

MJ Umali, Site Acquisition Consultant  
c/o Cellco Partnership d/b/a Verizon Wireless  
Centerline Communications, LLC  
750 West Center Street, Floor 3  
West Bridgewater, MA 02379  
Mobile: (978) 568-7906  
[MUmali@centerlinecommunications.com](mailto:MUmali@centerlinecommunications.com)

September 21, 2021

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

**RE: Notice of Exempt Modification // Site: NEW FAIRFIELD (ATC: 88014)  
18 Titicus Mountain Road, New Fairfield, CT, 06812  
N 41.4507 // W 73.5159**

Dear Ms. Bachman,

Cellco Partnership d/b/a Verizon Wireless currently maintains 12 antennas at the 146-ft level on the existing 187.5-foot monopole tower, located at 18 Titicus Mountain Road, New Fairfield, CT. The tower is owned by American Tower. The property is also owned by American Tower. The Council approved Verizon Wireless use of the existing tower in 2001. Verizon Wireless now intends to remove 12 antennas and install 9 new ones for the LTE (3700 MHz) replacements for its 5G upgrade. Additionally, Verizon Wireless will remove 6 Remote Radio Heads (RRHs) and install with 6 new RRHs, install 2 Diplexers; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Patricia Del Monaco, First Selectman of New Fairfield, its Zoning Enforcement Officer, Evan White, and American Tower, the tower owner and the property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated August 5, 2021, by Colliers Engineering & Design., a structural analysis dated June 17, 2021, by A.T. Engineering, PLLC., and a structural mount analysis by Maser Consulting Connecticut date July 9, 2021, and radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis by A.T. Engineering, PLLC, dated June 17, 2021, and a structural mount analysis by Maser Consulting Connecticut, dated July 9, 2021, pursuant to certain conditions defined therein. Design and engineering is fully illustrated within final construction drawings, signed and stamped dated August 8, 2021.

For the foregoing reasons, Verizon Wireless respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

*MJ Umali*

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Attachments

cc: Patricia Del Monaco, First Selectman of New Fairfield – Chief Elected Official  
Evan White, Zoning Enforcement Officer - as P&Z official  
American Tower Corporation - as tower owner and ground owner

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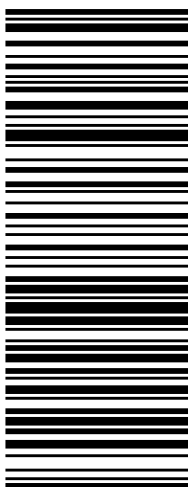

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<p style="text-align: right;"><b>1 OF 1</b></p> <p style="text-align: center;"><b>1 LBS</b></p> <p>MJUMALT        9785687906        CENTERLINE COMMUNICATIONS, LLC        750 WEST CENTER STREET        WEST BRIDGEWATER MA 02379</p> <p><b>SHIP TO:</b>        TOWN OF NEW FAIRFIELD        PATRICIA DEL MONACO AND EVAN WHITE        4 BRUSH HILL ROAD        SELECTMANS OFFICE AND ZONING        NEW FAIRFIELD CT 06812-2619</p>	<p style="font-size: 2em;"><b>CT 068 0-01</b></p> 	<p style="font-size: 1.5em;"><b>UPS GROUND</b></p> <p>TRACKING #: 1Z 9Y4 503 03 3461 8659</p> 	<p style="text-align: center;"><b>BILLING: P/P</b></p> <p style="text-align: center;">  </p> <p>Reference # 1: 88014  <small>C522.0.18.</small>        Reference # 2: New Fairfield  <small>WNTNV50 33.DA 08/2021*</small></p>
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Your shipment from



## CENTERLINE SITE ACQUISITION

Estimated delivery

**Tuesday, September 28 between 9:30 A.M. - 12:30 P.M.**



Label Created



Shipped



**Out for Delivery**



Delivery

### Ship To

PATRICIA DEL MONACO AND EVAN WHITE  
TOWN OF NEW FAIRFIELD  
SELECTMANS OFFICE AND ZONING  
4 BRUSH HILL ROAD  
NEW FAIRFIELD, CT 068122619 US

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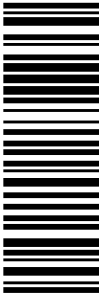
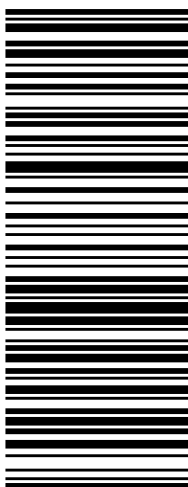
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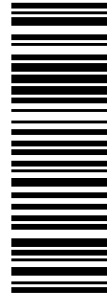
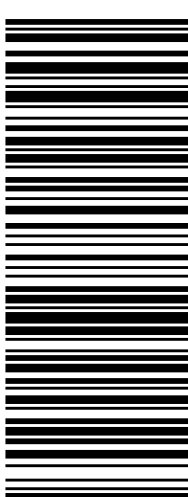

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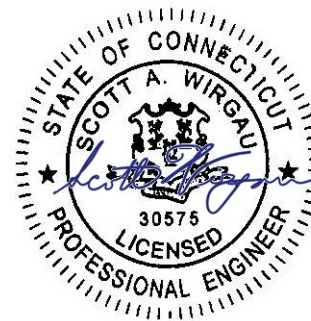


**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 187.5 ft Self Supported Tower  
**ATC Site Name** : New Fairfield, CT  
**ATC Asset Number** : 88014  
**Engineering Number** : 13685309\_C3\_02  
**Proposed Carrier** : VERIZON WIRELESS  
**Carrier Site Name** : NEW FAIRFIELD  
**Carrier Site Number** : 467860  
**Site Location** : 22 Titicus Mtn Road  
New Fairfield, CT 06812-2565  
41.450700, -73.516000  
**County** : Fairfield  
**Date** : June 17, 2021  
**Max Usage** : 70%  
**Result** : Pass



Prepared By:  
Lucas Santos  
Structural Engineer

Reviewed By:

*Lucas Santos*

COA: PEC.0001553



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## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 187.5 ft self supported tower to reflect the change in loading by VERIZON WIRELESS.

## Supporting Documents

<b>Tower Drawings</b>	Analysis by CSEI, ATC Eng. #26464321, dated August 21, 2006.
<b>Foundation Drawing</b>	Mapping By Geotel Report #E08-291-F, dated May 19, 2008
<b>Geotechnical Report</b>	Geotel Report #E08-291-G, dated May 19, 2008

## 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.

<b>Basic Wind Speed:</b>	115 mph (3-Second Gust)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
<b>Exposure Category:</b>	B
<b>Risk Category:</b>	II
<b>Topographic Factor Procedure:</b>	Method 1
<b>Topographic Category:</b>	1
<b>Spectral Response:</b>	$S_s = 0.22, S_1 = 0.06$
<b>Site Class:</b>	D - Stiff Soil

## 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](mailto: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. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
193.0	1	RFS SC2-W100AB	Square Platform	(1) 1 5/8" (1.63"-41.3mm) Fiber (12) 1 5/8" Coax (1) 1/4" Coax (1) 1 1/4" (1.25"-31.8mm) Fiber	T-MOBILE
	3	Ericsson RRUS 11 B12			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Ericsson KRY 112 144/1			
191.0	3	Commscope LNX-6515DS-VTM			
170.3	-	-	Catwalk	-	-
168.0	3	Alcatel-Lucent ALU 800MHz External Notch Filter	Sector Frame	(1) 1 1/4" (1.25"-31.8mm) Fiber (3) 1 1/4" Hybriflex Cable	SPRINT NEXTEL
167.0	3	RFS APXV9TM14-ALU-I20*			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 4x40W RRH (91 lb)			
	3	Alcatel-Lucent 2X50W RRH w/o Filter			
3	RFS APXVSP18-C-A20				
160.0	1	Raycap DC6-48-60-18-8F	Sector Frame	(1) 0.28" (7mm) Fiber (2) 0.74" (18.7mm) 8 AWG 7 (1) 3" conduit	AT&T MOBILITY
	3	Ericsson RRUS 32 B2			
155.0	3	Allgon 7770.00	Sector Frame	(6) 1 5/8" Coax	
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
	6	Powerwave Allgon LGP21401			
	3	CCI HPA-65R-BUU-H6			
146.0	4	Antel LPA-80063/4CF	Sector Frame	(6) 1 5/8" Coax	VERIZON WIRELESS
	2	Antel LPA-80080/4CF ____			
137.5	-	-	Empty Side Arm	-	
	-	-	Rest Platform	-	
120.0	-	-	Empty Side Arm	-	
112.5	-	-	Empty Side Arm	-	
100.0	-	-	Platform	-	
87.5	-	-	Rest Platform	-	
80.0	1	Andrew DB616E-BC	Side Arm	(1) 7/8" Coax	
64.0	1	Generic Dish Reserve	Leg	-	ATC RESERVED
50.0	-	-	Rest Platform	-	
33.3	-	-	-	Coax Cage	

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
146.0	6	RFS FD9R6004/2C-3L	-	(2) 1 5/8" (1.63"-41.3mm) Fiber (4) 1 5/8" Coax	VERIZON WIRELESS
	3	Alcatel-Lucent B13 RRH4x30-4R 700U			
	6	Commscope SBNHH-1D65B			
	2	Andrew RC2DC-3315-PF-48			
	3	Alcatel-Lucent B66 RRH4x45			



**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Equipment	Mount Type	Lines	Carrier
146.0	3	Samsung B2/B66A RRH-BR049	Sector Frame	(2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung B5/B13 RRH-BR04C			
	1	Raycap RCMD-6627-PF-48			
	3	Samsung MT6407-77A			
	6	JMA Wireless MX06FRO660-03			

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing VERIZON WIRELESS lines.



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	44%	Pass
Diagonals	70%	Pass
Horizontals	34%	Pass
Anchor Bolts	50%	Pass

**Foundations**

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	154.2	57%
Axial (Kips)	212.4	25%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

**Deflection, Twist and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)	
193.0	RFS SC2-W100AB	T-MOBILE	0.099	0.004	0.047	
146.0	JMA Wireless MX06FRO660-03	VERIZON WIRELESS	0.069		0.004	0.044
	Raycap RCMDC-6627-PF-48					
	Samsung B2/B66A RRH-BR049					
	Samsung B5/B13 RRH-BR04C					
	Samsung MT6407-77A					

\*Deflection, Twist 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.

Quadrant 1

187.50

Sect 12  
178.92

Sect 11  
170.33

Sect 10  
160.17

Sect 9  
150.00

Sect 8  
137.50

Sect 7  
125.00

Sect 6  
112.50

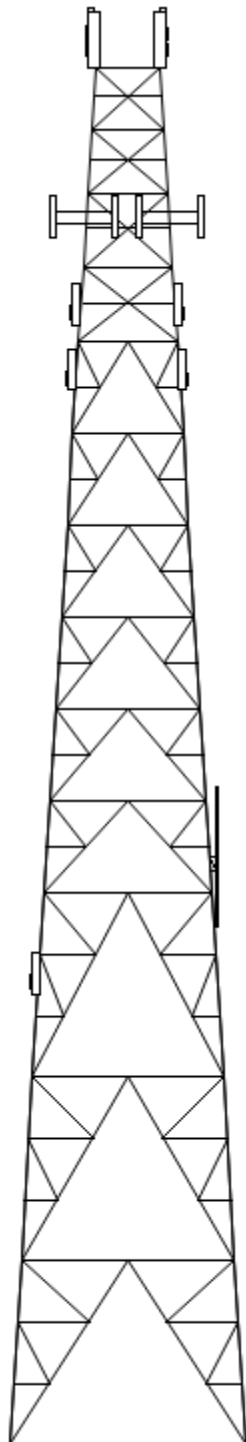
Sect 5  
87.50

Sect 4  
75.00

Sect 3  
50.00

Sect 2  
25.00

Sect 1



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Loads: 115 mph no ice  
50 mph w/ 1" radial ice  
Site Class: D Ss: 0.22 S1: 0.06  
60 mph Serviceability

### Job Information

<b>Client : VERIZON WIRELESS</b>			
<b>Tower : 88014</b>	<b>Location : New Fairfield, CT</b>	<b>Base Width : 32.45 ft</b>	
<b>Code : ANSI/TIA-222-H</b>	<b>Topo Method: Method 1</b>	<b>Top Width : 9.00 ft</b>	
<b>Risk Cat : II</b>	<b>Topo: 1</b>	<b>Tower Ht : 187.50 ft</b>	
	<b>Exposure : B</b>	<b>Shape : Square</b>	

### Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	SAE 36 ksi 8X8X0.875	DAS 36 ksi 3.5X3X0.25	DAL 36 ksi 3X2.5X0.25
2	SAE 36 ksi 8X8X0.75	DAS 36 ksi 3X2.5X0.25	DAL 36 ksi 3X2.5X0.25
3	SAE 36 ksi 8X8X0.75	DAS 36 ksi 3X2.5X0.25	DAE 36 ksi 2.5X2.5X0.25
4	SAE 36 ksi 6X6X0.875	DAE 36 ksi 2.5X2.5X0.25	DAE 36 ksi 2.5X2.5X0.25
5	SAE 36 ksi 6X6X0.75	DAE 36 ksi 2.5X2.5X0.25	DAE 36 ksi 2.5X2.5X0.25
6 - 7	SAE 36 ksi 6X6X0.5625	DAL 36 ksi 2.5X2X0.25	DAE 36 ksi 2.5X2.5X0.25
8	SAE 36 ksi 6X6X0.4375	DAL 36 ksi 2.5X2X0.25	DAE 36 ksi 2.5X2.5X0.25
9	SAE 36 ksi 5X5X0.4375	SAE 36 ksi 3.5X3.5X0.25	SAU 36 ksi 3X2.5X0.25
10	SAE 36 ksi 5X5X0.4375	SAE 36 ksi 3.5X3.5X0.25	DAL 36 ksi 3X2.5X0.25
11	SAE 36 ksi 5X5X0.3125	SAE 36 ksi 3X3X0.25	SAU 36 ksi 3X2.5X0.25
12	SAE 36 ksi 5X5X0.3125	SAE 36 ksi 3X3X0.25	CHN 36 ksi C8 x 11.5

### Redundant Secondary Bracing

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 3	D2.5X2X0.1875	S2.5X2.5X0.1875	D2.5X2X0.1875	S2.5X2.5X0.1875	-	-
4 - 8	D2.5X2X0.1875	S2.5X2.5X0.1875	-	-	-	-
9 - 12	-	S2X2X0.25	-	-	-	-

### Discrete Appurtenance

Elev (ft)	Type	Qty	Description
193.00	Panel	3	Ericsson AIR 21, 1.3M, B4A B2P
193.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
193.00	Dish	1	RFS SC2-W100AB
193.00		3	Ericsson RRUS 11 B12
193.00		3	Ericsson KRY 112 144/1
191.00	Panel	3	Commscope LNX-6515DS-VTM
187.50	Straight Arm	6	Pipe Mount
187.50	Platform	1	Platform
170.30	Platform	1	Catwalk
168.00		3	Alcatel-Lucent ALU 800MHz Exte
167.00	Mounting Frame	3	Generic Flat Light Sector Fram
167.00	Panel	3	RFS APXVSP18-C-A20
167.00	Panel	3	RFS APXV9TM14-ALU-I20*
167.00		3	Alcatel-Lucent TD-RRH8x20-25 w
167.00		3	Alcatel-Lucent 4x40W RRH (91 I
167.00		3	Alcatel-Lucent 2X50W RRH w/o F
160.00	Mounting Frame	3	Generic Flat Light Sector Fram
160.00		3	Ericsson RRUS 32 B2
160.00		1	Raycap DC6-48-60-18-8F
155.00	Panel	3	CCI HPA-65R-BUU-H6
155.00	Panel	3	Allgon 7770.00
155.00		3	Ericsson RRUS 11 (Band 12) (55
155.00		6	Powerwave Allgon LGP21401
146.00	Panel	6	JMA Wireless MX06FRO660-03
146.00	Panel	4	Antel LPA-80063/4CF
146.00	Panel	3	Samsung MT6407-77A
146.00		1	Raycap RCMD-6627-PF-48
146.00	Panel	2	Antel LPA-80080/4CF
146.00		3	Samsung B2/B66A RRH-BR049
146.00		3	Samsung B5/B13 RRH-BR04C
145.00	Mounting Frame	3	Generic Flat Light Sector Fram
137.50	Mounting Frame	1	Rest Platform
137.50	Straight Arm	1	Flat Side Arm
120.00	Straight Arm	1	Flat Side Arm

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Job Information		
Client : VERIZON WIRELESS		
Tower : 88014	Location : New Fairfield, CT	Base Width : 32.45 ft
Code : ANSI/TIA-222-H	Topo Method: Method 1	Top Width : 9.00 ft
Risk Cat : II	Topo: 1	Tower Ht : 187.50 ft
	Exposure : B	Shape : Square

112.50	Straight Arm	1	Flat Side Arm
100.00	Straight Arm	1	Flat Side Arm
100.00	Platform	1	Platform
87.50	Mounting Frame	1	Rest Platform
82.00	Straight Arm	1	Generic Round Side Arm
80.00	Whip	1	Andrew DB616E-BC
64.00	Panel	1	Generic Dish Reserve
50.00	Mounting Frame	1	Rest Platform

### Linear Appurtenance

Elev (ft)			
From	To	Qty	Description
10.00	193.00	1	1/4" Coax
10.00	193.00	12	1 5/8" Coax
0.00	193.00	1	1 5/8" (1.63"-41.3mm
0.00	192.00	1	1 1/4" (1.25"- 31.8m
0.00	187.50	1	Waveguide
0.00	187.50	1	Climbing Ladder
0.00	182.00	1	Waveguide
0.00	176.00	1	Waveguide
10.00	167.00	3	1 1/4" Hybriflex Cab
0.00	167.00	1	1 1/4" (1.25"- 31.8m
10.00	160.00	1	3" conduit
10.00	160.00	2	0.74" (18.7mm) 8 AWG
10.00	160.00	1	0.28" (7mm) Fiber
0.00	160.00	1	Waveguide
10.00	155.00	6	1 5/8" Coax
10.00	146.00	6	1 5/8" Coax
0.00	146.00	2	1 5/8" Hybriflex
0.00	145.00	1	Waveguide
10.00	80.00	1	7/8" Coax
8.30	33.30	4	Coax Cage

### Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	8,223.24	132.60	72.95
DL + WL + IL	2,436.30	234.74	22.03

### Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
212.40	154.21	29.48

Site Number: 88014

Code:

ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

6/16/2021 3:30:39 PM

Customer: VERIZON WIRELESS

### Analysis Parameters

Location:	Fairfield County, CT	Height (ft):	187.5
Code:	ANSI/TIA-222-H	Base Elevation (ft):	0.00
Shape:	Square	Bottom Face Width (ft):	32.45
Tower Manufacturer:	AT&T TAG	Top Face Width (ft):	9.00
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:	0.85		
Ke:	0.97		

### Ice & Wind Parameters

Exposure Category:	B	Design Windspeed Without Ice:	115 mph
Risk Category:	II	Design Windspeed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	895.00 ft

### Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.66		
$T_L$ (sec):	6	p:	1.3
$S_S$ :	0.224	$S_1$ :	0.056
$F_a$ :	1.600	$F_v$ :	2.400
$S_{ds}$ :	0.239	$S_{d1}$ :	0.090
		$C_s$ :	0.045
		$C_s, Max$ :	0.045
		$C_s, Min$ :	0.030

### Load Cases

1.2D + 1.0W Normal	115 mph Normal with No Ice
1.2D + 1.0W 45 deg	115 mph 45 degree with No Ice
0.9D + 1.0W Normal	115 mph Normal with No Ice (Reduced DL)
0.9D + 1.0W 45 deg	115 mph 45 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 1.00 in Radial Ice
1.2D + 1.0Di + 1.0Wi 45 deg	50 mph 45 deg with 1.00 in Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic Normal
1.2D + 1.0Ev + 1.0Eh 45 deg	Seismic 45 deg
0.9D - 1.0Ev + 1.0Eh Normal	Seismic (Reduced DL) Normal
0.9D - 1.0Ev + 1.0Eh 45 deg	Seismic (Reduced DL) 45 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 45 deg	Serviceability - 60 mph Wind 45 deg



### Tower Loading

#### Discrete Appurtenance Properties 1.2D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
193.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	33.22	291	299
193.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	33.22	289	293
193.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	33.22	12	40
193.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	33.22	127	183
193.0	RFS SC2-W100AB	1	22	4.8	2.2	26.4	11.5	0.80	1.00	0.0	0.0	33.22	108	26
191.0	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	33.12	541	181
187.5	Pipe Mount	6	150	3.3	6.0	6.0	6.0	1.00	1.00	0.0	0.0	32.95	555	1080
187.5	Platform	1	8000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.95	1960	9600
170.3	Catwalk	1	6500	55.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.06	1499	7800
168.0	Alcatel-Lucent ALU	3	9	0.7	0.8	8.0	3.0	1.00	0.50	0.0	0.0	31.93	27	32
167.0	Alcatel-Lucent	3	53	2.1	1.6	13.0	8.6	1.00	0.67	1.0	112.3	31.93	112	191
167.0	Alcatel-Lucent	3	91	3.3	1.9	13.0	17.3	0.80	0.67	0.0	0.0	31.88	143	328
167.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	1.00	0.67	0.0	0.0	31.88	220	252
167.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.88	818	1440
167.0	RFS APXV9TM14-	3	55	6.3	4.7	12.6	6.3	1.00	0.66	0.0	0.0	31.88	340	198
167.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	31.88	360	205
160.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	31.49	118	191
160.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.49	808	1440
160.0	Raycap DC6-48-60-	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	31.49	27	24
155.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	31.20	228	126
155.0	CCI HPA-65R-BUU-H6	3	51	9.7	6.0	14.8	9.0	0.80	0.69	0.0	0.0	31.20	424	184
155.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	31.20	108	198
155.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	31.20	70	102
146.0	Antel LPA-80063/4CF	4	20	6.1	4.0	15.2	13.2	0.80	0.76	0.0	0.0	30.68	389	96
146.0	Antel LPA-80080/4CF	2	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	30.68	144	29
146.0	JMA Wireless	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	30.68	877	432
146.0	Raycap RCMDC-	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.0	30.68	85	38
146.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	30.68	59	304
146.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	30.68	59	253
146.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	30.68	180	294
145.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.62	702	1440
137.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.15	161	180
137.5	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.15	384	600
120.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.00	155	180
112.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.47	152	180
100.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.53	147	180
100.0	Platform	1	5500	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.53	1053	6600
87.50	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.50	338	600
82.00	Generic Round Side	1	188	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	26.01	77	225
80.00	Andrew DB616E-BC	1	51	6.7	19.3	3.5	3.5	1.00	1.00	0.0	0.0	25.83	148	61
64.00	Generic Dish	1	1835	70.0	6.0	0.0	0.0	0.80	1.00	0.0	0.0	24.24	1154	2202
50.00	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.59	288	600
Totals		103	32421	854.5									15740	38905

#### Discrete Appurtenance Properties 0.9D + 1.0W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
193.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	33.22	291	224
193.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	33.22	289	220
193.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	33.22	12	30
193.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	33.22	127	137

Tower Loading

193.0	RFS SC2-W100AB	1	22	4.8	2.2	26.4	11.5	0.80	1.00	0.0	0.0	33.22	108	20
191.0	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	33.12	541	136
187.5	Pipe Mount	6	150	3.3	6.0	6.0	6.0	1.00	1.00	0.0	0.0	32.95	555	810
187.5	Platform	1	8000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.95	1960	7200
170.3	Catwalk	1	6500	55.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.06	1499	5850
168.0	Alcatel-Lucent ALU	3	9	0.7	0.8	8.0	3.0	1.00	0.50	0.0	0.0	31.93	27	24
167.0	Alcatel-Lucent	3	53	2.1	1.6	13.0	8.6	1.00	0.67	1.0	112.3	31.93	112	143
167.0	Alcatel-Lucent	3	91	3.3	1.9	13.0	17.3	0.80	0.67	0.0	0.0	31.88	143	246
167.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	1.00	0.67	0.0	0.0	31.88	220	189
167.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.88	818	1080
167.0	RFS APXV9TM14-	3	55	6.3	4.7	12.6	6.3	1.00	0.66	0.0	0.0	31.88	340	149
167.0	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	31.88	360	154
160.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	31.49	118	143
160.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.49	808	1080
160.0	Raycap DC6-48-60-	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	31.49	27	18
155.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	31.20	228	95
155.0	CCI HPA-65R-BUU-H6	3	51	9.7	6.0	14.8	9.0	0.80	0.69	0.0	0.0	31.20	424	138
155.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	31.20	108	149
155.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	31.20	70	76
146.0	Antel LPA-80063/4CF	4	20	6.1	4.0	15.2	13.2	0.80	0.76	0.0	0.0	30.68	389	72
146.0	Antel LPA-80080/4CF	2	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	30.68	144	22
146.0	JMA Wireless	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	30.68	877	324
146.0	Raycap RCMDC-	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.0	30.68	85	29
146.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	30.68	59	228
146.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	30.68	59	190
146.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	30.68	180	220
145.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.62	702	1080
137.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.15	161	135
137.5	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.15	384	450
120.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.00	155	135
112.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.47	152	135
100.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.53	147	135
100.0	Platform	1	5500	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.53	1053	4950
87.50	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.50	338	450
82.00	Generic Round Side	1	188	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	26.01	77	169
80.00	Andrew DB616E-BC	1	51	6.7	19.3	3.5	3.5	1.00	1.00	0.0	0.0	25.83	148	46
64.00	Generic Dish	1	1835	70.0	6.0	0.0	0.0	0.80	1.00	0.0	0.0	24.24	1154	1652
50.00	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	22.59	288	450
Totals		103	32421	854.5								15740	29179	

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
193.0	Ericsson AIR 21, 1.3	3	182	7.5	4.7	12.0	8.0	0.80	0.71	0.0	0.0	6.28	68	597
193.0	Ericsson AIR 21,	3	181	7.6	4.7	12.1	7.9	0.80	0.70	0.0	0.0	6.28	68	591
193.0	Ericsson KRY 112	3	18	0.6	0.6	6.1	2.7	0.80	0.50	0.0	0.0	6.28	4	62
193.0	Ericsson RRUS 11	3	100	3.5	1.6	17.0	7.2	0.80	0.67	0.0	0.0	6.28	30	331
193.0	RFS SC2-W100AB	1	85	5.7	2.2	26.4	11.5	0.80	1.00	0.0	0.0	6.28	24	90
191.0	Commscope LNX-	3	207	13.6	8.0	11.9	7.1	0.80	0.70	0.0	0.0	6.26	122	650
187.5	Pipe Mount	6	328	4.9	6.0	6.0	6.0	1.00	1.00	0.0	0.0	6.23	155	2148
187.5	Platform	1	11912	90.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.23	481	13512
170.3	Catwalk	1	9616	73.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.06	378	10916
168.0	Alcatel-Lucent ALU	3	21	1.0	0.8	8.0	3.0	1.00	0.50	0.0	0.0	6.04	8	67
167.0	Alcatel-Lucent	3	96	2.7	1.6	13.0	8.6	1.00	0.67	1.0	27.9	6.04	28	320
167.0	Alcatel-Lucent	3	165	4.1	1.9	13.0	17.3	0.80	0.67	0.0	0.0	6.03	34	549

