

March 18, 2026

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **TS-VER-077-251222 – Cellco Partnership d/b/a Verizon Wireless (“Cellco”)
Telecommunications Facility, 93 Lake Street, Manchester, Connecticut**

Notice of Commencement of Construction and Updated Structural Analysis

Dear Attorney Bachman:

In accordance with Condition No. 8 of the Siting Council’s approval of TS-VER-077-251222, this letter will serve as notice of Cellco’s intent to commence construction of the approved facility on or about April 6, 2026.

Enclosed is an updated Structural Analysis Report, which was updated to remove the reserved loading. All other submitted documents remain the same.

The Construction Manager responsible for site construction activity is Michael Humphreys. Mr. Humphreys’ contact information is provided below.

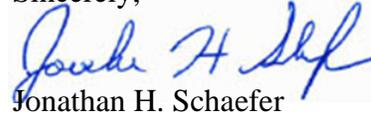
Michael Humphreys, Construction Manager
Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492
(860) 560-6410

Robinson+Cole

Melanie A. Bachman, Esq.
March 18, 2026
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If you have any questions or need any additional information regarding the proposed construction schedule, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jonathan H. Schaefer".

Jonathan H. Schaefer

Enclosure

Copy to:

Alex Tyurin
Dulce Lara



Structural Analysis Report

Client: Verizon

Client Site ID / Name: 5000975325 / Manchester 9 CT
Application #: 287138, v3

SBA Site ID / Name: CT13529-A / Manchester 1

110 ft Monopole

93 Lake Street
Manchester, Connecticut 06042
Lat: 41.7890, Long: -72.4820

Project number: CT13529-VZW-012726

Analysis Results

Tower	51.9%	Pass
Foundation	66.0%	Pass

Change in tower stress due to mount modification / replacement	N/A
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Prepared by:

Mojdeh Sadeghzadeh

January 27, 2026



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Introduction

The purpose of this report is to summarize the analysis results on 110 ft Monopole to support the proposed antennas and transmissions lines in addition to those currently installed.

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Sabre, Project No. 09-06160, dated 06/17/2008.
Foundation drawings	Sabre, Project No. 09-06160, dated 06/17/2008.
Geotechnical report	Terracon, Project No. J2085152, dated 06/06/2008.
Modification drawings	N/A
Carrier MA	Colliers Engineering & Design, Project No. 25777215, dated 04/15/2025.
Latest SA	SBA, Project No. CT13529-TMO-062625, dated 06/2/2025

Analysis Criteria

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut/ Hartford/ Manchester
Governing Codes	ANSI/TIA/EIA 222-H, 2021 IBC, 2022 CSBC
Ultimate Wind Speed (3-Sec gust)	118.0 mph
Wind Speed with Ice (3-Sec gust)	50 mph
Service Wind Speed (3-Sec gust)	60 mph
Ice Thickness	1.50"
Risk Category	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft
Ground Elevation	469.1 ft.
Seismic Parameter S_s	0.189
Seismic Parameter S_1	0.055

This structural analysis is based upon the tower being classified as a risk category 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.

Appurtenance Loading

Existing Loading:

Table 3 Existing Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	105.0	3	RFS APXVLL19P_43-C-A20 -Panel	LP Platform w/ Handrails & Kickers	(3) 1.9" Hybrid (9) 7/8"	T-Mobile
2		3	Ericsson AIR 6419 B41 -Panel			
3		3	RFS APXVAARR24_43-U-NA20 -Panel			
4		3	Ericsson 4449 B71 + B85 -RRU			
5		3	Ericsson 4460 B25 + B66 -RRU			
14	85.0	3	JMA MX08FRO665-21 - Panel	Platform w/ Handrails	(1) 1.411" Hybrid	Dish Wireless
15		3	Fujitsu TA08025-B605 -RRU			
16		3	Fujitsu TA08025-B604 -RRU			
17		1	Raycap RDIDC-9181-PF-48 -OVP			

Proposed Loading:

Information pertaining to proposed antennas and transmission lines were based upon the Application #: 287138, v3 from Verizon and is listed in Table 4.

Table 4 Proposed Appurtenances

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
6	95.0	3	Samsung MT6413-77A - Panel	Platform w/ Handrails & Kickers [Site Pro 1 RMQP-496-HK]	(2) 1-1/4" Hybrid (1) 1-1/2" Hybrid	Verizon
7		3	Andrew / Commscope NHH-65B-R2B- Panel			
8		3	Andrew / Commscope NHHSS-65B-R2BT4- Panel			
9		3	Samsung RF4801d-25A -RRU			
10		3	Samsung RF4461d-13A-RRU			
11		3	Samsung RT4423-48A-RRU			
12		1	Raycap RVZDC-6627-PF-48 -OVP			
13		1	HUBER+SUHNER MLRH 3X6 -NGOVP			

Analysis Results

Tower

The results of the structural analysis are shown below in table 5. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	50.2%	51.9%	43.2%
Pass/Fail	Pass	Pass	Pass

Foundation

The results of the foundation analysis are shown below in table 6. Additional information for the foundation analysis is provided within the Appendix.

Table 6 Foundation Analysis Summary

Structural Component	Max Usage (%)	Analysis Result
Foundation	66.0%	Pass

Conclusions

Based on the analysis results, the existing tower and foundation were found to be **sufficient** to safely support the equipment listed in this analysis. No modification to the tower and foundation is needed at this time.

Installation Requirements

This analysis was performed under the assumption that the carrier will place the proposed equipment and feed lines at the installation height listed in Table 4 and in accordance with the coax layout shown. TMAs and RRUs are to be installed on existing mounts behind tenant's antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met the carrier must notify SBA Communications Corporation engineers for approval of an alternative placement.

Assumptions and Limitations

Assumptions

This analysis was completed based on the following assumptions:

- Tower and foundation were built in accordance to manufacturer specifications.
- Tower and foundation has been properly maintained in accordance with the manufacturer's specifications
- All existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion
- Welds and bolts are assumed able to carry their intended original design loads.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 3 and 4.
- This analysis may be affected if any assumptions are not valid or have been made in error. SBA should be notified to determine the effect on the structural integrity of the tower.

Limitations

The computer generated analysis performed by the tower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection.

SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Appendix

Usage Diagram - Max Ratio 50.22% at 0.0ft

Structure: CT13529-A
Site Name: Manchester 1
Height: 109.00 (ft)
Base Elev: 1.000 (ft)

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

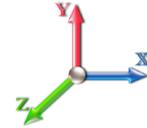
1/27/2026



Page: 1

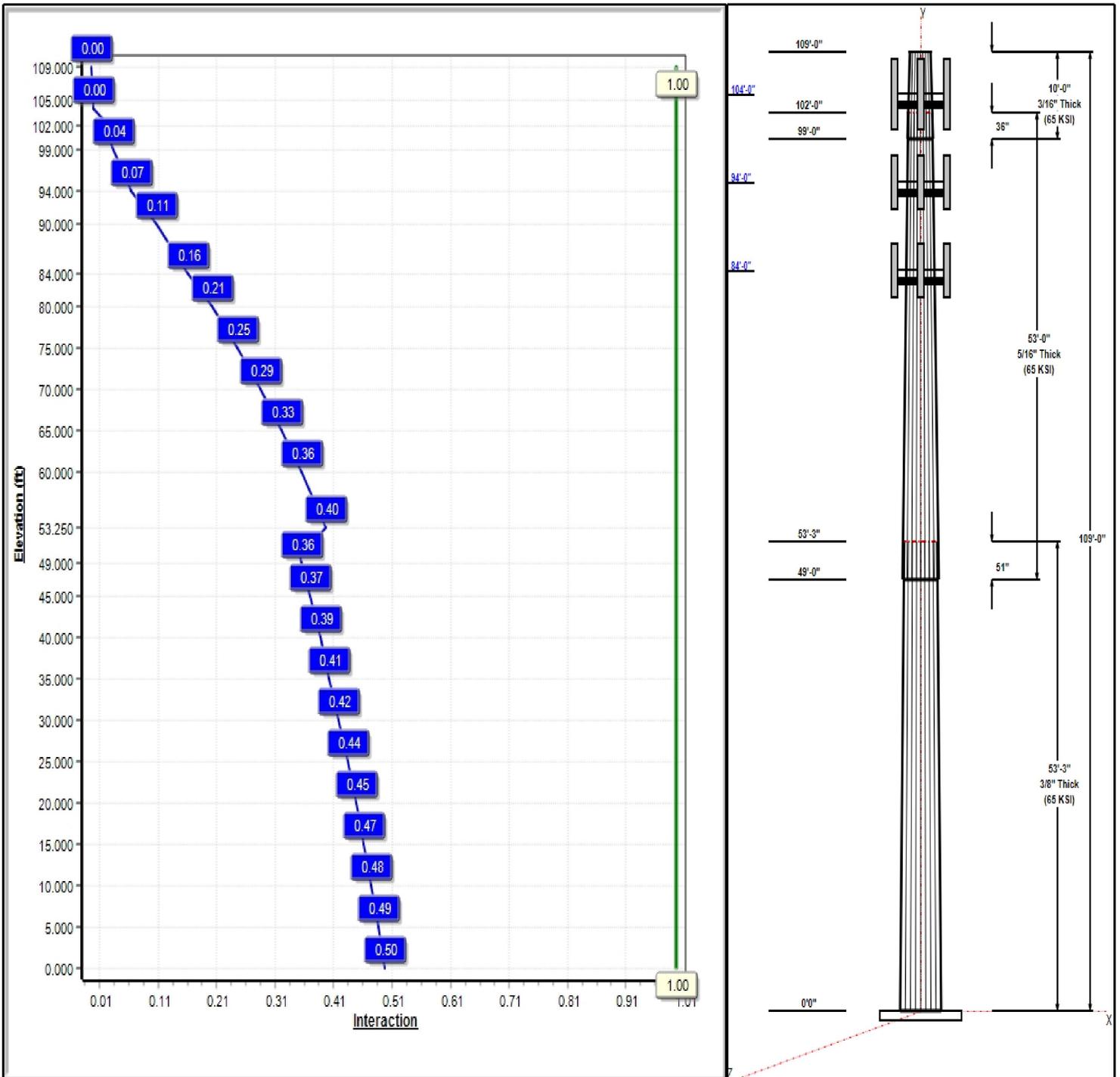
Dead Load Factor: 1.20 **Wind Speed:** 118.00
Wind Load Factor: 1.00 **Ice Thickness:** 1.50

Load Case : 1.2D + 1.0W 118 mph Wind at 60°



Iterations: 23

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Structure: CT13529-A

Type: Tapered	Base Shape: 18 Sided	1/27/2026
Site Name: Manchester 1	Taper: 0.20697	
Height: 109.00 (ft)	Wind Speed: 118.00	
Base Elev: 1.00 (ft)	Ice Thickness: 1.50	Page: 2



Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	32.68	43.70	0.375		0.20697	65
2	53.00	23.21	34.18	0.313	Slip	0.20697	65
3	10.00	22.14	24.21	0.188	Slip	0.20697	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
104.00	104.00	3	APXVAARR24_43-U-NA20	T-Mobile
104.00	104.00	3	AIR 6419 B41	T-Mobile
104.00	104.00	3	APXVLL19P_43-C-A20	T-Mobile
104.00	104.00	3	4449 B71 + B85	T-Mobile
104.00	104.00	1	Platform w/ HRs & Kickers	T-Mobile
104.00	104.00	3	4460 B25 + B66	T-Mobile
94.00	94.00	1	HUBER+SUHNER MLRH	Verizon
94.00	94.00	3	MT6413-77A	Verizon
94.00	94.00	3	NHH-65B-R2B	Verizon
94.00	94.00	3	NHHSS-65B-R2BT4	Verizon
94.00	94.00	3	RF4801d-25A	Verizon
94.00	94.00	3	RF4461d-13A	Verizon
94.00	94.00	3	RT4423-48A	Verizon
94.00	94.00	1	RVZDC-6627-PF-48	Verizon
94.00	94.00	1	RMQP-496-HK (Platform	Verizon
94.00	94.00	12	Mount Pipes	Verizon
94.00	94.00	1	OVP Pipe (P2x36")	Verizon
84.00	84.00	3	MX08FRO665-21	Dish Wireless
84.00	84.00	1	MC-PK8-DSH w/ Pipes	Dish Wireless
84.00	84.00	3	TA08025-B605	Dish Wireless
84.00	84.00	3	TA08025-B604	Dish Wireless
84.00	84.00	1	RDIDC-9181-PF-48	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	109.00	Outside	Safety Cable	
0.00	109.00	Outside	Step bolts (ladder)	
0.00	104.00	Inside	1.9" Hybrid	T-Mobile
0.00	104.00	Inside	7/8" Coax	T-Mobile
0.00	94.00	Inside	1-1/2" Hybrid	Verizon
0.00	94.00	Inside	1-1/4" Hybrid	Verizon
0.00	84.00	Inside	1.411" Hybrid	Dish Wireless

Anchor Bolts

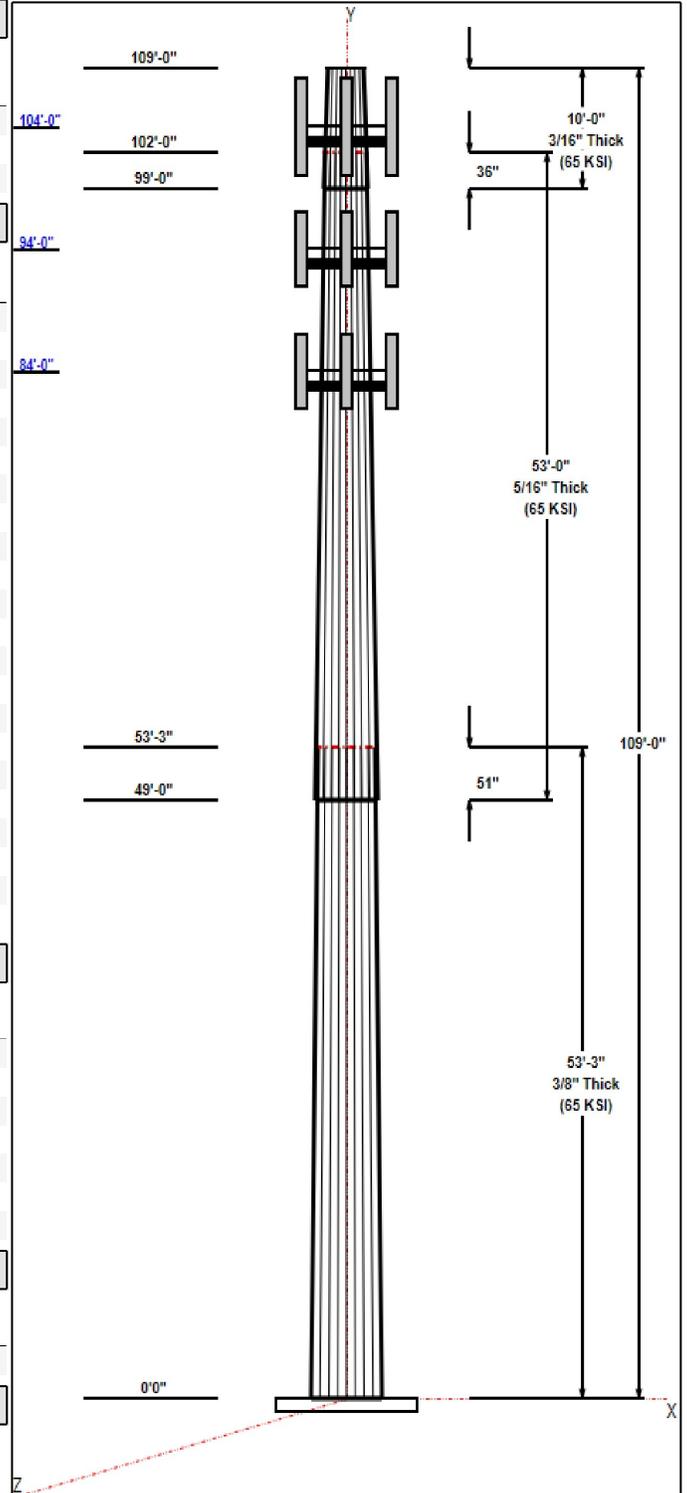
Qty	Specifications	Grade (ksi)	Arrangement
12	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	49.0	60.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)



