	Low Profile Platform	Sprint Nextel
158.00	158.50	3	RFS - ACU-A20-N - RET	Sprint Nextel
158.00	158.50	3	ALU - 1900 MHz - RRU	Sprint Nextel
158.00	158.50	3	Alu - 800 Filters	Sprint Nextel
158.00	158.00	1	Collar Mount	Sprint Nextel
158.00	158.00	1	Site Pro PRK-1245 (kicker	Sprint Nextel
158.00	158.00	1	Site Pro HRK14	Sprint Nextel
158.00	158.50	3	RFS - APXVSPP18-C-A20	Sprint Nextel
158.00	158.50	3	Commscope -	Sprint Nextel
158.00	158.50	3	ALU - TD-RRH8x20-25 -	Sprint Nextel
149.00	149.00	1	Low Profile Platform	Sprint Nextel
149.00	149.00	12	DB844H90E-XY	Sprint Nextel
138.00	138.00	1	Platform w/ HR & V-Brace	T-Mobile
138.00	138.00	6	APX16DWV-16DWVS-E-A	T-Mobile
138.00	138.00	3	APXV18-206516S-A20	T-Mobile
138.00	138.00	3	LNx-6515DS-A1M	T-Mobile
138.00	138.00	3	KRY 112 144/1	T-Mobile
138.00	138.00	3	Bias T	T-Mobile
128.00	128.00	6	Andrew - JAHH-65B-R3B	Verizon
128.00	128.00	3	Alcatel Lucent -	Verizon
128.00	128.00	3	Alcatel Lucent -	Verizon
128.00	128.00	2	RFS - DB-T1-6Z-8AB-OZ -	Verizon
128.00	128.00	1	Low Profile Platform	Verizon
128.00	128.00	6	Andrew - DB846F65ZAXY	Verizon
118.00	118.00	1	Low Profile Platform	AT&T
118.00	118.00	3	P65-16-XLH-RR	AT&T
118.00	118.00	6	7770	AT&T
118.00	118.00	6	LGP21401	AT&T
118.00	118.00	3	TT19-08BP111-001	AT&T
118.00	118.00	6	RRUS-11	AT&T
118.00	118.00	1	DC6-48-60-18	AT&T
75.00	75.00	1	GPS	Sprint Nextel

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	158.00	Inside	1 1/4" Coax	Sprint
0.00	149.00	Inside	1 1/4" Coax	Sprint
0.00	138.00	Inside	1 1/4" Coax	T-Mobile
0.00	128.00	Outside	1 5/8" Coax	Verizon
0.00	128.00	Outside	1 5/8" Fiber	Verizon
0.00	118.00	Inside	1 1/4" Coax	AT&T
0.00	118.00	Inside	3" Innerduct	AT&T
0.00	118.00	Inside	3/8" RET	AT&T
0.00	118.00	Inside	5/8" DC	AT&T





**Structure: CT46131-A-SBA**

**Type:** Tapered  
**Site Name:** Easton-Everetts Rd  
**Height:** 158.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.20320

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0.00	75.00	Inside	1/2" Coax	Sprint Nextel
0.00	39.00	Outside	1.25" Reinforcing plate	

**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
16	2.25" 18J	75.0	Cluster

**Base Plate**

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.2500	60.0	50.0	Clipped

**Reactions**

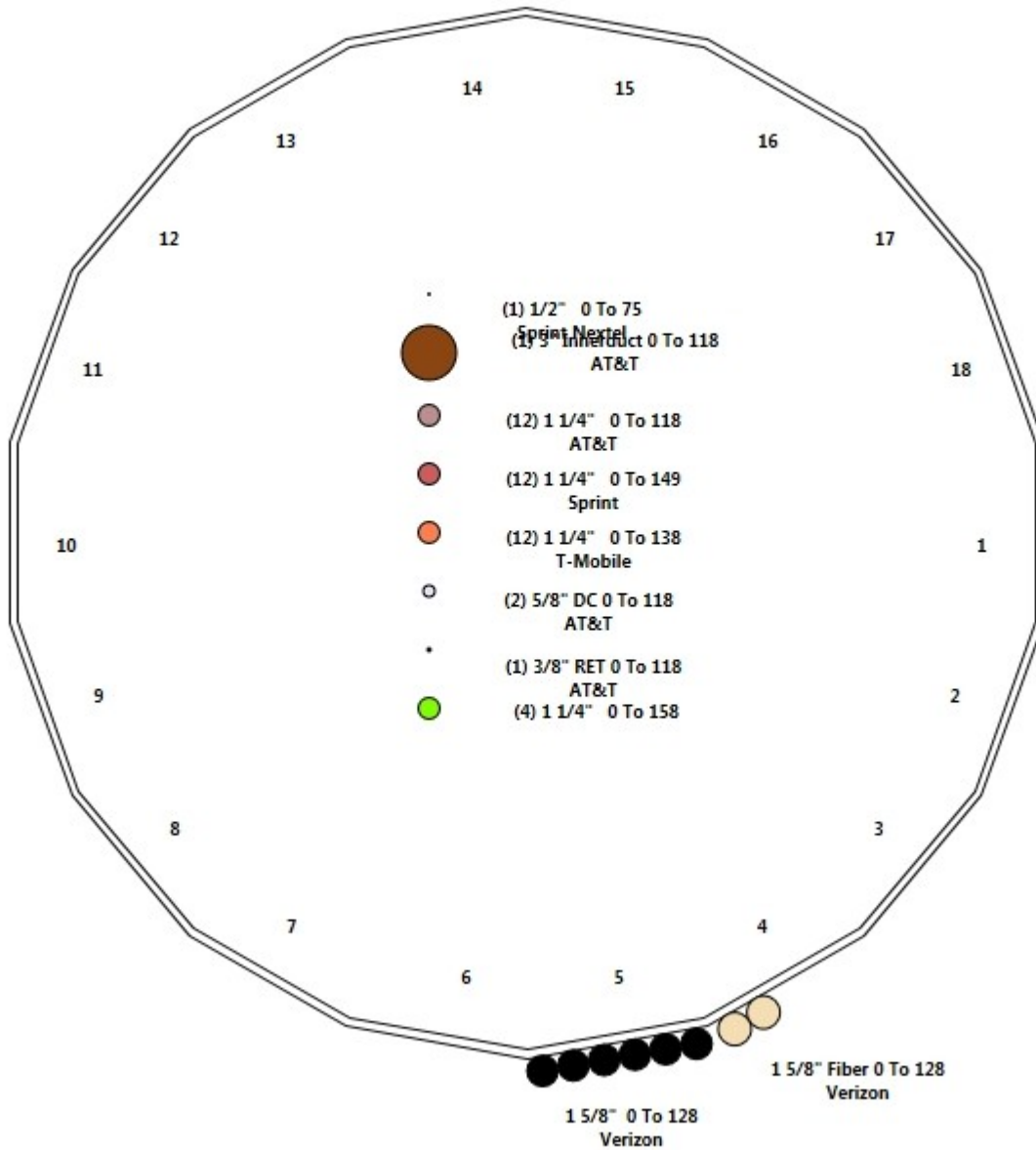
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	5165.1	43.2	56.9
0.9D + 1.6W 101 mph Wind	5110.9	43.2	42.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1344.3	11.2	90.0
1.2D + 1.0E	304.4	2.4	57.0
0.9D + 1.0E	300.9	2.4	42.7
1.0D + 1.0W 60 mph Wind	1133.8	9.5	47.5

# Structure: CT46131-A-SBA - Coax Line Placement

Type: Monopole  
Site Name: Easton-Everetts Rd  
Height: 158.00 (ft)

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## Shaft Properties

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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	18	45.000	0.3750	65		0.00	9,073
2	18	45.000	0.3750	65	Slip	72.00	7,765
3	18	44.000	0.3125	60	Slip	60.00	5,238
4	18	35.000	0.2188	60	Flange	0.00	2,261
<b>Total Shaft Weight:</b>							<b>24,337</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	54.73	0.00	64.69	24148.72	24.32	145.95	45.59	45.00	53.81	13896.7	20.02	121.5	0.203196
2	47.56	39.00	56.15	15792.80	20.95	126.81	38.41	84.00	45.27	8275.19	16.65	102.4	0.203196
3	40.05	79.00	39.42	7864.62	21.19	128.17	31.11	123.00	30.55	3661.17	16.14	99.56	0.203196
4	31.11	123.0	21.45	2586.87	23.66	142.19	24.00	158.00	16.51	1180.03	17.93	109.6	0.203196

### 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	36.00	4	PLT 7.625x1.5(31mm Hole)	50	65	0.00	AJM20&sleeve	15.00	AJM20&sleeve	3.00	15	12

## Load Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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	158.00	ALU - 800 MHz - RRU	6	53.00	2.49	0.67	127.35	3.640	0.67	0.00	0.50
2	158.00	Low Profile Platform	1	1200.00	25.00	1.00	2252.58	46.052	1.00	0.00	0.50
3	158.00	RFS - ACU-A20-N - RET	3	1.00	0.14	0.50	5.32	0.438	0.50	0.00	0.50
4	158.00	ALU - 1900 MHz - RRU	3	44.00	3.80	0.67	153.73	5.197	0.67	0.00	0.50
5	158.00	Alu - 800 Filters	3	8.80	0.78	0.69	26.54	1.430	0.76	0.00	0.50
6	158.00	Collar Mount	1	350.00	5.00	1.00	644.72	8.509	1.00	0.00	0.00
7	158.00	Site Pro PRK-1245 (kicker kit)	1	464.91	9.50	1.00	791.15	19.500	1.00	0.00	0.00
8	158.00	Site Pro HRK14	1	302.36	8.13	1.00	663.05	16.117	1.00	0.00	0.00
9	158.00	RFS - APXVSPP18-C-A20	3	57.00	8.02	0.83	230.75	10.828	0.85	0.00	0.50
10	158.00	Commscope - DT465B-2XR	3	58.00	9.10	0.83	286.69	10.447	0.85	0.00	0.50
11	158.00	ALU - TD-RRH8x20-25 - RRU	3	70.00	4.05	0.67	168.24	5.471	0.67	0.00	0.50
12	149.00	Low Profile Platform	1	1200.00	25.00	1.00	2246.43	45.929	1.00	0.00	0.00
13	149.00	DB844H90E-XY	12	14.00	3.05	1.10	116.72	3.908	1.08	0.00	0.00
14	138.00	Platform w/ HR & V-Brace	1	2246.00	51.70	1.00	5355.76	89.639	1.00	0.00	0.00
15	138.00	APX16DWV-16DWVS-E-A20	6	40.70	6.46	0.67	189.75	7.565	0.70	0.00	0.00
16	138.00	APXV18-206516S-A20	3	18.70	3.61	0.78	88.19	5.452	0.82	0.00	0.00
17	138.00	LNx-6515DS-A1M	3	49.80	11.47	0.84	277.45	14.710	0.85	0.00	0.00
18	138.00	KRY 112 144/1	3	11.00	0.41	0.67	21.69	0.881	0.67	0.00	0.00
19	138.00	Bias T	3	3.30	0.09	0.67	6.57	0.323	0.67	0.00	0.00
20	128.00	Andrew - JAHH-65B-R3B	6	63.30	9.11	0.83	287.07	10.431	0.85	0.00	0.00
21	128.00	Alcatel Lucent - RRH2x60-700 - RRH	3	55.00	3.36	0.67	140.03	4.127	0.67	0.00	0.00
22	128.00	Alcatel Lucent - RRH4X45-AWS -	3	56.80	2.54	0.67	142.66	3.413	0.67	0.00	0.00
23	128.00	RFS - DB-T1-6Z-8AB-OZ - SP	2	18.90	4.80	0.50	138.07	8.758	0.50	0.00	0.00
24	128.00	Low Profile Platform	1	1500.00	22.00	1.00	2788.32	39.384	1.00	0.00	0.00
25	128.00	Andrew - DB846F65ZAXY	6	21.00	7.05	0.94	207.89	8.280	0.95	0.00	0.00
26	118.00	Low Profile Platform	1	1500.00	22.00	1.00	2777.88	39.243	1.00	0.00	0.00
27	118.00	P65-16-XLH-RR	3	53.00	8.16	0.79	214.14	10.896	0.81	0.00	0.00
28	118.00	7770	6	35.00	5.50	0.77	166.67	6.527	0.80	0.00	0.00
29	118.00	LGP21401	6	14.10	1.29	0.67	38.51	2.106	0.67	0.00	0.00
30	118.00	TT19-08BP111-001	3	16.00	0.64	0.67	35.76	1.219	0.67	0.00	0.00
31	118.00	RRUS-11	6	51.00	2.52	0.50	121.56	3.138	0.50	0.00	0.00
32	118.00	DC6-48-60-18	1	31.80	0.92	1.00	92.16	1.348	1.00	0.00	0.00
33	75.00	GPS	1	3.70	0.01	1.00	3.70	0.010	1.00	0.00	0.00
<b>Totals:</b>			<b>108</b>	<b>12,180.37</b>			<b>31,518.56</b>				

### Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	158.00	(4) 1 1/4" Coax	0.00	Inside
0.00	149.00	(12) 1 1/4" Coax	0.00	Inside
0.00	138.00	(12) 1 1/4" Coax	0.00	Inside
0.00	128.00	(6) 1 5/8" Coax	1.98	Outside
0.00	128.00	(2) 1 5/8" Fiber	0.00	Outside
0.00	118.00	(12) 1 1/4" Coax	0.00	Inside
0.00	118.00	(1) 3" Innerduct	0.00	Inside
0.00	118.00	(1) 3/8" RET	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)	CaAa Factor		
0.00	118.00	(2) 5/8" DC		0.00							
0.00	75.00	(1) 1/2" Coax		0.00							
0.00	39.00	(4) 1.25" Reinforcing plate		3.00							

## Shaft Section Properties

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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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**Increment Length:** 5 (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	0.3750	54.730	64.694	24148.7	24.32	145.95	65	73	0.0	45.75	21320.2	15073.2	
5.00		0.3750	53.714	63.484	22819.7	23.85	143.24	65	73	1090.4	45.75	20560.3	14538.2	778.4
10.00		0.3750	52.698	62.275	21540.4	23.37	140.53	65	74	1069.8	45.75	19814.2	14012.8	778.4
15.00		0.3750	51.682	61.066	20309.9	22.89	137.82	65	74	1049.3	45.75	19082.0	13497.3	778.4
20.00		0.3750	50.666	59.857	19127.1	22.41	135.11	65	75	1028.7	45.75	18363.6	12991.5	778.4
25.00		0.3750	49.650	58.648	17991.1	21.94	132.40	65	76	1008.1	45.75	17659.1	12495.4	778.4
30.00		0.3750	48.634	57.438	16901.0	21.46	129.69	65	76	987.5	45.75	16968.4	12009.2	778.4
35.00		0.3750	47.618	56.229	15855.9	20.98	126.98	65	77	967.0	45.75	16291.6	11532.6	778.4
36.00	RT1	0.3750	47.415	55.987	15652.2	20.88	126.44	65	77	190.9	45.75	16157.9	11438.5	155.7
39.00	Bot - Section 2	0.3750	46.805	55.262	15051.6	20.60	124.81	65	77	567.8				
40.00		0.3750	46.602	55.020	14854.8	20.50	124.27	65	77	378.3				
45.00	Top - Section 1	0.3750	46.336	54.703	14599.9	20.38	123.56	65	77	1866.8				
50.00		0.3750	45.320	53.494	13652.9	19.90	120.85	65	78	920.4				
55.00		0.3750	44.304	52.285	12747.8	19.42	118.14	65	79	899.9				
60.00		0.3750	43.288	51.076	11883.6	18.94	115.44	65	79	879.3				
65.00		0.3750	42.272	49.866	11059.4	18.47	112.73	65	80	858.7				
70.00		0.3750	41.256	48.657	10274.2	17.99	110.02	65	80	838.1				
75.00		0.3750	40.240	47.448	9527.1	17.51	107.31	65	81	817.6				
79.00	Bot - Section 3	0.3750	39.428	46.481	8956.2	17.13	105.14	65	81	639.2				
80.00		0.3750	39.224	46.239	8817.1	17.03	104.60	65	81	291.5				
84.00	Top - Section 2	0.3125	39.037	38.408	7276.7	20.62	124.92	60	72	1151.0				
85.00		0.3125	38.833	38.206	7162.8	20.50	124.27	60	72	130.4				
90.00		0.3125	37.817	37.199	6610.8	19.93	121.02	60	73	641.5				
95.00		0.3125	36.801	36.191	6088.0	19.35	117.76	60	73	624.3				
100.00		0.3125	35.785	35.183	5593.5	18.78	114.51	60	74	607.2				
105.00		0.3125	34.769	34.176	5126.5	18.21	111.26	60	75	590.0				
110.00		0.3125	33.753	33.168	4686.3	17.63	108.01	60	75	572.9				
115.00		0.3125	32.737	32.160	4272.0	17.06	104.76	60	76	555.7				
118.00		0.3125	32.128	31.556	4035.6	16.72	102.81	60	76	325.2				
120.00		0.3125	31.721	31.153	3882.9	16.49	101.51	60	76	213.4				
123.00	Top - Section 3	0.3125	31.112	30.548	3661.2	16.14	99.56	60	76	314.9				
123.00	Bot - Section 4	0.2188	31.112	21.454	2586.9	23.06	142.19	60	69					
125.00		0.2188	30.705	21.171	2486.1	23.33	140.34	60	69	145.0				
128.00		0.2188	30.096	20.748	2339.9	22.84	137.55	60	70	214.0				
130.00		0.2188	29.689	20.466	2245.8	22.52	135.69	60	70	140.2				
135.00		0.2188	28.674	19.760	2021.4	21.70	131.05	60	71	342.2				
138.00		0.2188	28.064	19.337	1894.3	21.21	128.26	60	71	199.6				
140.00		0.2188	27.658	19.055	1812.5	20.88	126.41	60	72	130.6				
145.00		0.2188	26.642	18.349	1618.5	20.06	121.76	60	73	318.2				
149.00		0.2188	25.829	17.785	1473.7	19.40	118.05	60	73	245.9				
150.00		0.2188	25.626	17.644	1438.9	19.24	117.12	60	74	60.3				
155.00		0.2188	24.610	16.938	1273.1	18.42	112.48	60	74	294.2				
158.00		0.2188	24.000	16.515	1180.0	17.93	109.69	60	75	170.7				
<b>Total Weight</b>										<b>24336.9</b>				
											<b>5604.5</b>			

