



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

July 21, 2022

Denise Sabo
Northeast Site Solutions
420 Main Street, Suite 1
Sturbridge, MA 01566-1359
denise@northeastitesolutions.com

RE: **TS-DISH-076-220523** - Dish Wireless, LLC request for an order to approve tower sharing at an existing telecommunications facility located at 17 Cottage Road, Madison, Connecticut.

Dear Ms. Sabo:

The Connecticut Siting Council (Council) is in receipt of your correspondence of July 18, 2022 submitted in response to the Council's June 17, 2022 notification of an incomplete request for tower sharing with regard to the above-referenced matter.

The submission renders the request for tower sharing complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Melanie A. Bachman'.

Melanie A. Bachman
Executive Director

MAB/IN/er

From: Deborah Chase <deborah@northeastsitesolutions.com>
Sent: Monday, July 18, 2022 12:14 PM
To: CSC-DL Siting Council <Siting.Council@ct.gov>; Bachman, Melanie <Melanie.Bachman@ct.gov>; Fontaine, Lisa <Lisa.Fontaine@ct.gov>; Robidoux, Evan <Evan.Robidoux@ct.gov>
Cc: Denise <denise@northeastsitesolutions.com>
Subject: FW: BOHVN00048A Updated SA - SBA DISH Incomplete-S-DISH-076-220523

EXTERNAL EMAIL: This email originated from outside of the organization. Do not click any links or open any attachments unless you trust the sender and know the content is safe.

Siting Council

Please see attached the updated Tower Share Application for the above referenced site. Per the attached incomplete letter, the new application includes the Structural Analysis for the facility that includes proposed equipment by Verizon and other entities that are located at this facility. We have also included the Structural Analysis as a separate attachment. Please let us know if this renders the application request complete for continued review. Thank you very much

Deborah Chase

Senior Project Coordinator & Analyst

Mobile: 860-490-8839

🌱 Save a tree. Refuse. Reduce. Reuse. Recycle.





Tower Engineering Solutions

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

Structural Analysis Report

Existing 130 ft Rohn Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13615-A

Customer Site Name: Madison 7, CT

Carrier Name: Dish Wireless (App#: 169187-1)

Carrier Site ID / Name: BOHVN00048A / 0

Site Location: 17 Cottage Road

Madison, Connecticut

New Haven County

Latitude: 41.275916

Longitude: -72.561444

Exp. 01/31/2024



06/23/2022

Analysis Result:

Max Structural Usage: 83.6% [Pass]

Max Foundation Usage: 67.0% [Pass]

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

Report Prepared By: Mohammed Al Rubaye



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1320 Greenway Drive, Suite 600, Irving, Texas 75038

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Report Prepared By: Mohammed Al Rubaye

Introduction

The purpose of this report is to summarize the analysis results on the 130 ft Rohn 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

Tower Drawings	Radian Communication Services, Drawing No. A070592 1-3 dated 10/1/2007.
Foundation Drawing	Radian Communication Services, Drawing No. A070593 1-3 dated 10/1/2007.
Geotechnical Report	JGI, Project No. J2075395 dated 9/10/2007.
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. 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.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 130.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_5 = 0.173, S_1 = 0.06$

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
1	127.0	3	Powerwave P90-15-XLH-RR - Panel	Platform (Valmont LWRM) w/ Hand Rail and Mods	(12) 1 5/8" (1) 1/2" (2) 1/2" Fiber (2) 3" Flex Conduit* (6) 3/4" DC Power	AT&T
2		3	Kathrein 800-10964 - Panel			
3		3	Quintel QS46512-2 - Panel			
4		6	Powerwave TT19-08BP111-001 - TMA			
5		6	Kaelus DBC0061F1V51-2 - Diplexer			
6		3	Ericsson RRUS 8843 B2 B66A - RRU			
7		3	Ericsson RRUS 32 - RRU			
8		3	Ericsson 4449 B5/B12 - RRU			
9		3	Raycap DC6-48-60-18-8F			
10	117.0	3	Ericsson Air 21 B2A/B4P - Panel	12.5' Low Profile Platform w/ Hand Rail and Mods	(9) 1 5/8" (4) 1 5/8" Fiber	T-Mobile
11		3	RFS APXVAARR24_43-U-NA20 - Panel			
12		3	Ericsson Air 21 B4A/B2P - Panel			
13		3	Ericsson KRY 112 144/1 - TMA			
14		3	Ericsson Radio 4449 B71+B12 - RRU			
15	107.0	6	JMA Wireless MX06FRO660-03 - Panel	Low Profile Platform + (3) JMA Wireless 91900314-02 (Dual Mount Bracket)	(10) 1 5/8" (2) 1 5/8" Hybrid	Verizon
16		3	Samsung MT6407-77A - Panel			
17		3	Commscope SBNHH-1D65B - Panel			
18		3	Samsung RF4439d-25A			
19		3	Samsung RF4440d-13A			
20		1	Raycap RRFDC-6627-PF-48			

* (2) 3" flex conduit housing (2) 3/4" and (1) 1/2" cables

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
21	90.0	3	JMA Wireless - MX08FRO665-21 - Panel	(1) Commscope MC-PK8-DSH (Platform w/HRK)	(1) 1.411" Fiber	Dish Wireless
22		3	Fujitsu TA08025-B604 RRU			
23		3	Fujitsu TA08025-B605 RRU			
24		1	Raycap RDIDC-9181-PF-48 OVP			

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:	53.9%	75.0%	83.6%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)
Original Design Reactions	5098.4
Analysis Reactions	3413.4
% of Design Reactions	67.0%

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 TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.5752 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 TIA-222 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 structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 53.95% at 0.0ft

Structure: CT13615-A-SBA
Site Name: Madison 7, CT
Height: 130.00 (ft)
Base Elev: 0.000 (ft)

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

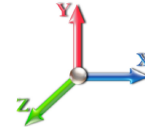
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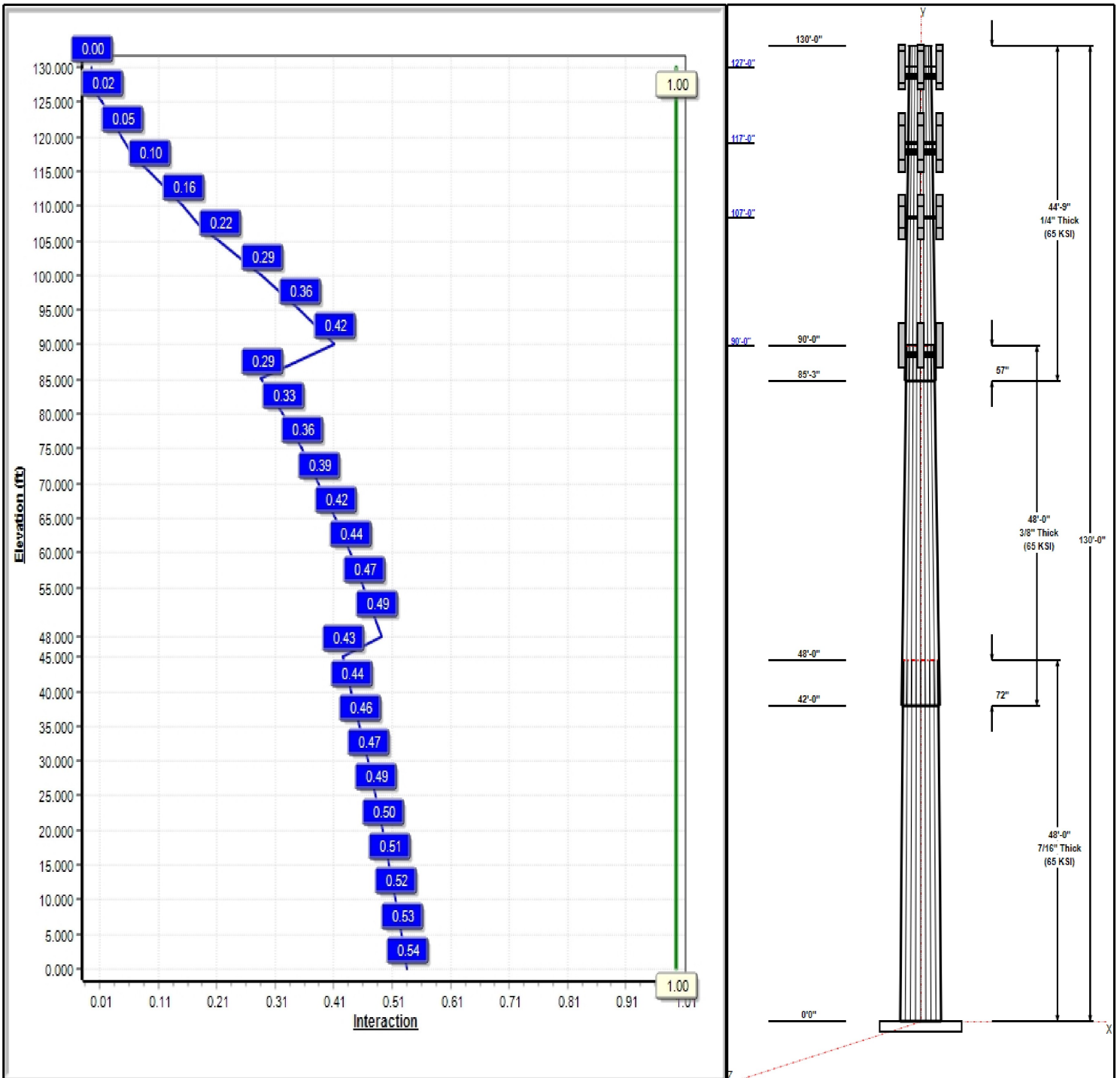
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 20

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Structure: CT13615-A-SBA

Type: Tapered
Site Name: Madison 7, CT
Height: 130.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24800

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Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	48.00	46.10	58.00	0.438		0.24800	65
2	48.00	36.43	48.33	0.375	Slip	0.24800	65
3	44.75	27.01	38.11	0.250	Slip	0.24800	65

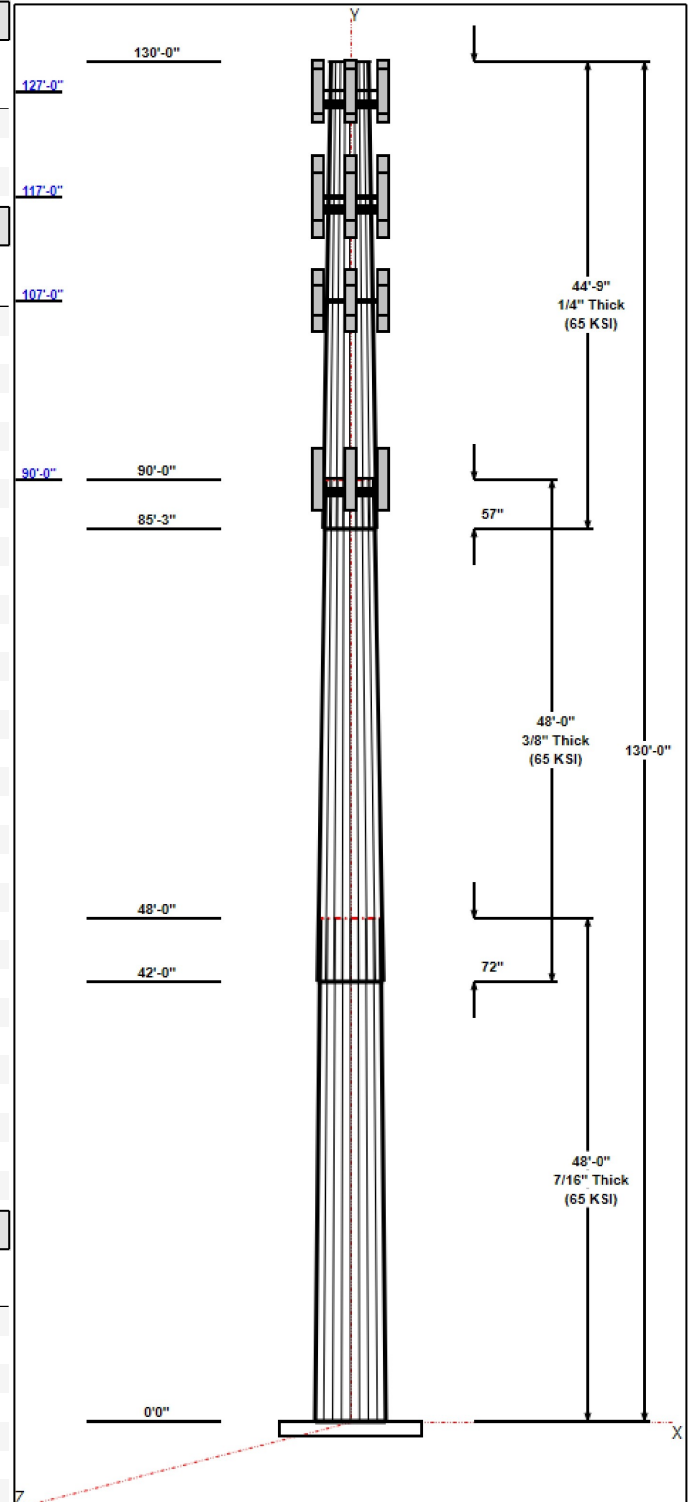
Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
127.00	127.00	1	Platform w/ Hand Rail	AT&T
127.00	127.00	3	800-10964	AT&T
127.00	127.00	6	DBC0061F1V51-2	AT&T
127.00	127.00	3	RRUS 8843 B2 B66A	AT&T
127.00	127.00	3	4449 B5/B12	AT&T
127.00	127.00	3	Quintel QS46512-2	AT&T
127.00	127.00	3	Ericsson RRUS 32	AT&T
127.00	127.00	3	Powerwave	AT&T
127.00	127.00	6	Powerwave	AT&T
127.00	127.00	3	Raycap DC6-48-60-18-8F	AT&T
127.00	127.00	1	HRK14	AT&T
117.00	117.00	1	12.5' Low Profile Platform	T-Mobile
117.00	117.00	3	Ericsson Air 21 B2A/B4P	T-Mobile
117.00	117.00	3	APXVAARR24_43-U-NA20	T-Mobile
117.00	117.00	3	Ericsson Air 21 B4A/B2P	T-Mobile
117.00	117.00	1	Sitepro PRK-1245	T-Mobile
117.00	117.00	1	Sitepro HRK12-U	T-Mobile
117.00	117.00	3	Ericsson KRY 112 144/1	T-Mobile
117.00	117.00	3	Ericsson Radio 4449	T-Mobile
107.00	107.00	1	Low Profile Platform	Verizon
107.00	107.00	3	Commscope	Verizon
107.00	107.00	6	JMA Wireless	Verizon
107.00	107.00	3	Samsung MT6407-77A	Verizon
107.00	107.00	3	Samsung RF4439d-25A	Verizon
107.00	107.00	3	Samsung RF4440d-13A	Verizon
107.00	107.00	1	Raycap	Verizon
90.00	90.00	3	MX08FRO665-21	Dish Wireless
90.00	90.00	3	Fujitsu TA08025-B604	Dish Wireless
90.00	90.00	3	Fujitsu TA08025-B605	Dish Wireless
90.00	90.00	1	Raycap	Dish Wireless
90.00	90.00	1	MC-PK8-DSH	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	127.00	Inside	1 5/8"	AT&T
0.00	127.00	Inside	1/2" Coax	AT&T
0.00	127.00	Inside	1/2" Fiber	AT&T
0.00	127.00	Inside	3" Flex Conduit	AT&T
0.00	127.00	Inside	3/4" DC Power	AT&T
0.00	117.00	Inside	1 5/8" Coax	T-Mobile
0.00	117.00	Inside	1 5/8" Fiber	T-Mobile
0.00	107.00	Inside	1 5/8" Coax	Verizon
0.00	107.00	Inside	1 5/8" Hybrid	Verizon
0.00	90.00	Outside	1.411" Fiber	Dish Wireless