Structure: CT13529-A

Type: Tapered	Base Shape: 18 Sided	1/27/2026
Site Name: Manchester 1	Taper: 0.20697	
Height: 109.00 (ft)	Wind Speed: 118.00	
Base Elev: 1.00 (ft)	Ice Thickness: 1.50	Page: 3



1.2D + 1.0W 118 mph Wind	1610.0	20.0	29.2
1.2D + 1.0W 118 mph Wind at 30°	1394.4	17.3	29.2
1.2D + 1.0W 118 mph Wind at 60°	805.0	10.0	29.2
1.2D + 1.0W 118 mph Wind at 90°	0.0	0.0	29.2
1.2D + 1.0W 118 mph Wind at 120°	805.0	10.0	29.2
1.2D + 1.0W 118 mph Wind at 150°	1394.4	17.3	29.2
1.2D + 1.0W 118 mph Wind at 180°	1610.0	20.0	29.2
1.2D + 1.0W 118 mph Wind at 210°	1394.4	17.3	29.2
1.2D + 1.0W 118 mph Wind at 240°	805.0	10.0	29.2
1.2D + 1.0W 118 mph Wind at 270°	0.0	0.0	29.2
1.2D + 1.0W 118 mph Wind at 300°	805.0	10.0	29.2
1.2D + 1.0W 118 mph Wind at 330°	1394.4	17.3	29.2
0.9D + 1.0W 118 mph Wind	1597.2	20.0	21.9
0.9D + 1.0W 118 mph Wind at 30°	1383.3	17.3	21.9
0.9D + 1.0W 118 mph Wind at 60°	798.7	10.0	21.9
0.9D + 1.0W 118 mph Wind at 90°	0.0	0.0	21.9
0.9D + 1.0W 118 mph Wind at 120°	798.7	10.0	21.9
0.9D + 1.0W 118 mph Wind at 150°	1383.3	17.3	21.9
0.9D + 1.0W 118 mph Wind at 180°	1597.2	20.0	21.9
0.9D + 1.0W 118 mph Wind at 210°	1383.3	17.3	21.9
0.9D + 1.0W 118 mph Wind at 240°	798.7	10.0	21.9
0.9D + 1.0W 118 mph Wind at 270°	0.0	0.0	21.9
0.9D + 1.0W 118 mph Wind at 300°	798.7	10.0	21.9
0.9D + 1.0W 118 mph Wind at 330°	1383.3	17.3	21.9
1.2D + 1.0Di + 1.0Wi 50 mph Wind	452.6	5.7	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	392.0	5.0	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	226.3	2.9	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	0.0	0.0	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	226.3	2.9	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	392.0	5.0	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	452.6	5.7	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	392.0	5.0	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	226.3	2.9	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	0.0	0.0	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	226.3	2.9	41.8
1.2D + 1.0Di + 1.0Wi 50 mph Wind at	392.0	5.0	41.8
1.0D + 1.0W 60 mph Wind	370.6	4.6	24.4
1.0D + 1.0W 60 mph Wind at 30°	321.0	4.0	24.4
1.0D + 1.0W 60 mph Wind at 60°	185.3	2.3	24.4
1.0D + 1.0W 60 mph Wind at 90°	0.0	0.0	24.4
1.0D + 1.0W 60 mph Wind at 120°	185.3	2.3	24.4
1.0D + 1.0W 60 mph Wind at 150°	321.0	4.0	24.4
1.0D + 1.0W 60 mph Wind at 180°	370.6	4.6	24.4
1.0D + 1.0W 60 mph Wind at 210°	321.0	4.0	24.4
1.0D + 1.0W 60 mph Wind at 240°	185.3	2.3	24.4
1.0D + 1.0W 60 mph Wind at 270°	0.0	0.0	24.4
1.0D + 1.0W 60 mph Wind at 300°	185.3	2.3	24.4
1.0D + 1.0W 60 mph Wind at 330°	321.0	4.0	24.4
1.2D + 1.0Ev + 1.0Eh	58.2	0.6	30.2
0.9D + 1.0Ev + 1.0Eh	57.7	0.6	22.9

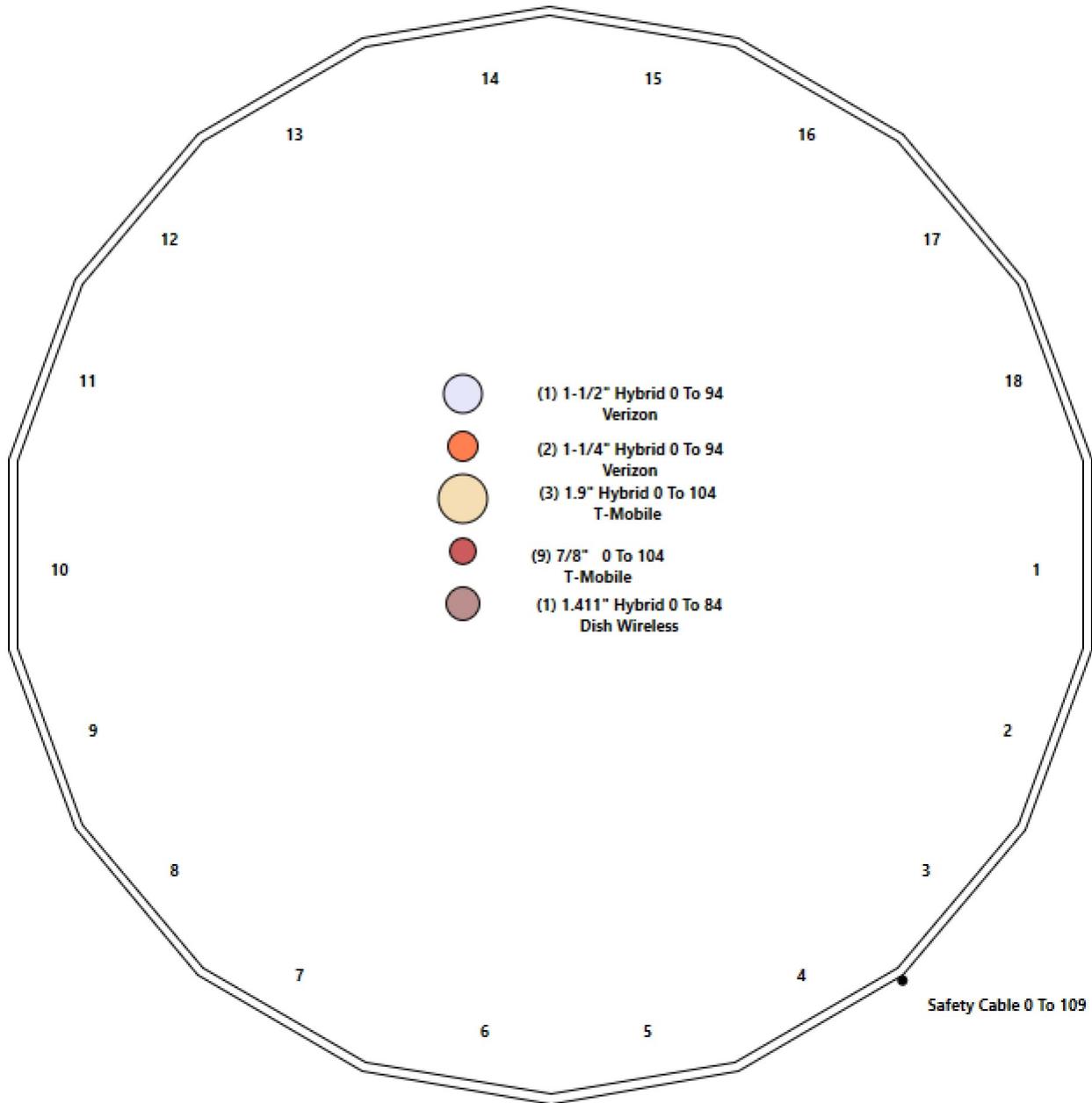
Structure: CT13529-A - Coax Line Placement

Type: Monopole
Site Name: Manchester 1
Height: 109.00 (ft)

1/27/2026



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Shaft Properties

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 5



Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.3750	65		0.00	8,155
2	18	53.000	0.3125	65	Slip	51.00	5,078
3	18	10.000	0.1875	65	Slip	36.00	465
Total Shaft Weight:							13,698

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	43.70	0.00	51.57	12229.01	19.14	116.53	32.68	53.25	38.45	5069.13	13.96	87.14	0.206972
2	34.18	49.00	33.59	4869.37	17.88	109.39	23.21	102.00	22.71	1505.13	11.69	74.28	0.206972
3	24.21	99.00	14.30	1042.28	21.36	129.12	22.14	109.00	13.06	795.42	19.41	118.0	0.206972

Load Summary

Structure: CT13529-A	Code: EIA_H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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	104.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.72	603.09	22.135	0.75	0.00	0.00
2	104.00	AIR 6419 B41	3	65.00	5.73	0.71	211.86	6.734	0.76	0.00	0.00
3	104.00	APXVLL19P_43-C-A20	3	42.00	8.25	0.75	244.35	9.606	0.81	0.00	0.00
4	104.00	4449 B71 + B85	3	75.00	1.95	0.90	137.04	2.566	0.93	0.00	0.00
5	104.00	Platform w/ HRs & Kickers & Pipes	1	1984.00	37.79	1.00	3988.71	56.882	1.00	0.00	0.00
6	104.00	4460 B25 + B66	3	104.00	2.14	0.89	169.85	2.776	1.00	0.00	0.00
7	94.00	HUBER+SUHNER MLRH 3X6	1	15.90	1.00	1.00	46.35	1.466	1.00	0.00	0.00
8	94.00	MT6413-77A	3	57.32	3.79	0.69	155.53	4.622	0.75	0.00	0.00
9	94.00	NHH-65B-R2B	3	43.65	8.05	0.83	253.02	9.360	0.87	0.00	0.00
10	94.00	NHHSS-65B-R2BT4	3	50.93	8.05	0.83	260.64	9.360	0.87	0.00	0.00
11	94.00	RF4801d-25A	3	44.50	3.13	0.71	125.82	3.871	0.77	0.00	0.00
12	94.00	RF4461d-13A	3	79.50	1.87	0.84	134.00	2.465	0.88	0.00	0.00
13	94.00	RT4423-48A	3	15.43	0.86	0.81	40.97	1.303	0.81	0.00	0.00
14	94.00	RVZDC-6627-PF-48	1	32.00	4.06	1.00	152.66	4.916	1.00	0.00	0.00
15	94.00	RMQP-496-HK (Platform w/ HR &	1	2445.81	27.90	1.00	4892.54	46.507	1.00	0.00	0.00
16	94.00	Mount Pipes	12	30.00	1.44	1.00	60.01	2.400	1.00	0.00	0.00
17	94.00	OVP Pipe (P2x36")	1	10.00	0.58	1.00	20.00	0.967	1.00	0.00	0.00
18	84.00	MX08FRO665-21	3	64.50	12.49	0.74	339.31	13.874	0.74	0.00	0.00
19	84.00	MC-PK8-DSH w/ Pipes	1	1736.00	22.56	1.00	3338.95	49.343	1.00	0.00	0.00
20	84.00	TA08025-B605	3	75.00	1.96	0.67	124.42	2.490	0.67	0.00	0.00
21	84.00	TA08025-B604	3	63.90	1.96	0.67	111.73	2.490	0.67	0.00	0.00
22	84.00	RDIDC-9181-PF-48	1	21.90	2.01	1.00	72.21	2.547	1.00	0.00	0.00
Totals:			61	9,331.80			21,966.45				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
0.00	109.00	(1) Safety Cable	0.38	Outside
0.00	109.00	(1) Step bolts (ladder)	0.63	Outside
0.00	104.00	(3) 1.9" Hybrid	0.00	Inside
0.00	104.00	(9) 7/8" Coax	0.00	Inside
0.00	94.00	(1) 1-1/2" Hybrid	0.00	Inside
0.00	94.00	(2) 1-1/4" Hybrid	0.00	Inside
0.00	84.00	(1) 1.411" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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		0.3750	43.700	51.566	12229.0	19.14	116.53	78.9	551.2	0.0
5.00		0.3750	42.665	50.334	11373.5	18.65	113.77	79.5	525.1	866.9
10.00		0.3750	41.630	49.102	10558.8	18.16	111.01	80.0	499.6	845.9
15.00		0.3750	40.595	47.871	9784.0	17.68	108.25	80.6	474.7	824.9
20.00		0.3750	39.561	46.639	9048.0	17.19	105.49	81.2	450.5	804.0
25.00		0.3750	38.526	45.407	8349.9	16.70	102.74	81.8	426.9	783.0
30.00		0.3750	37.491	44.176	7688.7	16.22	99.98	82.3	403.9	762.1
35.00		0.3750	36.456	42.944	7063.3	15.73	97.22	82.5	381.6	741.1
40.00		0.3750	35.421	41.712	6472.8	15.24	94.46	82.5	359.9	720.2
45.00		0.3750	34.386	40.480	5916.2	14.76	91.70	82.5	338.9	699.2
49.00	Bot - Section 2	0.3750	33.558	39.495	5494.6	14.37	89.49	82.5	322.5	544.3
50.00		0.3750	33.351	39.249	5392.4	14.27	88.94	82.5	318.5	247.9
53.25	Top - Section 1	0.3125	33.304	32.722	4499.8	17.38	106.57	0.0	0.0	795.2
55.00		0.3125	32.942	32.363	4353.2	17.18	105.41	81.2	260.3	193.8
60.00		0.3125	31.907	31.336	3952.0	16.59	102.10	81.9	244.0	541.9
65.00		0.3125	30.872	30.310	3576.2	16.01	98.79	82.5	228.2	524.4
70.00		0.3125	29.837	29.283	3225.1	15.42	95.48	82.5	212.9	507.0
75.00		0.3125	28.802	28.257	2897.7	14.84	92.17	82.5	198.2	489.5
80.00		0.3125	27.767	27.231	2593.3	14.26	88.86	82.5	183.9	472.0
84.00		0.3125	26.939	26.410	2365.7	13.79	86.21	82.5	173.0	365.1
85.00		0.3125	26.732	26.204	2310.9	13.67	85.54	82.5	170.3	89.5
90.00		0.3125	25.697	25.178	2049.9	13.09	82.23	82.5	157.1	437.1
94.00		0.3125	24.870	24.357	1855.8	12.62	79.58	82.5	147.0	337.1
95.00		0.3125	24.663	24.151	1809.2	12.51	78.92	82.5	144.5	82.5
99.00	Bot - Section 3	0.3125	23.835	23.330	1630.9	12.04	76.27	82.5	134.8	323.1
100.00		0.3125	23.628	23.125	1588.2	11.92	75.61	82.5	132.4	127.5
102.00	Top - Section 2	0.1875	23.589	13.926	963.5	20.77	125.81	0.0	0.0	251.6
104.00		0.1875	23.175	13.680	913.3	20.38	123.60	77.4	77.6	93.9
105.00		0.1875	22.968	13.557	888.9	20.19	122.50	77.7	76.2	46.3
109.00		0.1875	22.140	13.064	795.4	19.41	118.08	78.6	70.8	181.2

