August 3, 2022

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

Re: Exempt Modification Application – AT&T Site 13755490
AT&T Mobility Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT

Dear Ms. Bachman,

AT&T seeks an Exempt Modification approval to modify the current wireless telecommunications facility on the existing tower at 48 Ritch Avenue West in Greenwich. Enclosed please find Check Number 034932 in the amount of Six Hundred and Twenty Five Dollars ($625.00); an original and two (2) copies of the following documents: the Exempt Mod Request letter; a Letter of Authorization from the tower owner; the GIS map of the property; a set of Construction Drawings; a Structural Analysis Report; an Antenna Mount Analysis Report; an EME Study Report; and Four (4) Notice Confirmations.

I will email a .pdf copy of these documents to the Council.

If you have any questions, please feel free to contact me; I can be reached at 443-677-0144 or via email at jmandrews@clinellc.com. Thank you for your kind cooperation in this matter.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

July 28, 2022

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

Re: Exempt Modification Application – AT&T Site 13755490
AT&T Mobility Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, one (1) squid, six (6) TTAs, six (6) coax cables, six (6) control cables, two (2) fiber trunks, and two (2) conduits;
- Install nine (9) antennas, one (1) squid, three (3) conduits, seven (7) control cables and three (3) fiber trunk cables.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2), and as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of AT&T's intent to modify a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner; 36 Ritch Avenue LLC as Property Owners; the Honorable Fred Camillo, the First Selectman of Greenwich, and Katie DeLuca, the Director of Greenwich Planning and Zoning.

The applicant's proposal falls squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. Specifically:

1. The proposed modifications will NOT result in an increase in the height of the existing structure.
2. The proposed modifications will NOT require an extension of the site boundary.
3. The proposed modifications will NOT increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will NOT increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.
5. The proposed modifications will NOT cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis enclosed herewith.

Jack Andrews, Zoning Manager 10130 Donleigh Drive, Columbia, MD 21046 (443) 677-0144
Centerline Communications • 750 W Center Street, Suite 301, W Bridgewater, MA 02379

For the foregoing reasons, AT&T respectfully requests that the Council approve this Exempt Modification request for this tower located at 48 Ritch Avenue West, Greenwich.

If you have any questions, please feel free to contact me.

Sincerely,

Jack Andrews
Zoning Manager, Centerline Communications
443-677-0144

Enclosures:
Exhibit 1 – Letter of Authorization from tower owner
Exhibit 2 – Property Card/GIS
Exhibit 3 – Construction Drawings
Exhibit 4 – Structural Analysis Report
Exhibit 5 – Antenna Mount Analysis Report
Exhibit 6 – EME Study Report
Exhibit 7 – Four (4) Notice Confirmations

cc: American Tower Corporation - Tower Operator/Owner
36 Ritch Avenue LLC - Property Owner
Fred Camillo - First Selectman of Greenwich
Katie DeLuca - Director of Planning and Zoning

48 Ritch Ave West, Greenwich CT

WESTCOG

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Regional Map Viewer makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 03/25/2022
Data updated 07/05/2022

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

Radio Frequency Exposure Analysis Report

June 20, 2022

American Tower on behalf of AT&T
Centerline Communications Project Number: 950035-004

AT&T Site Name: Greenwich SW
Site Number: CTL05004
FA#: 10071045
USID: 24473

Site Address: 36 Ritch Avenue West, Greenwhich, CT 06830

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	8.59125 µW/cm^2
Cumulative General Population % MPE (Ground Level):	0.93754000000000004%

750 West Center Street | Suite 301 | West Bridgewater | MA | 02379

June 20, 2022

American Tower
Attn: John Luca, Supervisor Quality Review
301 Fayetteville St
Raleigh, NC 27601

RF Exposure Analysis for Site: **Greenwich SW**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **36 Ritch Avenue West, Greenwhich, CT 06830** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.

Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.

Maximum Calculated Cumulative Power Density (Location: approximately 5' SE of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (μW/cm²)	General Population MPE Limit (μW/cm²)	General Population % MPE
AT&T A 1	QUINTEL QD6616-7	700	11.97	67.00	4.00	30.00	1889.26	0.00021	466.67	0.00005
AT&T A 1	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.00003	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.00003	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.00002	1000.00	0.00000
AT&T A 1	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.00002	1000.00	0.00000
AT&T A 2	ERICSSON AIR6449	3700	23.55	69.00	1.00	108.40	24548.74	0.00120	1000.00	0.00012
AT&T A 2	ERICSSON AIR6419 NR	3400	22.85	65.00	1.00	54.20	10447.19	0.00079	1000.00	0.00008
AT&T A 3	ERICSSON AIR6419 LTE	3400	22.85	65.00	1.00	54.20	10447.19	0.00090	1000.00	0.00009
AT&T A 4	CCI DMP65R-BU4D	700	9.95	67.00	2.00	30.00	593.13	0.00004	466.67	0.00001
AT&T A 4	CCI DMP65R-BU4D	2300	14.65	67.00	4.00	18.75	2188.07	0.00001	1000.00	0.00000
AT&T A 4	CCI DMP65R-BU4D	850	10.25	67.00	2.00	30.00	635.55	0.00001	566.67	0.00000
AT&T B 5	QUINTEL QD6616-7	700	11.97	67.00	4.00	30.00	1889.26	0.05887	466.67	0.01262
AT&T B 5	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.04240	1000.00	0.00424
AT&T B 5	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.04240	1000.00	0.00424
AT&T B 5	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.03678	1000.00	0.00368
AT&T B 5	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.03678	1000.00	0.00368
AT&T B 6	ERICSSON AIR6449	3700	23.55	69.00	1.00	108.40	24548.74	3.24810	1000.00	0.32481
AT&T B 7	ERICSSON AIR6419 NR	3400	22.85	65.00	1.00	54.20	10447.19	1.82600	1000.00	0.18260
AT&T B 7	ERICSSON AIR6419 LTE	3400	22.85	65.00	1.00	54.20	10447.19	1.82600	1000.00	0.18260
AT&T B 8	CCI DMP65R-BU4D	700	9.95	67.00	2.00	30.00	593.13	0.06152	466.67	0.01318
AT&T B 8	CCI DMP65R-BU4D	2300	14.65	67.00	4.00	18.75	2188.07	0.06654	1000.00	0.00665
AT&T B 8	CCI DMP65R-BU4D	850	10.25	67.00	2.00	30.00	635.55	0.04028	566.67	0.00711
AT&T C 9	QUINTEL QD6616-7	700	11.97	67.00	4.00	30.00	1889.26	0.00002	466.67	0.00000
AT&T C 9	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.00004	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7	1900	15.12	67.00	2.00	30.00	1948.32	0.00004	1000.00	0.00000
AT&T C 9	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.00012	1000.00	0.00001
AT&T C 9	QUINTEL QD6616-7	2100	15.62	67.00	2.00	45.00	3285.81	0.00012	1000.00	0.00001
AT&T C 10	ERICSSON AIR6449	3700	23.55	69.00	1.00	108.40	24548.74	0.00219	1000.00	0.00022
AT&T C 11	ERICSSON AIR6419 NR	3400	22.85	65.00	1.00	54.20	10447.19	0.00248	1000.00	0.00025
AT&T C 11	ERICSSON AIR6419 LTE	3400	22.85	65.00	1.00	54.20	10447.19	0.00248	1000.00	0.00025
AT&T C 12	CCI DMP65R-BU4D	700	9.95	67.00	2.00	30.00	593.13	0.00028	466.67	0.00006
AT&T C 12	CCI DMP65R-BU4D	2300	14.65	67.00	4.00	18.75	2188.07	0.00003	1000.00	0.00000
AT&T C 12	CCI DMP65R-BU4D	850	10.25	67.00	2.00	30.00	635.55	0.00004	566.67	0.00001
Unknown A 13	GENERIC PANEL 6FT	850	12.62	77.00	4.00	40.00	2924.96	0.00017	566.67	0.00003

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm²)	General Population MPE Limit (µW/cm²)	General Population % MPE
Unknown A 14	GENERIC PANEL 6FT	1900	15.84	77.00	4.00	40.00	6139.32	0.00012	1000.00	0.00001
Unknown A 15	GENERIC PANEL 6FT	2100	16.39	77.00	4.00	40.00	6968.19	0.00007	1000.00	0.00001
Unknown A 16	GENERIC PANEL 6FT	700	12.33	77.00	4.00	40.00	2736.02	0.00042	466.67	0.00009
Unknown B 17	GENERIC PANEL 6FT	850	12.62	77.00	4.00	40.00	2924.96	0.11928	566.67	0.02105
Unknown B 18	GENERIC PANEL 6FT	1900	15.84	77.00	4.00	40.00	6139.32	0.26924	1000.00	0.02692
Unknown B 19	GENERIC PANEL 6FT	2100	16.39	77.00	4.00	40.00	6968.19	0.30984	1000.00	0.03098
Unknown B 20	GENERIC PANEL 6FT	700	12.33	77.00	4.00	40.00	2736.02	0.17979	466.67	0.03853
Unknown C 21	GENERIC PANEL 6FT	850	12.62	77.00	4.00	40.00	2924.96	0.00008	566.67	0.00001
Unknown C 22	GENERIC PANEL 6FT	1900	15.84	77.00	4.00	40.00	6139.32	0.00013	1000.00	0.00001
Unknown C 23	GENERIC PANEL 6FT	2100	16.39	77.00	4.00	40.00	6968.19	0.00005	1000.00	0.00001
Unknown C 24	GENERIC PANEL 6FT	700	12.33	77.00	4.00	40.00	2736.02	0.00050	466.67	0.00011
Unknown A 25	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00009	566.67	0.00002
Unknown A 26	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00005	566.67	0.00001
Unknown A 27	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00016	566.67	0.00003
Unknown B 28	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.12886	566.67	0.02274
Unknown B 29	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.21898	566.67	0.03864
Unknown B 30	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.06654	566.67	0.01174
Unknown C 31	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00007	566.67	0.00001
Unknown C 32	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00005	566.67	0.00001
Unknown C 33	GENERIC PANEL 6FT	850	12.62	57.00	1.00	60.00	1096.86	0.00001	566.67	0.00000
							Cumulative Power Density:	**8.59125 µW/cm²**	**Cumulative % MPE:**	**0.93754%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

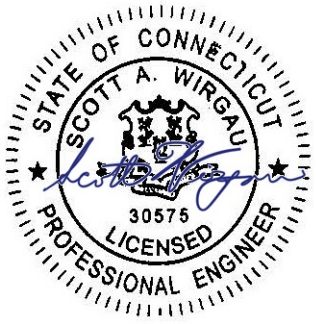
Michelle Stone

Michelle Stone
RF EME Technical Writer II
Centerline Communications, LLC

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**83 ft Monopine**
ATC Site Name	:	**Byram Park CT,CT**
ATC Site Number	:	**414240**
Engineering Number	:	**13755490_C3_04**
Proposed Carrier	:	**AT&T MOBILITY**
Carrier Site Name	:	**MRCTB055124**
Carrier Site Number	:	**CTL05004**
Site Location	:	**48 RITCH AVENUE WEST** **GREENWICH, CT 06830-9992** **41.0051, -73.6483**
County	:	**Fairfield**
Date	:	**March 30, 2022**
Max Usage	:	**99%**
Result	:	**Pass**



Prepared By:

Sarah Kramer
Structural Engineer

Sarah D. Kramer

Reviewed By:

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 83 ft Monopine to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	EEI Project #16733 Rev. 3, dated December 9, 2011
Foundation Drawing	Centek Engineering Job #09129 Rev. 0, dated February 14, 2012
Geotechnical Report	DET Job #2010.14, dated October 4, 2010
Modifications	ATC Project #OAA711130_C6_09, dated October 26, 2018

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	116 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.28, S_1 = 0.06
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

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

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
89.0	1	Bird 428D-83I-01-T	Pole Mount	(2) 1/2" Coax (2) 7/8" Coax	TOWN OF GREENWICH, CT
	2	dbSpectra DS7C09P36U-D			
82.0	3	Ericsson RRUS 32 B66	T-Arm	(1) 1 1/4" Hybriflex Cable (3) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 5/8" (1.63"-41.3mm) Fiber	T-MOBILE
81.6	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson Air6449 B41			
77.0	3	Commscope CBC1923Q-43			
	3	Ericsson RRUS 4415 B25			
	3	Ericsson AIR32 B66Aa/B2a			
	3	RFS APXVAARR24_43-U-NA20			
71.9	3	Ericsson RRUS 32 B2	T-Arm	(6) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
71.8	3	Ericsson RRUS 4426 B66			
67.0	3	Ericsson RRUS 4449 B5, B12			
	2	Raycap DC6-48-60-18-8F(32.8 lbs)			
	3	Ericsson RRUS 4478 B14			
	6	CCI DMP65R-BU4D			
62.7	3	Samsung B2/B66A RRH-BR049	T-Arm	(2) 1 5/8" Hybriflex (18) 1 5/8" Coax	VERIZON WIRELESS
62.6	3	Samsung B5/B13 RRH-BR04C			
62.0	1	Raycap RCMDC-6627-PF-48			
60.4	6	Amphenol Antel LPA-80063-6CF-EDIN-X			
56.0	4	Commscope JAHH-45A-R3B			
	1	VZW Unused Reserve (14306.88 sqin)			
	3	Commscope CBC78T-DS-43-2X			
	2	Commscope JAHH-65A-R3B			
	3	Samsung MT6407-77A			
45.0	3	Fujitsu TA08025-B605	T-Arm	(1) 1.41" (35.8mm) Hybrid	DISH WIRELESS L.L.C.
	3	Commscope FFVV-65B-R2			
	1	Raycap RDIDC-9181-PF-48			
	3	Fujitsu TA08025-B604			

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
78.1	6	CCI DTMABP7819VG12A	-	(2) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (6) 1 5/8" Coax	AT&T MOBILITY
72.8	3	Ericsson RRUS-32 (77 lbs)			
67.0	3	Powerwave Allgon P65-16-XLH-RR			
	3	CCI OPA-65R-LCUU-H6			
	1	Raycap DC6-48-60-0-8C-EV			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
69.0	3	Ericsson Air 6449 B77D	T-Arm	(3) 0.41" (10.3mm) Fiber (6) 0.82" (20.8mm) 8 AWG 6 (1) 0.92" (23.4mm) Cable (3) 2" conduit	AT&T MOBILITY
67.0	3	Ericsson RRUS 32 B30			
	3	Ericsson RRUS E2 B29			
	1	Raycap DC9-48-60-24-8C-EV			
	3	Quintel QD8616-7			
65.0	3	Ericsson AIR 6419 B77G			

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

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	36%	Pass
Shaft	99%	Pass
Base Plate	20%	Pass
Flange	11%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	4725.0	2537.2	54%
Shear (Kips)	75.6	47.4	63%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
69.0	Ericsson Air 6449 B77D	AT&T MOBILITY	0.228	0.330
67.0	Ericsson RRUS 32 B30		0.218	0.330
	Ericsson RRUS E2 B29			
	Raycap DC9-48-60-24-8C-EV			
	Quintel QD8616-7			
65.0	Ericsson AIR 6419 B77G		0.206	0.320

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

Standard Conditions

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

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

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

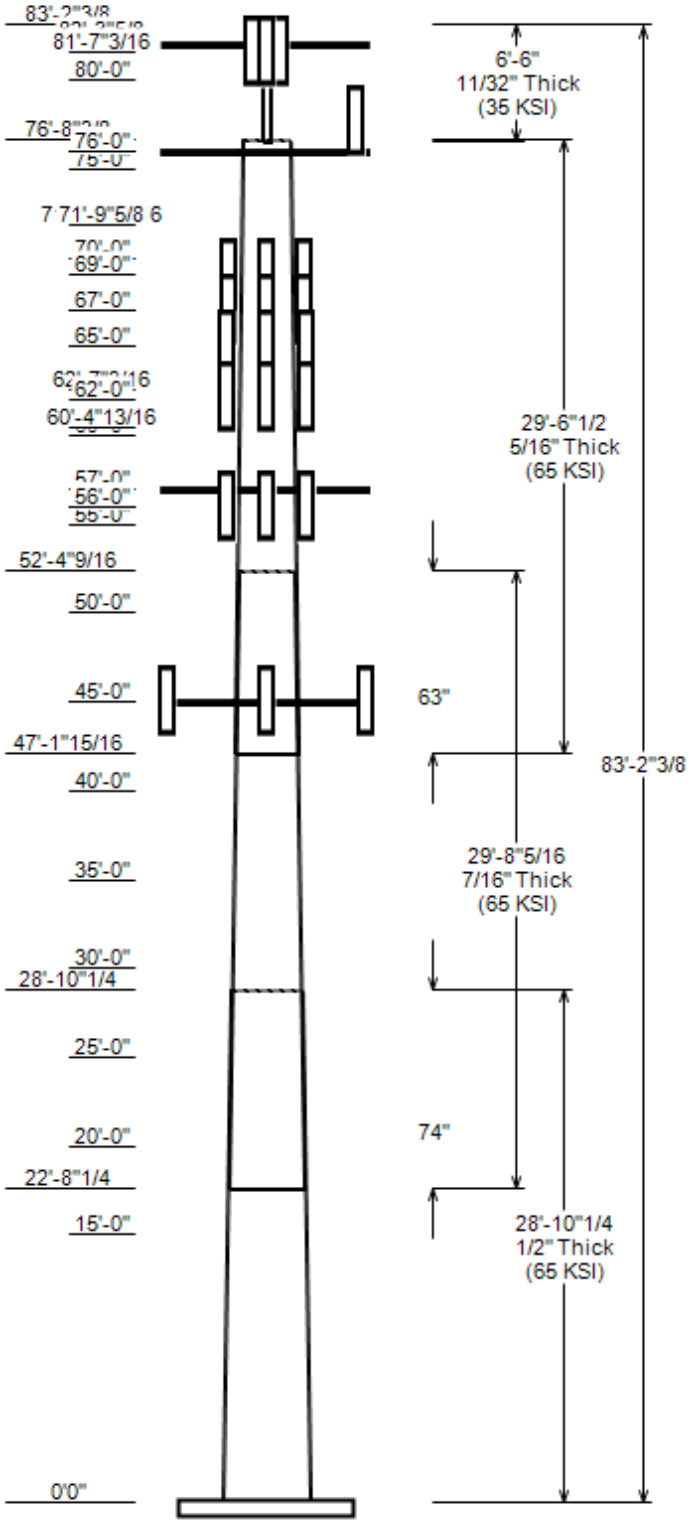
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with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

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

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

JOB INFORMATION

Asset :	414240, Byram Park CT	Height :	83.2 ft
Client :	AT&T MOBILITY	Base Width :	52
Code :	ANSI/TIA-222-H	Shape :	18 Sides



SITE PARAMETERS

Nominal Wind: 116 mph wind with no ice **Topo Category:** 1

Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1

Base Elev (ft): 0.00 **Taper :** 0.33600(In/ft) **Topo Feature:**

Structure Class: II **Exposure :** C **S_s :** 0.277 **S_1** : 0.06

SECTION PROPERTIES

Shaft Section	Length (ft)	Diameter (in) Across Flats Top	Diameter (in) Across Flats Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	28.852	42.31	52.00	0.500		0.000	18 Sides	65
2	29.693	35.29	45.26	0.438	Slip Joint	73.970	18 Sides	65
3	29.541	27.75	37.67	0.312	Slip Joint	62.660	18 Sides	65
4	6.500	4.50	4.50	0.337	Butt Joint	0.000	Round	35

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
89.0	89.0	1	Bird 428D-83I-01-T
89.0	89.0	2	dbSpectra DS7C09P36U-D
82.3	82.3	3	Ericsson RRUS 32 B66
82.0	82.0	2	Pole Mount
81.6	81.6	3	Ericsson Radio 4449 B71 B85A
81.6	81.6	3	Ericsson Air6449 B41
80.0	80.0	1	Pine Branches
76.0	77.0	3	Commscope CBC1923Q-43
76.0	77.0	3	Ericsson RRUS 4415 B25
76.0	77.0	3	Ericsson AIR32 B66Aa/B2a
76.0	77.0	3	Generic Flat T-Arm
76.0	77.0	3	RFS APXVAARR24_43-U-NA20
75.0	75.4	1	Pine Branches
71.9	72.9	3	Ericsson RRUS 32 B2
71.8	72.8	3	Ericsson RRUS 4426 B66
70.0	70.0	1	Pine Branches
69.0	69.0	3	Ericsson Air 6449 B77D
67.0	68.0	2	Raycap DC6-48-60-18-8F(32.8 lb
67.0	67.0	3	Ericsson RRUS 4449 B5, B12
67.0	67.0	3	Ericsson RRUS 4478 B14
67.0	67.0	3	Ericsson RRUS 32 B30
67.0	67.0	3	Ericsson RRUS E2 B29
67.0	67.0	1	Raycap DC9-48-60-24-8C-EV
67.0	67.0	6	CCI DMP65R-BU4D
67.0	67.0	3	Site PRO1, RMV12-496
67.0	67.0	3	Quintel QD8616-7
65.0	65.0	3	Ericsson AIR 6419 B77G
65.0	65.0	1	Pine Branches
62.7	62.7	3	Samsung B2/B66A RRH-BR049
62.6	62.6	3	Samsung B5/B13 RRH-BR04C
62.0	62.0	1	Raycap RCMDC-6627-PF-48
60.4	61.4	6	Amphenol Antel LPA-80063-6CF-E
60.0	60.0	1	Pine Branches
57.0	57.0	3	Generic Flat T-Arm
56.0	56.0	3	Commscope CBC78T-DS-43-2X
56.0	56.0	3	Samsung MT6407-77A
56.0	56.0	2	Commscope JAHH-65A-R3B
56.0	56.0	4	Commscope JAHH-45A-R3B
56.0	56.0	1	VZW Unused Reserve (14306.88 s
55.0	55.0	1	Pine Branches
50.0	50.0	1	Pine Branches
45.0	45.0	1	Raycap RDIDC-9181-PF-48
45.0	45.0	3	Fujitsu TA08025-B604

JOB INFORMATION			
Asset :	414240, Byram Park CT	Height :	83.2 ft
Client :	AT&T MOBILITY	Base Width :	52
Code :	ANSI/TIA-222-H	Shape :	18 Sides

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
45.0	45.0	3	Fujitsu TA08025-B605
45.0	45.0	3	Commscope FFVV-65B-R2
45.0	45.0	3	Generic Flat T-Arm
45.0	45.0	1	Pine Branches
40.0	40.0	1	Pine Branches
35.0	35.0	1	Pine Branches
30.0	30.0	1	Pine Branches
25.0	25.0	1	Pine Branches
20.0	20.0	1	Pine Branches
15.0	15.0	1	Pine Branches

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	89.0	7/8" Coax	No
0.0	89.0	1/2" Coax	No
0.0	82.0	1 1/4" Hybriflex Cable	No
0.0	77.0	1 5/8" (1.63"-41.3mm) Fiber	No
0.0	77.0	1 1/4" (1.25"- 31.8mm) Fiber	No
0.0	67.0	2" conduit	No
0.0	67.0	2" conduit	No
0.0	67.0	1 5/8" Coax	No
0.0	67.0	0.92" (23.4mm) Cable	No
0.0	67.0	0.82" (20.8mm) 8 AWG 6	No
0.0	67.0	0.41" (10.3mm) Fiber	No
0.0	62.0	1 5/8" Hybriflex	No
0.0	60.0	1 5/8" Coax	No
0.0	56.0	1 5/8" Coax	No
0.0	45.0	1.41" (35.8mm) Hybrid	No

LOAD CASES

1.2D + 1.0W Normal	116 mph wind with no ice
0.9D + 1.0W Normal	116 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Nor	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Nor	Seismic
0.9D - 1.0Ev + 1.0Eh Nor	Seismic (Reduced DL)
1.0D + 1.0W Service Norm	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W Normal	2537.22	47.40	47.57
0.9D + 1.0W Normal	2530.96	47.38	35.67
1.2D + 1.0Di + 1.0Wi Normal	658.46	12.40	61.53
1.2D + 1.0Ev + 1.0Eh Normal	180.46	3.15	47.88
0.9D - 1.0Ev + 1.0Eh Normal	179.85	3.15	32.03
1.0D + 1.0W Service Normal	606.83	11.35	39.69

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)

ANALYSIS PARAMETERS

Location:	Fairfield County,CT	**Height:**	83.2 ft
Type and Shape:	Custom, Round	**Base Diameter:**	52.00 in
Manufacturer:	EEI	**Top Diameter:**	4.50 in
K_d (non-service):	0.95	**Taper:**	0.3360 in/ft
K_e:	1.00	**Rotation:**	0.000°

ICE & WIND PARAMETERS

Exposure Category:	C	**Design Wind Speed w/o Ice:**	116 mph
Risk Category:	II	**Design Wind Speed w/Ice:**	50 mph
Topo Factor Procedure:	Method 1	**Operational Wind Speed:**	60 mph
Topographic Category:	1	**Design Ice Thickness:**	1.00 in
Crest Height:	0 ft	**HMSL:**	53.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			**Period Based on Rayleigh Method (sec):**	0.81
T_L (sec):	6	**P:**	1	**C_s:**	0.079
S_s:	0.277	**S_1:**	0.060	**C_s Max:**	0.079
F_a:	1.578	**F_v:**	2.400	**C_s Min:**	0.030
S_{ds}:	0.291	**S_{d1}:**	0.096		

LOAD CASES

1.2D + 1.0W Normal	116 mph wind with no ice
0.9D + 1.0W Normal	116 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL)
1.0D + 1.0W Service Normal	60 mph Wind with No Ice

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in^2)	Bottom Ix (in^4)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (in)	Top Area (in^2)	Top Ix (in^4)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	28.85	0.5000	65		0.00	7,269	52.00	-0.002	81.73	27,386.5	16.93	104.00	42.31	28.85	66.36	14,658.7	13.51	84.63	0.3357
2-18	29.69	0.4375	65	Slip	73.97	5,589	45.26	22.687	62.24	15,797.0	16.83	103.45	35.29	52.38	48.40	7,427.8	12.81	80.66	0.3357
3-18	29.54	0.3125	65	Slip	62.66	3,230	37.67	47.159	37.05	6,532.6	19.84	120.54	27.75	76.70	27.22	2,588.9	14.25	88.80	0.3357
4-R	6.50	0.3370	35	Butt	0.00	97	4.50	76.700	4.41	9.6	0.00	13.35	4.50	83.20	4.41	9.6	0.00	13.35	0.0000
					Shaft Weight	16,185													