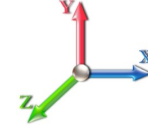
## Wind Loading - Shaft

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 24

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	1.00	0.85	21.088	23.20	431.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	423.24	0.650	0.000	5.00	22.941	14.91	553.4	0.0	1308.5
10.00		1.00	0.85	21.088	23.20	415.23	0.650	0.000	5.00	22.511	14.63	543.1	0.0	1283.8
15.00		1.00	0.85	21.088	23.20	407.23	0.650	0.000	5.00	22.081	14.35	532.7	0.0	1259.1
20.00		1.00	0.90	22.375	24.61	411.23	0.650	0.000	5.00	21.651	14.07	554.2	0.0	1234.4
25.00		1.00	0.95	23.451	25.80	412.56	0.650	0.000	5.00	21.222	13.79	569.3	0.0	1209.7
30.00		1.00	0.98	24.369	26.81	411.95	0.650	0.000	5.00	20.792	13.51	579.6	0.0	1185.0
35.00		1.00	1.01	25.172	27.69	409.94	0.654 *	0.000	5.00	20.362	13.31	589.7	0.0	1160.4
36.00	RT1	1.00	1.02	25.322	27.85	409.40	0.656 *	0.000	1.00	4.021	2.64	117.6	0.0	229.1
39.00	Bot - Section 2	1.00	1.04	25.752	28.33	407.56	0.658 *	0.000	3.00	11.959	7.87	356.7	0.0	681.4
40.00		1.00	1.04	25.890	28.48	406.87	0.650	0.000	1.00	4.015	2.61	118.9	0.0	454.0
45.00	Top - Section 1	1.00	1.07	26.540	29.19	402.97	0.650	0.000	5.00	19.820	12.88	601.8	0.0	2240.2
50.00		1.00	1.09	27.135	29.85	405.08	0.650	0.000	5.00	19.390	12.60	601.9	0.0	1104.5
55.00		1.00	1.12	27.685	30.45	400.00	0.650	0.000	5.00	18.960	12.32	600.5	0.0	1079.8
60.00		1.00	1.14	28.197	31.02	394.42	0.650	0.000	5.00	18.530	12.04	597.7	0.0	1055.1
65.00		1.00	1.16	28.676	31.54	388.42	0.650	0.000	5.00	18.100	11.77	593.8	0.0	1030.4
70.00		1.00	1.17	29.127	32.04	382.05	0.650	0.000	5.00	17.670	11.49	588.8	0.0	1005.8
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	375.36	0.650	0.000	5.00	17.240	11.21	582.9	0.0	981.1
79.00	Bot - Section 3	1.00	1.20	29.878	32.87	369.80	0.650	0.000	4.00	13.483	8.76	460.9	0.0	767.1
80.00		1.00	1.21	29.958	32.95	368.38	0.650	0.000	1.00	3.381	2.20	115.9	0.0	349.8
84.00	Top - Section 2	1.00	1.22	30.267	33.29	362.60	0.650	0.000	4.00	13.350	8.68	462.3	0.0	1381.2
85.00		1.00	1.22	30.342	33.38	367.04	0.650	0.000	1.00	3.295	2.14	114.4	0.0	156.4
90.00		1.00	1.24	30.710	33.78	359.60	0.650	0.000	5.00	16.215	10.54	569.7	0.0	769.8
95.00		1.00	1.25	31.061	34.17	351.93	0.650	0.000	5.00	15.785	10.26	560.9	0.0	749.2
100.00		1.00	1.27	31.399	34.54	344.07	0.650	0.000	5.00	15.356	9.98	551.6	0.0	728.6
105.00		1.00	1.28	31.723	34.89	336.02	0.650	0.000	5.00	14.926	9.70	541.7	0.0	708.0
110.00		1.00	1.29	32.035	35.24	327.80	0.650	0.000	5.00	14.496	9.42	531.2	0.0	687.5
115.00		1.00	1.30	32.336	35.57	319.43	0.650	0.000	5.00	14.066	9.14	520.3	0.0	666.9
118.00	Appurtenance(s)	1.00	1.31	32.512	35.76	314.33	0.650	0.000	3.00	8.233	5.35	306.2	0.0	390.3
120.00		1.00	1.32	32.627	35.89	310.91	0.650	0.000	2.00	5.403	3.51	201.7	0.0	256.1
123.00	Top - Section 3	1.00	1.32	32.797	36.08	305.72	0.650	0.000	3.00	7.975	5.18	299.2	0.0	377.9
125.00		1.00	1.33	32.909	36.20	302.24	0.650	0.000	2.00	5.231	3.40	196.9	0.0	174.1
128.00	Appurtenance(s)	1.00	1.33	33.073	36.38	296.98	0.650	0.000	3.00	7.717	5.02	292.0	0.0	256.8
130.00		1.00	1.34	33.182	36.50	293.45	0.650	0.000	2.00	5.059	3.29	192.0	0.0	168.3
135.00		1.00	1.35	33.446	36.79	284.54	0.650	0.000	5.00	12.347	8.03	472.4	0.0	410.6
138.00	Appurtenance(s)	1.00	1.35	33.601	36.96	279.13	0.650	0.000	3.00	7.202	4.68	276.8	0.0	239.5
140.00		1.00	1.36	33.703	37.07	275.51	0.650	0.000	2.00	4.715	3.06	181.8	0.0	156.8
145.00		1.00	1.37	33.953	37.35	266.37	0.650	0.000	5.00	11.487	7.47	446.2	0.0	381.8
149.00	Appurtenance(s)	1.00	1.38	34.148	37.56	258.98	0.650	0.000	4.00	8.880	5.77	346.9	0.0	295.1
150.00		1.00	1.38	34.196	37.62	257.13	0.650	0.000	1.00	2.177	1.42	85.2	0.0	72.3
155.00		1.00	1.39	34.433	37.88	247.79	0.650	0.000	5.00	10.627	6.91	418.6	0.0	353.0
158.00	Appurtenance(s)	1.00	1.39	34.573	38.03	242.14	0.650	0.000	3.00	6.170	4.01	244.0	0.0	204.9
<b>Totals:</b>									<b>158.00</b>			<b>17,071.4</b>		<b>29,204.3</b>

\* Cf Adjusted by Linear Load Ra Effect

## Discrete Appurtenance Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	158.00	Alu - 800 Filters	3	34.596	38.055	0.69	1.00	1.61	31.68	0.000	0.500	98.31	0.00	49.16	
2	158.00	ALU - 800 MHz - RRU	6	34.596	38.055	0.67	1.00	10.01	381.60	0.000	0.500	609.48	0.00	304.74	
3	158.00	Low Profile Platform	1	34.596	38.055	1.00	1.00	25.00	1440.00	0.000	0.500	1522.21	0.00	761.10	
4	158.00	RFS - ACU-A20-N - RET	3	34.596	38.055	0.50	1.00	0.21	3.60	0.000	0.500	12.79	0.00	6.39	
5	158.00	ALU - 1900 MHz - RRU	3	34.596	38.055	0.67	1.00	7.64	158.40	0.000	0.500	465.06	0.00	232.53	
6	158.00	ALU - TD-RRH8x20-25 -	3	34.596	38.055	0.67	1.00	8.14	252.00	0.000	0.500	495.66	0.00	247.83	
7	158.00	Collar Mount	1	34.573	38.030	1.00	1.00	5.00	420.00	0.000	0.000	304.24	0.00	0.00	
8	158.00	Site Pro PRK-1245 (kicker	1	34.573	38.030	1.00	1.00	9.50	557.89	0.000	0.000	578.05	0.00	0.00	
9	158.00	Site Pro HRK14	1	34.573	38.030	1.00	1.00	8.13	362.83	0.000	0.000	494.69	0.00	0.00	
10	158.00	RFS - APXVSPP18-C-A20	3	34.596	38.055	0.83	1.00	19.95	205.20	0.000	0.500	1214.46	0.00	607.23	
11	158.00	Commscope -	3	34.596	38.055	0.83	1.00	22.60	208.80	0.000	0.500	1376.34	0.00	688.17	
12	149.00	DB844H90E-XY	12	34.148	37.563	0.88	0.80	32.21	201.60	0.000	0.000	1935.74	0.00	0.00	
13	149.00	Low Profile Platform	1	34.148	37.563	1.00	1.00	25.00	1440.00	0.000	0.000	1502.53	0.00	0.00	
14	138.00	Bias T	3	33.601	36.962	0.50	0.75	0.14	11.88	0.000	0.000	8.02	0.00	0.00	
15	138.00	KRY 112 144/1	3	33.601	36.962	0.50	0.75	0.62	39.60	0.000	0.000	36.55	0.00	0.00	
16	138.00	LNx-6515DS-A1M	3	33.601	36.962	0.63	0.75	21.68	179.28	0.000	0.000	1282.02	0.00	0.00	
17	138.00	APXV18-206516S-A20	3	33.601	36.962	0.58	0.75	6.34	67.32	0.000	0.000	374.67	0.00	0.00	
18	138.00	Platform w/ HR & V-Brace	1	33.601	36.962	1.00	1.00	51.70	2695.20	0.000	0.000	3057.46	0.00	0.00	
19	138.00	APX16DWV-16DWVS-E-	6	33.601	36.962	0.50	0.75	19.48	293.04	0.000	0.000	1151.83	0.00	0.00	
20	128.00	Alcatel Lucent -	3	33.073	36.381	0.54	0.80	4.08	204.48	0.000	0.000	237.75	0.00	0.00	
21	128.00	Alcatel Lucent -	3	33.073	36.381	0.54	0.80	5.40	198.00	0.000	0.000	314.50	0.00	0.00	
22	128.00	Andrew - JAHH-65B-R3B	6	33.073	36.381	0.66	0.80	36.21	455.76	0.000	0.000	2107.57	0.00	0.00	
23	128.00	Low Profile Platform	1	33.073	36.381	0.80	0.80	17.60	1800.00	0.000	0.000	1024.48	0.00	0.00	
24	128.00	Andrew - DB846F65ZAXY	6	33.073	36.381	0.75	0.80	31.81	151.20	0.000	0.000	1851.61	0.00	0.00	
25	128.00	RFS - DB-T1-6Z-8AB-0Z -	2	33.073	36.381	0.40	0.80	3.84	45.36	0.000	0.000	223.52	0.00	0.00	
26	118.00	7770	6	32.512	35.763	0.62	0.80	20.33	252.00	0.000	0.000	1163.19	0.00	0.00	
27	118.00	Low Profile Platform	1	32.512	35.763	0.80	0.80	17.60	1800.00	0.000	0.000	1007.09	0.00	0.00	
28	118.00	P65-16-XLH-RR	3	32.512	35.763	0.63	0.80	15.47	190.80	0.000	0.000	885.29	0.00	0.00	
29	118.00	TT19-08BP111-001	3	32.512	35.763	0.54	0.80	1.03	57.60	0.000	0.000	58.89	0.00	0.00	
30	118.00	LGP21401	6	32.512	35.763	0.54	0.80	4.15	101.52	0.000	0.000	237.39	0.00	0.00	
31	118.00	RRUS-11	6	32.512	35.763	0.40	0.80	6.05	367.20	0.000	0.000	346.07	0.00	0.00	
32	118.00	DC6-48-60-18	1	32.512	35.763	0.80	0.80	0.74	38.16	0.000	0.000	42.11	0.00	0.00	
33	75.00	GPS	1	29.553	32.509	1.00	1.00	0.01	4.44	0.000	0.000	0.52	0.00	0.00	
<b>Totals:</b>								<b>14,616.44</b>							<b>26,020.10</b>



## Total Applied Force Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 24

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
5.00		553.43	2461.27	0.00	0.00
10.00		543.06	2436.58	0.00	0.00
15.00		532.69	2411.89	0.00	0.00
20.00		554.21	2387.20	0.00	0.00
25.00		569.33	2362.51	0.00	0.00
30.00		579.62	2337.82	0.00	0.00
35.00		589.72	2313.14	0.00	0.00
36.00		117.60	459.66	0.00	0.00
39.00		356.67	1373.07	0.00	0.00
40.00		118.93	497.70	0.00	0.00
45.00		601.76	2458.88	0.00	0.00
50.00		601.91	1323.22	0.00	0.00
55.00		600.49	1298.53	0.00	0.00
60.00		597.73	1273.84	0.00	0.00
65.00		593.78	1249.15	0.00	0.00
70.00		588.80	1224.46	0.00	0.00
75.00	(1) attachments	583.40	1204.21	0.00	0.00
79.00		460.85	941.27	0.00	0.00
80.00		115.86	393.39	0.00	0.00
84.00		462.26	1555.44	0.00	0.00
85.00		114.36	199.97	0.00	0.00
90.00		569.67	987.50	0.00	0.00
95.00		560.92	966.93	0.00	0.00
100.00		551.57	946.35	0.00	0.00
105.00		541.66	925.78	0.00	0.00
110.00		531.24	905.21	0.00	0.00
115.00		520.33	884.63	0.00	0.00
118.00	(26) attachments	4046.25	3328.18	0.00	0.00
120.00		201.66	320.67	0.00	0.00
123.00		299.23	474.83	0.00	0.00
125.00		196.93	238.66	0.00	0.00
128.00	(21) attachments	6051.43	3208.47	0.00	0.00
130.00		192.04	212.64	0.00	0.00
135.00		472.41	521.52	0.00	0.00
138.00	(19) attachments	6187.39	3592.32	0.00	0.00
140.00		181.80	182.11	0.00	0.00
145.00		446.18	445.19	0.00	0.00
149.00	(13) attachments	3785.16	1987.38	0.00	0.00
150.00		85.17	75.50	0.00	0.00
155.00		418.62	368.86	0.00	0.00
158.00	(28) attachments	7415.32	4236.41	0.00	2897.15
	<b>Totals:</b>	<b>43,091.46</b>	<b>56,972.34</b>	<b>0.00</b>	<b>2,897.15</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 1.20  
**Wind Load Factor** 1.60



**Iterations** 24

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)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.090	0.000	21.088	0.00	37.44
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.090	0.000	21.088	0.00	13.20
5.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.090	0.000	21.088	0.00	934.08
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.092	0.000	21.088	0.00	37.44
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.092	0.000	21.088	0.00	13.20
10.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.092	0.000	21.088	0.00	934.08
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.094	0.000	21.088	0.00	37.44
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	21.088	0.00	13.20
15.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	21.088	0.00	934.08
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.096	0.000	22.375	0.00	37.44
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.096	0.000	22.375	0.00	13.20
20.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.096	0.000	22.375	0.00	934.08
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.098	0.000	23.451	0.00	37.44
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.098	0.000	23.451	0.00	13.20
25.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.098	0.000	23.451	0.00	934.08
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.100	0.000	24.369	0.00	37.44
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	24.369	0.00	13.20
30.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.100	0.000	24.369	0.00	934.08
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	25.172	0.00	37.44
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.172	0.00	13.20
35.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	25.172	0.00	934.08
36.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.103	1.010	25.322	0.00	7.49
36.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.103	1.010	25.322	0.00	2.64
36.00	1.25" Reinforcing	Yes	1.00	0.000	3.00	0.25	0.00	0.103	1.010	25.322	0.00	186.82
39.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.104	1.012	25.752	0.00	22.46
39.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.104	1.012	25.752	0.00	7.92
39.00	1.25" Reinforcing	Yes	3.00	0.000	3.00	0.75	0.00	0.104	1.012	25.752	0.00	560.45
40.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.042	0.000	25.890	0.00	7.49
40.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.042	0.000	25.890	0.00	2.64
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	26.540	0.00	37.44
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	26.540	0.00	13.20
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	27.135	0.00	37.44
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.043	0.000	27.135	0.00	13.20
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	27.685	0.00	37.44
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	27.685	0.00	13.20
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	28.197	0.00	37.44
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.045	0.000	28.197	0.00	13.20
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	28.676	0.00	37.44
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.046	0.000	28.676	0.00	13.20
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	29.127	0.00	37.44
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.047	0.000	29.127	0.00	13.20
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	29.553	0.00	37.44
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.048	0.000	29.553	0.00	13.20
79.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.049	0.000	29.878	0.00	29.95
79.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.049	0.000	29.878	0.00	10.56
80.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	29.958	0.00	7.49
80.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	29.958	0.00	2.64

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

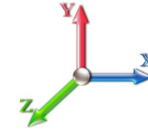


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**Load Case:** 1.2D + 1.6W 101 mph Wind

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



**Iterations** 24

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)
84.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.050	0.000	30.267	0.00	29.95
84.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.050	0.000	30.267	0.00	10.56
85.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	30.342	0.00	7.49
85.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	30.342	0.00	2.64
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.051	0.000	30.710	0.00	37.44
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.051	0.000	30.710	0.00	13.20
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.052	0.000	31.061	0.00	37.44
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.052	0.000	31.061	0.00	13.20
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	31.399	0.00	37.44
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.054	0.000	31.399	0.00	13.20
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.055	0.000	31.723	0.00	37.44
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.055	0.000	31.723	0.00	13.20
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.057	0.000	32.035	0.00	37.44
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.057	0.000	32.035	0.00	13.20
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	32.336	0.00	37.44
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	32.336	0.00	13.20
118.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.060	0.000	32.512	0.00	22.46
118.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.060	0.000	32.512	0.00	7.92
120.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	32.627	0.00	14.98
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	32.627	0.00	5.28
123.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.062	0.000	32.797	0.00	22.46
123.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.062	0.000	32.797	0.00	7.92
125.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	32.909	0.00	14.98
125.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	32.909	0.00	5.28
128.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	33.073	0.00	22.46
128.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	33.073	0.00	7.92
<b>Totals:</b>											<b>0.0</b>	<b>8,582.2</b>

## Calculated Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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



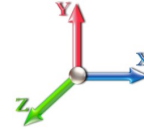
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**Load Case:** 1.2D + 1.6W 101 mph Wind