13698.2

Wind Loading - Shaft

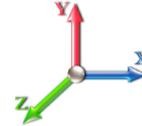
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 8



Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20 **Ice Thickness:** 0.00
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	28.299	31.13	398.89	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	28.299	31.13	389.44	0.730	0.000	5.00	18.270	13.34	415.2	0.0	1040.2
10.00		1.00	0.85	28.299	31.13	380.00	0.730	0.000	5.00	17.832	13.02	405.2	0.0	1015.1
15.00		1.00	0.86	28.649	31.51	372.83	0.730	0.000	5.00	17.395	12.70	400.2	0.0	989.9
20.00		1.00	0.91	30.337	33.37	373.88	0.730	0.000	5.00	16.957	12.38	413.1	0.0	964.8
25.00		1.00	0.95	31.732	34.90	372.38	0.730	0.000	5.00	16.519	12.06	420.9	0.0	939.6
30.00		1.00	0.99	32.929	36.22	369.15	0.730	0.000	5.00	16.081	11.74	425.2	0.0	914.5
35.00		1.00	1.02	33.982	37.38	364.65	0.730	0.000	5.00	15.643	11.42	426.9	0.0	889.3
40.00		1.00	1.05	34.925	38.42	359.18	0.730	0.000	5.00	15.205	11.10	426.4	0.0	864.2
45.00		1.00	1.07	35.781	39.36	352.94	0.730	0.000	5.00	14.768	10.78	424.3	0.0	839.0
49.00	Bot - Section 2	1.00	1.09	36.415	40.06	347.48	0.730	0.000	4.00	11.499	8.39	336.2	0.0	653.1
50.00		1.00	1.10	36.567	40.22	346.06	0.730	0.000	1.00	2.884	2.11	84.7	0.0	297.5
53.25	Top - Section 1	1.00	1.11	37.046	40.75	341.29	0.730	0.000	3.25	9.251	6.75	275.2	0.0	954.2
55.00		1.00	1.12	37.294	41.02	345.18	0.730	0.000	1.75	4.905	3.58	146.9	0.0	232.5
60.00		1.00	1.14	37.972	41.77	337.36	0.730	0.000	5.00	13.718	10.01	418.3	0.0	650.3
65.00		1.00	1.16	38.607	42.47	329.14	0.730	0.000	5.00	13.281	9.69	411.7	0.0	629.3
70.00		1.00	1.18	39.205	43.13	320.56	0.730	0.000	5.00	12.843	9.38	404.3	0.0	608.3
75.00		1.00	1.19	39.771	43.75	311.67	0.730	0.000	5.00	12.405	9.06	396.2	0.0	587.4
80.00		1.00	1.21	40.308	44.34	302.49	0.730	0.000	5.00	11.967	8.74	387.3	0.0	566.4
84.00	Appurtenance(s)	1.00	1.22	40.719	44.79	294.97	0.730	0.000	4.00	9.258	6.76	302.7	0.0	438.1
85.00		1.00	1.23	40.819	44.90	293.06	0.730	0.000	1.00	2.271	1.66	74.4	0.0	107.4
90.00		1.00	1.24	41.308	45.44	283.40	0.730	0.000	5.00	11.091	8.10	367.9	0.0	524.5
94.00	Appurtenance(s)	1.00	1.25	41.684	45.85	275.51	0.730	0.000	4.00	8.558	6.25	286.4	0.0	404.5
95.00		1.00	1.25	41.776	45.95	273.52	0.730	0.000	1.00	2.096	1.53	70.3	0.0	99.0
99.00	Bot - Section 3	1.00	1.27	42.136	46.35	265.48	0.730	0.000	4.00	8.208	5.99	277.7	0.0	387.8
100.00		1.00	1.27	42.225	46.45	263.45	0.730	0.000	1.00	2.040	1.49	69.2	0.0	153.0
102.00	Top - Section 2	1.00	1.27	42.399	46.64	259.37	0.730	0.000	2.00	4.027	2.94	137.1	0.0	301.9
104.00	Appurtenance(s)	1.00	1.28	42.571	46.83	259.45	0.730	0.000	2.00	3.957	2.89	135.3	0.0	112.7
105.00		1.00	1.28	42.656	46.92	257.39	0.730	0.000	1.00	1.952	1.43	66.9	0.0	55.6
109.00		1.00	1.29	42.990	47.29	249.09	0.730	0.000	4.00	7.634	5.57	263.5	0.0	217.4
Totals:								109.00				8,669.7		16,437.9

Discrete Appurtenance Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



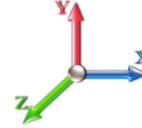
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Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.00



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	104.00	APXVLL19P_43-C-A20	3	42.571	46.829	0.56	0.75	13.92	151.20	0.000	0.000	-325.97	0.00	0.00
2	104.00	APXVAARR24_43-U-NA2	3	42.571	46.829	0.54	0.75	32.79	460.80	0.000	0.000	-767.73	0.00	0.00
3	104.00	AIR 6419 B41	3	42.571	46.829	0.53	0.75	9.15	234.00	0.000	0.000	-214.33	0.00	0.00
4	104.00	4460 B25 + B66	3	42.571	46.829	0.67	0.75	4.29	374.40	0.000	0.000	-100.34	0.00	0.00
5	104.00	4449 B71 + B85	3	42.571	46.829	0.68	0.75	3.95	270.00	0.000	0.000	-92.46	0.00	0.00
6	104.00	Platform w/ HRs & Kickers	1	42.571	46.829	1.00	1.00	37.79	2380.80	0.000	0.000	-884.82	0.00	0.00
7	94.00	OVP Pipe (P2x36")	1	41.684	45.852	0.75	0.75	0.43	12.00	0.000	0.000	-9.97	0.00	0.00
8	94.00	Mount Pipes	12	41.684	45.852	0.75	0.75	12.96	432.00	0.000	0.000	-297.12	0.00	0.00
9	94.00	RMQP-496-HK (Platform	1	41.684	45.852	1.00	1.00	27.90	2934.97	0.000	0.000	-639.64	0.00	0.00
10	94.00	RVZDC-6627-PF-48	1	41.684	45.852	1.00	1.00	4.06	38.40	0.000	0.000	-93.08	0.00	0.00
11	94.00	RT4423-48A	3	41.684	45.852	0.61	0.75	1.57	55.55	0.000	0.000	-35.93	0.00	0.00
12	94.00	RF4461d-13A	3	41.684	45.852	0.63	0.75	3.53	286.20	0.000	0.000	-81.03	0.00	0.00
13	94.00	RF4801d-25A	3	41.684	45.852	0.53	0.75	5.00	160.20	0.000	0.000	-114.63	0.00	0.00
14	94.00	NHHSS-65B-R2BT4	3	41.684	45.852	0.62	0.75	15.03	183.35	0.000	0.000	-344.66	0.00	0.00
15	94.00	NHH-65B-R2B	3	41.684	45.852	0.62	0.75	15.03	157.14	0.000	0.000	-344.66	0.00	0.00
16	94.00	MT6413-77A	3	41.684	45.852	0.52	0.75	5.88	206.35	0.000	0.000	-134.90	0.00	0.00
17	94.00	HUBER+SUHNER MLRH	1	41.684	45.852	1.00	1.00	1.00	19.08	0.000	0.000	-22.93	0.00	0.00
18	84.00	RDIDC-9181-PF-48	1	40.719	44.791	0.75	0.75	1.51	26.28	0.000	0.000	-33.76	0.00	0.00
19	84.00	TA08025-B604	3	40.719	44.791	0.50	0.75	2.95	230.04	0.000	0.000	-66.17	0.00	0.00
20	84.00	TA08025-B605	3	40.719	44.791	0.50	0.75	2.95	270.00	0.000	0.000	-66.17	0.00	0.00
21	84.00	MC-PK8-DSH w/ Pipes	1	40.719	44.791	1.00	1.00	22.56	2083.20	0.000	0.000	-505.24	0.00	0.00
22	84.00	MX08FRO665-21	3	40.719	44.791	0.55	0.75	20.80	232.20	0.000	0.000	-465.73	0.00	0.00
Totals:									11,198.16			-5,641.26		

Total Applied Force Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 10



Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.00



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		-207.59	-1120.27	0.00	0.00
10.00		-202.61	-1095.13	0.00	0.00
15.00		-200.08	-1069.98	0.00	0.00
20.00		-206.54	-1044.83	0.00	0.00
25.00		-210.46	-1019.68	0.00	0.00
30.00		-212.61	-994.54	0.00	0.00
35.00		-213.43	-969.39	0.00	0.00
40.00		-213.22	-944.24	0.00	0.00
45.00		-212.15	-919.09	0.00	0.00
49.00		-168.12	-717.17	0.00	0.00
50.00		-42.34	-313.54	0.00	0.00
53.25		-137.60	-1006.26	0.00	0.00
55.00		-73.44	-260.56	0.00	0.00
60.00		-209.15	-730.31	0.00	0.00
65.00		-205.86	-709.35	0.00	0.00
70.00		-202.16	-688.40	0.00	0.00
75.00		-198.08	-667.44	0.00	0.00
80.00		-193.67	-646.48	0.00	0.00
84.00	(11) attachments	-1288.44	-3343.82	0.00	0.00
85.00		-37.22	-122.06	0.00	0.00
90.00		-183.95	-597.73	0.00	0.00
94.00	(34) attachments	-2261.77	-4948.34	0.00	0.00
95.00		-35.15	-110.19	0.00	0.00
99.00		-138.85	-432.37	0.00	0.00
100.00		-34.58	-164.12	0.00	0.00
102.00		-68.56	-324.22	0.00	0.00
104.00	(16) attachments	-2453.28	-4006.23	0.00	0.00
105.00		-33.44	-57.18	0.00	0.00
109.00		-131.77	-223.70	0.00	0.00
	Totals:	-9,976.11	-29,246.6 1	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	28.299	0.00	1.64
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	28.299	0.00	6.24
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	28.299	0.00	1.64
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	28.299	0.00	6.24
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	28.649	0.00	1.64
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	28.649	0.00	6.24
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	30.337	0.00	1.64
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	30.337	0.00	6.24
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	31.732	0.00	1.64
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	31.732	0.00	6.24
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	32.929	0.00	1.64
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	32.929	0.00	6.24
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	33.982	0.00	1.64
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	33.982	0.00	6.24
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	34.925	0.00	1.64
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	34.925	0.00	6.24
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	35.781	0.00	1.64
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	35.781	0.00	6.24
49.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.029	0.000	36.415	0.00	1.31
49.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.029	0.000	36.415	0.00	4.99
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.030	0.000	36.567	0.00	0.33
50.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.030	0.000	36.567	0.00	1.25
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.030	0.000	37.046	0.00	1.06
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.030	0.000	37.046	0.00	4.06
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.030	0.000	37.294	0.00	0.57
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.030	0.000	37.294	0.00	2.18
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	37.972	0.00	1.64
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	37.972	0.00	6.24
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.032	0.000	38.607	0.00	1.64
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.032	0.000	38.607	0.00	6.24
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	39.205	0.00	1.64
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	39.205	0.00	6.24
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.034	0.000	39.771	0.00	1.64
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.034	0.000	39.771	0.00	6.24
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	40.308	0.00	1.64
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	40.308	0.00	6.24
84.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.036	0.000	40.719	0.00	1.31
84.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.036	0.000	40.719	0.00	4.99
85.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	40.819	0.00	0.33
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	40.819	0.00	1.25
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	41.308	0.00	1.64
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	41.308	0.00	6.24
94.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.039	0.000	41.684	0.00	1.31
94.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.039	0.000	41.684	0.00	4.99
95.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.040	0.000	41.776	0.00	0.33
95.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.040	0.000	41.776	0.00	1.25
99.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.041	0.000	42.136	0.00	1.31

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
99.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.041	0.000	42.136	0.00	4.99
100.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.042	0.000	42.225	0.00	0.33
100.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.042	0.000	42.225	0.00	1.25
102.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.042	0.000	42.399	0.00	0.66
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.042	0.000	42.399	0.00	2.50
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.043	0.000	42.571	0.00	0.66
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.043	0.000	42.571	0.00	2.50
105.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.043	0.000	42.656	0.00	0.33
105.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.043	0.000	42.656	0.00	1.25
109.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.044	0.000	42.990	0.00	1.31
109.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.044	0.000	42.990	0.00	4.99
Totals:											0.0	171.7

Calculated Forces

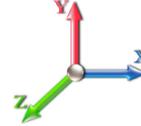
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 13