Site Number: 88014

Code:

ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Tower Loading

167.0	Alcatel-Lucent TD-	3	134	4.9	2.2	18.6	6.7	1.00	0.67	0.0	0.0	6.03	51	443
167.0	Generic Flat Light	3	603	28.1	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.03	243	2049
167.0	RFS APXV9TM14-	3	148	7.8	4.7	12.6	6.3	1.00	0.66	0.0	0.0	6.03	79	477
167.0	RFS APXVSP18-C-	3	173	9.9	6.0	11.8	7.0	0.80	0.69	0.0	0.0	6.03	84	554
160.0	Ericsson RRUS 32 B2	3	102	3.5	2.3	12.1	7.0	0.80	0.67	0.0	0.0	5.95	29	339
160.0	Generic Flat Light	3	602	28.0	0.0	0.0	0.0	0.75	0.75	0.0	0.0	5.95	239	2045
160.0	Raycap DC6-48-60-	1	55	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.0	5.95	7	59
155.0	Allgon 7770.00	3	118	6.2	4.6	11.0	5.0	0.80	0.65	0.0	0.0	5.90	48	375
155.0	CCI HPA-65R-BUU-H6	3	197	11.5	6.0	14.8	9.0	0.80	0.69	0.0	0.0	5.90	96	621
155.0	Ericsson RRUS 11	3	100	3.2	1.5	17.0	7.2	0.80	0.67	0.0	0.0	5.90	26	332
155.0	Powerwave Allgon	6	31	1.6	1.2	9.2	2.6	0.80	0.50	0.0	0.0	5.90	19	201
146.0	Antel LPA-80063/4CF	4	150	6.8	4.0	15.2	13.2	0.80	0.76	0.0	0.0	5.80	82	615
146.0	Antel LPA-80080/4CF	2	96	3.2	3.9	5.5	13.2	0.80	0.64	0.0	0.0	5.80	16	196
146.0	JMA Wireless	6	219	11.7	5.9	15.4	10.7	0.80	0.71	0.0	0.0	5.80	196	1389
146.0	Raycap RCMDC-	1	117	5.0	2.5	16.5	12.6	0.80	1.00	0.0	0.0	5.80	20	123
146.0	Samsung B2/B66A	3	127	2.5	1.3	15.0	10.0	0.80	0.50	0.0	0.0	5.80	15	431
146.0	Samsung B5/B13	3	108	2.5	1.3	15.0	8.1	0.80	0.50	0.0	0.0	5.80	15	367
146.0	Samsung MT6407-	3	149	5.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	5.80	41	497
145.0	Generic Flat Light	3	600	27.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	5.79	207	2041
137.5	Flat Side Arm	1	198	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.70	38	228
137.5	Rest Platform	1	748	23.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.70	113	848
120.0	Flat Side Arm	1	198	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.48	37	228
112.5	Flat Side Arm	1	197	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.38	36	227
100.0	Flat Side Arm	1	197	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.20	35	227
100.0	Platform	1	8007	59.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.20	262	9107
87.50	Rest Platform	1	736	22.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	5.01	98	836
82.00	Generic Round Side	1	245	6.9	0.0	0.0	0.0	1.00	0.67	0.0	0.0	4.92	19	282
80.00	Andrew DB616E-BC	1	152	10.9	19.3	3.5	3.5	1.00	1.00	0.0	0.0	4.88	45	163
64.00	Generic Dish	1	7077	174.5	6.0	0.0	0.0	0.80	1.00	0.0	0.0	4.58	544	7444
50.00	Rest Platform	1	719	22.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.27	81	819
	Totals	103	56912	1218.4									4221	63396

### Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
193.0	Ericsson AIR 21, 1.3	3	83	6.0	4.7	12.0	8.0	0.80	0.71	0.0	0.0	9.04	79	249
193.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	9.04	79	245
193.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	9.04	3	33
193.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	9.04	34	152
193.0	RFS SC2-W100AB	1	22	4.8	2.2	26.4	11.5	0.80	1.00	0.0	0.0	9.04	29	22
191.0	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	9.02	147	151
187.5	Pipe Mount	6	150	3.3	6.0	6.0	6.0	1.00	1.00	0.0	0.0	8.97	151	900
187.5	Platform	1	8000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.97	534	8000
170.3	Catwalk	1	6500	55.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.73	408	6500
168.0	Alcatel-Lucent ALU	3	9	0.7	0.8	8.0	3.0	1.00	0.50	0.0	0.0	8.69	7	26
167.0	Alcatel-Lucent	3	53	2.1	1.6	13.0	8.6	1.00	0.67	1.0	30.6	8.69	31	159
167.0	Alcatel-Lucent	3	91	3.3	1.9	13.0	17.3	0.80	0.67	0.0	0.0	8.68	39	273
167.0	Alcatel-Lucent TD-	3	70	4.0	2.2	18.6	6.7	1.00	0.67	0.0	0.0	8.68	60	210
167.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.68	223	1200
167.0	RFS APXV9TM14-	3	55	6.3	4.7	12.6	6.3	1.00	0.66	0.0	0.0	8.68	93	165
167.0	RFS APXVSP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	8.68	98	171
160.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	8.57	32	159
160.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.57	220	1200
160.0	Raycap DC6-48-60-	1	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	8.57	7	20
155.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	8.49	62	105

Site Number: 88014

Code: ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Tower Loading

155.0	CCI HPA-65R-BUU-H6	3	51	9.7	6.0	14.8	9.0	0.80	0.69	0.0	0.0	8.49	115	153
155.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.67	0.0	0.0	8.49	29	165
155.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	8.49	19	85
146.0	Antel LPA-80063/4CF	4	20	6.1	4.0	15.2	13.2	0.80	0.76	0.0	0.0	8.35	106	80
146.0	Antel LPA-80080/4CF	2	12	5.4	3.9	5.5	13.2	0.80	0.64	0.0	0.0	8.35	39	24
146.0	JMA Wireless	6	60	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	8.35	239	360
146.0	Raycap RCMD-	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.0	8.35	23	32
146.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	8.35	16	253
146.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	8.35	16	211
146.0	Samsung MT6407-	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.0	8.35	49	245
145.0	Generic Flat Light	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.33	191	1200
137.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.21	44	150
137.5	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.21	105	500
120.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.90	42	150
112.5	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.75	42	150
100.0	Flat Side Arm	1	150	6.3	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.49	40	150
100.0	Platform	1	5500	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.49	287	5500
87.50	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.21	92	500
82.00	Generic Round Side	1	188	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.08	21	188
80.00	Andrew DB616E-BC	1	51	6.7	19.3	3.5	3.5	1.00	1.00	0.0	0.0	7.03	40	51
64.00	Generic Dish	1	1835	70.0	6.0	0.0	0.0	0.80	1.00	0.0	0.0	6.60	314	1835
50.00	Rest Platform	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.15	78	500
	Totals	103	32421	854.5									4285	32421

Site Number: 88014

Code:

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Tower Loading

#### Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	193.0	1 5/8" (1.63"-	1	1.63	1.61	100	None	Individual	0.00	N	1.00	1.00	0.00
10.00	193.0	1 5/8" Coax	12	1.98	0.82	75	3	Block	0.00	N	0.50	1.00	0.00
10.00	193.0	1/4" Coax	1	0.34	0.06	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	192.0	1 1/4" (1.25"-	1	1.25	1.05	100	None	Individual	0.00	N	1.00	1.00	0.00
0.00	187.5	Climbing Ladder	1	2.00	6.90	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	187.5	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
0.00	182.0	Waveguide	1	2.00	6.00	100	4	Individual	0.00	N	1.00	1.00	0.00
0.00	176.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	167.0	1 1/4" (1.25"-	1	1.25	1.05	100	None	Individual	0.00	N	1.00	1.00	0.00
10.00	167.0	1 1/4" Hybriflex	3	1.54	1.00	100	4	Individual	0.00	N	1.00	1.00	0.00
0.00	160.0	Waveguide	1	2.00	6.00	100	3	Individual	0.00	N	1.00	1.00	0.00
10.00	160.0	0.28" (7mm) Fiber	1	0.28	0.04	100	3	Individual	0.00	N	1.00	1.00	0.01
10.00	160.0	0.74" (18.7mm) 8	2	0.74	0.49	100	3	Individual	0.00	N	1.00	1.00	0.01
10.00	160.0	3" conduit	1	3.50	7.58	100	3	Individual	0.00	N	1.00	1.00	0.00
10.00	155.0	1 5/8" Coax	6	1.98	0.82	100	3	Individual	0.00	N	0.00	1.00	0.00
0.00	146.0	1 5/8" Hybriflex	2	1.98	1.30	100	None	Individual	0.00	N	1.00	1.00	0.00
10.00	146.0	1 5/8" Coax	6	1.98	0.82	100	1	Individual	0.00	N	1.00	1.00	0.00
0.00	145.0	Waveguide	1	2.00	6.00	100	1	Individual	0.00	N	1.00	1.00	0.00
10.00	80.00	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
8.30	33.30	Coax Cage	4	12.0	25.0	100	2,4	Individual	0.00	N	1.00	1.00	0.00

Site Number: 88014  
 Site Name: New Fairfield, CT  
 Customer: VERIZON WIRELESS

Code: ANSI/TIA-222-H  
 Engineering Number: 13685309\_C3\_02

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## Equivalent Lateral Force Method

Spectral Response Acceleration for Short Period ( $S_s$ ):	0.22
Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.06
Long-Period Transition Period ( $T_L$ - Seconds):	6
Importance Factor ( $I_p$ ):	1.00
Site Coefficient $F_a$ :	1.60
Site Coefficient $F_v$ :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period ( $S_{ds}$ ):	0.24
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.09
Seismic Response Coefficient ( $C_s$ ):	0.05
Upper Limit $C_s$ :	0.05
Lower Limit $C_s$ :	0.03
Period based on Rayleigh Method (sec):	0.66
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.08
Total Unfactored Dead Load:	110.50 k
Seismic Base Shear (E):	6.53 k

### LoadCase 1.2D + 1.0Ev + 1.0Eh

### Seismic

Section	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
12	183.21	2,008	553,412	0.034	224	2,505
11	174.62	1,706	446,437	0.028	181	2,128
10	165.25	2,657	655,236	0.041	266	3,315
9	155.08	2,587	595,848	0.037	242	3,229
8	143.75	4,115	873,248	0.054	354	5,135
7	131.25	4,586	882,138	0.055	358	5,722
6	118.75	4,751	820,394	0.051	333	5,928
5	100.00	10,996	1,577,56	0.098	640	13,720
4	81.25	5,994	687,421	0.043	279	7,479
3	62.50	11,084	957,922	0.059	389	13,830
2	37.50	12,485	622,019	0.039	252	15,579
1	12.50	15,109	230,213	0.014	93	18,853
Ericsson AIR 21, 1.3 M, B2A B4P	187.50	249	70,365	0.004	29	311
Ericsson AIR 21, 1.3M, B4A B2P	187.50	244	69,093	0.004	28	305
Ericsson KRY 112 144/1	187.50	33	9,326	0.001	4	41
Ericsson RRUS 11 B12	187.50	152	42,982	0.003	17	190
RFS SC2-W100AB	187.50	22	6,217	0.000	3	27
Commscope LNX-6515DS-VTM	187.50	151	42,643	0.003	17	188
Pipe Mount	187.50	900	254,332	0.016	103	1,123
Platform	187.50	8,000	2,260,72	0.140	917	9,982
Catwalk	170.30	6,500	1,655,80	0.103	672	8,111
Alcatel-Lucent ALU 800MHz External	168.00	26	6,627	0.000	3	33
Alcatel-Lucent 2X50W RRH w/o Filter	167.00	159	39,658	0.002	16	198
Alcatel-Lucent 4x40W RRH (91 lb)	167.00	273	68,092	0.004	28	341
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	167.00	210	52,378	0.003	21	262

Equivalent Lateral Force Method

Generic Flat Light Sector Frame	167.00	1,200	299,305	0.019	121	1,497
RFS APXV9TM14-ALU-I20*	167.00	165	41,229	0.003	17	206
RFS APXVSP18-C-A20	167.00	171	42,651	0.003	17	213
Ericsson RRUS 32 B2	160.00	159	37,868	0.002	15	198
Generic Flat Light Sector Frame	160.00	1,200	285,798	0.018	116	1,497
Raycap DC6-48-60-18-8F	160.00	20	4,763	0.000	2	25
Allgon 7770.00	155.00	105	24,166	0.002	10	131
CCI HPA-65R-BUU-H6	155.00	153	35,213	0.002	14	191
Ericsson RRUS 11 (Band 12) (55 lb)	155.00	165	37,975	0.002	15	206
Powerwave Allgon LGP21401	155.00	85	19,471	0.001	8	106
Antel LPA-80063/4CF	146.00	80	17,262	0.001	7	100
Antel LPA-80080/4CF ____	146.00	24	5,179	0.000	2	30
JMA Wireless MX06FRO660-03	146.00	360	77,678	0.005	32	449
Raycap RCMDC-6627-PF-48	146.00	32	6,905	0.000	3	40
Samsung B2/B66A RRH-BR049	146.00	253	54,633	0.003	22	316
Samsung B5/B13 RRH-BR04C	146.00	211	45,506	0.003	18	263
Samsung MT6407-77A	146.00	245	52,821	0.003	21	305
Generic Flat Light Sector Frame	145.00	1,200	257,014	0.016	104	1,497
Flat Side Arm	137.50	150	30,338	0.002	12	187
Rest Platform	137.50	500	101,128	0.006	41	624
Flat Side Arm	120.00	150	26,196	0.002	11	187
Flat Side Arm	112.50	150	24,435	0.002	10	187
Flat Side Arm	100.00	150	21,520	0.001	9	187
Platform	100.00	5,500	789,082	0.049	320	6,863
Rest Platform	87.50	500	62,114	0.004	25	624
Generic Round Side Arm	82.00	188	21,718	0.001	9	234
Andrew DB616E-BC	80.00	51	5,752	0.000	2	64
Generic Dish Reserve	64.00	1,835	162,699	0.010	66	2,290
Rest Platform	50.00	500	33,971	0.002	14	624
		110,500	16,104,489	1.000	6,533	137,880

LoadCase 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>Vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
12	183.21	2,008	553,412	0.034	224	1,711
11	174.62	1,706	446,437	0.028	181	1,454
10	165.25	2,657	655,236	0.041	266	2,264
9	155.08	2,587	595,848	0.037	242	2,205
8	143.75	4,115	873,248	0.054	354	3,507
7	131.25	4,586	882,138	0.055	358	3,908
6	118.75	4,751	820,394	0.051	333	4,049
5	100.00	10,996	1,577,56	0.098	640	9,371
4	81.25	5,994	687,421	0.043	279	5,108
3	62.50	11,084	957,922	0.059	389	9,446
2	37.50	12,485	622,019	0.039	252	10,640
1	12.50	15,109	230,213	0.014	93	12,876
Ericsson AIR 21, 1.3 M, B2A B4P	187.50	249	70,365	0.004	29	212
Ericsson AIR 21, 1.3M, B4A B2P	187.50	244	69,093	0.004	28	208
Ericsson KRY 112 144/1	187.50	33	9,326	0.001	4	28
Ericsson RRUS 11 B12	187.50	152	42,982	0.003	17	130
RFS SC2-W100AB	187.50	22	6,217	0.000	3	19
Commscope LNX-6515DS-VTM	187.50	151	42,643	0.003	17	129
Pipe Mount	187.50	900	254,332	0.016	103	767

Site Number: 88014

Code:

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Equivalent Lateral Force Method

Platform	187.50	8,000	2,260,72	0.140	917	6,818
Catwalk	170.30	6,500	1,655,80	0.103	672	5,539
Alcatel-Lucent ALU 800MHz External	168.00	26	6,627	0.000	3	22
Alcatel-Lucent 2X50W RRH w/o Filter	167.00	159	39,658	0.002	16	136
Alcatel-Lucent 4x40W RRH (91 lb)	167.00	273	68,092	0.004	28	233
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	167.00	210	52,378	0.003	21	179
Generic Flat Light Sector Frame	167.00	1,200	299,305	0.019	121	1,023
RFS APXV9TM14-ALU-I20*	167.00	165	41,229	0.003	17	141
RFS APXVSP18-C-A20	167.00	171	42,651	0.003	17	146
Ericsson RRUS 32 B2	160.00	159	37,868	0.002	15	136
Generic Flat Light Sector Frame	160.00	1,200	285,798	0.018	116	1,023
Raycap DC6-48-60-18-8F	160.00	20	4,763	0.000	2	17
Allgon 7770.00	155.00	105	24,166	0.002	10	89
CCI HPA-65R-BUU-H6	155.00	153	35,213	0.002	14	130
Ericsson RRUS 11 (Band 12) (55 lb)	155.00	165	37,975	0.002	15	141
Powerwave Allgon LGP21401	155.00	85	19,471	0.001	8	72
Antel LPA-80063/4CF	146.00	80	17,262	0.001	7	68
Antel LPA-80080/4CF ____	146.00	24	5,179	0.000	2	20
JMA Wireless MX06FRO660-03	146.00	360	77,678	0.005	32	307
Raycap RCMDC-6627-PF-48	146.00	32	6,905	0.000	3	27
Samsung B2/B66A RRH-BR049	146.00	253	54,633	0.003	22	216
Samsung B5/B13 RRH-BR04C	146.00	211	45,506	0.003	18	180
Samsung MT6407-77A	146.00	245	52,821	0.003	21	209
Generic Flat Light Sector Frame	145.00	1,200	257,014	0.016	104	1,023
Flat Side Arm	137.50	150	30,338	0.002	12	128
Rest Platform	137.50	500	101,128	0.006	41	426
Flat Side Arm	120.00	150	26,196	0.002	11	128
Flat Side Arm	112.50	150	24,435	0.002	10	128
Flat Side Arm	100.00	150	21,520	0.001	9	128
Platform	100.00	5,500	789,082	0.049	320	4,687
Rest Platform	87.50	500	62,114	0.004	25	426
Generic Round Side Arm	82.00	188	21,718	0.001	9	160
Andrew DB616E-BC	80.00	51	5,752	0.000	2	43
Generic Dish Reserve	64.00	1,835	162,699	0.010	66	1,564
Rest Platform	50.00	500	33,971	0.002	14	426
		110,500	16,104,489	1.000	6,533	94,169



Site Number: 88014

Code: ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 25.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
<b>Max Compression Member</b>															
LEG	SAE - 8X8X0.875	-186.63	1.2D + 1.0W 45 deg	25.10	33	33	33	63.3	36.0	416.26	0	0	0.00	0.00	44 Member Z
HORIZ	DAL - 3X2.5X0.3125	-9.49	1.2D + 1.0W Normal	14.66	100	100	17	171.7	36.0	31.47	0	0	0.00	0.00	30 Member X
DIAG	DAS - 3.5X3X0.25	-20.00	1.2D + 1.0W Normal	29.84	33	66	8	145.0	36.0	42.58	0	0	0.00	0.00	46 Member Y
<b>Max Tension Member</b>															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SAE - 8X8X0.875	133.51	0.9D + 1.0W 45 deg	36	58	428.65	0	0	0.00	0.00			31 Member		
HORIZ	DAL - 3X2.5X0.3125	10.17	1.2D + 1.0W Normal	36	58	104.98	0	0	0.00	0.00	0.00		9 Member		
DIAG	DAS - 3.5X3X0.25	18.41	0.9D + 1.0W Normal	36	58	101.41	0	0	0.00	0.00	0.00		18 Member		
<b>Max Splice Forces</b>															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		132.64	0.9D + 1.0W 45 deg	0.00	0	0									
Top Compression		185.69	1.2D + 1.0W 45 deg	0.00	0										
Bot Tension		156.77	0.9D + 1.0W 45 deg	565.10	8	4	2.25" A36								
Bot Compression		212.61	1.2D + 1.0W 45 deg	467.67	50										

Section: 2		2		Bot Elev (ft): 25.00				Height (ft): 25.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
<b>Max Compression Member</b>															
LEG	SAE - 8X8X0.75	-157.06	1.2D + 1.0W 45 deg	25.10	33	33	33	62.9	36.0	360.60	0	0	0.00	0.00	43 Member Z
HORIZ	DAL - 3X2.5X0.25	-9.39	0.9D + 1.0W Normal	13.09	100	100	17	155.3	36.0	31.20	0	0	0.00	0.00	30 Member X
DIAG	DAS - 3X2.5X0.25	-21.72	1.2D + 1.0W Normal	29.02	33	65	8	156.7	36.0	30.65	0	0	0.00	0.00	70 Member Y
<b>Max Tension Member</b>															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SAE - 8X8X0.75	109.90	0.9D + 1.0W 45 deg	36	58	370.66	0	0	0.00	0.00			29 Member		
HORIZ	DAL - 3X2.5X0.25	9.77	1.2D + 1.0W Normal	36	58	85.21	0	0	0.00	0.00	0.00		11 Member		
DIAG	DAS - 3X2.5X0.25	19.81	0.9D + 1.0W Normal	36	58	85.21	0	0	0.00	0.00	0.00		23 Member		
<b>Max Splice Forces</b>															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		109.05	0.9D + 1.0W 45 deg	0.00	0	0									
Top Compression		156.17	1.2D + 1.0W 45 deg	0.00	0										
Bot Tension		132.64	0.9D + 1.0W 45 deg	0.00	0										
Bot Compression		0.00		0.00	0										

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 3		3	Bot Elev (ft): 50.00				Height (ft): 25.000									
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phiT Pn (kip)	Use %	Controls
<b>Max Compression Member</b>																
LEG	SAE - 8X8X0.75	-125.99	1.2D + 1.0W 45 deg	25.10	33	33	33	62.9	36.0	360.60	0	0	0.00	0.00	34 Member Z	
HORIZ	DAE - 2.5X2.5X0.25	-8.56	1.2D + 1.0W Normal	11.53	100	100	17	165.7	36.0	24.80	0	0	0.00	0.00	34 Member X	
DIAG	DAS - 3X2.5X0.25	-22.00	1.2D + 1.0W Normal	28.26	33	66	8	155.0	36.0	31.33	0	0	0.00	0.00	70 Member Y	
<b>Max Tension Member</b>																
LEG	SAE - 8X8X0.75	85.29	0.9D + 1.0W 45 deg	36	58	370.66	0	0	0.00	0.00	0.00	0.00		23 Member		
HORIZ	DAE - 2.5X2.5X0.25	9.09	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00	0.00		11 Member		
DIAG	DAS - 3X2.5X0.25	19.70	1.2D + 1.0W Normal	36	58	85.21	0	0	0.00	0.00	0.00	0.00		23 Member		
<b>Max Splice Forces</b>																
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		84.50	0.9D + 1.0W 45 deg		0.00	0	0									
Top Compression		125.15	1.2D + 1.0W 45 deg		0.00	0										
Bot Tension		109.05	0.9D + 1.0W 45 deg		0.00	0										
Bot Compression		0.00			0.00	0										

Section: 4		4	Bot Elev (ft): 75.00				Height (ft): 12.500									
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phiT Pn (kip)	Use %	Controls
<b>Max Compression Member</b>																
LEG	SAE - 6X6X0.875	-109.73	1.2D + 1.0W 45 deg	12.55	50	50	50	64.4	36.0	304.67	0	0	0.00	0.00	36 Member Z	
HORIZ	DAE - 2.5X2.5X0.25	-7.28	1.2D + 1.0W Normal	10.75	100	100	20	156.5	36.0	27.83	0	0	0.00	0.00	26 Member X	
DIAG	DAE - 2.5X2.5X0.25	-12.54	1.2D + 1.0W Normal	17.02	50	100	12	167.1	36.0	24.41	0	0	0.00	0.00	51 Member Y	
<b>Max Tension Member</b>																
LEG	SAE - 6X6X0.875	74.80	0.9D + 1.0W 45 deg	36	58	315.25	0	0	0.00	0.00	0.00	0.00		23 Member		
HORIZ	DAE - 2.5X2.5X0.25	7.87	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00	0.00		10 Member		
DIAG	DAE - 2.5X2.5X0.25	11.21	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00	0.00		14 Member		
<b>Max Splice Forces</b>																
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		74.12	0.9D + 1.0W 45 deg		0.00	0	0									
Top Compression		109.00	1.2D + 1.0W 45 deg		0.00	0										
Bot Tension		84.50	0.9D + 1.0W 45 deg		0.00	0										
Bot Compression		0.00			0.00	0										

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 5		5		Bot Elev (ft): 87.50				Height (ft): 25.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
<b>Max Compression Member</b>															
LEG	SAE - 6X6X0.75	-94.76	1.2D + 1.0W 45 deg	12.55	50	50	50	64.4	36.0	264.27	0	0	0.00	0.00	35 Member Z
HORIZ	DAE - 2.5X2.5X0.25	-6.99	1.2D + 1.0W Normal	9.971	100	100	20	147.2	36.0	31.46	0	0	0.00	0.00	22 Member X
DIAG	DAE - 2.5X2.5X0.25	-12.20	1.2D + 1.0W Normal	16.50	50	100	12	162.8	36.0	25.70	0	0	0.00	0.00	47 Member Y
<b>Max Tension Member</b>															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SAE - 6X6X0.75	63.19	0.9D + 1.0W 45 deg	36	58	273.46	0	0	0.00	0.00			23	Member	
HORIZ	DAE - 2.5X2.5X0.25	7.26	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00		9	Member	
DIAG	DAE - 2.5X2.5X0.25	10.96	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00		14	Member	
<b>Max Splice Forces</b>															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
Top Tension		52.36	0.9D + 1.0W 45 deg			0.00	0	0							
Top Compression		78.06	1.2D + 1.0W 45 deg			0.00	0								
Bot Tension		74.12	0.9D + 1.0W 45 deg			0.00	0								
Bot Compression		0.00				0.00	0								

Section: 6		6		Bot Elev (ft): 112.5				Height (ft): 12.500							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
<b>Max Compression Member</b>															
LEG	SAE - 6X6X0.5625	-64.17	1.2D + 1.0W 45 deg	12.55	50	50	50	63.8	36.0	201.85	0	0	0.00	0.00	31 Member Z
HORIZ	DAE - 2.5X2.5X0.25	-5.80	1.2D + 1.0W Normal	8.408	100	100	25	128.6	36.0	41.21	0	0	0.00	0.00	14 Member X
DIAG	DAL - 2.5X2X0.25	-11.34	1.2D + 1.0W Normal	15.53	50	100	12	188.1	36.0	17.24	0	0	0.00	0.00	65 Member Y
<b>Max Tension Member</b>															
		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	SAE - 6X6X0.5625	41.19	0.9D + 1.0W 45 deg	36	58	208.33	0	0	0.00	0.00			19	Member	
HORIZ	DAE - 2.5X2.5X0.25	6.11	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00		7	Member	
DIAG	DAL - 2.5X2X0.25	10.46	1.2D + 1.0W Normal	36	58	69.01	0	0	0.00	0.00	0.00		15	Member	
<b>Max Splice Forces</b>															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
Top Tension		40.66	0.9D + 1.0W 45 deg			0.00	0	0							
Top Compression		63.61	1.2D + 1.0W 45 deg			0.00	0								
Bot Tension		52.36	0.9D + 1.0W 45 deg			0.00	0								
Bot Compression		0.00				0.00	0								