**Iterations** 24

**Dead Load Factor** 1.20

**Wind Load Factor** 1.60



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	-56.90	-43.18	0.00	-5165.1	0.00	5165.14	4238.25	2119.12	9474.98	4744.53	0.00	0.000	0.000	0.679
5.00	-54.30	-42.80	0.00	-4949.2	0.00	4949.23	4191.13	2095.57	9193.31	4603.49	0.10	-0.183	0.000	0.665
10.00	-51.73	-42.41	0.00	-4735.2	0.00	4735.23	4142.79	2071.40	8912.98	4463.11	0.39	-0.368	0.000	0.650
15.00	-49.19	-42.02	0.00	-4523.1	0.00	4523.16	4093.23	2046.62	8634.14	4323.49	0.87	-0.553	0.000	0.636
20.00	-46.67	-41.59	0.00	-4313.0	0.00	4313.06	4042.45	2021.22	8356.93	4184.68	1.55	-0.739	0.000	0.621
25.00	-44.19	-41.13	0.00	-4105.1	0.00	4105.11	3990.44	1995.22	8081.53	4046.77	2.43	-0.925	0.000	0.605
30.00	-41.73	-40.65	0.00	-3899.4	0.00	3899.45	3937.21	1968.60	7808.07	3909.84	3.50	-1.112	0.000	0.589
35.00	-39.35	-40.09	0.00	-3696.2	0.00	3696.22	3882.75	1941.38	7536.73	3773.96	4.76	-1.299	0.000	0.573
36.00	-38.84	-40.01	0.00	-3656.1	0.00	3656.13	3871.71	1935.86	7482.72	3746.92	5.04	-1.337	0.000	0.570
36.00	-38.84	-40.01	0.00	-3656.1	0.00	3656.13	3871.71	1935.86	7482.72	3746.92	5.04	-1.337	0.000	0.570
39.00	-37.41	-39.68	0.00	-3536.1	0.00	3536.11	3838.31	1919.15	7321.27	3666.08	5.91	-1.450	0.000	0.975
40.00	-36.78	-39.67	0.00	-3496.4	0.00	3496.43	3827.07	1913.54	7267.64	3639.22	6.22	-1.517	0.000	0.971
45.00	-34.12	-39.19	0.00	-3298.0	0.00	3298.07	3812.30	1906.15	7197.58	3604.14	7.99	-1.842	0.000	0.924
50.00	-32.60	-38.73	0.00	-3102.1	0.00	3102.10	3755.07	1877.54	6931.57	3470.94	10.09	-2.170	0.000	0.903
55.00	-31.12	-38.25	0.00	-2908.4	0.00	2908.45	3696.63	1848.32	6668.16	3339.04	12.53	-2.483	0.000	0.880
60.00	-29.67	-37.76	0.00	-2717.2	0.00	2717.22	3636.96	1818.48	6407.52	3208.52	15.30	-2.797	0.000	0.855
65.00	-28.25	-37.25	0.00	-2528.4	0.00	2528.45	3576.08	1788.04	6149.79	3079.47	18.40	-3.111	0.000	0.829
70.00	-26.86	-36.74	0.00	-2342.1	0.00	2342.18	3513.96	1756.98	5895.14	2951.95	21.82	-3.424	0.000	0.802
75.00	-25.52	-36.21	0.00	-2158.4	0.00	2158.48	3450.63	1725.31	5643.71	2826.05	25.57	-3.736	0.000	0.772
79.00	-24.51	-35.75	0.00	-2013.6	0.00	2013.64	3399.08	1699.54	5445.00	2726.55	28.81	-3.985	0.000	0.746
80.00	-24.03	-35.68	0.00	-1977.8	0.00	1977.89	3386.07	1693.03	5395.67	2701.84	29.65	-4.048	0.000	0.740
84.00	-22.42	-35.16	0.00	-1835.1	0.00	1835.19	2492.17	1246.08	3964.65	1985.27	33.15	-4.294	0.000	0.934
85.00	-22.10	-35.11	0.00	-1800.0	0.00	1800.03	2483.20	1241.60	3929.49	1967.67	34.05	-4.357	0.000	0.925
90.00	-20.96	-34.59	0.00	-1624.4	0.00	1624.47	2437.73	1218.86	3754.97	1880.28	38.79	-4.697	0.000	0.873
95.00	-19.85	-34.06	0.00	-1451.5	0.00	1451.53	2391.17	1195.58	3582.65	1793.99	43.89	-5.028	0.000	0.818
100.00	-18.78	-33.53	0.00	-1281.2	0.00	1281.23	2343.52	1171.76	3412.67	1708.87	49.32	-5.347	0.000	0.759
105.00	-17.74	-32.99	0.00	-1113.5	0.00	1113.59	2294.79	1147.40	3245.17	1624.99	55.08	-5.652	0.000	0.694
110.00	-16.74	-32.45	0.00	-948.63	0.00	948.63	2244.98	1122.49	3080.27	1542.43	61.14	-5.938	0.000	0.623
115.00	-15.80	-31.90	0.00	-786.37	0.00	786.37	2194.08	1097.04	2918.13	1461.23	67.49	-6.201	0.000	0.546
118.00	-12.88	-27.54	0.00	-690.67	0.00	690.67	2163.02	1081.51	2822.22	1413.21	71.43	-6.349	0.000	0.495
120.00	-12.53	-27.33	0.00	-635.59	0.00	635.59	2136.45	1068.22	2751.59	1377.84	74.11	-6.442	0.000	0.468
123.00	-12.04	-27.00	0.00	-553.61	0.00	553.61	2094.98	1047.49	2645.31	1324.62	78.19	-6.573	0.000	0.424
123.00	-12.04	-27.00	0.00	-553.61	0.00	553.61	1330.70	665.35	1690.49	846.50	78.19	-6.573	0.000	0.665
125.00	-11.77	-26.80	0.00	-499.61	0.00	499.61	1319.70	659.85	1654.32	828.39	80.96	-6.655	0.000	0.614
128.00	-9.25	-20.44	0.00	-419.21	0.00	419.21	1302.88	651.44	1600.34	801.36	85.18	-6.812	0.000	0.531
130.00	-9.00	-20.24	0.00	-378.34	0.00	378.34	1291.45	645.73	1564.57	783.45	88.05	-6.909	0.000	0.491
135.00	-8.49	-19.73	0.00	-277.12	0.00	277.12	1262.12	631.06	1475.93	739.06	95.39	-7.117	0.000	0.383
138.00	-5.68	-13.15	0.00	-217.92	0.00	217.92	1244.00	622.00	1423.34	712.73	99.88	-7.221	0.000	0.311
140.00	-5.50	-12.96	0.00	-191.61	0.00	191.61	1231.70	615.85	1388.54	695.30	102.91	-7.283	0.000	0.280
145.00	-5.09	-12.47	0.00	-126.81	0.00	126.81	1200.20	600.10	1302.53	652.23	110.59	-7.408	0.000	0.199
149.00	-3.61	-8.46	0.00	-76.93	0.00	76.93	1174.22	587.11	1234.81	618.32	116.81	-7.479	0.000	0.128
150.00	-3.54	-8.37	0.00	-68.47	0.00	68.47	1167.61	583.81	1218.04	609.93	118.38	-7.493	0.000	0.115
155.00	-3.23	-7.91	0.00	-26.62	0.00	26.62	1133.94	566.97	1135.21	568.45	126.23	-7.540	0.000	0.050
158.00	0.00	-7.42	0.00	-2.90	0.00	2.90	1113.22	556.61	1086.36	543.99	130.96	-7.550	0.000	0.006

## Wind Loading - Shaft

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

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	1.00	0.85	21.088	23.20	431.24	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	423.24	0.650	0.000	5.00	22.941	14.91	553.4	0.0	981.4
10.00		1.00	0.85	21.088	23.20	415.23	0.650	0.000	5.00	22.511	14.63	543.1	0.0	962.8
15.00		1.00	0.85	21.088	23.20	407.23	0.650	0.000	5.00	22.081	14.35	532.7	0.0	944.3
20.00		1.00	0.90	22.375	24.61	411.23	0.650	0.000	5.00	21.651	14.07	554.2	0.0	925.8
25.00		1.00	0.95	23.451	25.80	412.56	0.650	0.000	5.00	21.222	13.79	569.3	0.0	907.3
30.00		1.00	0.98	24.369	26.81	411.95	0.650	0.000	5.00	20.792	13.51	579.6	0.0	888.8
35.00		1.00	1.01	25.172	27.69	409.94	0.654 *	0.000	5.00	20.362	13.31	589.7	0.0	870.3
36.00	RT1	1.00	1.02	25.322	27.85	409.40	0.656 *	0.000	1.00	4.021	2.64	117.6	0.0	171.8
39.00	Bot - Section 2	1.00	1.04	25.752	28.33	407.56	0.658 *	0.000	3.00	11.959	7.87	356.7	0.0	511.1
40.00		1.00	1.04	25.890	28.48	406.87	0.650	0.000	1.00	4.015	2.61	118.9	0.0	340.5
45.00	Top - Section 1	1.00	1.07	26.540	29.19	402.97	0.650	0.000	5.00	19.820	12.88	601.8	0.0	1680.1
50.00		1.00	1.09	27.135	29.85	405.08	0.650	0.000	5.00	19.390	12.60	601.9	0.0	828.4
55.00		1.00	1.12	27.685	30.45	400.00	0.650	0.000	5.00	18.960	12.32	600.5	0.0	809.9
60.00		1.00	1.14	28.197	31.02	394.42	0.650	0.000	5.00	18.530	12.04	597.7	0.0	791.4
65.00		1.00	1.16	28.676	31.54	388.42	0.650	0.000	5.00	18.100	11.77	593.8	0.0	772.8
70.00		1.00	1.17	29.127	32.04	382.05	0.650	0.000	5.00	17.670	11.49	588.8	0.0	754.3
75.00	Appurtenance(s)	1.00	1.19	29.553	32.51	375.36	0.650	0.000	5.00	17.240	11.21	582.9	0.0	735.8
79.00	Bot - Section 3	1.00	1.20	29.878	32.87	369.80	0.650	0.000	4.00	13.483	8.76	460.9	0.0	575.3
80.00		1.00	1.21	29.958	32.95	368.38	0.650	0.000	1.00	3.381	2.20	115.9	0.0	262.4
84.00	Top - Section 2	1.00	1.22	30.267	33.29	362.60	0.650	0.000	4.00	13.350	8.68	462.3	0.0	1035.9
85.00		1.00	1.22	30.342	33.38	367.04	0.650	0.000	1.00	3.295	2.14	114.4	0.0	117.3
90.00		1.00	1.24	30.710	33.78	359.60	0.650	0.000	5.00	16.215	10.54	569.7	0.0	577.3
95.00		1.00	1.25	31.061	34.17	351.93	0.650	0.000	5.00	15.785	10.26	560.9	0.0	561.9
100.00		1.00	1.27	31.399	34.54	344.07	0.650	0.000	5.00	15.356	9.98	551.6	0.0	546.5
105.00		1.00	1.28	31.723	34.89	336.02	0.650	0.000	5.00	14.926	9.70	541.7	0.0	531.0
110.00		1.00	1.29	32.035	35.24	327.80	0.650	0.000	5.00	14.496	9.42	531.2	0.0	515.6
115.00		1.00	1.30	32.336	35.57	319.43	0.650	0.000	5.00	14.066	9.14	520.3	0.0	500.2
118.00	Appurtenance(s)	1.00	1.31	32.512	35.76	314.33	0.650	0.000	3.00	8.233	5.35	306.2	0.0	292.7
120.00		1.00	1.32	32.627	35.89	310.91	0.650	0.000	2.00	5.403	3.51	201.7	0.0	192.0
123.00	Top - Section 3	1.00	1.32	32.797	36.08	305.72	0.650	0.000	3.00	7.975	5.18	299.2	0.0	283.4
125.00		1.00	1.33	32.909	36.20	302.24	0.650	0.000	2.00	5.231	3.40	196.9	0.0	130.5
128.00	Appurtenance(s)	1.00	1.33	33.073	36.38	296.98	0.650	0.000	3.00	7.717	5.02	292.0	0.0	192.6
130.00		1.00	1.34	33.182	36.50	293.45	0.650	0.000	2.00	5.059	3.29	192.0	0.0	126.2
135.00		1.00	1.35	33.446	36.79	284.54	0.650	0.000	5.00	12.347	8.03	472.4	0.0	308.0
138.00	Appurtenance(s)	1.00	1.35	33.601	36.96	279.13	0.650	0.000	3.00	7.202	4.68	276.8	0.0	179.6
140.00		1.00	1.36	33.703	37.07	275.51	0.650	0.000	2.00	4.715	3.06	181.8	0.0	117.6
145.00		1.00	1.37	33.953	37.35	266.37	0.650	0.000	5.00	11.487	7.47	446.2	0.0	286.4
149.00	Appurtenance(s)	1.00	1.38	34.148	37.56	258.98	0.650	0.000	4.00	8.880	5.77	346.9	0.0	221.3
150.00		1.00	1.38	34.196	37.62	257.13	0.650	0.000	1.00	2.177	1.42	85.2	0.0	54.2
155.00		1.00	1.39	34.433	37.88	247.79	0.650	0.000	5.00	10.627	6.91	418.6	0.0	264.8
158.00	Appurtenance(s)	1.00	1.39	34.573	38.03	242.14	0.650	0.000	3.00	6.170	4.01	244.0	0.0	153.7
<b>Totals:</b>									<b>158.00</b>			<b>17,071.4</b>		<b>21,903.2</b>

\* Cf Adjusted by Linear Load Ra Effect

## Discrete Appurtenance Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 24

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	158.00	Alu - 800 Filters	3	34.596	38.055	0.69	1.00	1.61	23.76	0.000	0.500	98.31	0.00	49.16	
2	158.00	ALU - 800 MHz - RRU	6	34.596	38.055	0.67	1.00	10.01	286.20	0.000	0.500	609.48	0.00	304.74	
3	158.00	Low Profile Platform	1	34.596	38.055	1.00	1.00	25.00	1080.00	0.000	0.500	1522.21	0.00	761.10	
4	158.00	RFS - ACU-A20-N - RET	3	34.596	38.055	0.50	1.00	0.21	2.70	0.000	0.500	12.79	0.00	6.39	
5	158.00	ALU - 1900 MHz - RRU	3	34.596	38.055	0.67	1.00	7.64	118.80	0.000	0.500	465.06	0.00	232.53	
6	158.00	ALU - TD-RRH8x20-25 -	3	34.596	38.055	0.67	1.00	8.14	189.00	0.000	0.500	495.66	0.00	247.83	
7	158.00	Collar Mount	1	34.573	38.030	1.00	1.00	5.00	315.00	0.000	0.000	304.24	0.00	0.00	
8	158.00	Site Pro PRK-1245 (kicker	1	34.573	38.030	1.00	1.00	9.50	418.42	0.000	0.000	578.05	0.00	0.00	
9	158.00	Site Pro HRK14	1	34.573	38.030	1.00	1.00	8.13	272.12	0.000	0.000	494.69	0.00	0.00	
10	158.00	RFS - APXVSPP18-C-A20	3	34.596	38.055	0.83	1.00	19.95	153.90	0.000	0.500	1214.46	0.00	607.23	
11	158.00	Commscope -	3	34.596	38.055	0.83	1.00	22.60	156.60	0.000	0.500	1376.34	0.00	688.17	
12	149.00	DB844H90E-XY	12	34.148	37.563	0.88	0.80	32.21	151.20	0.000	0.000	1935.74	0.00	0.00	
13	149.00	Low Profile Platform	1	34.148	37.563	1.00	1.00	25.00	1080.00	0.000	0.000	1502.53	0.00	0.00	
14	138.00	Bias T	3	33.601	36.962	0.50	0.75	0.14	8.91	0.000	0.000	8.02	0.00	0.00	
15	138.00	KRY 112 144/1	3	33.601	36.962	0.50	0.75	0.62	29.70	0.000	0.000	36.55	0.00	0.00	
16	138.00	LNx-6515DS-A1M	3	33.601	36.962	0.63	0.75	21.68	134.46	0.000	0.000	1282.02	0.00	0.00	
17	138.00	APXV18-206516S-A20	3	33.601	36.962	0.58	0.75	6.34	50.49	0.000	0.000	374.67	0.00	0.00	
18	138.00	Platform w/ HR & V-Brace	1	33.601	36.962	1.00	1.00	51.70	2021.40	0.000	0.000	3057.46	0.00	0.00	
19	138.00	APX16DWV-16DWVS-E-	6	33.601	36.962	0.50	0.75	19.48	219.78	0.000	0.000	1151.83	0.00	0.00	
20	128.00	Alcatel Lucent -	3	33.073	36.381	0.54	0.80	4.08	153.36	0.000	0.000	237.75	0.00	0.00	
21	128.00	Alcatel Lucent -	3	33.073	36.381	0.54	0.80	5.40	148.50	0.000	0.000	314.50	0.00	0.00	
22	128.00	Andrew - JAHH-65B-R3B	6	33.073	36.381	0.66	0.80	36.21	341.82	0.000	0.000	2107.57	0.00	0.00	
23	128.00	Low Profile Platform	1	33.073	36.381	0.80	0.80	17.60	1350.00	0.000	0.000	1024.48	0.00	0.00	
24	128.00	Andrew - DB846F65ZAXY	6	33.073	36.381	0.75	0.80	31.81	113.40	0.000	0.000	1851.61	0.00	0.00	
25	128.00	RFS - DB-T1-6Z-8AB-0Z -	2	33.073	36.381	0.40	0.80	3.84	34.02	0.000	0.000	223.52	0.00	0.00	
26	118.00	7770	6	32.512	35.763	0.62	0.80	20.33	189.00	0.000	0.000	1163.19	0.00	0.00	
27	118.00	Low Profile Platform	1	32.512	35.763	0.80	0.80	17.60	1350.00	0.000	0.000	1007.09	0.00	0.00	
28	118.00	P65-16-XLH-RR	3	32.512	35.763	0.63	0.80	15.47	143.10	0.000	0.000	885.29	0.00	0.00	
29	118.00	TT19-08BP111-001	3	32.512	35.763	0.54	0.80	1.03	43.20	0.000	0.000	58.89	0.00	0.00	
30	118.00	LGP21401	6	32.512	35.763	0.54	0.80	4.15	76.14	0.000	0.000	237.39	0.00	0.00	
31	118.00	RRUS-11	6	32.512	35.763	0.40	0.80	6.05	275.40	0.000	0.000	346.07	0.00	0.00	
32	118.00	DC6-48-60-18	1	32.512	35.763	0.80	0.80	0.74	28.62	0.000	0.000	42.11	0.00	0.00	
33	75.00	GPS	1	29.553	32.509	1.00	1.00	0.01	3.33	0.000	0.000	0.52	0.00	0.00	
<b>Totals:</b>									<b>10,962.33</b>						<b>26,020.10</b>

## Total Applied Force Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.6W 101 mph Wind

**Dead Load Factor** 0.90  
**Wind Load Factor** 1.60



**Iterations** 24

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
5.00		553.43	1845.95	0.00	0.00
10.00		543.06	1827.43	0.00	0.00
15.00		532.69	1808.92	0.00	0.00
20.00		554.21	1790.40	0.00	0.00
25.00		569.33	1771.88	0.00	0.00
30.00		579.62	1753.37	0.00	0.00
35.00		589.72	1734.85	0.00	0.00
36.00		117.60	344.75	0.00	0.00
39.00		356.67	1029.80	0.00	0.00
40.00		118.93	373.28	0.00	0.00
45.00		601.76	1844.16	0.00	0.00
50.00		601.91	992.41	0.00	0.00
55.00		600.49	973.90	0.00	0.00
60.00		597.73	955.38	0.00	0.00
65.00		593.78	936.86	0.00	0.00
70.00		588.80	918.35	0.00	0.00
75.00	(1) attachments	583.40	903.16	0.00	0.00
79.00		460.85	705.96	0.00	0.00
80.00		115.86	295.04	0.00	0.00
84.00		462.26	1166.58	0.00	0.00
85.00		114.36	149.98	0.00	0.00
90.00		569.67	740.63	0.00	0.00
95.00		560.92	725.20	0.00	0.00
100.00		551.57	709.77	0.00	0.00
105.00		541.66	694.34	0.00	0.00
110.00		531.24	678.91	0.00	0.00
115.00		520.33	663.48	0.00	0.00
118.00	(26) attachments	4046.25	2496.14	0.00	0.00
120.00		201.66	240.50	0.00	0.00
123.00		299.23	356.12	0.00	0.00
125.00		196.93	178.99	0.00	0.00
128.00	(21) attachments	6051.43	2406.35	0.00	0.00
130.00		192.04	159.48	0.00	0.00
135.00		472.41	391.14	0.00	0.00
138.00	(19) attachments	6187.39	2694.24	0.00	0.00
140.00		181.80	136.58	0.00	0.00
145.00		446.18	333.89	0.00	0.00
149.00	(13) attachments	3785.16	1490.54	0.00	0.00
150.00		85.17	56.63	0.00	0.00
155.00		418.62	276.65	0.00	0.00
158.00	(28) attachments	7415.32	3177.31	0.00	2897.15
	<b>Totals:</b>	<b>43,091.46</b>	<b>42,729.26</b>	<b>0.00</b>	<b>2,897.15</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