Load Case: 1.2D + 1.0W 118 mph Wind at 60° - Controlling Direction

Iterations 23

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-29.21	-10.00	0.00	-805.04	-1394.3	1610.06	3661.29	904.98	3253.05	3261.25	0.00	0.000	0.000	0.502
5.00	-28.03	-9.84	0.00	-755.04	-1307.7	1510.07	3599.77	883.36	3099.51	3129.20	0.10	0.181	0.000	0.491
10.00	-26.88	-9.67	0.00	-705.87	-1222.5	1411.71	3536.97	861.75	2949.67	2998.71	0.39	0.364	0.000	0.479
15.00	-25.75	-9.51	0.00	-657.52	-1138.7	1314.97	3472.90	840.13	2803.54	2869.87	0.87	0.548	0.000	0.466
20.00	-24.65	-9.34	0.00	-609.98	-1056.4	1219.87	3407.57	818.51	2661.13	2742.76	1.54	0.732	0.000	0.453
25.00	-23.58	-9.16	0.00	-563.31	-975.53	1126.49	3340.97	796.90	2522.43	2617.46	2.41	0.917	0.000	0.438
30.00	-22.53	-8.97	0.00	-517.54	-896.20	1034.90	3273.10	775.28	2387.44	2494.05	3.46	1.101	0.000	0.422
35.00	-21.52	-8.79	0.00	-472.69	-818.48	945.17	3190.51	753.66	2256.16	2362.66	4.72	1.284	0.000	0.407
40.00	-20.53	-8.59	0.00	-428.79	-742.40	857.34	3099.00	732.05	2128.60	2228.40	6.16	1.465	0.000	0.392
45.00	-19.57	-8.40	0.00	-385.84	-667.99	771.42	3007.49	710.43	2004.74	2098.06	7.79	1.644	0.000	0.375
49.00	-18.84	-8.23	0.00	-352.27	-609.83	704.26	2934.29	693.14	1908.34	1996.62	9.23	1.786	0.000	0.360
50.00	-18.51	-8.20	0.00	-344.04	-595.57	687.80	2915.98	688.81	1884.60	1971.65	9.61	1.822	0.000	0.356
53.25	-17.49	-8.06	0.00	-317.41	-549.44	634.53	2384.18	574.27	1571.92	1615.83	10.89	1.936	0.000	0.401
55.00	-17.20	-8.00	0.00	-303.33	-525.02	606.34	2365.01	567.97	1537.59	1585.08	11.61	1.997	0.000	0.391
60.00	-16.44	-7.80	0.00	-263.35	-455.78	526.39	2309.37	549.95	1441.61	1498.23	13.80	2.182	0.000	0.359
65.00	-15.70	-7.61	0.00	-224.36	-388.24	448.40	2251.87	531.94	1348.71	1412.61	16.18	2.357	0.000	0.325
70.00	-14.99	-7.41	0.00	-186.34	-322.41	372.38	2175.62	513.93	1258.91	1318.09	18.74	2.520	0.000	0.290
75.00	-14.30	-7.22	0.00	-149.29	-258.28	298.32	2099.36	495.91	1172.21	1226.84	21.46	2.668	0.000	0.251
80.00	-13.65	-7.02	0.00	-113.21	-195.85	226.22	2023.10	477.90	1088.60	1138.87	24.33	2.797	0.000	0.206
84.00	-10.43	-5.65	0.00	-85.13	-147.26	170.10	1962.10	463.49	1023.93	1070.84	26.71	2.884	0.000	0.165
85.00	-10.30	-5.62	0.00	-79.48	-137.48	158.80	1946.84	459.88	1008.08	1054.16	27.32	2.904	0.000	0.157
90.00	-9.71	-5.43	0.00	-51.39	-88.88	102.67	1870.59	441.87	930.65	972.73	30.40	2.984	0.000	0.111
94.00	-5.00	-3.04	0.00	-29.69	-51.34	59.31	1809.58	427.46	870.94	909.95	32.92	3.029	0.000	0.068
95.00	-4.90	-3.00	0.00	-26.65	-46.09	53.24	1794.33	423.86	856.32	894.58	33.56	3.038	0.000	0.062
99.00	-4.48	-2.85	0.00	-14.66	-25.35	29.28	1733.32	409.45	799.08	834.41	36.12	3.064	0.000	0.038
100.00	-4.32	-2.81	0.00	-11.81	-20.42	23.59	1718.07	405.84	785.08	819.69	36.76	3.068	0.000	0.031
102.00	-4.00	-2.73	0.00	-6.19	-10.70	12.36	964.69	244.40	474.53	464.42	38.05	3.075	0.000	0.031
104.00	-0.26	-0.17	0.00	-0.72	-1.25	1.45	953.26	240.08	457.89	450.74	39.33	3.077	0.000	0.003
105.00	-0.21	-0.14	0.00	-0.55	-0.95	1.10	947.47	237.92	449.68	443.94	39.98	3.078	0.000	0.003
109.00	0.00	-0.13	0.00	0.00	0.00	0.00	923.81	229.27	417.59	416.99	42.56	3.079	0.000	0.000

Wind Loading - Shaft

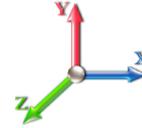
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 14



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20 **Ice Thickness:** 1.50
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	5.081	5.59	0.00	1.200	1.057	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.081	5.59	0.00	1.200	1.265	5.00	19.324	23.19	129.6	348.1	1388.3
10.00		1.00	0.85	5.081	5.59	0.00	1.200	1.344	5.00	18.952	22.74	127.1	361.8	1376.8
15.00		1.00	0.86	5.144	5.66	0.00	1.200	1.395	5.00	18.557	22.27	126.0	367.0	1356.9
20.00		1.00	0.91	5.447	5.99	0.00	1.200	1.434	5.00	18.152	21.78	130.5	368.1	1332.9
25.00		1.00	0.95	5.697	6.27	0.00	1.200	1.465	5.00	17.739	21.29	133.4	366.8	1306.5
30.00		1.00	0.99	5.912	6.50	0.00	1.200	1.491	5.00	17.323	20.79	135.2	363.9	1278.4
35.00		1.00	1.02	6.101	6.71	0.00	1.200	1.513	5.00	16.904	20.28	136.1	359.8	1249.2
40.00		1.00	1.05	6.271	6.90	0.00	1.200	1.533	5.00	16.483	19.78	136.4	354.8	1219.0
45.00		1.00	1.07	6.424	7.07	0.00	1.200	1.551	5.00	16.060	19.27	136.2	349.0	1188.0
49.00	Bot - Section 2	1.00	1.09	6.538	7.19	0.00	1.200	1.564	4.00	12.541	15.05	108.2	275.1	928.3
50.00		1.00	1.10	6.566	7.22	0.00	1.200	1.567	1.00	3.145	3.77	27.3	69.7	367.3
53.25	Top - Section 1	1.00	1.11	6.651	7.32	0.00	1.200	1.576	3.25	10.105	12.13	88.7	223.8	1178.1
55.00		1.00	1.12	6.696	7.37	0.00	1.200	1.581	1.75	5.366	6.44	47.4	119.7	352.2
60.00		1.00	1.14	6.818	7.50	0.00	1.200	1.595	5.00	15.048	18.06	135.4	334.6	984.9
65.00		1.00	1.16	6.932	7.62	0.00	1.200	1.608	5.00	14.620	17.54	133.8	327.0	956.3
70.00		1.00	1.18	7.039	7.74	0.00	1.200	1.619	5.00	14.192	17.03	131.9	319.0	927.3
75.00		1.00	1.19	7.141	7.85	0.00	1.200	1.631	5.00	13.764	16.52	129.7	310.7	898.1
80.00		1.00	1.21	7.237	7.96	0.00	1.200	1.641	5.00	13.335	16.00	127.4	302.2	868.6
84.00	Appurtenance(s)	1.00	1.22	7.311	8.04	0.00	1.200	1.649	4.00	10.358	12.43	100.0	236.1	674.2
85.00		1.00	1.23	7.329	8.06	0.00	1.200	1.651	1.00	2.546	3.06	24.6	58.7	166.1
90.00		1.00	1.24	7.417	8.16	0.00	1.200	1.660	5.00	12.475	14.97	122.1	284.4	808.9
94.00	Appurtenance(s)	1.00	1.25	7.484	8.23	0.00	1.200	1.667	4.00	9.669	11.60	95.5	221.6	626.1
95.00		1.00	1.25	7.501	8.25	0.00	1.200	1.669	1.00	2.374	2.85	23.5	55.0	154.1
99.00	Bot - Section 3	1.00	1.27	7.565	8.32	0.00	1.200	1.676	4.00	9.325	11.19	93.1	214.1	601.9
100.00		1.00	1.27	7.581	8.34	0.00	1.200	1.678	1.00	2.319	2.78	23.2	53.9	206.9
102.00	Top - Section 2	1.00	1.27	7.613	8.37	0.00	1.200	1.681	2.00	4.587	5.50	46.1	106.4	408.3
104.00	Appurtenance(s)	1.00	1.28	7.644	8.41	0.00	1.200	1.684	2.00	4.518	5.42	45.6	104.8	217.6
105.00		1.00	1.28	7.659	8.42	0.00	1.200	1.686	1.00	2.233	2.68	22.6	52.0	107.6
109.00		1.00	1.29	7.719	8.49	0.00	1.200	1.692	4.00	8.762	10.51	89.3	201.9	419.3
Totals:									109.00			2,806.0		23,547.9

Discrete Appurtenance Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (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 at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



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	104.00	APXVLL19P_43-C-A20	3	7.644	8.408	0.61	0.75	17.51	196.34	0.000	0.000	-73.60	0.00	0.00
2	104.00	APXVAARR24_43-U-NA2	3	7.644	8.408	0.56	0.75	37.35	1882.48	0.000	0.000	-157.03	0.00	0.00
3	104.00	AIR 6419 B41	3	7.644	8.408	0.57	0.75	11.51	349.67	0.000	0.000	-48.41	0.00	0.00
4	104.00	4460 B25 + B66	3	7.644	8.408	0.75	0.75	6.25	176.83	0.000	0.000	-26.26	0.00	0.00
5	104.00	4449 B71 + B85	3	7.644	8.408	0.70	0.75	5.37	437.22	0.000	0.000	-22.57	0.00	0.00
6	104.00	Platform w/ HRs & Kickers	1	7.644	8.408	1.00	1.00	56.88	3769.51	0.000	0.000	-239.13	0.00	0.00
7	94.00	OVP Pipe (P2x36")	1	7.484	8.233	0.75	0.75	0.73	-8.00	0.000	0.000	-2.98	0.00	0.00
8	94.00	Mount Pipes	12	7.484	8.233	0.75	0.75	21.60	672.14	0.000	0.000	-88.93	0.00	0.00
9	94.00	RMQP-496-HK (Platform	1	7.484	8.233	1.00	1.00	46.51	4525.71	0.000	0.000	-191.44	0.00	0.00
10	94.00	RVZDC-6627-PF-48	1	7.484	8.233	1.00	1.00	4.92	-82.26	0.000	0.000	-20.23	0.00	0.00
11	94.00	RT4423-48A	3	7.484	8.233	0.61	0.75	2.37	-21.07	0.000	0.000	-9.77	0.00	0.00
12	94.00	RF4461d-13A	3	7.484	8.233	0.66	0.75	4.88	122.68	0.000	0.000	-20.09	0.00	0.00
13	94.00	RF4801d-25A	3	7.484	8.233	0.58	0.75	6.71	-83.68	0.000	0.000	-27.61	0.00	0.00
14	94.00	NHHSS-65B-R2BT4	3	7.484	8.233	0.65	0.75	18.32	-445.67	0.000	0.000	-75.42	0.00	0.00
15	94.00	NHH-65B-R2B	3	7.484	8.233	0.65	0.75	18.32	-471.04	0.000	0.000	-75.42	0.00	0.00
16	94.00	MT6413-77A	3	7.484	8.233	0.56	0.75	7.80	-88.32	0.000	0.000	-32.10	0.00	0.00
17	94.00	HUBER+SUHNER MLRH	1	7.484	8.233	1.00	1.00	1.47	-12.00	0.000	0.000	-6.04	0.00	0.00
18	84.00	RDIDC-9181-PF-48	1	7.311	8.042	0.75	0.75	1.91	63.89	0.000	0.000	-7.68	0.00	0.00
19	84.00	TA08025-B604	3	7.311	8.042	0.50	0.75	3.75	337.24	0.000	0.000	-15.09	0.00	0.00
20	84.00	TA08025-B605	3	7.311	8.042	0.50	0.75	3.75	380.45	0.000	0.000	-15.09	0.00	0.00
21	84.00	MC-PK8-DSH w/ Pipes	1	7.311	8.042	1.00	1.00	49.34	3322.15	0.000	0.000	-198.41	0.00	0.00
22	84.00	MX08FRO665-21	3	7.311	8.042	0.55	0.75	23.10	855.03	0.000	0.000	-92.89	0.00	0.00
Totals:									15,879.33			-1,446.18		

Total Applied Force Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 16

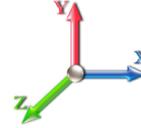


Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.20

Wind Load Factor 1.00



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		-64.80	-1493.03	0.00	0.00
10.00		-63.56	-1484.40	0.00	0.00
15.00		-63.00	-1466.37	0.00	0.00
20.00		-65.25	-1443.86	0.00	0.00
25.00		-66.70	-1418.66	0.00	0.00
30.00		-67.60	-1391.63	0.00	0.00
35.00		-68.07	-1363.28	0.00	0.00
40.00		-68.22	-1333.90	0.00	0.00
45.00		-68.10	-1303.71	0.00	0.00
49.00		-54.12	-1021.24	0.00	0.00
50.00		-13.63	-390.54	0.00	0.00
53.25		-44.36	-1253.95	0.00	0.00
55.00		-23.72	-393.15	0.00	0.00
60.00		-67.71	-1102.44	0.00	0.00
65.00		-66.89	-1074.37	0.00	0.00
70.00		-65.93	-1045.94	0.00	0.00
75.00		-64.87	-1017.18	0.00	0.00
80.00		-63.69	-988.13	0.00	0.00
84.00	(11) attachments	-379.14	-5728.85	0.00	0.00
85.00		-12.32	-188.72	0.00	0.00
90.00		-61.06	-922.43	0.00	0.00
94.00	(34) attachments	-597.79	-4825.74	0.00	0.00
95.00		-11.75	-173.37	0.00	0.00
99.00		-46.56	-679.33	0.00	0.00
100.00		-11.61	-226.29	0.00	0.00
102.00		-23.05	-447.09	0.00	0.00
104.00	(16) attachments	-589.79	-7068.49	0.00	0.00
105.00		-11.29	-117.51	0.00	0.00
109.00		-44.64	-459.05	0.00	0.00
	Totals:	-2,849.19	-41,822.6 5	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