Anchor Bolts



Structure: CT13615-A-SBA

Type: Tapered
Site Name: Madison 7, CT
Height: 130.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.24800

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Qty	Specifications	Grade (ksi)	Arrangement
26	1.5" F1554 105	105.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	67.0	50.0	Round

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	3413.4	35.9	50.2
0.9D + 1.6W 101 mph Wind	3392.0	35.9	37.7
1.2D + 1.0Di + 1.0Wi 50 mph Wind	859.8	9.2	75.3
1.2D + 1.0E	190.3	1.8	50.3
0.9D + 1.0E	189.0	1.8	37.7
1.0D + 1.0W 60 mph Wind	750.1	7.9	41.9

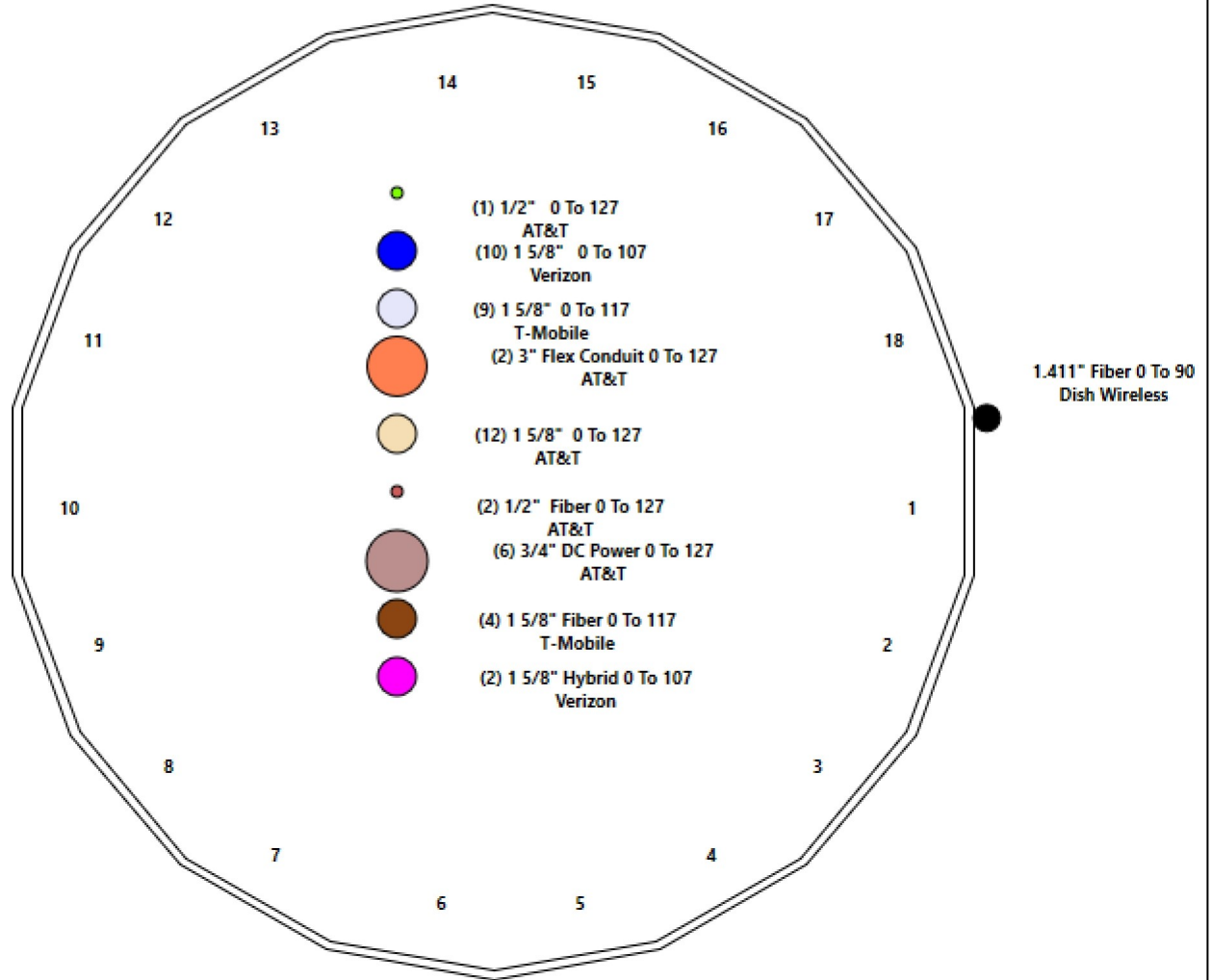
Structure: CT13615-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Madison 7, CT
Height: 130.00 (ft)

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Shaft Properties

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	48.000	0.4375	65		0.00	11,705
2	18	48.000	0.3750	65	Slip	72.00	8,166
3	18	44.750	0.2500	65	Slip	57.00	3,904
Total Shaft Weight:							23,775

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	58.00	0.00	79.93	33461.19	21.97	132.57	46.10	48.00	63.40	16698.8	17.17	105.3	0.248000
2	48.33	42.00	57.08	16587.69	21.32	128.89	36.43	90.00	42.91	7048.10	15.72	97.15	0.248000
3	38.11	85.25	30.04	5439.48	25.47	152.43	27.01	130.00	21.23	1921.07	17.64	108.0	0.248000

Load Summary

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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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	127.00	Platform w/ Hand Rail	1	1600.00	32.10	1.00	3665.18	59.648	1.00	0.00	0.00
2	127.00	800-10964	3	83.80	10.00	0.72	309.83	11.276	0.72	0.00	0.00
3	127.00	DBC0061F1V51-2	6	26.00	0.43	0.67	40.64	0.711	0.67	0.00	0.00
4	127.00	RRUS 8843 B2 B66A	3	72.00	1.64	0.67	118.07	2.129	0.67	0.00	0.00
5	127.00	4449 B5/B12	3	73.00	1.97	0.67	126.98	2.508	0.67	0.00	0.00
6	127.00	Quintel QS46512-2	3	75.00	5.55	0.96	232.82	6.552	0.96	0.00	0.00
7	127.00	Ericsson RRUS 32	3	53.00	2.74	0.67	139.21	3.456	0.67	0.00	0.00
8	127.00	Powerwave P90-15-XLH-RR	3	53.00	8.16	0.75	215.33	10.916	0.75	0.00	0.00
9	127.00	Powerwave TT19-08BP111-001 TMA	6	16.00	0.64	0.67	35.90	1.223	0.67	0.00	0.00
10	127.00	Raycap DC6-48-60-18-8F	3	32.80	1.47	1.00	93.60	2.158	1.00	0.00	0.00
11	127.00	HRK14	1	302.36	8.13	1.00	655.26	15.944	1.00	0.00	0.00
12	117.00	12.5' Low Profile Platform	1	1600.00	29.00	1.00	3302.39	35.840	1.00	0.00	0.00
13	117.00	Ericsson Air 21 B2A/B4P	3	91.50	6.09	0.86	255.46	7.159	0.86	0.00	0.00
14	117.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	546.65	22.092	0.70	0.00	0.00
15	117.00	Ericsson Air 21 B4A/B2P	3	91.00	6.09	0.86	254.96	7.159	0.86	0.00	0.00
16	117.00	Sitepro PRK-1245	1	228.00	9.50	1.00	383.26	19.204	1.00	0.00	0.00
17	117.00	Sitepro HRK12-U	1	418.00	9.85	1.00	816.49	21.923	1.00	0.00	0.00
18	117.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.67	21.52	0.874	0.67	0.00	0.00
19	117.00	Ericsson Radio 4449 B71+B12	3	74.00	1.65	0.67	140.15	2.173	0.67	0.00	0.00
20	107.00	Low Profile Platform	1	1200.00	33.32	1.00	2212.35	60.305	1.00	0.00	0.00
21	107.00	Commscope SBNHH-1D65B	3	40.60	8.08	0.83	234.27	9.326	0.83	0.00	0.00
22	107.00	JMA Wireless MX06FRO660-03	6	46.00	9.87	0.87	304.72	11.198	0.87	0.00	0.00
23	107.00	Samsung MT6407-77A	3	79.40	4.69	0.70	194.16	5.604	0.70	0.00	0.00
24	107.00	Samsung RF4439d-25A	3	62.80	1.46	0.67	103.53	1.936	0.67	0.00	0.00
25	107.00	Samsung RF4440d-13A	3	62.80	1.46	0.67	103.53	1.936	0.67	0.00	0.00
26	107.00	Raycap RRFDC-6627-PF-48	1	32.00	4.06	1.00	139.98	4.855	1.00	0.00	0.00
27	90.00	MX08FRO665-21	3	64.50	12.49	0.74	340.89	13.882	0.74	0.00	0.00
28	90.00	Fujitsu TA08025-B604	3	63.90	1.96	0.76	112.01	2.493	0.76	0.00	0.00
29	90.00	Fujitsu TA08025-B605	3	75.00	1.96	0.67	124.70	2.493	0.67	0.00	0.00
30	90.00	Raycap RDIDC-9181-PF-48	1	21.90	2.01	1.00	72.50	2.550	1.00	0.00	0.00
31	90.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3330.78	82.472	1.00	0.00	0.00
Totals:			84	11,518.56			27,868.75				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	127.00	(12) 1 5/8"	0.00	Inside
0.00	127.00	(1) 1/2" Coax	0.00	Inside
0.00	127.00	(2) 1/2" Fiber	0.00	Inside
0.00	127.00	(2) 3" Flex Conduit	0.00	Inside
0.00	127.00	(6) 3/4" DC Power	0.00	Inside
0.00	117.00	(9) 1 5/8" Coax	0.00	Inside
0.00	117.00	(4) 1 5/8" Fiber	0.00	Inside
0.00	107.00	(10) 1 5/8" Coax	0.00	Inside
0.00	107.00	(2) 1 5/8" Hybrid	0.00	Inside
0.00	90.00	(1) 1.411" Fiber	1.41	Outside

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		

Shaft Section Properties

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in ³)	Weight (lb)
0.00		0.4375	58.000	79.930	33461.2	21.97	132.57	75.6	1136.	0.0
5.00		0.4375	56.760	78.208	31345.0	21.47	129.74	76.2	1087.	1345.3
10.00		0.4375	55.520	76.486	29320.0	20.97	126.90	76.7	1040.	1316.0
15.00		0.4375	54.280	74.764	27384.1	20.47	124.07	77.3	993.7	1286.7
20.00		0.4375	53.040	73.043	25535.3	19.97	121.23	77.9	948.2	1257.4
25.00		0.4375	51.800	71.321	23771.7	19.47	118.40	78.5	903.9	1228.1
30.00		0.4375	50.560	69.599	22091.3	18.97	115.57	79.1	860.6	1198.8
35.00		0.4375	49.320	67.877	20491.9	18.47	112.73	79.7	818.4	1169.5
40.00		0.4375	48.080	66.155	18971.7	17.97	109.90	80.3	777.2	1140.2
42.00	Bot - Section 2	0.4375	47.584	65.466	18385.3	17.77	108.76	80.5	761.0	447.9
45.00		0.4375	46.840	64.433	17528.6	17.47	107.06	80.9	737.1	1241.2
48.00	Top - Section 1	0.3750	46.846	55.310	15091.1	20.62	124.92	0.0	0.0	1221.6
50.00		0.3750	46.350	54.720	14613.0	20.38	123.60	77.4	621.0	374.4
55.00		0.3750	45.110	53.244	13462.3	19.80	120.29	78.1	587.8	918.4
60.00		0.3750	43.870	51.768	12373.5	19.22	116.99	78.8	555.5	893.3
65.00		0.3750	42.630	50.292	11345.1	18.63	113.68	79.5	524.2	868.2
70.00		0.3750	41.390	48.816	10375.4	18.05	110.37	80.2	493.7	843.1
75.00		0.3750	40.150	47.340	9462.5	17.47	107.07	80.9	464.2	818.0
80.00		0.3750	38.910	45.865	8604.8	16.89	103.76	81.5	435.6	792.9
85.00		0.3750	37.670	44.389	7800.6	16.30	100.45	82.2	407.9	767.8
85.25	Bot - Section 3	0.3750	37.608	44.315	7761.8	16.27	100.29	82.3	406.5	37.7
90.00	Top - Section 2	0.2500	36.930	29.105	4947.3	24.64	147.72	0.0	0.0	1182.9
95.00		0.2500	35.690	28.121	4462.4	23.76	142.76	73.5	246.3	486.8
100.00		0.2500	34.450	27.137	4010.2	22.89	137.80	74.5	229.3	470.1
105.00		0.2500	33.210	26.153	3589.6	22.01	132.84	75.5	212.9	453.3
107.00		0.2500	32.714	25.759	3430.0	21.66	130.86	75.9	206.5	176.6
110.00		0.2500	31.970	25.169	3199.5	21.14	127.88	76.5	197.1	259.9
115.00		0.2500	30.730	24.185	2838.8	20.26	122.92	77.6	181.9	419.9
117.00		0.2500	30.234	23.791	2702.4	19.91	120.94	78.0	176.1	163.3
120.00		0.2500	29.490	23.201	2506.2	19.39	117.96	78.6	167.4	239.9
125.00		0.2500	28.250	22.217	2200.7	18.51	113.00	79.6	153.4	386.4
127.00		0.2500	27.754	21.824	2085.8	18.16	111.02	80.0	148.0	149.9
130.00		0.2500	27.010	21.233	1921.1	17.64	108.04	80.7	140.1	219.8

23775.2

Wind Loading - Shaft

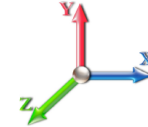
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