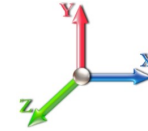


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**Load Case:** 0.9D + 1.6W 101 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

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)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.090	0.000	21.088	0.00	28.08
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.090	0.000	21.088	0.00	9.90
5.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.090	0.000	21.088	0.00	700.56
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.092	0.000	21.088	0.00	28.08
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.092	0.000	21.088	0.00	9.90
10.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.092	0.000	21.088	0.00	700.56
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.094	0.000	21.088	0.00	28.08
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	21.088	0.00	9.90
15.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	21.088	0.00	700.56
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.096	0.000	22.375	0.00	28.08
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.096	0.000	22.375	0.00	9.90
20.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.096	0.000	22.375	0.00	700.56
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.098	0.000	23.451	0.00	28.08
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.098	0.000	23.451	0.00	9.90
25.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.098	0.000	23.451	0.00	700.56
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.100	0.000	24.369	0.00	28.08
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	24.369	0.00	9.90
30.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.100	0.000	24.369	0.00	700.56
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	25.172	0.00	28.08
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	25.172	0.00	9.90
35.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	25.172	0.00	700.56
36.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.103	1.010	25.322	0.00	5.62
36.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.103	1.010	25.322	0.00	1.98
36.00	1.25" Reinforcing	Yes	1.00	0.000	3.00	0.25	0.00	0.103	1.010	25.322	0.00	140.11
39.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.104	1.012	25.752	0.00	16.85
39.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.104	1.012	25.752	0.00	5.94
39.00	1.25" Reinforcing	Yes	3.00	0.000	3.00	0.75	0.00	0.104	1.012	25.752	0.00	420.34
40.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.042	0.000	25.890	0.00	5.62
40.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.042	0.000	25.890	0.00	1.98
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	26.540	0.00	28.08
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	26.540	0.00	9.90
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	27.135	0.00	28.08
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.043	0.000	27.135	0.00	9.90
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	27.685	0.00	28.08
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	27.685	0.00	9.90
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	28.197	0.00	28.08
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.045	0.000	28.197	0.00	9.90
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	28.676	0.00	28.08
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.046	0.000	28.676	0.00	9.90
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	29.127	0.00	28.08
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.047	0.000	29.127	0.00	9.90
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	29.553	0.00	28.08
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.048	0.000	29.553	0.00	9.90
79.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.049	0.000	29.878	0.00	22.46
79.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.049	0.000	29.878	0.00	7.92
80.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	29.958	0.00	5.62
80.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	29.958	0.00	1.98



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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> 19
	<b>Struct Class:</b> II	



**Load Case:** 0.9D + 1.6W 101 mph Wind

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



**Iterations** 24

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)
84.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.050	0.000	30.267	0.00	22.46
84.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.050	0.000	30.267	0.00	7.92
85.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	30.342	0.00	5.62
85.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	30.342	0.00	1.98
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.051	0.000	30.710	0.00	28.08
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.051	0.000	30.710	0.00	9.90
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.052	0.000	31.061	0.00	28.08
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.052	0.000	31.061	0.00	9.90
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	31.399	0.00	28.08
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.054	0.000	31.399	0.00	9.90
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.055	0.000	31.723	0.00	28.08
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.055	0.000	31.723	0.00	9.90
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.057	0.000	32.035	0.00	28.08
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.057	0.000	32.035	0.00	9.90
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	32.336	0.00	28.08
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	32.336	0.00	9.90
118.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.060	0.000	32.512	0.00	16.85
118.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.060	0.000	32.512	0.00	5.94
120.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	32.627	0.00	11.23
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	32.627	0.00	3.96
123.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.062	0.000	32.797	0.00	16.85
123.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.062	0.000	32.797	0.00	5.94
125.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	32.909	0.00	11.23
125.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	32.909	0.00	3.96
128.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	33.073	0.00	16.85
128.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	33.073	0.00	5.94
<b>Totals:</b>											<b>0.0</b>	<b>6,436.7</b>

## Calculated Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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



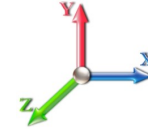
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**Load Case:** 0.9D + 1.6W 101 mph Wind

**Iterations** 24

**Dead Load Factor** 0.90

**Wind Load Factor** 1.60



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	-42.66	-43.16	0.00	-5110.9	0.00	5110.94	4238.25	2119.12	9474.98	4744.53	0.00	0.000	0.000	0.670
5.00	-40.68	-42.73	0.00	-4895.1	0.00	4895.15	4191.13	2095.57	9193.31	4603.49	0.10	-0.181	0.000	0.656
10.00	-38.72	-42.30	0.00	-4681.4	0.00	4681.49	4142.79	2071.40	8912.98	4463.11	0.39	-0.364	0.000	0.641
15.00	-36.78	-41.88	0.00	-4469.9	0.00	4469.96	4093.23	2046.62	8634.14	4323.49	0.86	-0.547	0.000	0.627
20.00	-34.86	-41.41	0.00	-4260.5	0.00	4260.59	4042.45	2021.22	8356.93	4184.68	1.54	-0.731	0.000	0.612
25.00	-32.97	-40.93	0.00	-4053.5	0.00	4053.52	3990.44	1995.22	8081.53	4046.77	2.40	-0.915	0.000	0.596
30.00	-31.10	-40.42	0.00	-3848.9	0.00	3848.90	3937.21	1968.60	7808.07	3909.84	3.46	-1.099	0.000	0.580
35.00	-29.30	-39.85	0.00	-3646.8	0.00	3646.83	3882.75	1941.38	7536.73	3773.96	4.71	-1.283	0.000	0.564
36.00	-28.90	-39.76	0.00	-3606.9	0.00	3606.98	3871.71	1935.86	7482.72	3746.92	4.98	-1.321	0.000	0.561
36.00	-28.90	-39.76	0.00	-3606.9	0.00	3606.98	3871.71	1935.86	7482.72	3746.92	4.98	-1.321	0.000	0.561
39.00	-27.82	-39.42	0.00	-3487.7	0.00	3487.71	3838.31	1919.15	7321.27	3666.08	5.85	-1.433	0.000	0.959
40.00	-27.32	-39.39	0.00	-3448.2	0.00	3448.29	3827.07	1913.54	7267.64	3639.22	6.15	-1.498	0.000	0.955
45.00	-25.27	-38.87	0.00	-3251.3	0.00	3251.37	3812.30	1906.15	7197.58	3604.14	7.89	-1.819	0.000	0.909
50.00	-24.09	-38.37	0.00	-3057.0	0.00	3057.01	3755.07	1877.54	6931.57	3470.94	9.97	-2.142	0.000	0.888
55.00	-22.94	-37.86	0.00	-2865.1	0.00	2865.16	3696.63	1848.32	6668.16	3339.04	12.38	-2.451	0.000	0.865
60.00	-21.81	-37.33	0.00	-2675.8	0.00	2675.89	3636.96	1818.48	6407.52	3208.52	15.11	-2.760	0.000	0.840
65.00	-20.71	-36.80	0.00	-2489.2	0.00	2489.22	3576.08	1788.04	6149.79	3079.47	18.17	-3.069	0.000	0.815
70.00	-19.63	-36.27	0.00	-2305.2	0.00	2305.21	3513.96	1756.98	5895.14	2951.95	21.55	-3.377	0.000	0.787
75.00	-18.59	-35.72	0.00	-2123.8	0.00	2123.86	3450.63	1725.31	5643.71	2826.05	25.25	-3.684	0.000	0.757
79.00	-17.82	-35.26	0.00	-1980.9	0.00	1980.97	3399.08	1699.54	5445.00	2726.55	28.44	-3.929	0.000	0.732
80.00	-17.44	-35.17	0.00	-1945.7	0.00	1945.71	3386.07	1693.03	5395.67	2701.84	29.27	-3.991	0.000	0.726
84.00	-16.22	-34.67	0.00	-1805.0	0.00	1805.01	2492.17	1246.08	3964.65	1985.27	32.71	-4.233	0.000	0.916
85.00	-15.96	-34.60	0.00	-1770.3	0.00	1770.34	2483.20	1241.60	3929.49	1967.67	33.61	-4.295	0.000	0.907
90.00	-15.07	-34.06	0.00	-1597.3	0.00	1597.33	2437.73	1218.86	3754.97	1880.28	38.28	-4.629	0.000	0.856
95.00	-14.21	-33.53	0.00	-1427.0	0.00	1427.01	2391.17	1195.58	3582.65	1793.99	43.30	-4.955	0.000	0.802
100.00	-13.37	-32.98	0.00	-1259.3	0.00	1259.38	2343.52	1171.76	3412.67	1708.87	48.65	-5.269	0.000	0.743
105.00	-12.57	-32.44	0.00	-1094.4	0.00	1094.46	2294.79	1147.40	3245.17	1624.99	54.33	-5.568	0.000	0.680
110.00	-11.80	-31.90	0.00	-932.25	0.00	932.25	2244.98	1122.49	3080.27	1542.43	60.30	-5.849	0.000	0.610
115.00	-11.08	-31.36	0.00	-772.73	0.00	772.73	2194.08	1097.04	2918.13	1461.23	66.56	-6.108	0.000	0.535
118.00	-8.98	-27.08	0.00	-678.66	0.00	678.66	2163.02	1081.51	2822.22	1413.21	70.44	-6.253	0.000	0.485
120.00	-8.71	-26.87	0.00	-624.50	0.00	624.50	2136.45	1068.22	2751.59	1377.84	73.07	-6.345	0.000	0.458
123.00	-8.34	-26.55	0.00	-543.88	0.00	543.88	2094.98	1047.49	2645.31	1324.62	77.09	-6.473	0.000	0.415
123.00	-8.34	-26.55	0.00	-543.88	0.00	543.88	1330.70	665.35	1690.49	846.50	77.09	-6.473	0.000	0.650
125.00	-8.13	-26.35	0.00	-490.78	0.00	490.78	1319.70	659.85	1654.32	828.39	79.82	-6.553	0.000	0.600
128.00	-6.40	-20.08	0.00	-411.73	0.00	411.73	1302.88	651.44	1600.34	801.36	83.98	-6.708	0.000	0.520
130.00	-6.21	-19.88	0.00	-371.58	0.00	371.58	1291.45	645.73	1564.57	783.45	86.80	-6.804	0.000	0.480
135.00	-5.83	-19.38	0.00	-272.16	0.00	272.16	1262.12	631.06	1475.93	739.06	94.03	-7.008	0.000	0.374
138.00	-3.90	-12.92	0.00	-214.01	0.00	214.01	1244.00	622.00	1423.34	712.73	98.46	-7.110	0.000	0.304
140.00	-3.76	-12.73	0.00	-188.18	0.00	188.18	1231.70	615.85	1388.54	695.30	101.44	-7.171	0.000	0.274
145.00	-3.47	-12.25	0.00	-124.55	0.00	124.55	1200.20	600.10	1302.53	652.23	109.00	-7.293	0.000	0.194
149.00	-2.47	-8.30	0.00	-75.56	0.00	75.56	1174.22	587.11	1234.81	618.32	115.13	-7.364	0.000	0.125
150.00	-2.42	-8.21	0.00	-67.26	0.00	67.26	1167.61	583.81	1218.04	609.93	116.67	-7.377	0.000	0.113
155.00	-2.19	-7.76	0.00	-26.19	0.00	26.19	1133.94	566.97	1135.21	568.45	124.40	-7.424	0.000	0.048
158.00	0.00	-7.42	0.00	-2.90	0.00	2.90	1113.22	556.61	1086.36	543.99	129.06	-7.433	0.000	0.006

## Wind Loading - Shaft

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

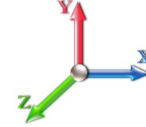


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 23

**Dead Load Factor** 1.20  
**Wind Load Factor** 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	1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0	
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	23.976	28.77	163.6	427.6	1736.1	
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	23.620	28.34	161.1	450.5	1734.3	
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	23.237	27.88	158.5	460.8	1719.9	
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	22.840	27.41	165.3	465.6	1700.0	
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	22.437	26.92	170.2	467.1	1676.8	
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	22.030	26.44	173.7	466.4	1651.5	
35.00		1.00	1.01	6.169	6.79	0.00	1.207 *	1.509	5.00	21.619	26.09	177.1	464.3	1624.7	
36.00	RT1	1.00	1.02	6.206	6.83	0.00	1.212 *	1.513	1.00	4.273	5.18	35.3	92.7	321.9	
39.00	Bot - Section 2	1.00	1.04	6.311	6.94	0.00	1.215 *	1.525	3.00	12.722	15.45	107.3	277.0	958.4	
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	1.00	4.270	5.12	35.8	93.6	547.6	
45.00	Top - Section 1	1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	21.109	25.33	181.2	464.1	2704.2	
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	5.00	20.693	24.83	181.6	459.2	1563.7	
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	20.275	24.33	181.6	453.7	1533.5	
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	19.857	23.83	181.1	447.6	1502.8	
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	19.438	23.33	180.3	441.1	1471.6	
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	19.018	22.82	179.2	434.2	1440.0	
75.00	Appurtenance(s)	1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	18.597	22.32	177.8	427.0	1408.1	
79.00	Bot - Section 3	1.00	1.20	7.322	8.05	0.00	1.200	1.637	4.00	14.574	17.49	140.9	336.8	1103.8	
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	1.00	3.654	4.38	35.4	85.2	435.0	
84.00	Top - Section 2	1.00	1.22	7.418	8.16	0.00	1.200	1.647	4.00	14.448	17.34	141.5	335.7	1716.9	
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	1.00	3.569	4.28	35.0	83.6	240.0	
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	17.597	21.12	174.8	410.0	1179.7	
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	17.175	20.61	172.6	401.7	1150.9	
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	16.752	20.10	170.2	393.2	1121.8	
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	16.329	19.59	167.6	384.4	1092.5	
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	5.00	15.906	19.09	164.8	375.5	1063.0	
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	15.482	18.58	162.0	366.5	1033.4	
118.00	Appurtenance(s)	1.00	1.31	7.968	8.76	0.00	1.200	1.704	3.00	9.085	10.90	95.6	216.6	606.8	
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	2.00	5.972	7.17	63.0	142.9	399.0	
123.00	Top - Section 3	1.00	1.32	8.038	8.84	0.00	1.200	1.711	3.00	8.831	10.60	93.7	211.0	588.9	
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	2.00	5.802	6.96	61.8	139.1	313.2	
128.00	Appurtenance(s)	1.00	1.33	8.105	8.92	0.00	1.200	1.718	3.00	8.576	10.29	91.8	205.3	462.1	
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	2.00	5.632	6.76	60.5	135.3	303.6	
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	5.00	13.786	16.54	149.2	328.7	739.4	
138.00	Appurtenance(s)	1.00	1.35	8.235	9.06	0.00	1.200	1.731	3.00	8.067	9.68	87.7	193.7	433.2	
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	2.00	5.293	6.35	57.7	127.6	284.3	
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.936	15.52	142.1	309.1	690.9	
149.00	Appurtenance(s)	1.00	1.38	8.369	9.21	0.00	1.200	1.744	4.00	10.043	12.05	110.9	240.9	535.9	
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	1.00	2.468	2.96	27.3	59.8	132.1	
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	5.00	12.086	14.50	134.6	289.0	642.0	
158.00	Appurtenance(s)	1.00	1.39	8.473	9.32	0.00	1.200	1.754	3.00	7.047	8.46	78.8	169.7	374.6	
								<b>Totals:</b>	<b>158.00</b>				<b>5,230.1</b>	<b>41,938.1</b>	