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	Safety Cable	Yes	5.00	0.000	0.38	1.21	0.00	0.023	0.000	5.081	0.00	13.31
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.32	0.00	0.023	0.000	5.081	0.00	19.25
10.00	Safety Cable	Yes	5.00	0.000	0.38	1.28	0.00	0.024	0.000	5.081	0.00	14.69
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.38	0.00	0.024	0.000	5.081	0.00	20.70
15.00	Safety Cable	Yes	5.00	0.000	0.38	1.32	0.00	0.024	0.000	5.144	0.00	15.62
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.43	0.00	0.024	0.000	5.144	0.00	21.69
20.00	Safety Cable	Yes	5.00	0.000	0.38	1.35	0.00	0.025	0.000	5.447	0.00	16.34
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.46	0.00	0.025	0.000	5.447	0.00	22.44
25.00	Safety Cable	Yes	5.00	0.000	0.38	1.38	0.00	0.025	0.000	5.697	0.00	16.94
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.48	0.00	0.025	0.000	5.697	0.00	23.07
30.00	Safety Cable	Yes	5.00	0.000	0.38	1.40	0.00	0.026	0.000	5.912	0.00	17.44
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.50	0.00	0.026	0.000	5.912	0.00	23.60
35.00	Safety Cable	Yes	5.00	0.000	0.38	1.42	0.00	0.027	0.000	6.101	0.00	17.89
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.52	0.00	0.027	0.000	6.101	0.00	24.07
40.00	Safety Cable	Yes	5.00	0.000	0.38	1.44	0.00	0.028	0.000	6.271	0.00	18.29
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.54	0.00	0.028	0.000	6.271	0.00	24.48
45.00	Safety Cable	Yes	5.00	0.000	0.38	1.45	0.00	0.028	0.000	6.424	0.00	18.65
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.55	0.00	0.028	0.000	6.424	0.00	24.86
49.00	Safety Cable	Yes	4.00	0.000	0.38	1.17	0.00	0.029	0.000	6.538	0.00	15.13
49.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.25	0.00	0.029	0.000	6.538	0.00	20.11
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.29	0.00	0.030	0.000	6.566	0.00	3.80
50.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.31	0.00	0.030	0.000	6.566	0.00	5.04
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.96	0.00	0.030	0.000	6.651	0.00	12.46
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	1.02	0.00	0.030	0.000	6.651	0.00	16.52
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.52	0.00	0.030	0.000	6.696	0.00	6.75
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.55	0.00	0.030	0.000	6.696	0.00	8.93
60.00	Safety Cable	Yes	5.00	0.000	0.38	1.49	0.00	0.031	0.000	6.818	0.00	19.56
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.59	0.00	0.031	0.000	6.818	0.00	25.82
65.00	Safety Cable	Yes	5.00	0.000	0.38	1.50	0.00	0.032	0.000	6.932	0.00	19.83
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.60	0.00	0.032	0.000	6.932	0.00	26.10
70.00	Safety Cable	Yes	5.00	0.000	0.38	1.51	0.00	0.033	0.000	7.039	0.00	20.08
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.61	0.00	0.033	0.000	7.039	0.00	26.36
75.00	Safety Cable	Yes	5.00	0.000	0.38	1.52	0.00	0.034	0.000	7.141	0.00	20.31
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.62	0.00	0.034	0.000	7.141	0.00	26.61
80.00	Safety Cable	Yes	5.00	0.000	0.38	1.53	0.00	0.035	0.000	7.237	0.00	20.54
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.63	0.00	0.035	0.000	7.237	0.00	26.84
84.00	Safety Cable	Yes	4.00	0.000	0.38	1.23	0.00	0.036	0.000	7.311	0.00	16.57
84.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.31	0.00	0.036	0.000	7.311	0.00	21.61
85.00	Safety Cable	Yes	1.00	0.000	0.38	0.31	0.00	0.037	0.000	7.329	0.00	4.15
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.33	0.00	0.037	0.000	7.329	0.00	5.41
90.00	Safety Cable	Yes	5.00	0.000	0.38	1.54	0.00	0.038	0.000	7.417	0.00	20.95
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	1.65	0.00	0.038	0.000	7.417	0.00	27.27
94.00	Safety Cable	Yes	4.00	0.000	0.38	1.24	0.00	0.039	0.000	7.484	0.00	16.89
94.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.32	0.00	0.039	0.000	7.484	0.00	21.95
95.00	Safety Cable	Yes	1.00	0.000	0.38	0.31	0.00	0.040	0.000	7.501	0.00	4.23
95.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.33	0.00	0.040	0.000	7.501	0.00	5.50
99.00	Safety Cable	Yes	4.00	0.000	0.38	1.24	0.00	0.041	0.000	7.565	0.00	17.04

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 18



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

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)
99.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.33	0.00	0.041	0.000	7.565	0.00	22.11
100.00	Safety Cable	Yes	1.00	0.000	0.38	0.31	0.00	0.042	0.000	7.581	0.00	4.27
100.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.33	0.00	0.042	0.000	7.581	0.00	5.53
102.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.042	0.000	7.613	0.00	8.56
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.042	0.000	7.613	0.00	11.10
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.62	0.00	0.043	0.000	7.644	0.00	8.59
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.67	0.00	0.043	0.000	7.644	0.00	11.13
105.00	Safety Cable	Yes	1.00	0.000	0.38	0.31	0.00	0.043	0.000	7.659	0.00	4.30
105.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.33	0.00	0.043	0.000	7.659	0.00	5.57
109.00	Safety Cable	Yes	4.00	0.000	0.38	1.25	0.00	0.044	0.000	7.719	0.00	17.32
109.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	1.34	0.00	0.044	0.000	7.719	0.00	22.40
Totals:											0.0	956.6

Calculated Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 19



Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° - Controlling Direction

Iterations 20

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	-41.82	-2.86	0.00	-226.30	-391.97	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.000	0.000	0.150
5.00	-40.32	-2.81	0.00	-212.01	-367.21	424.02	3599.77	883.36	3099.51	3129.20	0.03	0.051	0.000	0.147
10.00	-38.83	-2.76	0.00	-197.96	-342.87	395.91	3536.97	861.75	2949.67	2998.71	0.11	0.102	0.000	0.143
15.00	-37.36	-2.72	0.00	-184.14	-318.93	368.27	3472.90	840.13	2803.54	2869.87	0.24	0.154	0.000	0.139
20.00	-35.91	-2.66	0.00	-170.56	-295.41	341.11	3407.57	818.51	2661.13	2742.76	0.43	0.205	0.000	0.135
25.00	-34.49	-2.61	0.00	-157.24	-272.33	314.47	3340.97	796.90	2522.43	2617.46	0.67	0.257	0.000	0.131
30.00	-33.10	-2.55	0.00	-144.18	-249.73	288.36	3273.10	775.28	2387.44	2494.05	0.97	0.308	0.000	0.126
35.00	-31.73	-2.50	0.00	-131.41	-227.60	262.82	3190.51	753.66	2256.16	2362.66	1.32	0.359	0.000	0.121
40.00	-30.39	-2.44	0.00	-118.93	-205.99	237.85	3099.00	732.05	2128.60	2228.40	1.73	0.410	0.000	0.117
45.00	-29.09	-2.38	0.00	-106.75	-184.88	213.48	3007.49	710.43	2004.74	2098.06	2.18	0.459	0.000	0.111
49.00	-28.06	-2.32	0.00	-97.24	-168.42	194.48	2934.29	693.14	1908.34	1996.62	2.58	0.498	0.000	0.107
50.00	-27.67	-2.31	0.00	-94.92	-164.40	189.84	2915.98	688.81	1884.60	1971.65	2.69	0.508	0.000	0.106
53.25	-26.42	-2.27	0.00	-87.41	-151.38	174.81	2384.18	574.27	1571.92	1615.83	3.05	0.540	0.000	0.119
55.00	-26.02	-2.25	0.00	-83.44	-144.51	166.87	2365.01	567.97	1537.59	1585.08	3.25	0.556	0.000	0.116
60.00	-24.92	-2.19	0.00	-72.19	-125.02	144.37	2309.37	549.95	1441.61	1498.23	3.86	0.607	0.000	0.107
65.00	-23.84	-2.12	0.00	-61.25	-106.08	122.49	2251.87	531.94	1348.71	1412.61	4.52	0.655	0.000	0.097
70.00	-22.79	-2.06	0.00	-50.63	-87.68	101.25	2175.62	513.93	1258.91	1318.09	5.23	0.700	0.000	0.087
75.00	-21.77	-2.00	0.00	-40.32	-69.84	80.64	2099.36	495.91	1172.21	1226.84	5.99	0.740	0.000	0.076
80.00	-20.79	-1.93	0.00	-30.34	-52.55	60.68	2023.10	477.90	1088.60	1138.87	6.78	0.775	0.000	0.064
84.00	-15.07	-1.52	0.00	-22.61	-39.16	45.22	1962.10	463.49	1023.93	1070.84	7.44	0.798	0.000	0.050
85.00	-14.88	-1.50	0.00	-21.10	-36.54	42.19	1946.84	459.88	1008.08	1054.16	7.61	0.803	0.000	0.048
90.00	-13.96	-1.44	0.00	-13.58	-23.52	27.16	1870.59	441.87	930.65	972.73	8.46	0.824	0.000	0.035
94.00	-9.15	-0.81	0.00	-7.83	-13.56	15.66	1809.58	427.46	870.94	909.95	9.16	0.836	0.000	0.022
95.00	-8.98	-0.79	0.00	-7.03	-12.17	14.05	1794.33	423.86	856.32	894.58	9.33	0.839	0.000	0.021
99.00	-8.30	-0.74	0.00	-3.86	-6.68	7.71	1733.32	409.45	799.08	834.41	10.04	0.845	0.000	0.014
100.00	-8.07	-0.73	0.00	-3.11	-5.39	6.23	1718.07	405.84	785.08	819.69	10.22	0.847	0.000	0.012
102.00	-7.63	-0.70	0.00	-1.66	-2.87	3.31	964.69	244.40	474.53	464.42	10.57	0.848	0.000	0.015
104.00	-0.57	-0.06	0.00	-0.25	-0.44	0.50	953.26	240.08	457.89	450.74	10.93	0.849	0.000	0.002
105.00	-0.46	-0.05	0.00	-0.19	-0.33	0.38	947.47	237.92	449.68	443.94	11.10	0.849	0.000	0.001
109.00	0.00	-0.04	0.00	0.00	0.00	0.00	923.81	229.27	417.59	416.99	11.82	0.849	0.000	0.000

Wind Loading - Shaft

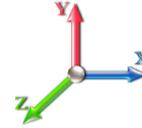
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 20



Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00 **Ice Thickness:** 0.00
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	6.546	7.20	202.83	0.730	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	6.546	7.20	198.02	0.730	0.000	5.00	18.270	13.34	96.0	0.0	866.9
10.00		1.00	0.85	6.546	7.20	193.22	0.730	0.000	5.00	17.832	13.02	93.7	0.0	845.9
15.00		1.00	0.86	6.627	7.29	189.58	0.730	0.000	5.00	17.395	12.70	92.6	0.0	824.9
20.00		1.00	0.91	7.018	7.72	190.11	0.730	0.000	5.00	16.957	12.38	95.6	0.0	804.0
25.00		1.00	0.95	7.341	8.07	189.34	0.730	0.000	5.00	16.519	12.06	97.4	0.0	783.0
30.00		1.00	0.99	7.617	8.38	187.70	0.730	0.000	5.00	16.081	11.74	98.4	0.0	762.1
35.00		1.00	1.02	7.861	8.65	185.42	0.730	0.000	5.00	15.643	11.42	98.7	0.0	741.1
40.00		1.00	1.05	8.079	8.89	182.64	0.730	0.000	5.00	15.205	11.10	98.6	0.0	720.2
45.00		1.00	1.07	8.277	9.11	179.46	0.730	0.000	5.00	14.768	10.78	98.2	0.0	699.2
49.00	Bot - Section 2	1.00	1.09	8.424	9.27	176.68	0.730	0.000	4.00	11.499	8.39	77.8	0.0	544.3
50.00		1.00	1.10	8.459	9.31	175.96	0.730	0.000	1.00	2.884	2.11	19.6	0.0	247.9
53.25	Top - Section 1	1.00	1.11	8.570	9.43	173.54	0.730	0.000	3.25	9.251	6.75	63.7	0.0	795.2
55.00		1.00	1.12	8.627	9.49	175.52	0.730	0.000	1.75	4.905	3.58	34.0	0.0	193.8
60.00		1.00	1.14	8.784	9.66	171.54	0.730	0.000	5.00	13.718	10.01	96.8	0.0	541.9
65.00		1.00	1.16	8.931	9.82	167.36	0.730	0.000	5.00	13.281	9.69	95.2	0.0	524.4
70.00		1.00	1.18	9.069	9.98	163.00	0.730	0.000	5.00	12.843	9.38	93.5	0.0	507.0
75.00		1.00	1.19	9.200	10.12	158.48	0.730	0.000	5.00	12.405	9.06	91.6	0.0	489.5
80.00		1.00	1.21	9.324	10.26	153.81	0.730	0.000	5.00	11.967	8.74	89.6	0.0	472.0
84.00	Appurtenance(s)	1.00	1.22	9.420	10.36	149.98	0.730	0.000	4.00	9.258	6.76	70.0	0.0	365.1
85.00		1.00	1.23	9.443	10.39	149.01	0.730	0.000	1.00	2.271	1.66	17.2	0.0	89.5
90.00		1.00	1.24	9.556	10.51	144.10	0.730	0.000	5.00	11.091	8.10	85.1	0.0	437.1
94.00	Appurtenance(s)	1.00	1.25	9.643	10.61	140.09	0.730	0.000	4.00	8.558	6.25	66.3	0.0	337.1
95.00		1.00	1.25	9.664	10.63	139.08	0.730	0.000	1.00	2.096	1.53	16.3	0.0	82.5
99.00	Bot - Section 3	1.00	1.27	9.747	10.72	134.99	0.730	0.000	4.00	8.208	5.99	64.2	0.0	323.1
100.00		1.00	1.27	9.768	10.74	133.96	0.730	0.000	1.00	2.040	1.49	16.0	0.0	127.5
102.00	Top - Section 2	1.00	1.27	9.808	10.79	131.88	0.730	0.000	2.00	4.027	2.94	31.7	0.0	251.6
104.00	Appurtenance(s)	1.00	1.28	9.848	10.83	131.93	0.730	0.000	2.00	3.957	2.89	31.3	0.0	93.9
105.00		1.00	1.28	9.868	10.85	130.88	0.730	0.000	1.00	1.952	1.43	15.5	0.0	46.3
109.00		1.00	1.29	9.945	10.94	126.65	0.730	0.000	4.00	7.634	5.57	61.0	0.0	181.2
Totals:									109.00			2,005.6		13,698.2