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		1.00	0.85	21.088	23.20	457.01	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	447.24	0.650	0.000	5.00	24.277	15.78	585.7	0.0	1614.3
10.00		1.00	0.85	21.088	23.20	437.47	0.650	0.000	5.00	23.753	15.44	573.0	0.0	1579.2
15.00		1.00	0.85	21.088	23.20	427.70	0.650	0.000	5.00	23.228	15.10	560.4	0.0	1544.0
20.00		1.00	0.90	22.375	24.61	430.49	0.650	0.000	5.00	22.703	14.76	581.1	0.0	1508.9
25.00		1.00	0.95	23.451	25.80	430.42	0.650	0.000	5.00	22.179	14.42	595.0	0.0	1473.7
30.00		1.00	0.98	24.369	26.81	428.26	0.650	0.000	5.00	21.654	14.08	603.7	0.0	1438.6
35.00		1.00	1.01	25.172	27.69	424.59	0.650	0.000	5.00	21.129	13.73	608.5	0.0	1403.4
40.00		1.00	1.04	25.890	28.48	419.77	0.650	0.000	5.00	20.605	13.39	610.3	0.0	1368.2
42.00	Bot - Section 2	1.00	1.05	26.157	28.77	417.58	0.650	0.000	2.00	8.095	5.26	242.2	0.0	537.5
45.00		1.00	1.07	26.540	29.19	414.05	0.650	0.000	3.00	12.175	7.91	369.7	0.0	1489.5
48.00	Top - Section 1	1.00	1.08	26.903	29.59	410.25	0.650	0.000	3.00	11.987	7.79	368.9	0.0	1466.0
50.00		1.00	1.09	27.135	29.85	414.29	0.650	0.000	2.00	7.886	5.13	244.8	0.0	449.3
55.00		1.00	1.12	27.685	30.45	407.27	0.650	0.000	5.00	19.348	12.58	612.8	0.0	1102.1
60.00		1.00	1.14	28.197	31.02	399.72	0.650	0.000	5.00	18.823	12.24	607.2	0.0	1072.0
65.00		1.00	1.16	28.676	31.54	391.71	0.650	0.000	5.00	18.299	11.89	600.3	0.0	1041.9
70.00		1.00	1.17	29.127	32.04	383.29	0.650	0.000	5.00	17.774	11.55	592.3	0.0	1011.7
75.00		1.00	1.19	29.553	32.51	374.52	0.650	0.000	5.00	17.250	11.21	583.2	0.0	981.6
80.00		1.00	1.21	29.958	32.95	365.43	0.650	0.000	5.00	16.725	10.87	573.2	0.0	951.5
85.00		1.00	1.22	30.342	33.38	356.05	0.650	0.000	5.00	16.200	10.53	562.3	0.0	921.3
85.25	Bot - Section 3	1.00	1.22	30.361	33.40	355.57	0.650	0.000	0.25	0.796	0.52	27.7	0.0	45.3
90.00	Top - Section 2	1.00	1.24	30.710	33.78	346.40	0.650	0.000	4.75	15.080	9.80	529.8	0.0	1419.5
95.00		1.00	1.25	31.061	34.17	341.30	0.650	0.000	5.00	15.363	9.99	545.9	0.0	584.2
100.00		1.00	1.27	31.399	34.54	331.23	0.650	0.000	5.00	14.838	9.64	533.0	0.0	564.1
105.00		1.00	1.28	31.723	34.89	320.95	0.650	0.000	5.00	14.313	9.30	519.4	0.0	544.0
107.00	Appurtenance(s)	1.00	1.28	31.849	35.03	316.79	0.650	0.000	2.00	5.578	3.63	203.3	0.0	212.0
110.00		1.00	1.29	32.035	35.24	310.48	0.650	0.000	3.00	8.210	5.34	300.9	0.0	311.9
115.00		1.00	1.30	32.336	35.57	299.84	0.650	0.000	5.00	13.264	8.62	490.7	0.0	503.8
117.00	Appurtenance(s)	1.00	1.31	32.454	35.70	295.54	0.650	0.000	2.00	5.159	3.35	191.5	0.0	195.9
120.00		1.00	1.32	32.627	35.89	289.03	0.650	0.000	3.00	7.581	4.93	283.0	0.0	287.8
125.00		1.00	1.33	32.909	36.20	278.07	0.650	0.000	5.00	12.215	7.94	459.9	0.0	463.6
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	273.65	0.650	0.000	2.00	4.739	3.08	179.0	0.0	179.8
130.00		1.00	1.34	33.182	36.50	266.97	0.650	0.000	3.00	6.951	4.52	263.9	0.0	263.7
Totals:									130.00			14,602.2		28,530.3

Discrete Appurtenance Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	127.00	800-10964	3	33.019	36.321	0.54	0.75	16.20	301.68	0.000	0.000	941.43	0.00	0.00
2	127.00	Platform w/ Hand Rail	1	33.019	36.321	1.00	1.00	32.10	1920.00	0.000	0.000	1865.44	0.00	0.00
3	127.00	Quintel QS46512-2	3	33.019	36.321	0.72	0.75	11.99	270.00	0.000	0.000	696.66	0.00	0.00
4	127.00	Ericsson RRUS 32	3	33.019	36.321	0.50	0.75	4.13	190.80	0.000	0.000	240.04	0.00	0.00
5	127.00	HRK14	1	33.019	36.321	1.00	1.00	8.13	362.83	0.000	0.000	472.46	0.00	0.00
6	127.00	Raycap DC6-48-60-18-8F	3	33.019	36.321	1.00	1.00	4.41	118.08	0.000	0.000	256.28	0.00	0.00
7	127.00	DBC0061F1V51-2	6	33.019	36.321	0.50	0.75	1.30	187.20	0.000	0.000	75.34	0.00	0.00
8	127.00	RRUS 8843 B2 B66A	3	33.019	36.321	0.50	0.75	2.47	259.20	0.000	0.000	143.67	0.00	0.00
9	127.00	4449 B5/B12	3	33.019	36.321	0.50	0.75	2.97	262.80	0.000	0.000	172.58	0.00	0.00
10	127.00	Powerwave	3	33.019	36.321	0.56	0.75	13.77	190.80	0.000	0.000	800.22	0.00	0.00
11	127.00	Powerwave	6	33.019	36.321	0.50	0.75	1.93	115.20	0.000	0.000	112.14	0.00	0.00
12	117.00	Ericsson Radio 4449	3	32.454	35.699	0.50	0.75	2.49	266.40	0.000	0.000	142.08	0.00	0.00
13	117.00	Ericsson KRY 112 144/1	3	32.454	35.699	0.50	0.75	0.62	39.60	0.000	0.000	35.30	0.00	0.00
14	117.00	Sitepro HRK12-U	1	32.454	35.699	1.00	1.00	9.85	501.60	0.000	0.000	562.62	0.00	0.00
15	117.00	Sitepro PRK-1245	1	32.454	35.699	1.00	1.00	9.50	273.60	0.000	0.000	542.63	0.00	0.00
16	117.00	Ericsson Air 21 B4A/B2P	3	32.454	35.699	0.65	0.75	11.78	327.60	0.000	0.000	673.09	0.00	0.00
17	117.00	Ericsson Air 21 B2A/B4P	3	32.454	35.699	0.65	0.75	11.78	329.40	0.000	0.000	673.09	0.00	0.00
18	117.00	12.5' Low Profile Platform	1	32.454	35.699	1.00	1.00	29.00	1920.00	0.000	0.000	1656.44	0.00	0.00
19	117.00	APXVAARR24_43-U-NA2	3	32.454	35.699	0.52	0.75	31.88	460.80	0.000	0.000	1820.82	0.00	0.00
20	107.00	Samsung RF4439d-25A	3	31.849	35.034	0.50	0.75	2.20	226.08	0.000	0.000	123.37	0.00	0.00
21	107.00	Commscope	3	31.849	35.034	0.62	0.75	15.09	146.16	0.000	0.000	845.82	0.00	0.00
22	107.00	JMA Wireless	6	31.849	35.034	0.65	0.75	38.64	331.20	0.000	0.000	2165.99	0.00	0.00
23	107.00	Samsung MT6407-77A	3	31.849	35.034	0.52	0.75	7.39	285.84	0.000	0.000	414.06	0.00	0.00
24	107.00	Samsung RF4440d-13A	3	31.849	35.034	0.50	0.75	2.20	226.08	0.000	0.000	123.37	0.00	0.00
25	107.00	Raycap	1	31.849	35.034	1.00	1.00	4.06	38.40	0.000	0.000	227.58	0.00	0.00
26	107.00	Low Profile Platform	1	31.849	35.034	1.00	1.00	33.32	1440.00	0.000	0.000	1867.73	0.00	0.00
27	90.00	MC-PK8-DSH	1	30.710	33.781	1.00	1.00	37.59	2072.40	0.000	0.000	2031.71	0.00	0.00
28	90.00	Raycap	1	30.710	33.781	0.75	0.75	1.51	26.28	0.000	0.000	81.48	0.00	0.00
29	90.00	Fujitsu TA08025-B605	3	30.710	33.781	0.50	0.75	2.95	270.00	0.000	0.000	159.70	0.00	0.00
30	90.00	Fujitsu TA08025-B604	3	30.710	33.781	0.57	0.75	3.35	230.04	0.000	0.000	181.15	0.00	0.00
31	90.00	MX08FRO665-21	3	30.710	33.781	0.55	0.75	20.80	232.20	0.000	0.000	1124.00	0.00	0.00

Totals: 13,822.27

21,228.29

Total Applied Force Summary

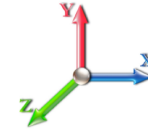
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

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		585.66	1944.62	0.00	0.00
10.00		573.01	1909.47	0.00	0.00
15.00		560.35	1874.32	0.00	0.00
20.00		581.13	1839.16	0.00	0.00
25.00		595.00	1804.01	0.00	0.00
30.00		603.66	1768.85	0.00	0.00
35.00		608.46	1733.70	0.00	0.00
40.00		610.27	1698.55	0.00	0.00
42.00		242.23	669.58	0.00	0.00
45.00		369.67	1687.64	0.00	0.00
48.00		368.91	1664.13	0.00	0.00
50.00		244.81	581.41	0.00	0.00
55.00		612.79	1432.43	0.00	0.00
60.00		607.20	1402.30	0.00	0.00
65.00		600.31	1372.17	0.00	0.00
70.00		592.26	1342.03	0.00	0.00
75.00		583.19	1311.90	0.00	0.00
80.00		573.19	1281.77	0.00	0.00
85.00		562.34	1251.64	0.00	0.00
85.25		27.66	61.79	0.00	0.00
90.00	(11) attachments	4107.84	4564.21	0.00	0.00
95.00		545.89	914.17	0.00	0.00
100.00		532.98	894.09	0.00	0.00
105.00		519.44	874.00	0.00	0.00
107.00	(20) attachments	5971.17	3037.73	0.00	0.00
110.00		300.89	464.58	0.00	0.00
115.00		490.67	758.22	0.00	0.00
117.00	(18) attachments	6297.60	4416.66	0.00	0.00
120.00		282.95	390.93	0.00	0.00
125.00		459.86	635.49	0.00	0.00
127.00	(35) attachments	5955.27	4427.16	0.00	0.00
130.00		263.86	263.72	0.00	0.00
	Totals:	35,830.53	50,272.41	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

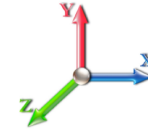
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 20

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	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.024	0.000	21.088	0.00	0.30
10.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	21.088	0.00	0.30
15.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	21.088	0.00	0.30
20.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	22.375	0.00	0.30
25.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	23.451	0.00	0.30
30.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.027	0.000	24.369	0.00	0.30
35.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.028	0.000	25.172	0.00	0.30
40.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.029	0.000	25.890	0.00	0.30
42.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.029	0.000	26.157	0.00	0.12
45.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.029	0.000	26.540	0.00	0.18
48.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.030	0.000	26.903	0.00	0.18
50.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.030	0.000	27.135	0.00	0.12
55.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.030	0.000	27.685	0.00	0.30
60.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.031	0.000	28.197	0.00	0.30
65.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.032	0.000	28.676	0.00	0.30
70.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.033	0.000	29.127	0.00	0.30
75.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.034	0.000	29.553	0.00	0.30
80.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.035	0.000	29.958	0.00	0.30
85.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.036	0.000	30.342	0.00	0.30
85.25	1.411" Fiber	Yes	0.25	0.000	1.41	0.03	0.00	0.037	0.000	30.361	0.00	0.01
90.00	1.411" Fiber	Yes	4.75	0.000	1.41	0.56	0.00	0.038	0.000	30.710	0.00	0.28
Totals:											0.0	5.4

Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 20

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	-50.23	-35.89	0.00	-3413.4	0.00	3413.44	5435.95	2717.97	12860.7	6439.91	0.00	0.000	0.000	0.539
5.00	-48.20	-35.43	0.00	-3233.9	0.00	3233.97	5360.22	2680.11	12406.3	6212.37	0.08	-0.141	0.000	0.530
10.00	-46.20	-34.96	0.00	-3056.8	0.00	3056.84	5282.67	2641.34	11955.5	5986.66	0.30	-0.284	0.000	0.520
15.00	-44.24	-34.50	0.00	-2882.0	0.00	2882.04	5203.30	2601.65	11508.7	5762.93	0.68	-0.428	0.000	0.509
20.00	-42.32	-34.01	0.00	-2709.5	0.00	2709.54	5122.11	2561.06	11066.1	5541.30	1.20	-0.573	0.000	0.497
25.00	-40.44	-33.50	0.00	-2539.4	0.00	2539.48	5039.10	2519.55	10628.0	5321.92	1.88	-0.720	0.000	0.485
30.00	-38.59	-32.97	0.00	-2371.9	0.00	2371.99	4954.26	2477.13	10194.7	5104.94	2.72	-0.867	0.000	0.473
35.00	-36.79	-32.43	0.00	-2207.1	0.00	2207.13	4867.60	2433.80	9766.46	4890.49	3.70	-1.014	0.000	0.459
40.00	-35.04	-31.85	0.00	-2044.9	0.00	2044.99	4779.12	2389.56	9343.53	4678.71	4.85	-1.162	0.000	0.445
42.00	-34.34	-31.64	0.00	-1981.2	0.00	1981.29	4743.22	2371.61	9175.92	4594.78	5.35	-1.222	0.000	0.439
45.00	-32.61	-31.28	0.00	-1886.3	0.00	1886.38	4688.82	2344.41	8926.23	4469.75	6.14	-1.312	0.000	0.429
48.00	-30.91	-30.91	0.00	-1792.5	0.00	1792.53	3840.55	1920.27	7332.01	3671.45	7.00	-1.401	0.000	0.497
50.00	-30.28	-30.71	0.00	-1730.7	0.00	1730.70	3813.07	1906.53	7201.22	3605.96	7.60	-1.461	0.000	0.488
55.00	-28.78	-30.14	0.00	-1577.1	0.00	1577.13	3743.08	1871.54	6876.85	3443.54	9.22	-1.622	0.000	0.466
60.00	-27.32	-29.57	0.00	-1426.4	0.00	1426.42	3671.28	1835.64	6556.42	3283.08	11.00	-1.781	0.000	0.442
65.00	-25.89	-29.00	0.00	-1278.5	0.00	1278.57	3597.66	1798.83	6240.20	3124.74	12.95	-1.936	0.000	0.417
70.00	-24.49	-28.42	0.00	-1133.5	0.00	1133.59	3522.21	1761.10	5928.48	2968.65	15.06	-2.088	0.000	0.389
75.00	-23.13	-27.85	0.00	-991.50	0.00	991.50	3444.94	1722.47	5621.53	2814.94	17.33	-2.233	0.000	0.359
80.00	-21.81	-27.27	0.00	-852.27	0.00	852.27	3365.85	1682.92	5319.64	2663.77	19.74	-2.372	0.000	0.327
85.00	-20.56	-26.68	0.00	-715.92	0.00	715.92	3284.94	1642.47	5023.09	2515.28	22.30	-2.502	0.000	0.291
85.25	-20.47	-26.67	0.00	-709.25	0.00	709.25	3280.84	1640.42	5008.41	2507.93	22.43	-2.508	0.000	0.289
90.00	-16.05	-22.39	0.00	-582.56	0.00	582.56	1897.08	948.54	2862.22	1433.24	24.98	-2.621	0.000	0.415
95.00	-15.11	-21.84	0.00	-470.58	0.00	470.58	1858.98	929.49	2709.28	1356.65	27.79	-2.727	0.000	0.356
100.00	-14.20	-21.29	0.00	-361.39	0.00	361.39	1819.06	909.53	2557.69	1280.75	30.72	-2.859	0.000	0.291
105.00	-13.33	-20.75	0.00	-254.93	0.00	254.93	1777.32	888.66	2407.73	1205.66	33.77	-2.969	0.000	0.219
107.00	-10.60	-14.63	0.00	-213.44	0.00	213.44	1760.11	880.05	2348.27	1175.88	35.03	-3.006	0.000	0.188
110.00	-10.14	-14.32	0.00	-169.54	0.00	169.54	1733.75	866.88	2259.69	1131.52	36.93	-3.053	0.000	0.156
115.00	-9.40	-13.79	0.00	-97.96	0.00	97.96	1688.37	844.18	2113.84	1058.49	40.16	-3.113	0.000	0.098
117.00	-5.33	-7.26	0.00	-70.38	0.00	70.38	1669.70	834.85	2056.18	1029.62	41.47	-3.130	0.000	0.072
120.00	-4.95	-6.96	0.00	-48.58	0.00	48.58	1641.16	820.58	1970.46	986.70	43.44	-3.149	0.000	0.052
125.00	-4.34	-6.47	0.00	-13.77	0.00	13.77	1592.13	796.06	1829.84	916.28	46.75	-3.166	0.000	0.018
127.00	-0.25	-0.28	0.00	-0.83	0.00	0.83	1572.01	786.00	1774.43	888.53	48.08	-3.168	0.000	0.001
130.00	0.00	-0.26	0.00	0.00	0.00	0.00	1541.28	770.64	1692.26	847.39	50.07	-3.168	0.000	0.000