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 7		6		Bot Elev (ft): 125.0				Height (ft): 12.500							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 6X6X0.5625	-49.65	1.2D + 1.0W 45 deg	12.55	50	50	50	63.8	36.0	201.85	0	0	0.00	0.00	24 Member Z
HORIZ	DAE - 2.5X2.5X0.25	-5.39	1.2D + 1.0W Normal	7.626	100	120	25	119.0	36.0	47.52	0	0	0.00	0.00	11 Member X
DIAG	DAL - 2.5X2X0.25	-11.16	1.2D + 1.0W Normal	15.08	50	100	12	183.4	36.0	18.12	0	0	0.00	0.00	61 Member Y

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	SAE - 6X6X0.5625	29.19	0.9D + 1.0W 45 deg	36	58	208.33	0	0	0.00	0.00		14	Member
HORIZ	DAE - 2.5X2.5X0.25	5.61	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00	7	Member
DIAG	DAL - 2.5X2X0.25	10.42	0.9D + 1.0W Normal	36	58	69.01	0	0	0.00	0.00	0.00	15	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		28.70	0.9D + 1.0W 45 deg	0.00	0	0	
Top Compression		49.14	1.2D + 1.0W 45 deg	0.00	0		
Bot Tension		40.66	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Section: 8		7		Bot Elev (ft): 137.5				Height (ft): 12.500							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 6X6X0.4375	-35.17	1.2D + 1.0W 45 deg	12.55	50	50	50	63.3	36.0	159.23	0	0	0.00	0.00	22 Member Z
HORIZ	DAE - 2.5X2.5X0.25	-4.42	1.2D + 1.0W Normal	6.845	100	107	25	106.8	36.0	54.94	0	0	0.00	0.00	8 Member X
DIAG	DAL - 2.5X2X0.25	-10.78	1.2D + 1.0W Normal	14.66	50	100	12	179.1	36.0	19.01	0	0	0.00	0.00	56 Member Y

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	SAE - 6X6X0.4375	17.30	0.9D + 1.0W 45 deg	36	58	163.94	0	0	0.00	0.00		10	Member
HORIZ	DAE - 2.5X2.5X0.25	5.48	1.2D + 1.0W Normal	36	58	77.11	0	0	0.00	0.00	0.00	7	Member
DIAG	DAL - 2.5X2X0.25	9.72	1.2D + 1.0W Normal	36	58	69.01	0	0	0.00	0.00	0.00	14	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		16.80	0.9D + 1.0W 45 deg	0.00	0	0	
Top Compression		34.56	1.2D + 1.0W 45 deg	0.00	0		
Bot Tension		28.70	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 9		8 - lower		Bot Elev (ft): 150.0				Height (ft): 10.167							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 5X5X0.4375	-27.13	1.2D + 1.0W 45 deg	10.21	50	50	50	62.1	36.0	132.23	0	0	0.00	0.00	20 Member Z
HORIZ	SAU - 3X2.5X0.25	-0.95	0.9D + 1.0W Normal	12.41	50	100	50	167.9	36.0	13.30	0	0	0.00	0.00	7 Member Y
DIAG	SAE - 3.5X3.5X0.25	-5.56	1.2D + 1.0W Normal	16.55	50	50	50	138.6	36.0	25.17	0	0	0.00	0.00	22 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	SAE - 5X5X0.4375	13.76	0.9D + 1.0W 45 deg	36	58	135.43	0	0	0.00	0.00		10	Member
HORIZ	SAU - 3X2.5X0.25	2.13	1.2D + 1.0W Normal	36	58	42.44	0	0	0.00	0.00	0.00	5	Member
DIAG	SAE - 3.5X3.5X0.25	3.88	1.2D + 1.0W Normal	36	58	54.76	0	0	0.00	0.00	0.00	7	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		9.43	0.9D + 1.0W 45 deg	0.00	0	0	
Top Compression		24.44	1.2D + 1.0W 45 deg	0.00	0		
Bot Tension		16.80	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Section: 10		8 - upper		Bot Elev (ft): 160.1				Height (ft): 10.167							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 5X5X0.4375	-18.05	1.2D + 1.0W 45 deg	10.21	50	50	50	62.1	36.0	132.23	0	0	0.00	0.00	13 Member Z
HORIZ	DAL - 3X2.5X0.25	-0.39	1.2D + 1.0W Normal	11.14	50	100	50	172.4	36.0	25.33	0	0	0.00	0.00	1 Member Y
DIAG	SAE - 3.5X3.5X0.25	-4.92	1.2D + 1.0W Normal	15.57	50	50	50	132.1	36.0	27.72	0	0	0.00	0.00	17 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	SAE - 5X5X0.4375	6.80	0.9D + 1.0W 45 deg	36	58	135.43	0	0	0.00	0.00		5	Member
HORIZ	DAL - 3X2.5X0.25	1.28	1.2D + 1.0W Normal	36	58	85.21	0	0	0.00	0.00	0.00	1	Member
DIAG	SAE - 3.5X3.5X0.25	3.33	1.2D + 1.0W Normal	36	58	54.76	0	0	0.00	0.00	0.00	6	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		2.37	0.9D + 1.0W 45 deg	0.00	0	0	
Top Compression		15.43	1.2D + 1.0W 45 deg	0.00	0		
Bot Tension		9.43	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Site Number: 88014

Code: ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

6/16/2021 3:30:39 PM

Customer: VERIZON WIRELESS

### Force/Stress Summary

Section: 11		9 - lower		Bot Elev (ft): 170.3				Height (ft): 8.583							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 5X5X0.3125	-9.15	1.2D + 1.0W 45 deg	8.62	50	50	50	52.0	35.9	99.52	0	0	0.00	0.00	9 Member Z
HORIZ	SAU - 3X2.5X0.25	-0.03	1.2D + 1.0W Normal	10.07	50	100	50	144.9	36.0	17.85	0	0	0.00	0.00	0 Member Y
DIAG	SAE - 3X3X0.25	-2.80	1.2D + 1.0W Normal	13.65	50	50	50	134.1	36.0	22.93	0	0	0.00	0.00	12 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	SAE - 5X5X0.3125	3.06	0.9D + 1.0W 45 deg	36	58	98.17	0	0	0.00	0.00			3 Member
HORIZ	SAU - 3X2.5X0.25	0.82	1.2D + 1.0W Normal	36	58	42.44	0	0	0.00	0.00	0.00		1 Member
DIAG	SAE - 3X3X0.25	1.88	1.2D + 1.0W Normal	36	58	46.66	0	0	0.00	0.00	0.00		4 Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.68	0.9D + 1.0W 45 deg	0.00	0	0	
Top Compression		7.73	1.2D + 1.0W 45 deg	0.00	0		
Bot Tension		2.37	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Section: 12		9 - upper		Bot Elev (ft): 178.9				Height (ft): 8.583							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	SAE - 5X5X0.3125	-5.07	1.2D + 1.0Di + 1.0Wi	8.62	50	50	50	52.0	35.9	99.52	0	0	0.00	0.00	5 Member Z
HORIZ	CHN - C8 x 11.5	-0.03	1.2D + 1.0W Normal	9.001	100	100	100	160.3	36.0	37.66	0	0	0.00	0.00	0 Member Y
DIAG	SAE - 3X3X0.25	-2.47	1.2D + 1.0W Normal	12.84	50	50	50	127.8	36.0	25.24	0	0	0.00	0.00	9 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG		0.00		0	0	0.00	0	0	0.00	0.00			0
HORIZ	CHN - C8 x 11.5	0.11	1.2D + 1.0W Normal	36	58	109.51	0	0	0.00	0.00	0.00		0 Member
DIAG	SAE - 3X3X0.25	1.43	1.2D + 1.0W Normal	36	58	46.66	0	0	0.00	0.00	0.00		3 Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		5.94	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension		0.68	0.9D + 1.0W 45 deg	0.00	0		
Bot Compression		0.00		0.00	0		

Site Number: 88014

Code: ANSI/TIA-222-H

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

6/16/2021 3:30:39 PM

Customer: VERIZON WIRELESS

### Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
<b>1.2D + 1.0W Normal</b>	22.94	00.00	45	1	-9.87	153.84	-19.85	
	22.94	00.00	135	1a	5.03	-87.12	-15.10	
	22.94	00.00	225	1b	-5.17	-87.47	-14.97	
	22.94	00.00	315	1c	10.02	153.35	-19.67	
<b>1.2D + 1.0W 45 deg</b>	22.94	00.00	45	1	-20.73	212.40	-20.96	
	22.94	00.00	135	1a	-9.84	33.53	-4.96	
	22.94	00.00	225	1b	-16.23	-146.02	-16.05	
	22.94	00.00	315	1c	-4.78	32.70	-9.61	
<b>0.9D + 1.0W Normal</b>	22.94	00.00	45	1	-9.27	145.45	-19.23	
	22.94	00.00	135	1a	5.63	-95.41	-15.70	
	22.94	00.00	225	1b	-5.77	-95.68	-15.57	
	22.94	00.00	315	1c	9.41	145.09	-19.06	
<b>0.9D + 1.0W 45 deg</b>	22.94	00.00	45	1	-20.13	203.99	-20.35	
	22.94	00.00	135	1a	-9.24	25.14	-5.58	
	22.94	00.00	225	1b	-16.83	-154.21	-16.65	
	22.94	00.00	315	1c	-5.39	24.52	-9.01	
<b>1.2D + 1.0Di + 1.0Wi Normal</b>	22.94	00.00	45	1	-6.37	94.24	-9.49	
	22.94	00.00	135	1a	-2.05	24.35	-1.01	
	22.94	00.00	225	1b	2.01	23.38	-1.02	
	22.94	00.00	315	1c	6.41	92.79	-9.35	
<b>1.2D + 1.0Di + 1.0Wi 45 deg</b>	22.94	00.00	45	1	-9.69	111.89	-9.84	
	22.94	00.00	135	1a	-6.51	59.77	1.97	
	22.94	00.00	225	1b	-1.34	5.73	-1.35	
	22.94	00.00	315	1c	1.97	57.35	-6.37	
<b>1.2D + 1.0Ev + 1.0Eh Normal M1</b>	22.94	00.00	45	1	-3.40	46.96	-4.14	
	22.94	00.00	135	1a	-1.64	18.84	0.90	
	22.94	00.00	225	1b	1.64	18.84	0.90	
	22.94	00.00	315	1c	3.40	46.96	-4.14	
<b>1.2D + 1.0Ev + 1.0Eh 45 deg M1</b>	22.94	00.00	45	1	-4.28	52.79	-4.28	
	22.94	00.00	135	1a	-3.04	32.90	1.99	
	22.94	00.00	225	1b	0.75	13.01	0.75	
	22.94	00.00	315	1c	1.99	32.90	-3.04	
<b>0.9D - 1.0Ev + 1.0Eh Normal M1</b>	22.94	00.00	45	1	-2.60	36.52	-3.34	
	22.94	00.00	135	1a	-0.84	8.42	0.10	
	22.94	00.00	225	1b	0.84	8.42	0.10	
	22.94	00.00	315	1c	2.60	36.52	-3.34	
<b>0.9D - 1.0Ev + 1.0Eh 45 deg M1</b>	22.94	00.00	45	1	-3.48	42.34	-3.48	
	22.94	00.00	135	1a	-2.24	22.47	1.20	
	22.94	00.00	225	1b	-0.05	2.60	-0.05	
	22.94	00.00	315	1c	1.20	22.47	-2.24	
<b>1.0D + 1.0W Service Normal</b>	22.94	00.00	45	1	-4.03	60.42	-6.80	
	22.94	00.00	135	1a	0.00	-4.82	-2.75	
	22.94	00.00	225	1b	-0.04	-5.11	-2.73	
	22.94	00.00	315	1c	4.07	60.01	-6.73	
<b>1.0D + 1.0W Service 45 deg</b>	22.94	00.00	45	1	-7.02	76.32	-7.10	
	22.94	00.00	135	1a	-4.06	27.94	-0.01	
	22.94	00.00	225	1b	-3.05	-21.01	-3.01	
	22.94	00.00	315	1c	0.03	27.25	-3.98	

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

Max Uplift:	154.21 (kip)	Moment Ice:	2,436.30 (kip-ft)	Moment:	8,223.24 (kip-ft)	1.2D + 1.0W 45 deg
Max Down:	212.40(kip)	Total Down Ice:	234.74 (kip)	Total Down:	132.60 (kip)	
Max Shear:	29.48 (kip)	Total Shear Ice:	22.03 (kip)	Total Shear:	72.95 (kip)	



### Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
115 mph Normal with No Ice	50.00	0.041	0.0045	0.0783	0.0784
115 mph Normal with No Ice	75.00	0.080	0.0052	0.0929	0.0931
115 mph Normal with No Ice	87.50	0.100	0.0051	0.0968	0.0969
115 mph Normal with No Ice	100.00	0.123	0.0057	0.1107	0.1108
115 mph Normal with No Ice	112.50	0.149	0.0061	0.1220	0.1222
115 mph Normal with No Ice	125.00	0.177	0.0065	0.1368	0.1369
115 mph Normal with No Ice	137.50	0.209	0.0068	0.1490	0.1491
115 mph Normal with No Ice	150.00	0.242	0.0065	0.1542	0.1543
115 mph Normal with No Ice	160.17	0.270	0.0057	0.1558	0.1561
115 mph Normal with No Ice	170.33	0.298	0.0051	0.1641	0.1642
115 mph Normal with No Ice	187.50	0.346	0.0053	0.1631	0.1632
115 mph 45 degree with No Ice	50.00	0.043	0.0073	0.0827	0.0830
115 mph 45 degree with No Ice	75.00	0.084	0.0087	0.0982	0.0985
115 mph 45 degree with No Ice	87.50	0.106	0.0091	0.1023	0.1027
115 mph 45 degree with No Ice	100.00	0.130	0.0104	0.1167	0.1172
115 mph 45 degree with No Ice	112.50	0.157	0.0115	0.1287	0.1292
115 mph 45 degree with No Ice	125.00	0.187	0.0128	0.1441	0.1447
115 mph 45 degree with No Ice	137.50	0.220	0.0140	0.1573	0.1575
115 mph 45 degree with No Ice	150.00	0.255	0.0144	0.1638	0.1639
115 mph 45 degree with No Ice	160.17	0.284	0.0147	0.1657	0.1661
115 mph 45 degree with No Ice	170.33	0.314	0.0152	0.1704	0.1711
115 mph 45 degree with No Ice	187.50	0.366	0.0153	0.1722	0.1723
115 mph Normal with No Ice (Reduced DL)	50.00	0.041	0.0045	0.0781	0.0783
115 mph Normal with No Ice (Reduced DL)	75.00	0.080	0.0052	0.0928	0.0930
115 mph Normal with No Ice (Reduced DL)	87.50	0.100	0.0051	0.0967	0.0968
115 mph Normal with No Ice (Reduced DL)	100.00	0.123	0.0057	0.1106	0.1107
115 mph Normal with No Ice (Reduced DL)	112.50	0.149	0.0061	0.1219	0.1221
115 mph Normal with No Ice (Reduced DL)	125.00	0.177	0.0065	0.1367	0.1368
115 mph Normal with No Ice (Reduced DL)	137.50	0.209	0.0068	0.1489	0.1490
115 mph Normal with No Ice (Reduced DL)	150.00	0.242	0.0065	0.1541	0.1543
115 mph Normal with No Ice (Reduced DL)	160.17	0.269	0.0057	0.1559	0.1562
115 mph Normal with No Ice (Reduced DL)	170.33	0.298	0.0051	0.1640	0.1641
115 mph Normal with No Ice (Reduced DL)	187.50	0.346	0.0053	0.1630	0.1631
115 mph 45 deg with No Ice (Reduced DL)	50.00	0.043	0.0073	0.0826	0.0829
115 mph 45 deg with No Ice (Reduced DL)	75.00	0.084	0.0087	0.0981	0.0985
115 mph 45 deg with No Ice (Reduced DL)	87.50	0.106	0.0091	0.1022	0.1026
115 mph 45 deg with No Ice (Reduced DL)	100.00	0.130	0.0104	0.1166	0.1171
115 mph 45 deg with No Ice (Reduced DL)	112.50	0.157	0.0114	0.1286	0.1291
115 mph 45 deg with No Ice (Reduced DL)	125.00	0.187	0.0128	0.1440	0.1446
115 mph 45 deg with No Ice (Reduced DL)	137.50	0.220	0.0140	0.1571	0.1573
115 mph 45 deg with No Ice (Reduced DL)	150.00	0.255	0.0144	0.1636	0.1637
115 mph 45 deg with No Ice (Reduced DL)	160.17	0.284	0.0147	0.1654	0.1659
115 mph 45 deg with No Ice (Reduced DL)	170.33	0.314	0.0152	0.1702	0.1709
115 mph 45 deg with No Ice (Reduced DL)	187.50	0.365	0.0153	0.1718	0.1720
50 mph Normal with 1.00 in Radial Ice	50.00	0.015	0.0014	0.0243	0.0243
50 mph Normal with 1.00 in Radial Ice	75.00	0.026	0.0016	0.0276	0.0276
50 mph Normal with 1.00 in Radial Ice	87.50	0.032	0.0015	0.0273	0.0273
50 mph Normal with 1.00 in Radial Ice	100.00	0.038	0.0017	0.0313	0.0314
50 mph Normal with 1.00 in Radial Ice	112.50	0.045	0.0018	0.0341	0.0341
50 mph Normal with 1.00 in Radial Ice	125.00	0.052	0.0020	0.0380	0.0380
50 mph Normal with 1.00 in Radial Ice	137.50	0.061	0.0021	0.0408	0.0408
50 mph Normal with 1.00 in Radial Ice	150.00	0.070	0.0020	0.0415	0.0416
50 mph Normal with 1.00 in Radial Ice	160.17	0.077	0.0018	0.0417	0.0418
50 mph Normal with 1.00 in Radial Ice	170.33	0.084	0.0017	0.0439	0.0440
50 mph Normal with 1.00 in Radial Ice	187.50	0.097	0.0017	0.0437	0.0437

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

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Customer: VERIZON WIRELESS

50 mph 45 deg with 1.00 in Radial Ice	50.00	0.016	0.0022	0.0258	0.0258
50 mph 45 deg with 1.00 in Radial Ice	75.00	0.028	0.0026	0.0298	0.0298
50 mph 45 deg with 1.00 in Radial Ice	87.50	0.034	0.0026	0.0298	0.0299
50 mph 45 deg with 1.00 in Radial Ice	100.00	0.041	0.0030	0.0343	0.0343
50 mph 45 deg with 1.00 in Radial Ice	112.50	0.049	0.0033	0.0373	0.0373
50 mph 45 deg with 1.00 in Radial Ice	125.00	0.057	0.0036	0.0417	0.0417
50 mph 45 deg with 1.00 in Radial Ice	137.50	0.066	0.0039	0.0449	0.0449
50 mph 45 deg with 1.00 in Radial Ice	150.00	0.076	0.0040	0.0461	0.0461
50 mph 45 deg with 1.00 in Radial Ice	160.17	0.084	0.0041	0.0467	0.0467
50 mph 45 deg with 1.00 in Radial Ice	170.33	0.092	0.0042	0.0480	0.0480
50 mph 45 deg with 1.00 in Radial Ice	187.50	0.106	0.0042	0.0489	0.0489
Seismic Normal M1	50.00	0.004	0.0005	0.0089	0.0089
Seismic Normal M1	75.00	0.008	0.0007	0.0117	0.0117
Seismic Normal M1	87.50	0.011	0.0008	0.0131	0.0131
Seismic Normal M1	100.00	0.014	0.0009	0.0153	0.0153
Seismic Normal M1	112.50	0.018	0.0010	0.0170	0.0171
Seismic Normal M1	125.00	0.022	0.0012	0.0193	0.0193
Seismic Normal M1	137.50	0.026	0.0013	0.0215	0.0215
Seismic Normal M1	150.00	0.031	0.0014	0.0229	0.0230
Seismic Normal M1	160.17	0.035	0.0015	0.0245	0.0246
Seismic Normal M1	170.33	0.040	0.0016	0.0254	0.0254
Seismic Normal M1	187.50	0.047	0.0016	0.0263	0.0263
Seismic 45 deg M1	50.00	0.004	0.0008	0.0090	0.0090
Seismic 45 deg M1	75.00	0.009	0.0010	0.0117	0.0117
Seismic 45 deg M1	87.50	0.011	0.0011	0.0131	0.0131
Seismic 45 deg M1	100.00	0.014	0.0013	0.0154	0.0154
Seismic 45 deg M1	112.50	0.018	0.0015	0.0171	0.0171
Seismic 45 deg M1	125.00	0.022	0.0017	0.0193	0.0193
Seismic 45 deg M1	137.50	0.026	0.0019	0.0216	0.0216
Seismic 45 deg M1	150.00	0.031	0.0020	0.0231	0.0231
Seismic 45 deg M1	160.17	0.035	0.0021	0.0247	0.0247
Seismic 45 deg M1	170.33	0.040	0.0022	0.0255	0.0255
Seismic 45 deg M1	187.50	0.047	0.0023	0.0265	0.0265
Seismic (Reduced DL) Normal M1	50.00	0.004	0.0005	0.0088	0.0088
Seismic (Reduced DL) Normal M1	75.00	0.008	0.0007	0.0116	0.0116
Seismic (Reduced DL) Normal M1	87.50	0.011	0.0008	0.0130	0.0130
Seismic (Reduced DL) Normal M1	100.00	0.014	0.0009	0.0151	0.0152
Seismic (Reduced DL) Normal M1	112.50	0.018	0.0010	0.0169	0.0169
Seismic (Reduced DL) Normal M1	125.00	0.022	0.0012	0.0192	0.0192
Seismic (Reduced DL) Normal M1	137.50	0.026	0.0013	0.0214	0.0214
Seismic (Reduced DL) Normal M1	150.00	0.031	0.0014	0.0229	0.0229
Seismic (Reduced DL) Normal M1	160.17	0.035	0.0015	0.0244	0.0244
Seismic (Reduced DL) Normal M1	170.33	0.039	0.0016	0.0252	0.0253
Seismic (Reduced DL) Normal M1	187.50	0.047	0.0016	0.0260	0.0261
Seismic (Reduced DL) 45 deg M1	50.00	0.004	0.0008	0.0088	0.0088
Seismic (Reduced DL) 45 deg M1	75.00	0.008	0.0010	0.0116	0.0116
Seismic (Reduced DL) 45 deg M1	87.50	0.011	0.0011	0.0130	0.0130
Seismic (Reduced DL) 45 deg M1	100.00	0.014	0.0013	0.0152	0.0152
Seismic (Reduced DL) 45 deg M1	112.50	0.018	0.0015	0.0170	0.0170
Seismic (Reduced DL) 45 deg M1	125.00	0.022	0.0017	0.0192	0.0192
Seismic (Reduced DL) 45 deg M1	137.50	0.026	0.0019	0.0215	0.0215
Seismic (Reduced DL) 45 deg M1	150.00	0.031	0.0020	0.0231	0.0231
Seismic (Reduced DL) 45 deg M1	160.17	0.035	0.0021	0.0245	0.0245
Seismic (Reduced DL) 45 deg M1	170.33	0.039	0.0022	0.0252	0.0252
Seismic (Reduced DL) 45 deg M1	187.50	0.047	0.0023	0.0262	0.0262
Serviceability - 60 mph Wind Normal	50.00	0.011	0.0012	0.0214	0.0214
Serviceability - 60 mph Wind Normal	75.00	0.022	0.0014	0.0252	0.0252
Serviceability - 60 mph Wind Normal	87.50	0.027	0.0014	0.0262	0.0263
Serviceability - 60 mph Wind Normal	100.00	0.033	0.0016	0.0300	0.0300
Serviceability - 60 mph Wind Normal	112.50	0.040	0.0017	0.0329	0.0330
Serviceability - 60 mph Wind Normal	125.00	0.048	0.0019	0.0370	0.0370
Serviceability - 60 mph Wind Normal	137.50	0.056	0.0019	0.0402	0.0402

Site Number: 88014

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Site Name: New Fairfield, CT

Engineering Number: 13685309\_C3\_02

6/16/2021 3:30:39 PM

Customer: VERIZON WIRELESS

Serviceability - 60 mph Wind Normal	150.00	0.065	0.0019	0.0415	0.0416
Serviceability - 60 mph Wind Normal	160.17	0.073	0.0017	0.0420	0.0420
Serviceability - 60 mph Wind Normal	170.33	0.080	0.0015	0.0442	0.0443
Serviceability - 60 mph Wind Normal	187.50	0.093	0.0016	0.0440	0.0440
Serviceability - 60 mph Wind 45 deg	50.00	0.012	0.0020	0.0224	0.0225
Serviceability - 60 mph Wind 45 deg	75.00	0.023	0.0024	0.0266	0.0267
Serviceability - 60 mph Wind 45 deg	87.50	0.029	0.0024	0.0278	0.0278
Serviceability - 60 mph Wind 45 deg	100.00	0.035	0.0028	0.0318	0.0318
Serviceability - 60 mph Wind 45 deg	112.50	0.043	0.0031	0.0349	0.0350
Serviceability - 60 mph Wind 45 deg	125.00	0.051	0.0035	0.0393	0.0393
Serviceability - 60 mph Wind 45 deg	137.50	0.060	0.0038	0.0428	0.0428
Serviceability - 60 mph Wind 45 deg	150.00	0.069	0.0039	0.0445	0.0445
Serviceability - 60 mph Wind 45 deg	160.17	0.077	0.0040	0.0451	0.0452
Serviceability - 60 mph Wind 45 deg	170.33	0.085	0.0041	0.0464	0.0464
Serviceability - 60 mph Wind 45 deg	187.50	0.099	0.0041	0.0472	0.0472

### Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	132.60	234.74	212.40	29.48	72.95	22.03	8223.24	2436.30

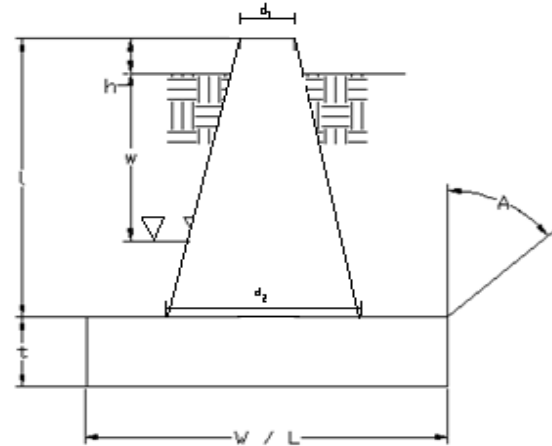
Site No.:	88014
Engineer:	Lucas Santos
Date:	Saturday, June 17, 2021
Carrier:	New Fairfield

## Pyramidal Pad & Pier

### Design Loads (Unfactored)

Compression/Leg:	212.40	k
Uplift/Leg:	154.21	k

Face Width @ Top of Pier ( $d_1$ ):	3.58	ft
Face Width @ Bottom of Pier ( $d_2$ ):	6.00	ft
Total Length of Pier (l):	6.50	ft
Height of Pedestal Above Ground (h):	0.630	ft
Width of Pad (W):	16.00	ft
Length of Pad (L):	16.00	ft
Thickness of Pad (t):	3.00	ft
Water Table Depth (w):	99.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil (Above Water Table):	120.0	pcf
Unit Weight of Soil (Below Water Table):	57.6	pcf
Friction Angle of Uplift (A):	22	°
Allowable Compressive Bearing Pressure:	4500	psf



Volume Pier Above Gnd:	8.61	ft <sup>3</sup>
Pier & Soil Below WT:	0.00	ft
Pier FW @ WT:	6.00	ft
Soil Pyramid Projection @ Surface:	2.37	ft
Soil Pyramid Projection @ WT:	0.00	ft
Pad Below WT:	0.00	ft
Volume Pier:	152.31	ft <sup>3</sup>
Volume Pad:	768.00	ft <sup>3</sup>
Volume Soil:	1839.09	ft <sup>3</sup>
Volume Pier (Buoyant):	0.00	ft <sup>3</sup>
Volume Pad (Buoyant):	0.00	ft <sup>3</sup>
Volume Soil (Buoyant):	0.00	ft <sup>3</sup>
Weight Pier:	22.85	k
Weight Pad:	115.20	k
Weight Soil:	220.69	k

### Uplift Resistance

$\phi_s$ Uplift (k)	269.05	0.57	OK
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### Axial Resistance

$\phi_s$ Axial (k)	864.00	0.25	OK
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Maser Consulting Connecticut  
2000 Midlantic Drive, Suite 100  
Mt. Laurel, NJ 08054  
(856) 797-0412  
peter.albano@colliersengineering.com

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## New Antenna Mount Analysis Report and PMI Requirements

Mount Replacement Analysis

SMART Tool Project #: 10085221  
Maser Consulting Connecticut Project #: 21777874A

July 9, 2021

### Site Information

Site ID: 467860-VZW / NEW FAIRFIELD CT  
Site Name: NEW FAIRFIELD CT  
Carrier Name: Verizon Wireless  
Address: 18 Titicus Mountain Road  
New Fairfield, Connecticut 06812  
Fairfield County  
Latitude: 41.450664°  
Longitude: -73.515989°

### Structure Information

Tower Type: 200-Ft Self Support  
Mount Type: 12.50-Ft Sector Frame

FUZE ID # 16069223

### Analysis Results

Sector Frame: 29.1% Pass

### \*\*\*Contractor PMI Requirements:

**Included at the end of this MA report**

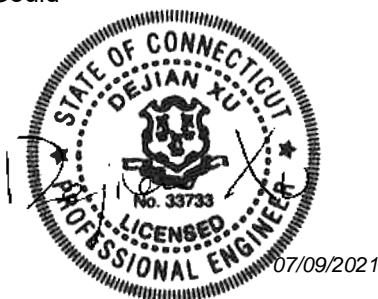
**Available & Submitted via portal at <https://pmi.vzwsmart.com>**

**Contractor - Please Review Specific Site PMI Requirements Upon Award**

**Requirements also Noted on Mount Modification Drawings**

**Requirements may also be Noted on A & E drawings**

Report Prepared By: Calvin Gould



**Executive Summary:**

The objective of this report is to determine the capacity of the antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

**Sources of Information:**

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 674980, dated July 2, 2021
Mount Mapping Report	HUDSON DESIGN GROUP LLC, Site #: 467860, dated May 3, 2021
Mount Specification	Site Pro 1, Part #: VFA12-HD

**Analysis Criteria:**

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), $V_{ULT}$ : 115 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.00 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 0.968
Seismic Parameters:	$S_s$ : 0.224 $S_1$ : 0.056
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Live Load, $L_v$ : 250 lbs. Maintenance Live Load, $L_m$ : 500 lbs.
Analysis Software:	RISA-3D (V17)

**Final Loading Configuration:**

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
146.00	146.00	6	JMA Wireless	MX06FRO660-03	Added
		3	Samsung	MT6407-77A	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR049	
		2	Commscope	TD-850B-LTE78-43	
		1	Raycap	RVZDC-6627-PF-48	Retained

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mounts.