Discrete Appurtenance Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 21



Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



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	104.00	APXVLL19P_43-C-A20	3	9.848	10.833	0.56	0.75	13.92	126.00	0.000	0.000	-75.41	0.00	0.00
2	104.00	APXVAARR24_43-U-NA2	3	9.848	10.833	0.54	0.75	32.79	384.00	0.000	0.000	-177.60	0.00	0.00
3	104.00	AIR 6419 B41	3	9.848	10.833	0.53	0.75	9.15	195.00	0.000	0.000	-49.58	0.00	0.00
4	104.00	4460 B25 + B66	3	9.848	10.833	0.67	0.75	4.29	312.00	0.000	0.000	-23.21	0.00	0.00
5	104.00	4449 B71 + B85	3	9.848	10.833	0.68	0.75	3.95	225.00	0.000	0.000	-21.39	0.00	0.00
6	104.00	Platform w/ HRs & Kickers	1	9.848	10.833	1.00	1.00	37.79	1984.00	0.000	0.000	-204.69	0.00	0.00
7	94.00	OVP Pipe (P2x36")	1	9.643	10.607	0.75	0.75	0.43	10.00	0.000	0.000	-2.31	0.00	0.00
8	94.00	Mount Pipes	12	9.643	10.607	0.75	0.75	12.96	360.00	0.000	0.000	-68.73	0.00	0.00
9	94.00	RMQP-496-HK (Platform	1	9.643	10.607	1.00	1.00	27.90	2445.81	0.000	0.000	-147.97	0.00	0.00
10	94.00	RVZDC-6627-PF-48	1	9.643	10.607	1.00	1.00	4.06	32.00	0.000	0.000	-21.53	0.00	0.00
11	94.00	RT4423-48A	3	9.643	10.607	0.61	0.75	1.57	46.29	0.000	0.000	-8.31	0.00	0.00
12	94.00	RF4461d-13A	3	9.643	10.607	0.63	0.75	3.53	238.50	0.000	0.000	-18.74	0.00	0.00
13	94.00	RF4801d-25A	3	9.643	10.607	0.53	0.75	5.00	133.50	0.000	0.000	-26.52	0.00	0.00
14	94.00	NHHSS-65B-R2BT4	3	9.643	10.607	0.62	0.75	15.03	152.79	0.000	0.000	-79.73	0.00	0.00
15	94.00	NHH-65B-R2B	3	9.643	10.607	0.62	0.75	15.03	130.95	0.000	0.000	-79.73	0.00	0.00
16	94.00	MT6413-77A	3	9.643	10.607	0.52	0.75	5.88	171.96	0.000	0.000	-31.21	0.00	0.00
17	94.00	HUBER+SUHNER MLRH	1	9.643	10.607	1.00	1.00	1.00	15.90	0.000	0.000	-5.30	0.00	0.00
18	84.00	RDIDC-9181-PF-48	1	9.420	10.362	0.75	0.75	1.51	21.90	0.000	0.000	-7.81	0.00	0.00
19	84.00	TA08025-B604	3	9.420	10.362	0.50	0.75	2.95	191.70	0.000	0.000	-15.31	0.00	0.00
20	84.00	TA08025-B605	3	9.420	10.362	0.50	0.75	2.95	225.00	0.000	0.000	-15.31	0.00	0.00
21	84.00	MC-PK8-DSH w/ Pipes	1	9.420	10.362	1.00	1.00	22.56	1736.00	0.000	0.000	-116.88	0.00	0.00
22	84.00	MX08FRO665-21	3	9.420	10.362	0.55	0.75	20.80	193.50	0.000	0.000	-107.74	0.00	0.00
Totals:									9,331.80			-1,305.00		

Total Applied Force Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 22

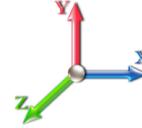


Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



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		-48.02	-933.56	0.00	0.00
10.00		-46.87	-912.60	0.00	0.00
15.00		-46.28	-891.65	0.00	0.00
20.00		-47.78	-870.69	0.00	0.00
25.00		-48.68	-849.74	0.00	0.00
30.00		-49.18	-828.78	0.00	0.00
35.00		-49.37	-807.82	0.00	0.00
40.00		-49.32	-786.87	0.00	0.00
45.00		-49.08	-765.91	0.00	0.00
49.00		-38.89	-597.64	0.00	0.00
50.00		-9.79	-261.28	0.00	0.00
53.25		-31.83	-838.55	0.00	0.00
55.00		-16.99	-217.13	0.00	0.00
60.00		-48.38	-608.59	0.00	0.00
65.00		-47.62	-591.13	0.00	0.00
70.00		-46.76	-573.66	0.00	0.00
75.00		-45.82	-556.20	0.00	0.00
80.00		-44.80	-538.74	0.00	0.00
84.00	(11) attachments	-298.06	-2786.52	0.00	0.00
85.00		-8.61	-101.72	0.00	0.00
90.00		-42.55	-498.11	0.00	0.00
94.00	(34) attachments	-523.22	-4123.61	0.00	0.00
95.00		-8.13	-91.82	0.00	0.00
99.00		-32.12	-360.31	0.00	0.00
100.00		-8.00	-136.77	0.00	0.00
102.00		-15.86	-270.18	0.00	0.00
104.00	(16) attachments	-567.52	-3338.52	0.00	0.00
105.00		-7.73	-47.65	0.00	0.00
109.00		-30.48	-186.42	0.00	0.00
	Totals:	-2,307.78	-24,372.18	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

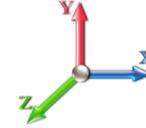


Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.023	0.000	6.546	0.00	1.37
5.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.023	0.000	6.546	0.00	5.20
10.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	6.546	0.00	1.37
10.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	6.546	0.00	5.20
15.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.024	0.000	6.627	0.00	1.37
15.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.024	0.000	6.627	0.00	5.20
20.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	7.018	0.00	1.37
20.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	7.018	0.00	5.20
25.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.025	0.000	7.341	0.00	1.37
25.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.025	0.000	7.341	0.00	5.20
30.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.026	0.000	7.617	0.00	1.37
30.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.026	0.000	7.617	0.00	5.20
35.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.027	0.000	7.861	0.00	1.37
35.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.027	0.000	7.861	0.00	5.20
40.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	8.079	0.00	1.37
40.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	8.079	0.00	5.20
45.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.028	0.000	8.277	0.00	1.37
45.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.028	0.000	8.277	0.00	5.20
49.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.029	0.000	8.424	0.00	1.09
49.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.029	0.000	8.424	0.00	4.16
50.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.030	0.000	8.459	0.00	0.27
50.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.030	0.000	8.459	0.00	1.04
53.25	Safety Cable	Yes	3.25	0.000	0.38	0.10	0.00	0.030	0.000	8.570	0.00	0.89
53.25	Step bolts (ladder)	Yes	3.25	0.000	0.63	0.17	0.00	0.030	0.000	8.570	0.00	3.38
55.00	Safety Cable	Yes	1.75	0.000	0.38	0.06	0.00	0.030	0.000	8.627	0.00	0.48
55.00	Step bolts (ladder)	Yes	1.75	0.000	0.63	0.09	0.00	0.030	0.000	8.627	0.00	1.82
60.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.031	0.000	8.784	0.00	1.37
60.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.031	0.000	8.784	0.00	5.20
65.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.032	0.000	8.931	0.00	1.37
65.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.032	0.000	8.931	0.00	5.20
70.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.033	0.000	9.069	0.00	1.37
70.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.033	0.000	9.069	0.00	5.20
75.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.034	0.000	9.200	0.00	1.37
75.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.034	0.000	9.200	0.00	5.20
80.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.035	0.000	9.324	0.00	1.37
80.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.035	0.000	9.324	0.00	5.20
84.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.036	0.000	9.420	0.00	1.09
84.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.036	0.000	9.420	0.00	4.16
85.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.037	0.000	9.443	0.00	0.27
85.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.037	0.000	9.443	0.00	1.04
90.00	Safety Cable	Yes	5.00	0.000	0.38	0.16	0.00	0.038	0.000	9.556	0.00	1.37
90.00	Step bolts (ladder)	Yes	5.00	0.000	0.63	0.26	0.00	0.038	0.000	9.556	0.00	5.20
94.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.039	0.000	9.643	0.00	1.09
94.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.039	0.000	9.643	0.00	4.16
95.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.040	0.000	9.664	0.00	0.27
95.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.040	0.000	9.664	0.00	1.04
99.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.041	0.000	9.747	0.00	1.09

Linear Appurtenance Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 24

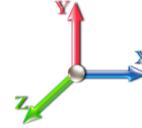


Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
99.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.041	0.000	9.747	0.00	4.16
100.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.042	0.000	9.768	0.00	0.27
100.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.042	0.000	9.768	0.00	1.04
102.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.042	0.000	9.808	0.00	0.55
102.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.042	0.000	9.808	0.00	2.08
104.00	Safety Cable	Yes	2.00	0.000	0.38	0.06	0.00	0.043	0.000	9.848	0.00	0.55
104.00	Step bolts (ladder)	Yes	2.00	0.000	0.63	0.10	0.00	0.043	0.000	9.848	0.00	2.08
105.00	Safety Cable	Yes	1.00	0.000	0.38	0.03	0.00	0.043	0.000	9.868	0.00	0.27
105.00	Step bolts (ladder)	Yes	1.00	0.000	0.63	0.05	0.00	0.043	0.000	9.868	0.00	1.04
109.00	Safety Cable	Yes	4.00	0.000	0.38	0.13	0.00	0.044	0.000	9.945	0.00	1.09
109.00	Step bolts (ladder)	Yes	4.00	0.000	0.63	0.21	0.00	0.044	0.000	9.945	0.00	4.16
Totals:											0.0	143.1

Calculated Forces

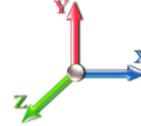
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 25



Load Case: 1.0D + 1.0W 60 mph Wind at 60° - Controlling Direction

Iterations 20

Dead Load Factor 1.00
Wind Load Factor 1.00



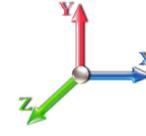
Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-24.37	-2.31	0.00	-185.30	-320.95	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.000	0.000	0.120
5.00	-23.43	-2.27	0.00	-173.74	-300.93	347.48	3599.77	883.36	3099.51	3129.20	0.02	0.042	0.000	0.118
10.00	-22.52	-2.23	0.00	-162.38	-281.25	324.76	3536.97	861.75	2949.67	2998.71	0.09	0.084	0.000	0.115
15.00	-21.62	-2.19	0.00	-151.21	-261.91	302.42	3472.90	840.13	2803.54	2869.87	0.20	0.126	0.000	0.112
20.00	-20.75	-2.15	0.00	-140.24	-242.91	280.48	3407.57	818.51	2661.13	2742.76	0.35	0.168	0.000	0.108
25.00	-19.90	-2.11	0.00	-129.48	-224.26	258.95	3340.97	796.90	2522.43	2617.46	0.55	0.211	0.000	0.105
30.00	-19.07	-2.07	0.00	-118.93	-205.99	237.85	3273.10	775.28	2387.44	2494.05	0.80	0.253	0.000	0.101
35.00	-18.26	-2.02	0.00	-108.60	-188.09	217.19	3190.51	753.66	2256.16	2362.66	1.08	0.295	0.000	0.098
40.00	-17.47	-1.98	0.00	-98.49	-170.58	196.97	3099.00	732.05	2128.60	2228.40	1.42	0.337	0.000	0.094
45.00	-16.70	-1.93	0.00	-88.60	-153.47	177.21	3007.49	710.43	2004.74	2098.06	1.79	0.378	0.000	0.090
49.00	-16.10	-1.89	0.00	-80.88	-140.09	161.76	2934.29	693.14	1908.34	1996.62	2.12	0.411	0.000	0.087
50.00	-15.84	-1.88	0.00	-78.99	-136.81	157.98	2915.98	688.81	1884.60	1971.65	2.21	0.419	0.000	0.086
53.25	-15.00	-1.85	0.00	-72.87	-126.21	145.73	2384.18	574.27	1571.92	1615.83	2.50	0.445	0.000	0.097
55.00	-14.78	-1.84	0.00	-69.63	-120.60	139.25	2365.01	567.97	1537.59	1585.08	2.67	0.459	0.000	0.094
60.00	-14.17	-1.79	0.00	-60.44	-104.68	120.88	2309.37	549.95	1441.61	1498.23	3.17	0.501	0.000	0.087
65.00	-13.58	-1.75	0.00	-51.48	-89.17	102.96	2251.87	531.94	1348.71	1412.61	3.72	0.542	0.000	0.079
70.00	-13.00	-1.70	0.00	-42.75	-74.05	85.50	2175.62	513.93	1258.91	1318.09	4.31	0.579	0.000	0.071
75.00	-12.44	-1.66	0.00	-34.25	-59.32	68.50	2099.36	495.91	1172.21	1226.84	4.93	0.613	0.000	0.062
80.00	-11.91	-1.61	0.00	-25.97	-44.99	51.95	2023.10	477.90	1088.60	1138.87	5.59	0.643	0.000	0.052
84.00	-9.13	-1.30	0.00	-19.53	-33.83	39.07	1962.10	463.49	1023.93	1070.84	6.14	0.663	0.000	0.041
85.00	-9.02	-1.29	0.00	-18.24	-31.59	36.47	1946.84	459.88	1008.08	1054.16	6.28	0.667	0.000	0.039
90.00	-8.53	-1.24	0.00	-11.79	-20.42	23.58	1870.59	441.87	930.65	972.73	6.99	0.686	0.000	0.029
94.00	-4.42	-0.70	0.00	-6.81	-11.80	13.63	1809.58	427.46	870.94	909.95	7.57	0.696	0.000	0.017
95.00	-4.32	-0.69	0.00	-6.12	-10.60	12.24	1794.33	423.86	856.32	894.58	7.72	0.698	0.000	0.016
99.00	-3.96	-0.65	0.00	-3.37	-5.83	6.73	1733.32	409.45	799.08	834.41	8.30	0.704	0.000	0.010
100.00	-3.83	-0.65	0.00	-2.71	-4.70	5.42	1718.07	405.84	785.08	819.69	8.45	0.705	0.000	0.009
102.00	-3.56	-0.63	0.00	-1.42	-2.46	2.84	964.69	244.40	474.53	464.42	8.75	0.707	0.000	0.010
104.00	-0.23	-0.04	0.00	-0.17	-0.29	0.33	953.26	240.08	457.89	450.74	9.04	0.707	0.000	0.001
105.00	-0.19	-0.03	0.00	-0.13	-0.22	0.25	947.47	237.92	449.68	443.94	9.19	0.707	0.000	0.001
109.00	0.00	-0.03	0.00	0.00	0.00	0.00	923.81	229.27	417.59	416.99	9.78	0.707	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 26



Load Case: 1.2D + 1.0Ev + 1.0Eh				Iterations 19
Gust Response Factor	1.10	Sds	0.20	Ss 0.19
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.44	SA 0.04
				Seismic Importance Factor 1.00