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
89.00	dbSpectra DS7C09P36U-D	2	1.00	0.000	70.00	3.550	1.00	127.74	6.727	1.00
89.00	Bird 428D-83I-01-T	1	1.00	0.000	8.90	0.465	1.00	19.92	0.764	1.00
82.30	Ericsson RRUS 32 B66	3	0.80	0.000	53.00	2.743	0.50	99.26	3.479	0.50
82.00	Pole Mount	2	1.00	0.000	40.00	1.630	1.00	69.66	2.343	1.00
81.60	Ericsson Radio 4449 B71 B85A	3	0.80	0.000	75.00	1.650	0.50	112.76	2.183	0.50
81.60	Ericsson Air6449 B41	3	0.80	0.000	104.00	5.682	0.63	189.58	6.679	0.63
80.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	861.68	64.626	1.00
76.00	Generic Flat T-Arm	3	0.75	1.000	312.50	12.900	0.67	475.44	18.001	0.67
76.00	Ericsson AIR32 B66Aa/B2a	3	0.80	1.000	132.20	6.510	0.71	231.75	7.876	0.71
76.00	Ericsson RRUS 4415 B25	3	0.80	1.000	46.00	1.842	0.50	76.58	2.401	0.50
76.00	Commscope CBC1923Q-43	3	0.80	1.000	7.30	0.318	0.50	14.20	0.569	0.50
76.00	RFS APXVAARR24_43-U-NA20	3	0.80	1.000	127.90	20.243	0.63	372.76	22.556	0.63
75.00	Pine Branches	1	1.00	0.400	600.00	45.000	1.00	859.99	64.499	1.00
71.90	Ericsson RRUS 32 B2	3	0.80	1.000	53.00	2.743	0.50	98.65	3.469	0.50
71.80	Ericsson RRUS 4426 B66	3	0.80	1.000	48.40	1.650	0.50	76.07	2.177	0.50
70.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	858.56	64.392	1.00
69.00	Ericsson Air 6449 B77D	3	0.80	0.000	81.60	4.028	0.65	145.07	4.877	0.65
67.00	Quintel QD8616-7	3	0.80	0.000	150.00	18.815	0.65	384.33	21.090	0.65
67.00	Site PRO1, RMV12-496	3	0.75	0.000	452.60	9.700	0.67	646.63	13.858	0.67
67.00	CCI DMP65R-BU4D	6	0.80	0.000	67.90	8.280	0.62	179.04	9.526	0.62
67.00	Raycap DC9-48-60-24-8C-EV	1	0.80	0.000	16.00	4.788	1.00	95.44	5.693	1.00
67.00	Ericsson RRUS E2 B29	3	0.80	0.000	60.00	3.145	0.50	109.77	3.858	0.50
67.00	Ericsson RRUS 32 B30	3	0.80	0.000	60.00	2.743	0.50	105.27	3.463	0.50
67.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.40	2.021	0.50	97.17	2.602	0.50
67.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	110.66	2.543	0.50
67.00	Raycap DC6-48-60-18-8F(32.8 lb	2	0.80	1.000	32.80	1.470	1.00	70.77	1.900	1.00
65.00	Ericsson AIR 6419 B77G	3	0.80	0.000	66.10	3.797	0.65	125.61	4.605	0.65
65.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	856.38	64.228	1.00
62.70	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	123.45	2.428	0.50
62.60	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	105.30	2.427	0.50
62.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	1.00	109.62	4.890	1.00
60.40	Amphenol Antel LPA-80063-6CF-E	6	0.80	1.000	27.00	9.732	0.75	186.11	11.402	0.75
60.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	854.14	64.061	1.00
57.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.67	470.79	17.855	0.67
56.00	VZW Unused Reserve (14306.88 s	1	0.80	0.000	1151.60	99.353	0.90	1636.82	141.215	0.90
56.00	Commscope JAHH-65A-R3B	2	0.80	0.000	50.70	6.673	0.76	146.36	7.966	0.76
56.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	143.25	5.628	0.61
56.00	Commscope CBC78T-DS-43-2X	3	0.80	0.000	20.70	0.552	0.50	34.06	0.859	0.50
56.00	Commscope JAHH-45A-R3B	4	0.80	0.000	70.50	8.420	0.63	178.51	9.747	0.63
55.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	851.97	63.898	1.00
50.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	849.46	63.710	1.00
45.00	Generic Flat T-Arm	3	0.75	0.000	312.50	12.900	0.67	466.34	17.716	0.67
45.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	846.15	63.461	1.00
45.00	Raycap RDIDC-9181-PF-48	1	0.80	0.000	21.90	1.867	1.00	55.41	2.397	1.00
45.00	Fujitsu TA08025-B605	3	0.80	0.000	75.00	1.962	0.50	111.89	2.504	0.50
45.00	Fujitsu TA08025-B604	3	0.80	0.000	63.90	1.962	0.50	98.24	2.504	0.50
45.00	Commscope FFVV-65B-R2	3	0.80	0.000	70.80	12.271	0.64	218.79	13.922	0.64
40.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	843.09	63.232	1.00
35.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	839.63	62.973	1.00
30.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	837.26	62.795	1.00
25.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	832.33	62.424	1.00
20.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	825.25	61.894	1.00
15.00	Pine Branches	1	1.00	0.000	600.00	45.000	1.00	817.80	61.335	1.00
Totals	Num Loadings: 53	124			20,023.90			33,215.91		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax/ Row	Dist Between Rows(in)	Dist Between Cols(in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	89.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	0	N	TOWN OF GREEN
0.00	89.00	2	1/2" Coax	0.63	0.15	N	0	0	0	0	0	N	TOWN OF GREEN
0.00	82.00	1	1 1/4" Hybriflex Cabl	1.54	1	N	0	0	0	0	0	N	T-MOBILE
0.00	77.00	3	1 1/4" (1.25"- 31.8mm	1.25	1.05	N	0	0	0	0	0	N	T-MOBILE
0.00	77.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0	0	0	0	N	T-MOBILE
0.00	67.00	6	0.82" (20.8mm) 8 AWG	0.82	0.62	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	67.00	6	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	67.00	3	0.41" (10.3mm) Fiber	0.41	0.09	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	67.00	3	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	67.00	1	2" conduit	2.38	3.65	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	67.00	1	0.92" (23.4mm) Cable	0.92	0.89	N	0	0	0	0	0	N	AT&T MOBILITY
0.00	62.00	2	1 5/8" Hybriflex	1.98	1.3	N	0	0	0	0	0	N	VERIZON WIREL
0.00	60.00	2	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	56.00	16	1 5/8" Coax	1.98	0.82	N	0	0	0	0	0	N	VERIZON WIREL
0.00	45.00	1	1.41" (35.8mm) Hybrid	1.41	1.66	N	0	0	0	0	0	N	DISH WIRELESS

SEGMENT PROPERTIES

(Max Len: 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	52.000	81.728	27,386.50	16.93	104.00	81.5	1037.3	0.0	0.0
5.00		0.5000	50.322	79.064	24,795.00	16.34	100.64	82.2	970.5	0.0	1,367.8
10.00		0.5000	48.643	76.400	22,372.50	15.74	97.29	82.6	905.9	0.0	1,322.5
15.00		0.5000	46.965	73.737	20,113.10	15.15	93.93	82.6	843.5	0.0	1,277.2
20.00		0.5000	45.286	71.073	18,011.10	14.56	90.57	82.6	783.4	0.0	1,231.9
22.69	Bot - Section 2	0.5000	44.384	69.641	16,944.40	14.24	88.77	82.6	751.9	0.0	643.4
25.00		0.5000	43.608	68.409	16,061.00	13.97	87.22	82.6	725.4	0.0	1,028.6
28.85	Top - Section 1	0.4375	43.190	59.364	13,708.60	16.00	98.72	82.6	625.2	0.0	1,672.9
30.00		0.4375	42.804	58.829	13,341.10	15.84	97.84	82.6	613.9	0.0	230.9
35.00		0.4375	41.126	56.498	11,817.40	15.16	94.00	82.6	566.0	0.0	981.1
40.00		0.4375	39.447	54.168	10,414.40	14.49	90.16	82.6	520.0	0.0	941.4
45.00		0.4375	37.769	51.837	9,127.10	13.81	86.33	82.6	476.0	0.0	901.8
47.16	Bot - Section 3	0.4375	37.044	50.831	8,605.70	13.52	84.67	82.6	457.6	0.0	377.1
50.00		0.4375	36.090	49.506	7,950.50	13.13	82.49	82.6	433.9	0.0	838.6
52.38	Top - Section 2	0.3125	35.916	35.313	5,655.50	18.85	114.93	79.2	310.1	0.0	685.7
55.00		0.3125	35.037	34.441	5,246.70	18.36	112.12	79.8	294.9	0.0	310.9
56.00		0.3125	34.701	34.108	5,096.00	18.17	111.04	80	289.2	0.0	116.6
57.00		0.3125	34.365	33.775	4,948.20	17.98	109.97	80.3	283.6	0.0	115.5
60.00		0.3125	33.358	32.776	4,522.00	17.41	106.75	80.9	267.0	0.0	339.7
60.40		0.3125	33.224	32.643	4,467.10	17.34	106.32	81	264.8	0.0	44.5
62.00		0.3125	32.687	32.110	4,251.90	17.03	104.60	81.4	256.2	0.0	176.3
62.60		0.3125	32.485	31.910	4,173.10	16.92	103.95	81.5	253.0	0.0	65.4
62.70		0.3125	32.452	31.877	4,160.00	16.90	103.85	81.5	252.5	0.0	10.9
65.00		0.3125	31.680	31.111	3,867.30	16.46	101.37	82	240.4	0.0	246.5
67.00		0.3125	31.008	30.445	3,624.30	16.09	99.23	82.5	230.2	0.0	209.5
69.00		0.3125	30.337	29.779	3,391.60	15.71	97.08	82.6	220.2	0.0	204.9
70.00		0.3125	30.001	29.446	3,279.10	15.52	96.00	82.6	215.3	0.0	100.8
71.80		0.3125	29.397	28.847	3,083.00	15.18	94.07	82.6	206.6	0.0	178.5
71.90		0.3125	29.363	28.814	3,072.30	15.16	93.96	82.6	206.1	0.0	9.8
75.00		0.3125	28.323	27.781	2,753.80	14.57	90.63	82.6	191.5	0.0	298.5
76.00		0.3125	27.987	27.448	2,656.00	14.38	89.56	82.6	186.9	0.0	94.0
76.70	Top - Section 3	0.3125	27.752	27.215	2,588.90	14.25	88.81	82.6	183.7	0.0	65.1
76.70	Bot - Section 4	0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	
80.00		0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	49.5
81.60		0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	24.0
82.00		0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	6.0
82.30		0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	4.5
83.20		0.3370	4.500	4.407	9.60	0.00	13.35	35	4.2	5.9	13.5
								Totals:			16,185.8

Load Case: 1.2D + 1.0W Normal 116 mph wind with no ice 17 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.20
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.57	-47.40	0.00	-2,537.2	0.00	2,537.22	5,994.05	1,434.32	6,672.27	6,339.93	0	0	0.409
5.00	-45.51	-47.02	0.00	-2,300.2	0.00	2,300.23	5,848.23	1,387.57	6,244.49	5,982.15	0.07	-0.13	0.393
10.00	-43.50	-46.65	0.00	-2,065.1	0.00	2,065.13	5,676.15	1,340.82	5,830.89	5,608.58	0.27	-0.25	0.377
15.00	-40.84	-44.90	0.00	-1,831.9	0.00	1,831.88	5,478.25	1,294.08	5,431.45	5,222.38	0.6	-0.37	0.359
20.00	-38.27	-43.14	0.00	-1,607.4	0.00	1,607.38	5,280.36	1,247.33	5,046.18	4,849.95	1.06	-0.5	0.340
22.69	-37.28	-42.94	0.00	-1,491.4	0.00	1,491.45	5,173.98	1,222.20	4,844.96	4,655.46	1.36	-0.56	0.329
25.00	-35.15	-41.15	0.00	-1,392.2	0.00	1,392.16	5,082.46	1,200.58	4,675.09	4,491.29	1.65	-0.62	0.318
28.85	-32.85	-40.92	0.00	-1,233.7	0.00	1,233.68	4,410.48	1,041.84	4,023.35	3,870.56	2.19	-0.71	0.328
30.00	-31.76	-39.07	0.00	-1,186.7	0.00	1,186.69	4,370.71	1,032.45	3,951.12	3,800.72	2.36	-0.73	0.321
35.00	-29.50	-37.00	0.00	-991.3	0.00	991.33	4,197.54	991.55	3,644.30	3,504.05	3.19	-0.85	0.291
40.00	-27.30	-34.87	0.00	-806.4	0.00	806.35	4,024.38	950.64	3,349.87	3,219.43	4.15	-0.96	0.259
45.00	-23.30	-31.06	0.00	-632.0	0.00	632.01	3,851.22	909.74	3,067.84	2,946.87	5.21	-1.06	0.222
47.16	-22.69	-30.85	0.00	-565.0	0.00	564.95	3,776.46	892.08	2,949.90	2,832.91	5.7	-1.1	0.207
50.00	-20.81	-28.82	0.00	-477.3	0.00	477.32	3,678.06	868.83	2,798.22	2,686.37	6.36	-1.15	0.184
52.38	-19.82	-28.60	0.00	-408.7	0.00	408.72	2,517.86	619.74	1,993.02	1,842.82	6.95	-1.18	0.232
55.00	-18.60	-26.62	0.00	-333.8	0.00	333.80	2,473.76	604.43	1,895.79	1,765.43	7.61	-1.22	0.199
56.00	-16.27	-22.29	0.00	-307.2	0.00	307.19	2,456.68	598.59	1,859.31	1,736.14	7.87	-1.24	0.185
57.00	-14.97	-21.32	0.00	-284.9	0.00	284.89	2,439.47	592.75	1,823.19	1,707.00	8.13	-1.26	0.174
60.00	-13.74	-19.31	0.00	-221.0	0.00	220.95	2,387.04	575.22	1,716.96	1,620.46	8.93	-1.3	0.143
60.40	-13.51	-17.79	0.00	-211.8	0.00	211.79	2,379.96	572.88	1,703.04	1,609.02	9.04	-1.3	0.138
62.00	-13.19	-17.56	0.00	-183.3	0.00	183.33	2,351.42	563.53	1,647.91	1,563.54	9.48	-1.32	0.124
62.60	-12.83	-17.43	0.00	-172.8	0.00	172.79	2,340.63	560.02	1,627.47	1,546.59	9.65	-1.33	0.118
62.70	-12.51	-17.23	0.00	-171.0	0.00	171.05	2,338.83	559.44	1,624.08	1,543.77	9.68	-1.33	0.117
65.00	-11.21	-14.92	0.00	-131.4	0.00	131.41	2,296.98	546.00	1,546.99	1,479.38	10.33	-1.36	0.094
67.00	-7.31	-11.04	0.00	-101.5	0.00	101.48	2,260.03	534.31	1,481.49	1,424.11	10.9	-1.37	0.075
69.00	-6.75	-10.65	0.00	-79.4	0.00	79.40	2,212.44	522.62	1,417.40	1,363.33	11.48	-1.39	0.062
70.00	-5.95	-8.62	0.00	-68.8	0.00	68.75	2,187.71	516.78	1,385.88	1,332.86	11.77	-1.39	0.055
71.80	-5.54	-8.45	0.00	-53.2	0.00	53.15	2,143.18	506.26	1,330.05	1,278.88	12.3	-1.4	0.044
71.90	-5.34	-8.19	0.00	-52.2	0.00	52.16	2,140.71	505.68	1,326.98	1,275.91	12.33	-1.4	0.044
75.00	-4.28	-6.08	0.00	-26.0	0.00	26.01	2,064.02	487.56	1,233.63	1,185.66	13.24	-1.42	0.024
76.00	-1.97	-3.21	0.00	-17.2	0.00	17.19	2,039.28	481.72	1,204.24	1,157.26	13.54	-1.42	0.016
76.70	-1.89	-3.16	0.00	-14.9	0.00	14.94	2,021.97	477.63	1,183.88	1,137.58	13.75	-1.42	0.014
76.70	-1.89	-3.16	0.00	-14.9	0.00	14.94	138.83	41.65	15.24	15.36	13.75	-1.42	0.992
80.00	-1.14	-1.15	0.00	-4.5	0.00	4.52	138.83	41.65	15.24	15.36	14.73	-1.42	0.303
81.60	-0.48	-0.66	0.00	-2.7	0.00	2.68	138.83	41.65	15.24	15.36	15.24	-1.59	0.178
82.00	-0.38	-0.51	0.00	-2.4	0.00	2.41	138.83	41.65	15.24	15.36	15.38	-1.62	0.160
82.30	-0.19	-0.35	0.00	-2.3	0.00	2.26	138.83	41.65	15.24	15.36	15.48	-1.65	0.149
83.20	0.00	-0.34	0.00	-2.0	0.00	1.95	138.83	41.65	15.24	15.36	15.79	-1.7	0.127

Load Case: 0.9D + 1.0W Normal 116 mph wind with no ice 17 Iterations
Gust Response Factor: 1.10
Dead load Factor: 0.90
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.67	-47.38	0.00	-2,531.0	0.00	2,530.96	5,994.05	1,434.32	6,672.27	6,339.93	0	0	0.406
5.00	-34.09	-46.98	0.00	-2,294.0	0.00	2,294.04	5,848.23	1,387.57	6,244.49	5,982.15	0.07	-0.13	0.390
10.00	-32.56	-46.59	0.00	-2,059.1	0.00	2,059.13	5,676.15	1,340.82	5,830.89	5,608.58	0.27	-0.25	0.374
15.00	-30.55	-44.82	0.00	-1,826.2	0.00	1,826.18	5,478.25	1,294.08	5,431.45	5,222.38	0.6	-0.37	0.356
20.00	-28.60	-43.05	0.00	-1,602.1	0.00	1,602.08	5,280.36	1,247.33	5,046.18	4,849.95	1.06	-0.49	0.337
22.69	-27.85	-42.84	0.00	-1,486.4	0.00	1,486.39	5,173.98	1,222.20	4,844.96	4,655.46	1.36	-0.56	0.326
25.00	-26.24	-41.04	0.00	-1,387.3	0.00	1,387.33	5,082.46	1,200.58	4,675.09	4,491.29	1.64	-0.62	0.315
28.85	-24.51	-40.81	0.00	-1,229.2	0.00	1,229.25	4,410.48	1,041.84	4,023.35	3,870.56	2.18	-0.71	0.325
30.00	-23.68	-38.96	0.00	-1,182.4	0.00	1,182.38	4,370.71	1,032.45	3,951.12	3,800.72	2.35	-0.73	0.318
35.00	-21.98	-36.88	0.00	-987.6	0.00	987.59	4,197.54	991.55	3,644.30	3,504.05	3.18	-0.85	0.288
40.00	-20.32	-34.74	0.00	-803.2	0.00	803.21	4,024.38	950.64	3,349.87	3,219.43	4.13	-0.96	0.256
45.00	-17.33	-30.95	0.00	-629.5	0.00	629.50	3,851.22	909.74	3,067.84	2,946.87	5.19	-1.05	0.219
47.16	-16.87	-30.73	0.00	-562.7	0.00	562.68	3,776.46	892.08	2,949.90	2,832.91	5.68	-1.09	0.204
50.00	-15.46	-28.71	0.00	-475.4	0.00	475.38	3,678.06	868.83	2,798.22	2,686.37	6.34	-1.14	0.182
52.38	-14.72	-28.49	0.00	-407.0	0.00	407.03	2,517.86	619.74	1,993.02	1,842.82	6.93	-1.18	0.229
55.00	-13.81	-26.51	0.00	-332.4	0.00	332.40	2,473.76	604.43	1,895.79	1,765.43	7.58	-1.22	0.196
56.00	-12.09	-22.20	0.00	-305.9	0.00	305.89	2,456.68	598.59	1,859.31	1,736.14	7.84	-1.23	0.182
57.00	-11.11	-21.23	0.00	-283.7	0.00	283.69	2,439.47	592.75	1,823.19	1,707.00	8.1	-1.25	0.172
60.00	-10.20	-19.23	0.00	-220.0	0.00	220.01	2,387.04	575.22	1,716.96	1,620.46	8.9	-1.29	0.141
60.40	-10.03	-17.71	0.00	-210.9	0.00	210.88	2,379.96	572.88	1,703.04	1,609.02	9.01	-1.3	0.136
62.00	-9.79	-17.48	0.00	-182.6	0.00	182.55	2,351.42	563.53	1,647.91	1,563.54	9.45	-1.32	0.122
62.60	-9.53	-17.35	0.00	-172.1	0.00	172.06	2,340.63	560.02	1,627.47	1,546.59	9.62	-1.33	0.116
62.70	-9.29	-17.16	0.00	-170.3	0.00	170.33	2,338.83	559.44	1,624.08	1,543.77	9.65	-1.33	0.115
65.00	-8.32	-14.85	0.00	-130.9	0.00	130.87	2,296.98	546.00	1,546.99	1,479.38	10.29	-1.35	0.093
67.00	-5.42	-11.00	0.00	-101.1	0.00	101.08	2,260.03	534.31	1,481.49	1,424.11	10.86	-1.37	0.074
69.00	-5.00	-10.60	0.00	-79.1	0.00	79.08	2,212.44	522.62	1,417.40	1,363.33	11.44	-1.38	0.061
70.00	-4.41	-8.58	0.00	-68.5	0.00	68.48	2,187.71	516.78	1,385.88	1,332.86	11.73	-1.39	0.054
71.80	-4.11	-8.42	0.00	-53.0	0.00	52.95	2,143.18	506.26	1,330.05	1,278.88	12.26	-1.4	0.044
71.90	-3.96	-8.15	0.00	-52.0	0.00	51.96	2,140.71	505.68	1,326.98	1,275.91	12.29	-1.4	0.043
75.00	-3.17	-6.05	0.00	-25.9	0.00	25.92	2,064.02	487.56	1,233.63	1,185.66	13.2	-1.41	0.024
76.00	-1.46	-3.20	0.00	-17.1	0.00	17.13	2,039.28	481.72	1,204.24	1,157.26	13.5	-1.41	0.016
76.70	-1.40	-3.15	0.00	-14.9	0.00	14.89	2,021.97	477.63	1,183.88	1,137.58	13.7	-1.41	0.014
76.70	-1.40	-3.15	0.00	-14.9	0.00	14.89	138.83	41.65	15.24	15.36	13.7	-1.41	0.985
80.00	-0.85	-1.14	0.00	-4.5	0.00	4.50	138.83	41.65	15.24	15.36	14.68	-1.42	0.300
81.60	-0.35	-0.65	0.00	-2.7	0.00	2.67	138.83	41.65	15.24	15.36	15.19	-1.59	0.177
82.00	-0.28	-0.50	0.00	-2.4	0.00	2.41	138.83	41.65	15.24	15.36	15.32	-1.62	0.159
82.30	-0.14	-0.35	0.00	-2.3	0.00	2.26	138.83	41.65	15.24	15.36	15.43	-1.64	0.148
83.20	0.00	-0.34	0.00	-2.0	0.00	1.95	138.83	41.65	15.24	15.36	15.74	-1.7	0.127

Load Case: 1.2D + 1.0Di + 1.0Wi Normal		50 mph wind with 1" radial ice			16 Iterations
Gust Response Factor:	1.10	Ice Dead Load Factor	1.00		
Dead load Factor:	1.20			Ice Importance Factor	1.00
Wind Load Factor:	1.00				

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-61.53	-12.40	0.00	-658.5	0.00	658.46	5,994.05	1,434.32	6,672.27	6,339.93	0	0	0.114
5.00	-59.31	-12.28	0.00	-596.5	0.00	596.46	5,848.23	1,387.57	6,244.49	5,982.15	0.02	-0.03	0.110
10.00	-57.13	-12.17	0.00	-535.0	0.00	535.04	5,676.15	1,340.82	5,830.89	5,608.58	0.07	-0.07	0.106
15.00	-54.12	-11.70	0.00	-474.2	0.00	474.20	5,478.25	1,294.08	5,431.45	5,222.38	0.16	-0.1	0.101
20.00	-51.16	-11.24	0.00	-415.7	0.00	415.68	5,280.36	1,247.33	5,046.18	4,849.95	0.28	-0.13	0.095
22.69	-50.07	-11.17	0.00	-385.5	0.00	385.48	5,173.98	1,222.20	4,844.96	4,655.46	0.35	-0.15	0.093
25.00	-47.67	-10.70	0.00	-359.6	0.00	359.64	5,082.46	1,200.58	4,675.09	4,491.29	0.43	-0.16	0.090
28.85	-45.20	-10.63	0.00	-318.4	0.00	318.43	4,410.48	1,041.84	4,023.35	3,870.56	0.57	-0.18	0.093
30.00	-43.89	-10.14	0.00	-306.2	0.00	306.23	4,370.71	1,032.45	3,951.12	3,800.72	0.61	-0.19	0.091
35.00	-41.23	-9.57	0.00	-255.6	0.00	255.55	4,197.54	991.55	3,644.30	3,504.05	0.83	-0.22	0.083
40.00	-38.61	-8.99	0.00	-207.7	0.00	207.69	4,024.38	950.64	3,349.87	3,219.43	1.07	-0.25	0.074
45.00	-33.28	-8.02	0.00	-162.7	0.00	162.73	3,851.22	909.74	3,067.84	2,946.87	1.35	-0.27	0.064
47.16	-32.59	-7.95	0.00	-145.4	0.00	145.42	3,776.46	892.08	2,949.90	2,832.91	1.47	-0.28	0.060
50.00	-30.36	-7.41	0.00	-122.8	0.00	122.82	3,678.06	868.83	2,798.22	2,686.37	1.65	-0.3	0.054
52.38	-29.27	-7.33	0.00	-105.2	0.00	105.20	2,517.86	619.74	1,993.02	1,842.82	1.8	-0.31	0.069
55.00	-27.70	-6.80	0.00	-86.0	0.00	85.98	2,473.76	604.43	1,895.79	1,765.43	1.97	-0.32	0.060
56.00	-24.23	-5.71	0.00	-79.2	0.00	79.18	2,456.68	598.59	1,859.31	1,736.14	2.04	-0.32	0.056
57.00	-22.51	-5.44	0.00	-73.5	0.00	73.47	2,439.47	592.75	1,823.19	1,707.00	2.1	-0.32	0.052
60.00	-20.92	-4.90	0.00	-57.1	0.00	57.14	2,387.04	575.22	1,716.96	1,620.46	2.31	-0.34	0.044
60.40	-19.90	-4.56	0.00	-54.9	0.00	54.86	2,379.96	572.88	1,703.04	1,609.02	2.34	-0.34	0.043
62.00	-19.45	-4.50	0.00	-47.6	0.00	47.57	2,351.42	563.53	1,647.91	1,563.54	2.45	-0.34	0.039
62.60	-18.99	-4.46	0.00	-44.9	0.00	44.87	2,340.63	560.02	1,627.47	1,546.59	2.5	-0.34	0.037
62.70	-18.57	-4.41	0.00	-44.4	0.00	44.42	2,338.83	559.44	1,624.08	1,543.77	2.5	-0.34	0.037
65.00	-16.79	-3.79	0.00	-34.3	0.00	34.28	2,296.98	546.00	1,546.99	1,479.38	2.67	-0.35	0.031
67.00	-10.71	-2.89	0.00	-26.7	0.00	26.67	2,260.03	534.31	1,481.49	1,424.11	2.82	-0.36	0.023
69.00	-9.92	-2.79	0.00	-20.9	0.00	20.90	2,212.44	522.62	1,417.40	1,363.33	2.97	-0.36	0.020
70.00	-8.83	-2.24	0.00	-18.1	0.00	18.11	2,187.71	516.78	1,385.88	1,332.86	3.04	-0.36	0.018
71.80	-8.28	-2.19	0.00	-14.1	0.00	14.06	2,143.18	506.26	1,330.05	1,278.88	3.18	-0.36	0.015
71.90	-7.97	-2.12	0.00	-13.8	0.00	13.80	2,140.71	505.68	1,326.98	1,275.91	3.19	-0.36	0.015
75.00	-6.53	-1.54	0.00	-7.0	0.00	7.03	2,064.02	487.56	1,233.63	1,185.66	3.43	-0.37	0.009
76.00	-2.86	-0.87	0.00	-4.9	0.00	4.86	2,039.28	481.72	1,204.24	1,157.26	3.5	-0.37	0.006
76.70	-2.74	-0.86	0.00	-4.2	0.00	4.25	2,021.97	477.63	1,183.88	1,137.58	3.56	-0.37	0.005
76.70	-2.74	-0.86	0.00	-4.2	0.00	4.25	138.83	41.65	15.24	15.36	3.56	-0.37	0.297
80.00	-1.73	-0.32	0.00	-1.4	0.00	1.43	138.83	41.65	15.24	15.36	3.81	-0.37	0.105
81.60	-0.76	-0.20	0.00	-0.9	0.00	0.92	138.83	41.65	15.24	15.36	3.94	-0.42	0.065
82.00	-0.61	-0.16	0.00	-0.8	0.00	0.84	138.83	41.65	15.24	15.36	3.98	-0.43	0.059
82.30	-0.30	-0.12	0.00	-0.8	0.00	0.79	138.83	41.65	15.24	15.36	4.01	-0.44	0.054
83.20	0.00	-0.12	0.00	-0.7	0.00	0.68	138.83	41.65	15.24	15.36	4.09	-0.46	0.044

Load Case: 1.0D + 1.0W Service Normal 60 mph Wind with No Ice 16 Iterations
Gust Response Factor: 1.10
Dead load Factor: 1.00
Wind Load Factor: 1.00