\* Cf Adjusted by Linear Load Ra Effect

## Discrete Appurtenance Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	158.00	Alu - 800 Filters	3	8.478	9.326	0.76	1.00	3.26	69.89	0.000	0.500	30.41	0.00	15.21
2	158.00	ALU - 800 MHz - RRU	6	8.478	9.326	0.67	1.00	14.63	701.07	0.000	0.500	136.46	0.00	68.23
3	158.00	Low Profile Platform	1	8.478	9.326	1.00	1.00	46.05	2192.58	0.000	0.500	429.49	0.00	214.75
4	158.00	RFS - ACU-A20-N - RET	3	8.478	9.326	0.50	1.00	0.66	12.66	0.000	0.500	6.13	0.00	3.07
5	158.00	ALU - 1900 MHz - RRU	3	8.478	9.326	0.67	1.00	10.45	394.00	0.000	0.500	97.43	0.00	48.71
6	158.00	ALU - TD-RRH8x20-25 -	3	8.478	9.326	0.67	1.00	11.00	480.72	0.000	0.500	102.56	0.00	51.28
7	158.00	Collar Mount	1	8.473	9.320	1.00	1.00	8.51	614.72	0.000	0.000	79.30	0.00	0.00
8	158.00	Site Pro PRK-1245 (kicker	1	8.473	9.320	1.00	1.00	19.50	789.04	0.000	0.000	181.74	0.00	0.00
9	158.00	Site Pro HRK14	1	8.473	9.320	1.00	1.00	16.12	1025.89	0.000	0.000	150.21	0.00	0.00
10	158.00	RFS - APXVSP18-C-A20	3	8.478	9.326	0.85	1.00	27.64	577.96	0.000	0.500	257.82	0.00	128.91
11	158.00	Commscope -	3	8.478	9.326	0.85	1.00	26.52	735.88	0.000	0.500	247.29	0.00	123.65
12	149.00	DB844H90E-XY	12	8.369	9.206	0.86	0.80	40.51	1602.19	0.000	0.000	372.95	0.00	0.00
13	149.00	Low Profile Platform	1	8.369	9.206	1.00	1.00	45.93	2186.43	0.000	0.000	422.81	0.00	0.00
14	138.00	Bias T	3	8.235	9.058	0.50	0.75	0.49	18.69	0.000	0.000	4.40	0.00	0.00
15	138.00	KRY 112 144/1	3	8.235	9.058	0.50	0.75	1.33	62.38	0.000	0.000	12.03	0.00	0.00
16	138.00	LNx-6515DS-A1M	3	8.235	9.058	0.64	0.75	28.13	664.82	0.000	0.000	254.83	0.00	0.00
17	138.00	APXV18-206516S-A20	3	8.235	9.058	0.61	0.75	10.06	215.80	0.000	0.000	91.12	0.00	0.00
18	138.00	Platform w/ HR & V-Brace	1	8.235	9.058	1.00	1.00	89.64	4800.96	0.000	0.000	811.98	0.00	0.00
19	138.00	APX16DWV-16DWVS-E-	6	8.235	9.058	0.52	0.75	23.83	1431.55	0.000	0.000	215.85	0.00	0.00
20	128.00	Alcatel Lucent -	3	8.105	8.916	0.54	0.80	5.49	412.26	0.000	0.000	48.93	0.00	0.00
21	128.00	Alcatel Lucent -	3	8.105	8.916	0.54	0.80	6.64	391.89	0.000	0.000	59.16	0.00	0.00
22	128.00	Andrew - JAHH-65B-R3B	6	8.105	8.916	0.68	0.80	42.36	1479.20	0.000	0.000	377.66	0.00	0.00
23	128.00	Low Profile Platform	1	8.105	8.916	0.80	0.80	31.51	2788.32	0.000	0.000	280.92	0.00	0.00
24	128.00	Andrew - DB846F65ZAXY	6	8.105	8.916	0.76	0.80	37.76	1398.52	0.000	0.000	336.66	0.00	0.00
25	128.00	RFS - DB-T1-6Z-8AB-0Z -	2	8.105	8.916	0.40	0.80	7.01	229.51	0.000	0.000	62.47	0.00	0.00
26	118.00	7770	6	7.968	8.765	0.64	0.80	25.06	1252.04	0.000	0.000	219.68	0.00	0.00
27	118.00	Low Profile Platform	1	7.968	8.765	0.80	0.80	31.39	2777.88	0.000	0.000	275.16	0.00	0.00
28	118.00	P65-16-XLH-RR	3	7.968	8.765	0.65	0.80	21.18	532.61	0.000	0.000	185.65	0.00	0.00
29	118.00	TT19-08BP111-001	3	7.968	8.765	0.54	0.80	1.96	99.48	0.000	0.000	17.18	0.00	0.00
30	118.00	LGP21401	6	7.968	8.765	0.54	0.80	6.77	205.37	0.000	0.000	59.36	0.00	0.00
31	118.00	RRUS-11	6	7.968	8.765	0.40	0.80	7.53	694.56	0.000	0.000	66.01	0.00	0.00
32	118.00	DC6-48-60-18	1	7.968	8.765	0.80	0.80	1.08	80.82	0.000	0.000	9.45	0.00	0.00
33	75.00	GPS	1	7.243	7.967	1.00	1.00	0.01	8.14	0.000	0.000	0.08	0.00	0.00
<b>Totals:</b>								<b>30,927.80</b>			<b>5,903.16</b>			

## Total Applied Force Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

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
5.00		163.56	3039.73	0.00	0.00
10.00		161.13	3049.78	0.00	0.00
15.00		158.51	3042.81	0.00	0.00
20.00		165.32	3028.37	0.00	0.00
25.00		170.22	3009.63	0.00	0.00
30.00		173.67	2988.06	0.00	0.00
35.00		177.06	2964.45	0.00	0.00
36.00		35.34	589.93	0.00	0.00
39.00		107.29	1763.71	0.00	0.00
40.00		35.77	618.57	0.00	0.00
45.00		181.23	3060.89	0.00	0.00
50.00		181.64	1921.98	0.00	0.00
55.00		181.59	1893.28	0.00	0.00
60.00		181.13	1863.94	0.00	0.00
65.00		180.32	1834.04	0.00	0.00
70.00		179.20	1803.67	0.00	0.00
75.00	(1) attachments	177.88	1781.01	0.00	0.00
79.00		140.87	1395.62	0.00	0.00
80.00		35.41	507.99	0.00	0.00
84.00		141.47	2009.53	0.00	0.00
85.00		35.04	313.22	0.00	0.00
90.00		174.82	1546.63	0.00	0.00
95.00		172.58	1518.68	0.00	0.00
100.00		170.16	1490.47	0.00	0.00
105.00		167.57	1462.02	0.00	0.00
110.00		164.83	1433.36	0.00	0.00
115.00		161.95	1404.50	0.00	0.00
118.00	(26) attachments	928.04	6472.53	0.00	0.00
120.00		63.03	525.22	0.00	0.00
123.00		93.69	778.56	0.00	0.00
125.00		61.77	439.75	0.00	0.00
128.00	(21) attachments	1257.54	7351.84	0.00	0.00
130.00		60.46	347.98	0.00	0.00
135.00		149.16	850.23	0.00	0.00
138.00	(19) attachments	1477.90	7693.91	0.00	0.00
140.00		57.71	309.69	0.00	0.00
145.00		142.09	754.24	0.00	0.00
149.00	(13) attachments	906.70	4375.25	0.00	0.00
150.00		27.30	135.31	0.00	0.00
155.00		134.63	657.81	0.00	0.00
158.00	(28) attachments	1797.66	7978.51	0.00	653.80
	<b>Totals:</b>	<b>11,133.22</b>	<b>90,006.70</b>	<b>0.00</b>	<b>653.80</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

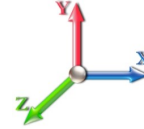


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 23

**Dead Load Factor** 1.20  
**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)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.86	0.00	0.090	0.000	5.168	0.00	114.06
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.090	0.000	5.168	0.00	45.28
5.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.29	0.00	0.090	0.000	5.168	0.00	976.24
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.93	0.00	0.092	0.000	5.168	0.00	119.58
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.092	0.000	5.168	0.00	48.07
10.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.36	0.00	0.092	0.000	5.168	0.00	979.72
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	1.98	0.00	0.094	0.000	5.168	0.00	123.04
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	5.168	0.00	49.84
15.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.41	0.00	0.094	0.000	5.168	0.00	981.92
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.01	0.00	0.096	0.000	5.483	0.00	125.61
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.096	0.000	5.483	0.00	51.17
20.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.44	0.00	0.096	0.000	5.483	0.00	983.56
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.04	0.00	0.098	0.000	5.747	0.00	127.66
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.098	0.000	5.747	0.00	52.23
25.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.47	0.00	0.098	0.000	5.747	0.00	984.88
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.06	0.00	0.100	0.000	5.972	0.00	129.38
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	5.972	0.00	53.14
30.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.49	0.00	0.100	0.000	5.972	0.00	985.99
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.08	0.00	0.102	1.006	6.169	0.00	130.87
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	6.169	0.00	53.92
35.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	2.51	0.00	0.102	1.006	6.169	0.00	986.95
36.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.42	0.00	0.103	1.010	6.206	0.00	26.23
36.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.103	1.010	6.206	0.00	10.81
36.00	1.25" Reinforcing	Yes	1.00	0.000	3.00	0.50	0.00	0.103	1.010	6.206	0.00	197.43
39.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.26	0.00	0.104	1.012	6.311	0.00	79.16
39.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.104	1.012	6.311	0.00	32.69
39.00	1.25" Reinforcing	Yes	3.00	0.000	3.00	1.51	0.00	0.104	1.012	6.311	0.00	592.58
40.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.42	0.00	0.042	0.000	6.345	0.00	26.44
40.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.042	0.000	6.345	0.00	10.92
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.11	0.00	0.042	0.000	6.504	0.00	133.36
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	6.504	0.00	55.23
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.13	0.00	0.043	0.000	6.650	0.00	134.43
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.043	0.000	6.650	0.00	55.80
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.14	0.00	0.044	0.000	6.785	0.00	135.41
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	6.785	0.00	56.32
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.15	0.00	0.045	0.000	6.910	0.00	136.31
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.045	0.000	6.910	0.00	56.80
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.16	0.00	0.046	0.000	7.028	0.00	137.16
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.046	0.000	7.028	0.00	57.25
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.17	0.00	0.047	0.000	7.138	0.00	137.94
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.047	0.000	7.138	0.00	57.67
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.18	0.00	0.048	0.000	7.243	0.00	138.68
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.048	0.000	7.243	0.00	58.07
79.00	1 5/8" Coax	Yes	4.00	0.000	1.98	1.75	0.00	0.049	0.000	7.322	0.00	111.39
79.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.049	0.000	7.322	0.00	46.69
80.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.44	0.00	0.050	0.000	7.342	0.00	27.88
80.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	7.342	0.00	11.69

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

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)
84.00	1 5/8" Coax	Yes	4.00	0.000	1.98	1.76	0.00	0.050	0.000	7.418	0.00	111.93
84.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.050	0.000	7.418	0.00	46.98
85.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.44	0.00	0.050	0.000	7.436	0.00	28.01
85.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	7.436	0.00	11.76
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.21	0.00	0.051	0.000	7.526	0.00	140.67
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.051	0.000	7.526	0.00	59.13
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.21	0.00	0.052	0.000	7.612	0.00	141.27
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.052	0.000	7.612	0.00	59.46
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.22	0.00	0.054	0.000	7.695	0.00	141.84
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.054	0.000	7.695	0.00	59.76
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.055	0.000	7.774	0.00	142.38
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.055	0.000	7.774	0.00	60.06
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.23	0.00	0.057	0.000	7.851	0.00	142.91
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.057	0.000	7.851	0.00	60.34
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	2.24	0.00	0.059	0.000	7.925	0.00	143.41
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	7.925	0.00	60.62
118.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.35	0.00	0.060	0.000	7.968	0.00	86.22
118.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.060	0.000	7.968	0.00	36.47
120.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.061	0.000	7.996	0.00	57.56
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	7.996	0.00	24.35
123.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.35	0.00	0.062	0.000	8.038	0.00	86.51
123.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.062	0.000	8.038	0.00	36.62
125.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.90	0.00	0.063	0.000	8.065	0.00	57.75
125.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	8.065	0.00	24.45
128.00	1 5/8" Coax	Yes	3.00	0.000	1.98	1.35	0.00	0.064	0.000	8.105	0.00	86.78
128.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	8.105	0.00	36.77
<b>Totals:</b>											<b>0.0</b>	<b>12,571.5</b>

## Calculated Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

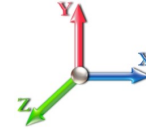


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**Load Case:** 1.2D + 1.0Di + 1.0Wi 50 mph Wind

**Iterations** 23

**Dead Load Factor** 1.20  
**Wind Load Factor** 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	-90.00	-11.17	0.00	-1344.3	0.00	1344.31	4238.25	2119.12	9474.98	4744.53	0.00	0.000	0.000	0.187
5.00	-86.95	-11.08	0.00	-1288.4	0.00	1288.45	4191.13	2095.57	9193.31	4603.49	0.03	-0.048	0.000	0.183
10.00	-83.89	-10.98	0.00	-1233.0	0.00	1233.06	4142.79	2071.40	8912.98	4463.11	0.10	-0.096	0.000	0.179
15.00	-80.84	-10.89	0.00	-1178.1	0.00	1178.14	4093.23	2046.62	8634.14	4323.49	0.23	-0.144	0.000	0.175
20.00	-77.81	-10.78	0.00	-1123.7	0.00	1123.71	4042.45	2021.22	8356.93	4184.68	0.40	-0.192	0.000	0.171
25.00	-74.79	-10.66	0.00	-1069.8	0.00	1069.81	3990.44	1995.22	8081.53	4046.77	0.63	-0.241	0.000	0.167
30.00	-71.79	-10.53	0.00	-1016.5	0.00	1016.51	3937.21	1968.60	7808.07	3909.84	0.91	-0.290	0.000	0.162
35.00	-68.82	-10.38	0.00	-963.84	0.00	963.84	3882.75	1941.38	7536.73	3773.96	1.24	-0.338	0.000	0.158
36.00	-68.23	-10.36	0.00	-953.47	0.00	953.47	3871.71	1935.86	7482.72	3746.92	1.31	-0.348	0.000	0.157
36.00	-68.23	-10.36	0.00	-953.47	0.00	953.47	3871.71	1935.86	7482.72	3746.92	1.31	-0.348	0.000	0.157
39.00	-66.46	-10.27	0.00	-922.38	0.00	922.38	3838.31	1919.15	7321.27	3666.08	1.54	-0.378	0.000	0.269
40.00	-65.83	-10.29	0.00	-912.11	0.00	912.11	3827.07	1913.54	7267.64	3639.22	1.62	-0.395	0.000	0.268
45.00	-62.76	-10.18	0.00	-860.67	0.00	860.67	3812.30	1906.15	7197.58	3604.14	2.08	-0.480	0.000	0.255
50.00	-60.83	-10.07	0.00	-809.78	0.00	809.78	3755.07	1877.54	6931.57	3470.94	2.63	-0.566	0.000	0.250
55.00	-58.92	-9.95	0.00	-759.45	0.00	759.45	3696.63	1848.32	6668.16	3339.04	3.27	-0.647	0.000	0.243
60.00	-57.04	-9.83	0.00	-709.70	0.00	709.70	3636.96	1818.48	6407.52	3208.52	3.99	-0.729	0.000	0.237
65.00	-55.20	-9.70	0.00	-660.56	0.00	660.56	3576.08	1788.04	6149.79	3079.47	4.80	-0.811	0.000	0.230
70.00	-53.38	-9.57	0.00	-612.06	0.00	612.06	3513.96	1756.98	5895.14	2951.95	5.69	-0.893	0.000	0.223
75.00	-51.59	-9.43	0.00	-564.20	0.00	564.20	3450.63	1725.31	5643.71	2826.05	6.67	-0.975	0.000	0.215
79.00	-50.20	-9.30	0.00	-526.48	0.00	526.48	3399.08	1699.54	5445.00	2726.55	7.51	-1.040	0.000	0.208
80.00	-49.68	-9.29	0.00	-517.17	0.00	517.17	3386.07	1693.03	5395.67	2701.84	7.73	-1.056	0.000	0.206
84.00	-47.67	-9.15	0.00	-480.01	0.00	480.01	2492.17	1246.08	3964.65	1985.27	8.65	-1.121	0.000	0.261
85.00	-47.35	-9.15	0.00	-470.86	0.00	470.86	2483.20	1241.60	3929.49	1967.67	8.88	-1.137	0.000	0.258
90.00	-45.79	-9.01	0.00	-425.12	0.00	425.12	2437.73	1218.86	3754.97	1880.28	10.12	-1.226	0.000	0.245
95.00	-44.26	-8.87	0.00	-380.06	0.00	380.06	2391.17	1195.58	3582.65	1793.99	11.45	-1.313	0.000	0.230
100.00	-42.77	-8.73	0.00	-335.71	0.00	335.71	2343.52	1171.76	3412.67	1708.87	12.87	-1.396	0.000	0.215
105.00	-41.30	-8.58	0.00	-292.07	0.00	292.07	2294.79	1147.40	3245.17	1624.99	14.38	-1.476	0.000	0.198
110.00	-39.86	-8.43	0.00	-249.18	0.00	249.18	2244.98	1122.49	3080.27	1542.43	15.97	-1.551	0.000	0.179
115.00	-38.45	-8.26	0.00	-207.05	0.00	207.05	2194.08	1097.04	2918.13	1461.23	17.63	-1.620	0.000	0.159
118.00	-32.00	-7.17	0.00	-182.26	0.00	182.26	2163.02	1081.51	2822.22	1413.21	18.66	-1.659	0.000	0.144
120.00	-31.48	-7.10	0.00	-167.93	0.00	167.93	2136.45	1068.22	2751.59	1377.84	19.36	-1.684	0.000	0.137
123.00	-30.70	-7.00	0.00	-146.62	0.00	146.62	2094.98	1047.49	2645.31	1324.62	20.43	-1.719	0.000	0.125
123.00	-30.70	-7.00	0.00	-146.62	0.00	146.62	1330.70	665.35	1690.49	846.50	20.43	-1.719	0.000	0.196
125.00	-30.26	-6.94	0.00	-132.62	0.00	132.62	1319.70	659.85	1654.32	828.39	21.15	-1.740	0.000	0.183
128.00	-22.94	-5.48	0.00	-111.78	0.00	111.78	1302.88	651.44	1600.34	801.36	22.26	-1.782	0.000	0.157
130.00	-22.59	-5.42	0.00	-100.83	0.00	100.83	1291.45	645.73	1564.57	783.45	23.01	-1.808	0.000	0.146
135.00	-21.74	-5.26	0.00	-73.73	0.00	73.73	1262.12	631.06	1475.93	739.06	24.94	-1.863	0.000	0.117
138.00	-14.10	-3.54	0.00	-57.95	0.00	57.95	1244.00	622.00	1423.34	712.73	26.12	-1.891	0.000	0.093
140.00	-13.79	-3.47	0.00	-50.88	0.00	50.88	1231.70	615.85	1388.54	695.30	26.91	-1.908	0.000	0.084
145.00	-13.04	-3.31	0.00	-33.52	0.00	33.52	1200.20	600.10	1302.53	652.23	28.93	-1.941	0.000	0.062
149.00	-8.70	-2.26	0.00	-20.27	0.00	20.27	1174.22	587.11	1234.81	618.32	30.57	-1.960	0.000	0.040
150.00	-8.56	-2.23	0.00	-18.01	0.00	18.01	1167.61	583.81	1218.04	609.93	30.98	-1.963	0.000	0.037
155.00	-7.91	-2.07	0.00	-6.87	0.00	6.87	1133.94	566.97	1135.21	568.45	33.04	-1.976	0.000	0.019
158.00	0.00	-1.80	0.00	-0.65	0.00	0.65	1113.22	556.61	1086.36	543.99	34.28	-1.978	0.000	0.001