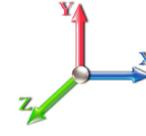
Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		946.90	2.50	38.18	0.02	
10.00		925.95	7.50	37.33	0.14	
15.00		904.99	12.50	36.49	0.34	
20.00		884.03	17.50	35.64	0.61	
25.00		863.08	22.50	34.80	0.94	
30.00		842.12	27.50	33.95	1.31	
35.00		821.17	32.50	33.11	1.71	
40.00		800.21	37.50	32.26	2.13	
45.00		779.25	42.50	31.42	2.56	
49.00	Bot - Section 2	608.31	47.00	24.53	1.94	
50.00		263.95	49.50	10.64	0.45	
53.25	Top - Section 1	847.22	51.63	34.16	4.32	
55.00		221.80	54.13	8.94	0.38	
60.00		621.93	57.50	25.08	2.96	
65.00		604.47	62.50	24.37	3.28	
70.00		587.00	67.50	23.67	3.59	
75.00		569.54	72.50	22.96	3.88	
80.00		552.08	77.50	22.26	4.14	
84.00	Appurtenance(s)	2797.1	82.00	112.78	96.75	
85.00		104.16	84.50	4.20	0.21	
90.00		510.31	87.50	20.58	4.49	
94.00	Appurtenance(s)	4133.3	92.00	166.66	249.81	
95.00		93.68	94.50	3.78	0.22	
99.00	Bot - Section 3	367.75	97.00	14.83	2.95	
100.00		138.63	99.50	5.59	0.50	
102.00	Top - Section 2	273.90	101.00	11.04	1.83	
104.00	Appurtenance(s)	3342.2	103.00	134.76	207.26	
105.00		47.92	104.50	1.93	0.07	
109.00		187.47	107.00	7.56	1.00	
Totals:		24,640.6		993.5	599.8	Total Wind: -19,952.2

Calculated Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 27



Load Case: 1.2D + 1.0Ev + 1.0Eh							Iterations 19
Gust Response Factor	1.10				Sds	0.20	Ss 0.19
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.09		S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.44	SA	0.04	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	-30.24	0.60	0.00	58.15	0.00	58.15	3661.29	904.98	3253.05	3261.25	0.00	0.00	0.00	0.026
5.00	-29.08	0.60	0.00	55.15	0.00	55.15	3599.77	883.36	3099.51	3129.20	0.00	0.01	0.01	0.026
10.00	-27.95	0.61	0.00	52.13	0.00	52.13	3536.97	861.75	2949.67	2998.71	0.01	0.01	0.01	0.025
15.00	-26.84	0.61	0.00	49.09	0.00	49.09	3472.90	840.13	2803.54	2869.87	0.03	0.02	0.02	0.025
20.00	-25.76	0.61	0.00	46.04	0.00	46.04	3407.57	818.51	2661.13	2742.76	0.06	0.03	0.03	0.024
25.00	-24.71	0.61	0.00	42.98	0.00	42.98	3340.97	796.90	2522.43	2617.46	0.09	0.03	0.03	0.024
30.00	-23.68	0.61	0.00	39.91	0.00	39.91	3273.10	775.28	2387.44	2494.05	0.13	0.04	0.04	0.023
35.00	-22.68	0.61	0.00	36.84	0.00	36.84	3190.51	753.66	2256.16	2362.66	0.17	0.05	0.05	0.023
40.00	-21.70	0.61	0.00	33.77	0.00	33.77	3099.00	732.05	2128.60	2228.40	0.23	0.06	0.06	0.022
45.00	-20.75	0.61	0.00	30.69	0.00	30.69	3007.49	710.43	2004.74	2098.06	0.29	0.06	0.06	0.022
49.00	-20.01	0.61	0.00	28.24	0.00	28.24	2934.29	693.14	1908.34	1996.62	0.35	0.07	0.07	0.021
50.00	-19.68	0.61	0.00	27.63	0.00	27.63	2915.98	688.81	1884.60	1971.65	0.36	0.07	0.07	0.021
53.25	-18.64	0.61	0.00	25.64	0.00	25.64	2384.18	574.27	1571.92	1615.83	0.41	0.07	0.07	0.024
55.00	-18.37	0.61	0.00	24.58	0.00	24.58	2365.01	567.97	1537.59	1585.08	0.44	0.08	0.08	0.023
60.00	-17.62	0.61	0.00	21.54	0.00	21.54	2309.37	549.95	1441.61	1498.23	0.52	0.08	0.08	0.022
65.00	-16.88	0.60	0.00	18.50	0.00	18.50	2251.87	531.94	1348.71	1412.61	0.61	0.09	0.09	0.021
70.00	-16.17	0.60	0.00	15.48	0.00	15.48	2175.62	513.93	1258.91	1318.09	0.71	0.10	0.10	0.019
75.00	-15.48	0.60	0.00	12.48	0.00	12.48	2099.36	495.91	1172.21	1226.84	0.82	0.10	0.10	0.018
80.00	-14.81	0.59	0.00	9.49	0.00	9.49	2023.10	477.90	1088.60	1138.87	0.93	0.11	0.11	0.016
84.00	-11.36	0.49	0.00	7.11	0.00	7.11	1962.10	463.49	1023.93	1070.84	1.02	0.11	0.11	0.012
85.00	-11.23	0.49	0.00	6.62	0.00	6.62	1946.84	459.88	1008.08	1054.16	1.05	0.11	0.11	0.012
90.00	-10.61	0.49	0.00	4.17	0.00	4.17	1870.59	441.87	930.65	972.73	1.17	0.12	0.12	0.010
94.00	-5.50	0.23	0.00	2.23	0.00	2.23	1809.58	427.46	870.94	909.95	1.27	0.12	0.12	0.005
95.00	-5.38	0.22	0.00	2.00	0.00	2.00	1794.33	423.86	856.32	894.58	1.29	0.12	0.12	0.005
99.00	-4.94	0.22	0.00	1.10	0.00	1.10	1733.32	409.45	799.08	834.41	1.39	0.12	0.12	0.004
100.00	-4.77	0.22	0.00	0.88	0.00	0.88	1718.07	405.84	785.08	819.69	1.42	0.12	0.12	0.004
102.00	-4.43	0.22	0.00	0.44	0.00	0.44	964.69	244.40	474.53	464.42	1.47	0.12	0.12	0.006
104.00	-0.29	0.00	0.00	0.01	0.00	0.01	953.26	240.08	457.89	450.74	1.52	0.12	0.12	0.000
105.00	-0.23	0.00	0.00	0.01	0.00	0.01	947.47	237.92	449.68	443.94	1.55	0.12	0.12	0.000
109.00	0.00	0.00	0.00	0.00	0.00	0.00	923.81	229.27	417.59	416.99	1.65	0.12	0.12	0.000

Seismic Segment Forces (Factored)

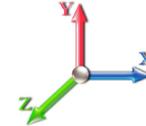
Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 28



Load Case: 0.9D + 1.0Ev + 1.0Eh

Iterations 19

Gust Response Factor 1.10	Sds 0.20	Ss 0.19	
Dead Load Factor 0.90	Seismic Load Factor 1.00	Sd1 0.09	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.44	SA 0.04	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	Hz (lb)	Vertical Ev (lb)	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	
5.00		926.89	2.50	37.37	0.02	
10.00		905.93	7.50	36.53	0.13	
15.00		884.98	12.50	35.68	0.33	
20.00		864.02	17.50	34.84	0.59	
25.00		843.07	22.50	33.99	0.91	
30.00		822.11	27.50	33.15	1.26	
35.00		801.15	32.50	32.30	1.65	
40.00		780.20	37.50	31.46	2.05	
45.00		759.24	42.50	30.61	2.46	
49.00	Bot - Section 2	592.31	47.00	23.88	1.87	
50.00		259.95	49.50	10.48	0.44	
53.25	Top - Section 1	834.21	51.63	33.64	4.24	
55.00		214.80	54.13	8.66	0.36	
60.00		601.92	57.50	24.27	2.81	
65.00		584.46	62.50	23.57	3.11	
70.00		566.99	67.50	22.86	3.39	
75.00		549.53	72.50	22.16	3.66	
80.00		532.07	77.50	21.45	3.90	
84.00	Appurtenance(s)	2781.1	82.00	112.14	96.64	
85.00		100.50	84.50	4.05	0.20	
90.00		492.01	87.50	19.84	4.23	
94.00	Appurtenance(s)	4118.7	92.00	166.07	250.56	
95.00		90.89	94.50	3.66	0.21	
99.00	Bot - Section 3	356.59	97.00	14.38	2.81	
100.00		135.84	99.50	5.48	0.48	
102.00	Top - Section 2	268.32	101.00	10.82	1.78	
104.00	Appurtenance(s)	3336.6	103.00	134.53	208.62	
105.00		47.52	104.50	1.92	0.07	
109.00		185.90	107.00	7.50	0.99	
Totals:		24,238.0		977.3	599.8	Total Wind: -19,952.2

Calculated Forces

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Page: 29

Load Case: 0.9D + 1.0Ev + 1.0Eh						Iterations 19
Gust Response Factor	1.10	Sds	0.20		Ss	0.19
Dead Load Factor	0.90	Seismic Load Factor	1.00	Sd1	0.09	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.44	SA	0.04	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	-22.91	0.60	0.00	57.73	0.00	57.73	3661.29	904.98	3253.05	3261.25	0.00	0.00	0.00	0.024
5.00	-22.03	0.60	0.00	54.73	0.00	54.73	3599.77	883.36	3099.51	3129.20	0.00	0.01	0.01	0.024
10.00	-21.18	0.61	0.00	51.71	0.00	51.71	3536.97	861.75	2949.67	2998.71	0.01	0.01	0.01	0.023
15.00	-20.34	0.61	0.00	48.68	0.00	48.68	3472.90	840.13	2803.54	2869.87	0.03	0.02	0.02	0.023
20.00	-19.52	0.61	0.00	45.65	0.00	45.65	3407.57	818.51	2661.13	2742.76	0.06	0.03	0.03	0.022
25.00	-18.72	0.61	0.00	42.61	0.00	42.61	3340.97	796.90	2522.43	2617.46	0.09	0.03	0.03	0.022
30.00	-17.94	0.61	0.00	39.56	0.00	39.56	3273.10	775.28	2387.44	2494.05	0.13	0.04	0.04	0.021
35.00	-17.18	0.61	0.00	36.51	0.00	36.51	3190.51	753.66	2256.16	2362.66	0.17	0.05	0.05	0.021
40.00	-16.44	0.61	0.00	33.46	0.00	33.46	3099.00	732.05	2128.60	2228.40	0.23	0.05	0.05	0.020
45.00	-15.72	0.61	0.00	30.41	0.00	30.41	3007.49	710.43	2004.74	2098.06	0.29	0.06	0.06	0.020
49.00	-15.16	0.61	0.00	27.98	0.00	27.98	2934.29	693.14	1908.34	1996.62	0.34	0.07	0.07	0.019
50.00	-14.92	0.61	0.00	27.38	0.00	27.38	2915.98	688.81	1884.60	1971.65	0.36	0.07	0.07	0.019
53.25	-14.13	0.60	0.00	25.41	0.00	25.41	2384.18	574.27	1571.92	1615.83	0.41	0.07	0.07	0.022
55.00	-13.92	0.60	0.00	24.35	0.00	24.35	2365.01	567.97	1537.59	1585.08	0.43	0.08	0.08	0.021
60.00	-13.35	0.60	0.00	21.34	0.00	21.34	2309.37	549.95	1441.61	1498.23	0.52	0.08	0.08	0.020
65.00	-12.80	0.60	0.00	18.34	0.00	18.34	2251.87	531.94	1348.71	1412.61	0.61	0.09	0.09	0.019
70.00	-12.26	0.60	0.00	15.35	0.00	15.35	2175.62	513.93	1258.91	1318.09	0.71	0.10	0.10	0.017
75.00	-11.73	0.59	0.00	12.37	0.00	12.37	2099.36	495.91	1172.21	1226.84	0.81	0.10	0.10	0.016
80.00	-11.23	0.59	0.00	9.41	0.00	9.41	2023.10	477.90	1088.60	1138.87	0.92	0.11	0.11	0.014
84.00	-8.61	0.49	0.00	7.06	0.00	7.06	1962.10	463.49	1023.93	1070.84	1.01	0.11	0.11	0.011
85.00	-8.51	0.49	0.00	6.57	0.00	6.57	1946.84	459.88	1008.08	1054.16	1.04	0.11	0.11	0.011
90.00	-8.04	0.48	0.00	4.14	0.00	4.14	1870.59	441.87	930.65	972.73	1.16	0.12	0.12	0.009
94.00	-4.17	0.22	0.00	2.21	0.00	2.21	1809.58	427.46	870.94	909.95	1.26	0.12	0.12	0.005
95.00	-4.08	0.22	0.00	1.99	0.00	1.99	1794.33	423.86	856.32	894.58	1.28	0.12	0.12	0.004
99.00	-3.74	0.22	0.00	1.10	0.00	1.10	1733.32	409.45	799.08	834.41	1.38	0.12	0.12	0.003
100.00	-3.61	0.22	0.00	0.88	0.00	0.88	1718.07	405.84	785.08	819.69	1.41	0.12	0.12	0.003
102.00	-3.36	0.22	0.00	0.44	0.00	0.44	964.69	244.40	474.53	464.42	1.46	0.12	0.12	0.004
104.00	-0.22	0.00	0.00	0.01	0.00	0.01	953.26	240.08	457.89	450.74	1.51	0.12	0.12	0.000
105.00	-0.18	0.00	0.00	0.01	0.00	0.01	947.47	237.92	449.68	443.94	1.53	0.12	0.12	0.000
109.00	0.00	0.00	0.00	0.00	0.00	0.00	923.81	229.27	417.59	416.99	1.63	0.12	0.12	0.000