The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

**Standard Conditions:**

1. All engineering services are performed on the basis that the information provided to Maser Consulting Connecticut and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Maser Consulting Connecticut to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped by Maser Consulting Connecticut, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer’s specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Maser Consulting Connecticut is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
  - o Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - o HSS (Rectangular)                              ASTM 500 (Gr. B-46)
  - o Pipe    ASTM A53 (Gr. B-35)
  - o Threaded Rod                                      F1554 (Gr. 36)
  - o Bolts    ASTM A325

**Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Maser Consulting Connecticut.**

**Analysis Results:**

Component	Utilization %	Pass/Fail
Face Horizontal	12.6 %	Pass
Standoff Plate	29.1 %	Pass
Standoff Horizontal	14.8 %	Pass
Standoff Diagonal	5.8 %	Pass
Antenna Pipe	20.3 %	Pass
Dual Antenna Pipe	8.5 %	Pass
Standoff Vertical	4.1 %	Pass
Tieback	13.6 %	Pass
Mount Connection	11.6 %	Pass

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>29.1%</b>
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**Recommendation:**

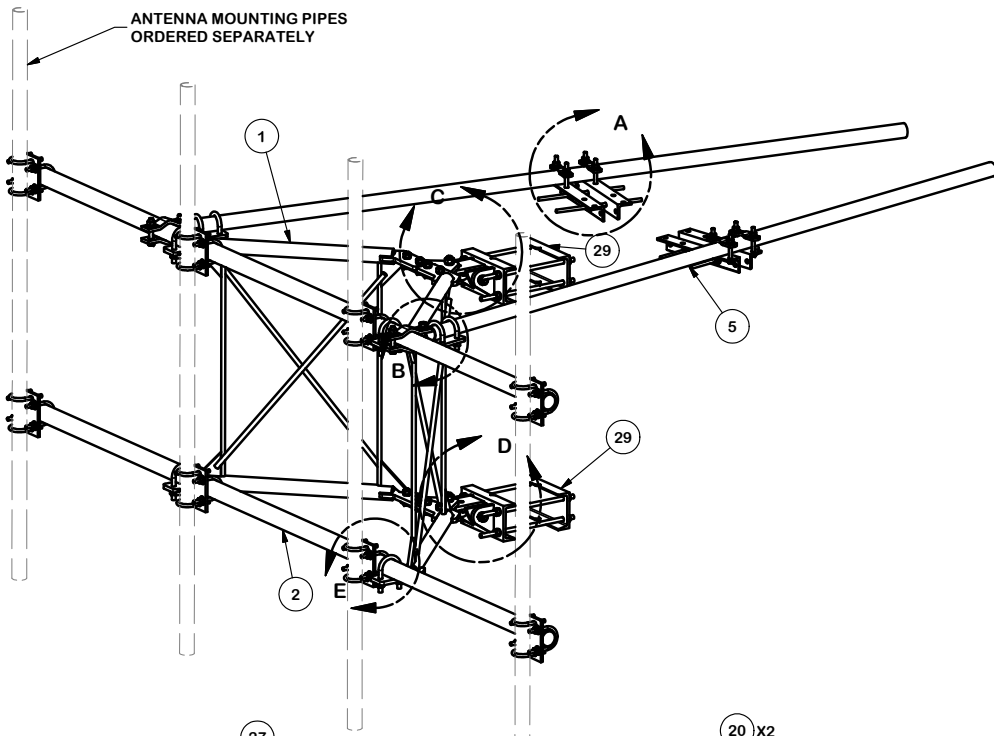
The proposed mounts are **SUFFICIENT** for the final loading configuration and will not require modifications.

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

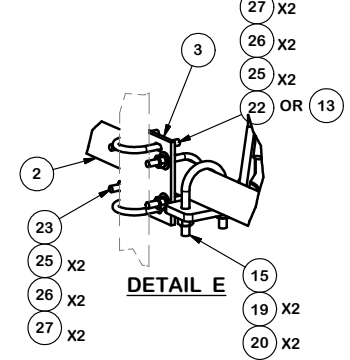
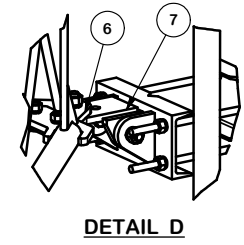
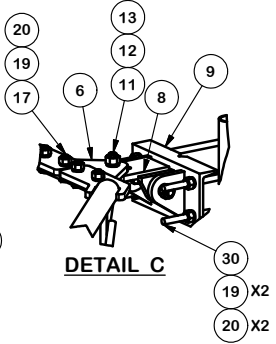
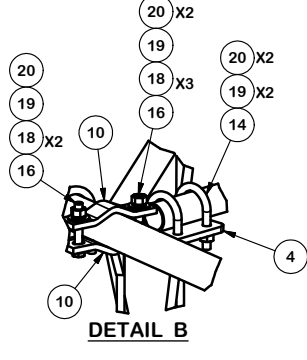
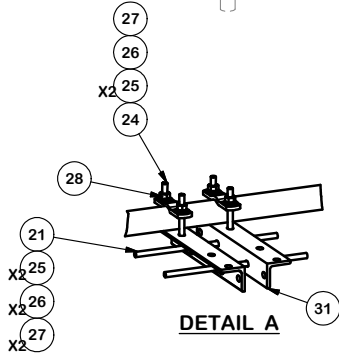
**Attachments:**

1. Mount Specification Sheet
2. Analysis Calculations
3. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
4. Antenna Placement Diagrams
5. TIA Adoption and Wind Speed Usage Letter





PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		66.80	133.59
2	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
3	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
4	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
5	2	P2126	2-3/8" OD X 126" SCH 40 GALVANIZED PIPE	126 in	40.75	81.50
6	2	X-VFAPL3	VFA-HD PIVOT PLATE	24 in	9.69	19.38
7	1	X-LPB	LOWER PIVOT BRACKET		8.84	8.84
8	1	X-UPB	UPPER PIVOT BRACKET		8.84	8.84
9	2	X-HDPMW	HEAVY DUTY PIPE MOUNT WELDMENT		18.61	37.21
10	4	DCP	1/2" THICK, 5-3/4" CTR TO CENTER CLAMP HALF	8 1/8 in	2.42	9.68
11	6	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	2.87
12	6	G34LW	3/4" HDG LOCKWASHER		0.04	0.26
13	6	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	1.27
14	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
15	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
16	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
17	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
18	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
19	44	G58LW	5/8" HDG LOCKWASHER		0.03	1.15
20	46	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	5.98
21	4	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.40	1.60
22	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	4.11
23	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
24	8	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	2.38
25	88	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	3.00
26	80	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.11
27	80	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	5.73
28	4	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.91	3.65
29	2	X-HDPMBP	HEAVY DUTY PIPE MOUNT BACKING PLATE	12 in	13.44	26.89
30	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)	18 in	0.40	3.19
31	4	X-LLTB	ANGLE BRACKET FOR LLTB	16 1/2 in	7.06	28.25
<b>TOTAL WT. #</b>						<b>648.71</b>



**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030"$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

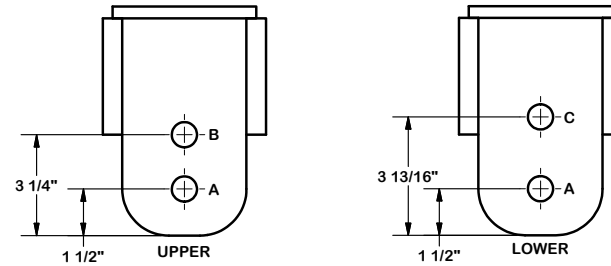
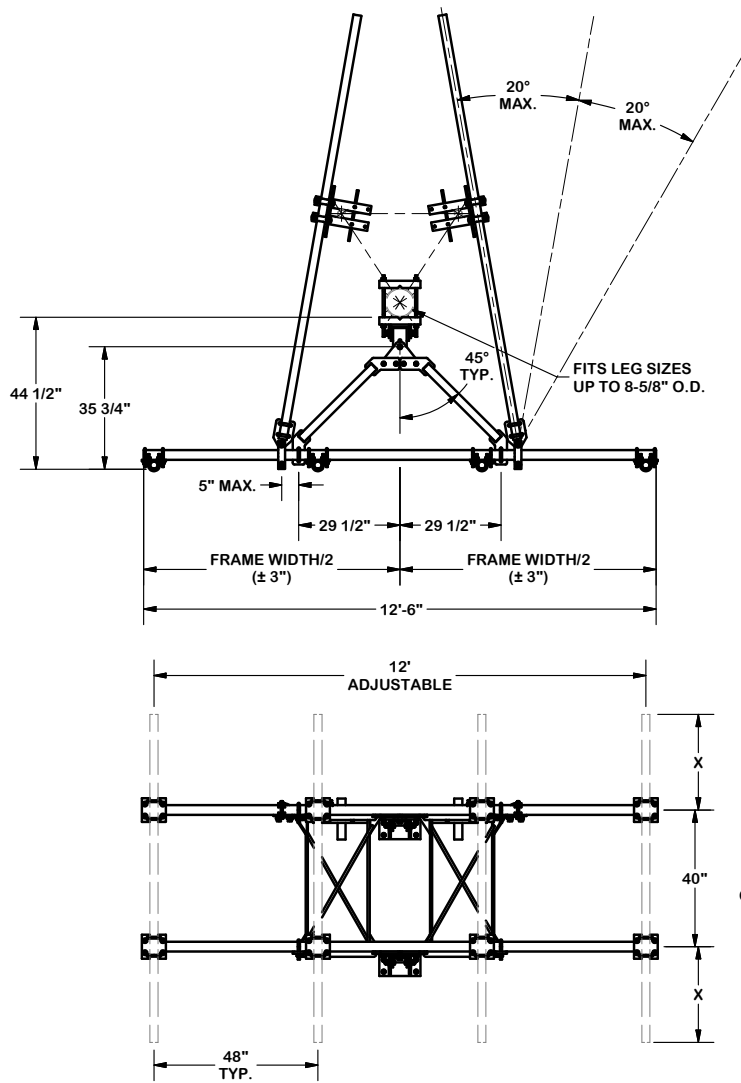
**PROPRIETARY NOTE:**  
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION		12'-6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS	
CPD NO.	DRAWN BY	ENG. APPROVAL	
	CEK	6/1/2015	
CLASS	DRAWING USAGE	CHECKED BY	
81	02	CUSTOMER	
		DATE	
		BMC 2/2/2017	

 <b>A valmont COMPANY</b>	Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX
	Engineering Support Team: 1-888-753-7446
PART NO.	VFA12-HD
DWG. NO.	VFA12-HD

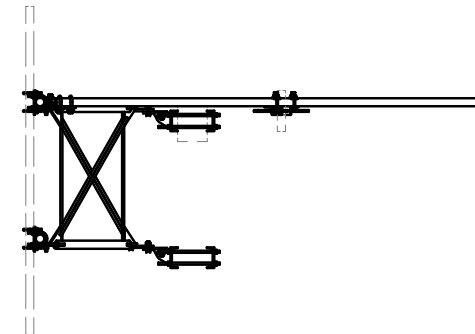
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED TIE-BACK FRONT CONNECTION	CEK		2/2/2017

**REVISION HISTORY**



**NOTES:**

1. USE HOLE "A" IN UPPER AND LOWER BRACKETS FOR STRAIGHT LEGS.
2. USE HOLE "A" IN UPPER BRACKET AND HOLE "C" IN LOWER BRACKET FOR 2" IN 20' TAPER LEGS (3.309")
3. USE HOLE "B" IN UPPER BRACKET AND HOLE "C" IN LOWER BRACKET FOR 6" IN 20' TAPER LEGS. (0.827")



**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030"$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

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DESCRIPTION  
 12'-6" HEAVY DUTY  
 V-FRAME ASSEMBLY  
 WITH TWO STIFF ARMS



Engineering Support Team:  
 1-888-753-7446

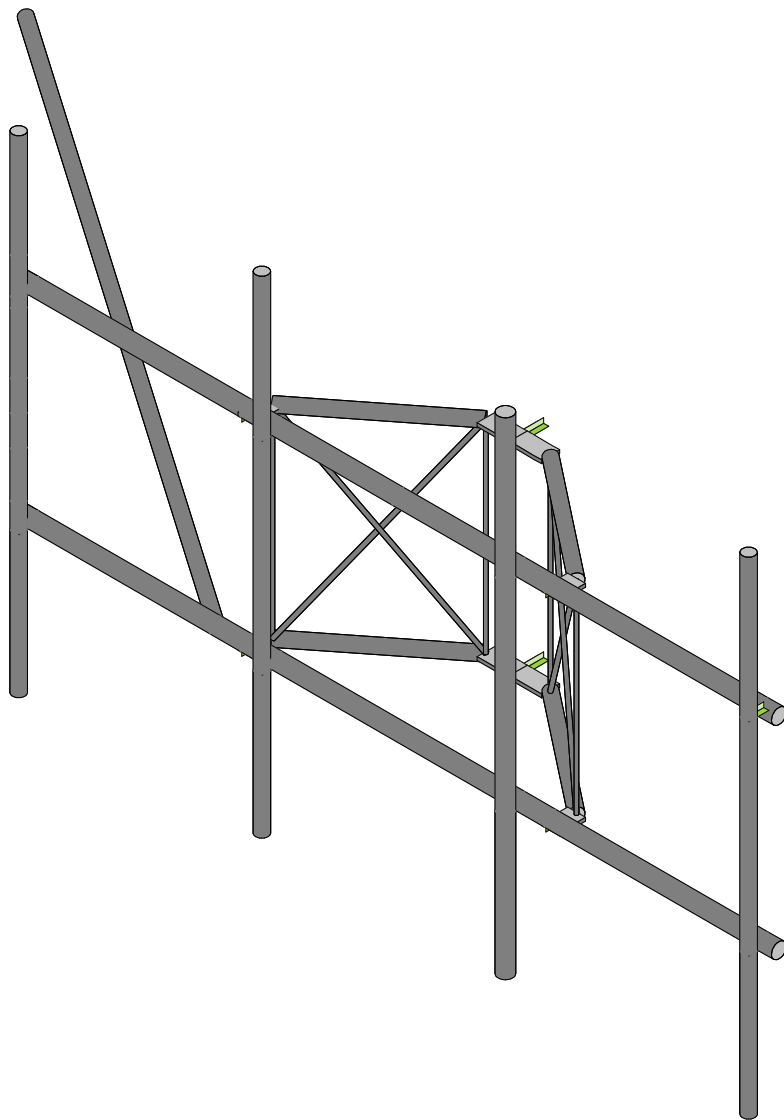
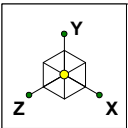
Locations:  
 New York, NY  
 Atlanta, GA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX

CPD NO.	DRAWN BY CEK	ENG. APPROVAL
CLASS 81	SUB 02	DRAWING USAGE CUSTOMER
	6/1/2015	CHECKED BY BMC
		2/2/2017

PART NO.	VFA12-HD
DWG. NO.	VFA12-HD

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED TIE-BACK FRONT CONNECTION	CEK		2/2/2017

REVISION HISTORY

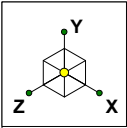


Envelope Only Solution

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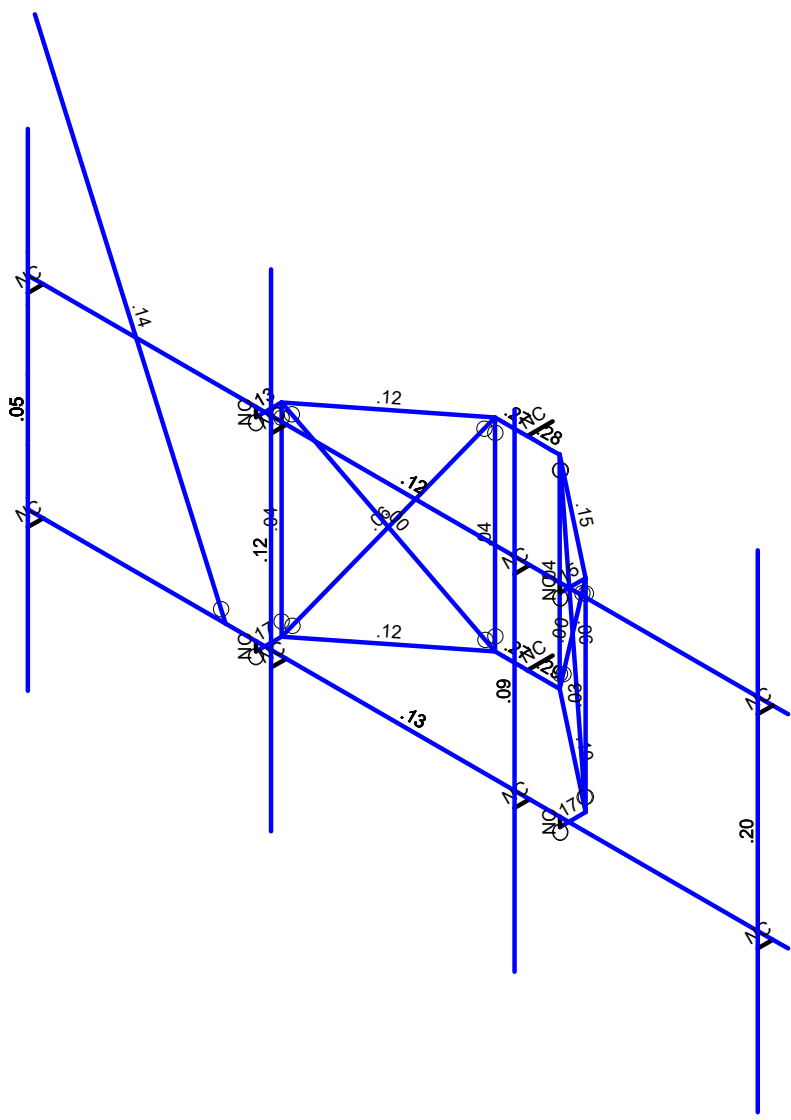
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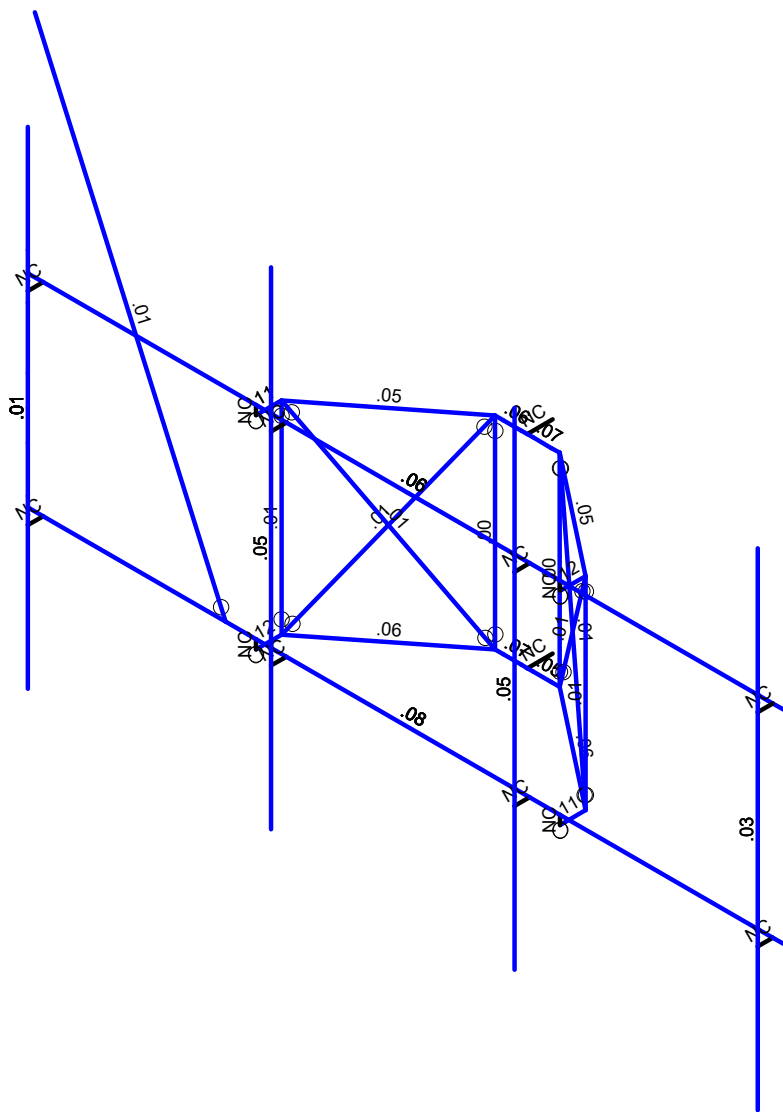
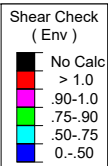
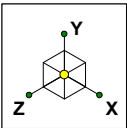
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- .90-1.0
- .75-.90
- .50-.75
- 0.-.50



Member Code Checks Displayed (Enveloped)  
Envelope Only Solution

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Member Shear Checks Displayed (Enveloped)  
Envelope Only Solution

SK - 3

July 9, 2021 at 11:53 AM

467860-VZW\_MT\_LOT\_A\_H.r3d















**A Ya Vyf '5 Xj Ub WX '8 UUF7 c bh bi YxŁ**

SääN	QÜ^Aae^	RÜ^Aae^	QÜ-~^čā á	RÜ-~^čā á	VEDAU}r	Ú@•âq	Ö^-~^čā á	Qääã^	Uā { &#220;
FG	TFI					Ÿ^.	Ö^-æ c		p[]^
FH	TFI					Ÿ^.			p[]^
FI	TFI					Ÿ^.			p[]^
FÍ	UXÚ					Ÿ^.	Ö^-æ c		p[]^
FÎ	TFI					Ÿ^.			p[]^
FÏ	TFJ					Ÿ^.			p[]^
Fİ	TGE					Ÿ^.	Ö^-æ c		p[]^
FJ	TGF					Ÿ^.	Ö^-æ c		p[]^
GE	TGG					Ÿ^.			p[]^
GF	TGH					Ÿ^.			p[]^
GG	TG					Ÿ^.			p[]^
GH	TG	Ó}Ú⊗	Ó}Ú⊗		Ò'À'Á'Æ	Ÿ^.	Ö^-æ c		p[]^
G	TG	Ó}Ú⊗	Ó}Ú⊗		Ò'À'Á'Æ	Ÿ^.	Ö^-æ c		p[]^
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Ğ	TGJ					Ÿ^.	EAPOAE	Qääã^	p[]^
Ġ	THE					Ÿ^.	EAPOAE	Qääã^	p[]^
GJ	TÚIÆ					Ÿ^.			p[]^
HE	TÚHÆ					Ÿ^.			p[]^
HF	TÚGÆ					Ÿ^.			p[]^
HG	TÚFÆ					Ÿ^.			p[]^
HH	TII	Ó}Ú⊗	Ó}Ú⊗			Ÿ^.			p[]^
HI	TIÍ	Ó}Ú⊗	Ó}Ú⊗			Ÿ^.			p[]^
HÍ	TIÎ	Ó}Ú⊗	Ó}Ú⊗			Ÿ^.			p[]^
HÏ	TII	Ó}Ú⊗	Ó}Ú⊗			Ÿ^.	Ö^-æ c		p[]^
Hİ	TIIÓ		UUUÝUU			Ÿ^.	EAPOAE		p[]^
Hİ	TIIÆ		UUUÝUU			Ÿ^.	EAPOAE		p[]^
HJ	TIJÆ		UUUÝUU			Ÿ^.	EAPOAE		p[]^
I€	TÍ€Æ		UUUÝUU			Ÿ^.	EAPOAE		p[]^
IF	TÍFÆ					Ÿ^.	EAPOAE		p[]^
IG	TÍGÆ					Ÿ^.	EAPOAE		p[]^
IH	TIIÓ	Ó}Ú⊗				Ÿ^.	Ö^-æ c		p[]^