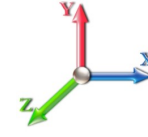
## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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: 1.2D + 1.0E</b>					<b>Iterations</b> 22
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.23
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.11
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency</b>	0.30	<b>SA</b>	0.03
				<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	0.00	0.00	0.00	0.00	0.00	
5.00		1090.4	0.00	0.03	0.02	26.99	
10.00		1069.8	0.01	0.05	0.03	37.39	
15.00		1049.2	0.02	0.06	0.04	41.87	
20.00		1028.6	0.03	0.07	0.04	43.65	
25.00		1008.1	0.05	0.07	0.04	44.24	
30.00		987.54	0.07	0.07	0.04	44.40	
35.00		966.96	0.09	0.07	0.04	44.49	
36.00	RT1	190.92	0.10	0.07	0.04	8.83	
39.00	Bot - Section 2	567.83	0.12	0.07	0.04	26.63	
40.00		378.30	0.12	0.07	0.03	17.83	
45.00	Top - Section 1	1866.8	0.15	0.07	0.03	89.91	
50.00		920.43	0.19	0.06	0.02	44.90	
55.00		899.86	0.23	0.06	0.02	43.55	
60.00		879.28	0.27	0.05	0.01	40.55	
65.00		858.71	0.32	0.04	0.01	35.05	
70.00		838.13	0.37	0.03	0.01	26.26	
75.00	Appurtenance(s)	821.26	0.43	0.01	0.01	13.98	
79.00	Bot - Section 3	639.24	0.47	-0.01	0.01	1.69	
80.00		291.53	0.48	-0.01	0.01	-0.35	
84.00	Top - Section 2	1151.0	0.53	-0.03	0.01	-19.18	
85.00		130.35	0.55	-0.03	0.01	-2.66	
90.00		641.47	0.61	-0.06	0.02	-23.70	
95.00		624.32	0.68	-0.08	0.03	-30.15	
100.00		607.18	0.76	-0.10	0.04	-32.54	
105.00		590.03	0.83	-0.12	0.06	-31.23	
110.00		572.89	0.92	-0.12	0.09	-26.73	
115.00		555.74	1.00	-0.11	0.13	-19.49	
118.00	Appurtenance(s)	2664.6	1.05	-0.09	0.16	-68.34	
120.00		213.38	1.09	-0.08	0.18	-3.91	
123.00	Top - Section 3	314.93	1.15	-0.04	0.22	-1.84	
125.00		145.04	1.18	-0.01	0.24	0.51	
128.00	Appurtenance(s)	2592.9	1.24	0.05	0.29	49.49	
130.00		140.24	1.28	0.09	0.32	4.28	
135.00		342.20	1.38	0.25	0.41	21.48	
138.00	Appurtenance(s)	2938.1	1.44	0.37	0.48	248.79	
140.00		130.64	1.48	0.46	0.52	13.11	
145.00		318.19	1.59	0.75	0.66	45.66	
149.00	Appurtenance(s)	1613.9	1.68	1.05	0.79	293.77	
150.00		60.28	1.70	1.14	0.82	11.59	
155.00		294.18	1.82	1.63	1.01	72.59	
158.00	Appurtenance(s)	3522.4	1.89	1.98	1.14	994.43	
<b>Totals:</b>		<b>36,517.3</b>				<b>2,127.8</b>	<b>Total Wind: 43,091.5</b>

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

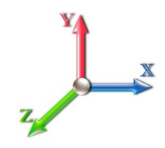
## Calculated Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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> 1.2D + 1.0E						<b>Iterations</b> 22
<b>Gust Response Factor</b>	1.10			<b>Sds</b>	0.23	<b>Ss</b> 0.21
<b>Dead Load Factor</b>	1.20	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.11	<b>S1</b> 0.07
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency</b>	0.30	<b>SA</b>	0.03	<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	-56.97	-2.39	0.00	-304.40	0.00	304.40	4238.25	2119.12	9474.98	4744.53	0.00	0.00	0.00	0.047
5.00	-54.51	-2.38	0.00	-292.43	0.00	292.43	4191.13	2095.57	9193.31	4603.49	0.01	-0.01	0.046	
10.00	-52.07	-2.35	0.00	-280.56	0.00	280.56	4142.79	2071.40	8912.98	4463.11	0.02	-0.02	0.045	
15.00	-49.66	-2.31	0.00	-268.82	0.00	268.82	4093.23	2046.62	8634.14	4323.49	0.05	-0.03	0.044	
20.00	-47.27	-2.28	0.00	-257.24	0.00	257.24	4042.45	2021.22	8356.93	4184.68	0.09	-0.04	0.043	
25.00	-44.91	-2.24	0.00	-245.85	0.00	245.85	3990.44	1995.22	8081.53	4046.77	0.14	-0.05	0.042	
30.00	-42.57	-2.20	0.00	-234.65	0.00	234.65	3937.21	1968.60	7808.07	3909.84	0.21	-0.07	0.041	
35.00	-40.26	-2.16	0.00	-223.64	0.00	223.64	3882.75	1941.38	7536.73	3773.96	0.28	-0.08	0.040	
36.00	-39.80	-2.15	0.00	-221.48	0.00	221.48	3871.71	1935.86	7482.72	3746.92	0.30	-0.08	0.040	
36.00	-39.80	-2.15	0.00	-221.48	0.00	221.48	3871.71	1935.86	7482.72	3746.92	0.30	-0.08	0.040	
39.00	-38.43	-2.13	0.00	-215.02	0.00	215.02	3838.31	1919.15	7321.27	3666.08	0.35	-0.09	0.069	
40.00	-37.93	-2.12	0.00	-212.89	0.00	212.89	3827.07	1913.54	7267.64	3639.22	0.37	-0.09	0.068	
45.00	-35.47	-2.04	0.00	-202.30	0.00	202.30	3812.30	1906.15	7197.58	3604.14	0.48	-0.11	0.065	
50.00	-34.14	-2.00	0.00	-192.12	0.00	192.12	3755.07	1877.54	6931.57	3470.94	0.60	-0.13	0.064	
55.00	-32.85	-1.96	0.00	-182.12	0.00	182.12	3696.63	1848.32	6668.16	3339.04	0.75	-0.15	0.063	
60.00	-31.57	-1.93	0.00	-172.30	0.00	172.30	3636.96	1818.48	6407.52	3208.52	0.92	-0.17	0.062	
65.00	-30.32	-1.90	0.00	-162.64	0.00	162.64	3576.08	1788.04	6149.79	3079.47	1.11	-0.19	0.061	
70.00	-29.10	-1.88	0.00	-153.13	0.00	153.13	3513.96	1756.98	5895.14	2951.95	1.32	-0.21	0.060	
75.00	-27.89	-1.87	0.00	-143.71	0.00	143.71	3450.63	1725.31	5643.71	2826.05	1.55	-0.23	0.059	
79.00	-26.95	-1.87	0.00	-136.22	0.00	136.22	3399.08	1699.54	5445.00	2726.55	1.75	-0.25	0.058	
80.00	-26.56	-1.88	0.00	-134.34	0.00	134.34	3386.07	1693.03	5395.67	2701.84	1.80	-0.25	0.058	
84.00	-25.00	-1.87	0.00	-126.84	0.00	126.84	2492.17	1246.08	3964.65	1985.27	2.02	-0.27	0.074	
85.00	-24.80	-1.88	0.00	-124.97	0.00	124.97	2483.20	1241.60	3929.49	1967.67	2.08	-0.27	0.073	
90.00	-23.81	-1.88	0.00	-115.57	0.00	115.57	2437.73	1218.86	3754.97	1880.28	2.37	-0.30	0.071	
95.00	-22.84	-1.89	0.00	-106.16	0.00	106.16	2391.17	1195.58	3582.65	1793.99	2.70	-0.32	0.069	
100.00	-21.90	-1.89	0.00	-96.71	0.00	96.71	2343.52	1171.76	3412.67	1708.87	3.05	-0.34	0.066	
105.00	-20.97	-1.89	0.00	-87.26	0.00	87.26	2294.79	1147.40	3245.17	1624.99	3.42	-0.37	0.063	
110.00	-20.06	-1.90	0.00	-77.79	0.00	77.79	2244.98	1122.49	3080.27	1542.43	3.82	-0.39	0.059	
115.00	-19.18	-1.90	0.00	-68.30	0.00	68.30	2194.08	1097.04	2918.13	1461.23	4.24	-0.41	0.055	
118.00	-15.85	-1.87	0.00	-62.62	0.00	62.62	2163.02	1081.51	2822.22	1413.21	4.50	-0.43	0.052	
120.00	-15.53	-1.87	0.00	-58.87	0.00	58.87	2136.45	1068.22	2751.59	1377.84	4.68	-0.43	0.050	
123.00	-15.05	-1.87	0.00	-53.24	0.00	53.24	2094.98	1047.49	2645.31	1324.62	4.96	-0.45	0.047	
123.00	-15.05	-1.87	0.00	-53.24	0.00	53.24	1330.70	665.35	1690.49	846.50	4.96	-0.45	0.074	
125.00	-14.82	-1.87	0.00	-49.50	0.00	49.50	1319.70	659.85	1654.32	828.39	5.15	-0.45	0.071	
128.00	-11.61	-1.80	0.00	-43.87	0.00	43.87	1302.88	651.44	1600.34	801.36	5.44	-0.47	0.064	
130.00	-11.39	-1.80	0.00	-40.27	0.00	40.27	1291.45	645.73	1564.57	783.45	5.64	-0.48	0.060	
135.00	-10.87	-1.78	0.00	-31.27	0.00	31.27	1262.12	631.06	1475.93	739.06	6.16	-0.50	0.051	
138.00	-7.28	-1.50	0.00	-25.94	0.00	25.94	1244.00	622.00	1423.34	712.73	6.48	-0.52	0.042	
140.00	-7.10	-1.48	0.00	-22.95	0.00	22.95	1231.70	615.85	1388.54	695.30	6.70	-0.52	0.039	
145.00	-6.65	-1.44	0.00	-15.53	0.00	15.53	1200.20	600.10	1302.53	652.23	7.25	-0.54	0.029	
149.00	-4.67	-1.12	0.00	-9.79	0.00	9.79	1174.22	587.11	1234.81	618.32	7.71	-0.55	0.020	
150.00	-4.59	-1.11	0.00	-8.66	0.00	8.66	1167.61	583.81	1218.04	609.93	7.82	-0.55	0.018	
155.00	-4.23	-1.04	0.00	-3.11	0.00	3.11	1133.94	566.97	1135.21	568.45	8.40	-0.55	0.009	
158.00	0.00	-0.99	0.00	0.00	0.00	0.00	1113.22	556.61	1086.36	543.99	8.75	-0.56	0.000	

## Seismic Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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 + 1.0E					<b>Iterations</b> 22
<b>Gust Response Factor</b>	1.10	<b>Sds</b>	0.23		<b>Ss</b> 0.21
<b>Dead Load Factor</b>	0.90	<b>Seismic Load Factor</b>	1.00	<b>Sd1</b>	0.11
<b>Wind Load Factor</b>	0.00	<b>Structure Frequency</b>	0.30	<b>SA</b>	0.03
					<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	0.00	0.00	0.00	0.00	0.00	
5.00		1090.4	0.00	0.03	0.02	26.99	
10.00		1069.8	0.01	0.05	0.03	37.39	
15.00		1049.2	0.02	0.06	0.04	41.87	
20.00		1028.6	0.03	0.07	0.04	43.65	
25.00		1008.1	0.05	0.07	0.04	44.24	
30.00		987.54	0.07	0.07	0.04	44.40	
35.00		966.96	0.09	0.07	0.04	44.49	
36.00	RT1	190.92	0.10	0.07	0.04	8.83	
39.00	Bot - Section 2	567.83	0.12	0.07	0.04	26.63	
40.00		378.30	0.12	0.07	0.03	17.83	
45.00	Top - Section 1	1866.8	0.15	0.07	0.03	89.91	
50.00		920.43	0.19	0.06	0.02	44.90	
55.00		899.86	0.23	0.06	0.02	43.55	
60.00		879.28	0.27	0.05	0.01	40.55	
65.00		858.71	0.32	0.04	0.01	35.05	
70.00		838.13	0.37	0.03	0.01	26.26	
75.00	Appurtenance(s)	821.26	0.43	0.01	0.01	13.98	
79.00	Bot - Section 3	639.24	0.47	-0.01	0.01	1.69	
80.00		291.53	0.48	-0.01	0.01	-0.35	
84.00	Top - Section 2	1151.0	0.53	-0.03	0.01	-19.18	
85.00		130.35	0.55	-0.03	0.01	-2.66	
90.00		641.47	0.61	-0.06	0.02	-23.70	
95.00		624.32	0.68	-0.08	0.03	-30.15	
100.00		607.18	0.76	-0.10	0.04	-32.54	
105.00		590.03	0.83	-0.12	0.06	-31.23	
110.00		572.89	0.92	-0.12	0.09	-26.73	
115.00		555.74	1.00	-0.11	0.13	-19.49	
118.00	Appurtenance(s)	2664.6	1.05	-0.09	0.16	-68.34	
120.00		213.38	1.09	-0.08	0.18	-3.91	
123.00	Top - Section 3	314.93	1.15	-0.04	0.22	-1.84	
125.00		145.04	1.18	-0.01	0.24	0.51	
128.00	Appurtenance(s)	2592.9	1.24	0.05	0.29	49.49	
130.00		140.24	1.28	0.09	0.32	4.28	
135.00		342.20	1.38	0.25	0.41	21.48	
138.00	Appurtenance(s)	2938.1	1.44	0.37	0.48	248.79	
140.00		130.64	1.48	0.46	0.52	13.11	
145.00		318.19	1.59	0.75	0.66	45.66	
149.00	Appurtenance(s)	1613.9	1.68	1.05	0.79	293.77	
150.00		60.28	1.70	1.14	0.82	11.59	
155.00		294.18	1.82	1.63	1.01	72.59	
158.00	Appurtenance(s)	3522.4	1.89	1.98	1.14	994.43	
<b>Totals:</b>		<b>36,517.3</b>				<b>2,127.8</b>	<b>Total Wind: 43,091.5</b>

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

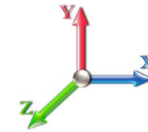
## Calculated Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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: 0.9D + 1.0E</b>										<b>Iterations</b> 22
<b>Gust Response Factor</b> 1.10						<b>Sds</b> 0.23				<b>Ss</b> 0.21
<b>Dead Load Factor</b> 0.90		<b>Seismic Load Factor</b> 1.00		<b>Sd1</b> 0.11						<b>S1</b> 0.07
<b>Wind Load Factor</b> 0.00		<b>Structure Frequency</b> 0.30		<b>SA</b> 0.03		<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	-42.73	-2.39	0.00	-300.89	0.00	300.89	4238.25	2119.12	9474.98	4744.53	0.00	0.00	0.00	0.045
5.00	-40.88	-2.37	0.00	-288.94	0.00	288.94	4191.13	2095.57	9193.31	4603.49	0.01	-0.01	0.044	
10.00	-39.05	-2.34	0.00	-277.08	0.00	277.08	4142.79	2071.40	8912.98	4463.11	0.02	-0.02	0.043	
15.00	-37.25	-2.31	0.00	-265.37	0.00	265.37	4093.23	2046.62	8634.14	4323.49	0.05	-0.03	0.042	
20.00	-35.45	-2.27	0.00	-253.84	0.00	253.84	4042.45	2021.22	8356.93	4184.68	0.09	-0.04	0.041	
25.00	-33.68	-2.23	0.00	-242.50	0.00	242.50	3990.44	1995.22	8081.53	4046.77	0.14	-0.05	0.040	
30.00	-31.93	-2.19	0.00	-231.36	0.00	231.36	3937.21	1968.60	7808.07	3909.84	0.20	-0.07	0.039	
35.00	-30.19	-2.15	0.00	-220.42	0.00	220.42	3882.75	1941.38	7536.73	3773.96	0.28	-0.08	0.038	
36.00	-29.85	-2.14	0.00	-218.27	0.00	218.27	3871.71	1935.86	7482.72	3746.92	0.30	-0.08	0.038	
36.00	-29.85	-2.14	0.00	-218.27	0.00	218.27	3871.71	1935.86	7482.72	3746.92	0.30	-0.08	0.038	
39.00	-28.82	-2.11	0.00	-211.86	0.00	211.86	3838.31	1919.15	7321.27	3666.08	0.35	-0.09	0.065	
40.00	-28.45	-2.10	0.00	-209.75	0.00	209.75	3827.07	1913.54	7267.64	3639.22	0.37	-0.09	0.065	
45.00	-26.60	-2.02	0.00	-199.24	0.00	199.24	3812.30	1906.15	7197.58	3604.14	0.47	-0.11	0.062	
50.00	-25.61	-1.98	0.00	-189.16	0.00	189.16	3755.07	1877.54	6931.57	3470.94	0.59	-0.13	0.061	
55.00	-24.63	-1.94	0.00	-179.27	0.00	179.27	3696.63	1848.32	6668.16	3339.04	0.74	-0.15	0.060	
60.00	-23.68	-1.91	0.00	-169.57	0.00	169.57	3636.96	1818.48	6407.52	3208.52	0.90	-0.17	0.059	
65.00	-22.74	-1.88	0.00	-160.04	0.00	160.04	3576.08	1788.04	6149.79	3079.47	1.09	-0.19	0.058	
70.00	-21.82	-1.85	0.00	-150.66	0.00	150.66	3513.96	1756.98	5895.14	2951.95	1.30	-0.21	0.057	
75.00	-20.92	-1.84	0.00	-141.39	0.00	141.39	3450.63	1725.31	5643.71	2826.05	1.53	-0.23	0.056	
79.00	-20.21	-1.84	0.00	-134.02	0.00	134.02	3399.08	1699.54	5445.00	2726.55	1.72	-0.24	0.055	
80.00	-19.92	-1.84	0.00	-132.18	0.00	132.18	3386.07	1693.03	5395.67	2701.84	1.78	-0.25	0.055	
84.00	-18.75	-1.84	0.00	-124.80	0.00	124.80	2492.17	1246.08	3964.65	1985.27	1.99	-0.26	0.070	
85.00	-18.60	-1.85	0.00	-122.96	0.00	122.96	2483.20	1241.60	3929.49	1967.67	2.05	-0.27	0.070	
90.00	-17.86	-1.85	0.00	-113.73	0.00	113.73	2437.73	1218.86	3754.97	1880.28	2.34	-0.29	0.068	
95.00	-17.13	-1.85	0.00	-104.47	0.00	104.47	2391.17	1195.58	3582.65	1793.99	2.66	-0.32	0.065	
100.00	-16.42	-1.86	0.00	-95.21	0.00	95.21	2343.52	1171.76	3412.67	1708.87	3.00	-0.34	0.063	
105.00	-15.73	-1.86	0.00	-85.93	0.00	85.93	2294.79	1147.40	3245.17	1624.99	3.37	-0.36	0.060	
110.00	-15.05	-1.86	0.00	-76.64	0.00	76.64	2244.98	1122.49	3080.27	1542.43	3.76	-0.38	0.056	
115.00	-14.38	-1.86	0.00	-67.34	0.00	67.34	2194.08	1097.04	2918.13	1461.23	4.18	-0.41	0.053	
118.00	-11.89	-1.84	0.00	-61.76	0.00	61.76	2163.02	1081.51	2822.22	1413.21	4.44	-0.42	0.049	
120.00	-11.64	-1.84	0.00	-58.08	0.00	58.08	2136.45	1068.22	2751.59	1377.84	4.61	-0.43	0.048	
123.00	-11.29	-1.84	0.00	-52.55	0.00	52.55	2094.98	1047.49	2645.31	1324.62	4.89	-0.44	0.045	
123.00	-11.29	-1.84	0.00	-52.55	0.00	52.55	1330.70	665.35	1690.49	846.50	4.89	-0.44	0.071	
125.00	-11.11	-1.84	0.00	-48.86	0.00	48.86	1319.70	659.85	1654.32	828.39	5.07	-0.45	0.067	
128.00	-8.70	-1.78	0.00	-43.33	0.00	43.33	1302.88	651.44	1600.34	801.36	5.36	-0.46	0.061	
130.00	-8.54	-1.77	0.00	-39.78	0.00	39.78	1291.45	645.73	1564.57	783.45	5.56	-0.47	0.057	
135.00	-8.15	-1.75	0.00	-30.91	0.00	30.91	1262.12	631.06	1475.93	739.06	6.07	-0.50	0.048	
138.00	-5.46	-1.48	0.00	-25.65	0.00	25.65	1244.00	622.00	1423.34	712.73	6.38	-0.51	0.040	
140.00	-5.32	-1.47	0.00	-22.69	0.00	22.69	1231.70	615.85	1388.54	695.30	6.60	-0.52	0.037	
145.00	-4.99	-1.42	0.00	-15.36	0.00	15.36	1200.20	600.10	1302.53	652.23	7.15	-0.53	0.028	
149.00	-3.50	-1.11	0.00	-9.68	0.00	9.68	1174.22	587.11	1234.81	618.32	7.59	-0.54	0.019	
150.00	-3.44	-1.10	0.00	-8.57	0.00	8.57	1167.61	583.81	1218.04	609.93	7.71	-0.54	0.017	
155.00	-3.17	-1.02	0.00	-3.07	0.00	3.07	1133.94	566.97	1135.21	568.45	8.28	-0.55	0.008	
158.00	0.00	-0.99	0.00	0.00	0.00	0.00	1113.22	556.61	1086.36	543.99	8.62	-0.55	0.000	