Final Analysis Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 118 mph Wind	20.0	0.00	29.21	0.00	0.00	1609.98
1.2D + 1.0W 118 mph Wind at 30°	17.3	10.00	29.21	805.03	0.00	1394.35
1.2D + 1.0W 118 mph Wind at 60°	10.0	17.32	29.21	1394.35	0.00	805.04
1.2D + 1.0W 118 mph Wind at 90°	0.0	20.00	29.21	1609.98	0.00	0.00
1.2D + 1.0W 118 mph Wind at 120°	10.0	17.32	29.21	1394.35	0.00	805.04
1.2D + 1.0W 118 mph Wind at 150°	17.3	10.00	29.21	805.03	0.00	1394.35
1.2D + 1.0W 118 mph Wind at 180°	20.0	0.00	29.21	0.00	0.00	1609.98
1.2D + 1.0W 118 mph Wind at 210°	17.3	10.00	29.21	805.03	0.00	1394.35
1.2D + 1.0W 118 mph Wind at 240°	10.0	17.32	29.21	1394.35	0.00	805.04
1.2D + 1.0W 118 mph Wind at 270°	0.0	20.00	29.21	1609.98	0.00	0.00
1.2D + 1.0W 118 mph Wind at 300°	10.0	17.32	29.21	1394.35	0.00	805.04
1.2D + 1.0W 118 mph Wind at 330°	17.3	10.00	29.21	805.03	0.00	1394.35
0.9D + 1.0W 118 mph Wind	20.0	0.00	21.90	0.00	0.00	1597.23
0.9D + 1.0W 118 mph Wind at 30°	17.3	9.99	21.90	798.65	0.00	1383.30
0.9D + 1.0W 118 mph Wind at 60°	10.0	17.31	21.90	1383.30	0.00	798.66
0.9D + 1.0W 118 mph Wind at 90°	0.0	19.99	21.90	1597.23	0.00	0.00
0.9D + 1.0W 118 mph Wind at 120°	10.0	17.31	21.90	1383.30	0.00	798.66
0.9D + 1.0W 118 mph Wind at 150°	17.3	9.99	21.90	798.65	0.00	1383.30
0.9D + 1.0W 118 mph Wind at 180°	20.0	0.00	21.90	0.00	0.00	1597.23
0.9D + 1.0W 118 mph Wind at 210°	17.3	9.99	21.90	798.65	0.00	1383.30
0.9D + 1.0W 118 mph Wind at 240°	10.0	17.31	21.90	1383.30	0.00	798.66
0.9D + 1.0W 118 mph Wind at 270°	0.0	19.99	21.90	1597.23	0.00	0.00
0.9D + 1.0W 118 mph Wind at 300°	10.0	17.31	21.90	1383.30	0.00	798.66
0.9D + 1.0W 118 mph Wind at 330°	17.3	9.99	21.90	798.65	0.00	1383.30
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.7	0.00	41.82	0.00	0.00	452.60
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.0	2.86	41.82	226.30	0.00	391.97
1.2D + 1.0Di + 1.0Wi 50 mph Wind	2.9	4.95	41.82	391.97	0.00	226.30
1.2D + 1.0Di + 1.0Wi 50 mph Wind	0.0	5.72	41.82	452.60	0.00	0.00
1.2D + 1.0Di + 1.0Wi 50 mph Wind	2.9	4.95	41.82	391.97	0.00	226.30
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.0	2.86	41.82	226.30	0.00	391.97
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.7	0.00	41.82	0.00	0.00	452.60
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.0	2.86	41.82	226.30	0.00	391.97
1.2D + 1.0Di + 1.0Wi 50 mph Wind	2.9	4.95	41.82	391.97	0.00	226.30
1.2D + 1.0Di + 1.0Wi 50 mph Wind	0.0	5.72	41.82	452.60	0.00	0.00
1.2D + 1.0Di + 1.0Wi 50 mph Wind	2.9	4.95	41.82	391.97	0.00	226.30
1.2D + 1.0Di + 1.0Wi 50 mph Wind	5.0	2.86	41.82	226.30	0.00	391.97
1.0D + 1.0W 60 mph Wind	4.6	0.00	24.37	0.00	0.00	370.60
1.0D + 1.0W 60 mph Wind at 30°	4.0	2.31	24.37	185.30	0.00	320.95
1.0D + 1.0W 60 mph Wind at 60°	2.3	4.00	24.37	320.95	0.00	185.30
1.0D + 1.0W 60 mph Wind at 90°	0.0	4.62	24.37	370.60	0.00	0.00
1.0D + 1.0W 60 mph Wind at 120°	2.3	4.00	24.37	320.95	0.00	185.30
1.0D + 1.0W 60 mph Wind at 150°	4.0	2.31	24.37	185.30	0.00	320.95
1.0D + 1.0W 60 mph Wind at 180°	4.6	0.00	24.37	0.00	0.00	370.60
1.0D + 1.0W 60 mph Wind at 210°	4.0	2.31	24.37	185.30	0.00	320.95
1.0D + 1.0W 60 mph Wind at 240°	2.3	4.00	24.37	320.95	0.00	185.30
1.0D + 1.0W 60 mph Wind at 270°	0.0	4.62	24.37	370.60	0.00	0.00
1.0D + 1.0W 60 mph Wind at 300°	2.3	4.00	24.37	320.95	0.00	185.30

Final Analysis Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
		Page: 31



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.0D + 1.0W 60 mph Wind at 330°	4.0	2.31	24.37	185.30	0.00	320.95
1.2D + 1.0Ev + 1.0Eh	0.6	0.00	30.24	0.00	0.00	58.15
0.9D + 1.0Ev + 1.0Eh	0.6	0.00	22.91	0.00	0.00	57.73

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 118 mph Wind	-29.21	-20.00	0.00	-1609.9	0.00	1609.9	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 30°	-29.21	-17.32	0.00	-1394.3	-805.03	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 60°	-29.21	-10.00	0.00	-805.04	-1394.3	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 90°	-29.21	0.00	0.00	0.00	-1609.9	1609.9	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 120°	-29.21	10.00	0.00	805.04	-1394.3	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 150°	-29.21	17.32	0.00	1394.35	-805.03	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 180°	-29.21	20.00	0.00	1609.98	0.00	1609.9	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 210°	-29.21	17.32	0.00	1394.35	805.03	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 240°	-29.21	10.00	0.00	805.04	1394.3	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 270°	-29.21	0.00	0.00	0.00	1609.9	1609.9	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 300°	-29.21	-10.00	0.00	-805.04	1394.3	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
1.2D + 1.0W 118 mph Wind at 330°	-29.21	-17.32	0.00	-1394.3	805.03	1610.0	3661.29	904.98	3253.05	3261.25	0.00	0.502
0.9D + 1.0W 118 mph Wind	-21.90	-19.99	0.00	-1597.2	0.00	1597.2	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 30°	-21.90	-17.31	0.00	-1383.3	-798.65	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 60°	-21.90	-9.99	0.00	-798.66	-1383.3	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 90°	-21.90	0.00	0.00	0.00	-1597.2	1597.2	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 120°	-21.90	9.99	0.00	798.66	-1383.3	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 150°	-21.90	17.31	0.00	1383.30	-798.65	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 180°	-21.90	19.99	0.00	1597.23	0.00	1597.2	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 210°	-21.90	17.31	0.00	1383.30	798.65	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 240°	-21.90	9.99	0.00	798.66	1383.3	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 270°	-21.90	0.00	0.00	0.00	1597.2	1597.2	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 300°	-21.90	-9.99	0.00	-798.66	1383.3	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
0.9D + 1.0W 118 mph Wind at 330°	-21.90	-17.31	0.00	-1383.3	798.65	1597.3	3661.29	904.98	3253.05	3261.25	0.00	0.496
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	-5.72	0.00	-452.60	0.00	452.60	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	-4.95	0.00	-391.97	-226.30	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	-2.86	0.00	-226.30	-391.97	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	0.00	0.00	0.00	-452.60	452.60	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	2.86	0.00	226.30	-391.97	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	4.95	0.00	391.97	-226.30	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	5.72	0.00	452.60	0.00	452.60	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	4.95	0.00	391.97	226.30	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	2.86	0.00	226.30	391.97	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	0.00	0.00	0.00	452.60	452.60	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	-2.86	0.00	-226.30	391.97	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-41.82	-4.95	0.00	-391.97	226.30	452.61	3661.29	904.98	3253.05	3261.25	0.00	0.150
1.0D + 1.0W 60 mph Wind	-24.37	-4.62	0.00	-370.60	0.00	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120
1.0D + 1.0W 60 mph Wind at 30°	-24.37	-4.00	0.00	-320.95	-185.30	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120

Final Analysis Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)							
1.0D + 1.0W 60 mph Wind at 60°	-24.37	-2.31	0.00	-185.30	-320.95	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 90°	-24.37	0.00	0.00	0.00	-370.60	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 120°	-24.37	2.31	0.00	185.30	-320.95	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 150°	-24.37	4.00	0.00	320.95	-185.30	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 180°	-24.37	4.62	0.00	370.60	0.00	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 210°	-24.37	4.00	0.00	320.95	185.30	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 240°	-24.37	2.31	0.00	185.30	320.95	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 270°	-24.37	0.00	0.00	0.00	370.60	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 300°	-24.37	-2.31	0.00	-185.30	320.95	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.0D + 1.0W 60 mph Wind at 330°	-24.37	-4.00	0.00	-320.95	185.30	370.60	3661.29	904.98	3253.05	3261.25	0.00	0.120	
1.2D + 1.0Ev + 1.0Eh	-30.24	0.60	0.00	58.15	0.00	58.15	3661.29	904.98	3253.05	3261.25	0.00	0.026	
0.9D + 1.0Ev + 1.0Eh	-22.91	0.60	0.00	57.73	0.00	57.73	3661.29	904.98	3253.05	3261.25	0.00	0.024	

Serviceability: 0.249

Base Plate Summary

Structure: CT13529-A	Code: TIA-222-H	1/27/2026
Site Name: Manchester 1	Exposure: C	
Height: 109.00 (ft)	Crest Height: 0.00	
Base Elev: 1.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 50.00
Moment (kip-ft): 2581.67	Width (in): 49.00	Number Bolts: 12.00
Axial (kip): 41.24	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 27.34	Polygon Sides: 4.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.0W 60° Wind)	Clip Length (in): 9.00	Yield (ksi): 75.00
Moment (kip-ft): 1610.06	Effective Len (in): 9.37	Ultimate (ksi): 100.00
Axial (kip): 29.21	Moment (kip-in): 413.40	Arrangement: Clustered
Shear (kip): 20.00	Allow Stress (ksi): 81.00	Cluster Dist (in): 6.00
	Applied Stress (ksi): 34.83	Start Angle (deg): 45.00
	Stress Ratio: 0.43	Compression
		Force (kip): 131.24
		Allowable (kip): 268.39
		Ratio: 0.49
		Tension
		Force (kip): 126.37
		Allowable (kip): 243.75
		Ratio: 0.52

	Monopole Mat Foundation Design			<i>Date</i>
				1/27/2026
	Customer Name:	Verizon	TIA Standard:	TIA-222-H
	Site Name:		Structure Height (Ft.):	109
	Site Number:	CT13529-A	Engineer Name:	SBA Engineer
Engr. Number:		Engineer Login ID:		

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	29.2	Shear Force (Kips):	20.0
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1610.1

Allowable overstress %: 5.0%

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	6.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	1.50
Length of Pad (ft.):	21	Width of Pad (ft.):	21

Final Length of pad (ft)	21.0	Final width of pad (ft):	21.0
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Material Properties and Reabr Info:

Concrete Strength (psi):	4500	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	26	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30
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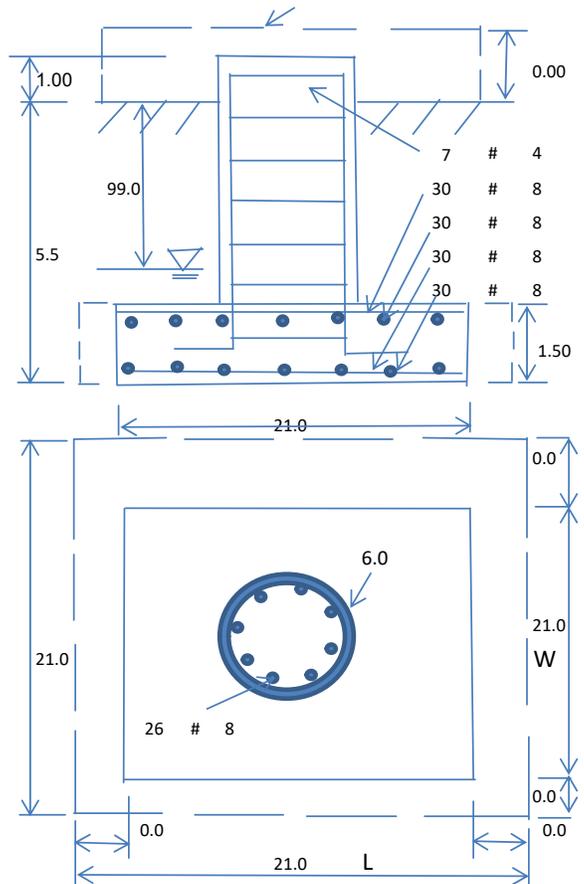
Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	30	Qty. of Rebar in Pad (W):	30
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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:	57.6	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):	12000	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.):	1650.90	Total Dry Soil Weight (Kips):	198.11
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	198.11	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	802.87	Total Dry Concrete Weight (Kips):	120.43
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	120.43	Total Vertical Load on Base (Kips):	347.75

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1980	<	Allowable Factored Soil Bearing (psf):	9000	0.22	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	3316.9	>	Design Factored Momont (kips-ft):	1740	0.52	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.91					OK!

Load/
Capacity
Ratio

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):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	3009.3	> Design Factored Moment (Mu, Kips-Ft)	1710.1	0.57	OK!
Calculated Shear Capacity (Kips):	524.9	> Design Factored Shear (Kips):	20.0	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	1109.2	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	8057.4	> Design Factored Axial Load (Pu Kips):	29.2	0.00	OK!
Moment & Axial Strength Combination:	0.57	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	367.7	> One-Way Factored Shear (L-D. Kips):	141.4	0.38	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	367.7	> One-Way Factored Shear (W-D., Kips)	141.4	0.38	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	372.6	> One-Way Factored Shear (C-C, Kips):	138.4	0.37	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0065	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0065		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	1465.4	> Moment at Bottom (L-Dir. K-Ft):	580.9	0.40	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	1465.4	> Moment at Bottom (W-Dir. K-Ft):	580.9	0.40	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	2043.3	> Moment at Bottom (C-C Dir. K-Ft):	821.6	0.40	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0065	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0065		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	1465.4	> Moment at the top (L-Dir K-Ft):	262.1	0.18	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	1465.4	> Moment at the top (W-Dir K-Ft):	262.1	0.18	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	2043.3	> Moment at the top (C-C Dir. K-Ft):	246.1	0.12	OK!

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

Moment transferred by punching shear:	644.0	k-ft.	Max. factored shear stress v_{u_CD} :	1.5	Psi
Max. factored shear stress v_{u_AB} :	14.2	Psi	Factored shear Strength ϕv_n :	201.2	Psi
Max. factored shear stress v_u :	14.2	Psi	Check Usage of Punching Shear Capacity:	0.07	OK!

(4).Check Bending Capacity of the Pad Within the Effective Slab Width:

Overturning moment to be transferred by flexure:	483.0	k-ft.	Effective Width for resisting OT moment:	10.5	ft.
Calculated number of Rebar in Effective width:	15		Actual number of Rebar in Effective width:	15	
Steel Pad Moment Capacity (L-Direc. Kips-ft):	732.7	k-ft.	Check Usage of the Flexure Capacity:	0.66	OK!