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (ft-kips)	Phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-39.69	-11.35	0.00	-606.8	0.00	606.83	5,994.05	1,434.32	6,672.27	6,339.93	0	0	0.102
5.00	-38.05	-11.25	0.00	-550.1	0.00	550.09	5,848.23	1,387.57	6,244.49	5,982.15	0.02	-0.03	0.099
10.00	-36.45	-11.16	0.00	-493.8	0.00	493.81	5,676.15	1,340.82	5,830.89	5,608.58	0.06	-0.06	0.095
15.00	-34.30	-10.74	0.00	-438.0	0.00	438.00	5,478.25	1,294.08	5,431.45	5,222.38	0.14	-0.09	0.090
20.00	-32.20	-10.32	0.00	-384.3	0.00	384.30	5,280.36	1,247.33	5,046.18	4,849.95	0.25	-0.12	0.085
22.69	-31.41	-10.27	0.00	-356.6	0.00	356.57	5,173.98	1,222.20	4,844.96	4,655.46	0.33	-0.13	0.083
25.00	-29.66	-9.84	0.00	-332.8	0.00	332.82	5,082.46	1,200.58	4,675.09	4,491.29	0.39	-0.15	0.080
28.85	-27.78	-9.78	0.00	-294.9	0.00	294.93	4,410.48	1,041.84	4,023.35	3,870.56	0.52	-0.17	0.083
30.00	-26.88	-9.34	0.00	-283.7	0.00	283.69	4,370.71	1,032.45	3,951.12	3,800.72	0.56	-0.18	0.081
35.00	-25.03	-8.84	0.00	-237.0	0.00	236.99	4,197.54	991.55	3,644.30	3,504.05	0.76	-0.2	0.074
40.00	-23.22	-8.33	0.00	-192.8	0.00	192.77	4,024.38	950.64	3,349.87	3,219.43	0.99	-0.23	0.066
45.00	-19.87	-7.42	0.00	-151.1	0.00	151.11	3,851.22	909.74	3,067.84	2,946.87	1.25	-0.25	0.057
47.16	-19.38	-7.37	0.00	-135.1	0.00	135.08	3,776.46	892.08	2,949.90	2,832.91	1.36	-0.26	0.053
50.00	-17.79	-6.89	0.00	-114.1	0.00	114.14	3,678.06	868.83	2,798.22	2,686.37	1.52	-0.27	0.047
52.38	-16.98	-6.83	0.00	-97.7	0.00	97.74	2,517.86	619.74	1,993.02	1,842.82	1.66	-0.28	0.060
55.00	-15.94	-6.36	0.00	-79.8	0.00	79.84	2,473.76	604.43	1,895.79	1,765.43	1.82	-0.29	0.052
56.00	-13.93	-5.33	0.00	-73.5	0.00	73.47	2,456.68	598.59	1,859.31	1,736.14	1.88	-0.3	0.048
57.00	-12.84	-5.09	0.00	-68.2	0.00	68.15	2,439.47	592.75	1,823.19	1,707.00	1.94	-0.3	0.045
60.00	-11.79	-4.62	0.00	-52.9	0.00	52.86	2,387.04	575.22	1,716.96	1,620.46	2.14	-0.31	0.038
60.40	-11.57	-4.25	0.00	-50.7	0.00	50.67	2,379.96	572.88	1,703.04	1,609.02	2.16	-0.31	0.036
62.00	-11.30	-4.20	0.00	-43.9	0.00	43.87	2,351.42	563.53	1,647.91	1,563.54	2.27	-0.32	0.033
62.60	-11.01	-4.17	0.00	-41.4	0.00	41.35	2,340.63	560.02	1,627.47	1,546.59	2.31	-0.32	0.031
62.70	-10.74	-4.12	0.00	-40.9	0.00	40.93	2,338.83	559.44	1,624.08	1,543.77	2.31	-0.32	0.031
65.00	-9.62	-3.57	0.00	-31.5	0.00	31.46	2,296.98	546.00	1,546.99	1,479.38	2.47	-0.32	0.025
67.00	-6.30	-2.64	0.00	-24.3	0.00	24.30	2,260.03	534.31	1,481.49	1,424.11	2.61	-0.33	0.020
69.00	-5.83	-2.55	0.00	-19.0	0.00	19.02	2,212.44	522.62	1,417.40	1,363.33	2.74	-0.33	0.017
70.00	-5.12	-2.06	0.00	-16.5	0.00	16.47	2,187.71	516.78	1,385.88	1,332.86	2.81	-0.33	0.015
71.80	-4.78	-2.02	0.00	-12.7	0.00	12.74	2,143.18	506.26	1,330.05	1,278.88	2.94	-0.34	0.012
71.90	-4.61	-1.96	0.00	-12.5	0.00	12.50	2,140.71	505.68	1,326.98	1,275.91	2.95	-0.34	0.012
75.00	-3.68	-1.46	0.00	-6.2	0.00	6.24	2,064.02	487.56	1,233.63	1,185.66	3.17	-0.34	0.007
76.00	-1.70	-0.77	0.00	-4.1	0.00	4.13	2,039.28	481.72	1,204.24	1,157.26	3.24	-0.34	0.004
76.70	-1.63	-0.76	0.00	-3.6	0.00	3.59	2,021.97	477.63	1,183.88	1,137.58	3.29	-0.34	0.004
76.70	-1.63	-0.76	0.00	-3.6	0.00	3.59	138.83	41.65	15.24	15.36	3.29	-0.34	0.246
80.00	-0.98	-0.28	0.00	-1.1	0.00	1.08	138.83	41.65	15.24	15.36	3.52	-0.34	0.078
81.60	-0.41	-0.16	0.00	-0.6	0.00	0.64	138.83	41.65	15.24	15.36	3.64	-0.38	0.045
82.00	-0.33	-0.12	0.00	-0.6	0.00	0.58	138.83	41.65	15.24	15.36	3.68	-0.39	0.040
82.30	-0.16	-0.08	0.00	-0.5	0.00	0.54	138.83	41.65	15.24	15.36	3.7	-0.39	0.036
83.20	0.00	-0.08	0.00	-0.5	0.00	0.47	138.83	41.65	15.24	15.36	3.78	-0.41	0.030

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.277
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.060
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a:	1.578
Site Coefficient F_v:	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.291
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.096
Seismic Response Coefficient (C_s):	0.079
Upper Limit C_S:	0.079
Lower Limit C_S:	0.030
Period based on Rayleigh Method (sec):	0.810
Redundancy Factor (p):	1.000
Seismic Force Distribution Exponent (k):	1.150
Total Unfactored Dead Load:	39.690 k
Seismic Base Shear (E):	3.150 k

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	82.75	14	2	0.001	2	18
35	82.15	5	1	0.000	1	6
34	81.8	7	1	0.000	1	9
33	80.8	27	4	0.001	4	34
32	78.35	58	9	0.003	9	73
31	76.35	72	11	0.003	10	91
30	75.5	104	15	0.005	15	131
29	73.45	329	47	0.014	45	414
28	71.85	11	1	0.000	1	14
27	70.9	196	27	0.008	26	247
26	69.5	111	15	0.004	14	139
25	68	225	29	0.009	28	283
24	66	278	35	0.011	34	350
23	63.85	325	39	0.012	38	410
22	62.65	14	2	0.000	2	18
21	62.3	86	10	0.003	10	108
20	61.2	235	27	0.008	26	296
19	60.2	59	7	0.002	6	75
18	58.5	455	50	0.015	48	573
17	56.5	154	16	0.005	16	194
16	55.5	168	17	0.005	17	212
15	53.6901	446	44	0.014	43	562
14	51.1901	809	76	0.023	73	1,018
13	48.5794	986	87	0.027	84	1,240
12	46.0794	489	40	0.012	39	615
11	42.5	1,169	88	0.027	86	1,470
10	37.5	1,208	79	0.024	77	1,520
9	32.5	1,248	69	0.021	67	1,570
8	29.4258	292	14	0.004	14	368
7	26.9258	1,878	84	0.026	81	2,364
6	23.8438	1,152	45	0.014	43	1,450
5	21.3438	787	27	0.008	26	990
4	17.5	1,499	41	0.012	39	1,886
3	12.5	1,544	28	0.009	28	1,943

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
2	7.5	1,589	16	0.005	16	2,000
1	2.5	1,635	5	0.001	5	2,057
Bird 428D-83I-01-T	83.2	9	1	0.000	1	11
dbSpectra DS7C09P36U-D	83.2	140	23	0.007	22	176
Ericsson RRUS 32 B66	82.3	159	26	0.008	25	200
Pole Mount	82	80	13	0.004	12	101
Ericsson Radio 4449 B71 B85A	81.6	225	36	0.011	35	283
Ericsson Air6449 B41	81.6	312	50	0.015	48	393
Pine Branches	80	600	94	0.029	91	755
Pine Branches	75	600	87	0.027	85	755
Pine Branches	70	600	80	0.025	78	755
Pine Branches	65	600	74	0.023	72	755
Pine Branches	60	600	67	0.021	65	755
Pine Branches	55	600	61	0.019	59	755
Pine Branches	50	600	55	0.017	53	755
Pine Branches	45	600	48	0.015	47	755
Pine Branches	40	600	42	0.013	41	755
Pine Branches	35	600	36	0.011	35	755
Pine Branches	30	600	30	0.009	29	755
Pine Branches	25	600	25	0.008	24	755
Pine Branches	20	600	19	0.006	18	755
Pine Branches	15	600	14	0.004	13	755
Commscope CBC1923Q-43	76	22	3	0.001	3	28
Ericsson RRUS 4415 B25	76	138	20	0.006	20	174
Ericsson AIR32 B66Aa/B2a	76	397	58	0.018	57	499
Generic Flat T-Arm	76	938	138	0.043	134	1,180
Generic Flat T-Arm	57	938	99	0.030	96	1,180
Generic Flat T-Arm	45	938	75	0.023	73	1,180
RFS APXVAARR24_43-U-NA20	76	384	57	0.017	55	483
Ericsson RRUS 32 B2	71.9	159	22	0.007	21	200
Ericsson RRUS 4426 B66	71.8	145	20	0.006	19	183
Ericsson Air 6449 B77D	69	245	32	0.010	31	308
Raycap DC6-48-60-18-8F(32.8 lbs)	67	66	8	0.003	8	83
Ericsson RRUS 4449 B5, B12	67	213	27	0.008	26	268
Ericsson RRUS 4478 B14	67	178	23	0.007	22	224
Ericsson RRUS 32 B30	67	180	23	0.007	22	226
Ericsson RRUS E2 B29	67	180	23	0.007	22	226
Raycap DC9-48-60-24-8C-EV	67	16	2	0.001	2	20
CCI DMP65R-BU4D	67	407	52	0.016	50	513
Site PRO1, RMV12-496	67	1,358	173	0.053	168	1,709
Quintel QD8616-7	67	450	57	0.018	56	566
Ericsson AIR 6419 B77G	65	198	24	0.008	24	250
Samsung B2/B66A RRH-BR049	62.7	253	30	0.009	29	319
Samsung B5/B13 RRH-BR04C	62.6	211	25	0.008	24	265
Raycap RCMDC-6627-PF-48	62	32	4	0.001	4	40
Amphenol Antel LPA-80063-6CF-EDIN-X	60.4	162	18	0.006	18	204
Commscope CBC78T-DS-43-2X	56	62	6	0.002	6	78
Samsung MT6407-77A	56	245	25	0.008	25	308
Commscope JAHH-65A-R3B	56	101	11	0.003	10	128
Commscope JAHH-45A-R3B	56	282	29	0.009	28	355
VZW Unused Reserve (14306.88 sqin)	56	1,152	119	0.037	116	1,449
Raycap RDIDC-9181-PF-48	45	22	2	0.000	2	28
Fujitsu TA08025-B605	45	225	18	0.006	18	283
Fujitsu TA08025-B604	45	192	15	0.005	15	241
Commscope FFVV-65B-R2	45	212	17	0.005	17	267
		39,690	3,244	1.000	3,153	49,942

0.9D - 1.0Ev + 1.0Eh Normal **Seismic (Reduced DL)**

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
36	82.75	14	2	0.001	2	12
35	82.15	5	1	0.000	1	4

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
34	81.8	7	1	0.000	1	6
33	80.8	27	4	0.001	4	23
32	78.35	58	9	0.003	9	49
31	76.35	72	11	0.003	10	61
30	75.5	104	15	0.005	15	87
29	73.45	329	47	0.014	45	277
28	71.85	11	1	0.000	1	9
27	70.9	196	27	0.008	26	165
26	69.5	111	15	0.004	14	93
25	68	225	29	0.009	28	189
24	66	278	35	0.011	34	234
23	63.85	325	39	0.012	38	274
22	62.65	14	2	0.000	2	12
21	62.3	86	10	0.003	10	72
20	61.2	235	27	0.008	26	198
19	60.2	59	7	0.002	6	50
18	58.5	455	50	0.015	48	383
17	56.5	154	16	0.005	16	130
16	55.5	168	17	0.005	17	142
15	53.6901	446	44	0.014	43	376
14	51.1901	809	76	0.023	73	681
13	48.5794	986	87	0.027	84	830
12	46.0794	489	40	0.012	39	411
11	42.5	1,169	88	0.027	86	984
10	37.5	1,208	79	0.024	77	1,017
9	32.5	1,248	69	0.021	67	1,050
8	29.4258	292	14	0.004	14	246
7	26.9258	1,878	84	0.026	81	1,581
6	23.8438	1,152	45	0.014	43	970
5	21.3438	787	27	0.008	26	662
4	17.5	1,499	41	0.012	39	1,261
3	12.5	1,544	28	0.009	28	1,300
2	7.5	1,589	16	0.005	16	1,338
1	2.5	1,635	5	0.001	5	1,376
Bird 428D-83I-01-T	83.2	9	1	0.000	1	7
dbSpectra DS7C09P36U-D	83.2	140	23	0.007	22	118
Ericsson RRUS 32 B66	82.3	159	26	0.008	25	134
Pole Mount	82	80	13	0.004	12	67
Ericsson Radio 4449 B71 B85A	81.6	225	36	0.011	35	189
Ericsson Air6449 B41	81.6	312	50	0.015	48	263
Pine Branches	80	600	94	0.029	91	505
Pine Branches	75	600	87	0.027	85	505
Pine Branches	70	600	80	0.025	78	505
Pine Branches	65	600	74	0.023	72	505
Pine Branches	60	600	67	0.021	65	505
Pine Branches	55	600	61	0.019	59	505
Pine Branches	50	600	55	0.017	53	505
Pine Branches	45	600	48	0.015	47	505
Pine Branches	40	600	42	0.013	41	505
Pine Branches	35	600	36	0.011	35	505
Pine Branches	30	600	30	0.009	29	505
Pine Branches	25	600	25	0.008	24	505
Pine Branches	20	600	19	0.006	18	505
Pine Branches	15	600	14	0.004	13	505
Commscope CBC1923Q-43	76	22	3	0.001	3	18
Ericsson RRUS 4415 B25	76	138	20	0.006	20	116
Ericsson AIR32 B66Aa/B2a	76	397	58	0.018	57	334
Generic Flat T-Arm	76	938	138	0.043	134	789
Generic Flat T-Arm	57	938	99	0.030	96	789
Generic Flat T-Arm	45	938	75	0.023	73	789
RFS APXVAARR24_43-U-NA20	76	384	57	0.017	55	323
Ericsson RRUS 32 B2	71.9	159	22	0.007	21	134
Ericsson RRUS 4426 B66	71.8	145	20	0.006	19	122
Ericsson Air 6449 B77D	69	245	32	0.010	31	206
Raycap DC6-48-60-18-8F(32.8 lbs)	67	66	8	0.003	8	55
Ericsson RRUS 4449 B5, B12	67	213	27	0.008	26	179
Ericsson RRUS 4478 B14	67	178	23	0.007	22	150
Ericsson RRUS 32 B30	67	180	23	0.007	22	152
Ericsson RRUS E2 B29	67	180	23	0.007	22	152
Raycap DC9-48-60-24-8C-EV	67	16	2	0.001	2	13

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
CCI DMP65R-BU4D	67	407	52	0.016	50	343
Site PRO1, RMV12-496	67	1,358	173	0.053	168	1,143
Quintel QD8616-7	67	450	57	0.018	56	379
Ericsson AIR 6419 B77G	65	198	24	0.008	24	167
Samsung B2/B66A RRH-BR049	62.7	253	30	0.009	29	213
Samsung B5/B13 RRH-BR04C	62.6	211	25	0.008	24	178
Raycap RCMDC-6627-PF-48	62	32	4	0.001	4	27
Amphenol Antel LPA-80063-6CF-EDIN-X	60.4	162	18	0.006	18	136
Commscope CBC78T-DS-43-2X	56	62	6	0.002	6	52
Samsung MT6407-77A	56	245	25	0.008	25	206
Commscope JAHH-65A-R3B	56	101	11	0.003	10	85
Commscope JAHH-45A-R3B	56	282	29	0.009	28	237
VZW Unused Reserve (14306.88 sqin)	56	1,152	119	0.037	116	969
Raycap RDIDC-9181-PF-48	45	22	2	0.000	2	18
Fujitsu TA08025-B605	45	225	18	0.006	18	189
Fujitsu TA08025-B604	45	192	15	0.005	15	161
Commscope FFVV-65B-R2	45	212	17	0.005	17	179
		39,690	3,244	1.000	3,153	33,407

1.2D + 1.0Ev + 1.0Eh Normal **Seismic**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.88	-3.15	0.00	-180.46	0.00	180.46	5,994.05	1,434.32	6,672	6,339.93	0.00	0.00	0.04
5.00	-45.88	-3.14	0.00	-164.70	0.00	164.70	5,848.23	1,387.57	6,244	5,982.15	0.00	-0.01	0.04
10.00	-43.94	-3.12	0.00	-148.98	0.00	148.98	5,676.15	1,340.82	5,831	5,608.58	0.02	-0.02	0.03
15.00	-41.30	-3.07	0.00	-133.37	0.00	133.37	5,478.25	1,294.08	5,431	5,222.38	0.04	-0.03	0.03
20.00	-39.55	-3.03	0.00	-118.00	0.00	118.00	5,280.36	1,247.33	5,046	4,849.95	0.08	-0.04	0.03
22.69	-38.10	-2.99	0.00	-109.84	0.00	109.84	5,173.98	1,222.20	4,845	4,655.46	0.10	-0.04	0.03
25.00	-34.99	-2.89	0.00	-102.92	0.00	102.92	5,082.46	1,200.58	4,675	4,491.29	0.12	-0.04	0.03
28.85	-34.62	-2.88	0.00	-91.80	0.00	91.80	4,410.48	1,041.84	4,023	3,870.56	0.16	-0.05	0.03
30.00	-32.29	-2.78	0.00	-88.49	0.00	88.49	4,370.71	1,032.45	3,951	3,800.72	0.17	-0.05	0.03
35.00	-30.02	-2.67	0.00	-74.59	0.00	74.59	4,197.54	991.55	3,644	3,504.05	0.23	-0.06	0.03
40.00	-27.79	-2.55	0.00	-61.23	0.00	61.23	4,024.38	950.64	3,350	3,219.43	0.30	-0.07	0.03
45.00	-24.42	-2.33	0.00	-48.50	0.00	48.50	3,851.22	909.74	3,068	2,946.87	0.38	-0.08	0.02
47.16	-23.18	-2.25	0.00	-43.46	0.00	43.46	3,776.46	892.08	2,950	2,832.91	0.41	-0.08	0.02
50.00	-21.41	-2.12	0.00	-37.07	0.00	37.07	3,678.06	868.83	2,798	2,686.37	0.46	-0.08	0.02
52.38	-20.85	-2.08	0.00	-32.02	0.00	32.02	2,517.86	619.74	1,993	1,842.82	0.51	-0.09	0.03
55.00	-19.88	-2.00	0.00	-26.57	0.00	26.57	2,473.76	604.43	1,896	1,765.43	0.56	-0.09	0.02
56.00	-17.37	-1.80	0.00	-24.57	0.00	24.57	2,456.68	598.59	1,859	1,736.14	0.58	-0.09	0.02
57.00	-15.62	-1.65	0.00	-22.77	0.00	22.77	2,439.47	592.75	1,823	1,707.00	0.59	-0.09	0.02
60.00	-14.79	-1.58	0.00	-17.82	0.00	17.82	2,387.04	575.22	1,717	1,620.46	0.65	-0.10	0.02
60.40	-14.29	-1.53	0.00	-17.19	0.00	17.19	2,379.96	572.88	1,703	1,609.02	0.66	-0.10	0.02
62.00	-14.14	-1.52	0.00	-14.74	0.00	14.74	2,351.42	563.53	1,648	1,563.54	0.70	-0.10	0.02
62.60	-13.86	-1.49	0.00	-13.83	0.00	13.83	2,340.63	560.02	1,627	1,546.59	0.71	-0.10	0.02
62.70	-13.13	-1.43	0.00	-13.68	0.00	13.68	2,338.83	559.44	1,624	1,543.77	0.71	-0.10	0.01
65.00	-11.77	-1.29	0.00	-10.40	0.00	10.40	2,296.98	546.00	1,547	1,479.38	0.76	-0.10	0.01
67.00	-7.66	-0.88	0.00	-7.81	0.00	7.81	2,260.03	534.31	1,481	1,424.11	0.80	-0.10	0.01
69.00	-7.21	-0.84	0.00	-6.04	0.00	6.04	2,212.44	522.62	1,417	1,363.33	0.84	-0.10	0.01
70.00	-6.21	-0.73	0.00	-5.21	0.00	5.21	2,187.71	516.78	1,386	1,332.86	0.87	-0.10	0.01
71.80	-6.01	-0.71	0.00	-3.90	0.00	3.90	2,143.18	506.26	1,330	1,278.88	0.91	-0.11	0.01
71.90	-5.40	-0.64	0.00	-3.83	0.00	3.83	2,140.71	505.68	1,327	1,275.91	0.91	-0.11	0.01
75.00	-4.51	-0.54	0.00	-1.84	0.00	1.84	2,064.02	487.56	1,234	1,185.66	0.98	-0.11	0.00
76.00	-2.06	-0.26	0.00	-1.30	0.00	1.30	2,039.28	481.72	1,204	1,157.26	1.00	-0.11	0.00
76.70	-1.99	-0.25	0.00	-1.12	0.00	1.12	2,021.97	477.63	1,184	1,137.58	1.01	-0.11	0.00
76.70	-1.99	-0.25	0.00	-1.12	0.00	1.12	138.83	41.65	15	15.36	1.01	-0.11	0.09
80.00	-1.20	-0.15	0.00	-0.30	0.00	0.30	138.83	41.65	15	15.36	1.09	-0.11	0.03
81.60	-0.51	-0.07	0.00	-0.06	0.00	0.06	138.83	41.65	15	15.36	1.13	-0.12	0.01
82.00	-0.41	-0.05	0.00	-0.04	0.00	0.04	138.83	41.65	15	15.36	1.14	-0.12	0.01
82.30	-0.19	-0.02	0.00	-0.02	0.00	0.02	138.83	41.65	15	15.36	1.14	-0.12	0.00
83.20	0.00	-0.02	0.00	0.00	0.00	0.00	138.83	41.65	15	15.36	1.16	-0.12	0.00

0.9D - 1.0Ev + 1.0Eh Normal **Seismic (Reduced DL)**

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.03	-3.15	0.00	-179.85	0.00	179.85	5,994.05	1,434.32	6,672	6,339.93	0.00	0.00	0.03
5.00	-30.69	-3.14	0.00	-164.09	0.00	164.09	5,848.23	1,387.57	6,244	5,982.15	0.00	-0.01	0.03
10.00	-29.39	-3.12	0.00	-148.39	0.00	148.39	5,676.15	1,340.82	5,831	5,608.58	0.02	-0.02	0.03
15.00	-27.63	-3.07	0.00	-132.81	0.00	132.81	5,478.25	1,294.08	5,431	5,222.38	0.04	-0.03	0.03
20.00	-26.46	-3.03	0.00	-117.48	0.00	117.48	5,280.36	1,247.33	5,046	4,849.95	0.08	-0.04	0.03
22.69	-25.49	-2.98	0.00	-109.35	0.00	109.35	5,173.98	1,222.20	4,845	4,655.46	0.10	-0.04	0.03
25.00	-23.40	-2.88	0.00	-102.45	0.00	102.45	5,082.46	1,200.58	4,675	4,491.29	0.12	-0.04	0.03
28.85	-23.16	-2.87	0.00	-91.36	0.00	91.36	4,410.48	1,041.84	4,023	3,870.56	0.16	-0.05	0.03
30.00	-21.60	-2.77	0.00	-88.07	0.00	88.07	4,370.71	1,032.45	3,951	3,800.72	0.17	-0.05	0.03
35.00	-20.08	-2.66	0.00	-74.22	0.00	74.22	4,197.54	991.55	3,644	3,504.05	0.23	-0.06	0.03
40.00	-18.59	-2.53	0.00	-60.92	0.00	60.92	4,024.38	950.64	3,350	3,219.43	0.30	-0.07	0.02
45.00	-16.34	-2.32	0.00	-48.25	0.00	48.25	3,851.22	909.74	3,068	2,946.87	0.38	-0.08	0.02
47.16	-15.51	-2.24	0.00	-43.23	0.00	43.23	3,776.46	892.08	2,950	2,832.91	0.41	-0.08	0.02
50.00	-14.32	-2.11	0.00	-36.88	0.00	36.88	3,678.06	868.83	2,798	2,686.37	0.46	-0.08	0.02
52.38	-13.94	-2.07	0.00	-31.85	0.00	31.85	2,517.86	619.74	1,993	1,842.82	0.50	-0.09	0.02
55.00	-13.30	-1.99	0.00	-26.43	0.00	26.43	2,473.76	604.43	1,896	1,765.43	0.55	-0.09	0.02
56.00	-11.62	-1.79	0.00	-24.44	0.00	24.44	2,456.68	598.59	1,859	1,736.14	0.57	-0.09	0.02
57.00	-10.45	-1.64	0.00	-22.65	0.00	22.65	2,439.47	592.75	1,823	1,707.00	0.59	-0.09	0.02
60.00	-9.89	-1.57	0.00	-17.73	0.00	17.73	2,387.04	575.22	1,717	1,620.46	0.65	-0.10	0.02
60.40	-9.56	-1.53	0.00	-17.10	0.00	17.10	2,379.96	572.88	1,703	1,609.02	0.66	-0.10	0.02
62.00	-9.46	-1.51	0.00	-14.66	0.00	14.66	2,351.42	563.53	1,648	1,563.54	0.69	-0.10	0.01
62.60	-9.27	-1.49	0.00	-13.75	0.00	13.75	2,340.63	560.02	1,627	1,546.59	0.71	-0.10	0.01
62.70	-8.78	-1.42	0.00	-13.60	0.00	13.60	2,338.83	559.44	1,624	1,543.77	0.71	-0.10	0.01
65.00	-7.88	-1.29	0.00	-10.34	0.00	10.34	2,296.98	546.00	1,547	1,479.38	0.76	-0.10	0.01
67.00	-5.12	-0.88	0.00	-7.77	0.00	7.77	2,260.03	534.31	1,481	1,424.11	0.80	-0.10	0.01
69.00	-4.82	-0.83	0.00	-6.01	0.00	6.01	2,212.44	522.62	1,417	1,363.33	0.84	-0.10	0.01
70.00	-4.15	-0.73	0.00	-5.18	0.00	5.18	2,187.71	516.78	1,386	1,332.86	0.86	-0.10	0.01
71.80	-4.02	-0.70	0.00	-3.88	0.00	3.88	2,143.18	506.26	1,330	1,278.88	0.90	-0.10	0.01
71.90	-3.61	-0.64	0.00	-3.81	0.00	3.81	2,140.71	505.68	1,327	1,275.91	0.90	-0.10	0.01
75.00	-3.02	-0.54	0.00	-1.83	0.00	1.83	2,064.02	487.56	1,234	1,185.66	0.97	-0.11	0.00
76.00	-1.38	-0.25	0.00	-1.29	0.00	1.29	2,039.28	481.72	1,204	1,157.26	0.99	-0.11	0.00
76.70	-1.33	-0.25	0.00	-1.11	0.00	1.11	2,021.97	477.63	1,184	1,137.58	1.01	-0.11	0.00
76.70	-1.33	-0.25	0.00	-1.11	0.00	1.11	138.83	41.65	15	15.36	1.01	-0.11	0.08
80.00	-0.80	-0.15	0.00	-0.30	0.00	0.30	138.83	41.65	15	15.36	1.08	-0.11	0.03
81.60	-0.34	-0.06	0.00	-0.06	0.00	0.06	138.83	41.65	15	15.36	1.12	-0.11	0.01
82.00	-0.27	-0.05	0.00	-0.04	0.00	0.04	138.83	41.65	15	15.36	1.13	-0.12	0.00
82.30	-0.13	-0.02	0.00	-0.02	0.00	0.02	138.83	41.65	15	15.36	1.14	-0.12	0.00
83.20	0.00	-0.02	0.00	0.00	0.00	0.00	138.83	41.65	15	15.36	1.16	-0.12	0.00

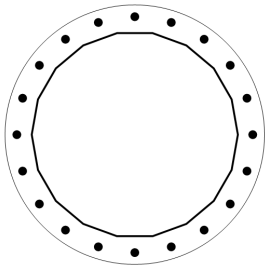
ANALYSIS SUMMARY

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W Normal	47.40	0.00	47.57	0.00	0.00	2537.22	76.70	0.99
0.9D + 1.0W Normal	47.38	0.00	35.67	0.00	0.00	2530.96	76.70	0.98
1.2D + 1.0Di + 1.0Wi Normal	12.40	0.00	61.53	0.00	0.00	658.46	76.70	0.3
1.2D + 1.0Ev + 1.0Eh Normal	3.15	0.00	47.88	0.00	0.00	180.46	76.70	0.09
0.9D - 1.0Ev + 1.0Eh Normal	3.15	0.00	32.03	0.00	0.00	179.85	76.70	0.08
1.0D + 1.0W Service Normal	11.35	0.00	39.69	0.00	0.00	606.83	76.70	0.25

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 3004)

Diameter:	66	in
Shape:	Round	
Thickness:	2.75	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	4.5	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	252	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 9222]	Radial	20	2.25	60	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (20) 2.25"ø [ID 9222]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.314	28.53	9.27	23.209	1750.184	88.80	2.21
2	0.628	24.27	17.63	16.862	924.254	88.80	3.04
3	0.942	17.63	24.27	8.865	256.065	88.80	3.57
4	1.257	9.27	28.53	0.000	0.839	88.80	3.75
5	1.571	0.00	30.00	-8.865	256.065	-79.29	3.57
6	1.885	-9.27	28.53	-16.862	924.256	-79.29	3.04
7	2.199	-17.63	24.27	-23.209	1750.184	-79.29	2.21
8	2.513	-24.27	17.63	-27.283	2418.373	-79.29	1.16
9	2.827	-28.53	9.27	-28.688	2673.599	-79.29	0.00
10	3.142	-30.00	0.00	-27.283	2418.373	-79.29	1.16
11	3.456	-28.53	-9.27	-23.209	1750.183	-79.29	2.21
12	3.770	-24.27	-17.63	-16.862	924.256	-79.29	3.04
13	4.084	-17.63	-24.27	-8.865	256.066	-79.29	3.57
14	4.398	-9.27	-28.53	0.000	0.839	88.80	3.75
15	4.712	0.00	-30.00	8.865	256.065	88.80	3.57
16	5.027	9.27	-28.53	16.862	924.254	88.80	3.04
17	5.341	17.63	-24.27	23.209	1750.185	88.80	2.21
18	5.655	24.27	-17.63	27.283	2418.374	88.80	1.16
19	5.969	28.53	-9.27	28.688	2673.599	88.80	0.00
20	6.283	30.00	0.00	27.283	2418.374	88.80	1.16

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	52"ø x 0.5" (18 Sides)	2537.2	47.57	47.40	1.000
Bolt Group	Original (20) 2.25"ø	2537.2	-	47.40	1.000
	TOTALS	**2537.22**	**47.57**	**47.4**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	52"ø x 0.5" (18 Sides)	80.4859	-	-	26690.34	-
Bolt Group	Original (20) 2.25"ø	3.9761	3.2477	0.8393	26744.39	4.5

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	52.12	in
Point-to-Point Diameter:	52.93	in
Flat Width:	9.191	in
Flat Radians:	0.349	rad