**A Ya Vyf 'Dc j bh i @ UXg 'f6 @ '% '5 bh y bb U8 Ł**

T ^ { à ! CääN	Öä^&ç	T æ } æ à ž a ě Eä	Š &#220; } Ž a ě á
F	T ÚGÆ	Ÿ	ĚH
G	T ÚGÆ	T ^	ĚFF
H	T ÚGÆ	T :	ĚFÍ
I	T ÚGÆ	Ÿ	ĚH
Í	T ÚGÆ	T ^	ĚFF
Î	T ÚGÆ	T :	ĚFÍ
Ï	T ÚGÆ	Ÿ	ĚH
İ	T ÚGÆ	T ^	ĚFF
J	T ÚGÆ	T :	ĚFÍ
F€	T ÚGÆ	Ÿ	ĚH
FF	T ÚGÆ	T ^	ĚFF
FG	T ÚGÆ	T :	ĚFÍ
FH	T ÚHÆ	Ÿ	Ě H Ě Í
FI	T ÚHÆ	T ^	ĚGG
Fİ	T ÚHÆ	T :	€



























































**A Ya Vyf'8 ]gh]Vi hYX' @ UXg'f6 @' (%.'Gfi Wi fy'K c'f6'8 Y] tL'f' cbl]bi YXL**

	T ^ ( à^! /Àæ^ )	Öã^&çã}	ÙçæóÁ æ} æ' à^! àÀæ} àÁ æ} æ' à^! àÀæ} ÙçæóÁ &æã} Ždã á	Ò) àÁ &æã} Ždã á
IÍ	TII	Ý	€	€
IÏ	TII	Z	ĚĚG	ĚĚG
IĪ	TII	Ý	€	€
IĬ	TII	Z	ĚĚG	ĚĚG
IĴ	TII	Ý	€	€
I€	TII	Z	ĚĚG	ĚĚG
IF	TII	Ý	€	€
IG	TII	Z	ĚĚG	ĚĚG
IH	TIIÓ	Ý	€	€
IÌ	TIIÓ	Z	ĚĚG	ĚĚG

**A Ya Vyf'8 ]gh]Vi hYX' @ UXg'f6 @' (&.'Gfi Wi fy'K c'f1 \$'8 Y] tL**

	T ^ ( à^! /Àæ^ )	Öã^&çã}	ÙçæóÁ æ} æ' à^! àÀæ} àÁ æ} æ' à^! àÀæ} ÙçæóÁ &æã} Ždã á	Ò) àÁ &æã} Ždã á
F	ØØØØ	Ý	ĚĚG	ĚĚG
G	ØØØØ	Z	ĚĚĪG	ĚĚĪG
H	TG	Ý	ĚĚG	ĚĚG
I	TG	Z	ĚĚĪG	ĚĚĪG
Í	TFH	Ý	ĚĚF	ĚĚF
Î	TFH	Z	ĚĚFĪ	ĚĚFĪ
Ī	TFI	Ý	ĚĚF	ĚĚF
Ĭ	TFI	Z	ĚĚFĪ	ĚĚFĪ
J	TFÍ	Ý	ĚĚF	ĚĚF
F€	TFÍ	Z	ĚĚFĪ	ĚĚFĪ
FF	TFÍ	Ý	ĚĚF	ĚĚF
FG	TFÍ	Z	ĚĚFĪ	ĚĚFĪ
FH	UXÚ	Ý	ĚĚI	ĚĚI
FI	UXÚ	Z	ĚĚĪH	ĚĚĪH
FÍ	TFÍ	Ý	ĚĚI	ĚĚI
FĪ	TFÍ	Z	ĚĚĪH	ĚĚĪH
FĪ	TFJ	Ý	ĚĚĪ	ĚĚĪ
FĬ	TFJ	Z	ĚĚĪĪ	ĚĚĪĪ
FJ	TGE	Ý	ĚĚĪ	ĚĚĪ
G€	TGE	Z	ĚĚĪĪ	ĚĚĪĪ
GF	TGF	Ý	ĚĚH	ĚĚH
GG	TGF	Z	ĚĚĪH	ĚĚĪH
GH	TGG	Ý	ĚĚH	ĚĚH
G	TGG	Z	ĚĚĪH	ĚĚĪH
G	TGH	Ý	ĚĚH	ĚĚH
G	TGH	Z	ĚĚĪH	ĚĚĪH
G	TG	Ý	ĚĚH	ĚĚH
G	TG	Z	ĚĚĪH	ĚĚĪH
GJ	TG	Ý	ĚĚJJ	ĚĚJJ
H€	TG	Z	ĚĚĪH	ĚĚĪH
HF	TG	Ý	ĚĚJJ	ĚĚJJ
HG	TG	Z	ĚĚĪH	ĚĚĪH
HH	TG	Ý	FĚĪJ	FĚĪJ
HI	TG	Z	ĚĚĪJ	ĚĚĪJ
HÍ	TG	Ý	FĚĪJ	FĚĪJ
HĪ	TG	Z	ĚĚĪJ	ĚĚĪJ
H	TUIOE	Ý	ĚĚĪ	ĚĚĪ
H	TUIOE	Z	ĚĚĪĪ	ĚĚĪĪ







**A Ya Vyf'8 ]g|f]Vi hYX' @ UXg'f6 @' ( ( : 'Gfi Wñ fY'K c''f! \$'8 Y] H'f7 c b]bi YXL**

	T^{ à^!Àæ^ ^}	Öä^&çá}	ÙçæÓÀ æ} æ' à^!ZaDfííí) áÁ æ} æ' à^!ZaDfííí) ÙçæÓÀ } &æá} ŽdĀ á	Ò) áÁ } &æá} ŽdĀ á		
G̃	T G	Ý	€	€	€	Ä FEE
Ḡ	T G	Z	€	€	€	Ä FEE
Ġ	T G	Ý	FÈ Jì	FÈ Jì	€	Ä FEE
H̃	T G	Z	€	€	€	Ä FEE
H̄	T G	Ý	FÈ Jì	FÈ Jì	€	Ä FEE
Ḣ	T G	Z	€	€	€	Ä FEE
Ḧ	T G	Ý	FÈ Jì	FÈ Jì	€	Ä FEE
H̉	T G	Z	€	€	€	Ä FEE
H̊	T G	Ý	FÈ Jì	FÈ Jì	€	Ä FEE
H̋	T G	Z	€	€	€	Ä FEE
Ȟ	T ÚÍ Œ	Ý	İ ÈĞ	İ ÈĞ	€	Ä FEE
H̍	T ÚÍ Œ	Z	€	€	€	Ä FEE
H̎	T ÚHŒ	Ý	İ ÈĞ	İ ÈĞ	€	Ä FEE
H̏	T ÚHŒ	Z	€	€	€	Ä FEE
H̐	T ÚÇŒ	Ý	İ Èİ F	İ Èİ F	€	Ä FEE
H̑	T ÚÇŒ	Z	€	€	€	Ä FEE
H̒	T ÚFŒ	Ý	İ ÈĞ	İ ÈĞ	€	Ä FEE
H̓	T ÚFŒ	Z	€	€	€	Ä FEE
H̔	T İİ	Ý	FÈ GJ	FÈ GJ	€	Ä FEE
H̕	T İİ	Z	€	€	€	Ä FEE
H̖	T İİ	Ý	FÈ GJ	FÈ GJ	€	Ä FEE
H̗	T İİ	Z	€	€	€	Ä FEE
H̘	T İİ	Ý	FÈ GJ	FÈ GJ	€	Ä FEE
H̙	T İİ	Z	€	€	€	Ä FEE
H̚	T İİ	Ý	FÈ GJ	FÈ GJ	€	Ä FEE
H̛	T İİ	Z	€	€	€	Ä FEE
H̜	T İİ Ó	Ý	GÈ Ğ	GÈ Ğ	€	Ä FEE
H̝	T İİ Ó	Z	€	€	€	Ä FEE

**A Ya Vyf'8 ]g|f]Vi hYX' @ UXg'f6 @' ( ) : 'Gfi Wñ fY'K c''f! \$'8 Y] H'**

	T^{ à^!Àæ^ ^}	Öä^&çá}	ÙçæÓÀ æ} æ' à^!ZaDfííí) áÁ æ} æ' à^!ZaDfííí) ÙçæÓÀ } &æá} ŽdĀ á	Ò) áÁ } &æá} ŽdĀ á		
F	ØØØØ	Ý	FÈ GF	FÈ GF	€	Ä FEE
G	ØØØØ	Z	FÈ ÇJ	FÈ ÇJ	€	Ä FEE
H	T G	Ý	FÈ GF	FÈ GF	€	Ä FEE
I	T G	Z	FÈ ÇJ	FÈ ÇJ	€	Ä FEE
Í	T FH	Ý	FÈ G H	FÈ G H	€	Ä FEE
Î	T FH	Z	È GH	È GH	€	Ä FEE
Ï	T FI	Ý	FÈ G H	FÈ G H	€	Ä FEE
Ë	T FI	Z	È GH	È GH	€	Ä FEE
J	T FÍ	Ý	FÈ G H	FÈ G H	€	Ä FEE
F€	T FÍ	Z	È GH	È GH	€	Ä FEE
FF	T FÎ	Ý	FÈ G H	FÈ G H	€	Ä FEE
FG	T FÎ	Z	È GH	È GH	€	Ä FEE
FH	UXÚ	Ý	I ÈF	I ÈF	€	Ä FEE
FI	UXÚ	Z	GÈ HF	GÈ HF	€	Ä FEE
FÍ	T FÌ	Ý	I ÈF	I ÈF	€	Ä FEE
FÎ	T FÌ	Z	GÈ HF	GÈ HF	€	Ä FEE
FÏ	T FJ	Ý	ÈJ Í	ÈJ Í	€	Ä FEE
FË	T FJ	Z	È Í	È Í	€	Ä FEE
FJ	T GÈ	Ý	ÈJ Í	ÈJ Í	€	Ä FEE
GÈ	T GÈ	Z	È Í	È Í	€	Ä FEE



**A Ya Vyf'8 ]gfh]Vi hYX' @ UXg'f6 @ (' : 'Gfi Wi fy'K c''f% \$ 8 Y] ttf' cb]bi YXL**

	T^ { à^!Àæ^ ^ }	Öã^&çã }	ÚçæóÁ æ } á à^!Àæ^ ^ } á Á æ } á à^!Àæ^ ^ } ÚçæóÁ æ } ŽdĀ á	Ó) á Á æ } ŽdĀ á		
Fí	T Fí	Ý	ĜĚ Ī	ĜĚ Ī	€	Ā FEE
FĪ	T FĪ	Z	Ī Ě Ī	Ī Ě Ī	€	Ā FEE
FĪ	T FĪ	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
FĪ	T FĪ	Z	Ě Ī H	Ě Ī H	€	Ā FEE
FJ	T ĞĚ	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
ĞĚ	T ĞĚ	Z	Ě Ī H	Ě Ī H	€	Ā FEE
ĞF	T ĞF	Ý	Ě Ğ H	Ě Ğ H	€	Ā FEE
ĞĠ	T ĞF	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
ĠH	T ĠĠ	Ý	Ě Ğ H	Ě Ğ H	€	Ā FEE
Ġ	T ĠĠ	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
Ġ	T ĠH	Ý	Ě Ğ H	Ě Ğ H	€	Ā FEE
Ġ	T ĠH	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
Ġ	T Ġ	Ý	Ě Ğ H	Ě Ğ H	€	Ā FEE
Ġ	T Ġ	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
ĠJ	T Ġ	Ý	FĚ Ī J	FĚ Ī J	€	Ā FEE
HĚ	T Ġ	Z	FĚ J	FĚ J	€	Ā FEE
HF	T Ġ	Ý	FĚ Ī J	FĚ Ī J	€	Ā FEE
HĠ	T Ġ	Z	FĚ J	FĚ J	€	Ā FEE
HH	T Ġ	Ý	Ě Ĵ Ĵ	Ě Ĵ Ĵ	€	Ā FEE
HĪ	T Ġ	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
HĪ	T Ġ	Ý	Ě Ĵ Ĵ	Ě Ĵ Ĵ	€	Ā FEE
HĪ	T Ġ	Z	FĚ Ī H	FĚ Ī H	€	Ā FEE
HĪ	T Ū Ī ĞĚ	Ý	HĚ Ī Ī	HĚ Ī Ī	€	Ā FEE
HĪ	T Ū Ī ĞĚ	Z	Ī Ě Ī Ī	Ī Ě Ī Ī	€	Ā FEE
HJ	T Ū HĞĚ	Ý	HĚ Ī Ī	HĚ Ī Ī	€	Ā FEE
Ī Ě	T Ū HĞĚ	Z	Ī Ě Ī Ī	Ī Ě Ī Ī	€	Ā FEE
Ī F	T Ū ĞĚ	Ý	Ī Ě Ī	Ī Ě Ī	€	Ā FEE
Ī Ġ	T Ū ĞĚ	Z	Ī Ě Ī H	Ī Ě Ī H	€	Ā FEE
Ī H	T Ū FĞĚ	Ý	HĚ Ī Ī	HĚ Ī Ī	€	Ā FEE
Ī Ī	T Ū FĞĚ	Z	Ī Ě Ī Ī	Ī Ě Ī Ī	€	Ā FEE
Ī Ī	T Ī Ī	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
Ī Ī	T Ī Ī	Z	FĚ Ī	FĚ Ī	€	Ā FEE
Ī Ī	T Ī Ī	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
Ī Ī	T Ī Ī	Z	FĚ Ī	FĚ Ī	€	Ā FEE
Ī J	T Ī Ī	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
Ī Ě	T Ī Ī	Z	FĚ Ī	FĚ Ī	€	Ā FEE
Ī F	T Ī Ī	Ý	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
Ī Ġ	T Ī Ī	Z	FĚ Ī	FĚ Ī	€	Ā FEE
Ī H	T Ī Ī Ó	Ý	Ě Ī J	Ě Ī J	€	Ā FEE
Ī Ī	T Ī Ī Ó	Z	FĚ Ī F	FĚ Ī F	€	Ā FEE

**A Ya Vyf'8 ]gfh]Vi hYX' @ UXg'f6 @ (' + : 'Gfi Wi fy'K c''f% \$ 8 Y] t**

	T^ { à^!Àæ^ ^ }	Öã^&çã }	ÚçæóÁ æ } á à^!Àæ^ ^ } á Á æ } á à^!Àæ^ ^ } ÚçæóÁ æ } ŽdĀ á	Ó) á Á æ } ŽdĀ á		
F	ØØØØ	Ý	€	€	€	Ā FEE
G	ØØØØ	Z	Ī Ě Ī F	Ī Ě Ī F	€	Ā FEE
H	T Ġ	Ý	€	€	€	Ā FEE
Ī	T Ġ	Z	Ī Ě Ī F	Ī Ě Ī F	€	Ā FEE
Ī	T FH	Ý	€	€	€	Ā FEE
Ī	T FH	Z	€	€	€	Ā FEE
Ī	T FI	Ý	€	€	€	Ā FEE
Ī	T FI	Z	€	€	€	Ā FEE

**A Ya Vyf'8 ]ghf]Vi hYX' @ UXg'f6 @' (+: 'Gfi Wh fy'K c'fv, \$ 8 Y] ttfv cb]bi YXL**

	T^{ à^/Àæ^}	Öã^&ç} } Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á
J	T FÍ	Ý	€	€	€	€	À FEE
F€	T FÍ	Z	€	€	€	€	À FEE
FF	T FÍ	Ý	€	€	€	€	À FEE
FG	T FÍ	Z	€	€	€	€	À FEE
FH	UXÚ	Ý	€	€	€	€	À FEE
FI	UXÚ	Z	HÉ ÈH	HÉ ÈH	€	€	À FEE
FÍ	T FÍ	Ý	€	€	€	€	À FEE
FÌ	T FÍ	Z	HÉ ÈH	HÉ ÈH	€	€	À FEE
FĪ	T FJ	Ý	€	€	€	€	À FEE
FĬ	T FJ	Z	HÉ ÈH	HÉ ÈH	€	€	À FEE
FJ	T G€	Ý	€	€	€	€	À FEE
G€	T G€	Z	HÉ ÈH	HÉ ÈH	€	€	À FEE
GF	T GF	Ý	€	€	€	€	À FEE
GG	T GF	Z	FÈ GJ	FÈ GJ	€	€	À FEE
GH	T GG	Ý	€	€	€	€	À FEE
G	T GG	Z	FÈ GJ	FÈ GJ	€	€	À FEE
Ḡ	T GH	Ý	€	€	€	€	À FEE
G̈	T GH	Z	FÈ GJ	FÈ GJ	€	€	À FEE
G̊	T G	Ý	€	€	€	€	À FEE
G̋	T G	Z	FÈ GJ	FÈ GJ	€	€	À FEE
GJ	T Ḡ	Ý	€	€	€	€	À FEE
H€	T Ḡ	Z	FÈ JĪ	FÈ JĪ	€	€	À FEE
HF	T Ḡ	Ý	€	€	€	€	À FEE
HG	T Ḡ	Z	FÈ JĪ	FÈ JĪ	€	€	À FEE
HH	T Ḡ	Ý	€	€	€	€	À FEE
HI	T Ḡ	Z	FÈ JĪ	FÈ JĪ	€	€	À FEE
HÍ	T Ḡ	Ý	€	€	€	€	À FEE
HÌ	T Ḡ	Z	FÈ JĪ	FÈ JĪ	€	€	À FEE
HĪ	T ÚÍ ÇE	Ý	€	€	€	€	À FEE
HĬ	T ÚÍ ÇE	Z	Ī ÈG	Ī ÈG	€	€	À FEE
HJ	T ÚHÇE	Ý	€	€	€	€	À FEE
I €	T ÚHÇE	Z	Ī ÈG	Ī ÈG	€	€	À FEE
IF	T ÚÇE	Ý	€	€	€	€	À FEE
IG	T ÚÇE	Z	Ī ÈĪ F	Ī ÈĪ F	€	€	À FEE
IH	T ÚFÇE	Ý	€	€	€	€	À FEE
IĪ	T ÚFÇE	Z	Ī ÈG	Ī ÈG	€	€	À FEE
IĪ̄	T ĪĪ	Ý	€	€	€	€	À FEE
IĪ̈	T ĪĪ	Z	FÈ GJ	FÈ GJ	€	€	À FEE
IĪ̊	T ĪĪ	Ý	€	€	€	€	À FEE
IĪ̋	T ĪĪ	Z	FÈ GJ	FÈ GJ	€	€	À FEE
IJ	T ĪĪ̄	Ý	€	€	€	€	À FEE
I€	T ĪĪ̄	Z	FÈ GJ	FÈ GJ	€	€	À FEE
IF	T ĪĪ̈	Ý	€	€	€	€	À FEE
IG	T ĪĪ̊	Z	FÈ GJ	FÈ GJ	€	€	À FEE
IH	T ĪĪ̋	Ý	€	€	€	€	À FEE
IĪ	T ĪĪ̄	Z	Ī ÈG	Ī ÈG	€	€	À FEE

**A Ya Vyf'8 ]ghf]Vi hYX' @ UXg'f6 @' (, : 'Gfi Wh fy'K c'fv,\$ 8 Y] ttfv**

	T^{ à^/Àæ^}	Öã^&ç} } Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á	Üçæ'À æ' } æ' à^'ZaDç(È) à'À æ' } æ' à^'ZaDç(È) Üçæ'Û } &çç} } ZçÄ á
F	ØÇÈ	Ý	È ÈG	È ÈG	€	€	À FEE
G	ØÇÈ	Z	Ī ÈG	Ī ÈG	€	€	À FEE





**A Ya VYf'8 ]gff ]Vi hYX' @ UXg'f6 @ (- : 'Gfi Wñ fY'K c 'fB( \$ 8 Y] 4 fT' cbh ]bi YXL**

	T^ { à^/Aæ^ ^ }	Öá^&ç } }	ÚçéóÁ æ } æ á^ ZãDç(Ö) áÁ æ } æ á^ ZãDç(Ö) ÚçéóÁ } &çç } ŽdÄ á	Ö) áÁ } &çç } ŽdÄ á
Í H	T II Ó	Y	Ě ĚĚ	€
Í I	T II Ó	Z	HĚĚ	€

**A Ya VYf'8 ]gff ]Vi hYX' @ UXg'f6 @ ) \$ : 'Gfi Wñ fY'K c 'fB+ \$ 8 Y] 4**

	T^ { à^/Aæ^ ^ }	Öá^&ç } }	ÚçéóÁ æ } æ á^ ZãDç(Ö) áÁ æ } æ á^ ZãDç(Ö) ÚçéóÁ } &çç } ŽdÄ á	Ö) áÁ } &çç } ŽdÄ á
F	0000	Y	€	€
G	0000	Z	€	€
H	TG	Y	€	€
I	TG	Z	€	€
Í	T FH	Y	Ě ĚĚ	€
Î	T FH	Z	€	€
Ï	T FI	Y	Ě ĚĚ	€
Ì	T FI	Z	€	€
J	T FÍ	Y	Ě ĚĚ	€
F€	T FÍ	Z	€	€
FF	T FÍ	Y	Ě ĚĚ	€
FG	T FÍ	Z	€	€
FH	UXÚ	Y	ĚĚ	€
FI	UXÚ	Z	€	€
FÍ	T FÍ	Y	ĚĚ	€
FÌ	T FÍ	Z	€	€
FÌ	T FÍ	Y	ĚĚ	€
FÌ	T FÍ	Z	€	€
FJ	T GĚ	Y	ĚĚ	€
G€	T GĚ	Z	€	€
GF	T GF	Y	€	€
GG	T GF	Z	€	€
GH	T GG	Y	€	€
GI	T GG	Z	€	€
GÍ	T GH	Y	€	€
GÌ	T GH	Z	€	€
G	T G	Y	€	€
G	T G	Z	€	€
GJ	T G	Y	Ě ĚĚ	€
H€	T G	Z	€	€
HF	T G	Y	Ě ĚĚ	€
HG	T G	Z	€	€
HH	T G	Y	Ě ĚĚ	€
HÍ	T G	Z	€	€
HÌ	T G	Y	Ě ĚĚ	€
HÌ	T G	Z	€	€
HÌ	T Ú   OE	Y	Ě ĚĚ	€
HÌ	T Ú   OE	Z	€	€
HJ	T Ú   HOE	Y	Ě ĚĚ	€
I€	T Ú   HOE	Z	€	€
IF	T Ú   GOE	Y	Ě ĚĚ   F	€
IG	T Ú   GOE	Z	€	€
IH	T Ú   FCE	Y	Ě ĚĚ	€
II	T Ú   FCE	Z	€	€
ÍÍ	T II	Y	Ě ĚĚ	€
ÎÎ	T II	Z	€	€



**A Ya Vyf'8 ]gfi]Vi hYX' @ UXg'f6 @ ) \$ : 'Gfi Wi fy'K c 'f6+\$ 8 Y ] f'f' cb]bi YXL**

	T \ { à^!Àæ^}	Öá^&ç}	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á
Iİ	TIİ	Y	€	€	€	€
Iİ	TIİ	Z	€	€	€	€
IJ	TIİ	Y	€	€	€	€
I€	TIİ	Z	€	€	€	€
IF	TIİ	Y	€	€	€	€
IG	TIİ	Z	€	€	€	€
IH	TIIO	Y	€	€	€	€
Iİ	TIIO	Z	€	€	€	€

**A Ya Vyf'8 ]gfi]Vi hYX' @ UXg'f6 @ ) % 'Gfi Wi fy'K c 'f1 \$\$ 8 Y ] f'**

	T \ { à^!Àæ^}	Öá^&ç}	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á	Úçæ'Á æ } æ à^ZaDf(Ö) á'Á æ } æ à^ZaDf(Ö) Úçæ'Á &æç } Žd'Á á
F	ØØØØ	Y	€	€	€	€
G	ØØØØ	Z	€	€	€	€
H	TG	Y	€	€	€	€
I	TG	Z	€	€	€	€
Í	TFH	Y	€	€	€	€
Î	TFH	Z	€	€	€	€
Ï	TFI	Y	€	€	€	€
İ	TFI	Z	€	€	€	€
J	TFÍ	Y	€	€	€	€
F€	TFÍ	Z	€	€	€	€
FF	TFÎ	Y	€	€	€	€
FG	TFÎ	Z	€	€	€	€
FH	UXÚ	Y	€	€	€	€
FI	UXÚ	Z	€	€	€	€
FÍ	TFÌ	Y	€	€	€	€
FÌ	TFÌ	Z	€	€	€	€
FÎ	TFJ	Y	€	€	€	€
Fİ	TFJ	Z	€	€	€	€
FJ	TG€	Y	€	€	€	€
G€	TG€	Z	€	€	€	€
GF	TGF	Y	€	€	€	€
GG	TGF	Z	€	€	€	€
GH	TGG	Y	€	€	€	€
G	TGG	Z	€	€	€	€
G	TGH	Y	€	€	€	€
G	TGH	Z	€	€	€	€
G	TG	Y	€	€	€	€
G	TG	Z	€	€	€	€
GJ	TGÍ	Y	€	€	€	€
H€	TGÍ	Z	€	€	€	€
HF	TGÎ	Y	€	€	€	€
HG	TGÎ	Z	€	€	€	€
HH	TGÏ	Y	€	€	€	€
HI	TGÏ	Z	€	€	€	€
HÍ	TGÌ	Y	€	€	€	€
HÌ	TGÌ	Z	€	€	€	€
Hİ	TUIÖE	Y	€	€	€	€
Hİ	TUIÖE	Z	€	€	€	€
HJ	TUHÖE	Y	€	€	€	€
I€	TUHÖE	Z	€	€	€	€



**A Ya Vyf'8 jglf]Vi hYX'@ UXg'f6 @ )' &: 'Gfi Wñ fy'K c'fl' \$ 8 Y] HfV cb]bi YXL**

	T^{ à^!Àæ^}	Öá^&çj}	ÚççóÁ æ} æ' á^ZaDçfíE) áÁ æ} æ' á^ZaDçfíE ÚççóÁ &ççj} ŽčĀ á	Ó) áÁ &ççj} ŽčĀ á		
HÍ	T G	Y	Ě JJ	Ě JJ	€	Ā FEE
HĪ	T G	Z	Ě Ě H	Ě Ě H	€	Ā FEE
HĪ	T ÚI OE	Y	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
HĪ	T ÚI OE	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
HJ	T ÚHOE	Y	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
I €	T ÚHOE	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IF	T ÚGOE	Y	Ě Ě H	Ě Ě H	€	Ā FEE
IG	T ÚGOE	Z	Ě Ě H	Ě Ě H	€	Ā FEE
IH	T ÚFOE	Y	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
II	T ÚFOE	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IÍ	T II	Y	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
IĪ	T II	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IĪ	T IĪ	Y	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
IĪ	T IĪ	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IJ	T IĪ	Y	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
I €	T IĪ	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IF	T IĪ	Y	Ě Ī Ī	Ě Ī Ī	€	Ā FEE
IG	T IĪ	Z	Ě Ě Ī	Ě Ě Ī	€	Ā FEE
IH	T II Ó	Y	Ě Ī J	Ě Ī J	€	Ā FEE
IĪ	T II Ó	Z	Ě Ě F	Ě Ě F	€	Ā FEE