## Wind Loading - Shaft

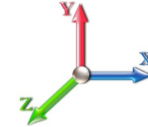
<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II



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

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



**Iterations** 23

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	1.00	0.85	7.442	8.19	256.18	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	251.43	0.650	0.000	5.00	22.941	14.91	122.1	0.0	1090.4
10.00		1.00	0.85	7.442	8.19	246.67	0.650	0.000	5.00	22.511	14.63	119.8	0.0	1069.8
15.00		1.00	0.85	7.442	8.19	241.92	0.650	0.000	5.00	22.081	14.35	117.5	0.0	1049.3
20.00		1.00	0.90	7.896	8.69	244.29	0.650	0.000	5.00	21.651	14.07	122.2	0.0	1028.7
25.00		1.00	0.95	8.276	9.10	245.08	0.650	0.000	5.00	21.222	13.79	125.6	0.0	1008.1
30.00		1.00	0.98	8.600	9.46	244.72	0.650	0.000	5.00	20.792	13.51	127.8	0.0	987.5
35.00		1.00	1.01	8.883	9.77	243.53	0.654 *	0.000	5.00	20.362	13.31	130.1	0.0	967.0
36.00	RT1	1.00	1.02	8.936	9.83	243.21	0.656 *	0.000	1.00	4.021	2.64	25.9	0.0	190.9
39.00	Bot - Section 2	1.00	1.04	9.088	10.00	242.11	0.658 *	0.000	3.00	11.959	7.87	78.7	0.0	567.8
40.00		1.00	1.04	9.137	10.05	241.71	0.650	0.000	1.00	4.015	2.61	26.2	0.0	378.3
45.00	Top - Section 1	1.00	1.07	9.366	10.30	239.39	0.650	0.000	5.00	19.820	12.88	132.7	0.0	1866.8
50.00		1.00	1.09	9.576	10.53	240.64	0.650	0.000	5.00	19.390	12.60	132.8	0.0	920.4
55.00		1.00	1.12	9.770	10.75	237.62	0.650	0.000	5.00	18.960	12.32	132.4	0.0	899.9
60.00		1.00	1.14	9.951	10.95	234.31	0.650	0.000	5.00	18.530	12.04	131.8	0.0	879.3
65.00		1.00	1.16	10.120	11.13	230.74	0.650	0.000	5.00	18.100	11.77	131.0	0.0	858.7
70.00		1.00	1.17	10.279	11.31	226.96	0.650	0.000	5.00	17.670	11.49	129.9	0.0	838.1
75.00	Appurtenance(s)	1.00	1.19	10.430	11.47	222.99	0.650	0.000	5.00	17.240	11.21	128.6	0.0	817.6
79.00	Bot - Section 3	1.00	1.20	10.544	11.60	219.68	0.650	0.000	4.00	13.483	8.76	101.6	0.0	639.2
80.00		1.00	1.21	10.572	11.63	218.84	0.650	0.000	1.00	3.381	2.20	25.6	0.0	291.5
84.00	Top - Section 2	1.00	1.22	10.681	11.75	215.41	0.650	0.000	4.00	13.350	8.68	102.0	0.0	1151.0
85.00		1.00	1.22	10.708	11.78	218.04	0.650	0.000	1.00	3.295	2.14	25.2	0.0	130.4
90.00		1.00	1.24	10.838	11.92	213.62	0.650	0.000	5.00	16.215	10.54	125.7	0.0	641.5
95.00		1.00	1.25	10.962	12.06	209.07	0.650	0.000	5.00	15.785	10.26	123.7	0.0	624.3
100.00		1.00	1.27	11.081	12.19	204.40	0.650	0.000	5.00	15.356	9.98	121.7	0.0	607.2
105.00		1.00	1.28	11.195	12.31	199.62	0.650	0.000	5.00	14.926	9.70	119.5	0.0	590.0
110.00		1.00	1.29	11.305	12.44	194.74	0.650	0.000	5.00	14.496	9.42	117.2	0.0	572.9
115.00		1.00	1.30	11.412	12.55	189.76	0.650	0.000	5.00	14.066	9.14	114.8	0.0	555.7
118.00	Appurtenance(s)	1.00	1.31	11.474	12.62	186.73	0.650	0.000	3.00	8.233	5.35	67.5	0.0	325.2
120.00		1.00	1.32	11.514	12.67	184.70	0.650	0.000	2.00	5.403	3.51	44.5	0.0	213.4
123.00	Top - Section 3	1.00	1.32	11.574	12.73	181.62	0.650	0.000	3.00	7.975	5.18	66.0	0.0	314.9
125.00		1.00	1.33	11.614	12.78	179.55	0.650	0.000	2.00	5.231	3.40	43.4	0.0	145.0
128.00	Appurtenance(s)	1.00	1.33	11.672	12.84	176.43	0.650	0.000	3.00	7.717	5.02	64.4	0.0	214.0
130.00		1.00	1.34	11.710	12.88	174.33	0.650	0.000	2.00	5.059	3.29	42.4	0.0	140.2
135.00		1.00	1.35	11.803	12.98	169.03	0.650	0.000	5.00	12.347	8.03	104.2	0.0	342.2
138.00	Appurtenance(s)	1.00	1.35	11.858	13.04	165.82	0.650	0.000	3.00	7.202	4.68	61.1	0.0	199.6
140.00		1.00	1.36	11.894	13.08	163.67	0.650	0.000	2.00	4.715	3.06	40.1	0.0	130.6
145.00		1.00	1.37	11.982	13.18	158.24	0.650	0.000	5.00	11.487	7.47	98.4	0.0	318.2
149.00	Appurtenance(s)	1.00	1.38	12.051	13.26	153.85	0.650	0.000	4.00	8.880	5.77	76.5	0.0	245.9
150.00		1.00	1.38	12.068	13.27	152.75	0.650	0.000	1.00	2.177	1.42	18.8	0.0	60.3
155.00		1.00	1.39	12.152	13.37	147.20	0.650	0.000	5.00	10.627	6.91	92.3	0.0	294.2
158.00	Appurtenance(s)	1.00	1.39	12.201	13.42	143.84	0.650	0.000	3.00	6.170	4.01	53.8	0.0	170.7
<b>Totals:</b>									<b>158.00</b>			<b>3,765.4</b>		<b>24,336.9</b>

\* Cf Adjusted by Linear Load Ra Effect

## Discrete Appurtenance Forces

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa 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	158.00	Alu - 800 Filters	3	12.209	13.430	0.69	1.00	1.61	26.40	0.000	0.500	21.68	0.00	10.84
2	158.00	ALU - 800 MHz - RRU	6	12.209	13.430	0.67	1.00	10.01	318.00	0.000	0.500	134.43	0.00	67.22
3	158.00	Low Profile Platform	1	12.209	13.430	1.00	1.00	25.00	1200.00	0.000	0.500	335.75	0.00	167.87
4	158.00	RFS - ACU-A20-N - RET	3	12.209	13.430	0.50	1.00	0.21	3.00	0.000	0.500	2.82	0.00	1.41
5	158.00	ALU - 1900 MHz - RRU	3	12.209	13.430	0.67	1.00	7.64	132.00	0.000	0.500	102.58	0.00	51.29
6	158.00	ALU - TD-RRH8x20-25 -	3	12.209	13.430	0.67	1.00	8.14	210.00	0.000	0.500	109.33	0.00	54.66
7	158.00	Collar Mount	1	12.201	13.421	1.00	1.00	5.00	350.00	0.000	0.000	67.10	0.00	0.00
8	158.00	Site Pro PRK-1245 (kicker	1	12.201	13.421	1.00	1.00	9.50	464.91	0.000	0.000	127.50	0.00	0.00
9	158.00	Site Pro HRK14	1	12.201	13.421	1.00	1.00	8.13	302.36	0.000	0.000	109.11	0.00	0.00
10	158.00	RFS - APXVSP18-C-A20	3	12.209	13.430	0.83	1.00	19.95	171.00	0.000	0.500	267.87	0.00	133.93
11	158.00	Commscope -	3	12.209	13.430	0.83	1.00	22.60	174.00	0.000	0.500	303.58	0.00	151.79
12	149.00	DB844H90E-XY	12	12.051	13.256	0.88	0.80	32.21	168.00	0.000	0.000	426.96	0.00	0.00
13	149.00	Low Profile Platform	1	12.051	13.256	1.00	1.00	25.00	1200.00	0.000	0.000	331.41	0.00	0.00
14	138.00	Bias T	3	11.858	13.044	0.50	0.75	0.14	9.90	0.000	0.000	1.77	0.00	0.00
15	138.00	KRY 112 144/1	3	11.858	13.044	0.50	0.75	0.62	33.00	0.000	0.000	8.06	0.00	0.00
16	138.00	LNx-6515DS-A1M	3	11.858	13.044	0.63	0.75	21.68	149.40	0.000	0.000	282.77	0.00	0.00
17	138.00	APXV18-206516S-A20	3	11.858	13.044	0.58	0.75	6.34	56.10	0.000	0.000	82.64	0.00	0.00
18	138.00	Platform w/ HR & V-Brace	1	11.858	13.044	1.00	1.00	51.70	2246.00	0.000	0.000	674.37	0.00	0.00
19	138.00	APX16DWV-16DWVS-E-	6	11.858	13.044	0.50	0.75	19.48	244.20	0.000	0.000	254.06	0.00	0.00
20	128.00	Alcatel Lucent -	3	11.672	12.839	0.54	0.80	4.08	170.40	0.000	0.000	52.44	0.00	0.00
21	128.00	Alcatel Lucent -	3	11.672	12.839	0.54	0.80	5.40	165.00	0.000	0.000	69.37	0.00	0.00
22	128.00	Andrew - JAHH-65B-R3B	6	11.672	12.839	0.66	0.80	36.21	379.80	0.000	0.000	464.86	0.00	0.00
23	128.00	Low Profile Platform	1	11.672	12.839	0.80	0.80	17.60	1500.00	0.000	0.000	225.97	0.00	0.00
24	128.00	Andrew - DB846F65ZAXY	6	11.672	12.839	0.75	0.80	31.81	126.00	0.000	0.000	408.40	0.00	0.00
25	128.00	RFS - DB-T1-6Z-8AB-0Z -	2	11.672	12.839	0.40	0.80	3.84	37.80	0.000	0.000	49.30	0.00	0.00
26	118.00	7770	6	11.474	12.621	0.62	0.80	20.33	210.00	0.000	0.000	256.56	0.00	0.00
27	118.00	Low Profile Platform	1	11.474	12.621	0.80	0.80	17.60	1500.00	0.000	0.000	222.13	0.00	0.00
28	118.00	P65-16-XLH-RR	3	11.474	12.621	0.63	0.80	15.47	159.00	0.000	0.000	195.26	0.00	0.00
29	118.00	TT19-08BP111-001	3	11.474	12.621	0.54	0.80	1.03	48.00	0.000	0.000	12.99	0.00	0.00
30	118.00	LGP21401	6	11.474	12.621	0.54	0.80	4.15	84.60	0.000	0.000	52.36	0.00	0.00
31	118.00	RRUS-11	6	11.474	12.621	0.40	0.80	6.05	306.00	0.000	0.000	76.33	0.00	0.00
32	118.00	DC6-48-60-18	1	11.474	12.621	0.80	0.80	0.74	31.80	0.000	0.000	9.29	0.00	0.00
33	75.00	GPS	1	10.430	11.473	1.00	1.00	0.01	3.70	0.000	0.000	0.11	0.00	0.00

**Totals:** 12,180.37

5,739.17

## Total Applied Force Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

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
5.00		122.07	2051.05	0.00	0.00
10.00		119.78	2030.48	0.00	0.00
15.00		117.49	2009.91	0.00	0.00
20.00		122.24	1989.33	0.00	0.00
25.00		125.58	1968.76	0.00	0.00
30.00		127.85	1948.19	0.00	0.00
35.00		130.07	1927.61	0.00	0.00
36.00		25.94	383.05	0.00	0.00
39.00		78.67	1144.22	0.00	0.00
40.00		26.23	414.75	0.00	0.00
45.00		132.73	2049.07	0.00	0.00
50.00		132.76	1102.68	0.00	0.00
55.00		132.45	1082.11	0.00	0.00
60.00		131.84	1061.53	0.00	0.00
65.00		130.97	1040.96	0.00	0.00
70.00		129.87	1020.38	0.00	0.00
75.00	(1) attachments	128.68	1003.51	0.00	0.00
79.00		101.65	784.40	0.00	0.00
80.00		25.55	327.82	0.00	0.00
84.00		101.96	1296.20	0.00	0.00
85.00		25.22	166.64	0.00	0.00
90.00		125.65	822.92	0.00	0.00
95.00		123.72	805.77	0.00	0.00
100.00		121.66	788.63	0.00	0.00
105.00		119.47	771.48	0.00	0.00
110.00		117.17	754.34	0.00	0.00
115.00		114.77	737.19	0.00	0.00
118.00	(26) attachments	892.47	2773.49	0.00	0.00
120.00		44.48	267.22	0.00	0.00
123.00		66.00	395.69	0.00	0.00
125.00		43.44	198.88	0.00	0.00
128.00	(21) attachments	1334.74	2673.72	0.00	0.00
130.00		42.36	177.20	0.00	0.00
135.00		104.20	434.60	0.00	0.00
138.00	(19) attachments	1364.73	2993.60	0.00	0.00
140.00		40.10	151.76	0.00	0.00
145.00		98.41	370.99	0.00	0.00
149.00	(13) attachments	834.88	1656.15	0.00	0.00
150.00		18.78	62.92	0.00	0.00
155.00		92.33	307.38	0.00	0.00
158.00	(28) attachments	1635.57	3530.34	0.00	639.02
	<b>Totals:</b>	<b>9,504.54</b>	<b>47,476.95</b>	<b>0.00</b>	<b>639.02</b>

## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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** 23

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)
5.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.090	0.000	7.442	0.00	31.20
5.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.090	0.000	7.442	0.00	11.00
5.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.090	0.000	7.442	0.00	778.40
10.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.092	0.000	7.442	0.00	31.20
10.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.092	0.000	7.442	0.00	11.00
10.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.092	0.000	7.442	0.00	778.40
15.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.094	0.000	7.442	0.00	31.20
15.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.094	0.000	7.442	0.00	11.00
15.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.094	0.000	7.442	0.00	778.40
20.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.096	0.000	7.896	0.00	31.20
20.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.096	0.000	7.896	0.00	11.00
20.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.096	0.000	7.896	0.00	778.40
25.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.098	0.000	8.276	0.00	31.20
25.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.098	0.000	8.276	0.00	11.00
25.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.098	0.000	8.276	0.00	778.40
30.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.100	0.000	8.600	0.00	31.20
30.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.100	0.000	8.600	0.00	11.00
30.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.100	0.000	8.600	0.00	778.40
35.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.102	1.006	8.883	0.00	31.20
35.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.102	1.006	8.883	0.00	11.00
35.00	1.25" Reinforcing	Yes	5.00	0.000	3.00	1.25	0.00	0.102	1.006	8.883	0.00	778.40
36.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.103	1.010	8.936	0.00	6.24
36.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.103	1.010	8.936	0.00	2.20
36.00	1.25" Reinforcing	Yes	1.00	0.000	3.00	0.25	0.00	0.103	1.010	8.936	0.00	155.68
39.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.104	1.012	9.088	0.00	18.72
39.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.104	1.012	9.088	0.00	6.60
39.00	1.25" Reinforcing	Yes	3.00	0.000	3.00	0.75	0.00	0.104	1.012	9.088	0.00	467.04
40.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.042	0.000	9.137	0.00	6.24
40.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.042	0.000	9.137	0.00	2.20
45.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.042	0.000	9.366	0.00	31.20
45.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.042	0.000	9.366	0.00	11.00
50.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.043	0.000	9.576	0.00	31.20
50.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.043	0.000	9.576	0.00	11.00
55.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.044	0.000	9.770	0.00	31.20
55.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.044	0.000	9.770	0.00	11.00
60.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.045	0.000	9.951	0.00	31.20
60.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.045	0.000	9.951	0.00	11.00
65.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.046	0.000	10.120	0.00	31.20
65.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.046	0.000	10.120	0.00	11.00
70.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.047	0.000	10.279	0.00	31.20
70.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.047	0.000	10.279	0.00	11.00
75.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.048	0.000	10.430	0.00	31.20
75.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.048	0.000	10.430	0.00	11.00
79.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.049	0.000	10.544	0.00	24.96
79.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.049	0.000	10.544	0.00	8.80
80.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	10.572	0.00	6.24
80.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	10.572	0.00	2.20



## Linear Appurtenance Segment Forces (Factored)

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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

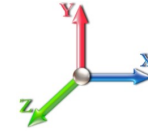


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**Load Case:** 1.0D + 1.0W 60 mph Wind