Wind Loading - Shaft

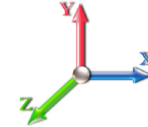
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

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		1.00	0.85	21.088	23.20	457.01	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	447.24	0.650	0.000	5.00	24.277	15.78	585.7	0.0	1210.7
10.00		1.00	0.85	21.088	23.20	437.47	0.650	0.000	5.00	23.753	15.44	573.0	0.0	1184.4
15.00		1.00	0.85	21.088	23.20	427.70	0.650	0.000	5.00	23.228	15.10	560.4	0.0	1158.0
20.00		1.00	0.90	22.375	24.61	430.49	0.650	0.000	5.00	22.703	14.76	581.1	0.0	1131.6
25.00		1.00	0.95	23.451	25.80	430.42	0.650	0.000	5.00	22.179	14.42	595.0	0.0	1105.3
30.00		1.00	0.98	24.369	26.81	428.26	0.650	0.000	5.00	21.654	14.08	603.7	0.0	1078.9
35.00		1.00	1.01	25.172	27.69	424.59	0.650	0.000	5.00	21.129	13.73	608.5	0.0	1052.5
40.00		1.00	1.04	25.890	28.48	419.77	0.650	0.000	5.00	20.605	13.39	610.3	0.0	1026.2
42.00	Bot - Section 2	1.00	1.05	26.157	28.77	417.58	0.650	0.000	2.00	8.095	5.26	242.2	0.0	403.1
45.00		1.00	1.07	26.540	29.19	414.05	0.650	0.000	3.00	12.175	7.91	369.7	0.0	1117.1
48.00	Top - Section 1	1.00	1.08	26.903	29.59	410.25	0.650	0.000	3.00	11.987	7.79	368.9	0.0	1099.5
50.00		1.00	1.09	27.135	29.85	414.29	0.650	0.000	2.00	7.886	5.13	244.8	0.0	337.0
55.00		1.00	1.12	27.685	30.45	407.27	0.650	0.000	5.00	19.348	12.58	612.8	0.0	826.6
60.00		1.00	1.14	28.197	31.02	399.72	0.650	0.000	5.00	18.823	12.24	607.2	0.0	804.0
65.00		1.00	1.16	28.676	31.54	391.71	0.650	0.000	5.00	18.299	11.89	600.3	0.0	781.4
70.00		1.00	1.17	29.127	32.04	383.29	0.650	0.000	5.00	17.774	11.55	592.3	0.0	758.8
75.00		1.00	1.19	29.553	32.51	374.52	0.650	0.000	5.00	17.250	11.21	583.2	0.0	736.2
80.00		1.00	1.21	29.958	32.95	365.43	0.650	0.000	5.00	16.725	10.87	573.2	0.0	713.6
85.00		1.00	1.22	30.342	33.38	356.05	0.650	0.000	5.00	16.200	10.53	562.3	0.0	691.0
85.25	Bot - Section 3	1.00	1.22	30.361	33.40	355.57	0.650	0.000	0.25	0.796	0.52	27.7	0.0	34.0
90.00	Top - Section 2	1.00	1.24	30.710	33.78	346.40	0.650	0.000	4.75	15.080	9.80	529.8	0.0	1064.6
95.00		1.00	1.25	31.061	34.17	341.30	0.650	0.000	5.00	15.363	9.99	545.9	0.0	438.1
100.00		1.00	1.27	31.399	34.54	331.23	0.650	0.000	5.00	14.838	9.64	533.0	0.0	423.1
105.00		1.00	1.28	31.723	34.89	320.95	0.650	0.000	5.00	14.313	9.30	519.4	0.0	408.0
107.00	Appurtenance(s)	1.00	1.28	31.849	35.03	316.79	0.650	0.000	2.00	5.578	3.63	203.3	0.0	159.0
110.00		1.00	1.29	32.035	35.24	310.48	0.650	0.000	3.00	8.210	5.34	300.9	0.0	234.0
115.00		1.00	1.30	32.336	35.57	299.84	0.650	0.000	5.00	13.264	8.62	490.7	0.0	377.9
117.00	Appurtenance(s)	1.00	1.31	32.454	35.70	295.54	0.650	0.000	2.00	5.159	3.35	191.5	0.0	146.9
120.00		1.00	1.32	32.627	35.89	289.03	0.650	0.000	3.00	7.581	4.93	283.0	0.0	215.9
125.00		1.00	1.33	32.909	36.20	278.07	0.650	0.000	5.00	12.215	7.94	459.9	0.0	347.7
127.00	Appurtenance(s)	1.00	1.33	33.019	36.32	273.65	0.650	0.000	2.00	4.739	3.08	179.0	0.0	134.9
130.00		1.00	1.34	33.182	36.50	266.97	0.650	0.000	3.00	6.951	4.52	263.9	0.0	197.8
Totals:									130.00			14,602.2		21,397.7

Discrete Appurtenance Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

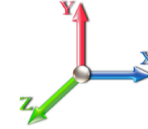


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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 20

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	127.00	800-10964	3	33.019	36.321	0.54	0.75	16.20	226.26	0.000	0.000	941.43	0.00	0.00
2	127.00	Platform w/ Hand Rail	1	33.019	36.321	1.00	1.00	32.10	1440.00	0.000	0.000	1865.44	0.00	0.00
3	127.00	Quintel QS46512-2	3	33.019	36.321	0.72	0.75	11.99	202.50	0.000	0.000	696.66	0.00	0.00
4	127.00	Ericsson RRUS 32	3	33.019	36.321	0.50	0.75	4.13	143.10	0.000	0.000	240.04	0.00	0.00
5	127.00	HRK14	1	33.019	36.321	1.00	1.00	8.13	272.12	0.000	0.000	472.46	0.00	0.00
6	127.00	Raycap DC6-48-60-18-8F	3	33.019	36.321	1.00	1.00	4.41	88.56	0.000	0.000	256.28	0.00	0.00
7	127.00	DBC0061F1V51-2	6	33.019	36.321	0.50	0.75	1.30	140.40	0.000	0.000	75.34	0.00	0.00
8	127.00	RRUS 8843 B2 B66A	3	33.019	36.321	0.50	0.75	2.47	194.40	0.000	0.000	143.67	0.00	0.00
9	127.00	4449 B5/B12	3	33.019	36.321	0.50	0.75	2.97	197.10	0.000	0.000	172.58	0.00	0.00
10	127.00	Powerwave	3	33.019	36.321	0.56	0.75	13.77	143.10	0.000	0.000	800.22	0.00	0.00
11	127.00	Powerwave	6	33.019	36.321	0.50	0.75	1.93	86.40	0.000	0.000	112.14	0.00	0.00
12	117.00	Ericsson Radio 4449	3	32.454	35.699	0.50	0.75	2.49	199.80	0.000	0.000	142.08	0.00	0.00
13	117.00	Ericsson KRY 112 144/1	3	32.454	35.699	0.50	0.75	0.62	29.70	0.000	0.000	35.30	0.00	0.00
14	117.00	Sitepro HRK12-U	1	32.454	35.699	1.00	1.00	9.85	376.20	0.000	0.000	562.62	0.00	0.00
15	117.00	Sitepro PRK-1245	1	32.454	35.699	1.00	1.00	9.50	205.20	0.000	0.000	542.63	0.00	0.00
16	117.00	Ericsson Air 21 B4A/B2P	3	32.454	35.699	0.65	0.75	11.78	245.70	0.000	0.000	673.09	0.00	0.00
17	117.00	Ericsson Air 21 B2A/B4P	3	32.454	35.699	0.65	0.75	11.78	247.05	0.000	0.000	673.09	0.00	0.00
18	117.00	12.5' Low Profile Platform	1	32.454	35.699	1.00	1.00	29.00	1440.00	0.000	0.000	1656.44	0.00	0.00
19	117.00	APXVAARR24_43-U-NA2	3	32.454	35.699	0.52	0.75	31.88	345.60	0.000	0.000	1820.82	0.00	0.00
20	107.00	Samsung RF4439d-25A	3	31.849	35.034	0.50	0.75	2.20	169.56	0.000	0.000	123.37	0.00	0.00
21	107.00	Commscope	3	31.849	35.034	0.62	0.75	15.09	109.62	0.000	0.000	845.82	0.00	0.00
22	107.00	JMA Wireless	6	31.849	35.034	0.65	0.75	38.64	248.40	0.000	0.000	2165.99	0.00	0.00
23	107.00	Samsung MT6407-77A	3	31.849	35.034	0.52	0.75	7.39	214.38	0.000	0.000	414.06	0.00	0.00
24	107.00	Samsung RF4440d-13A	3	31.849	35.034	0.50	0.75	2.20	169.56	0.000	0.000	123.37	0.00	0.00
25	107.00	Raycap	1	31.849	35.034	1.00	1.00	4.06	28.80	0.000	0.000	227.58	0.00	0.00
26	107.00	Low Profile Platform	1	31.849	35.034	1.00	1.00	33.32	1080.00	0.000	0.000	1867.73	0.00	0.00
27	90.00	MC-PK8-DSH	1	30.710	33.781	1.00	1.00	37.59	1554.30	0.000	0.000	2031.71	0.00	0.00
28	90.00	Raycap	1	30.710	33.781	0.75	0.75	1.51	19.71	0.000	0.000	81.48	0.00	0.00
29	90.00	Fujitsu TA08025-B605	3	30.710	33.781	0.50	0.75	2.95	202.50	0.000	0.000	159.70	0.00	0.00
30	90.00	Fujitsu TA08025-B604	3	30.710	33.781	0.57	0.75	3.35	172.53	0.000	0.000	181.15	0.00	0.00
31	90.00	MX08FRO665-21	3	30.710	33.781	0.55	0.75	20.80	174.15	0.000	0.000	1124.00	0.00	0.00

Totals: 10,366.70

21,228.29

Total Applied Force Summary

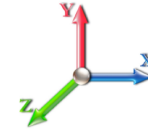
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

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		585.66	1458.47	0.00	0.00
10.00		573.01	1432.10	0.00	0.00
15.00		560.35	1405.74	0.00	0.00
20.00		581.13	1379.37	0.00	0.00
25.00		595.00	1353.01	0.00	0.00
30.00		603.66	1326.64	0.00	0.00
35.00		608.46	1300.27	0.00	0.00
40.00		610.27	1273.91	0.00	0.00
42.00		242.23	502.18	0.00	0.00
45.00		369.67	1265.73	0.00	0.00
48.00		368.91	1248.10	0.00	0.00
50.00		244.81	436.06	0.00	0.00
55.00		612.79	1074.32	0.00	0.00
60.00		607.20	1051.72	0.00	0.00
65.00		600.31	1029.12	0.00	0.00
70.00		592.26	1006.52	0.00	0.00
75.00		583.19	983.93	0.00	0.00
80.00		573.19	961.33	0.00	0.00
85.00		562.34	938.73	0.00	0.00
85.25		27.66	46.34	0.00	0.00
90.00	(11) attachments	4107.84	3423.15	0.00	0.00
95.00		545.89	685.63	0.00	0.00
100.00		532.98	670.56	0.00	0.00
105.00		519.44	655.50	0.00	0.00
107.00	(20) attachments	5971.17	2278.30	0.00	0.00
110.00		300.89	348.43	0.00	0.00
115.00		490.67	568.67	0.00	0.00
117.00	(18) attachments	6297.60	3312.50	0.00	0.00
120.00		282.95	293.20	0.00	0.00
125.00		459.86	476.61	0.00	0.00
127.00	(35) attachments	5955.27	3320.37	0.00	0.00
130.00		263.86	197.79	0.00	0.00
Totals:		35,830.53	37,704.31	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

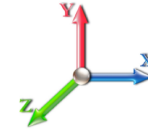
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 20

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	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.024	0.000	21.088	0.00	0.23
10.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	21.088	0.00	0.23
15.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	21.088	0.00	0.23
20.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	22.375	0.00	0.23
25.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	23.451	0.00	0.23
30.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.027	0.000	24.369	0.00	0.23
35.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.028	0.000	25.172	0.00	0.23
40.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.029	0.000	25.890	0.00	0.23
42.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.029	0.000	26.157	0.00	0.09
45.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.029	0.000	26.540	0.00	0.14
48.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.030	0.000	26.903	0.00	0.14
50.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.030	0.000	27.135	0.00	0.09
55.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.030	0.000	27.685	0.00	0.23
60.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.031	0.000	28.197	0.00	0.23
65.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.032	0.000	28.676	0.00	0.23
70.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.033	0.000	29.127	0.00	0.23
75.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.034	0.000	29.553	0.00	0.23
80.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.035	0.000	29.958	0.00	0.23
85.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.036	0.000	30.342	0.00	0.23
85.25	1.411" Fiber	Yes	0.25	0.000	1.41	0.03	0.00	0.037	0.000	30.361	0.00	0.01
90.00	1.411" Fiber	Yes	4.75	0.000	1.41	0.56	0.00	0.038	0.000	30.710	0.00	0.21
Totals:											0.0	4.1

Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 20

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	-37.66	-35.88	0.00	-3391.9	0.00	3391.99	5435.95	2717.97	12860.7	6439.91	0.00	0.000	0.000	0.534
5.00	-36.11	-35.38	0.00	-3212.6	0.00	3212.61	5360.22	2680.11	12406.3	6212.37	0.08	-0.140	0.000	0.524
10.00	-34.60	-34.89	0.00	-3035.7	0.00	3035.71	5282.67	2641.34	11955.5	5986.66	0.30	-0.282	0.000	0.514
15.00	-33.11	-34.40	0.00	-2861.2	0.00	2861.28	5203.30	2601.65	11508.7	5762.93	0.67	-0.425	0.000	0.503
20.00	-31.65	-33.89	0.00	-2689.2	0.00	2689.27	5122.11	2561.06	11066.1	5541.30	1.20	-0.569	0.000	0.492
25.00	-30.22	-33.35	0.00	-2519.8	0.00	2519.83	5039.10	2519.55	10628.0	5321.92	1.87	-0.714	0.000	0.480
30.00	-28.82	-32.81	0.00	-2353.0	0.00	2353.06	4954.26	2477.13	10194.7	5104.94	2.70	-0.860	0.000	0.467
35.00	-27.44	-32.25	0.00	-2189.0	0.00	2189.03	4867.60	2433.80	9766.46	4890.49	3.68	-1.007	0.000	0.453
40.00	-26.13	-31.66	0.00	-2027.8	0.00	2027.80	4779.12	2389.56	9343.53	4678.71	4.81	-1.153	0.000	0.439
42.00	-25.59	-31.44	0.00	-1964.4	0.00	1964.48	4743.22	2371.61	9175.92	4594.78	5.31	-1.213	0.000	0.433
45.00	-24.28	-31.08	0.00	-1870.1	0.00	1870.16	4688.82	2344.41	8926.23	4469.75	6.10	-1.302	0.000	0.424
48.00	-23.00	-30.71	0.00	-1776.9	0.00	1776.92	3840.55	1920.27	7332.01	3671.45	6.95	-1.391	0.000	0.490
50.00	-22.51	-30.50	0.00	-1715.4	0.00	1715.49	3813.07	1906.53	7201.22	3605.96	7.54	-1.450	0.000	0.482
55.00	-21.37	-29.92	0.00	-1562.9	0.00	1562.99	3743.08	1871.54	6876.85	3443.54	9.15	-1.610	0.000	0.460
60.00	-20.26	-29.34	0.00	-1413.4	0.00	1413.40	3671.28	1835.64	6556.42	3283.08	10.92	-1.767	0.000	0.436
65.00	-19.18	-28.75	0.00	-1266.7	0.00	1266.73	3597.66	1798.83	6240.20	3124.74	12.85	-1.921	0.000	0.411
70.00	-18.12	-28.17	0.00	-1122.9	0.00	1122.96	3522.21	1761.10	5928.48	2968.65	14.95	-2.071	0.000	0.384
75.00	-17.09	-27.60	0.00	-982.10	0.00	982.10	3444.94	1722.47	5621.53	2814.94	17.20	-2.215	0.000	0.354
80.00	-16.09	-27.02	0.00	-844.12	0.00	844.12	3365.85	1682.92	5319.64	2663.77	19.59	-2.352	0.000	0.322
85.00	-15.14	-26.44	0.00	-709.02	0.00	709.02	3284.94	1642.47	5023.09	2515.28	22.12	-2.481	0.000	0.287
85.25	-15.07	-26.42	0.00	-702.41	0.00	702.41	3280.84	1640.42	5008.41	2507.93	22.25	-2.487	0.000	0.285
90.00	-11.79	-22.19	0.00	-576.89	0.00	576.89	1897.08	948.54	2862.22	1433.24	24.79	-2.599	0.000	0.409
95.00	-11.09	-21.64	0.00	-465.94	0.00	465.94	1858.98	929.49	2709.28	1356.65	27.57	-2.704	0.000	0.350
100.00	-10.40	-21.09	0.00	-357.76	0.00	357.76	1819.06	909.53	2557.69	1280.75	30.47	-2.835	0.000	0.286
105.00	-9.75	-20.55	0.00	-252.29	0.00	252.29	1777.32	888.66	2407.73	1205.66	33.50	-2.943	0.000	0.215
107.00	-7.77	-14.48	0.00	-211.19	0.00	211.19	1760.11	880.05	2348.27	1175.88	34.74	-2.980	0.000	0.184
110.00	-7.42	-14.17	0.00	-167.75	0.00	167.75	1733.75	866.88	2259.69	1131.52	36.63	-3.027	0.000	0.153
115.00	-6.87	-13.65	0.00	-96.92	0.00	96.92	1688.37	844.18	2113.84	1058.49	39.84	-3.086	0.000	0.096
117.00	-3.90	-7.18	0.00	-69.62	0.00	69.62	1669.70	834.85	2056.18	1029.62	41.13	-3.103	0.000	0.070
120.00	-3.62	-6.89	0.00	-48.06	0.00	48.06	1641.16	820.58	1970.46	986.70	43.09	-3.121	0.000	0.051
125.00	-3.17	-6.40	0.00	-13.63	0.00	13.63	1592.13	796.06	1829.84	916.28	46.37	-3.139	0.000	0.017
127.00	-0.18	-0.27	0.00	-0.82	0.00	0.82	1572.01	786.00	1774.43	888.53	47.68	-3.141	0.000	0.001
130.00	0.00	-0.26	0.00	0.00	0.00	0.00	1541.28	770.64	1692.26	847.39	49.66	-3.141	0.000	0.000

Wind Loading - Shaft

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



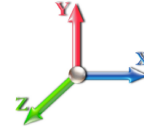
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 19

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		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	25.312	30.37	172.7	451.3	2065.6
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	24.862	29.83	169.6	474.1	2053.3
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.383	29.26	166.3	483.4	2027.4
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	23.892	28.67	172.9	486.8	1995.6
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.394	28.07	177.5	486.7	1960.4
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	22.892	27.47	180.5	484.4	1922.9
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	22.387	26.86	182.3	480.4	1883.8
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	21.879	26.25	183.2	475.2	1843.4
42.00	Bot - Section 2	1.00	1.05	6.410	7.05	0.00	1.200	1.537	2.00	8.607	10.33	72.8	189.1	726.6
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	3.00	12.949	15.54	111.2	285.7	1775.2
48.00	Top - Section 1	1.00	1.08	6.593	7.25	0.00	1.200	1.557	3.00	12.765	15.32	111.1	283.3	1749.2
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	2.00	8.407	10.09	73.8	187.7	637.0
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	5.00	20.664	24.80	185.1	461.6	1563.8
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	20.150	24.18	183.8	453.4	1525.4
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	19.637	23.56	182.2	444.7	1486.6
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	19.122	22.95	180.2	435.6	1447.3
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	18.607	22.33	177.9	426.1	1407.7
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	18.091	21.71	175.3	416.2	1367.7
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	17.574	21.09	172.5	406.0	1327.4
85.25	Bot - Section 3	1.00	1.22	7.441	8.18	0.00	1.200	1.649	0.25	0.865	1.04	8.5	20.3	65.6
90.00	Top - Section 2	1.00	1.24	7.526	8.28	0.00	1.200	1.658	4.75	16.393	19.67	162.9	380.7	1800.2
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	5.00	16.752	20.10	168.3	390.1	974.2
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	5.00	16.234	19.48	164.9	379.1	943.2
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	15.717	18.86	161.3	368.0	912.0
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	6.141	7.37	63.3	145.4	357.4
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	9.056	10.87	93.9	214.0	525.9
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	14.680	17.62	153.6	345.1	848.9
117.00	Appurtenance(s)	1.00	1.31	7.954	8.75	0.00	1.200	1.702	2.00	5.726	6.87	60.1	136.2	332.1
120.00		1.00	1.32	7.996	8.80	0.00	1.200	1.707	3.00	8.434	10.12	89.0	200.0	487.9
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	13.643	16.37	145.2	321.5	785.1
127.00	Appurtenance(s)	1.00	1.33	8.092	8.90	0.00	1.200	1.716	2.00	5.311	6.37	56.7	126.7	306.5
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	3.00	7.811	9.37	83.8	185.7	449.4
Totals:									130.00			4,442.4	39,554.7	

Discrete Appurtenance Forces

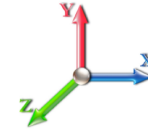
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 19

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	127.00	800-10964	3	8.092	8.901	0.54	0.75	18.27	979.77	0.000	0.000	162.60	0.00	0.00	
2	127.00	Platform w/ Hand Rail	1	8.092	8.901	1.00	1.00	59.65	3385.18	0.000	0.000	530.95	0.00	0.00	
3	127.00	Quintel QS46512-2	3	8.092	8.901	0.72	0.75	14.15	624.07	0.000	0.000	125.98	0.00	0.00	
4	127.00	Ericsson RRUS 32	3	8.092	8.901	0.50	0.75	5.21	449.43	0.000	0.000	46.37	0.00	0.00	
5	127.00	HRK14	1	8.092	8.901	1.00	1.00	15.94	1018.09	0.000	0.000	141.93	0.00	0.00	
6	127.00	Raycap DC6-48-60-18-8F	3	8.092	8.901	1.00	1.00	6.47	247.39	0.000	0.000	57.64	0.00	0.00	
7	127.00	DBC0061F1V51-2	6	8.092	8.901	0.50	0.75	2.14	257.63	0.000	0.000	19.07	0.00	0.00	
8	127.00	RRUS 8843 B2 B66A	3	8.092	8.901	0.50	0.75	3.21	361.41	0.000	0.000	28.56	0.00	0.00	
9	127.00	4449 B5/B12	3	8.092	8.901	0.50	0.75	3.78	389.93	0.000	0.000	33.66	0.00	0.00	
10	127.00	Powerwave	3	8.092	8.901	0.56	0.75	18.42	536.18	0.000	0.000	163.97	0.00	0.00	
11	127.00	Powerwave	6	8.092	8.901	0.50	0.75	3.69	199.83	0.000	0.000	32.82	0.00	0.00	
12	117.00	Ericsson Radio 4449	3	7.954	8.749	0.50	0.75	3.28	464.86	0.000	0.000	28.66	0.00	0.00	
13	117.00	Ericsson KRY 112 144/1	3	7.954	8.749	0.50	0.75	1.32	61.85	0.000	0.000	11.52	0.00	0.00	
14	117.00	Sitepro HRK12-U	1	7.954	8.749	1.00	1.00	21.92	718.09	0.000	0.000	191.81	0.00	0.00	
15	117.00	Sitepro PRK-1245	1	7.954	8.749	1.00	1.00	19.20	96.86	0.000	0.000	168.01	0.00	0.00	
16	117.00	Ericsson Air 21 B4A/B2P	3	7.954	8.749	0.65	0.75	13.85	819.48	0.000	0.000	121.19	0.00	0.00	
17	117.00	Ericsson Air 21 B2A/B4P	3	7.954	8.749	0.65	0.75	13.85	821.28	0.000	0.000	121.19	0.00	0.00	
18	117.00	12.5' Low Profile Platform	1	7.954	8.749	1.00	1.00	35.84	3122.39	0.000	0.000	313.56	0.00	0.00	
19	117.00	APXVAARR24_43-U-NA2	3	7.954	8.749	0.52	0.75	34.79	1716.75	0.000	0.000	304.41	0.00	0.00	
20	107.00	Samsung RF4439d-25A	3	7.805	8.586	0.50	0.75	2.92	322.77	0.000	0.000	25.06	0.00	0.00	
21	107.00	Commscope	3	7.805	8.586	0.62	0.75	17.42	727.17	0.000	0.000	149.54	0.00	0.00	
22	107.00	JMA Wireless	6	7.805	8.586	0.65	0.75	43.84	1883.50	0.000	0.000	376.40	0.00	0.00	
23	107.00	Samsung MT6407-77A	3	7.805	8.586	0.52	0.75	8.83	630.13	0.000	0.000	75.79	0.00	0.00	
24	107.00	Samsung RF4440d-13A	3	7.805	8.586	0.50	0.75	2.92	322.77	0.000	0.000	25.06	0.00	0.00	
25	107.00	Raycap	1	7.805	8.586	1.00	1.00	4.85	126.48	0.000	0.000	41.68	0.00	0.00	
26	107.00	Low Profile Platform	1	7.805	8.586	1.00	1.00	60.31	2152.35	0.000	0.000	517.77	0.00	0.00	
27	90.00	MC-PK8-DSH	1	7.526	8.279	1.00	1.00	82.47	3303.18	0.000	0.000	682.76	0.00	0.00	
28	90.00	Raycap	1	7.526	8.279	0.75	0.75	1.91	64.18	0.000	0.000	15.83	0.00	0.00	
29	90.00	Fujitsu TA08025-B605	3	7.526	8.279	0.50	0.75	3.76	381.30	0.000	0.000	31.11	0.00	0.00	
30	90.00	Fujitsu TA08025-B604	3	7.526	8.279	0.57	0.75	4.26	338.07	0.000	0.000	35.29	0.00	0.00	
31	90.00	MX08FRO665-21	3	7.526	8.279	0.55	0.75	23.11	859.76	0.000	0.000	191.35	0.00	0.00	

Totals: **27,382.12** **4,771.54**

Total Applied Force Summary

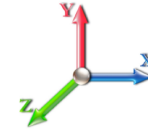
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 19

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		172.67	2413.00	0.00	0.00
10.00		169.60	2402.51	0.00	0.00
15.00		166.34	2377.89	0.00	0.00
20.00		172.94	2347.03	0.00	0.00
25.00		177.48	2312.56	0.00	0.00
30.00		180.46	2275.69	0.00	0.00
35.00		182.30	2237.10	0.00	0.00
40.00		183.24	2197.20	0.00	0.00
42.00		72.83	868.16	0.00	0.00
45.00		111.18	1987.73	0.00	0.00
48.00		111.10	1961.92	0.00	0.00
50.00		73.80	778.85	0.00	0.00
55.00		185.07	1918.77	0.00	0.00
60.00		183.81	1880.78	0.00	0.00
65.00		182.16	1842.27	0.00	0.00
70.00		180.18	1803.29	0.00	0.00
75.00		177.89	1763.92	0.00	0.00
80.00		175.32	1724.19	0.00	0.00
85.00		172.50	1684.13	0.00	0.00
85.25		8.50	83.39	0.00	0.00
90.00	(11) attachments	1119.21	7085.86	0.00	0.00
95.00		168.33	1304.23	0.00	0.00
100.00		164.90	1273.21	0.00	0.00
105.00		161.29	1241.98	0.00	0.00
107.00	(20) attachments	1274.56	6654.54	0.00	0.00
110.00		93.85	678.55	0.00	0.00
115.00		153.56	1103.32	0.00	0.00
117.00	(18) attachments	1320.47	8255.39	0.00	0.00
120.00		89.02	590.96	0.00	0.00
125.00		145.24	956.99	0.00	0.00
127.00	(35) attachments	1400.27	8824.17	0.00	0.00
130.00		83.85	449.40	0.00	0.00
	Totals:	9,213.91	75,279.00	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

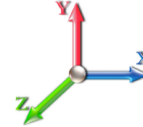


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 19

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	1.411" Fiber	Yes	5.00	0.000	1.41	1.62	0.00	0.024	0.000	5.168	0.00	17.36
10.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.70	0.00	0.025	0.000	5.168	0.00	19.25
15.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.74	0.00	0.025	0.000	5.168	0.00	20.47
20.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.78	0.00	0.026	0.000	5.483	0.00	21.39
25.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.80	0.00	0.026	0.000	5.747	0.00	22.13
30.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.83	0.00	0.027	0.000	5.972	0.00	22.76
35.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.84	0.00	0.028	0.000	6.169	0.00	23.31
40.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.86	0.00	0.029	0.000	6.345	0.00	23.80
42.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.75	0.00	0.029	0.000	6.410	0.00	9.59
45.00	1.411" Fiber	Yes	3.00	0.000	1.41	1.13	0.00	0.029	0.000	6.504	0.00	14.54
48.00	1.411" Fiber	Yes	3.00	0.000	1.41	1.13	0.00	0.030	0.000	6.593	0.00	14.69
50.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.76	0.00	0.030	0.000	6.650	0.00	9.86
55.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.90	0.00	0.030	0.000	6.785	0.00	25.01
60.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.91	0.00	0.031	0.000	6.910	0.00	25.35
65.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.93	0.00	0.032	0.000	7.028	0.00	25.67
70.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.94	0.00	0.033	0.000	7.138	0.00	25.97
75.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.94	0.00	0.034	0.000	7.243	0.00	26.26
80.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.95	0.00	0.035	0.000	7.342	0.00	26.52
85.00	1.411" Fiber	Yes	5.00	0.000	1.41	1.96	0.00	0.036	0.000	7.436	0.00	26.78
85.25	1.411" Fiber	Yes	0.25	0.000	1.41	0.10	0.00	0.037	0.000	7.441	0.00	1.34
90.00	1.411" Fiber	Yes	4.75	0.000	1.41	1.87	0.00	0.038	0.000	7.526	0.00	25.67
Totals:											0.0	427.7

Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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