PLATE PROPERTIES

Neutral Axis:	252	°
Bend Line Lower Limit:	5.496	rad
Bend Line Upper Limit:	0.159	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	36.073	0.00	68.201	536.8	3069.0	0.175
Corner	34.883	0.00	65.950	410.2	2967.8	0.138
Circumferential	41.030	0.00	77.572	700.1	3490.7	0.201

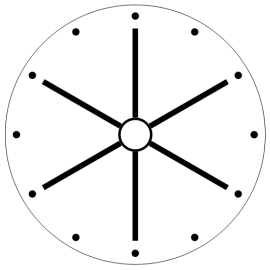
PLASTIC ANCHOR ROD ANALYSIS

Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	20	2.25	88.9	3.8	243.6	0.365

UPPER FLANGE PLATE ANALYSIS @ 76.7 FT

PLATE PARAMETERS (ID# 2286)

Diameter:	35	in
Shape:	Round	
Thickness:	1.5	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Pole Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	14	°

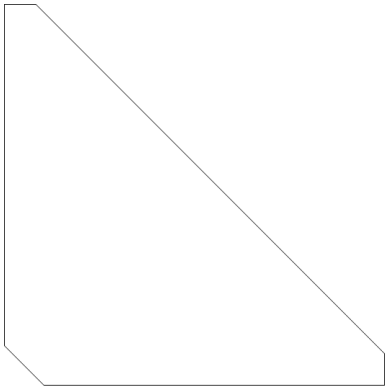


FLANGE BOLT PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 9223]	Radial	12	1	32	A325	92	120	-	-

STIFFENER PARAMETERS

Arrangement:	Radial	
Quantity:	6	
Height:	12	in
Width:	12	in
Thickness:	0.75	in
Notch:	1.25	in
Grade:	Not Listed	
Yield Strength:	0	ksi
Tensile Strength:	0	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.125	in
Vertical Weld Fillet Size:	0.125	in
Weld Strength:	70	ksi
Orientation Offset:	-	°



FLANGE BOLT GEOMETRY AND APPLIED LOADS --- ORIGINAL (12) 1"ø [ID 9223]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.524	13.86	8.00	4.238	10.908	1.82	0.39
2	1.047	8.00	13.86	11.060	74.124	1.82	0.28
3	1.571	0.00	16.00	14.918	134.841	1.82	0.10
4	2.094	-8.00	13.86	14.779	132.343	1.82	0.11
5	2.618	-13.86	8.00	10.680	69.127	1.82	0.29
6	3.142	-16.00	0.00	3.720	8.410	1.82	0.40
7	3.665	-13.86	-8.00	-4.238	10.908	-1.19	0.39
8	4.189	-8.00	-13.86	-11.060	74.124	-1.19	0.28
9	4.712	0.00	-16.00	-14.918	134.841	-1.19	0.10
10	5.236	8.00	-13.86	-14.779	132.343	-1.19	0.11
11	5.760	13.86	-8.00	-10.680	69.127	-1.19	0.29
12	6.283	16.00	0.00	-3.720	8.410	-1.19	0.40

STIFFENER GEOMETRY AND APPLIED LOADS

Position	Radians	Moment Arm (in)	Inertia (in^4)	Axial Load (k)	Shear Load (k)
1	0.524	2.274	137.350	1.94	0.78
2	1.571	8.005	471.692	6.05	0.20
3	2.618	5.731	294.409	4.42	0.58
4	3.665	-2.274	137.349	-1.32	0.78
5	4.712	-8.005	471.692	-5.42	0.20
6	5.760	-5.731	294.409	-3.79	0.58

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	4.5"ø x 0.337" (Round)	14.9	1.89	3.16	1.000
Bolt Group	Original (12) 1"ø	14.9	-	3.16	1.000
Stiffeners	(6) 12"H x 12"W x 0.75"T	14.9	-	3.14	0.995
	TOTALS	**14.94**	**1.89**	**3.16**	

COMPONENT PROPERTIES

Component	ID	Gross Area (in^2)	Net Area (in^2)	Individual Inertia (in^4)	Moment of Inertia (in^4)	Threads/in
Pole	4.5"ø x 0.337" (Round)	4.4074	-	-	9.72	-
Bolt Group	Original (12) 1"ø	0.7854	0.6057	0.0292	859.51	8.0
Stiffeners	(6) 12"H x 12"W x 0.75"T	8.0625	7.2563	432.0000	1806.90	-

EXTERNAL UPPER FLANGE PLATE BEND LINE ANALYSIS @ 76.7 FT

POLE PROPERTIES

Flat-to-Flat Diameter:	4.62	in
Point-to-Point Diameter:	4.62	in
Flat Width:	0.040	in
Flat Radians:	0.017	rad

PLATE PROPERTIES

Neutral Axis:	14	°
Bend Line Lower Limit:	6.109	rad
Bend Line Upper Limit:	3.839	rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in^3)	Applied Moment Mu (k-in)	Moment Capacity ϕMn (k-in)	Ratio
Flat	33.255	19.72	29.799	79.4	1341.0	0.059
Corner	33.255	19.72	29.799	79.4	1341.0	0.059
Circumferential	50.398	51.00	57.036	110.4	2566.6	0.043

PLASTIC FLANGE BOLT ANALYSIS

Class	Group Quantity	Bolt Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity ϕPn (k)	Ratio
Original	12	1	1.8	0.4	54.5	0.033

UPPER FLANGE PLATE STIFFENER ANALYSIS

Quantity:	6	
Height:	12	in
Width:	12	in
Effective Width:	12.000	in
Thickness:	0.75	in
Notch:	1.25	in
Grade:	Not Listed	
Yield Strength:	0	ksi
Tensile Strength:	0	ksi
Horizontal Weld Type:	Fillet	
Horizontal Weld Fillet Size:	0.125	in
Horizontal Weld Bevel Size:		in
Vertical Weld Fillet Size:	0.125	in
Weld Strength:	70	ksi
Electrode Coefficient:	1.000	

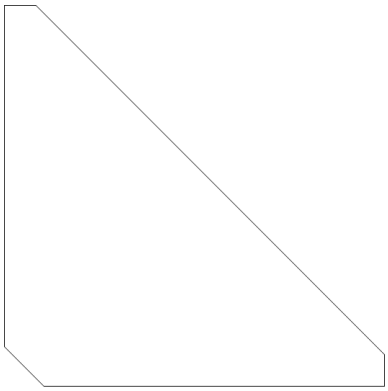


PLATE COMPRESSION

Radius of Gyration:	0.217	in^3
kl/r:	33.26	
4.71 √(E/Fy):	0.00	
Buckling Stress, Fe:	0.00	ksi
Crit. Buckling Stress, Fcr:	0.00	ksi
Applied Compression, Pu:	6.05	k
Compressive Capacity, ϕPn:	0.00	k
Pu/ϕPn:	**0.000**	

PLATE TENSION

Gross Cross Section:	8.0625	in^2
Net Cross Section:	7.2563	in^2
Applied Tension, Tu:	5.42	k
Tensile Capacity, ϕTn:	0.00	k
Tu/ϕTn:	**0.000**	

VERTICAL WELD TO POLE

Vertical Eccentricity Ratio, $a=e_x/l$:	0.333	
Spacing Ratio, k:	0.063	
Weld Coefficient, C:	3.090	
Applied Compression, Pu:	6.05	k
Compressive Capacity, ϕPn:	55.62	k
Horizontal Eccentricity Ratio, $a=e_x/l$:	0.333	
Weld Coefficient, C:	2.940	
Applied Shear, Vu	0.20	k
Shear Capacity, ϕVn:	52.92	k
Pu/ϕPn + Vu/ϕVn:	**0.112**	

HORIZONTAL WELD TO PLATE

Horizontal Eccentricity Ratio, $a=e_x/l$:	0.167	
Spacing Ratio, k:	0.063	
Weld Coefficient, C:	3.900	
Effective Fillet Size:	0.125	in
Applied Compression, Pu:	6.05	k
Compressive Capacity, ϕPn:	70.20	k
Vertical Eccentricity Ratio, $a=e_x/l$:	0.167	
Weld Coefficient, C:	3.670	
Applied Shear, Vu	0.20	k
Shear Capacity, ϕVn:	66.06	k
Pu/ϕPn + Vu/ϕVn:	**0.089**	

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

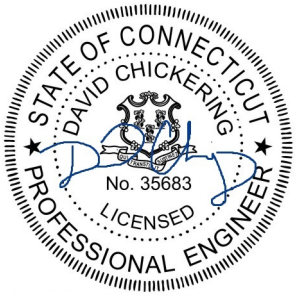
telamon
Tower Engineering PLLC

Antenna Mount Analysis Report

ATC Site Name	:	**Byram Park CT**
ATC Asset Number	:	**414240**
Engineering Number	:	**13755490_C8_05**
Mount Elevation	:	**66 ft**
Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**MRCTB055124**
Carrier Site Number	:	**N/A**
Site Location	:	**48 Ritch Avenue West** **Greenwich, CT 06830-9992** **41.00506388, -73.64831111**
County	:	**Fairfield**
Date	:	**July 18, 2022**
Max Usage	:	**92%**
Result	:	**Contingent Pass*** ***See conclusion for requirements**

Prepared By:
Kowsalya V
Telamon Tower Engineering, PLLC

Reviewed By:



David Chickering
Telamon Tower Engineering PLLC
PE # 35683 Exp. 01/31/2023

Table of Contents

Introduction

The proposed equipment is to be mounted to the existing T-Arms. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

Supporting Documents

Structural Data	Site Photos, dated March 05, 2022 Mount Mapping by B+T GRP, Project #G0161745.001.01, dated April 13, 2022
Previous Analyses	Structural Analysis by ATC, Engineering #13755490_C3_04, dated March 30, 2022 Mount Analysis by Com-Ex Consultants, Project #16058-EMP, dated October 3, 2016
Construction Drawings	Prelim CD by Colliers Engineering & Design, Job #13755490_G5, Rev. A, dated April 26, 2022
Loading Data	ATC Application, Parent Project #13755490, CORAMD Project #14110461, dated June 28, 2022 AT&T RFDS ID: 4846443, Ver. 2.00, dated February 10, 2022

Analysis

Codes	TIA-222-H
Basic Wind Speed	116 mph, V_{ult} (3-Second Gust)
Basic Wind Speed w/ Ice	50 mph (3-Second Gust) w/ 1" Radial Ice (Escalating)
Exposure Category	C
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Risk Category	II
Maintenance Live Load	L_M: 500 lb
Spectral Response	S_s: 0.28; S_1: 0.06; Site Class: D

Conclusion

Based on the analysis, the antenna mount meets the requirements per the applicable codes listed above. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

AT&T CONMAT does not have parts which connect mount pipe to HSS. Hence proposing modifications parts which are not listed in the CONMAT list.

- **Install (1) 6ft. long Pipe 2 STD, A53 Gr. B, mount pipes at each stand-off tube (3 total). Connect to face stand-off members (1) Site Pro 1 SQCX4-K crossover plate kits or equal (3 total).**

No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

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

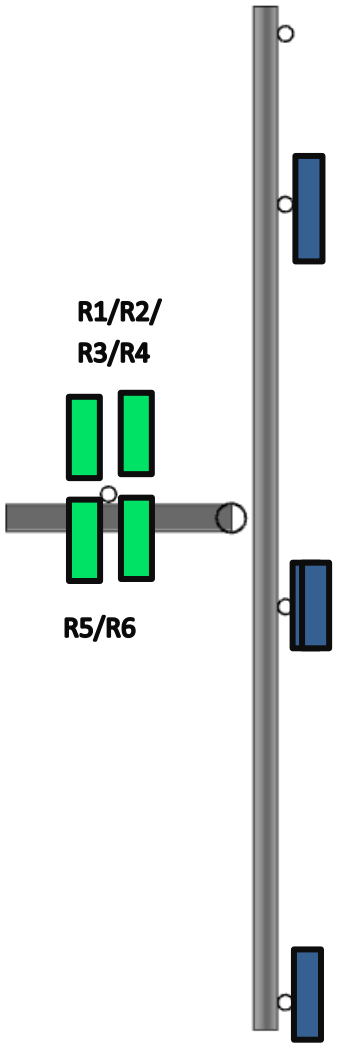
Antenna Loading

Elevation (ft)		Antennas	
Mount	**Rad.**	**#**	**Name**
66.0	69.0	3	Ericsson AIR 6449 B77D
	67.0	3	Quintel Technology QD6616-7
		3	CCI DMP65R-BU4D
		1	Raycap DC9-48-60-24-8C-EV
		3	Ericsson RRUS 32 B2
		3	Ericsson RRUS 32 B30
		3	Ericsson RRUS E2 B29
		3	Ericsson RRUS 4449 B5/B12
		3	Ericsson RRUS 4478 B14
		3	Ericsson RRUS 4426 B66
		2	Raycap DC6-48-60-18-8F
	65.0	3	Ericsson AIR 6419 B77G

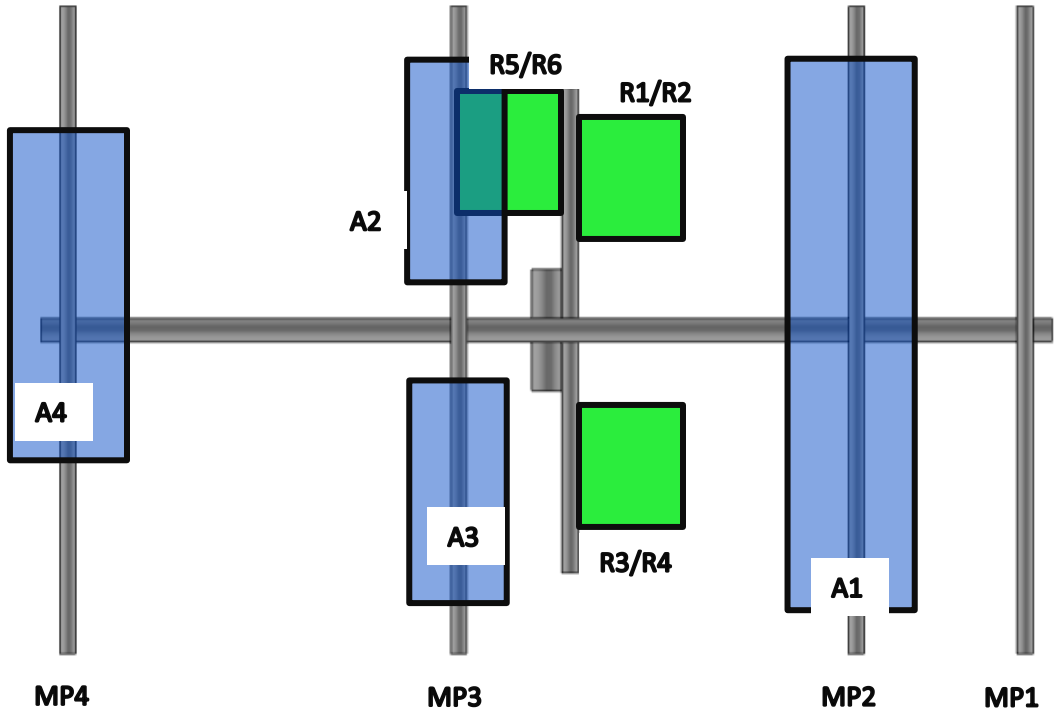
Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Face Horizontals	92%	Pass
Stand-Off Horizontals	71%	Pass
Tower Mount Plate Connection	59%	Pass
Mount Pipes	50%	Pass

Equipment Layout Plan View



Equipment Layout Front Elevation View



Total #	Equipment	Ref#	Mount Pipe Position
3	Quintel QD6616-7	A1	P2
3	Ericsson Air 6449 B77D	A2	P3 (Stacked)
3	Ericsson AIR 6419 B77G	A3	P3 (Stacked)
3	CCI DMP65R-BU4D	A4	P4
1	Raycap DC9-48-60-24-8C-EV	-	Monopine
2	Raycap DC6-48-60-18-8F	-	Monopine
3	Ericsson RRUS 4478 B14	R1	Stand-off
3	Ericsson RRUS 32 B2	R2	Stand-off
3	Ericsson RRUS 4426 B66	R3	Stand-off
3	Ericsson RRUS E2 B29	R4	Stand-off
3	Ericsson RRUS 4449 B5, B12	R5	Stand-off
3	Ericsson RRUS 32 B30	R6	Stand-off

Standard Conditions

This analysis is inclusive of the antenna supporting frames/mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, Telamon Tower Engineering, PLLC should be notified immediately to revise results.

This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.
7. Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from Telamon Tower Engineering, PLLC.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. Telamon Tower Engineering, PLLC is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by Telamon Tower Engineering, PLLC verifies the adequacy of the primary members of the structure. Telamon Tower Engineering, PLLC provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.

Wind & Ice Loading

Nominal Mount Elevation (AGL), z_{mount}	66 ft	K_a	0.90
Nominal Rad Elevation (AGL), z_{rad}	67 ft	K_d	0.95
Elevation AMSL (ft)	50 ft	K_e	1.00
TIA Standard	H	K_z	1.16
Basic Wind Speed, V_{ult} (bare)	116 mph	K_{zt}	1.00
Basic Wind Speed, V (ice)	50 mph	K_s	1.00
Design Ice Thickness, t_i	1 in	t_{iz}	1.07 in
Exposure Category	C	G_h	1.00
Risk Category	II	q_z (bare)	37.9 psf
Seismic Response Coeff., C_s	0.15	q_z (ice)	7.0 psf

Live Loading

At Mount Pipes, L_M	500 lb
Joint Labels Considered	1_M1
	1_M2
	1_M3
	1_M4

Member Distributed Loading

Section Set Label	Shape Label	F_A (lb/ft)		Ice Wt. (lb/ft)
		Bare	Ice	
Standoff Arm	HSS4X4X4	22.73	1.67	8.07
Vertical pipe	PIPE_4.0	15.34	4.21	7.30
Face Horizontal	PIPE_3.0	11.93	3.57	5.99
Mount Pipe	PIPE_2.0	8.10	2.86	4.51
MOD Mount Pipe	PIPE_2.0	8.10	2.86	4.51

Appurtenances

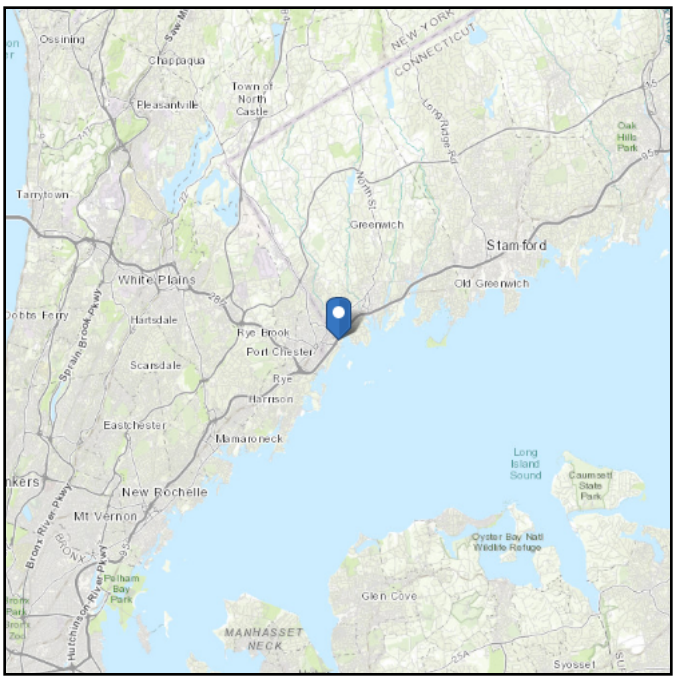
Appurtenance Model	Status	Azimuth Offset (°, ↻)	Rad Elev. Override (ft)	Swap Width & Depth	Area Factor		Qty.	Total Qty. Override	0° Joints		Height (in)	Width (in)	Depth (in)	Weight (Bare) (lb)	Shape	Weight of Ice (lb)	EPA_A (Bare) (ft^2)		EPA_A (Ice) (ft^2)		F_A (Bare) (lb)		F_A (Ice) (lb)	
					Front	Side	0°		1	2							N	T	N	T	N	T	N	T
QD6616-7				☐			1	3	1_A2T	1_A2B	72	22	9.6	130	Flat	188.78	13.58	6.80	15.24	8.28	464.36	232.56	96.81	52.63
AIR 6449 B77D			69	☐			1	3	1_A3T	1_A3B	30.4	15.9	10.6	81.6	Flat	72.01	4.03	2.72	4.90	3.47	138.61	93.67	31.31	22.16
AIR 6419 B77G			65	☐			1	3	1_A3TB	1_A3BB	31.1	16.1	7.3	55.4	Flat	67.04	4.17	2.02	5.05	2.71	141.80	68.48	31.90	17.13
DMP65R-BU4D				☐			1	3	1_A4T	1_A4B	48	20.7	7.7	76.5	Generic	111.31	7.48	2.81	8.62	3.71	255.82	96.10	54.76	23.58
DC9-48-60-24-8C-EV				☐				1			31.41	10.24	18.28	26.2	Flat	79.58	2.74	4.78	3.49	5.71	93.59	163.64	22.18	36.30
DC6-48-60-18-8F				☐				2			24	11	11	18.9	Round	38.03	1.28	1.28	1.67	1.67	43.89	43.89	10.62	10.62
RRUS 4478 B14				☑		0.5	1	3	1_R2TT		16.5	13.4	7.7	59.9	Flat	34.09	1.06	0.92	1.53	1.21	36.21	31.51	9.72	7.68
RRUS 32 B2				☑		0.5	1	3	1_R2TT		27.2	12.05	7	52.9	Flat	45.20	1.67	1.37	2.30	1.74	57.05	46.71	14.59	11.03
RRUS 4426 B66				☑		0.5	1	3	1_R2BT		14.96	13.19	5.8	48.4	Flat	27.52	0.73	0.82	1.13	1.09	24.80	28.12	7.20	6.95
RRUS E2 B29				☑		0.5	1	3	1_R2BT		20.4	18.5	7.5	60	Flat	49.85	1.29	1.57	1.81	1.94	43.96	53.78	11.52	12.32
RRUS 4449 B5/B12				☑		0.5	1	3	1_R4TT		17.9	13.19	9.44	71	Flat	39.73	1.41	0.98	1.94	1.28	48.16	33.64	12.30	8.14
RRUS 32 B30				☑		0.5	1	3	1_R4TT		26.7	12.1	6.7	60	Flat	43.80	1.57	1.35	2.19	1.71	53.79	46.04	13.89	10.88

ASCE 7 Hazards Report

Address:
36 Ritch Ave W
Greenwich, Connecticut
06830

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 49.73 ft (NAVD 88)
Latitude: 41.004964
Longitude: -73.648335



Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Mon Jul 18 2022

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

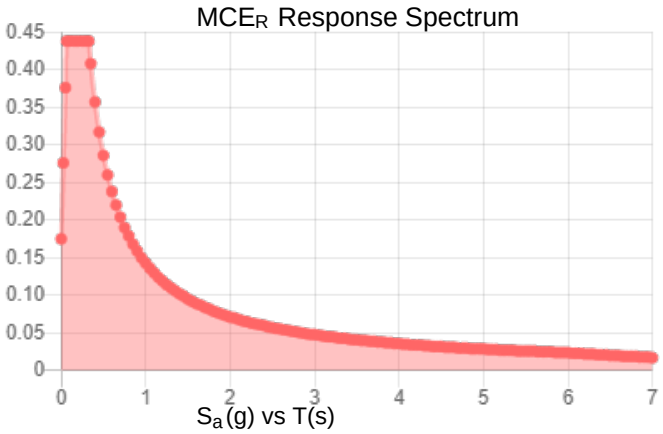
Seismic

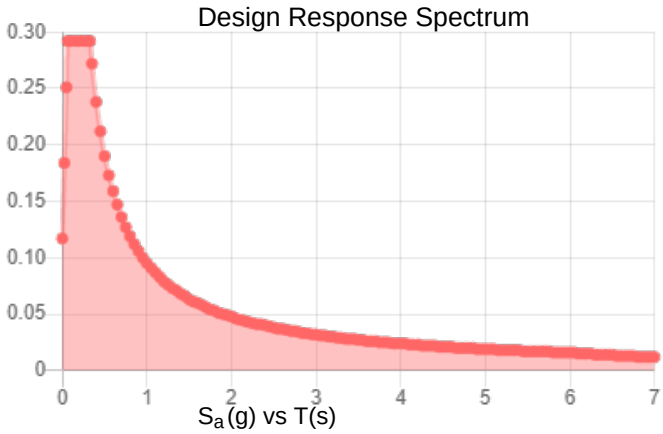
Site Soil Class: D - Default (see Section 11.4.3)

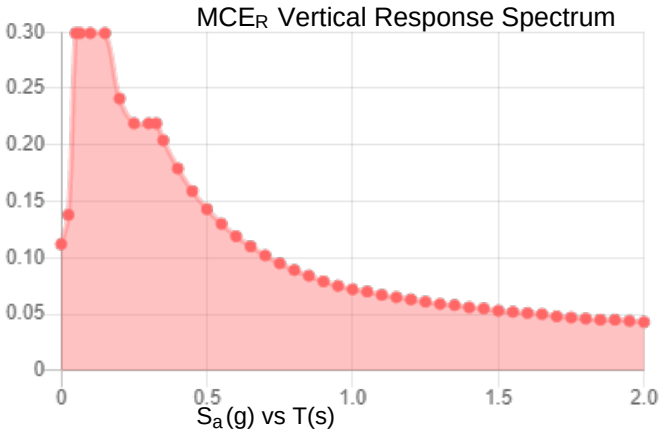
Results:

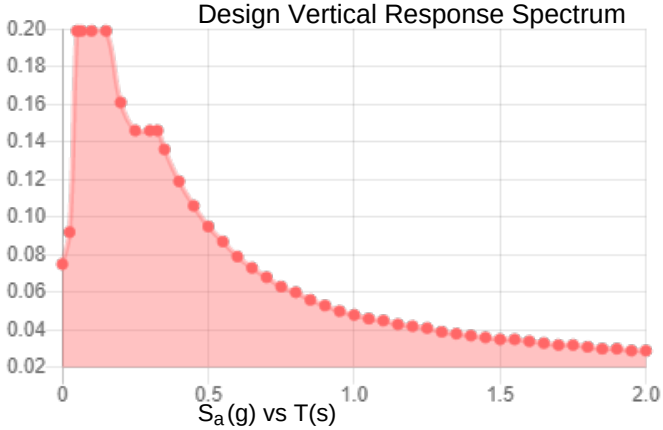
S_S :	0.277	S_{D1} :	0.095
S_1 :	0.06	T_L :	6
F_a :	1.578	PGA :	0.169
F_v :	2.4	PGA_M :	0.247
S_{MS} :	0.438	F_{PGA} :	1.462
S_{M1} :	0.143	I_e :	1
S_{DS} :	0.292	C_v :	0.855

Seismic Design Category B









Data Accessed: **Mon Jul 18 2022**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

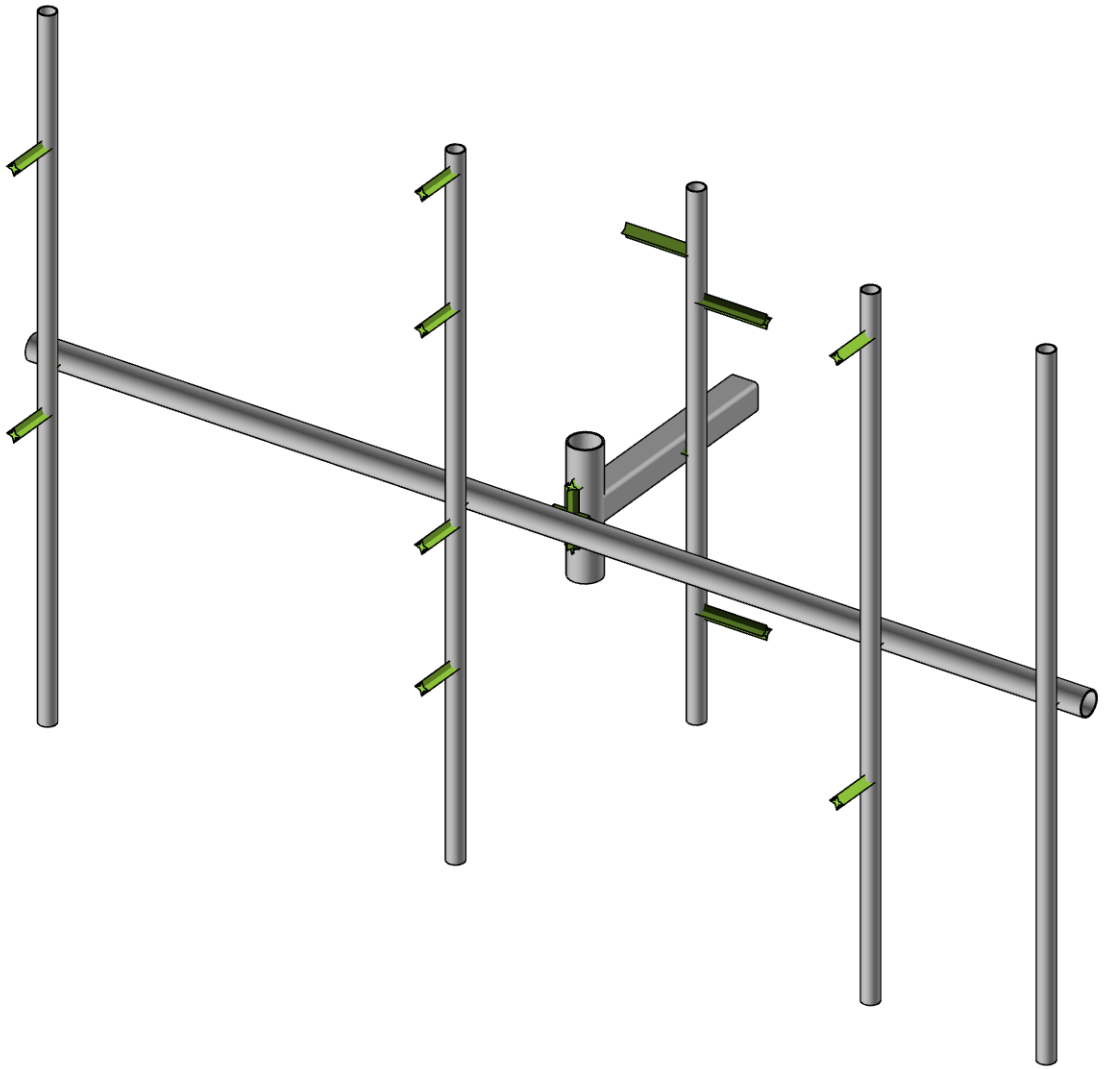
Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Jul 18 2022