**Dead Load Factor** 1.00

**Wind Load Factor** 1.00



**Iterations** 23

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)
84.00	1 5/8" Coax	Yes	4.00	0.000	1.98	0.66	0.00	0.050	0.000	10.681	0.00	24.96
84.00	1 5/8" Fiber	Yes	4.00	0.000	0.00	0.00	0.00	0.050	0.000	10.681	0.00	8.80
85.00	1 5/8" Coax	Yes	1.00	0.000	1.98	0.17	0.00	0.050	0.000	10.708	0.00	6.24
85.00	1 5/8" Fiber	Yes	1.00	0.000	0.00	0.00	0.00	0.050	0.000	10.708	0.00	2.20
90.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.051	0.000	10.838	0.00	31.20
90.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.051	0.000	10.838	0.00	11.00
95.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.052	0.000	10.962	0.00	31.20
95.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.052	0.000	10.962	0.00	11.00
100.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.054	0.000	11.081	0.00	31.20
100.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.054	0.000	11.081	0.00	11.00
105.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.055	0.000	11.195	0.00	31.20
105.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.055	0.000	11.195	0.00	11.00
110.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.057	0.000	11.305	0.00	31.20
110.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.057	0.000	11.305	0.00	11.00
115.00	1 5/8" Coax	Yes	5.00	0.000	1.98	0.82	0.00	0.059	0.000	11.412	0.00	31.20
115.00	1 5/8" Fiber	Yes	5.00	0.000	0.00	0.00	0.00	0.059	0.000	11.412	0.00	11.00
118.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.060	0.000	11.474	0.00	18.72
118.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.060	0.000	11.474	0.00	6.60
120.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.061	0.000	11.514	0.00	12.48
120.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.061	0.000	11.514	0.00	4.40
123.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.062	0.000	11.574	0.00	18.72
123.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.062	0.000	11.574	0.00	6.60
125.00	1 5/8" Coax	Yes	2.00	0.000	1.98	0.33	0.00	0.063	0.000	11.614	0.00	12.48
125.00	1 5/8" Fiber	Yes	2.00	0.000	0.00	0.00	0.00	0.063	0.000	11.614	0.00	4.40
128.00	1 5/8" Coax	Yes	3.00	0.000	1.98	0.49	0.00	0.064	0.000	11.672	0.00	18.72
128.00	1 5/8" Fiber	Yes	3.00	0.000	0.00	0.00	0.00	0.064	0.000	11.672	0.00	6.60
<b>Totals:</b>											<b>0.0</b>	<b>7,151.8</b>

## Calculated Forces

**Structure:** CT46131-A-SBA      **Code:** EIA/TIA-222-G      **3/8/2018**  
**Site Name:** Easton-Everetts Rd      **Exposure:** C  
**Height:** 158.00 (ft)      **Crest Height:** 0.00  
**Base Elev:** 0.000 (ft)      **Site Class:** D - Stiff Soil  
**Gh:** 1.1      **Topography:** 1      **Struct Class:** II      **Page:** 36

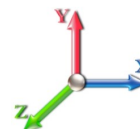


**Load Case:** 1.0D + 1.0W 60 mph Wind

**Iterations** 23

**Dead Load Factor** 1.00

**Wind Load Factor** 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	-47.47	-9.52	0.00	-1133.8	0.00	1133.85	4238.25	2119.12	9474.98	4744.53	0.00	0.000	0.000	0.154
5.00	-45.42	-9.43	0.00	-1086.2	0.00	1086.24	4191.13	2095.57	9193.31	4603.49	0.02	-0.040	0.000	0.150
10.00	-43.38	-9.34	0.00	-1039.0	0.00	1039.09	4142.79	2071.40	8912.98	4463.11	0.09	-0.081	0.000	0.147
15.00	-41.36	-9.25	0.00	-992.40	0.00	992.40	4093.23	2046.62	8634.14	4323.49	0.19	-0.121	0.000	0.144
20.00	-39.37	-9.15	0.00	-946.16	0.00	946.16	4042.45	2021.22	8356.93	4184.68	0.34	-0.162	0.000	0.140
25.00	-37.39	-9.04	0.00	-900.42	0.00	900.42	3990.44	1995.22	8081.53	4046.77	0.53	-0.203	0.000	0.137
30.00	-35.44	-8.93	0.00	-855.20	0.00	855.20	3937.21	1968.60	7808.07	3909.84	0.77	-0.244	0.000	0.133
35.00	-33.51	-8.81	0.00	-810.54	0.00	810.54	3882.75	1941.38	7536.73	3773.96	1.04	-0.285	0.000	0.129
36.00	-33.12	-8.79	0.00	-801.73	0.00	801.73	3871.71	1935.86	7482.72	3746.92	1.11	-0.293	0.000	0.128
36.00	-33.12	-8.79	0.00	-801.73	0.00	801.73	3871.71	1935.86	7482.72	3746.92	1.11	-0.293	0.000	0.128
39.00	-31.98	-8.72	0.00	-775.36	0.00	775.36	3838.31	1919.15	7321.27	3666.08	1.30	-0.318	0.000	0.220
40.00	-31.55	-8.71	0.00	-766.65	0.00	766.65	3827.07	1913.54	7267.64	3639.22	1.37	-0.333	0.000	0.219
45.00	-29.50	-8.60	0.00	-723.09	0.00	723.09	3812.30	1906.15	7197.58	3604.14	1.75	-0.404	0.000	0.208
50.00	-28.38	-8.50	0.00	-680.08	0.00	680.08	3755.07	1877.54	6931.57	3470.94	2.21	-0.476	0.000	0.204
55.00	-27.29	-8.39	0.00	-637.59	0.00	637.59	3696.63	1848.32	6668.16	3339.04	2.75	-0.545	0.000	0.198
60.00	-26.22	-8.28	0.00	-595.66	0.00	595.66	3636.96	1818.48	6407.52	3208.52	3.36	-0.613	0.000	0.193
65.00	-25.17	-8.16	0.00	-554.28	0.00	554.28	3576.08	1788.04	6149.79	3079.47	4.04	-0.682	0.000	0.187
70.00	-24.14	-8.05	0.00	-513.47	0.00	513.47	3513.96	1756.98	5895.14	2951.95	4.79	-0.751	0.000	0.181
75.00	-23.13	-7.93	0.00	-473.22	0.00	473.22	3450.63	1725.31	5643.71	2826.05	5.61	-0.819	0.000	0.174
79.00	-22.35	-7.83	0.00	-441.49	0.00	441.49	3399.08	1699.54	5445.00	2726.55	6.32	-0.874	0.000	0.169
80.00	-22.02	-7.81	0.00	-433.66	0.00	433.66	3386.07	1693.03	5395.67	2701.84	6.51	-0.888	0.000	0.167
84.00	-20.72	-7.70	0.00	-402.40	0.00	402.40	2492.17	1246.08	3964.65	1985.27	7.27	-0.942	0.000	0.211
85.00	-20.54	-7.69	0.00	-394.70	0.00	394.70	2483.20	1241.60	3929.49	1967.67	7.47	-0.955	0.000	0.209
90.00	-19.71	-7.58	0.00	-356.24	0.00	356.24	2437.73	1218.86	3754.97	1880.28	8.51	-1.030	0.000	0.198
95.00	-18.90	-7.46	0.00	-318.35	0.00	318.35	2391.17	1195.58	3582.65	1793.99	9.63	-1.103	0.000	0.185
100.00	-18.11	-7.35	0.00	-281.04	0.00	281.04	2343.52	1171.76	3412.67	1708.87	10.82	-1.173	0.000	0.172
105.00	-17.33	-7.23	0.00	-244.31	0.00	244.31	2294.79	1147.40	3245.17	1624.99	12.09	-1.239	0.000	0.158
110.00	-16.57	-7.11	0.00	-208.16	0.00	208.16	2244.98	1122.49	3080.27	1542.43	13.42	-1.302	0.000	0.142
115.00	-15.83	-6.99	0.00	-172.59	0.00	172.59	2194.08	1097.04	2918.13	1461.23	14.82	-1.360	0.000	0.125
118.00	-13.08	-6.04	0.00	-151.60	0.00	151.60	2163.02	1081.51	2822.22	1413.21	15.68	-1.392	0.000	0.113
120.00	-12.81	-6.00	0.00	-139.52	0.00	139.52	2136.45	1068.22	2751.59	1377.84	16.27	-1.413	0.000	0.107
123.00	-12.41	-5.93	0.00	-121.53	0.00	121.53	2094.98	1047.49	2645.31	1324.62	17.17	-1.442	0.000	0.098
123.00	-12.41	-5.93	0.00	-121.53	0.00	121.53	1330.70	665.35	1690.49	846.50	17.17	-1.442	0.000	0.153
125.00	-12.21	-5.88	0.00	-109.68	0.00	109.68	1319.70	659.85	1654.32	828.39	17.77	-1.459	0.000	0.142
128.00	-9.57	-4.48	0.00	-92.03	0.00	92.03	1302.88	651.44	1600.34	801.36	18.70	-1.494	0.000	0.122
130.00	-9.39	-4.44	0.00	-83.06	0.00	83.06	1291.45	645.73	1564.57	783.45	19.33	-1.515	0.000	0.113
135.00	-8.96	-4.33	0.00	-60.85	0.00	60.85	1262.12	631.06	1475.93	739.06	20.95	-1.561	0.000	0.089
138.00	-6.00	-2.89	0.00	-47.85	0.00	47.85	1244.00	622.00	1423.34	712.73	21.93	-1.584	0.000	0.072
140.00	-5.85	-2.85	0.00	-42.08	0.00	42.08	1231.70	615.85	1388.54	695.30	22.60	-1.597	0.000	0.065
145.00	-5.48	-2.74	0.00	-27.85	0.00	27.85	1200.20	600.10	1302.53	652.23	24.29	-1.625	0.000	0.047
149.00	-3.85	-1.86	0.00	-16.90	0.00	16.90	1174.22	587.11	1234.81	618.32	25.66	-1.641	0.000	0.031
150.00	-3.79	-1.84	0.00	-15.04	0.00	15.04	1167.61	583.81	1218.04	609.93	26.00	-1.644	0.000	0.028
155.00	-3.48	-1.74	0.00	-5.85	0.00	5.85	1133.94	566.97	1135.21	568.45	27.73	-1.654	0.000	0.013
158.00	0.00	-1.64	0.00	-0.64	0.00	0.64	1113.22	556.61	1086.36	543.99	28.77	-1.656	0.000	0.001

## Final Analysis Summary

<b>Structure:</b> CT46131-A-SBA	<b>Code:</b> EIA/TIA-222-G	3/8/2018
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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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### 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 + 1.6W 101 mph Wind	43.2	0.00	56.90	0.00	0.00	5165.14
0.9D + 1.6W 101 mph Wind	43.2	0.00	42.66	0.00	0.00	5110.94
1.2D + 1.0Di + 1.0Wi 50 mph Wind	11.2	0.00	90.00	0.00	0.00	1344.31
1.2D + 1.0E	2.4	0.00	56.97	0.00	0.00	304.40
0.9D + 1.0E	2.4	0.00	42.73	0.00	0.00	300.89
1.0D + 1.0W 60 mph Wind	9.5	0.00	47.47	0.00	0.00	1133.85

### 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 + 1.6W 101 mph Wind	-37.41	-39.68	0.00	-3536.1	0.00	-3536.1	3838.31	1919.1	7321.27	3666.08	39.00	0.975
0.9D + 1.6W 101 mph Wind	-27.82	-39.42	0.00	-3487.7	0.00	-3487.7	3838.31	1919.1	7321.27	3666.08	39.00	0.959
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-66.46	-10.27	0.00	-922.38	0.00	-922.38	3838.31	1919.1	7321.27	3666.08	39.00	0.269
1.2D + 1.0E	-15.05	-1.87	0.00	-53.24	0.00	-53.24	2094.98	1047.4	2645.31	1324.62	123.00	0.074
0.9D + 1.0E	-11.29	-1.84	0.00	-52.55	0.00	-52.55	2094.98	1047.4	2645.31	1324.62	123.00	0.071
1.0D + 1.0W 60 mph Wind	-31.98	-8.72	0.00	-775.36	0.00	-775.36	3838.31	1919.1	7321.27	3666.08	39.00	0.220

### 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 Reqd	Num Actual	MQ/I (kips)	phi Vn (kips)	Num Reqd	Num Actual	Pu (kips)	phi Pn (kips)	phi Tn (kips)	Ratio
0.0	36.0	(4) PLT-7.625x1.5(31mm Holi	378.4	5.68	37.1	468.5	37.1	13	15	415.0	37.1	12	12	468.52	503.5	468.37	1.000

## Base Plate Summary

<b>Structure:</b> CT46131-A-SB	<b>Code:</b> EIA/TIA-222-G	<b>3/8/2018</b>
<b>Site Name:</b> Easton-Everetts Rd	<b>Exposure:</b> C	
<b>Height:</b> 158.00 (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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Reactions	Base Plate	Anchor Bolts
Original Design	<b>Yield (ksi):</b> 50.00	<b>Bolt Circle:</b> 62.00
<b>Moment (kip-ft):</b> 2888.00	<b>Width (in):</b> 60.00	<b>Number Bolts:</b> 16.00
<b>Axial (kip):</b> 26.60	<b>Style:</b> Clipped	<b>Bolt Type:</b> 2.25" 18J
<b>Shear (kip):</b> 30.40	<b>Polygon Sides:</b> 4.00	<b>Bolt Diameter (in):</b> 2.25
Analysis	<b>Clip Length (in):</b> 10.00	<b>Yield (ksi):</b> 75.00
<b>Moment (kip-ft):</b> 5165.14	<b>Effective Len (in):</b> 8.42	<b>Ultimate (ksi):</b> 100.00
<b>Axial (kip):</b> 90.00	<b>Moment (kip-in):</b> 743.14	<b>Arrangement:</b> Clustered
<b>Shear (kip):</b> 43.18	<b>Allow Stress (ksi):</b> 67.50	<b>Cluster Dist (in):</b> 6.00
	<b>Applied Stress (ksi):</b> -1.88661806164581	<b>Start Angle (deg):</b> 45.00
<b>Moment Design %:</b> 178.85	<b>Stress Ratio:</b> 0.74	Compression
		<b>Force (kip):</b> 205.17
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.81
		Tension
		<b>Force (kip):</b> 193.92
		<b>Allowable (kip):</b> 260.00
		<b>Ratio:</b> 0.77



Pier Foundation Design For Monopole			Date
			3/5/2018
Customer Name:	Sprint Nextel	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	158
Site Number:	CT46131-A-SBA	Engineer Name:	M. Baker
Engr. Number:	48598	Engineer Login ID:	

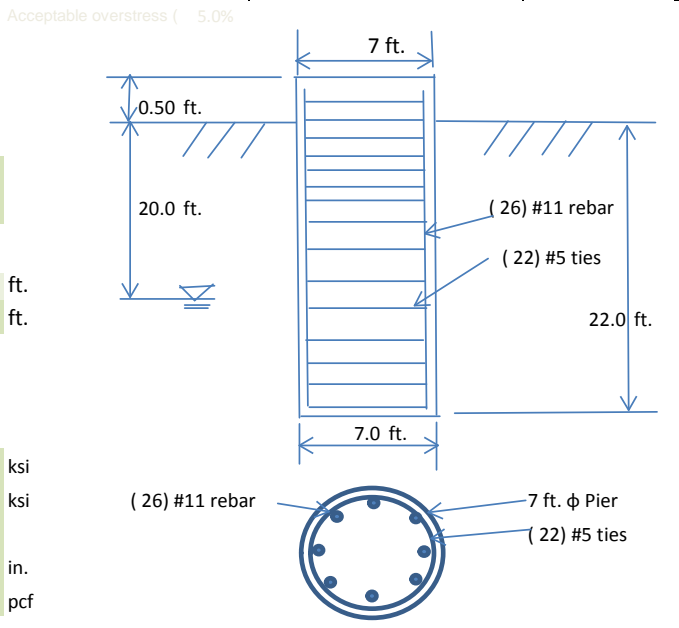
**Foundation Info Obtained from:** Drawings/Calculations  
**Structure Type:** Monopole  
**Analysis or Design?** Analysis

**Base Reactions (Factored):**  
 Axial Load (Kips): 56.9 Shear Force (Kips): 43.2  
 Uplift Force (Kips): 0.0 Moment (Kips-ft): 5165.1

**Foundation Geometries:**  
 Mods required -Yes/No?: No ft.  
 Diameter of Pier (ft.): 7.0 Depth of Base B. G. S.: 22.0 ft.  
 Pier Height A. G. (ft.): 0.50

**Material Properties and Reabr Info:**  
 Concrete Strength (psi): 3000 Steel Elastic Modulus: 29000 ksi  
 Vertical bar yield (ksi): 60 Tie steel yield strength: 60 ksi  
 Vertical Rebar Size #: 11 Tie / Stirrup Size #: 5  
 Qty. of Vertical Rebars: 26 Tie Spacing: 18.0 in.  
 Concrete Cover (in.): 3 Concrete unit weight: 150.0 pcf

**Soil Design Parameters:**  
 Water Table B.G.S. (ft): 20.0 Unit weight of water: 62.4 psf  
 Ratio of Uplift/Axial Skin Friction: 1.0 Pullout failure Angle: 30 (°)  
 Skin Frictions are to be obtained from: Soil Report



**Monopole Pier Foundation**

8000

Depth of Layers (ft)		$\gamma_{soil}$ (pcf)	$\phi$ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types					
Top	Bottom											
0.0	4.0	115	0			0	Sand					
4.0	20.0	125	38		150	0	Sand					
20.0	25.0	125	38		550	4000	Sand					
25.0	30.0											

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75
Total Dry Soil Volume from Conical Failure (cu. Ft.):	6742	Dry Soil Weight from Conical Failure:	829 Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	28	Buoyant Soil Weight from Conical Failure (Kips):	0
Total Dry Concrete Volume (cu. Ft.):	789	Total Dry Concrete Weight:	118.3 Kips
Total Buoyant Concrete Volume (cu. Ft.):	77.0	Total Buoyant Concrete Weight:	6.74 Kips
Total Effective Concrete Weight (Kips):	125.1	Total Effective Soil Weight:	829.5 Kips
Total Effective Vertical Load on Base (Kips):	86.6		

**Check Soil Capacities:**

Allowable Foundation Overturning Resistance (kips-ft.):	6333.2	>	Design Factored Moment (kips-ft):	5831	Usage	0.92	OK!
Factor of Safety of Passive Soil Resistance against Moment:	1.09	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

Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31	Usage		
Calculated Moment Capacity (Mn, Kips-Ft):	6590.1	>	Design Factored Moment (Mu, K-Ft):	5390.0	0.82	OK!
Calculated Shear Capacity (Kips):	970.0	>	Design Factored Shear (Kips):	584.7	0.60	OK!
Calculated Tension Capacity (Tn, Kips):	2190.2	>	Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7295	>	Design Factored Axial Load (Pu Kips):	56.9	0.01	OK!
Moment & Axial Strength Combination:	0.82	OK!	Max. Allowable Tie/Stirrup Spacing:	8.86	in.	
Pier Reinforcement Ratio:	0.007	Reinforcement Ratio is satisfied per ACI				