Iterations 19

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	-75.28	-9.24	0.00	-859.78	0.00	859.78	5435.95	2717.97	12860.7	6439.91	0.00	0.000	0.000	0.147
5.00	-72.86	-9.11	0.00	-813.60	0.00	813.60	5360.22	2680.11	12406.3	6212.37	0.02	-0.036	0.000	0.145
10.00	-70.45	-8.98	0.00	-768.05	0.00	768.05	5282.67	2641.34	11955.5	5986.66	0.08	-0.071	0.000	0.142
15.00	-68.07	-8.86	0.00	-723.14	0.00	723.14	5203.30	2601.65	11508.7	5762.93	0.17	-0.108	0.000	0.139
20.00	-65.71	-8.72	0.00	-678.87	0.00	678.87	5122.11	2561.06	11066.1	5541.30	0.30	-0.144	0.000	0.135
25.00	-63.40	-8.58	0.00	-635.27	0.00	635.27	5039.10	2519.55	10628.0	5321.92	0.47	-0.181	0.000	0.132
30.00	-61.12	-8.43	0.00	-592.40	0.00	592.40	4954.26	2477.13	10194.7	5104.94	0.68	-0.217	0.000	0.128
35.00	-58.87	-8.27	0.00	-550.27	0.00	550.27	4867.60	2433.80	9766.46	4890.49	0.93	-0.254	0.000	0.125
40.00	-56.67	-8.10	0.00	-508.91	0.00	508.91	4779.12	2389.56	9343.53	4678.71	1.22	-0.291	0.000	0.121
42.00	-55.80	-8.05	0.00	-492.70	0.00	492.70	4743.22	2371.61	9175.92	4594.78	1.34	-0.306	0.000	0.119
45.00	-53.81	-7.94	0.00	-468.56	0.00	468.56	4688.82	2344.41	8926.23	4469.75	1.54	-0.328	0.000	0.116
48.00	-51.85	-7.84	0.00	-444.73	0.00	444.73	3840.55	1920.27	7332.01	3671.45	1.75	-0.351	0.000	0.135
50.00	-51.07	-7.78	0.00	-429.06	0.00	429.06	3813.07	1906.53	7201.22	3605.96	1.91	-0.365	0.000	0.132
55.00	-49.15	-7.62	0.00	-390.14	0.00	390.14	3743.08	1871.54	6876.85	3443.54	2.31	-0.405	0.000	0.126
60.00	-47.26	-7.45	0.00	-352.04	0.00	352.04	3671.28	1835.64	6556.42	3283.08	2.76	-0.444	0.000	0.120
65.00	-45.42	-7.29	0.00	-314.77	0.00	314.77	3597.66	1798.83	6240.20	3124.74	3.24	-0.483	0.000	0.113
70.00	-43.61	-7.12	0.00	-278.33	0.00	278.33	3522.21	1761.10	5928.48	2968.65	3.77	-0.520	0.000	0.106
75.00	-41.84	-6.95	0.00	-242.74	0.00	242.74	3444.94	1722.47	5621.53	2814.94	4.33	-0.556	0.000	0.098
80.00	-40.12	-6.78	0.00	-207.99	0.00	207.99	3365.85	1682.92	5319.64	2663.77	4.93	-0.590	0.000	0.090
85.00	-38.43	-6.60	0.00	-174.09	0.00	174.09	3284.94	1642.47	5023.09	2515.28	5.57	-0.621	0.000	0.081
85.25	-38.35	-6.60	0.00	-172.44	0.00	172.44	3280.84	1640.42	5008.41	2507.93	5.60	-0.623	0.000	0.080
90.00	-31.27	-5.42	0.00	-141.09	0.00	141.09	1897.08	948.54	2862.22	1433.24	6.23	-0.650	0.000	0.115
95.00	-29.97	-5.25	0.00	-114.00	0.00	114.00	1858.98	929.49	2709.28	1356.65	6.93	-0.676	0.000	0.100
100.00	-28.69	-5.08	0.00	-87.75	0.00	87.75	1819.06	909.53	2557.69	1280.75	7.66	-0.708	0.000	0.084
105.00	-27.45	-4.92	0.00	-62.33	0.00	62.33	1777.32	888.66	2407.73	1205.66	8.41	-0.735	0.000	0.067
107.00	-20.81	-3.56	0.00	-52.50	0.00	52.50	1760.11	880.05	2348.27	1175.88	8.72	-0.744	0.000	0.056
110.00	-20.14	-3.46	0.00	-41.83	0.00	41.83	1733.75	866.88	2259.69	1131.52	9.19	-0.755	0.000	0.049
115.00	-19.03	-3.30	0.00	-24.52	0.00	24.52	1688.37	844.18	2113.84	1058.49	9.99	-0.770	0.000	0.034
117.00	-10.80	-1.86	0.00	-17.93	0.00	17.93	1669.70	834.85	2056.18	1029.62	10.32	-0.774	0.000	0.024
120.00	-10.21	-1.77	0.00	-12.34	0.00	12.34	1641.16	820.58	1970.46	986.70	10.81	-0.779	0.000	0.019
125.00	-9.25	-1.61	0.00	-3.49	0.00	3.49	1592.13	796.06	1829.84	916.28	11.62	-0.784	0.000	0.010
127.00	-0.45	-0.09	0.00	-0.27	0.00	0.27	1572.01	786.00	1774.43	888.53	11.95	-0.784	0.000	0.001
130.00	0.00	-0.08	0.00	0.00	0.00	0.00	1541.28	770.64	1692.26	847.39	12.45	-0.784	0.000	0.000

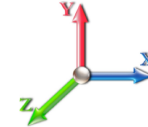
Seismic Segment Forces (Factored)

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 18
Gust Response Factor	1.10	Sds	0.18	Ss 0.17
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.48	SA 0.05
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1345.2	0.00	0.04	0.02	21.03	
10.00		1315.9	0.01	0.06	0.03	30.02	
15.00		1286.6	0.03	0.07	0.04	33.78	
20.00		1257.3	0.04	0.07	0.04	35.24	
25.00		1228.0	0.07	0.07	0.04	35.81	
30.00		1198.7	0.10	0.07	0.04	36.12	
35.00		1169.5	0.14	0.07	0.03	36.27	
40.00		1140.2	0.18	0.07	0.03	36.04	
42.00	Bot - Section 2	447.88	0.20	0.06	0.02	14.18	
45.00		1241.2	0.23	0.06	0.02	39.02	
48.00	Top - Section 1	1221.6	0.26	0.05	0.02	37.52	
50.00		374.41	0.28	0.05	0.01	11.18	
55.00		918.44	0.34	0.04	0.01	24.06	
60.00		893.33	0.40	0.02	0.01	17.75	
65.00		868.22	0.47	-0.01	0.01	9.46	
70.00		843.11	0.55	-0.03	0.01	0.13	
75.00		818.00	0.63	-0.06	0.02	-8.58	
80.00		792.89	0.72	-0.09	0.03	-14.84	
85.00		767.78	0.81	-0.11	0.06	-17.29	
85.25	Bot - Section 3	37.73	0.81	-0.11	0.06	-0.85	
90.00	Top - Section 2	3542.0	0.91	-0.12	0.09	-72.97	
95.00		486.81	1.01	-0.11	0.14	-6.00	
100.00		470.07	1.12	-0.06	0.20	1.21	
105.00		453.33	1.23	0.04	0.28	10.95	
107.00	Appurtenance(s)	2421.4	1.28	0.09	0.32	83.95	
110.00		259.95	1.35	0.20	0.39	13.64	
115.00		419.85	1.48	0.45	0.52	36.80	
117.00	Appurtenance(s)	3595.7	1.53	0.58	0.58	372.74	
120.00		239.86	1.61	0.81	0.68	31.13	
125.00		386.37	1.75	1.31	0.89	69.14	
127.00	Appurtenance(s)	3632.0	1.80	1.56	0.98	728.73	
130.00		219.77	1.89	1.98	1.14	51.72	
Totals:		35,293.8				1,697.1	Total Wind: 35,830.5

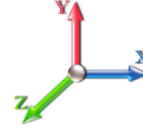
Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 18
Gust Response Factor	1.10			Sds	0.18	Ss 0.17
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.48	SA	0.05	Seismic Importance 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	-50.27	-1.82	0.00	-190.29	0.00	190.29	5435.95	2717.97	12860.7	6439.91	0.00	0.00	0.00	0.039
5.00	-48.33	-1.81	0.00	-181.18	0.00	181.18	5360.22	2680.11	12406.3	6212.37	0.00	-0.01	0.038	
10.00	-46.42	-1.78	0.00	-172.15	0.00	172.15	5282.67	2641.34	11955.5	5986.66	0.02	-0.02	0.038	
15.00	-44.54	-1.75	0.00	-163.24	0.00	163.24	5203.30	2601.65	11508.7	5762.93	0.04	-0.02	0.037	
20.00	-42.70	-1.72	0.00	-154.47	0.00	154.47	5122.11	2561.06	11066.1	5541.30	0.07	-0.03	0.036	
25.00	-40.90	-1.69	0.00	-145.85	0.00	145.85	5039.10	2519.55	10628.0	5321.92	0.11	-0.04	0.036	
30.00	-39.13	-1.66	0.00	-137.38	0.00	137.38	4954.26	2477.13	10194.7	5104.94	0.15	-0.05	0.035	
35.00	-37.40	-1.63	0.00	-129.07	0.00	129.07	4867.60	2433.80	9766.46	4890.49	0.21	-0.06	0.034	
40.00	-35.70	-1.60	0.00	-120.92	0.00	120.92	4779.12	2389.56	9343.53	4678.71	0.27	-0.07	0.033	
42.00	-35.03	-1.58	0.00	-117.73	0.00	117.73	4743.22	2371.61	9175.92	4594.78	0.30	-0.07	0.033	
45.00	-33.34	-1.55	0.00	-112.98	0.00	112.98	4688.82	2344.41	8926.23	4469.75	0.35	-0.08	0.032	
48.00	-31.68	-1.51	0.00	-108.35	0.00	108.35	4640.55	2317.27	8681.01	4347.45	0.40	-0.08	0.031	
50.00	-31.09	-1.50	0.00	-105.33	0.00	105.33	4613.07	2306.53	8601.22	4305.96	0.43	-0.08	0.031	
55.00	-29.66	-1.48	0.00	-97.83	0.00	97.83	4543.08	2271.54	8343.85	4143.54	0.53	-0.09	0.030	
60.00	-28.26	-1.46	0.00	-90.44	0.00	90.44	4471.28	2235.64	8085.42	3983.08	0.63	-0.10	0.030	
65.00	-26.89	-1.46	0.00	-83.13	0.00	83.13	4397.66	2198.83	7826.20	3824.74	0.74	-0.11	0.030	
70.00	-25.54	-1.46	0.00	-75.85	0.00	75.85	4322.21	2161.10	7567.48	3668.65	0.87	-0.12	0.030	
75.00	-24.23	-1.46	0.00	-68.56	0.00	68.56	4244.94	2122.47	7308.53	3514.94	1.01	-0.13	0.030	
80.00	-22.95	-1.46	0.00	-61.27	0.00	61.27	4165.85	2082.92	7049.64	3363.77	1.15	-0.14	0.030	
85.00	-21.70	-1.46	0.00	-53.97	0.00	53.97	4084.94	2042.47	6790.79	3215.28	1.31	-0.15	0.029	
85.25	-21.64	-1.46	0.00	-53.61	0.00	53.61	4080.84	2040.42	6781.41	3207.93	1.31	-0.15	0.029	
90.00	-17.07	-1.45	0.00	-46.67	0.00	46.67	3997.08	1998.54	6522.22	3057.24	1.47	-0.16	0.029	
95.00	-16.16	-1.45	0.00	-39.43	0.00	39.43	3910.98	1954.49	6262.28	2908.65	1.65	-0.17	0.029	
100.00	-15.26	-1.45	0.00	-32.18	0.00	32.18	3822.06	1909.53	6002.69	2762.75	1.83	-0.18	0.029	
105.00	-14.39	-1.44	0.00	-24.93	0.00	24.93	3730.32	1863.66	5743.73	2619.66	2.03	-0.19	0.029	
107.00	-11.35	-1.34	0.00	-22.06	0.00	22.06	3636.11	1816.05	5485.27	2479.88	2.11	-0.20	0.029	
110.00	-10.89	-1.33	0.00	-18.03	0.00	18.03	3539.75	1767.88	5227.69	2342.52	2.24	-0.20	0.029	
115.00	-10.13	-1.29	0.00	-11.39	0.00	11.39	3441.37	1718.18	4970.84	2208.49	2.45	-0.21	0.029	
117.00	-5.71	-0.90	0.00	-8.81	0.00	8.81	3340.70	1667.84	4715.18	2077.62	2.54	-0.21	0.029	
120.00	-5.32	-0.87	0.00	-6.10	0.00	6.10	3237.16	1615.58	4460.46	1949.70	2.67	-0.21	0.029	
125.00	-4.69	-0.80	0.00	-1.75	0.00	1.75	3032.13	1492.06	4019.84	1628.28	2.90	-0.21	0.029	
127.00	-0.26	-0.05	0.00	-0.16	0.00	0.16	2827.01	1368.00	3579.43	1308.53	2.99	-0.21	0.029	
130.00	0.00	-0.05	0.00	0.00	0.00	0.00	2621.28	1243.64	3139.26	987.39	3.12	-0.21	0.029	

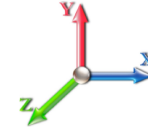
Seismic Segment Forces (Factored)

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 18
Gust Response Factor	1.10	Sds	0.18	Ss 0.17
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.48	SA 0.05
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1345.2	0.00	0.04	0.02	21.03	
10.00		1315.9	0.01	0.06	0.03	30.02	
15.00		1286.6	0.03	0.07	0.04	33.78	
20.00		1257.3	0.04	0.07	0.04	35.24	
25.00		1228.0	0.07	0.07	0.04	35.81	
30.00		1198.7	0.10	0.07	0.04	36.12	
35.00		1169.5	0.14	0.07	0.03	36.27	
40.00		1140.2	0.18	0.07	0.03	36.04	
42.00	Bot - Section 2	447.88	0.20	0.06	0.02	14.18	
45.00		1241.2	0.23	0.06	0.02	39.02	
48.00	Top - Section 1	1221.6	0.26	0.05	0.02	37.52	
50.00		374.41	0.28	0.05	0.01	11.18	
55.00		918.44	0.34	0.04	0.01	24.06	
60.00		893.33	0.40	0.02	0.01	17.75	
65.00		868.22	0.47	-0.01	0.01	9.46	
70.00		843.11	0.55	-0.03	0.01	0.13	
75.00		818.00	0.63	-0.06	0.02	-8.58	
80.00		792.89	0.72	-0.09	0.03	-14.84	
85.00		767.78	0.81	-0.11	0.06	-17.29	
85.25	Bot - Section 3	37.73	0.81	-0.11	0.06	-0.85	
90.00	Top - Section 2	3542.0	0.91	-0.12	0.09	-72.97	
95.00		486.81	1.01	-0.11	0.14	-6.00	
100.00		470.07	1.12	-0.06	0.20	1.21	
105.00		453.33	1.23	0.04	0.28	10.95	
107.00	Appurtenance(s)	2421.4	1.28	0.09	0.32	83.95	
110.00		259.95	1.35	0.20	0.39	13.64	
115.00		419.85	1.48	0.45	0.52	36.80	
117.00	Appurtenance(s)	3595.7	1.53	0.58	0.58	372.74	
120.00		239.86	1.61	0.81	0.68	31.13	
125.00		386.37	1.75	1.31	0.89	69.14	
127.00	Appurtenance(s)	3632.0	1.80	1.56	0.98	728.73	
130.00		219.77	1.89	1.98	1.14	51.72	
Totals:		35,293.8				1,697.1	Total Wind: 35,830.5