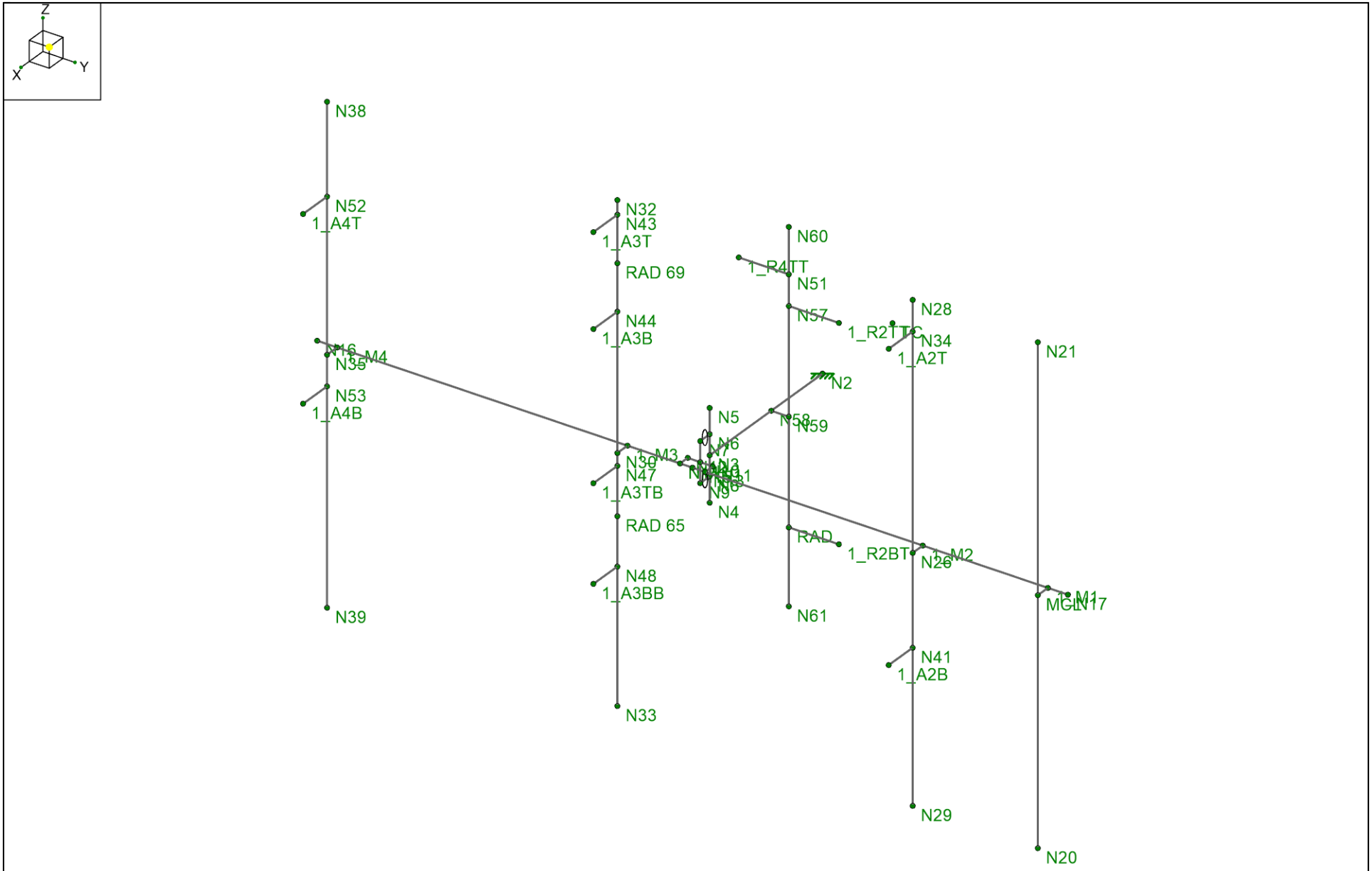
Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.



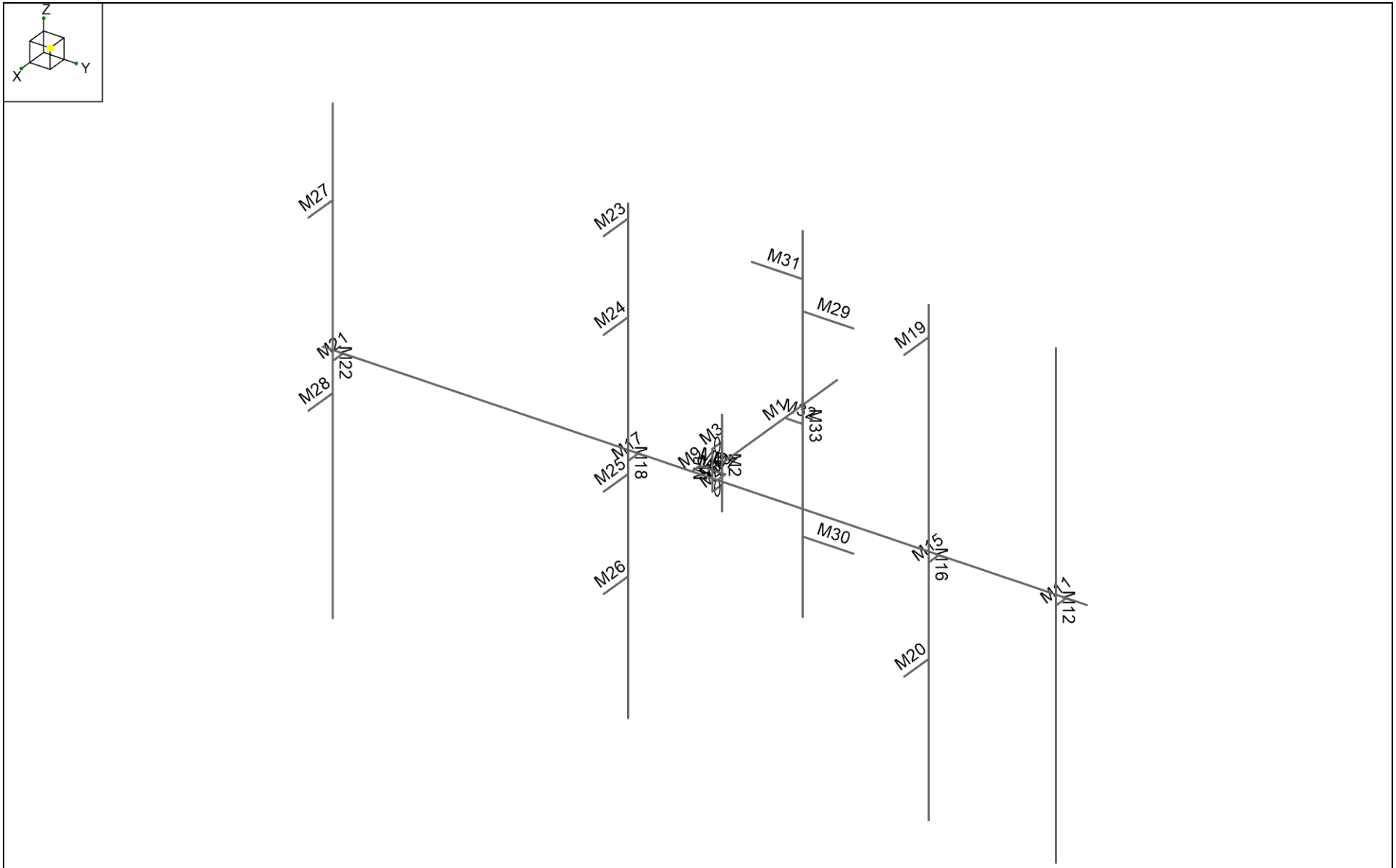
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-1
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Rendered	414240_13755490_C8_05_AT&T MOBILITY.r3d



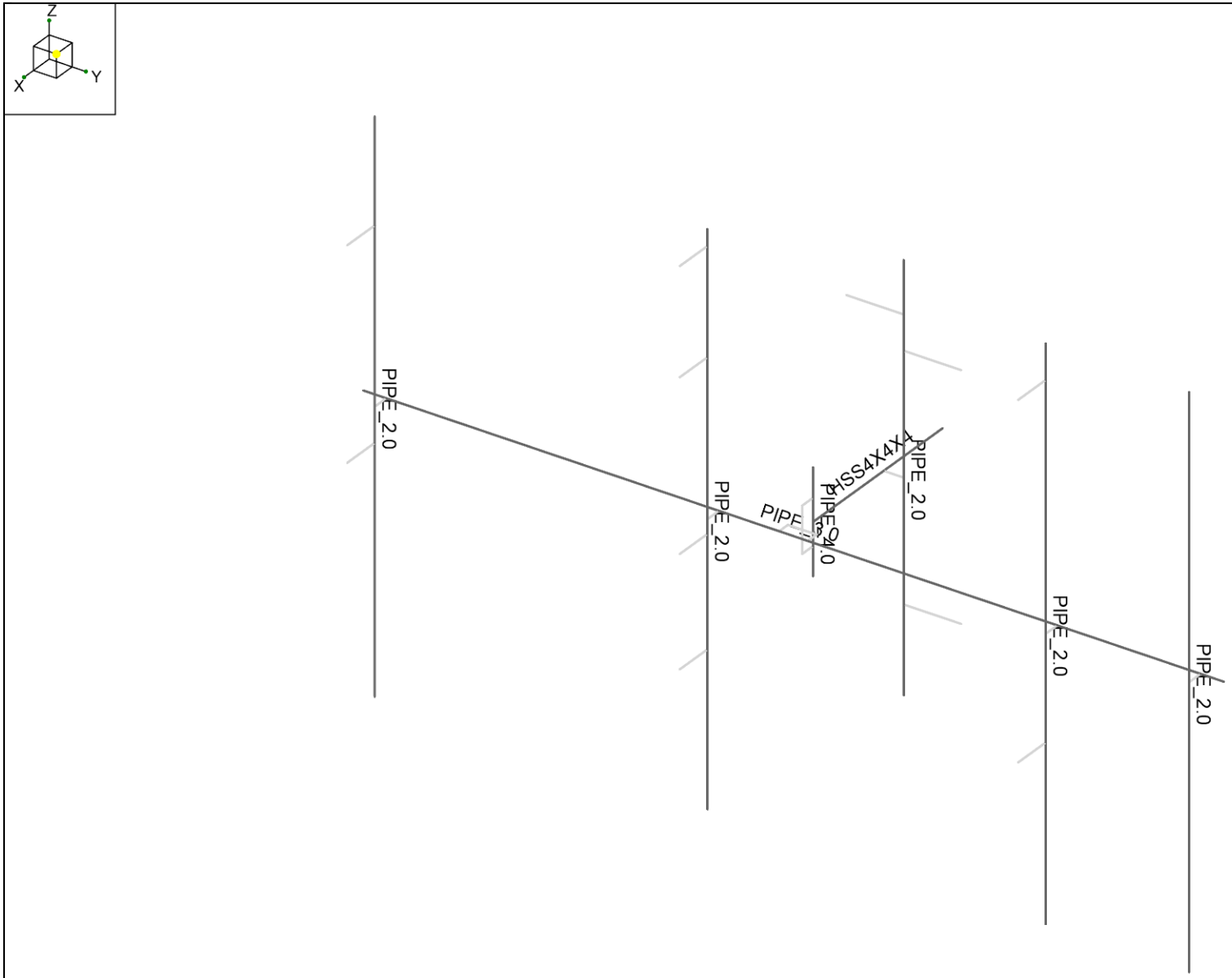
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-2
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Joint Labels	414240_13755490_C8_05_AT&T MOBILITY.r3d



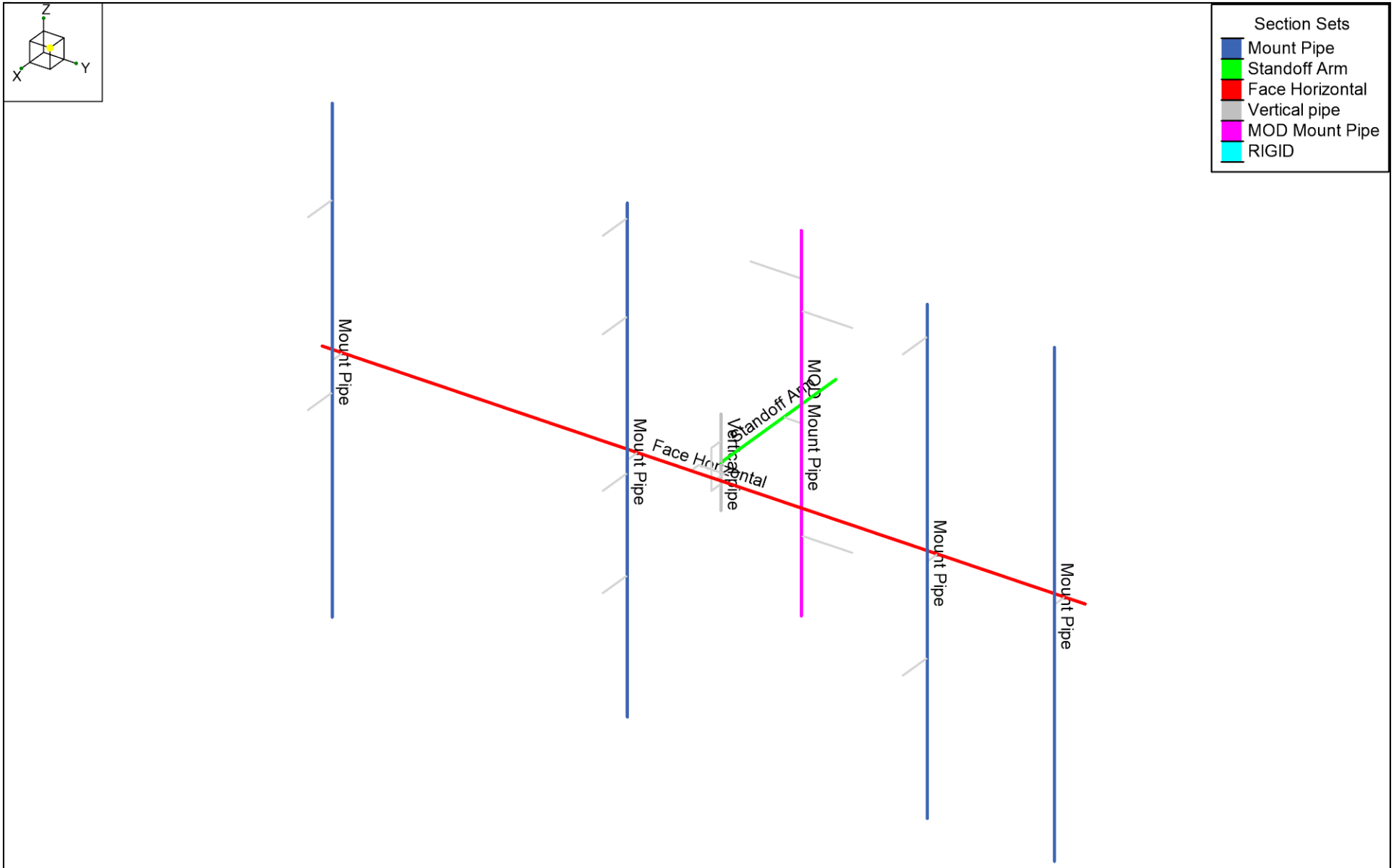
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-3
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Member Labels	414240_13755490_C8_05_AT&T MOBILITY.r3d



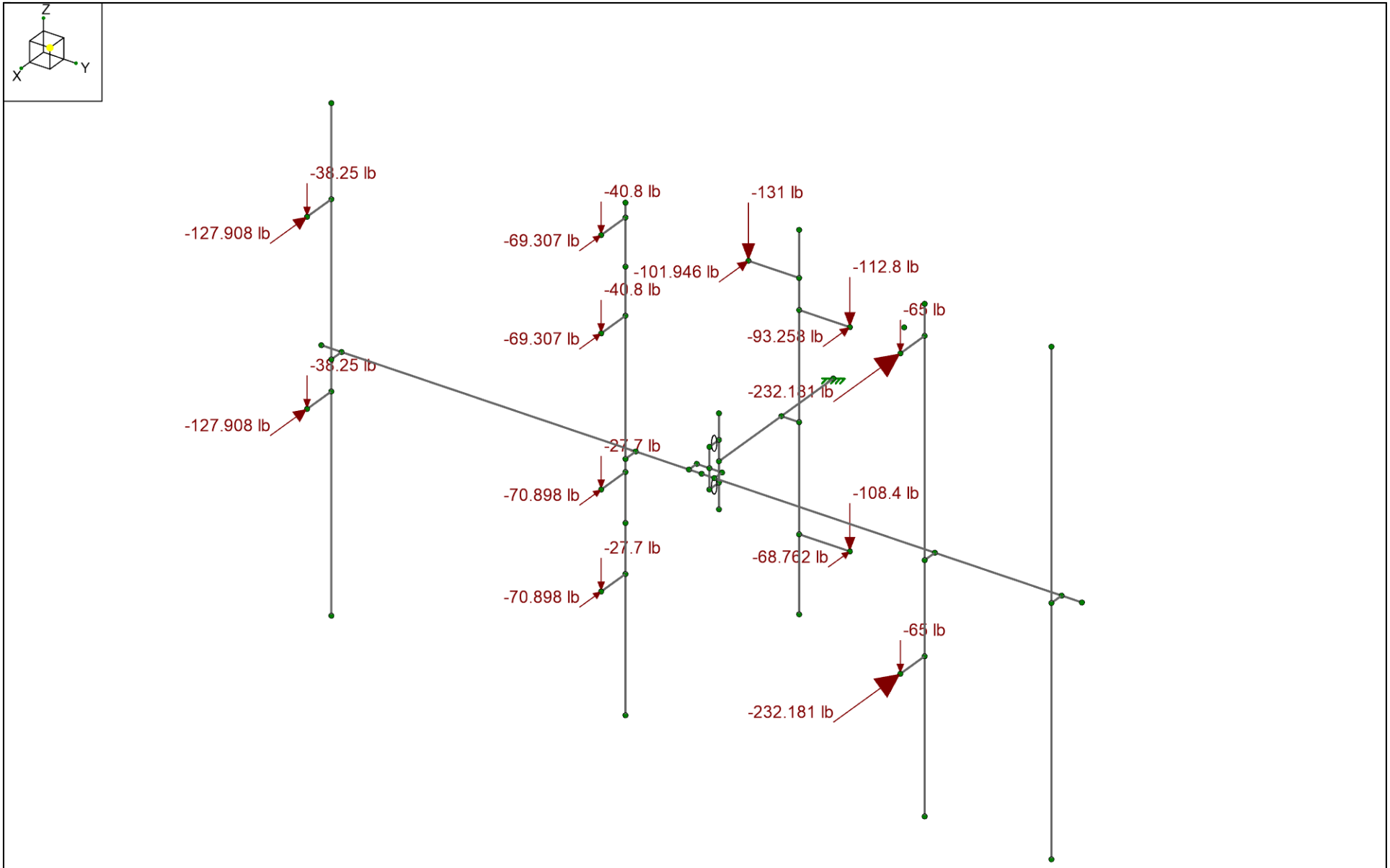
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-4
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Member Shapes	414240_13755490_C8_05_AT&T MOBILITY.r3d



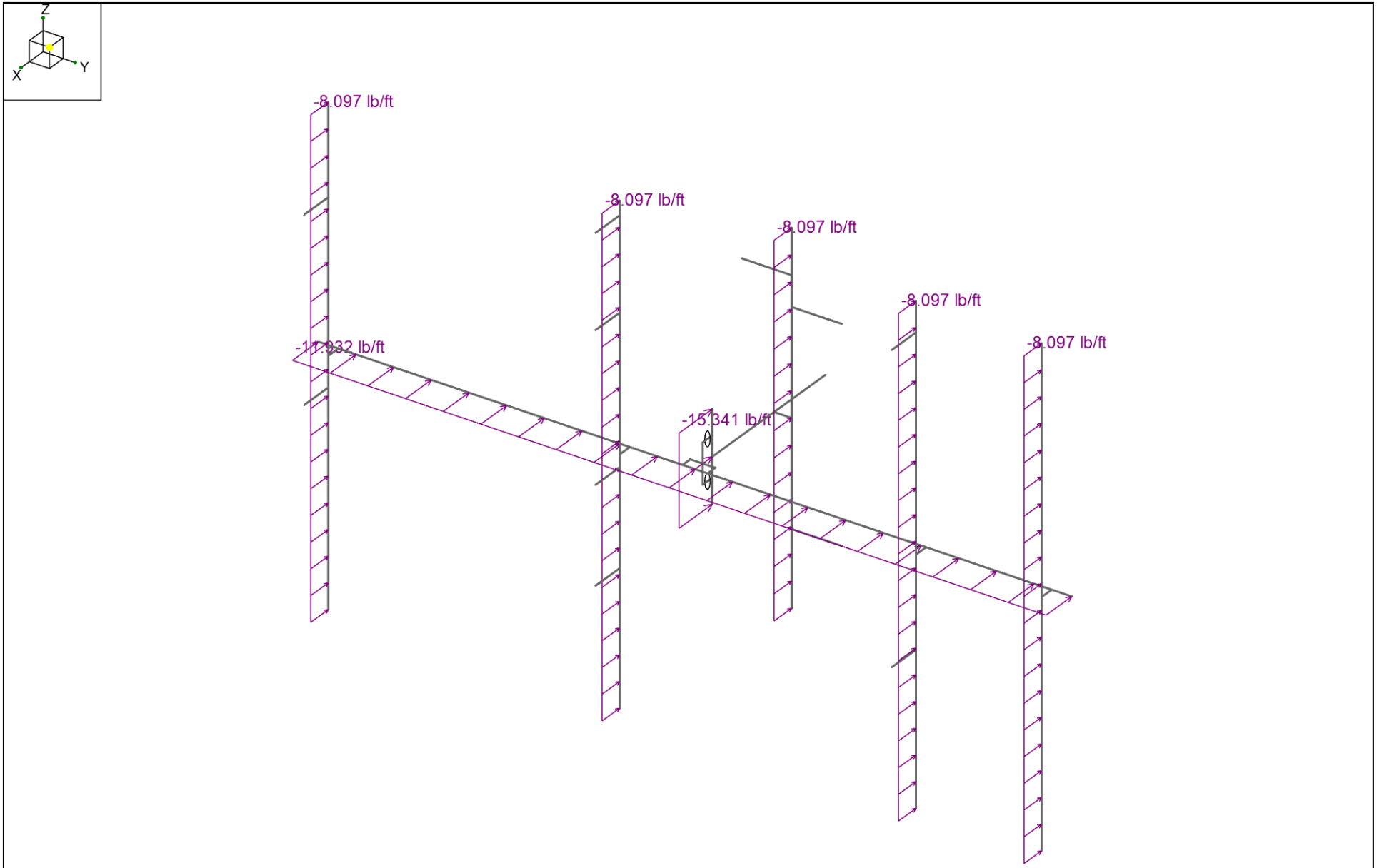
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-5
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Section Sets	414240_13755490_C8_05_AT&T MOBILITY.r3d



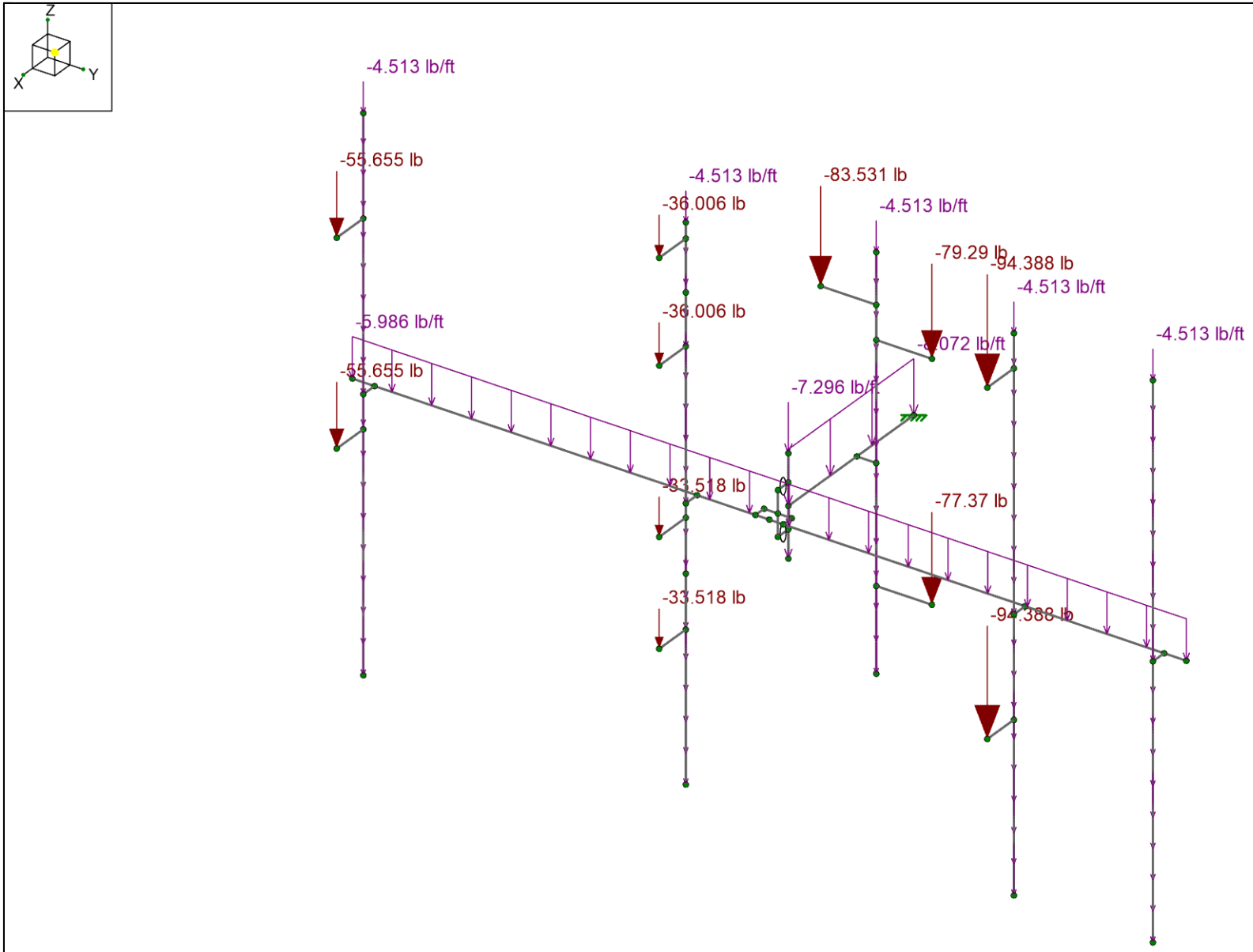
Loads: LC 1, DISPLAY (1.0D + 1.0W_0)
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-6
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Joint Loads – Dead and Normal Wind	414240_13755490_C8_05_AT&T MOBILITY.r3d