**A Ya Vyf'8 jglf]Vi hYX'@ UXg'f6 @ )' : 'Gfi Wñ fy'K ]'f6 8 Y] H**

	T^{ à^!Àæ^}	Öá^&çj}	ÚççóÁ æ} æ' á^ZaDçfíE) áÁ æ} æ' á^ZaDçfíE ÚççóÁ &ççj} ŽčĀ á	Ó) áÁ &ççj} ŽčĀ á		
F	ØØØØ	Y	€	€	€	Ā FEE
G	ØØØØ	Z	Ě Ě F	Ě Ě F	€	Ā FEE
H	T G	Y	€	€	€	Ā FEE
I	T G	Z	Ě Ě F	Ě Ě F	€	Ā FEE
I	T FH	Y	€	€	€	Ā FEE
I	T FH	Z	€	€	€	Ā FEE
I	T FI	Y	€	€	€	Ā FEE
I	T FI	Z	€	€	€	Ā FEE
J	T FĪ	Y	€	€	€	Ā FEE
F €	T FĪ	Z	€	€	€	Ā FEE
FF	T FĪ	Y	€	€	€	Ā FEE
FG	T FĪ	Z	€	€	€	Ā FEE
FH	UXÚ	Y	€	€	€	Ā FEE
FI	UXÚ	Z	Ě Ě F	Ě Ě F	€	Ā FEE
FĪ	T FĪ	Y	€	€	€	Ā FEE
FĪ	T FĪ	Z	Ě Ě F	Ě Ě F	€	Ā FEE
FĪ	T FJ	Y	€	€	€	Ā FEE
FĪ	T FJ	Z	Ě Ě F	Ě Ě F	€	Ā FEE
FJ	T G€	Y	€	€	€	Ā FEE
G €	T G€	Z	Ě Ě F	Ě Ě F	€	Ā FEE
GF	T GF	Y	€	€	€	Ā FEE
GG	T GF	Z	Ě Ě F	Ě Ě F	€	Ā FEE
GH	T GG	Y	€	€	€	Ā FEE
G	T GG	Z	Ě Ě F	Ě Ě F	€	Ā FEE
G	T GH	Y	€	€	€	Ā FEE
G	T GH	Z	Ě Ě F	Ě Ě F	€	Ā FEE
G	T G	Y	€	€	€	Ā FEE
G	T G	Z	Ě Ě F	Ě Ě F	€	Ā FEE







**A Ya Vyf'8 ]g]f]Vi hYX' @ UXg'f6 @' ) \* : 'Gfi Wñ fY'K ]'f' \$'8 Y] tL'f7 cb]jbi YXL**

	T ^ { à^!Àæ^ ^ }	Öã^&çá }	ÚçæÓÀ æ } á à^!Àæ^ (D) áÀ æ } á à^!Àæ^ (E) ÚçæÓÀ æ } á à^!Àæ^ (F) ŽdĀ á	Ò) áÀ æ } ŽdĀ á		
FF	T FĪ	Ý	FĒÍ I	FĒÍ I	€	Ā FEE
FG	T FĪ	Z	€	€	€	Ā FEE
FH	UXÚ	Ý	Ē Ē	Ē Ē	€	Ā FEE
FI	UXÚ	Z	€	€	€	Ā FEE
FÍ	T FĪ	Ý	Ē Ē	Ē Ē	€	Ā FEE
FĪ	T FĪ	Z	€	€	€	Ā FEE
FĪ	T FJ	Ý	Ē Ē	Ē Ē	€	Ā FEE
FĪ	T FJ	Z	€	€	€	Ā FEE
FJ	T ĞE	Ý	Ē Ē	Ē Ē	€	Ā FEE
ĞE	T ĞE	Z	€	€	€	Ā FEE
GF	T ĞF	Ý	€	€	€	Ā FEE
GG	T ĞF	Z	€	€	€	Ā FEE
GH	T ĞG	Ý	€	€	€	Ā FEE
G	T ĞG	Z	€	€	€	Ā FEE
G	T GH	Ý	€	€	€	Ā FEE
G	T GH	Z	€	€	€	Ā FEE
G	T G	Ý	€	€	€	Ā FEE
G	T G	Z	€	€	€	Ā FEE
GJ	T Ğ	Ý	FĒĠG	FĒĠG	€	Ā FEE
HĒ	T Ğ	Z	€	€	€	Ā FEE
HF	T Ğ	Ý	FĒĠG	FĒĠG	€	Ā FEE
HG	T Ğ	Z	€	€	€	Ā FEE
HH	T Ğ	Ý	FĒĠG	FĒĠG	€	Ā FEE
H	T Ğ	Z	€	€	€	Ā FEE
H	T Ğ	Ý	FĒĠG	FĒĠG	€	Ā FEE
H	T Ğ	Z	€	€	€	Ā FEE
HĪ	T ÚI OE	Ý	ĠĒ HJ	ĠĒ HJ	€	Ā FEE
HĪ	T ÚI OE	Z	€	€	€	Ā FEE
HJ	T ÚHOE	Ý	ĠĒ HJ	ĠĒ HJ	€	Ā FEE
I €	T ÚHOE	Z	€	€	€	Ā FEE
IF	T ÚGOE	Ý	HĒĤF	HĒĤF	€	Ā FEE
IG	T ÚGOE	Z	€	€	€	Ā FEE
IH	T ÚFOE	Ý	ĠĒ HJ	ĠĒ HJ	€	Ā FEE
I	T ÚFOE	Z	€	€	€	Ā FEE
IĪ	T IĪ	Ý	FĒĠG	FĒĠG	€	Ā FEE
IĪ	T IĪ	Z	€	€	€	Ā FEE
IĪ	T IĪ	Ý	FĒĠG	FĒĠG	€	Ā FEE
IĪ	T IĪ	Z	€	€	€	Ā FEE
IJ	T IĪ	Ý	FĒĠG	FĒĠG	€	Ā FEE
I €	T IĪ	Z	€	€	€	Ā FEE
IF	T IĪ	Ý	FĒĠG	FĒĠG	€	Ā FEE
IG	T IĪ	Z	€	€	€	Ā FEE
IH	T IĪ Ó	Ý	Ē Ĵ	Ē Ĵ	€	Ā FEE
IĪ	T IĪ Ó	Z	€	€	€	Ā FEE

**A Ya Vyf'8 ]g]f]Vi hYX' @ UXg'f6 @' ) + : 'Gfi Wñ fY'K ]'f' \$'8 Y] tL**

	T ^ { à^!Àæ^ ^ }	Öã^&çá }	ÚçæÓÀ æ } á à^!Àæ^ (D) áÀ æ } á à^!Àæ^ (E) ÚçæÓÀ æ } á à^!Àæ^ (F) ŽdĀ á	Ò) áÀ æ } ŽdĀ á		
F	ØØØØ	Ý	Ē Ī	Ē Ī	€	Ā FEE
G	ØØØØ	Z	Ē Ĵ	Ē Ĵ	€	Ā FEE
H	T G	Ý	Ē Ī	Ē Ī	€	Ā FEE
I	T G	Z	Ē Ĵ	Ē Ĵ	€	Ā FEE

**A Ya Vyf'8 ]gfh]Vi hYX' @ UXg'f6 @' )+ : 'Gfi Wñ fy'K ]''fp&\$'8 Yl Ë'ff c bh]bi YXL**

	T^{ à^!Àæ^}	Öã^&ç}	ÙçèÀ æ } æ à^ZaD(È) àÁ æ } æ à^ZaD(È) ÙçèÀ } &ç	ŽdÁ á	Ò) áÁ } &ç } ŽdÁ á	
Í	T FH	Ý	Ě Í	Ě Í	€	À FEE
Î	T FH	Z	Ě HH	Ě HH	€	À FEE
Ï	T FI	Ý	Ě Í	Ě Í	€	À FEE
Ï	T FI	Z	Ě HH	Ě HH	€	À FEE
J	T FÍ	Ý	Ě Í	Ě Í	€	À FEE
F€	T FÍ	Z	Ě HH	Ě HH	€	À FEE
FF	T FÎ	Ý	Ě Í	Ě Í	€	À FEE
FG	T FÎ	Z	Ě HH	Ě HH	€	À FEE
FH	UXÚ	Ý	FĚ Í J	FĚ Í J	€	À FEE
FI	UXÚ	Z	Ë FG	Ë FG	€	À FEE
FÍ	T FÌ	Ý	FĚ Í J	FĚ Í J	€	À FEE
FÎ	T FÌ	Z	Ë FG	Ë FG	€	À FEE
FÏ	T FJ	Ý	Ě Í	Ě Í	€	À FEE
FÌ	T FJ	Z	Ě GF	Ě GF	€	À FEE
FJ	T GE	Ý	Ě Í	Ě Í	€	À FEE
GE	T GE	Z	Ě GF	Ě GF	€	À FEE
GF	T GF	Ý	Ë F	Ë F	€	À FEE
GG	T GF	Z	Ě Í	Ě Í	€	À FEE
GH	T GG	Ý	Ë F	Ë F	€	À FEE
G	T GG	Z	Ě Í	Ě Í	€	À FEE
G	T GH	Ý	Ë F	Ë F	€	À FEE
G	T GH	Z	Ě Í	Ě Í	€	À FEE
G	T G	Ý	Ë F	Ë F	€	À FEE
G	T G	Z	Ě Í	Ě Í	€	À FEE
GJ	T G	Ý	FĚ G	FĚ G	€	À FEE
H€	T G	Z	Ě EJ	Ě EJ	€	À FEE
HF	T G	Ý	FĚ G	FĚ G	€	À FEE
HG	T G	Z	Ě EJ	Ě EJ	€	À FEE
HH	T G	Ý	Ë Í	Ë Í	€	À FEE
HI	T G	Z	Ě Í F	Ě Í F	€	À FEE
HÍ	T G	Ý	Ë Í	Ë Í	€	À FEE
HÎ	T G	Z	Ě Í F	Ě Í F	€	À FEE
HÏ	T UI OE	Ý	GĚ Í G	GĚ Í G	€	À FEE
HÌ	T UI OE	Z	FĚ Í J	FĚ Í J	€	À FEE
HJ	T ÚHOE	Ý	GĚ Í G	GĚ Í G	€	À FEE
I€	T ÚHOE	Z	FĚ Í J	FĚ Í J	€	À FEE
IF	T ÚGOE	Ý	GĚ G	GĚ G	€	À FEE
IG	T ÚGOE	Z	FĚ Í	FĚ Í	€	À FEE
IH	T ÚFOE	Ý	GĚ Í G	GĚ Í G	€	À FEE
II	T ÚFOE	Z	FĚ Í J	FĚ Í J	€	À FEE
IÍ	T II	Ý	FĚ FJ	FĚ FJ	€	À FEE
IÎ	T II	Z	Ě Í G	Ě Í G	€	À FEE
IÏ	T IÍ	Ý	FĚ FJ	FĚ FJ	€	À FEE
IÌ	T IÍ	Z	Ě Í G	Ě Í G	€	À FEE
IJ	T IÎ	Ý	FĚ FJ	FĚ FJ	€	À FEE
I€	T IÎ	Z	Ě Í G	Ě Í G	€	À FEE
IF	T IÏ	Ý	FĚ FJ	FĚ FJ	€	À FEE
IG	T IÏ	Z	Ě Í G	Ě Í G	€	À FEE
IH	T IIO	Ý	Ě FI	Ě FI	€	À FEE
IÌ	T IIO	Z	Ě F	Ě F	€	À FEE









**A Ya Vyf'8 ]g]f]Vi hYX' @ UXg'f6 @ '\*\$. 'Gfi Wh fy'K ]'fB%\$ '8 Yl'É'f c b]bi YXL**

	T \ { à^!Àæ^ \}	Öã^&ç] }	ÙçæóÁ æ } æ à^!ZaDæ(È) áÁ æ } æ à^!ZaDæ(È) ÙçæóÁ &æç] } ZæÁ á	Ò) áÁ &æç] } ZæÁ á		
I F	T ÚÇOE	Ý	ÈÈÉ FÍ	ÈÈÉ FÍ	€	À FEE
I G	T ÚÇOE	Z	GÈ G	GÈ G	€	À FEE
I H	T ÚFOE	Ý	ÈÈÍ J	ÈÈÍ J	€	À FEE
I I	T ÚFOE	Z	GÈÍ G	GÈÍ G	€	À FEE
I Í	T II	Ý	ÈÈÍ G	ÈÈÍ G	€	À FEE
I Î	T II	Z	FÈFJ	FÈFJ	€	À FEE
I Ï	T IÍ	Ý	ÈÈÍ G	ÈÈÍ G	€	À FEE
I Ì	T IÍ	Z	FÈFJ	FÈFJ	€	À FEE
I J	T IÎ	Ý	ÈÈÍ G	ÈÈÍ G	€	À FEE
I €	T IÎ	Z	FÈFJ	FÈFJ	€	À FEE
I F	T IÏ	Ý	ÈÈÍ G	ÈÈÍ G	€	À FEE
I G	T IÏ	Z	FÈFJ	FÈFJ	€	À FEE
I H	T IIO	Ý	ÈÈÍ J	ÈÈÍ J	€	À FEE
I I	T IIO	Z	GÈÍ Í	GÈÍ Í	€	À FEE

**A Ya Vyf'8 ]g]f]Vi hYX' @ UXg'f6 @ '\*%. 'Gfi Wh fy'K ]'fB(\$ '8 Yl'É**

	T \ { à^!Àæ^ \}	Öã^&ç] }	ÙçæóÁ æ } æ à^!ZaDæ(È) áÁ æ } æ à^!ZaDæ(È) ÙçæóÁ &æç] } ZæÁ á	Ò) áÁ &æç] } ZæÁ á		
F	ØØØØ	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
G	ØØØØ	Z	ÈÈÍ J	ÈÈÍ J	€	À FEE
H	T G	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
I	T G	Z	ÈÈÍ J	ÈÈÍ J	€	À FEE
Í	T FH	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
Î	T FH	Z	ÈÈÍ H	ÈÈÍ H	€	À FEE
Ï	T FI	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
Ì	T FI	Z	ÈÈÍ H	ÈÈÍ H	€	À FEE
J	T FÍ	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
F€	T FÍ	Z	ÈÈÍ H	ÈÈÍ H	€	À FEE
FF	T FÎ	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
FG	T FÎ	Z	ÈÈÍ H	ÈÈÍ H	€	À FEE
FH	UXÚ	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
FI	UXÚ	Z	ÈÈÍ F	ÈÈÍ F	€	À FEE
FÍ	T FÌ	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
FÎ	T FÌ	Z	ÈÈÍ F	ÈÈÍ F	€	À FEE
FÏ	T FJ	Ý	ÈÈÍ J	ÈÈÍ J	€	À FEE
FÌ	T FJ	Z	ÈÈÍ J	ÈÈÍ J	€	À FEE
FJ	T GÈ	Ý	ÈÈÍ J	ÈÈÍ J	€	À FEE
GÈ	T GÈ	Z	ÈÈÍ J	ÈÈÍ J	€	À FEE
GF	T GF	Ý	ÈÈÍ F	ÈÈÍ F	€	À FEE
GG	T GF	Z	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
GH	T GG	Ý	ÈÈÍ F	ÈÈÍ F	€	À FEE
G	T GG	Z	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
GÍ	T GH	Ý	ÈÈÍ F	ÈÈÍ F	€	À FEE
GÎ	T GH	Z	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
GÏ	T G	Ý	ÈÈÍ F	ÈÈÍ F	€	À FEE
GÌ	T G	Z	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
GJ	T G	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
H€	T G	Z	ÈÈÍ F	ÈÈÍ F	€	À FEE
HF	T G	Ý	ÈÈÍ Í	ÈÈÍ Í	€	À FEE
HG	T G	Z	ÈÈÍ F	ÈÈÍ F	€	À FEE
HH	T G	Ý	ÈÈÍ G	ÈÈÍ G	€	À FEE
HI	T G	Z	ÈÈÍ É	ÈÈÍ É	€	À FEE

**A Ya Vyf'8 ]qlf]Vi hYX' @ UXg'f6 @ '\*%. 'Gfi Wñ fY'K ]''fB(\$'8 Y] Æ'f7 c]hjbi YXL**

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**A Ya Vyf'8 ]qlf]Vi hYX' @ UXg'f6 @ '\*&. 'Gfi Wñ fY'K ]''fB+\$'8 Y] Æ**

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Ç Ĭ	T Ç I	Y	€	€	€	Å FEE
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**A Ya Vyf'8 ]ghf]Vi hYX' @ UXg'f6 @ '\* &: 'Gfi Wi fY'K ]'fB+\$'8 Yl'f' c bh]bi YXL**

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HĪ	T ÚI OE	Z	€	€	€	Ā FEE
HJ	T ÚHOE	Y	Ě Ě HJ	Ě Ě HJ	€	Ā FEE
I €	T ÚHOE	Z	€	€	€	Ā FEE
IF	T ÚGOE	Y	Ě Ě F	Ě Ě F	€	Ā FEE
IG	T ÚGOE	Z	€	€	€	Ā FEE
I H	T ÚFOE	Y	Ě Ě HJ	Ě Ě HJ	€	Ā FEE
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I €	T I Í	Z	€	€	€	Ā FEE
I F	T I Í	Y	Ě Ě G	Ě Ě G	€	Ā FEE
I G	T I Í	Z	€	€	€	Ā FEE
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**A Ya Vyf'8 ]gfi ]Vi hYX' @ UXg'f6 @ '\*, : 'Gfi Wi fy'Ka ''fi \$'8 Yl tL'f7 cb]pi YXL**

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GÏ	TG	Y	EG	EG	€	Ä FEE
GÎ	TG	Z	EI	EI	€	Ä FEE
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HH	TG	Y	EI	EI	€	Ä FEE
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**A Ya Vyf'8 ]g]f]Vi hYX'@ UXg'f6 @ '+\$. 'Gfi Wí fY'K a 'f% \$'8 Y] ŁŁf] cb]i YXL**

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FF	T FÎ	Y	€	€	€	Ä FEE
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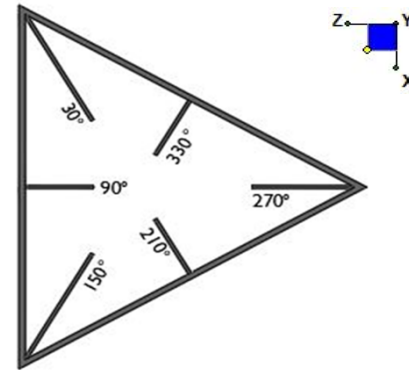




## I. Mount-to-Tower Connection Check

### RISA Model Data

Nodes (labeled per RISA)	Orientation (per graphic of typical platform)
N36	90
N35	90



TYPICAL PLATFORM

### Tower Connection Bolt Checks

Any moment resistance?:

Bolt Quantity per Reaction:

$d_x$  (in) (Delta X of typ. bolt config. sketch) :

$d_y$  (in) (Delta Y of typ. bolt config. sketch) :

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength (kips):

Required Shear Strength (kips):

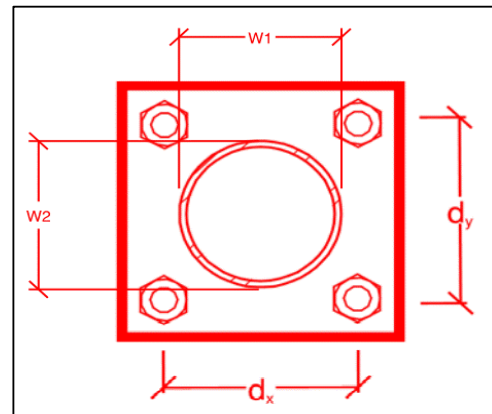
Tensile Strength / bolt (kips):

Shear Strength / bolt (kips):

Tensile Capacity Overall:

Shear Capacity Overall:

yes
4
9.5
3.5
A307
0.625
4.6
1.3
10.0
6.0
11.6%*
5.3%



\*Note: Tension reduction not required if tension or shear capacity < 30%

## Mount Desktop – Post Modification Inspection (PMI) Report Requirements

### Documents & Photos Required from Contractor – **Passing Mount Analysis**

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**Purpose** – to provide Maser Consulting Connecticut the proper documentation in order to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the installation was completed in accordance with this Passing Mount Analysis.
- Contractor shall relay any data that can impact the performance of the mount, this includes safety issues.

#### **Base Requirements:**

- Any special photos outside of the standard requirements will be indicated on the passing MA
- Verification that loading is as communicated in the Passing Mount Analysis. NOTE If loading is different than what is conveyed contact Maser Consulting Connecticut immediately.
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope.
- The photos in the file structure should be uploaded to <https://pmi.vzsmart.com> as depicted on the drawings

#### **Photo Requirements:**

- **Base and “During Installation Photos”**
  - Base pictures include
    - Photo of Gate Signs showing the tower owner, site name, and number
    - Photo of carrier shelter showing the carrier site name and number if available
    - Photos of the galvanizing compound and/or paint used (if applicable), clearly showing the label and name
  - “During Installation Photos if provided - must be placed only in this folder
- **Photos taken at ground level**
  - Overall tower structure before and after installation of the equipment modifications
  - Photos of the appropriate mount before and after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- **Photos taken at Mount Elevation**
  - Photos showing each individual sector before and also after installation of equipment.





**Special Instructions / Validation as required from the MA or any other information the contractor deems necessary to share that was identified:**

**Issue:**

Contractor shall install the proposed OVP12 on the top right standoff horizontal (when looking from behind the mount face) 15" from the tower side end of the standoff horizontal.

Contractor shall install three (3) 96" long P2.0 STD mount pipes in positions 1, 3, and 4 on all sectors. Connect to proposed face horizontal members utilizing crossover plates provided in mount kit.


















Contractor shall install one (1) 96" P2.5 STD mount pipes in position 2 of all sectors, attach to proposed face horizontal members using new crossover plates (Site Pro 1 Part #: SCX2-K). Dual mounted antennas shall be installed on the P2.5 STD mount pipe. All mount pipes shall be spaced at 48" apart on all sectors and centered vertically on the proposed mount face.

Contractor shall replace mount tieback back with new 156" long P2.0 STD pipe.

Contractor shall install front tieback connections 6" from the bottom right standoff horizontal on the bottom face horizontal. Rear tieback connections shall be attached to the adjacent tower legs.

**Response:**

**Schedule A – Photo & Document File Structure**

-  VzW Site Number / Name
  -  Base & “During Installation” Photos
  
  -  Pre-Installation Photos
    -  Alpha
    -  Beta
    -  Gamma
    -  Ground Level
    -  Tape Drop
  
  -  Post-Installation Photos
    -  Alpha
    -  Beta
    -  Gamma
    -  Ground Level
    -  Tape Drop
    -  Photos of climbing facility and safety climb – If Present
  
-  Certifications – Submission of this document including certifications
  
-  Specific Required Additional Photos

Sector: A  
 Structure Type: Self Support  
 Mount Elev: 146.00

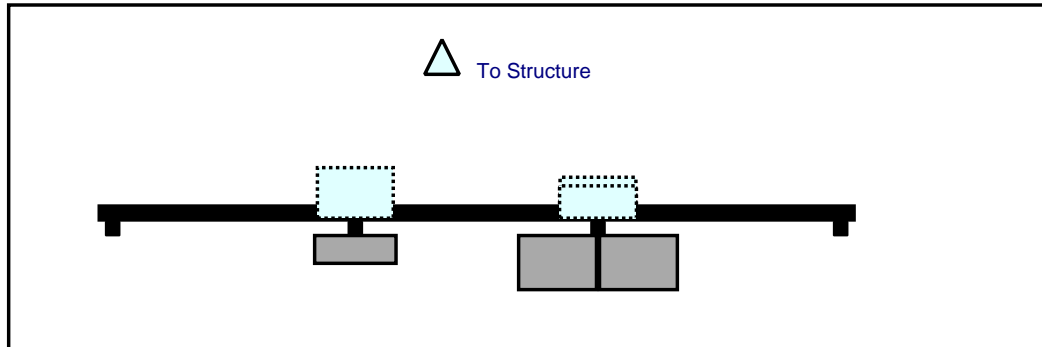
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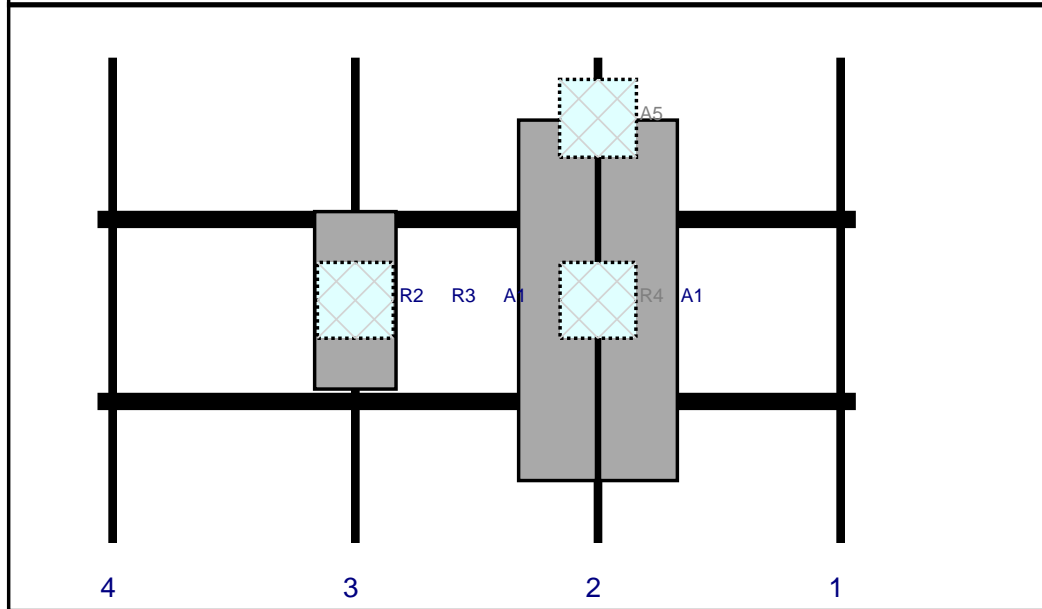
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Plan View



Front View  
 Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-02	71.3	15.4	99	2	a	Front	48	8	Added	
A1	MX06FRO660-02	71.3	15.4	99	2	b	Front	48	-8	Added	
R4	B5/B13 RRH-BR049	15	15	99	2	a	Behind	48	0	Added	
A5	TD-850B-LTE78-43	15.4	15.2	99	2	a	Behind	12	0	Added	
R2	MT6407-77A	35.1	16.1	51	3	a	Front	48	0	Added	
R3	B2/B66A RRH-BR049	15	15	51	3	a	Behind	48	0	Added	