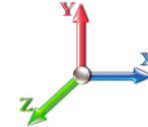
Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E						Iterations 18
Gust Response Factor	1.10			Sds	0.18	Ss 0.17
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.48	SA	0.05	Seismic Importance 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	-37.70	-1.82	0.00	-189.00	0.00	189.00	5435.95	2717.97	12860.7	6439.91	0.00	0.00	0.00	0.036
5.00	-36.25	-1.80	0.00	-179.90	0.00	179.90	5360.22	2680.11	12406.3	6212.37	0.00	-0.01	0.036	
10.00	-34.81	-1.78	0.00	-170.88	0.00	170.88	5282.67	2641.34	11955.5	5986.66	0.02	-0.02	0.035	
15.00	-33.41	-1.75	0.00	-161.99	0.00	161.99	5203.30	2601.65	11508.7	5762.93	0.04	-0.02	0.035	
20.00	-32.03	-1.72	0.00	-153.24	0.00	153.24	5122.11	2561.06	11066.1	5541.30	0.07	-0.03	0.034	
25.00	-30.67	-1.69	0.00	-144.65	0.00	144.65	5039.10	2519.55	10628.0	5321.92	0.11	-0.04	0.033	
30.00	-29.35	-1.65	0.00	-136.23	0.00	136.23	4954.26	2477.13	10194.7	5104.94	0.15	-0.05	0.033	
35.00	-28.05	-1.62	0.00	-127.97	0.00	127.97	4867.60	2433.80	9766.46	4890.49	0.21	-0.06	0.032	
40.00	-26.77	-1.58	0.00	-119.87	0.00	119.87	4779.12	2389.56	9343.53	4678.71	0.27	-0.07	0.031	
42.00	-26.27	-1.57	0.00	-116.70	0.00	116.70	4743.22	2371.61	9175.92	4594.78	0.30	-0.07	0.031	
45.00	-25.00	-1.53	0.00	-111.99	0.00	111.99	4688.82	2344.41	8926.23	4469.75	0.35	-0.07	0.030	
48.00	-23.76	-1.50	0.00	-107.39	0.00	107.39	3840.55	1920.27	7332.01	3671.45	0.39	-0.08	0.035	
50.00	-23.32	-1.49	0.00	-104.39	0.00	104.39	3813.07	1906.53	7201.22	3605.96	0.43	-0.08	0.035	
55.00	-22.25	-1.47	0.00	-96.96	0.00	96.96	3743.08	1871.54	6876.85	3443.54	0.52	-0.09	0.034	
60.00	-21.19	-1.45	0.00	-89.63	0.00	89.63	3671.28	1835.64	6556.42	3283.08	0.63	-0.10	0.033	
65.00	-20.16	-1.44	0.00	-82.38	0.00	82.38	3597.66	1798.83	6240.20	3124.74	0.74	-0.11	0.032	
70.00	-19.16	-1.44	0.00	-75.18	0.00	75.18	3522.21	1761.10	5928.48	2968.65	0.86	-0.12	0.031	
75.00	-18.17	-1.44	0.00	-67.96	0.00	67.96	3444.94	1722.47	5621.53	2814.94	1.00	-0.13	0.029	
80.00	-17.21	-1.44	0.00	-60.75	0.00	60.75	3365.85	1682.92	5319.64	2663.77	1.14	-0.14	0.028	
85.00	-16.27	-1.44	0.00	-53.53	0.00	53.53	3284.94	1642.47	5023.09	2515.28	1.30	-0.15	0.026	
85.25	-16.23	-1.44	0.00	-53.17	0.00	53.17	3280.84	1640.42	5008.41	2507.93	1.30	-0.15	0.026	
90.00	-12.80	-1.44	0.00	-46.31	0.00	46.31	1897.08	948.54	2862.22	1433.24	1.46	-0.16	0.039	
95.00	-12.12	-1.44	0.00	-39.12	0.00	39.12	1858.98	929.49	2709.28	1356.65	1.63	-0.17	0.035	
100.00	-11.45	-1.44	0.00	-31.94	0.00	31.94	1819.06	909.53	2557.69	1280.75	1.82	-0.18	0.031	
105.00	-10.79	-1.42	0.00	-24.76	0.00	24.76	1777.32	888.66	2407.73	1205.66	2.01	-0.19	0.027	
107.00	-8.51	-1.33	0.00	-21.91	0.00	21.91	1760.11	880.05	2348.27	1175.88	2.09	-0.19	0.023	
110.00	-8.16	-1.32	0.00	-17.91	0.00	17.91	1733.75	866.88	2259.69	1131.52	2.22	-0.20	0.021	
115.00	-7.60	-1.28	0.00	-11.32	0.00	11.32	1688.37	844.18	2113.84	1058.49	2.43	-0.21	0.015	
117.00	-4.28	-0.90	0.00	-8.75	0.00	8.75	1669.70	834.85	2056.18	1029.62	2.52	-0.21	0.011	
120.00	-3.99	-0.86	0.00	-6.07	0.00	6.07	1641.16	820.58	1970.46	986.70	2.65	-0.21	0.009	
125.00	-3.52	-0.79	0.00	-1.74	0.00	1.74	1592.13	796.06	1829.84	916.28	2.87	-0.21	0.004	
127.00	-0.20	-0.05	0.00	-0.16	0.00	0.16	1572.01	786.00	1774.43	888.53	2.96	-0.21	0.000	
130.00	0.00	-0.05	0.00	0.00	0.00	0.00	1541.28	770.64	1692.26	847.39	3.10	-0.21	0.000	

Wind Loading - Shaft

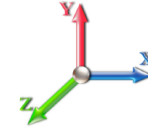
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

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		1.00	0.85	7.442	8.19	271.49	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	265.69	0.650	0.000	5.00	24.277	15.78	129.2	0.0	1345.3
10.00		1.00	0.85	7.442	8.19	259.88	0.650	0.000	5.00	23.753	15.44	126.4	0.0	1316.0
15.00		1.00	0.85	7.442	8.19	254.08	0.650	0.000	5.00	23.228	15.10	123.6	0.0	1286.7
20.00		1.00	0.90	7.896	8.69	255.74	0.650	0.000	5.00	22.703	14.76	128.2	0.0	1257.4
25.00		1.00	0.95	8.276	9.10	255.70	0.650	0.000	5.00	22.179	14.42	131.2	0.0	1228.1
30.00		1.00	0.98	8.600	9.46	254.41	0.650	0.000	5.00	21.654	14.08	133.1	0.0	1198.8
35.00		1.00	1.01	8.883	9.77	252.23	0.650	0.000	5.00	21.129	13.73	134.2	0.0	1169.5
40.00		1.00	1.04	9.137	10.05	249.37	0.650	0.000	5.00	20.605	13.39	134.6	0.0	1140.2
42.00	Bot - Section 2	1.00	1.05	9.231	10.15	248.07	0.650	0.000	2.00	8.095	5.26	53.4	0.0	447.9
45.00		1.00	1.07	9.366	10.30	245.97	0.650	0.000	3.00	12.175	7.91	81.5	0.0	1241.2
48.00	Top - Section 1	1.00	1.08	9.494	10.44	243.71	0.650	0.000	3.00	11.987	7.79	81.4	0.0	1221.6
50.00		1.00	1.09	9.576	10.53	246.11	0.650	0.000	2.00	7.886	5.13	54.0	0.0	374.4
55.00		1.00	1.12	9.770	10.75	241.94	0.650	0.000	5.00	19.348	12.58	135.2	0.0	918.4
60.00		1.00	1.14	9.951	10.95	237.46	0.650	0.000	5.00	18.823	12.24	133.9	0.0	893.3
65.00		1.00	1.16	10.120	11.13	232.70	0.650	0.000	5.00	18.299	11.89	132.4	0.0	868.2
70.00		1.00	1.17	10.279	11.31	227.70	0.650	0.000	5.00	17.774	11.55	130.6	0.0	843.1
75.00		1.00	1.19	10.430	11.47	222.49	0.650	0.000	5.00	17.250	11.21	128.6	0.0	818.0
80.00		1.00	1.21	10.572	11.63	217.09	0.650	0.000	5.00	16.725	10.87	126.4	0.0	792.9
85.00		1.00	1.22	10.708	11.78	211.51	0.650	0.000	5.00	16.200	10.53	124.0	0.0	767.8
85.25	Bot - Section 3	1.00	1.22	10.715	11.79	211.23	0.650	0.000	0.25	0.796	0.52	6.1	0.0	37.7
90.00	Top - Section 2	1.00	1.24	10.838	11.92	205.78	0.650	0.000	4.75	15.080	9.80	116.9	0.0	1182.9
95.00		1.00	1.25	10.962	12.06	202.76	0.650	0.000	5.00	15.363	9.99	120.4	0.0	486.8
100.00		1.00	1.27	11.081	12.19	196.77	0.650	0.000	5.00	14.838	9.64	117.6	0.0	470.1
105.00		1.00	1.28	11.195	12.31	190.66	0.650	0.000	5.00	14.313	9.30	114.6	0.0	453.3
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	188.19	0.650	0.000	2.00	5.578	3.63	44.8	0.0	176.6
110.00		1.00	1.29	11.305	12.44	184.45	0.650	0.000	3.00	8.210	5.34	66.4	0.0	259.9
115.00		1.00	1.30	11.412	12.55	178.12	0.650	0.000	5.00	13.264	8.62	108.2	0.0	419.9
117.00	Appurtenance(s)	1.00	1.31	11.453	12.60	175.57	0.650	0.000	2.00	5.159	3.35	42.2	0.0	163.3
120.00		1.00	1.32	11.514	12.67	171.70	0.650	0.000	3.00	7.581	4.93	62.4	0.0	239.9
125.00		1.00	1.33	11.614	12.78	165.19	0.650	0.000	5.00	12.215	7.94	101.4	0.0	386.4
127.00	Appurtenance(s)	1.00	1.33	11.653	12.82	162.56	0.650	0.000	2.00	4.739	3.08	39.5	0.0	149.9
130.00		1.00	1.34	11.710	12.88	158.59	0.650	0.000	3.00	6.951	4.52	58.2	0.0	219.8
Totals:									130.00			3,220.8		23,775.2

Discrete Appurtenance Forces

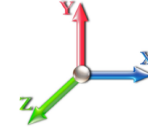
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	127.00	800-10964	3	11.653	12.818	0.54	0.75	16.20	251.40	0.000	0.000	207.65	0.00	0.00
2	127.00	Platform w/ Hand Rail	1	11.653	12.818	1.00	1.00	32.10	1600.00	0.000	0.000	411.45	0.00	0.00
3	127.00	Quintel QS46512-2	3	11.653	12.818	0.72	0.75	11.99	225.00	0.000	0.000	153.66	0.00	0.00
4	127.00	Ericsson RRUS 32	3	11.653	12.818	0.50	0.75	4.13	159.00	0.000	0.000	52.94	0.00	0.00
5	127.00	HRK14	1	11.653	12.818	1.00	1.00	8.13	302.36	0.000	0.000	104.21	0.00	0.00
6	127.00	Raycap DC6-48-60-18-8F	3	11.653	12.818	1.00	1.00	4.41	98.40	0.000	0.000	56.53	0.00	0.00
7	127.00	DBC0061F1V51-2	6	11.653	12.818	0.50	0.75	1.30	156.00	0.000	0.000	16.62	0.00	0.00
8	127.00	RRUS 8843 B2 B66A	3	11.653	12.818	0.50	0.75	2.47	216.00	0.000	0.000	31.69	0.00	0.00
9	127.00	4449 B5/B12	3	11.653	12.818	0.50	0.75	2.97	219.00	0.000	0.000	38.07	0.00	0.00
10	127.00	Powerwave	3	11.653	12.818	0.56	0.75	13.77	159.00	0.000	0.000	176.50	0.00	0.00
11	127.00	Powerwave	6	11.653	12.818	0.50	0.75	1.93	96.00	0.000	0.000	24.73	0.00	0.00
12	117.00	Ericsson Radio 4449	3	11.453	12.598	0.50	0.75	2.49	222.00	0.000	0.000	31.34	0.00	0.00
13	117.00	Ericsson KRY 112 144/1	3	11.453	12.598	0.50	0.75	0.62	33.00	0.000	0.000	7.79	0.00	0.00
14	117.00	Sitepro HRK12-U	1	11.453	12.598	1.00	1.00	9.85	418.00	0.000	0.000	124.09	0.00	0.00
15	117.00	Sitepro PRK-1245	1	11.453	12.598	1.00	1.00	9.50	228.00	0.000	0.000	119.69	0.00	0.00
16	117.00	Ericsson Air 21 B4A/B2P	3	11.453	12.598	0.65	0.75	11.78	273.00	0.000	0.000	148.46	0.00	0.00
17	117.00	Ericsson Air 21 B2A/B4P	3	11.453	12.598	0.65	0.75	11.78	274.50	0.000	0.000	148.46	0.00	0.00
18	117.00	12.5' Low Profile Platform	1	11.453	12.598	1.00	1.00	29.00	1600.00	0.000	0.000	365.35	0.00	0.00
19	117.00	APXVAARR24_43-U-NA2	3	11.453	12.598	0.52	0.75	31.88	384.00	0.000	0.000	401.61	0.00	0.00
20	107.00	Samsung RF4439d-25A	3	11.240	12.364	0.50	0.75	2.20	188.40	0.000	0.000	27.21	0.00	0.00
21	107.00	Commscope	3	11.240	12.364	0.62	0.75	15.09	121.80	0.000	0.000	186.56	0.00	0.00
22	107.00	JMA Wireless	6	11.240	12.364	0.65	0.75	38.64	276.00	0.000	0.000	477.75	0.00	0.00
23	107.00	Samsung MT6407-77A	3	11.240	12.364	0.52	0.75	7.39	238.20	0.000	0.000	91.33	0.00	0.00
24	107.00	Samsung RF4440d-13A	3	11.240	12.364	0.50	0.75	2.20	188.40	0.000	0.000	27.21	0.00	0.00
25	107.00	Raycap	1	11.240	12.364	1.00	1.00	4.06	32.00	0.000	0.000	50.20	0.00	0.00
26	107.00	Low Profile Platform	1	11.240	12.364	1.00	1.00	33.32	1200.00	0.000	0.000	411.96	0.00	0.00
27	90.00	MC-PK8-DSH	1	10.838	11.921	1.00	1.00	37.59	1727.00	0.000	0.000	448.13	0.00	0.00
28	90.00	Raycap	1	10.838	11.921	0.75	0.75	1.51	21.90	0.000	0.000	17.97	0.00	0.00
29	90.00	Fujitsu TA08025-B605	3	10.838	11.921	0.50	0.75	2.95	225.00	0.000	0.000	35.22	0.00	0.00
30	90.00	Fujitsu TA08025-B604	3	10.838	11.921	0.57	0.75	3.35	191.70	0.000	0.000	39.96	0.00	0.00
31	90.00	MX08FRO665-21	3	10.838	11.921	0.55	0.75	20.80	193.50	0.000	0.000	247.92	0.00	0.00
Totals:									11,518.56			4,682.25		

Total Applied Force Summary

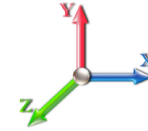
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