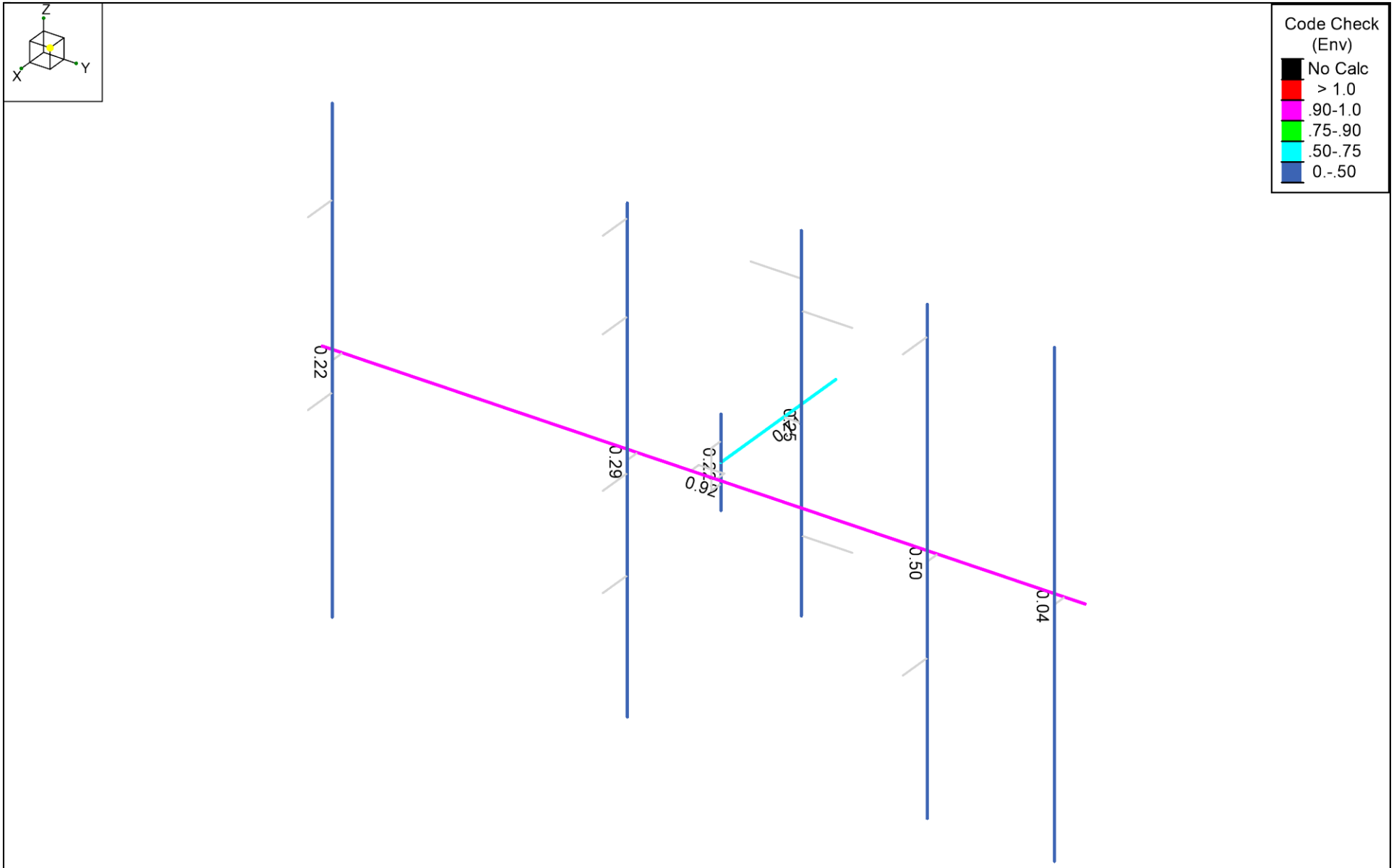
Loads: BLC 5, Structure Wind 0
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-7
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Distributed Load – Normal Wind	414240_13755490_C8_05_AT&T MOBILITY.r3d



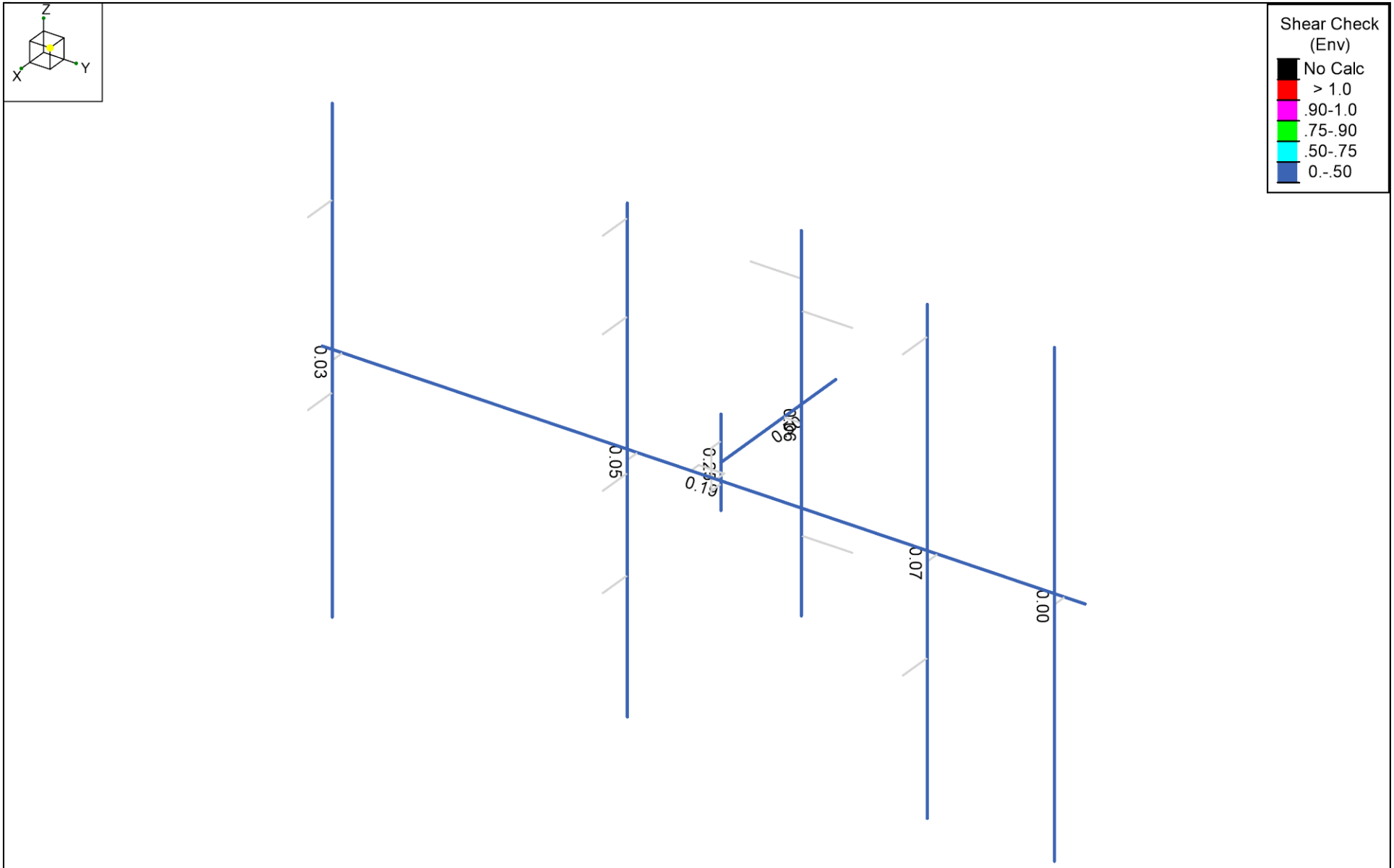
Loads: BLC 2, Ice Dead
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-8
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Ice Dead Loads	414240_13755490_C8_05_AT&T MOBILITY.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-9
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Envelope Member Unity Check Results – Bending	414240_13755490_C8_05_AT&T MOBILITY.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Telamon CLS	41124-13755490_C8_05-Byram Park CT	SK-10
KV		Jul 18, 2022
41124-13755490_C8_05-01-MA	Envelope Member Check Results – Shear	414240_13755490_C8_05_AT&T MOBILITY.r3d

Basic Load Cases

	BLC Description	Category	Z Gravity	Nodal	Distributed
1	Dead	DL	-1	14	
2	Ice Dead	RL		14	8
5	Structure Wind 0°	None			7
6	Structure Wind 30°	None			16
7	Structure Wind 45°	None			16
8	Structure Wind 60°	None			16
9	Structure Wind 90°	None			7
10	Structure Wind 120°	None			16
11	Structure Wind 135°	None			16
12	Structure Wind 150°	None			16
13	Structure Wind 180°	None			7
14	Structure Wind 210°	None			16
15	Structure Wind 225°	None			16
16	Structure Wind 240°	None			16
17	Structure Wind 270°	None			7
18	Structure Wind 300°	None			16
19	Structure Wind 315°	None			16
20	Structure Wind 330°	None			16
21	Structure Wind w/ Ice 0°	None			7
22	Structure Wind w/ Ice 30°	None			16
23	Structure Wind w/ Ice 45°	None			16
24	Structure Wind w/ Ice 60°	None			16
25	Structure Wind w/ Ice 90°	None			7
26	Structure Wind w/ Ice 120°	None			16
27	Structure Wind w/ Ice 135°	None			16
28	Structure Wind w/ Ice 150°	None			16
29	Structure Wind w/ Ice 180°	None			7
30	Structure Wind w/ Ice 210°	None			16
31	Structure Wind w/ Ice 225°	None			16
32	Structure Wind w/ Ice 240°	None			16
33	Structure Wind w/ Ice 270°	None			7
34	Structure Wind w/ Ice 300°	None			16
35	Structure Wind w/ Ice 315°	None			16
36	Structure Wind w/ Ice 330°	None			16
37	Antenna Wind 0°	None		14	
38	Antenna Wind 30°	None		28	
39	Antenna Wind 45°	None		28	
40	Antenna Wind 60°	None		28	
41	Antenna Wind 90°	None		14	
42	Antenna Wind 120°	None		28	
43	Antenna Wind 135°	None		28	
44	Antenna Wind 150°	None		28	
45	Antenna Wind 180°	None		14	
46	Antenna Wind 210°	None		28	
47	Antenna Wind 225°	None		28	
48	Antenna Wind 240°	None		28	
49	Antenna Wind 270°	None		14	
50	Antenna Wind 300°	None		28	
51	Antenna Wind 315°	None		28	
52	Antenna Wind 330°	None		28	
53	Antenna Wind w/ Ice 0°	None		14	
54	Antenna Wind w/ Ice 30°	None		28	
55	Antenna Wind w/ Ice 45°	None		28	
56	Antenna Wind w/ Ice 60°	None		28	
57	Antenna Wind w/ Ice 90°	None		14	

Basic Load Cases (Continued)

	BLC Description	Category	Z Gravity	Nodal	Distributed
58	Antenna Wind w/ Ice 120°	None		28	
59	Antenna Wind w/ Ice 135°	None		28	
60	Antenna Wind w/ Ice 150°	None		28	
61	Antenna Wind w/ Ice 180°	None		14	
62	Antenna Wind w/ Ice 210°	None		28	
63	Antenna Wind w/ Ice 225°	None		28	
64	Antenna Wind w/ Ice 240°	None		28	
65	Antenna Wind w/ Ice 270°	None		14	
66	Antenna Wind w/ Ice 300°	None		28	
67	Antenna Wind w/ Ice 315°	None		28	
68	Antenna Wind w/ Ice 330°	None		28	
69	Seismic X	ELX		14	8
70	Seismic Y	ELY		14	8
71	Seismic Z	ELZ		14	8
72	Maintenance Live 500 (1)	OL1		1	
73	Maintenance Live 500 (2)	OL2		1	
74	Maintenance Live 500 (3)	OL3		1	
75	Maintenance Live 500 (4)	OL4		1	

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	DISPLAY (1.0D + 1.0W_0°)	Yes	Y	DL	1	37	1				
2	1.4D	Yes	Y	DL	1.4						
3	1.2D + 1.0W_0°	Yes	Y	DL	1.2	5	1	37	1		
4	1.2D + 1.0W_30°	Yes	Y	DL	1.2	6	1	38	1		
5	1.2D + 1.0W_45°	Yes	Y	DL	1.2	7	1	39	1		
6	1.2D + 1.0W_60°	Yes	Y	DL	1.2	8	1	40	1		
7	1.2D + 1.0W_90°	Yes	Y	DL	1.2	9	1	41	1		
8	1.2D + 1.0W_120°	Yes	Y	DL	1.2	10	1	42	1		
9	1.2D + 1.0W_135°	Yes	Y	DL	1.2	11	1	43	1		
10	1.2D + 1.0W_150°	Yes	Y	DL	1.2	12	1	44	1		
11	1.2D + 1.0W_180°	Yes	Y	DL	1.2	13	-1	45	-1		
12	1.2D + 1.0W_210°	Yes	Y	DL	1.2	14	-1	46	-1		
13	1.2D + 1.0W_225°	Yes	Y	DL	1.2	15	-1	47	-1		
14	1.2D + 1.0W_240°	Yes	Y	DL	1.2	16	-1	48	-1		
15	1.2D + 1.0W_270°	Yes	Y	DL	1.2	17	-1	49	-1		
16	1.2D + 1.0W_300°	Yes	Y	DL	1.2	18	-1	50	-1		
17	1.2D + 1.0W_315°	Yes	Y	DL	1.2	19	-1	51	-1		
18	1.2D + 1.0W_330°	Yes	Y	DL	1.2	20	-1	52	-1		
19	1.2D + 1.0Di + 1.0Wi_0°	Yes	Y	DL	1.2	21	1	53	1	RL	1
20	1.2D + 1.0Di + 1.0Wi_30°	Yes	Y	DL	1.2	22	1	54	1	RL	1
21	1.2D + 1.0Di + 1.0Wi_45°	Yes	Y	DL	1.2	23	1	55	1	RL	1
22	1.2D + 1.0Di + 1.0Wi_60°	Yes	Y	DL	1.2	24	1	56	1	RL	1
23	1.2D + 1.0Di + 1.0Wi_90°	Yes	Y	DL	1.2	25	1	57	1	RL	1
24	1.2D + 1.0Di + 1.0Wi_120°	Yes	Y	DL	1.2	26	1	58	1	RL	1
25	1.2D + 1.0Di + 1.0Wi_135°	Yes	Y	DL	1.2	27	1	59	1	RL	1
26	1.2D + 1.0Di + 1.0Wi_150°	Yes	Y	DL	1.2	28	1	60	1	RL	1
27	1.2D + 1.0Di + 1.0Wi_180°	Yes	Y	DL	1.2	29	-1	61	-1	RL	1
28	1.2D + 1.0Di + 1.0Wi_210°	Yes	Y	DL	1.2	30	-1	62	-1	RL	1
29	1.2D + 1.0Di + 1.0Wi_225°	Yes	Y	DL	1.2	31	-1	63	-1	RL	1
30	1.2D + 1.0Di + 1.0Wi_240°	Yes	Y	DL	1.2	32	-1	64	-1	RL	1
31	1.2D + 1.0Di + 1.0Wi_270°	Yes	Y	DL	1.2	33	-1	65	-1	RL	1
32	1.2D + 1.0Di + 1.0Wi_300°	Yes	Y	DL	1.2	34	-1	66	-1	RL	1
33	1.2D + 1.0Di + 1.0Wi_315°	Yes	Y	DL	1.2	35	-1	67	-1	RL	1
34	1.2D + 1.0Di + 1.0Wi_330°	Yes	Y	DL	1.2	36	-1	68	-1	RL	1

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
35	1.2D + 1.0Ev + 1.0Eh_0°	Yes	Y	DL	1.258	ELX	-1	ELY			
36	1.2D + 1.0Ev + 1.0Eh_30°	Yes	Y	DL	1.258	ELX	-0.866	ELY	0.5		
37	1.2D + 1.0Ev + 1.0Eh_45°	Yes	Y	DL	1.258	ELX	-0.707	ELY	0.707		
38	1.2D + 1.0Ev + 1.0Eh_60°	Yes	Y	DL	1.258	ELX	-0.5	ELY	0.866		
39	1.2D + 1.0Ev + 1.0Eh_90°	Yes	Y	DL	1.258	ELX		ELY	1		
40	1.2D + 1.0Ev + 1.0Eh_120°	Yes	Y	DL	1.258	ELX	0.5	ELY	0.866		
41	1.2D + 1.0Ev + 1.0Eh_135°	Yes	Y	DL	1.258	ELX	0.707	ELY	0.707		
42	1.2D + 1.0Ev + 1.0Eh_150°	Yes	Y	DL	1.258	ELX	0.866	ELY	0.5		
43	1.2D + 1.0Ev + 1.0Eh_180°	Yes	Y	DL	1.258	ELX	1	ELY			
44	1.2D + 1.0Ev + 1.0Eh_210°	Yes	Y	DL	1.258	ELX	0.866	ELY	-0.5		
45	1.2D + 1.0Ev + 1.0Eh_225°	Yes	Y	DL	1.258	ELX	0.707	ELY	-0.707		
46	1.2D + 1.0Ev + 1.0Eh_240°	Yes	Y	DL	1.258	ELX	0.5	ELY	-0.866		
47	1.2D + 1.0Ev + 1.0Eh_270°	Yes	Y	DL	1.258	ELX		ELY	-1		
48	1.2D + 1.0Ev + 1.0Eh_300°	Yes	Y	DL	1.258	ELX	-0.5	ELY	-0.866		
49	1.2D + 1.0Ev + 1.0Eh_315°	Yes	Y	DL	1.258	ELX	-0.707	ELY	-0.707		
50	1.2D + 1.0Ev + 1.0Eh_330°	Yes	Y	DL	1.258	ELX	-0.866	ELY	-0.5		
51	0.9D - 1.0Ev + 1.0Eh_0°	Yes	Y	DL	0.842	ELX	-1	ELY			
52	0.9D - 1.0Ev + 1.0Eh_30°	Yes	Y	DL	0.842	ELX	-0.866	ELY	0.5		
53	0.9D - 1.0Ev + 1.0Eh_45°	Yes	Y	DL	0.842	ELX	-0.707	ELY	0.707		
54	0.9D - 1.0Ev + 1.0Eh_60°	Yes	Y	DL	0.842	ELX	-0.5	ELY	0.866		
55	0.9D - 1.0Ev + 1.0Eh_90°	Yes	Y	DL	0.842	ELX		ELY	1		
56	0.9D - 1.0Ev + 1.0Eh_120°	Yes	Y	DL	0.842	ELX	0.5	ELY	0.866		
57	0.9D - 1.0Ev + 1.0Eh_135°	Yes	Y	DL	0.842	ELX	0.707	ELY	0.707		
58	0.9D - 1.0Ev + 1.0Eh_150°	Yes	Y	DL	0.842	ELX	0.866	ELY	0.5		
59	0.9D - 1.0Ev + 1.0Eh_180°	Yes	Y	DL	0.842	ELX	1	ELY			
60	0.9D - 1.0Ev + 1.0Eh_210°	Yes	Y	DL	0.842	ELX	0.866	ELY	-0.5		
61	0.9D - 1.0Ev + 1.0Eh_225°	Yes	Y	DL	0.842	ELX	0.707	ELY	-0.707		
62	0.9D - 1.0Ev + 1.0Eh_240°	Yes	Y	DL	0.842	ELX	0.5	ELY	-0.866		
63	0.9D - 1.0Ev + 1.0Eh_270°	Yes	Y	DL	0.842	ELX		ELY	-1		
64	0.9D - 1.0Ev + 1.0Eh_300°	Yes	Y	DL	0.842	ELX	-0.5	ELY	-0.866		
65	0.9D - 1.0Ev + 1.0Eh_315°	Yes	Y	DL	0.842	ELX	-0.707	ELY	-0.707		
66	0.9D - 1.0Ev + 1.0Eh_330°	Yes	Y	DL	0.842	ELX	-0.866	ELY	-0.5		
67	1.2D + 1.5Lm_1 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.07	37	0.07	OL1	1.5
68	1.2D + 1.5Lm_1 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.07	38	0.07	OL1	1.5
69	1.2D + 1.5Lm_1 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.07	39	0.07	OL1	1.5
70	1.2D + 1.5Lm_1 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.07	40	0.07	OL1	1.5
71	1.2D + 1.5Lm_1 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.07	41	0.07	OL1	1.5
72	1.2D + 1.5Lm_1 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.07	42	0.07	OL1	1.5
73	1.2D + 1.5Lm_1 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.07	43	0.07	OL1	1.5
74	1.2D + 1.5Lm_1 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.07	44	0.07	OL1	1.5
75	1.2D + 1.5Lm_1 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.07	45	-0.07	OL1	1.5
76	1.2D + 1.5Lm_1 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.07	46	-0.07	OL1	1.5
77	1.2D + 1.5Lm_1 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.07	47	-0.07	OL1	1.5
78	1.2D + 1.5Lm_1 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.07	48	-0.07	OL1	1.5
79	1.2D + 1.5Lm_1 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.07	49	-0.07	OL1	1.5
80	1.2D + 1.5Lm_1 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.07	50	-0.07	OL1	1.5
81	1.2D + 1.5Lm_1 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.07	51	-0.07	OL1	1.5
82	1.2D + 1.5Lm_1 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.07	52	-0.07	OL1	1.5
83	1.2D + 1.5Lm_2 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.07	37	0.07	OL2	1.5
84	1.2D + 1.5Lm_2 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.07	38	0.07	OL2	1.5
85	1.2D + 1.5Lm_2 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.07	39	0.07	OL2	1.5
86	1.2D + 1.5Lm_2 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.07	40	0.07	OL2	1.5
87	1.2D + 1.5Lm_2 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.07	41	0.07	OL2	1.5
88	1.2D + 1.5Lm_2 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.07	42	0.07	OL2	1.5
89	1.2D + 1.5Lm_2 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.07	43	0.07	OL2	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
90	1.2D + 1.5Lm_2 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.07	44	0.07	OL2	1.5
91	1.2D + 1.5Lm_2 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.07	45	-0.07	OL2	1.5
92	1.2D + 1.5Lm_2 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.07	46	-0.07	OL2	1.5
93	1.2D + 1.5Lm_2 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.07	47	-0.07	OL2	1.5
94	1.2D + 1.5Lm_2 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.07	48	-0.07	OL2	1.5
95	1.2D + 1.5Lm_2 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.07	49	-0.07	OL2	1.5
96	1.2D + 1.5Lm_2 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.07	50	-0.07	OL2	1.5
97	1.2D + 1.5Lm_2 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.07	51	-0.07	OL2	1.5
98	1.2D + 1.5Lm_2 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.07	52	-0.07	OL2	1.5
99	1.2D + 1.5Lm_3 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.07	37	0.07	OL3	1.5
100	1.2D + 1.5Lm_3 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.07	38	0.07	OL3	1.5
101	1.2D + 1.5Lm_3 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.07	39	0.07	OL3	1.5
102	1.2D + 1.5Lm_3 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.07	40	0.07	OL3	1.5
103	1.2D + 1.5Lm_3 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.07	41	0.07	OL3	1.5
104	1.2D + 1.5Lm_3 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.07	42	0.07	OL3	1.5
105	1.2D + 1.5Lm_3 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.07	43	0.07	OL3	1.5
106	1.2D + 1.5Lm_3 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.07	44	0.07	OL3	1.5
107	1.2D + 1.5Lm_3 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.07	45	-0.07	OL3	1.5
108	1.2D + 1.5Lm_3 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.07	46	-0.07	OL3	1.5
109	1.2D + 1.5Lm_3 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.07	47	-0.07	OL3	1.5
110	1.2D + 1.5Lm_3 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.07	48	-0.07	OL3	1.5
111	1.2D + 1.5Lm_3 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.07	49	-0.07	OL3	1.5
112	1.2D + 1.5Lm_3 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.07	50	-0.07	OL3	1.5
113	1.2D + 1.5Lm_3 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.07	51	-0.07	OL3	1.5
114	1.2D + 1.5Lm_3 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.07	52	-0.07	OL3	1.5
115	1.2D + 1.5Lm_4 + 1.0Wm_0°	Yes	Y	DL	1.2	5	0.07	37	0.07	OL4	1.5
116	1.2D + 1.5Lm_4 + 1.0Wm_30°	Yes	Y	DL	1.2	6	0.07	38	0.07	OL4	1.5
117	1.2D + 1.5Lm_4 + 1.0Wm_45°	Yes	Y	DL	1.2	7	0.07	39	0.07	OL4	1.5
118	1.2D + 1.5Lm_4 + 1.0Wm_60°	Yes	Y	DL	1.2	8	0.07	40	0.07	OL4	1.5
119	1.2D + 1.5Lm_4 + 1.0Wm_90°	Yes	Y	DL	1.2	9	0.07	41	0.07	OL4	1.5
120	1.2D + 1.5Lm_4 + 1.0Wm_120°	Yes	Y	DL	1.2	10	0.07	42	0.07	OL4	1.5
121	1.2D + 1.5Lm_4 + 1.0Wm_135°	Yes	Y	DL	1.2	11	0.07	43	0.07	OL4	1.5
122	1.2D + 1.5Lm_4 + 1.0Wm_150°	Yes	Y	DL	1.2	12	0.07	44	0.07	OL4	1.5
123	1.2D + 1.5Lm_4 + 1.0Wm_180°	Yes	Y	DL	1.2	13	-0.07	45	-0.07	OL4	1.5
124	1.2D + 1.5Lm_4 + 1.0Wm_210°	Yes	Y	DL	1.2	14	-0.07	46	-0.07	OL4	1.5
125	1.2D + 1.5Lm_4 + 1.0Wm_225°	Yes	Y	DL	1.2	15	-0.07	47	-0.07	OL4	1.5
126	1.2D + 1.5Lm_4 + 1.0Wm_240°	Yes	Y	DL	1.2	16	-0.07	48	-0.07	OL4	1.5
127	1.2D + 1.5Lm_4 + 1.0Wm_270°	Yes	Y	DL	1.2	17	-0.07	49	-0.07	OL4	1.5
128	1.2D + 1.5Lm_4 + 1.0Wm_300°	Yes	Y	DL	1.2	18	-0.07	50	-0.07	OL4	1.5
129	1.2D + 1.5Lm_4 + 1.0Wm_315°	Yes	Y	DL	1.2	19	-0.07	51	-0.07	OL4	1.5
130	1.2D + 1.5Lm_4 + 1.0Wm_330°	Yes	Y	DL	1.2	20	-0.07	52	-0.07	OL4	1.5

Member Primary Data

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
1	M1	N2	N3	Standoff Arm	Beam	None	A36 Gr.36	Typical
2	M2	N5	N4	Vertical pipe	Beam	None	A53 Gr.B	Typical
3	M3	N7	N6	RIGID	None	None	RIGID	Typical
4	M4	N9	N8	RIGID	None	None	RIGID	Typical
5	M5	N9	N7	RIGID	None	None	RIGID	Typical
6	M6	N12	N10	RIGID	None	None	RIGID	Typical
7	M7	N10	N11	RIGID	None	None	RIGID	Typical
8	M8	N16	N17	Face Horizontal	Beam	None	A53 Gr.B	Typical
9	M9	N14	N12	RIGID	None	None	RIGID	Typical
10	M10	N13	N11	RIGID	None	None	RIGID	Typical
11	M11	MCL	1_M1	RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Section/Shape	Type	Design List	Material	Design Rule
12	M12	N21	N20	Mount Pipe	Beam	None	A53 Gr.B	Typical
13	M19	1_A2T	N34	RIGID	None	None	RIGID	Typical
14	M15	N26	1_M2	RIGID	None	None	RIGID	Typical
15	M16	N28	N29	Mount Pipe	Beam	None	A53 Gr.B	Typical
16	M17	N30	1_M3	RIGID	None	None	RIGID	Typical
17	M18	N32	N33	Mount Pipe	Beam	None	A53 Gr.B	Typical
18	M21	N35	1_M4	RIGID	None	None	RIGID	Typical
19	M22	N38	N39	Mount Pipe	Beam	None	A53 Gr.B	Typical
20	M20	1_A2B	N41	RIGID	None	None	RIGID	Typical
21	M23	N43	1_A3T	RIGID	None	None	RIGID	Typical
22	M24	N44	1_A3B	RIGID	None	None	RIGID	Typical
23	M25	N47	1_A3TB	RIGID	None	None	RIGID	Typical
24	M26	N48	1_A3BB	RIGID	None	None	RIGID	Typical
25	M27	N52	1_A4T	RIGID	None	None	RIGID	Typical
26	M28	N53	1_A4B	RIGID	None	None	RIGID	Typical
27	M29	1_R2TT	N57	RIGID	None	None	RIGID	Typical
28	M30	1_R2BT	RAD	RIGID	None	None	RIGID	Typical
29	M31	1_R4TT	N51	RIGID	None	None	RIGID	Typical
30	M32	N58	N59	RIGID	None	None	RIGID	Typical
31	M33	N60	N61	MOD Mount Pipe	Beam	None	A53 Gr.B	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	Function
1	M1	Standoff Arm	33		Lateral
2	M2	Vertical pipe	18		Lateral
3	M8	Face Horizontal	150		Lateral
4	M12	Mount Pipe	96		Lateral
5	M16	Mount Pipe	96		Lateral
6	M18	Mount Pipe	96		Lateral
7	M22	Mount Pipe	96		Lateral
8	M33	MOD Mount Pipe	72	Lbyy	Lateral

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Advanced Data

	Label	I Release	Physical	Deflection Ratio Options	Seismic DR
1	M1		Yes	N/A	None
2	M2		Yes	N/A	None
3	M3	OOOXOO	Yes	** NA **	None
4	M4	OOOXOO	Yes	** NA **	None
5	M5		Yes	** NA **	None
6	M6		Yes	** NA **	None
7	M7		Yes	** NA **	None
8	M8		Yes	N/A	None
9	M9		Yes	** NA **	None
10	M10		Yes	** NA **	None
11	M11		Yes	** NA **	None
12	M12		Yes	N/A	None
13	M19		Yes	** NA **	None
14	M15		Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	Physical	Deflection Ratio Options	Seismic DR
15	M16		Yes	N/A	None
16	M17		Yes	** NA **	None
17	M18		Yes	N/A	None
18	M21		Yes	** NA **	None
19	M22		Yes	N/A	None
20	M20		Yes	** NA **	None
21	M23		Yes	** NA **	None
22	M24		Yes	** NA **	None
23	M25		Yes	** NA **	None
24	M26		Yes	** NA **	None
25	M27		Yes	** NA **	None
26	M28		Yes	** NA **	None
27	M29		Yes	** NA **	None
28	M30		Yes	** NA **	None
29	M31		Yes	** NA **	None
30	M32		Yes	** NA **	None
31	M33		Yes	Default	None