Sector: **B**  
 Structure Type: Self Support  
 Mount Elev: 146.00

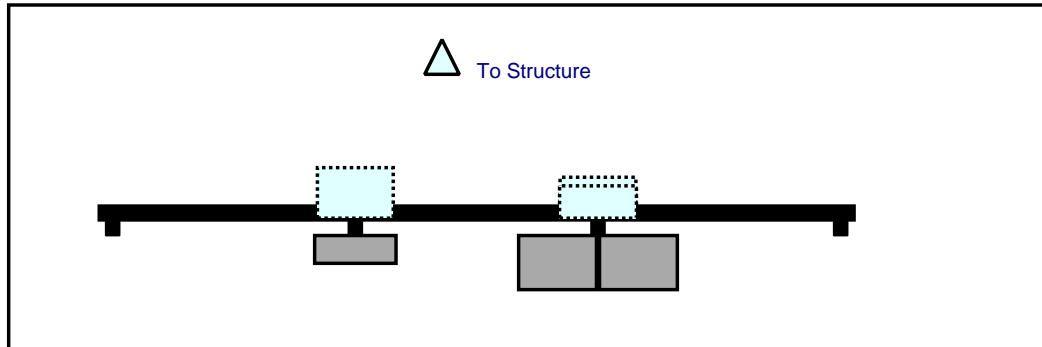
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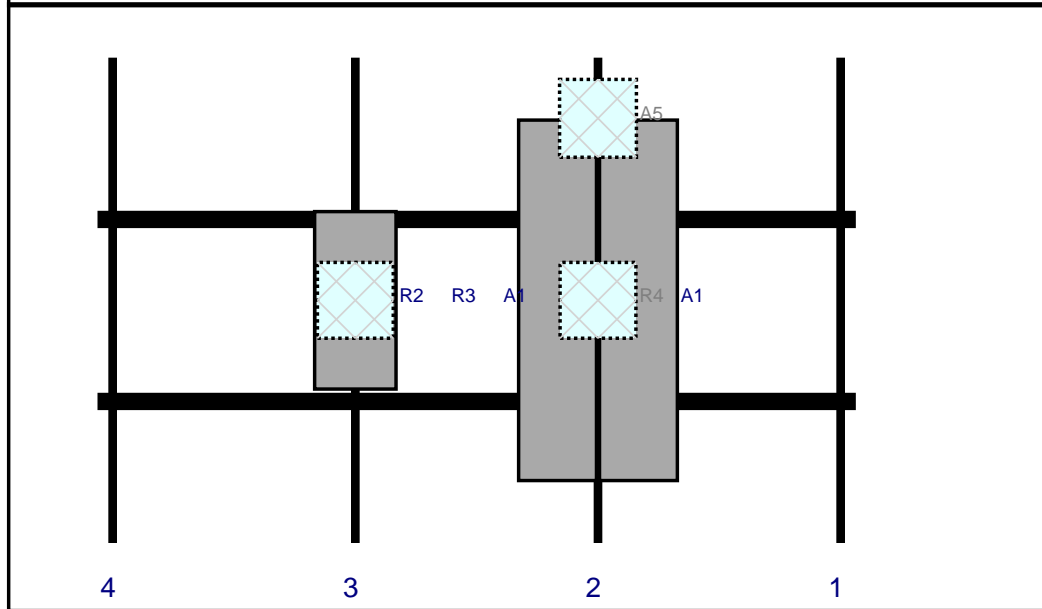
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Plan View



Front View  
 Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-02	71.3	15.4	99	2	a	Front	48	8	Added	
A1	MX06FRO660-02	71.3	15.4	99	2	b	Front	48	-8	Added	
R4	B5/B13 RRH-BR049	15	15	99	2	a	Behind	48	0	Added	
A5	TD-850B-LTE78-43	15.4	15.2	99	2	a	Behind	12	0	Added	
R2	MT6407-77A	35.1	16.1	51	3	a	Front	48	0	Added	
R3	B2/B66A RRH-BR049	15	15	51	3	a	Behind	48	0	Added	

Sector: C  
 Structure Type: Self Support  
 Mount Elev: 146.00

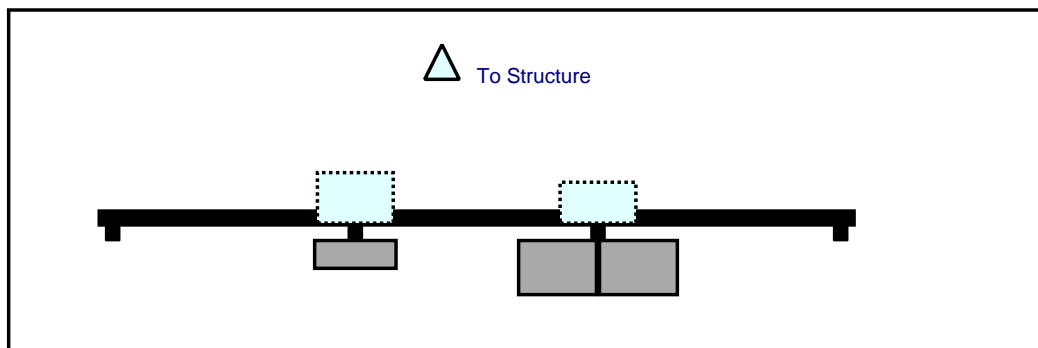
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7/9/2021

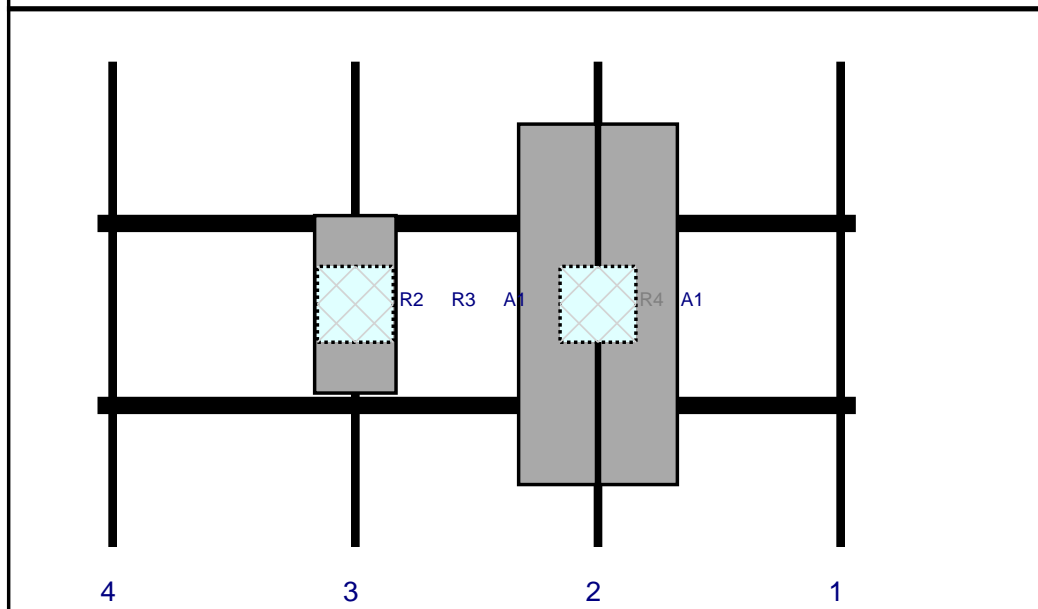
Page: 3



Plan View



Front View  
 Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	MX06FRO660-02	71.3	15.4	99	2	a	Front	48	8	Added	
A1	MX06FRO660-02	71.3	15.4	99	2	b	Front	48	-8	Added	
R4	B5/B13 RRH-BR049	15	15	99	2	a	Behind	48	0	Added	
R2	MT6407-77A	35.1	16.1	51	3	a	Front	48	0	Added	
R3	B2/B66A RRH-BR049	15	15	51	3	a	Behind	48	0	Added	

# Maser Consulting Connecticut

**Subject**

TIA-222-H Usage

**Site Information**

*Site ID:* 467860-VZW / NEW FAIRFIELD CT  
*Site Name:* NEW FAIRFIELD CT  
*Carrier Name:* Verizon Wireless  
*Address:* 18 Titicus Mountain Road  
New Fairfield, Connecticut 06812  
Fairfield County  
*Latitude:* 41.450664°  
*Longitude:* -73.515989°

**Structure Information**

*Tower Type:* 200-Ft Self Support  
*Mount Type:* 12.50-Ft Sector Frame

To Whom It May Concern,

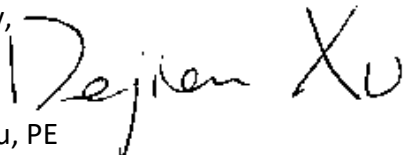
We respectfully submit the above referenced Antenna Mount Structural Analysis report in conformance with ANSI/TIA-222-H, Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures.

The 2015 International Building Code states that, in Section 3108, telecommunication towers shall be designed and constructed in accordance with the provisions of TIA-222. TIA-222-H is the latest revision of the TIA-222 Standard, effective as of January 01, 2018.

As with all ANSI standards and engineering best practice is to apply the most current revision of the standard. This ensures the engineer is applying all updates. As an example, the TIA-222-H Standard includes updates to bring it in line with the latest AISC and ACI standards and it also incorporates the latest wind speed maps by ASCE 7 based on updated studies of the wind data.

The TIA-222-H standard clarifies these specific requirements for the antenna mount analysis such as modeling methods, seismic analysis, 30-degree increment wind directions and maintenance loading. Therefore, it is our opinion that TIA-222-H is the most appropriate standard for antenna mount structural analysis and is acceptable for use at this site to ensure the engineer is taking into account the most current engineering standard available.

Sincerely,



Dejian Xu, PE  
Technical Manager

Site Name: **NEW FAIRFIELD CT**  
 Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )	(%)
VZW 700	751	4	623	2494	146	0.0042	0.5007	0.84%
VZW CDMA	877.26	2	315	629	146	0.0011	0.5848	0.18%
VZW Cellular	874	4	623	2494	146	0.0042	0.5827	0.72%
VZW PCS	1980	4	1428	5713	146	0.0096	1.0000	0.96%
VZW AWS	2120	4	1566	6264	146	0.0106	1.0000	1.06%
VZW CBAND	3730.08	4	6531	26125	146	0.0441	1.0000	4.41%
<b>Total Percentage of Maximum Permissible Exposure</b>								<b>8.17%</b>

\*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

\*\*Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

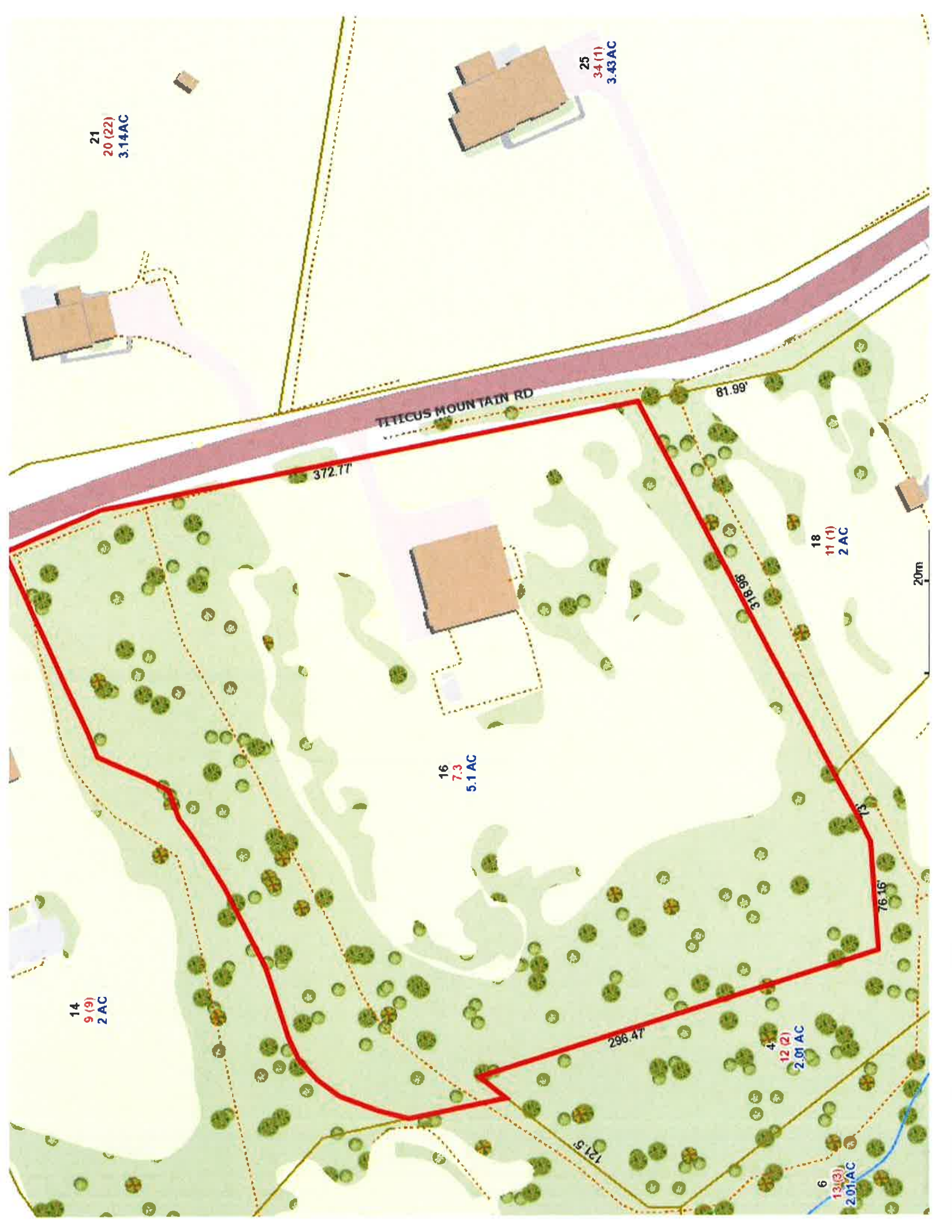
MHz = Megahertz

mW/cm<sup>2</sup> = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.





# 16 TITICUS MTN RD

**Location** 16 TITICUS MTN RD

**Mblu** 27/ 2/ 7.3/ 1

**Acct#** 00580500

**Owner** AMERICAN TOWERS INC

**Assessment** \$1,017,300

**Appraisal** \$1,453,400

**PID** 5837

**Building Count** 1

## Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$1,196,200	\$257,200	\$1,453,400

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$837,300	\$180,000	\$1,017,300

## Owner of Record

**Owner** AMERICAN TOWERS INC  
**Co-Owner** C/O AMERICAN TOWER CORPORATION  
**Address** PO BOX 723597  
ATLANTA, GA 31139

**Sale Price** \$359,641  
**Certificate**  
**Book & Page** 0301/0274  
**Sale Date** 02/17/2000  
**Instrument**

## Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
AMERICAN TOWERS INC	\$359,641		0301/0274		02/17/2000

## Building Information

### Building 1 : Section 1

**Year Built:** 1967  
**Living Area:** 3,249  
**Replacement Cost:** \$332,990  
**Building Percent Good:** 34  
**Replacement Cost**  
**Less Depreciation:** \$113,200

**Building Attributes**

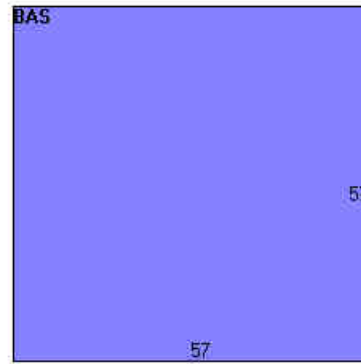
Field	Description
Style:	Tower support
Model	Commercial
Grade	C
Stories:	1
Occupancy	1.00
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar & Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Typical
Heating Type	None
AC Type	Central
Struct Class	
Bldg Use	Pub. Utility
1st Floor Use:	504
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	SUSP-CEIL ONLY
Rooms/Prtns	AVERAGE
Wall Height	14.00
% Comn Wall	

### Building Photo



(<http://images.vgsi.com/photos/NewFairfieldCTPhotos/A00\00\12\12.jpg>)

### Building Layout



([http://images.vgsi.com/photos/NewFairfieldCTPhotos/Sketches/5837\\_583](http://images.vgsi.com/photos/NewFairfieldCTPhotos/Sketches/5837_583))

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	3,249	3,249
		3,249	3,249

### Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

### Land

#### Land Use

Use Code	400
Description	Pub. Utility
Zone	2

#### Land Line Valuation

Size (Acres)	5.1
Depth	
Assessed Value	\$180,000

Neighborhood D  
 Alt Land Appr No  
 Category

Appraised Value \$257,200

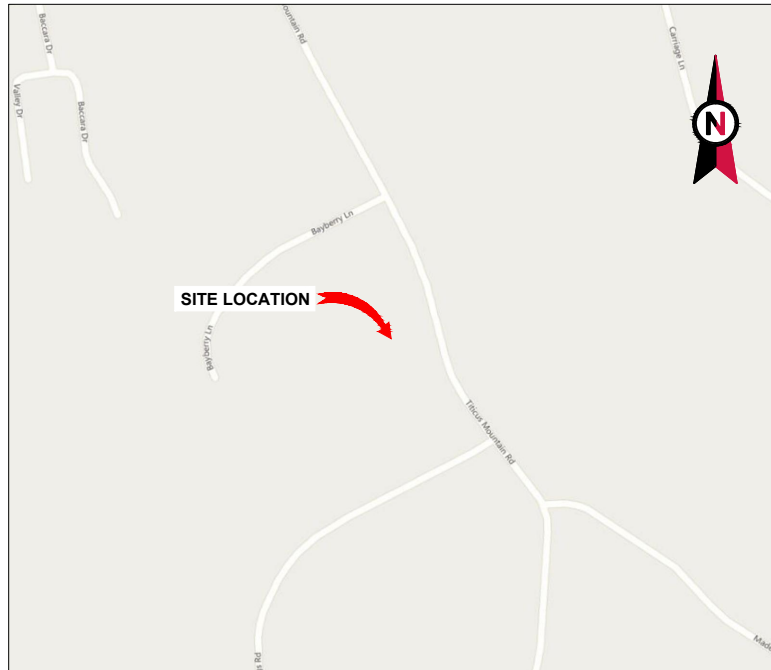
**Outbuildings**

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	PAVING-ASPHALT			3200.00 S.F.	\$1,700	1
SHD1	Shed			100.00 S.F.	\$1,300	1
CELL	Cell Tenant			4.00 UNITS	\$1,080,000	1

**Valuation History**

Appraisal				
Valuation Year	Improvements	Land	Total	
2018	\$835,100	\$257,200	\$1,092,300	
2017	\$835,100	\$257,200	\$1,092,300	
2016	\$835,100	\$257,200	\$1,092,300	

Assessment				
Valuation Year	Improvements	Land	Total	
2018	\$584,600	\$180,000	\$764,600	
2017	\$584,600	\$180,000	\$764,600	
2016	\$584,600	\$180,000	\$764,600	



VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: NEW FAIRFIELD  
 ATC SITE NUMBER: 88014  
 VERIZON SITE NAME: NEW FAIRFIELD CT  
 VERIZON SITE NUMBER: 467860  
 SITE ADDRESS: 18 TITICUS MTN ROAD  
 NEW FAIRFIELD, CT 06812



LOCATION MAP

**VERIZON  
 ANTENNA AMENDMENT DRAWINGS**



**Colliers Engineering & Design**

www.colliersengineering.com  
 Doing Business as **MASER**  
 MADISON  
 135 New Road  
 Madison, CT 06443  
 Phone: 860.395.0055  
 COLLIERS ENGINEERING & DESIGN CT, P.C.  
 DOING BUSINESS AS MASER CONSULTING

REV.	DESCRIPTION	BY	DATE
A	PRELIM	MJB	06/15/21
B	REVISED PER NEW RFDS	AMN	07/19/21
0	FOR CONSTRUCTION	AMN	08/06/21

ATC SITE NUMBER:  
**88014**

ATC SITE NAME:  
**NEW FAIRFIELD**

VERIZON SITE NAME:  
**NEW FAIRFIELD CT**

SITE ADDRESS:  
 18 TITICUS MTN ROAD  
 NEW FAIRFIELD, CT 06812

SEAL:

**Alec S. Norris**  
 CONNECTICUT LICENSED PROFESSIONAL ENGINEER  
 LICENSE NUMBER: 32588  
 COLLIERS ENGINEERING & DESIGN CT, P.C.  
 C.T. JPC.0000131



DATE DRAWN:	07/19/21
ATC JOB NO:	13685309_D1
CUSTOMER ID:	NEW FAIRFIELD CT
CUSTOMER #:	467860

**TITLE SHEET**

SHEET NUMBER:  
**G-001**

REVISION:  
**0**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX					
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. 2018 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2015 IBC 2. 2017 NATIONAL ELECTRICAL CODE - NFPA 70 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 18 TITICUS MTN ROAD NEW FAIRFIELD, CT 06812 COUNTY: FAIRFIELD  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.45066389 LONGITUDE: -73.51598889 GROUND ELEVATION: 890' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:  REMOVE (12) ANTENNA(S) AND (6) RRH(S)  INSTALL (9) ANTENNA(S), (6) RRH(S) AND (2) DIPLEXER(S)  EXISTING (1) OVP(S), (6) COAX CABLE(S), AND (2) HYBRID CABLE(S) TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	
	<u>UTILITY COMPANIES</u>  POWER COMPANY: EVERSOURCE PHONE: (877) 659-6326  TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> COLLIERS ENGINEERING & DESIGN CT, P.C. D/B/A MASER CONSULTING 135 NEW ROAD MADISON, CT 06443  PROJECT #: 21904027A  <u>PROPERTY OWNER:</u> N/A 22 TITICUS MTN ROAD NEW FAIRFIELD, CT 06812	<u>PROJECT NOTES</u>  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).	G-001	TITLE SHEET	0	08/06/21	AMN
			<u>PROJECT LOCATION DIRECTIONS</u>  TAKE I-84 TO EXIT 5. TURN LEFT ONTO RT 39 AND PROCEED 5.3 MILES TO GILLOTTI RD. TURN RIGHT ONTO GILLOTTI RD AND PROCEED 0.3 MILES TO TITICUS RD. TURN RIGHT ONTO TITICUS RD. PROCEED 0.3 MILES TO SITE ON RIGHT.	R-001	GENERAL NOTES	0	08/06/21	AMN
<u>CONTRACTOR PMI REQUIREMENTS</u>  PMI LOCATION: HTTPS://PMI.VZWSMART.COM SMART TOOL VENDOR PROJECT #: 10085221 VZW LOCATION CODE (PSLC): 467860 ANALYSIS DATE: JULY 9, 2021  *** PMI AND REQUIREMENTS ARE EMBEDDED IN MOUNT ANALYSIS REPORT  IF MOUNT MODIFICATION IS REQUIRED ONLY USE VZW APPROVED SMART KIT VENDORS  REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VZW SMART KIT APPROVED VENDORS			C-101	DETAILED SITE PLAN	0	08/06/21	AMN	
			C-201	TOWER ELEVATION	0	08/06/21	AMN	
			C-401	ANTENNA INFORMATION & SCHEDULE	0	08/06/21	AMN	
			C-501	CONSTRUCTION DETAILS	0	08/06/21	AMN	
			E-501	GROUNDING DETAILS	0	08/06/21	AMN	
			R-601	SUPPLEMENTAL				
			R-602	SUPPLEMENTAL				
			R-603	SUPPLEMENTAL				
			R-604	EQUIPMENT SPECIFICATIONS				
			R-605	EQUIPMENT SPECIFICATIONS				

**GENERAL CONSTRUCTION NOTES:**

- 1. OWNER FURNISHED MATERIALS, VERIZON "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 VERIZON 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 VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
- 13. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
- 23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
- 24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON 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 VERIZON 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 NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE 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 VERIZON REP. ANY WORK FOUND BY THE VERIZON 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. VERIZON FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE VERIZON 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. VERIZON 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 VERIZON OR THEIR ARCHITECT/ENGINEER.