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		129.18	1620.52	0.00	0.00
10.00		126.39	1591.22	0.00	0.00
15.00		123.59	1561.93	0.00	0.00
20.00		128.18	1532.63	0.00	0.00
25.00		131.24	1503.34	0.00	0.00
30.00		133.15	1474.04	0.00	0.00
35.00		134.21	1444.75	0.00	0.00
40.00		134.61	1415.45	0.00	0.00
42.00		53.43	557.98	0.00	0.00
45.00		81.54	1406.36	0.00	0.00
48.00		81.37	1386.78	0.00	0.00
50.00		54.00	484.51	0.00	0.00
55.00		135.16	1193.69	0.00	0.00
60.00		133.93	1168.58	0.00	0.00
65.00		132.41	1143.47	0.00	0.00
70.00		130.63	1118.36	0.00	0.00
75.00		128.63	1093.25	0.00	0.00
80.00		126.43	1068.14	0.00	0.00
85.00		124.03	1043.03	0.00	0.00
85.25		6.10	51.49	0.00	0.00
90.00	(11) attachments	906.05	3803.50	0.00	0.00
95.00		120.41	761.81	0.00	0.00
100.00		117.56	745.07	0.00	0.00
105.00		114.57	728.33	0.00	0.00
107.00	(20) attachments	1317.04	2531.45	0.00	0.00
110.00		66.37	387.15	0.00	0.00
115.00		108.23	631.85	0.00	0.00
117.00	(18) attachments	1389.04	3680.55	0.00	0.00
120.00		62.41	325.78	0.00	0.00
125.00		101.43	529.57	0.00	0.00
127.00	(35) attachments	1313.53	3689.30	0.00	0.00
130.00		58.20	219.77	0.00	0.00
Totals:		7,903.02	41,893.68	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

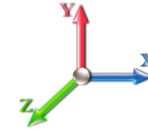
Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 19

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	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.024	0.000	7.442	0.00	0.25
10.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	7.442	0.00	0.25
15.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.025	0.000	7.442	0.00	0.25
20.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	7.896	0.00	0.25
25.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.026	0.000	8.276	0.00	0.25
30.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.027	0.000	8.600	0.00	0.25
35.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.028	0.000	8.883	0.00	0.25
40.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.029	0.000	9.137	0.00	0.25
42.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.029	0.000	9.231	0.00	0.10
45.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.029	0.000	9.366	0.00	0.15
48.00	1.411" Fiber	Yes	3.00	0.000	1.41	0.35	0.00	0.030	0.000	9.494	0.00	0.15
50.00	1.411" Fiber	Yes	2.00	0.000	1.41	0.23	0.00	0.030	0.000	9.576	0.00	0.10
55.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.030	0.000	9.770	0.00	0.25
60.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.031	0.000	9.951	0.00	0.25
65.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.032	0.000	10.120	0.00	0.25
70.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.033	0.000	10.279	0.00	0.25
75.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.034	0.000	10.430	0.00	0.25
80.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.035	0.000	10.572	0.00	0.25
85.00	1.411" Fiber	Yes	5.00	0.000	1.41	0.59	0.00	0.036	0.000	10.708	0.00	0.25
85.25	1.411" Fiber	Yes	0.25	0.000	1.41	0.03	0.00	0.037	0.000	10.715	0.00	0.01
90.00	1.411" Fiber	Yes	4.75	0.000	1.41	0.56	0.00	0.038	0.000	10.838	0.00	0.24
Totals:											0.0	4.5

Calculated Forces

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 19

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	-41.89	-7.91	0.00	-750.06	0.00	750.06	5435.95	2717.97	12860.7	6439.91	0.00	0.000	0.000	0.124
5.00	-40.27	-7.81	0.00	-710.49	0.00	710.49	5360.22	2680.11	12406.3	6212.37	0.02	-0.031	0.000	0.122
10.00	-38.67	-7.70	0.00	-671.45	0.00	671.45	5282.67	2641.34	11955.5	5986.66	0.07	-0.062	0.000	0.119
15.00	-37.11	-7.60	0.00	-632.95	0.00	632.95	5203.30	2601.65	11508.7	5762.93	0.15	-0.094	0.000	0.117
20.00	-35.57	-7.48	0.00	-594.98	0.00	594.98	5122.11	2561.06	11066.1	5541.30	0.26	-0.126	0.000	0.114
25.00	-34.06	-7.37	0.00	-557.56	0.00	557.56	5039.10	2519.55	10628.0	5321.92	0.41	-0.158	0.000	0.112
30.00	-32.58	-7.25	0.00	-520.72	0.00	520.72	4954.26	2477.13	10194.7	5104.94	0.60	-0.190	0.000	0.109
35.00	-31.14	-7.13	0.00	-484.47	0.00	484.47	4867.60	2433.80	9766.46	4890.49	0.81	-0.223	0.000	0.105
40.00	-29.72	-7.00	0.00	-448.84	0.00	448.84	4779.12	2389.56	9343.53	4678.71	1.06	-0.255	0.000	0.102
42.00	-29.16	-6.95	0.00	-434.84	0.00	434.84	4743.22	2371.61	9175.92	4594.78	1.17	-0.268	0.000	0.101
45.00	-27.75	-6.87	0.00	-413.99	0.00	413.99	4688.82	2344.41	8926.23	4469.75	1.35	-0.288	0.000	0.099
48.00	-26.36	-6.79	0.00	-393.38	0.00	393.38	3840.55	1920.27	7332.01	3671.45	1.54	-0.308	0.000	0.114
50.00	-25.87	-6.75	0.00	-379.80	0.00	379.80	3813.07	1906.53	7201.22	3605.96	1.67	-0.321	0.000	0.112
55.00	-24.68	-6.62	0.00	-346.07	0.00	346.07	3743.08	1871.54	6876.85	3443.54	2.02	-0.356	0.000	0.107
60.00	-23.51	-6.49	0.00	-312.98	0.00	312.98	3671.28	1835.64	6556.42	3283.08	2.42	-0.391	0.000	0.102
65.00	-22.36	-6.36	0.00	-280.53	0.00	280.53	3597.66	1798.83	6240.20	3124.74	2.84	-0.425	0.000	0.096
70.00	-21.24	-6.24	0.00	-248.71	0.00	248.71	3522.21	1761.10	5928.48	2968.65	3.31	-0.458	0.000	0.090
75.00	-20.14	-6.11	0.00	-217.53	0.00	217.53	3444.94	1722.47	5621.53	2814.94	3.81	-0.490	0.000	0.083
80.00	-19.07	-5.98	0.00	-186.99	0.00	186.99	3365.85	1682.92	5319.64	2663.77	4.34	-0.521	0.000	0.076
85.00	-18.03	-5.85	0.00	-157.07	0.00	157.07	3284.94	1642.47	5023.09	2515.28	4.90	-0.549	0.000	0.068
85.25	-17.98	-5.85	0.00	-155.61	0.00	155.61	3280.84	1640.42	5008.41	2507.93	4.93	-0.551	0.000	0.068
90.00	-14.18	-4.91	0.00	-127.81	0.00	127.81	1897.08	948.54	2862.22	1433.24	5.49	-0.575	0.000	0.097
95.00	-13.42	-4.79	0.00	-103.24	0.00	103.24	1858.98	929.49	2709.28	1356.65	6.10	-0.599	0.000	0.083
100.00	-12.67	-4.67	0.00	-79.28	0.00	79.28	1819.06	909.53	2557.69	1280.75	6.74	-0.628	0.000	0.069
105.00	-11.94	-4.55	0.00	-55.91	0.00	55.91	1777.32	888.66	2407.73	1205.66	7.42	-0.652	0.000	0.053
107.00	-9.43	-3.21	0.00	-46.81	0.00	46.81	1760.11	880.05	2348.27	1175.88	7.69	-0.660	0.000	0.045
110.00	-9.04	-3.14	0.00	-37.18	0.00	37.18	1733.75	866.88	2259.69	1131.52	8.11	-0.670	0.000	0.038
115.00	-8.41	-3.03	0.00	-21.48	0.00	21.48	1688.37	844.18	2113.84	1058.49	8.82	-0.683	0.000	0.025
117.00	-4.75	-1.59	0.00	-15.43	0.00	15.43	1669.70	834.85	2056.18	1029.62	9.11	-0.687	0.000	0.018
120.00	-4.42	-1.53	0.00	-10.65	0.00	10.65	1641.16	820.58	1970.46	986.70	9.54	-0.691	0.000	0.013
125.00	-3.89	-1.42	0.00	-3.02	0.00	3.02	1592.13	796.06	1829.84	916.28	10.27	-0.695	0.000	0.006
127.00	-0.22	-0.06	0.00	-0.18	0.00	0.18	1572.01	786.00	1774.43	888.53	10.56	-0.695	0.000	0.000
130.00	0.00	-0.06	0.00	0.00	0.00	0.00	1541.28	770.64	1692.26	847.39	10.99	-0.695	0.000	0.000

Final Analysis Summary

Structure: CT13615-A-SBA	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 33



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	35.9	0.00	50.23	0.00	0.00	3413.44
0.9D + 1.6W 101 mph Wind	35.9	0.00	37.66	0.00	0.00	3391.99
1.2D + 1.0Di + 1.0Wi 50 mph Wind	9.2	0.00	75.28	0.00	0.00	859.78
1.2D + 1.0E	1.8	0.00	50.27	0.00	0.00	190.29
0.9D + 1.0E	1.8	0.00	37.70	0.00	0.00	189.00
1.0D + 1.0W 60 mph Wind	7.9	0.00	41.89	0.00	0.00	750.06

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	-50.23	-35.89	0.00	-3413.4	0.00	-3413.4	5435.95	2717.9	12860.7	6439.91	0.00	0.539
0.9D + 1.6W 101 mph Wind	-37.66	-35.88	0.00	-3391.9	0.00	-3391.9	5435.95	2717.9	12860.7	6439.91	0.00	0.534
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-75.28	-9.24	0.00	-859.78	0.00	-859.78	5435.95	2717.9	12860.7	6439.91	0.00	0.147
1.2D + 1.0E	-17.07	-1.45	0.00	-46.67	0.00	-46.67	1897.08	948.54	2862.22	1433.24	90.00	0.042
0.9D + 1.0E	-12.80	-1.44	0.00	-46.31	0.00	-46.31	1897.08	948.54	2862.22	1433.24	90.00	0.039
1.0D + 1.0W 60 mph Wind	-41.89	-7.91	0.00	-750.06	0.00	-750.06	5435.95	2717.9	12860.7	6439.91	0.00	0.124

Base Plate Summary

Structure: CT13615-A-SB	Code: TIA-222-G	6/23/2022
Site Name: Madison 7, CT	Exposure: C	
Height: 130.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 34



Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 63.00
Moment (kip-ft): 5098.40	Width (in): 67.00	Number Bolts: 26.00
Axial (kip): 100.90	Style: Round	Bolt Type: 1.5" F1554 105
Shear (kip): 46.40	Polygon Sides: 0.00	Bolt Diameter (in): 1.50
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 105.00
Moment (kip-ft): 3413.44	Effective Len (in): 8.93	Ultimate (ksi): 125.00
Axial (kip): 50.23	Moment (kip-in): 257.31	Arrangement: Radial
Shear (kip): 35.89	Allow Stress (ksi): 67.50	Cluster Dist (in): 0.00
	Applied Stress (ksi): 56.70	Start Angle (deg): 0.00
	Stress Ratio: 0.84	Compression
		Force (kip): 102.92
		Allowable (kip): 141.00
		Ratio: 0.75
		Tension
		Force (kip): 97.13
		Allowable (kip): 141.00
		Ratio: 0.71



Monopole Mat Foundation Design

Date
6/23/2022

Customer Name:	Dish Wireless	TIA Standard:	TIA-222-G
Site Name:		Structure Height (Ft.):	130
Site Number:	CT13615-A-SBA	Engineer Name:	M. Al Rubayee
Engr. Number:	130851	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	50.2	Shear Force (Kips):	35.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3413.4
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	7.5	Depth of Base BG (ft.):	4.0
Pier Height A. G. (ft.):	2.50	Thickness of Pad (ft):	3.50
Length of Pad (ft.):	26	Width of Pad (ft.):	26
Final Length of pad (ft)	26.0	Final width of pad (ft):	26.0

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	32	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	28	Qty. of Rebar in Pad (W):	28
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Apply 1.35 factor for e/w Per G: 1.35

Soil Design Parameters:

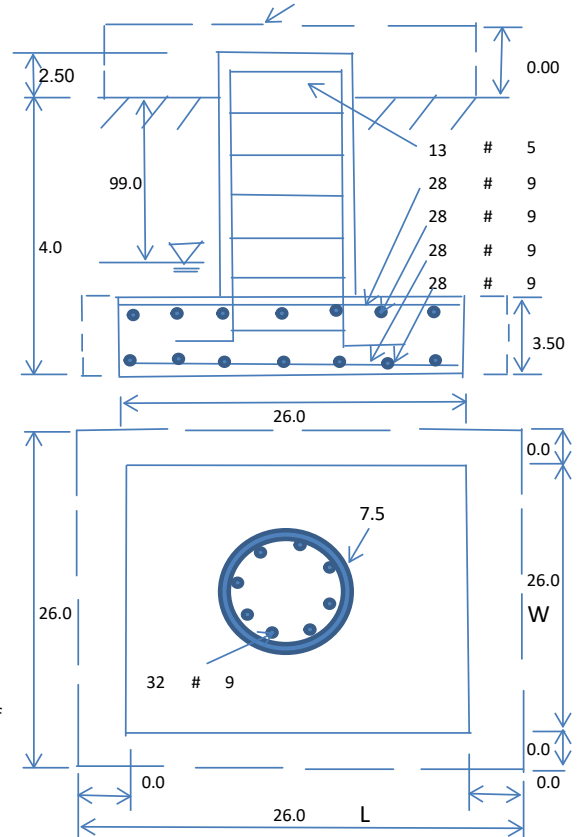
Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	15000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	315.91	Total Dry Soil Weight (Kips):	37.91
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	37.91	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2498.54	Total Dry Concrete Weight (Kips):	374.78
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	374.78	Total Vertical Load on Base (Kips):	462.89

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2353	< Allowable Factored Soil Bearing (psf):	11250	0.21	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	5481.1	> Design Factored Momont (kips-ft):	3647	0.67	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.50				OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	1.00	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	5835.6	> Design Factored Moment (Mu, Kips-F	3521.1	0.60	OK!
Calculated Shear Capacity (Kips):	1049.9	> Design Factored Shear (Kips):	35.9	0.03	OK!
Calculated Tension Capacity (Tn, Kips):	1728.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	11191.0	> Design Factored Axial Load (Pu Kips):	50.2	0.00	OK!
Moment & Axial Strength Combination:	0.60	OK! Check Tie Spacing (Design/Required):	0.5		OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	1137.7	> One-Way Factored Shear (L-D. Kips):	206.1	0.18	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1137.7	> One-Way Factored Shear (W-D., Kips)	206.1	0.18	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1000.5	> One-Way Factored Shear (C-C, Kips):	201.2	0.20	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0023	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0023		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	4743.4	> Moment at Bottom (L-Dir. K-Ft):	1215.5	0.26	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	4743.4	> Moment at Bottom (W-Dir. K-Ft):	1215.5	0.26	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	6672.0	> Moment at Bottom (C-C Dir. K-Ft):	1719.0	0.26	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0023	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0023		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	4743.4	> Moment at the top (L-Dir K-Ft):	519.5	0.11	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	4743.4	> Moment at the top (W-Dir K-Ft):	519.5	0.11	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	6672.0	> Moment at the top (C-C Dir. K-Ft):	488.0	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:					
Moment transferred by punching shear:	1365.4	k-ft. Max. factored shear stress $v_{u,CD}$:	2.4	Psi	
Max. factored shear stress $v_{u,AB}$:	7.4	Psi Factored shear Strength ϕv_n :	189.7	Psi	
Max. factored shear stress v_u :	7.4	Psi Check Usage of Punching Shear Capacity:	0.04		OK!