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e⁵°F⁻¹]	Density [k/ft³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
3	Q235 Gr. B	29000	11154	0.3	0.65	0.49	35	1.5	58	1.2
4	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
5	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
6	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
7	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
8	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
9	A500 GR.C RND	29000	11154	0.3	0.65	0.49	46	1.5	58	1.3
10	A500 GR.C RECT	29000	11154	0.3	0.65	0.49	50	1.5	58	1.3

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N2	max	1744.417	3	1123.759	15	2113.568	26	4688.364	72	-1308.569	1	3651.955	14
2		min	-1744.417	11	-1123.761	7	809.966	66	-4312.031	128	-6268.869	27	-3649.64	6
3	Totals:	max	1744.417	3	1123.759	15	2113.568	26						
4		min	-1744.417	11	-1123.761	7	809.966	66						

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

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	M8	PIPE_3.0	0.92	71.842	128	0.19	71.842		11	28250.554	65205	5748.75	5748.75	3	H1-1b
2	M1	HSS4X4X4	0.711	0	72	0.501	0	y	70	106516.698	109188	12663	12663	1.56	H3-6
3	M16	PIPE_2.0	0.498	48	11	0.065	48		5	14916.096	32130	1871.625	1871.625	1.588	H1-1b
4	M18	PIPE_2.0	0.293	48	11	0.046	48		16	14916.096	32130	1871.625	1871.625	1.656	H1-1b
5	M33	PIPE_2.0	0.246	36	11	0.063	14.779		11	20866.733	32130	1871.625	1871.625	1.437	H1-1b
6	M2	PIPE_4.0	0.223	9	125	0.249	9		126	92571.332	93240	10631.25	10631.25	1.923	H1-1b
7	M22	PIPE_2.0	0.221	48	11	0.035	48		17	14916.096	32130	1871.625	1871.625	1.678	H1-1b
8	M12	PIPE_2.0	0.035	48	10	0.003	48		10	14916.096	32130	1871.625	1871.625	1.56	H1-1b

TOWER-MOUNT CONNECTION ANALYSIS

v.1.0.0

telamon CLS

319 Chapanoke Road, Suite 118
Raleigh, NC 27603
Office: (405) 348-5460
Fax: (405) 341-6334

SITE INFORMATION	
Site ID	414240
Site Name	Byram Park CT
Project ID	41124-13755490_C8_05-01-MA

ANALYSIS PARAMETERS	
TIA Revision	H

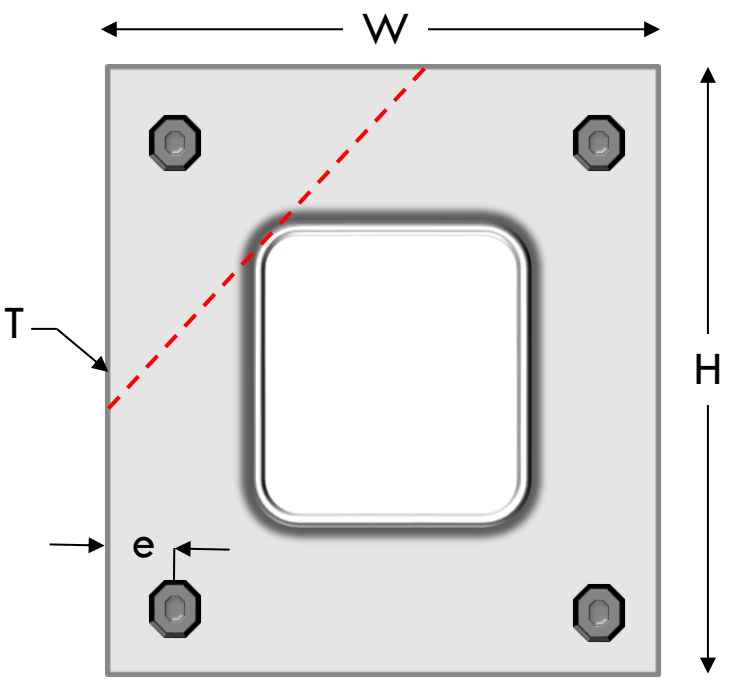
APPLIED FORCES FROM R3D		
Member Label		M1
Member End Label		I
Force-X	Fx, lbs	-1744.4
Force-Y	Fy, lbs	2114.7
Force-Z	Fz, lbs	1123.8
Moment X-X	Mx, lbs-ft	4688.4
Moment Y-Y	My, lbs-ft	3652.0
Moment Z-Z	Mz, lbs-ft	6268.9

STANDOFF MEMBER PROPERTIES	
Standoff Member Type	Square/Rect. HSS
Standoff Member Shape	HSS4X4X1/4
Standoff Member Grade	A36
Member to Plate Weld Size, in	3/8

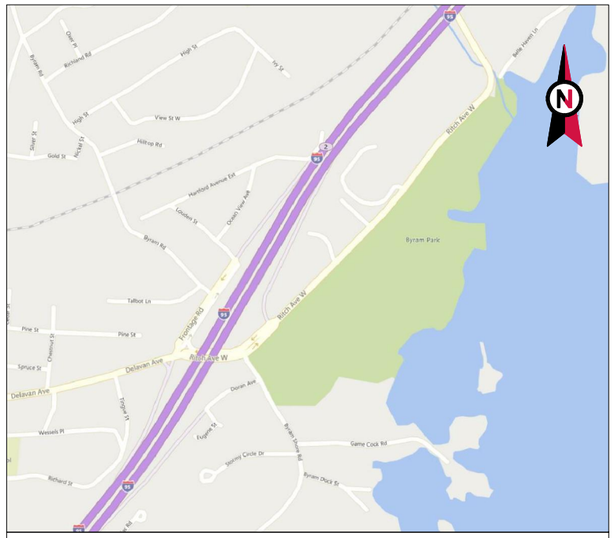
BOLT & PLATE PROPERTIES	
Bolt Quantity	4
Bolt Edge Distance (e), in	1.00
Nominal Bolt Diameter (ØDb), in	0.625
Bolt Grade	A325
Plate Height (H), in	8.00
Plate Width (W), in	8.00
Plate Thickness (T), in	0.75
Plate Grade	A36

BOLT ANALYSIS		
Shear Demand (Vu), k	1.43	
Shear Capacity (ΦRnv), k	13.81	
Tension Demand (Tu), k	10.70	
Tension Capacity (ΦRnt), k	20.34	
Shear Utilization	10.3%	
Tension Utilization	52.6%	PASS
Interaction Utilization	28.7%	

PLATE ANALYSIS		
Moment Demand (Mu), k-in	21.39	
Flexural Capacity (ΦMn), k-in	36.45	
Plate Utilization	58.7%	PASS



MATERIAL PROPERTIES	
Standoff Member - Yield Strength (Fy), ksi	36
Standoff Member - Ultimate Strength (Fu), ksi	58
Bolt - Yield Strength (Fy), ksi	92
Bolt - Tensile Strength (Fu), ksi	120
Plate - Yield Strength (Fy), ksi	36
Plate - Ultimate Strength (Fu), ksi	58



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: BYRAM PARK CT
ATC SITE NUMBER: 414240
AT&T PACE NUMBERS: MRCTB053754, MRCTB055124, MRCTB053744, MRCTB055128, MRCTB055084, MRCTB038187
AT&T SITE ID: 10071045
AT&T FA CODE: CTL05004
AT&T SITE NAME: MRCTB055124
SITE ADDRESS: 48 RITCH AVENUE WEST
GREENWICH, CT 06830

AT&T
AMENDMENT PLAN

LOCATION MAP

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. CT STATE BUILDING CODE, INCORPORATING THE 2018 INTERNATIONAL BUILDING CODE
2. 2017 NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: UNKNOWN
PHONE: N/A

TELEPHONE COMPANY: UNKNOWN
PHONE: N/A

811 Know what's below. Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

48 RITCH AVENUE WEST
GREENWICH, CT 06830
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41.00506654
LONGITUDE: -73.64830301
GROUND ELEVATION: 53' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

AT&T MOBILITY

ENGINEER:

COLLIERS ENGINEERING
& DESIGN CT, P.C.
1055 WASHINGTON BLVD
STAMFORD, CT 06901

PROJECT #:
22904290

PROPERTY OWNER:

---
48 RITCH AVENUE WEST
GREENWICH, CT 06830

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

REMOVE (9) ANTENNA(S), (1) SQUID(S), (6) TTA(S), (6) COAX CABLE(S), (6) CONTROL CABLE(S), (2) FIBER TRUNK CABLE(S) AND (2) CONDUIT(S)

INSTALL (9) ANTENNA(S), (1) SQUID(S), (3) CONDUIT(S), (7) CONTROL CABLE(S) AND (3) FIBER TRUNK CABLE(S)

EXISTING (3) ANTENNA(S), (15) RRH(S), (2) SQUID(S), (6) COAX CABLE(S) AND (1) CONDUIT(S) TO REMAIN

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.
6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

PROJECT LOCATION DIRECTIONS

TAKE RITCH AVE W AND HAMILTON AVE TO GLEN ST IN GREENWICH, 4 MIN (1.6 MI), HEAD NORTHEAST ON I-95 N, 0.2 MI, TAKE EXIT 2 FOR BYRAM TOWARD DELAVAN AVE, 0.2 MI, CONTINUE ONTO DORAN AVE, 361 FT, TURN LEFT ONTO BYRAM SHORE RD, 167 FT, TURN RIGHT ONTO RITCH AVE W, 0.6 MI, CONTINUE ONTO HAMILTON AVE, 0.5 MI, TAKE RODWELL AVE TO HAMILTON AVE, 43 S (0.2 MI), TURN RIGHT ONTO GLEN ST, 351 FT, GLEN ST TURNS LEFT AND BECOMES RODWELL AVE, 476 FT, RODWELL AVE TURNS LEFT AND BECOMES STONE AVE, 358 FT, CONTINUE ON HAMILTON AVE. DRIVE TO RITCH AVE W, 3 MIN (1.1 MI), TURN LEFT ONTO HAMILTON AVE, 0.6 MI, CONTINUE ONTO RITCH AVE W, DESTINATION WILL BE ON THE RIGHT.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	A	04/26/22	JLK
G-002	GENERAL NOTES	A	04/26/22	JLK
C-101	DETAILED SITE PLAN	A	04/26/22	JLK
C-102	DETAILED SHELTER LAYOUT	A	04/26/22	JLK
C-201	TOWER ELEVATION	A	04/26/22	JLK
C-401	RF SCHEDULE AND ANTENNA INSTALLATION	A	04/26/22	JLK
C-501	CONSTRUCTION DETAILS	A	04/26/22	JLK
E-501	GROUNDING DETAILS	A	04/26/22	JLK
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			
R-604	SUPPLEMENTAL			

AMERICAN TOWER®

Colliers Engineering & Design
www.colliersengineering.com
Doing Business as MASER CONSULTING
STAMFORD
1055 Washington Boulevard
Stamford, CT 06901
Phone: 203.324.0800
COLLIERS ENGINEERING & DESIGN CT, P.C.
DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

SEAL:

AT&T

DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	A

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, AT&T "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF AT&T TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE AT&T REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE AT&T CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH AT&T AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY AT&T REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE AT&T REP. ANY WORK FOUND BY THE AT&T REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. AT&T FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. AT&T OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO AT&T OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
   - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
   - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND AT&T SPECIFICATIONS.
   - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
   - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
   - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
   - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
   - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

SEAL:

AT&T

DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	A

SITE PLAN NOTES:

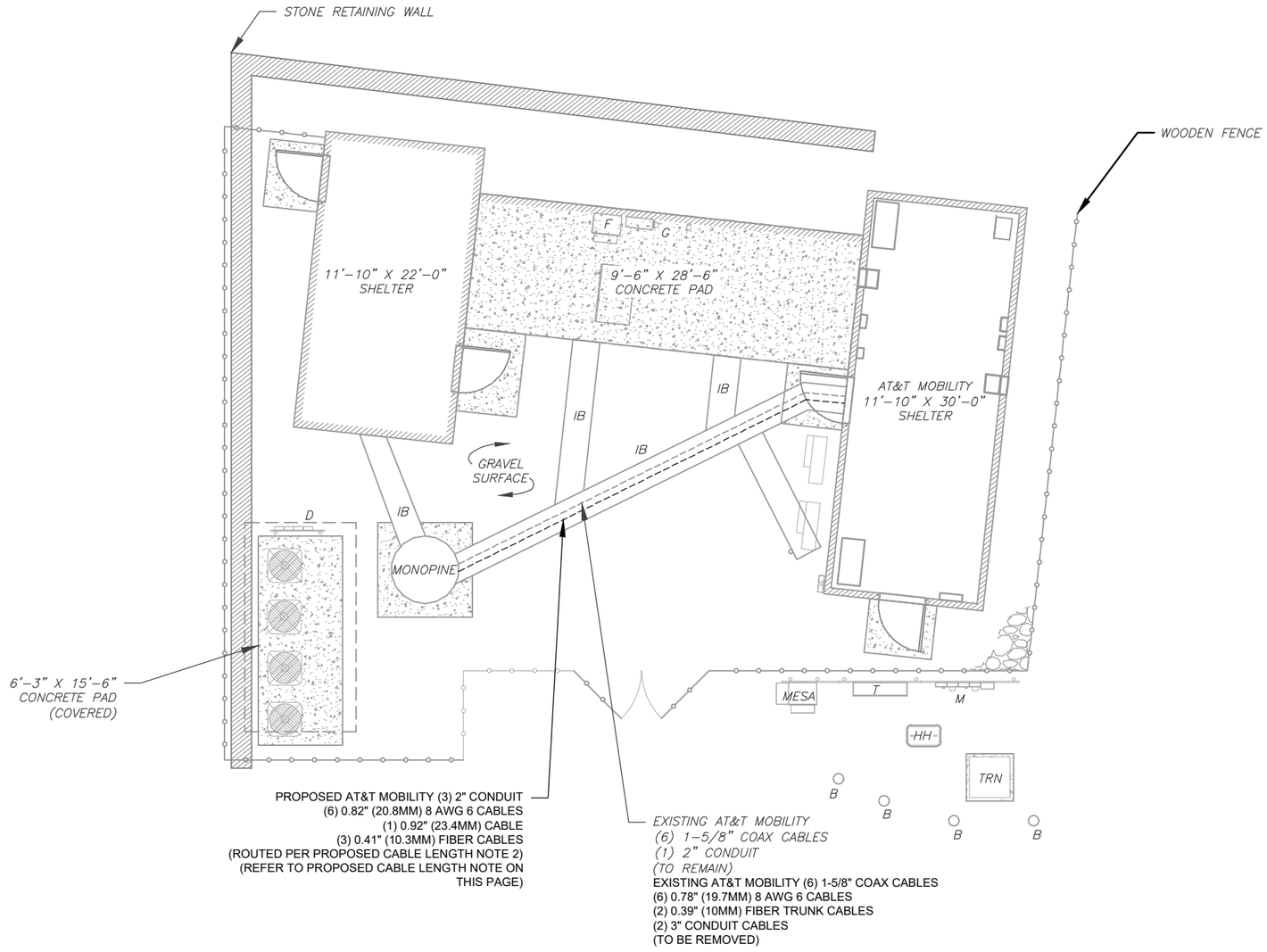
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.

2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.

3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

LEGEND

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



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **120'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.

1 DETAILED SITE PLAN

GRAPHIC SCALE

10 0 5 10

(IN FEET)
1 UNIT = 10 FEET

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414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
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SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

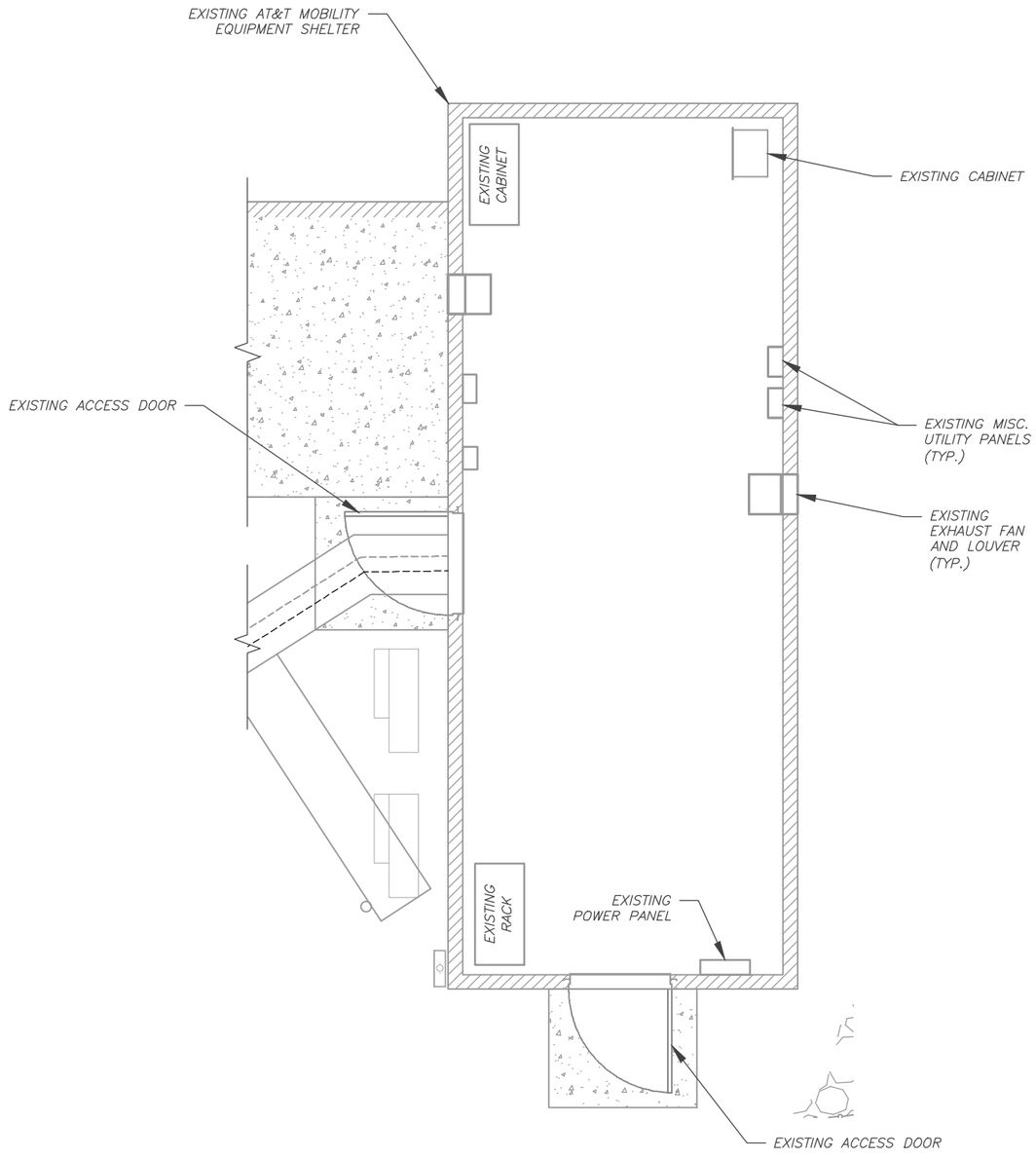
SEAL:

AT&T

DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	A



1 DETAILED SHELTER LAYOUT

0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

N

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

SEAL:

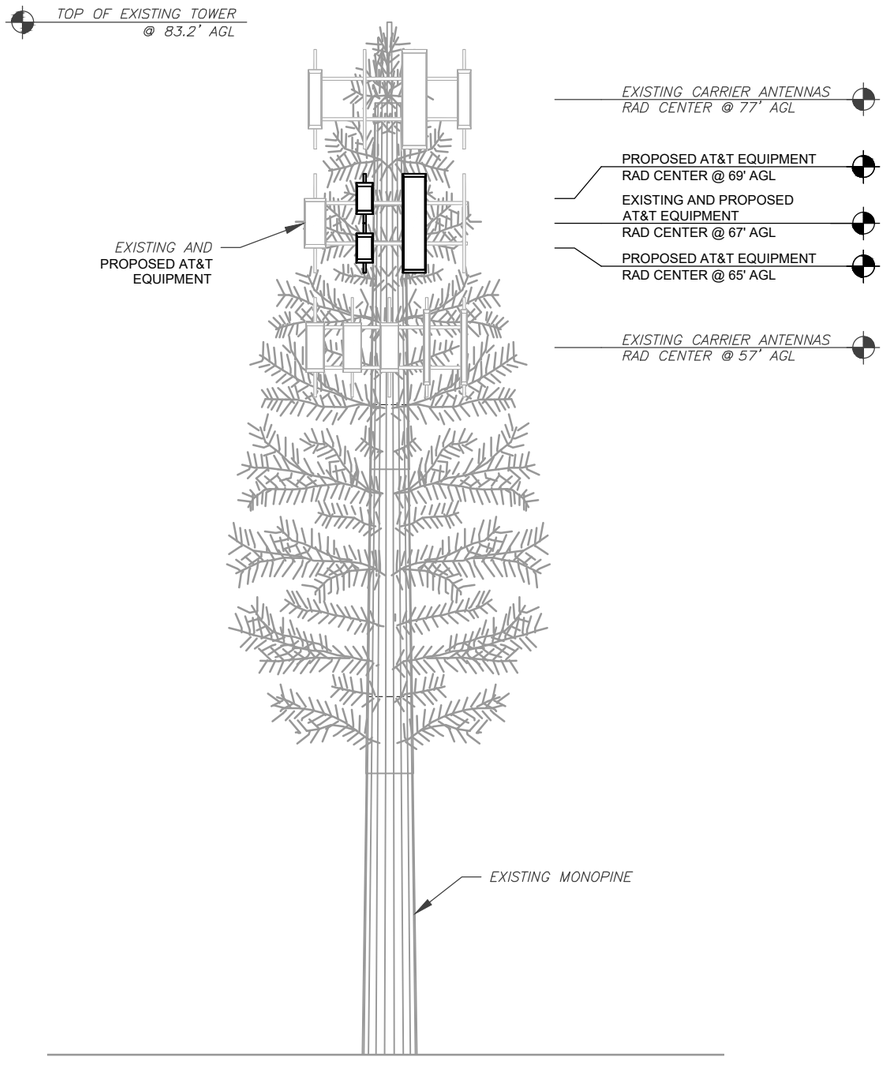
AT&T

DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

DETAILED SHELTER LAYOUT

SHEET NUMBER:	REVISION:
C-102	A

1. ATC HAS NOT ANALYZED THE EXISTING ANTENNA MOUNT(S) TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR PROPOSED CARRIER LOADING.
2. A STRUCTURAL ANALYSIS TO DETERMINE IF THE ANTENNA MOUNTS CAN ADEQUATELY SUPPORT THE PROPOSED LOADING HAS NOT BEEN PREPARED BY COLLIERS ENGINEERING & DESIGN.
3. IT IS THE RESPONSIBILITY OF THE CLIENT TO CONFIRM THE ADEQUACY OF EXISTING ANTENNA MOUNTS WITH PROPOSED LOADING CONDITIONS PRIOR TO CONSTRUCTION.



1 TOWER ELEVATION
SCALE: N.T.S.

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

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AT&T

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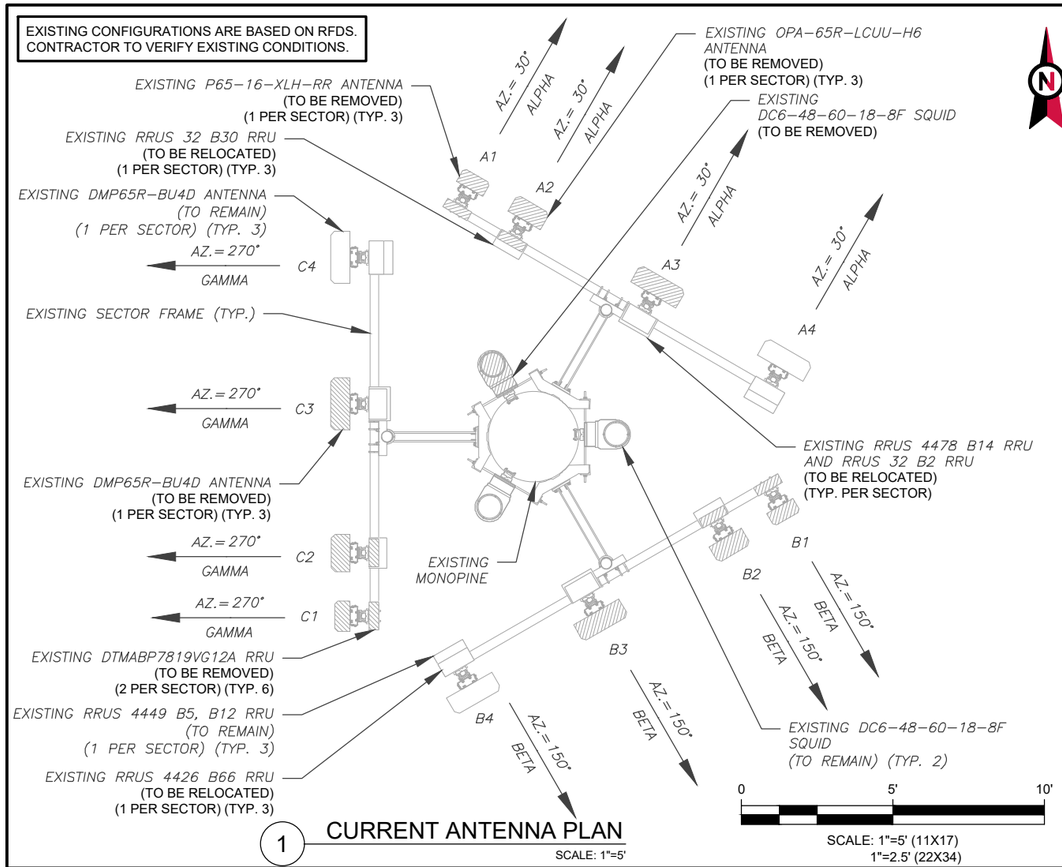
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	A

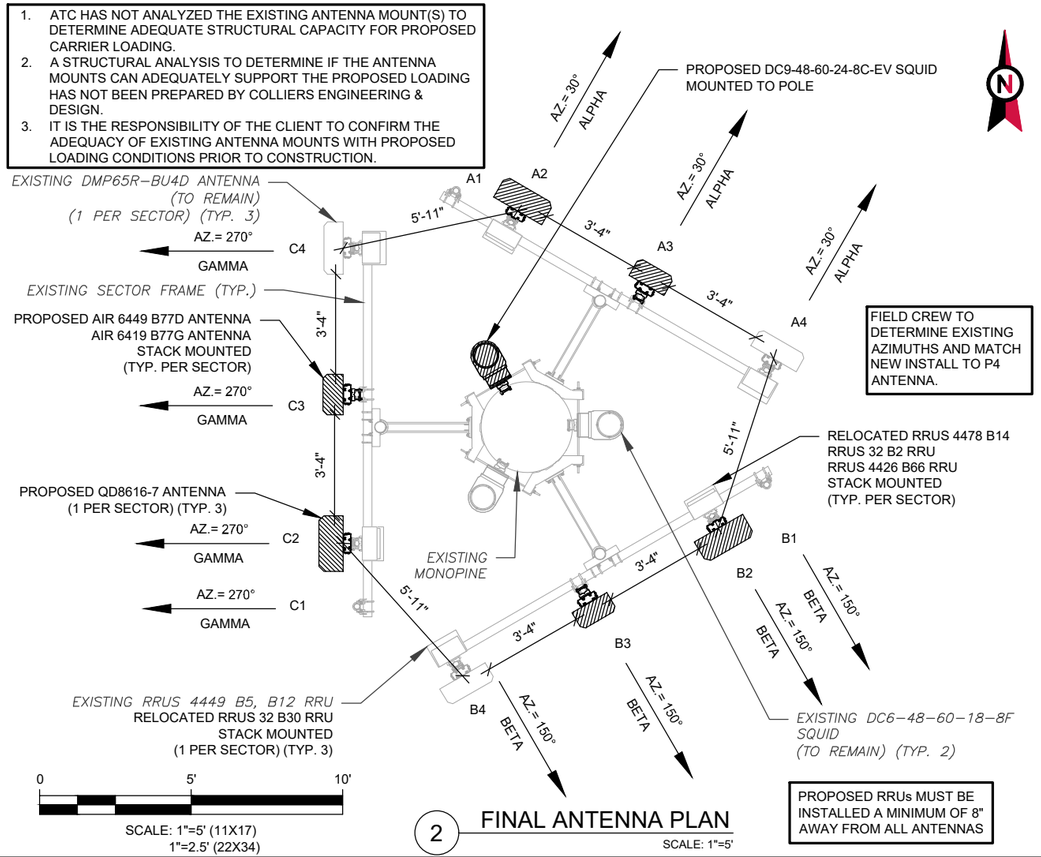
EXISTING CONFIGURATIONS ARE BASED ON RFDS.
CONTRACTOR TO VERIFY EXISTING CONDITIONS.



SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

1 CURRENT ANTENNA PLAN
SCALE: 1"=5'

1. ATC HAS NOT ANALYZED THE EXISTING ANTENNA MOUNT(S) TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR PROPOSED CARRIER LOADING.
2. A STRUCTURAL ANALYSIS TO DETERMINE IF THE ANTENNA MOUNTS CAN ADEQUATELY SUPPORT THE PROPOSED LOADING HAS NOT BEEN PREPARED BY COLLIERS ENGINEERING & DESIGN.
3. IT IS THE RESPONSIBILITY OF THE CLIENT TO CONFIRM THE ADEQUACY OF EXISTING ANTENNA MOUNTS WITH PROPOSED LOADING CONDITIONS PRIOR TO CONSTRUCTION.



SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

2 FINAL ANTENNA PLAN
SCALE: 1"=5'

FIELD CREW TO DETERMINE EXISTING AZIMUTHS AND MATCH NEW INSTALL TO P4 ANTENNA.

PROPOSED RRUs MUST BE INSTALLED A MINIMUM OF 8" AWAY FROM ALL ANTENNAS

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	67'	30°	A1	P65-16-XLH-RR	-	RMV	DTMABP7819VG12A	RMV
			A2	OPA-65R-LCUU-H6	LTE 700/WCS	RMV	DTMABP7819VG12A RRUS 32 B30	RMV REL
			A3	DMP65R-BU4D	LTE 700/1900	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL
			A4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 4449 B5, B12 RRUS 4426 B66	RMN REL
BETA	67'	150°	B1	P65-16-XLH-RR	-	RMV	DTMABP7819VG12A	RMV
			B2	OPA-65R-LCUU-H6	LTE 700/WCS	RMV	DTMABP7819VG12A RRUS 32 B30	RMV REL
			B3	DMP65R-BU4D	LTE 700/1900	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL
			B4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 4449 B5, B12 RRUS 4426 B66	RMN REL
GAMMA	67'	270°	C1	P65-16-XLH-RR	-	RMV	DTMABP7819VG12A	RMV
			C2	OPA-65R-LCUU-H6	LTE 700/WCS	RMV	DTMABP7819VG12A RRUS 32 B30	RMV REL
			C3	DMP65R-BU4D	LTE 700/1900	RMV	RRUS 4478 B14 RRUS 32 B2	REL REL
			C4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 4449 B5, B12 RRUS 4426 B66	RMN REL

NOTES

1. CONFIRM WITH AT&T REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
3. THE ANTENNA ORIENTATION PLAN IS A SCHEMATIC. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA AZIMUTHS, MOUNT CONFIGURATIONS AND TOWER ORIENTATION. SCALES SHOWN ARE FOR REFERENCE ONLY AND EXISTING DIMENSIONS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO INSTALLATION AND NOTIFY ATC OF ANY DISCREPANCIES.
4. CONTRACTOR TO ENSURE PROPER SEPARATION IN ACCORDANCE WITH AT&T'S FIRSTNET REQUIREMENTS (SEE SHEET R-602)

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	67'	30°	A1	-	-	-	-	-
			A2	QD8616-7	LTE 700/1900/AWS 5G 1900/AWS	ADD	RRUS 4478 B14 RRUS 32 B2 RRUS 4426 B66	REL REL REL
	65' 69'		A3	AIR 6419 B77G AIR 6449 B77D	5G CBAND/DOD	ADD ADD	-	-
	67'		A4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 32 B30 RRUS 4426 B66	REL REL
BETA	67'	150°	B1	-	-	-	-	-
			B2	QD8616-7	LTE 700/1900/AWS 5G 1900/AWS	ADD	RRUS 4478 B14 RRUS 32 B2 RRUS 4426 B66	REL REL REL
	65' 69'		B3	AIR 6419 B77G AIR 6449 B77D	5G CBAND/DOD	ADD ADD	-	-
	67'		B4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 32 B30 RRUS 4426 B66	REL REL
GAMMA	67'	270°	C1	-	-	-	-	-
			C2	QD8616-7	LTE 700/1900/AWS 5G 1900/AWS	ADD	RRUS 4478 B14 RRUS 32 B2 RRUS 4426 B66	REL REL REL
	65' 69'		C3	AIR 6419 B77G AIR 6449 B77D	5G CBAND/DOD	ADD ADD	-	-
	67'		C4	DMP65R-BU4D	LTE 700/AWS/ 5G 850	RMN	RRUS 32 B30 RRUS 4426 B66	REL REL

EXISTING FIBER DISTRIBUTION/SQUID		EXISTING CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC9-48-60-24-8C-EV	RMN	(6) 1-5/8"	-	-	RMN
(1) DC6-48-60-18-8F	RMV	(6) 1-5/8"	(6) 0.78" (19.7MM) 8 AWG 6	(2) 0.39" (10MM)	RMV

STATUS ABBREVIATIONS
RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS
JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

3 EQUIPMENT SCHEDULES

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW.

FINAL FIBER DISTRIBUTION/SQUID		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS
(2) DC9-48-60-24-8C-EV	RMN	(6) 1-5/8"	-	-	RMN
-	-	-	(6) 0.82" (20.8MM) 8 AWG 6 (1) 0.92" (23.4MM)	(3) 0.41" (10.3MM)	ADD

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Stamford, CT 06901
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

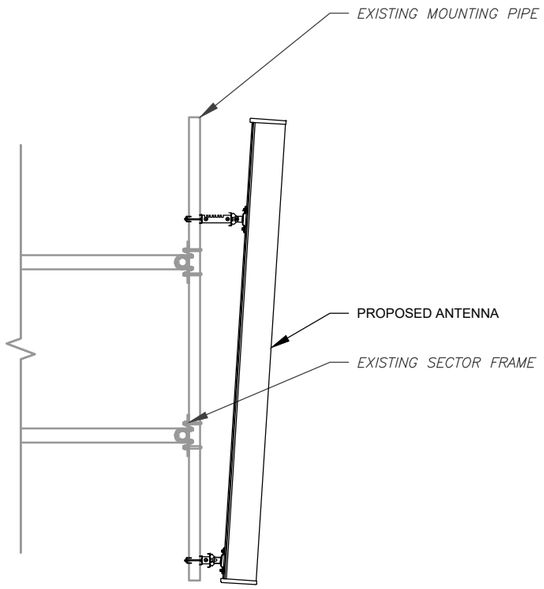
SEAL:

AT&T

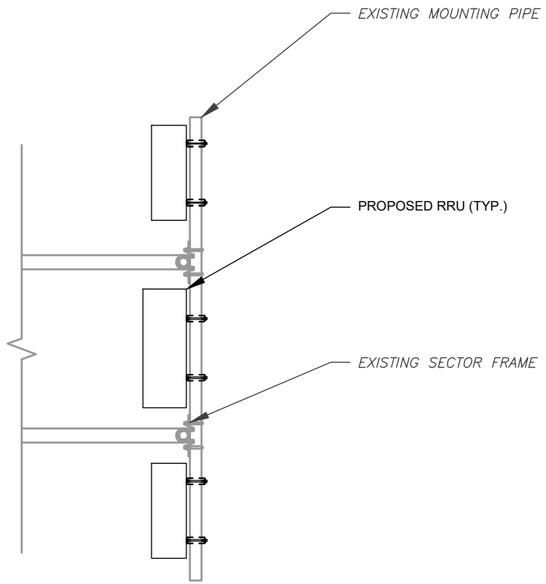
DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

RF SCHEDULE AND ANTENNA INSTALLATION

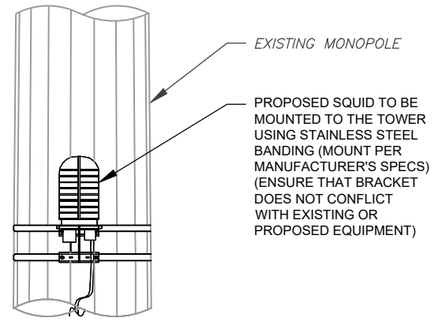
SHEET NUMBER:	REVISION:
C-401	A



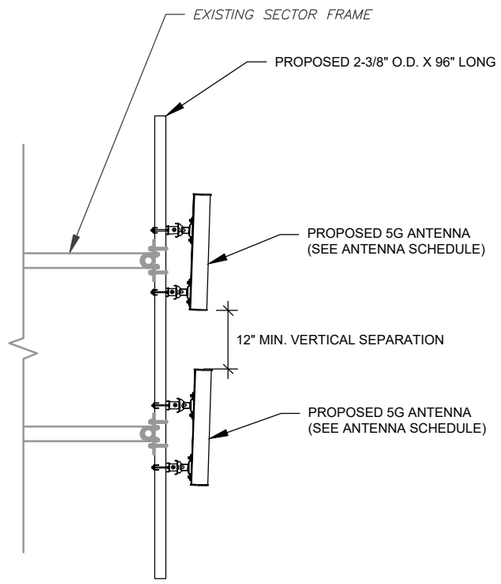
1 ANTENNA DETAIL
SCALE: N.T.S.



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



3 PROPOSED SQUID MOUNTING
SCALE: N.T.S.



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

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

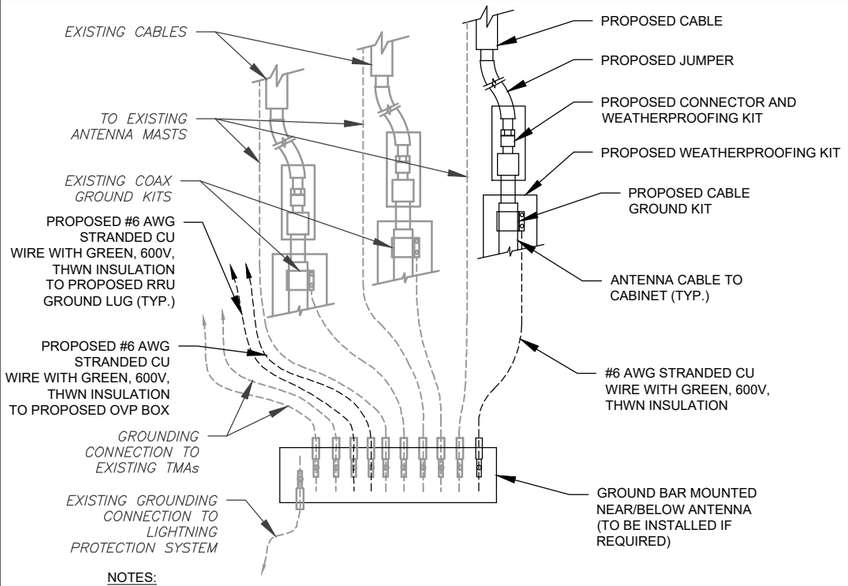
SEAL:

AT&T

DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	A

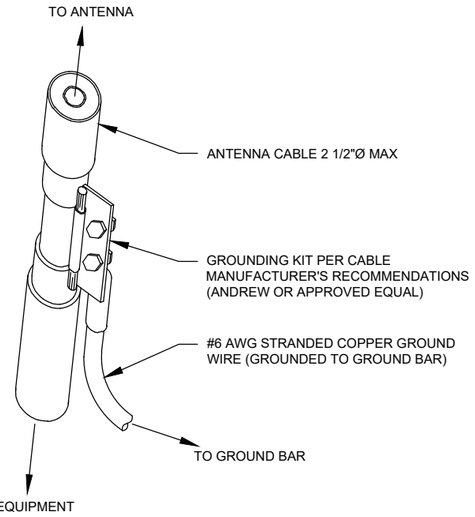


NOTES:

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

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

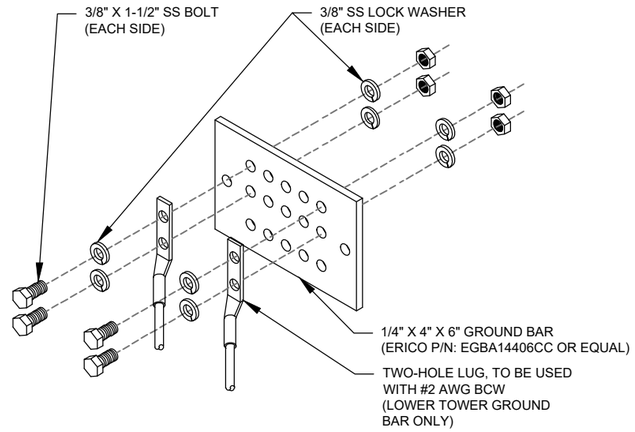


GROUND KIT NOTES:

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

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.

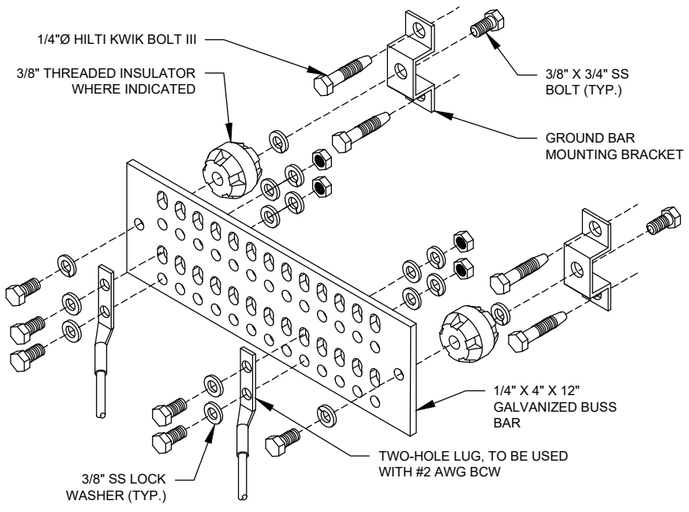


GROUND BAR NOTES:

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

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.

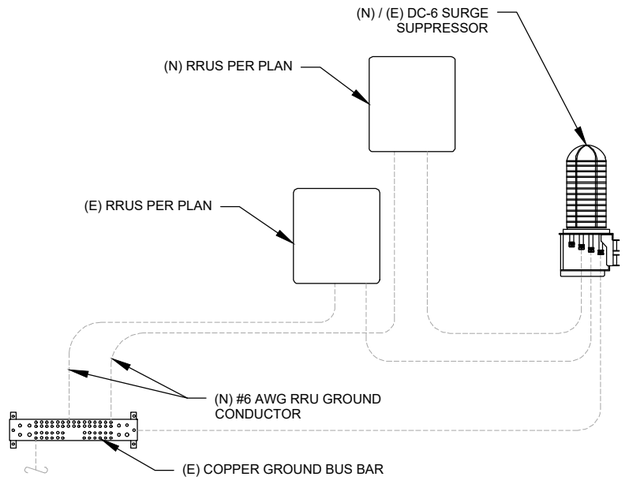


GROUND BAR NOTES

1. GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

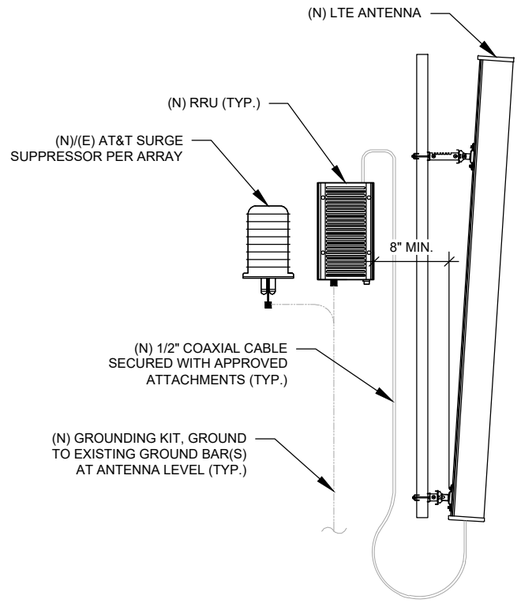
4 MAIN GROUND BAR DETAIL

SCALE: N.T.S.



5 RRU GROUNDING

SCALE: N.T.S.



6 ANTENNA/RRU GROUNDING

SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	JLK	04/26/22

ATC SITE NUMBER:
414240

ATC SITE NAME:
BYRAM PARK CT

AT&T SITE NAME:
MRCTB055124

SITE ADDRESS:
48 RITCH AVENUE WEST
GREENWICH, CT 06830

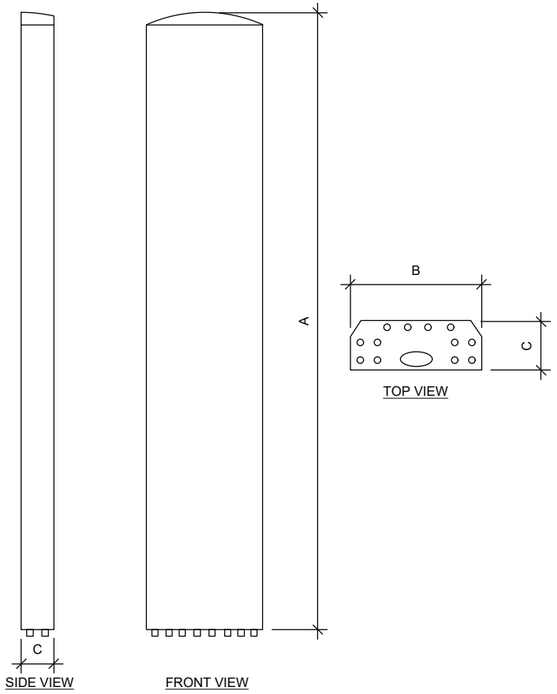
SEAL:

AT&T

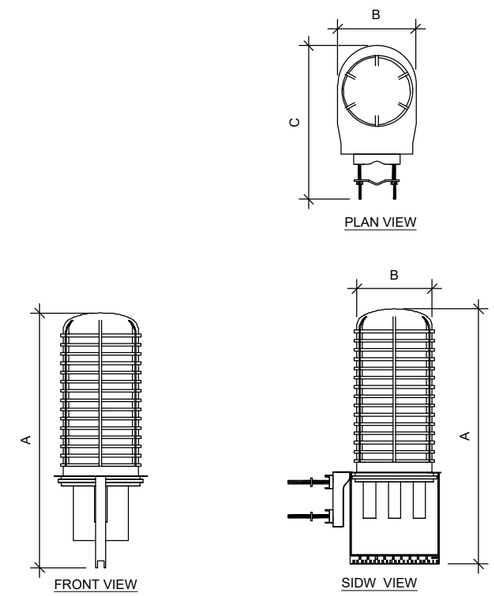
DATE DRAWN:	04/26/22
ATC JOB NO:	13755490_G5
CUSTOMER ID:	10071045
CUSTOMER #:	CTL05004

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	A



ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR 6419 B77G	28.3"	16.1"	7.9"	66.1
AIR 6449 B77D	30.4"	15.9"	8.1"	81.6
QD8616-7	96"	22"	9.6"	150.0



RAYCAP SPECIFICATIONS				
RAYCAP MODEL	A	B	C	WEIGHT (LBS)
DC9-48-60-24-8C-EV	31.4"	18.3"	10.2"	16.0

1 EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

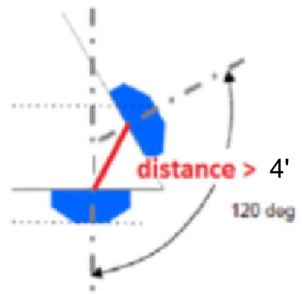
SUPPLEMENTAL

SHEET NUMBER: R-601

REVISION: -

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ❑ Horizontal separation (side to side of antenna): >= 3’
- ❑ Vertical separation (between the tips of the antennas): > 3’
- ❑ Inter-sector separation: > 4' between the center of the antenna backplanes.



- ❑ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ❑ Typical 3' horizontal separation can tolerate skew angle up to 6°.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	-

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

MOUNT ANALYSIS PENDING

1 MOUNT ANALYSIS

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-603	-

Diagram - Sector	A	Diagram File Name - CT5004_ABC_CBAND_DOD_R1.vsd					
Atoll Site Name -	CTL05004	Location Name -	GREENWICH SW	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: Important Note: For detailed radio to antenna wiring refer to the latest 4T4R Antenna/ radio Port connections Field Notice (RF-HW-2016-265)

Antenna 1
Empty

Antenna 2
LTE 700 B14 / DE / PCS /AWS

16 Port Antenna

Broadband Low 700 DE +45/-45 - +
Broadband Low 700 B14 +45/-45 - +
Broadband Low 700 B14 +45/-45 - +
Broadband Low 850 +45/-45 - +
Broadband Hi 4Tx/4Rx +45/-45 - +
Broadband Hi 4Tx/4Rx +45/-45 - +
Broadband Hi 4Tx/4Rx +45/-45 - +
Broadband Hi Tx/4Rx +45/-45 - +

RET RET RET RET RET RET RET RET

LTE RRUS-4478 700 B-14
LTE RRUS-32 B2 PCS
LTE 4426 B66 AWS

Antenna 3
DoD + C band

AIR DoD +45/-45 - +
AIR C-BAND +45/-45 - +

Antenna 4
LTE 700 BC / 850 / WCS

Broadband Octo Low 700/850 +45/-45 - +
Broadband Octo Low 700/850 +45/-45 - +
Broadband Octo High 4Tx/4Rx +45/-45 - +
Broadband Octo High 4Tx/4Rx +45/-45 - +

RET RET RET RET

LTE RRUS-4449 850/700 BC
LTE RRUS-32 WCS

Fiber/DC-1 Demarcation Box (Squid)
24/9 -- Fiber/DC Demarcation Box (Squid)
Fiber/DC-1 Demarcation Box (Squid)

LTE RRUS-E2 700 (D/E)

DC Plant

- 3 Feet Minimum Separation between ALL Antennas
- 6 Feet Minimum Separation between 700BC & 700 DE
- 12" Vertical Separation between DoD and C Band Antenna.
- Use "Y Cable" for Dual band RRHs

5216 XMU
6630
6648

IDLe
Xcede

1 RFDS PLUMBING DIAGRAM

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE AT&T CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER: R-604

REVISION: -

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Katie DeLuca - Director of Planning and Zoning

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Fred Camillo - First Selectman of Greenwich

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36 Ritch Avenue LLC - Property Owner

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American Tower Corporation - Tower Operator/Owner

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July 28, 2022

Katie DeLuca
Town Hall, 2nd floor
101 Field Point Road
Greenwich, CT 06830

Re: Exempt Modification Application – AT&T Site 13755490
AT&T Mobility Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT

Dear Ms. DeLuca:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, one (1) squid, six (6) TTAs, six (6) Coax cables, six (6) control cables, two (2) fiber trunks, and two (2) conduits;
- Install nine (9) antennas, one (1) squid, three (3) conduits, seven (7) control cables and three (3) fiber trunk cables.

This letter is intended to serve as the required notice to the municipal planning agency. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

enclosures

July 28, 2022

The Honorable Fred Camillo
Greenwich Town Hall
101 Field Point Road
Greenwich, CT 06830

Re: Exempt Modification Application – AT&T Site 13755490
AT&T Mobility Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT

Dear First Selectman Camillo:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, one (1) squid, six (6) TTAs, six (6) Coax cables, six (6) control cables, two (2) fiber trunks, and two (2) conduits;
- Install nine (9) antennas, one (1) squid, three (3) conduits, seven (7) control cables and three (3) fiber trunk cables.

This letter is intended to serve as the required notice to the municipality's chief elected official. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe the proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

enclosures

July 18, 2022

Albert T. Primo, Sr.
48 Ritch Ave.
Greenwich, CT 06830

Re: Tower Share Application – Dish Wireless Site # 13754334
Dish Wireless Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT 06830
AKA 36 Ritch Avenue West

Dear Property Owner:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, one (1) squid, six (6) TTAs, six (6) coax cables, six (6) control cables, two (2) fiber trunks, and two (2) conduits;
- Install nine (9) antennas, one (1) squid, three (3) conduits, seven (7) control cables and three (3) fiber trunk cables.

This letter is intended to serve as the required notice to the property owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe Dish's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046

July 28, 2022

Jacqueline Hall
Project Manager, Site Development
American Tower Corporation
10 Presidential Way
Woburn, MA 01801

Re: Exempt Modification Application – AT&T Site 13755490
AT&T Mobility Telecommunications Facility @ 48 Ritch Avenue West, Greenwich, CT

Dear Ms. Hall:

New Cingular Wireless, PCS, LLC (dba AT&T) currently maintains antennas on a wireless telecommunications facility on an existing American Tower Corporation (ATC) telecommunications tower at the above referenced address. AT&T desires to modify its existing equipment as described in the attached Construction Drawings:

- Remove nine (9) antennas, one (1) squid, six (6) TTAs, six (6) Coax cables, six (6) control cables, two (2) fiber trunks, and two (2) conduits;
- Install nine (9) antennas, one (1) squid, three (3) conduits, seven (7) control cables and three (3) fiber trunk cables.

This letter is intended to serve as the required notice to the tower owner. As required by Regulations of Connecticut State Agencies ("RCSA") 16-50j-73 the Connecticut Siting Council ("CSC") has been notified of this proposal and will review this application. Please accept this letter as notification pursuant to RSCA 16-50j-73.

The enclosed letter and attachments to the CSC fully describe AT&T's proposal for the site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachmann, Executive Director of the CSC at 860-972-2935.

Respectfully Submitted,

Jack Andrews
Zoning Manager, Centerline Communications
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

Enclosures

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION

CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

I, Margaret Robinson, Vice President, US Tower Legal Division on behalf of American Tower*, owner/operator of the tower facility located at the address identified below (the "Tower Facilities"), do hereby authorize AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC, its successors and assigns, to act as American Tower's non-exclusive agent for the purpose of filing and securing any zoning, land-use, building permit and/or electrical permit application(s) and approvals of the applicable jurisdiction for and to conduct the construction of the installation of antennas and related telecommunications equipment on the Tower Facility located at the above address. This installation shall not affect adjoining lands and will occur only within the area leased by American Tower.

American Tower understands that the application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by American Tower of conditions related to American Tower's installation. Any such conditions of approval or modifications will not be effective unless approved in writing by American Tower.

The above authorization does not permit AT&T MOBILITY, CENTERLINE COMMUNICATIONS LLC to modify or alter any existing permit(s) and/or zoning or land-use conditions or impose any additional conditions unrelated to American Tower's installation of telecommunications equipment without the prior written approval of American Tower.

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

ATC Asset #	Site Name	Project Number	Site Address
283420	STONEYBROOK RD CT	13682835	23 Stonybrook Road, Stratford, Connecticut
243036	WEST HAVEN & RT 162 CT	13682841	668 Jones Hill Road, West Haven, Connecticut
302479	Rkhl - Rocky Hill	13683394	699 West Street, Rocky Hill, Connecticut
302537	Middletown CT 3	13747862	47 Inwood Road, Rocky Hill, Connecticut
302535	Milford CT 2	13748383	185 Research Drive, Milford, Connecticut
302473	E H F R - Prestige Park	13748397	310 Prestige Park Road, East Hartford, Connecticut
302505	Wshn - West Haven	13748405	204 Burwell Street, West Haven, Connecticut
302489	Enfd - Enfield	13753208	77 Town Farm Road, Enfield, Connecticut
302524	Beacon Falls	13753210	664 Rimmon Hill Road, Seymour, Connecticut
310968	WSPT-WESTPORT REBUILD CT	13753216	180A Bayberry Lane, Westport, Connecticut
302526	Naugatuck (telephone Pole)	13753218	585 South Main St. (soc. Club), Naugatuck, Connecticut
310972	WATERFORD REBUILD CT	13753547	15 Miner Lane, Waterford, Connecticut
302538	Parsonage Hill Aka Wallin	13753549	922 Northrop Road, Wallingford, Connecticut
370624	Mankes Silo	13754283	1338 Highland Ave, Cheshire, Connecticut

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88017	SHELTON-TRUMBULL	13755484	14 OXFORD DRIVE/BOOTH HILL RD, Shelton, Connecticut
414240	Byram Park CT	13755490	48 RITCH AVENUE WEST, Greenwich, Connecticut
283423	NAUGATUCK CT	13755758	880 Andrew Mountain Road, Naugatuck, Connecticut
302480	Woodbridge CT 1	13756843	77 Pease Road, Woodbridge, Connecticut
411183	WATERFORD CT	13756866	53 Dayton Rd. Waterford, Connecticut
302540	Madison CT 6	13757740	8 Old 79, Madison, Connecticut
411259	CT Collinsville CAC 802816 CT	13757764	650 Albany Turnpike, Collinsville, Connecticut
411256	CANTON CT	13757774	14 CANTON SPRINGS ROAD, Canton, Connecticut
302493	Nrwc - Norwich	13757776	225 Rogers Road, Norwich, Connecticut
302476	Wtbr - Waterbury	13757794	352 Garden Circle, Waterbury, Connecticut
302475	Sttn - Southington	13757796	80 Shuttle Meadow Road, Southington, Connecticut
302494	Hddm - Haddam	13757798	139 Morris Hubbard Rd, Higganum, Connecticut
283419	PINE ORCHARD BRANFORD CT	13757800	123 Pine Orchard Road, Brrandford, Connecticut
302482	North Havent CT 1	13757802	15 Dewight Street, North Haven, Connecticut
302485	Mdfd - Middlefield	13757806	134 Kikapoo Road, Middlefield, Connecticut
302500	Brst - Bristol	13757810	790 Willis Street, Bristol, Connecticut
302467	Bilkays Express	13757812	90 North Plains Industrial Rd. Wallingford, Connecticut
302536	Cherry Hill-branford	13759895	4 Beaver Road, Brandford, Connecticut
302482	North Havent CT 1	14050356	15 Dewight Street, North Haven, Connecticut
311305	GLFD-GUILFORD REBUILD CT	14050358	10 Tanner Marsh Road, Guilford, Connecticut
411261	CROMWELLSW CT	14089799	99 Christian Hill Road, Cromwell, Connecticut
302481	Hrfr - South	14090117	289 Mountain Street, Hartford, Connecticut

Signature: _____

Margaret Robinson, Vice President
US Tower Legal Division

See attached Notary Block

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LETTER OF AUTHORIZATION
CENTERLINE COMMUNICATIONS LLC/ AT&T MOBILITY

NOTARY BLOCK

COMMONWEALTH OF MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal of American Tower (Tower Facility owner), personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same.

WITNESS my hand and official seal, this 30th day of June, 2022.

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public
My Commission Expires: March 14, 2025