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

- 1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY VERIZON 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 AND
  - B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND VERIZON 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 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPICE 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	MJB	06/15/21
B	REVISED PER NEW RFDS	AMN	07/19/21
0	FOR CONSTRUCTION	AMN	08/06/21

ATC SITE NUMBER:  
**88014**

ATC SITE NAME:  
**NEW FAIRFIELD**

VERIZON SITE NAME:  
**NEW FAIRFIELD CT**

SITE ADDRESS:  
 18 TITICUS MTN ROAD  
 NEW FAIRFIELD, CT 06812

SEAL:

---

**Alec S. Norris**  
 CONNECTICUT LICENSED PROFESSIONAL ENGINEER  
 LICENSE NUMBER: 32588  
 COLLIERS ENGINEERING & DESIGN CT, P.C.  
 C.T.JPC.0000131



DATE DRAWN:	07/19/21
ATC JOB NO:	13685309_D1
CUSTOMER ID:	NEW FAIRFIELD CT
CUSTOMER #:	467860

**GENERAL NOTES**

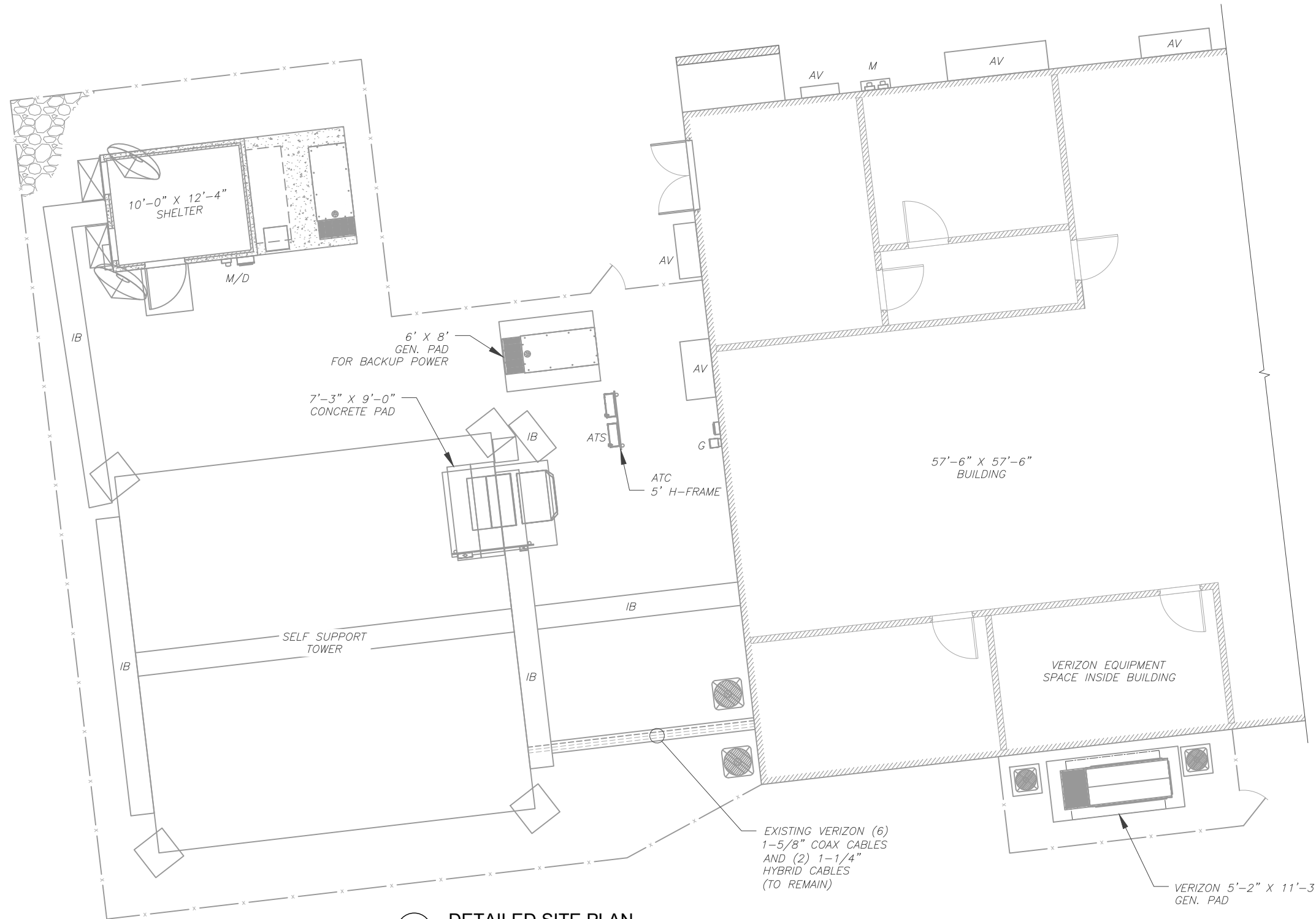
SHEET NUMBER:  
**G-002**

REVISION:  
**0**

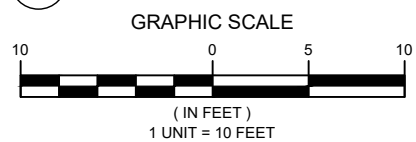
**SITE PLAN NOTES:**

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 RECEPTACAL
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



**1 DETAILED SITE PLAN**



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SEAL:

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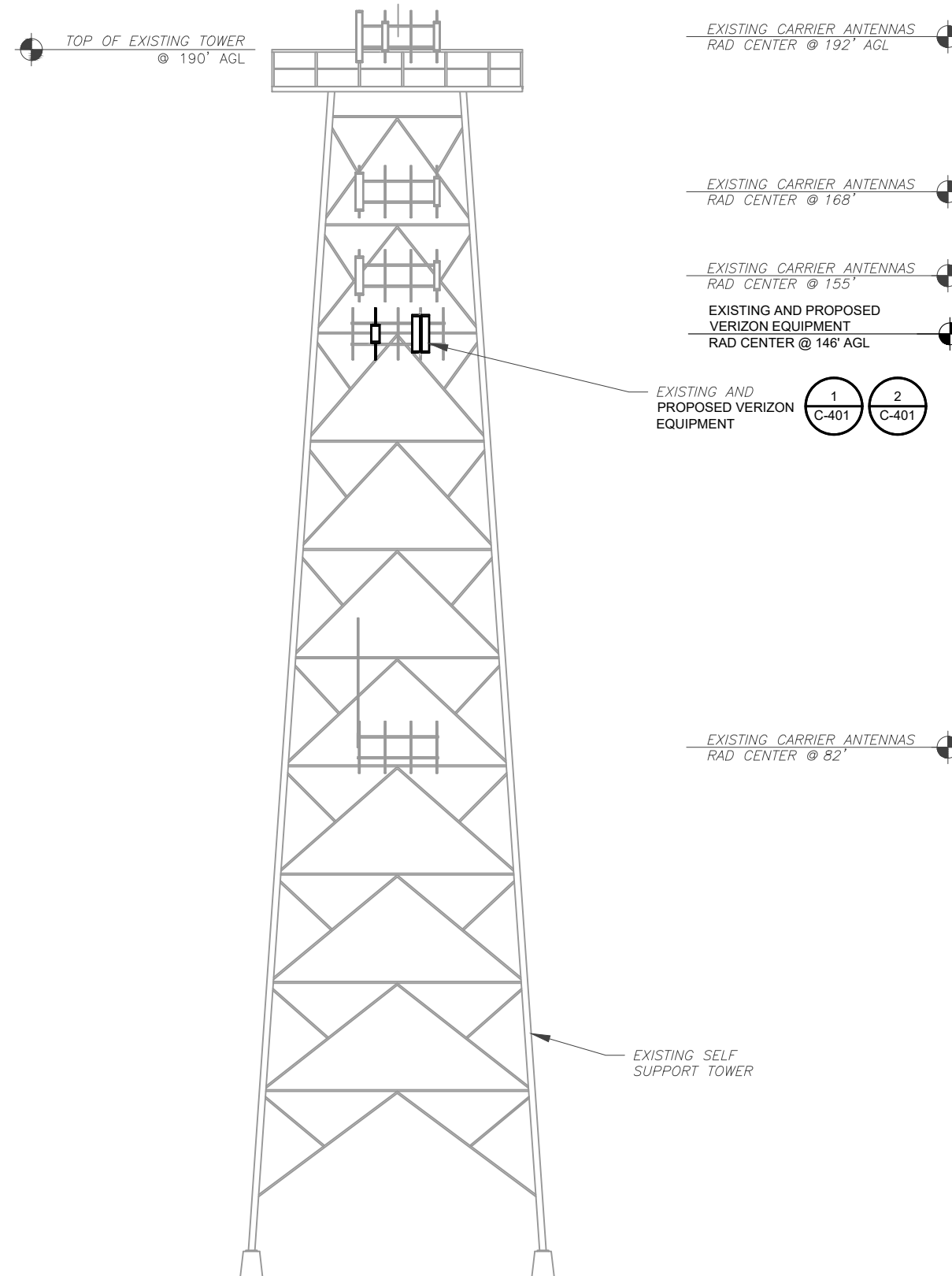


DATE DRAWN:	07/19/21
ATC JOB NO:	13685309_D1
CUSTOMER ID:	NEW FAIRFIELD CT
CUSTOMER #:	467860

**DETAILED SITE PLAN**

SHEET NUMBER: **C-101**      REVISION: **0**

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PER MOUNT ANALYSIS COMPLETED BY MASER CONSULTING CONNECTICUT, DATED 07/09/21, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

- 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. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

1 TOWER ELEVATION  
SCALE: N.T.S.



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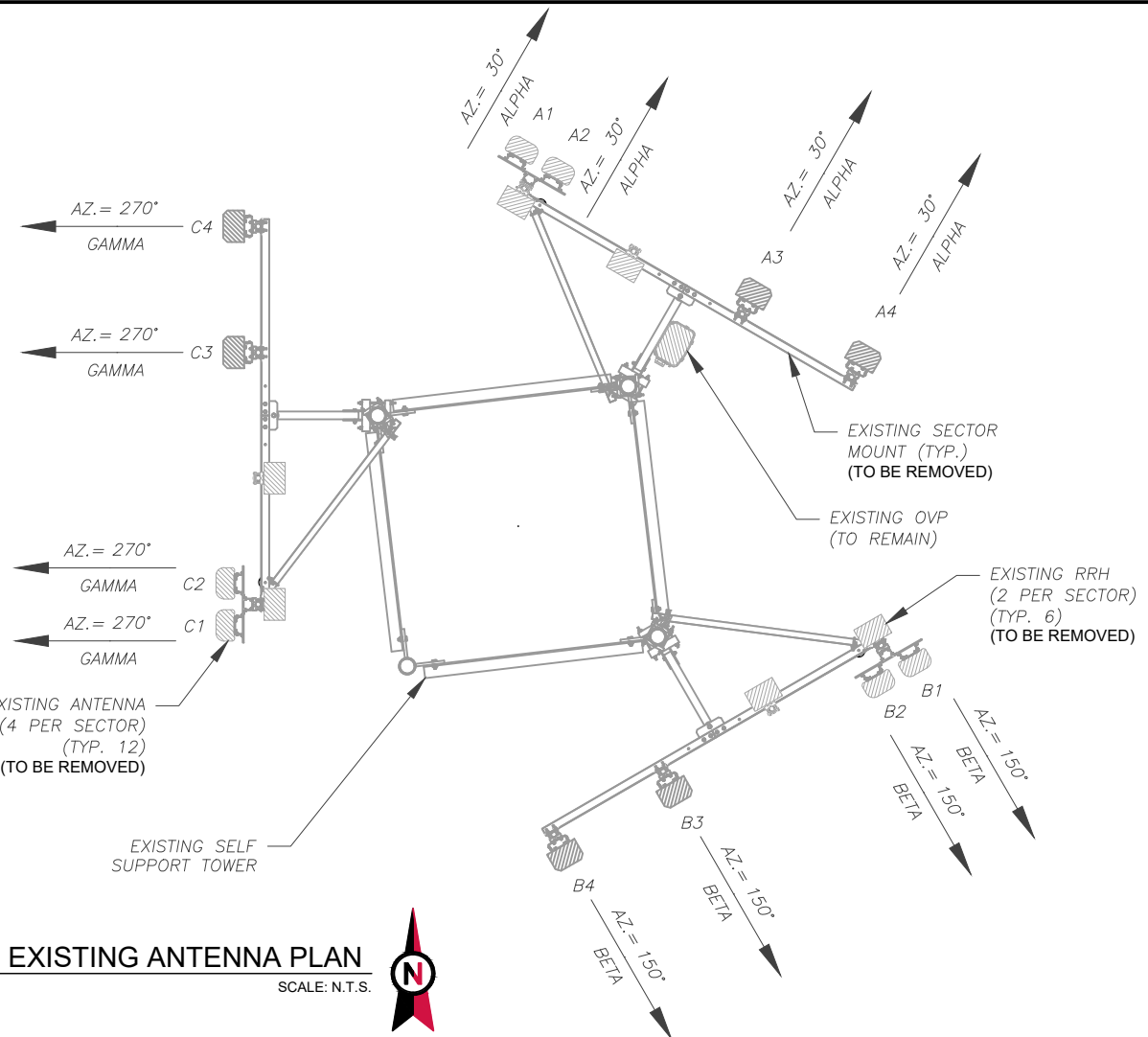
DATE DRAWN:	07/19/21
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CUSTOMER ID:	NEW FAIRFIELD CT
CUSTOMER #:	467860

**TOWER ELEVATION**

SHEET NUMBER: <b>C-201</b>	REVISION: <b>0</b>
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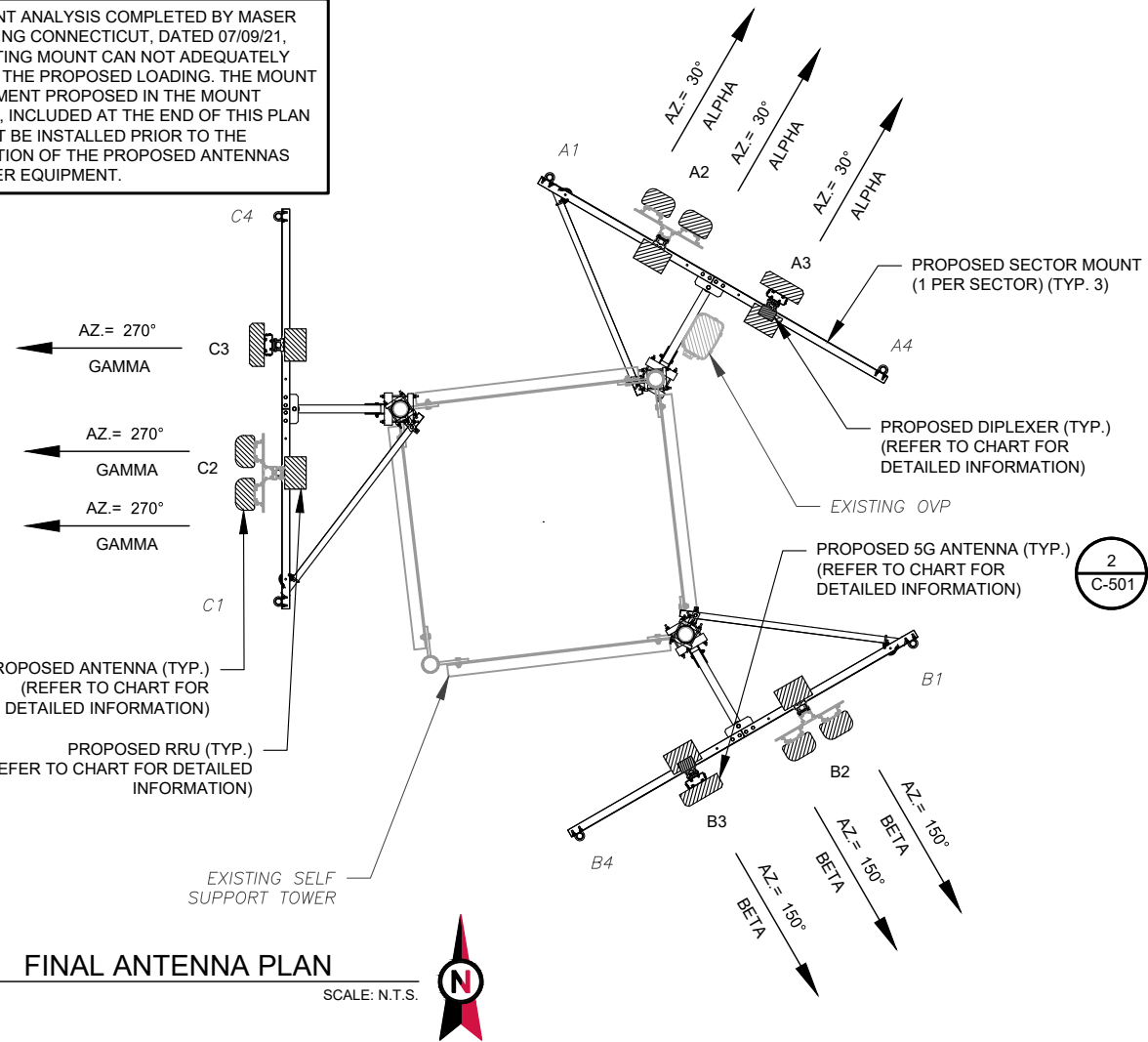
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1 EXISTING ANTENNA PLAN  
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY MASER CONSULTING CONNECTICUT, DATED 07/09/21, THE EXISTING MOUNT CAN NOT ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT REPLACEMENT PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



2 FINAL ANTENNA PLAN  
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	146'	30°	A1	SBNHH-1D65B	LTE/AWS	0/3	RMV	UHBA B13 RRH 4x30	RMV
			A2	SBNHH-1D65B	LTE/AWS	0/3	RMV	-	-
			A3	AMPHENOL 26900500	CDMA	0/0	RMV	UHIE B66A RRH 4x45	RMV
			A4	LPA-80063/4CF	NOT WIRED	0/0	RMV	-	-
BETA	146'	150°	B1	SBNHH-1D65B	LTE/AWS	0/1	RMV	UHBA B13 RRH 4x30	RMV
			B2	SBNHH-1D65B	LTE/AWS	0/1	RMV	-	-
			B3	AMPHENOL 26900500	CDMA	0/0	RMV	UHIE B66A RRH 4x45	RMV
			B4	LPA-80063/4CF	NOT WIRED	0/0	RMV	-	-
GAMMA	146'	270°	C1	SBNHH-1D65B	LTE/AWS	0/4	RMV	UHBA B13 RRH 4x30	RMV
			C2	SBNHH-1D65B	LTE/AWS	0/4	RMV	-	-
			C3	BXA-171085-8BF	NOT WIRED	0/0	RMV	UHIE B66A RRH 4x45	RMV
			C4	BXA 70063-6CF	NOT WIRED	0/0	RMV	-	-

**NOTES**

1. CONFIRM WITH VERIZON 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.

**STATUS ABBREVIATIONS**

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

**CABLE LENGTHS FOR JUMPERS**

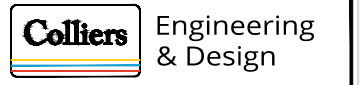
JUNCTION BOX TO RRU: 15'  
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	146'	30°	A1						
			A2	MX06FRO660-03 MX06FRO660-03	LTE700/850/1900 AWS LTE700/850/1900 AWS	0 / 2 0 / 2	ADD ADD	B2/B66A RRH-BR049 RRU	ADD
			A3	MT6407-77A	5G	0/6	ADD	B5/B13 RRH-BR04C RRU TD-850B-LTE78-43 DIPLEXER	ADD
			A4						
BETA	146'	150°	B1						
			B2	MX06FRO660-03 MX06FRO660-03	LTE700/850/1900 AWS LTE700/850/1900 AWS	0 / 2 0 / 2	ADD ADD	B2/B66A RRH-BR049 RRU	ADD
			B3	MT6407-77A	5G	0/6	ADD	B5/B13 RRH-BR04C RRU TD-850B-LTE78-43 DIPLEXER	ADD
			B4						
GAMMA	146'	270°	C1						
			C2	MX06FRO660-03 MX06FRO660-03	LTE700/850/1900 AWS LTE700/850/1900 AWS	0 / 2 0 / 2	ADD ADD	B2/B66A RRH-BR049 RRU	ADD
			C3	MT6407-77A	5G	0/6	ADD	B5/B13 RRH-BR04C RRU	ADD
			C4						

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
RVZDC-6627-PF-48	RMN	(6) 1-5/8"	(2) 1-1/4"	RMN

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
RVZDC-6627-PF-48	RMN	(6) 1-5/8"	(2) 1-1/4"	RMN



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0	FOR CONSTRUCTION	AMN	08/06/21

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NEW FAIRFIELD CT

SITE ADDRESS:  
18 TITICUS MTN ROAD  
NEW FAIRFIELD, CT 06812

SEAL:

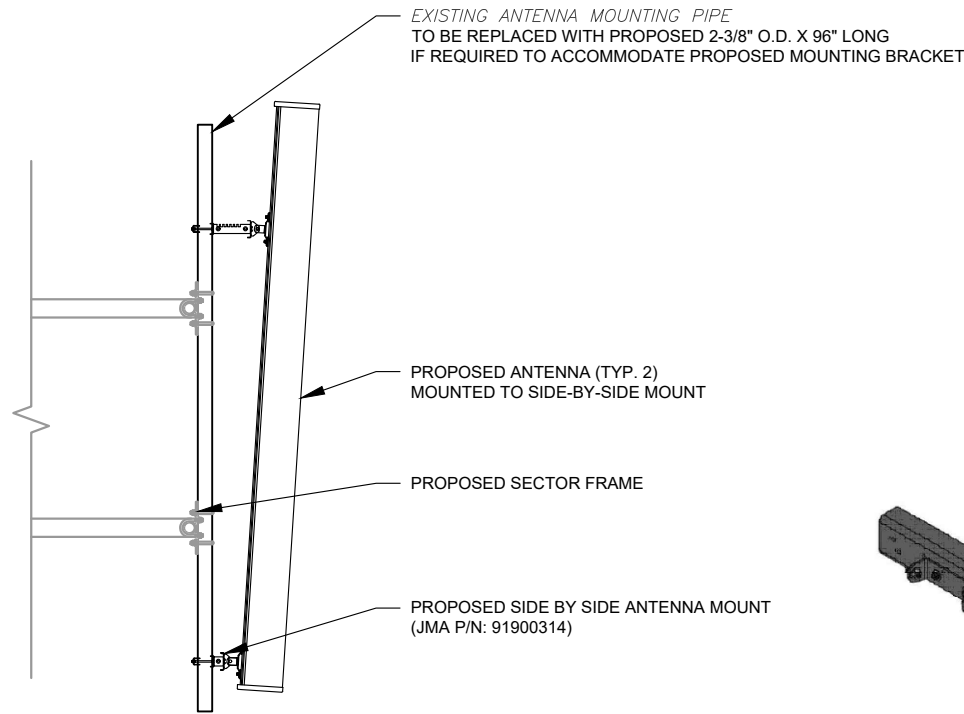
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CONNECTICUT LICENSED PROFESSIONAL ENGINEER  
LICENSE NUMBER: 32588  
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DATE DRAWN:	07/19/21
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CUSTOMER ID:	NEW FAIRFIELD CT
CUSTOMER #:	467860

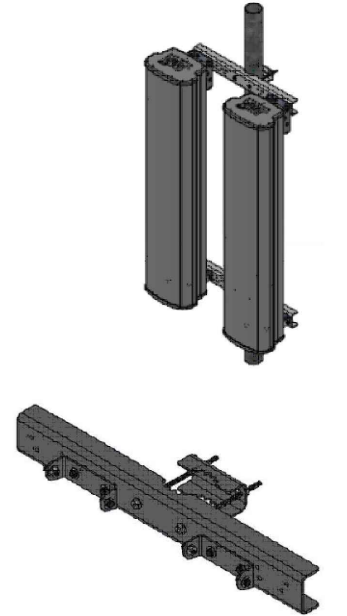
**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER:	REVISION:
C-401	0

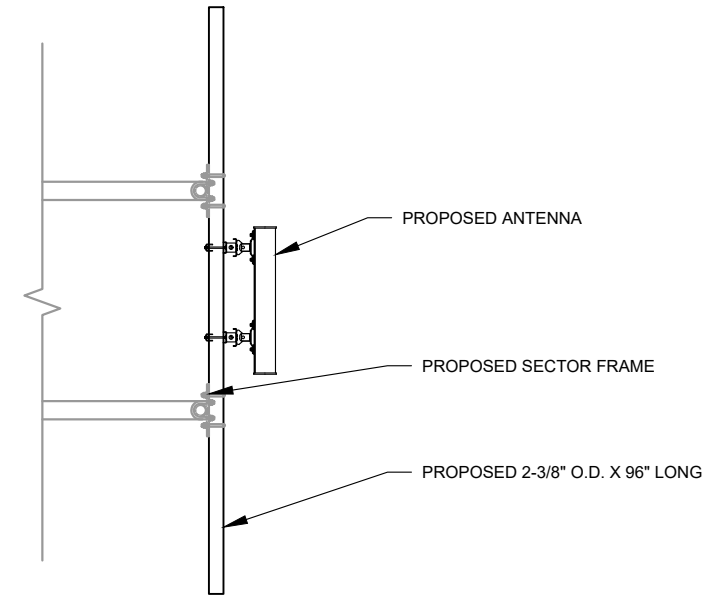


PROFILE VIEW

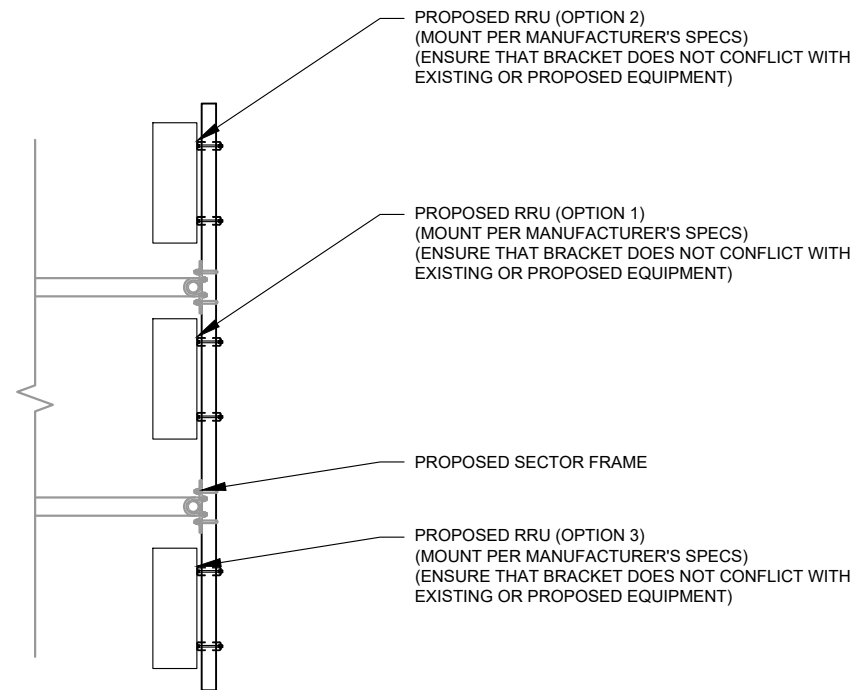
1 PROPOSED SIDE-BY-SIDE MOUNT  
SCALE: NOT TO SCALE



ISOMETRIC VIEW (BY MANUFACTURER)



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



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



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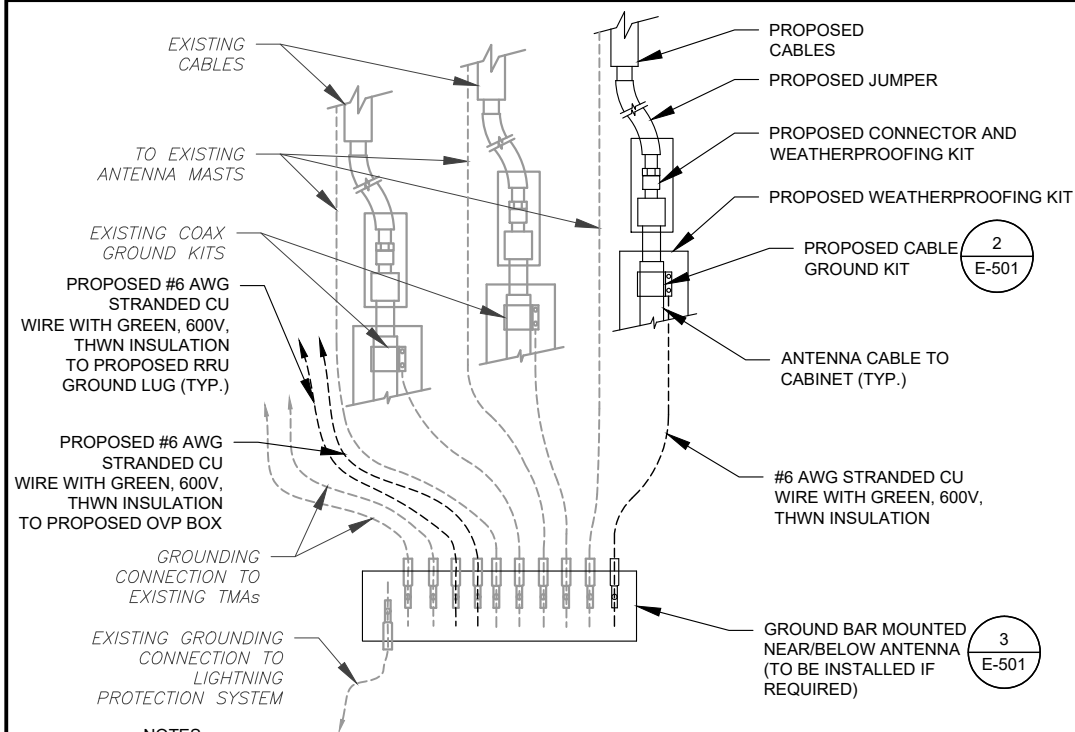
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CONSTRUCTION  
DETAILS

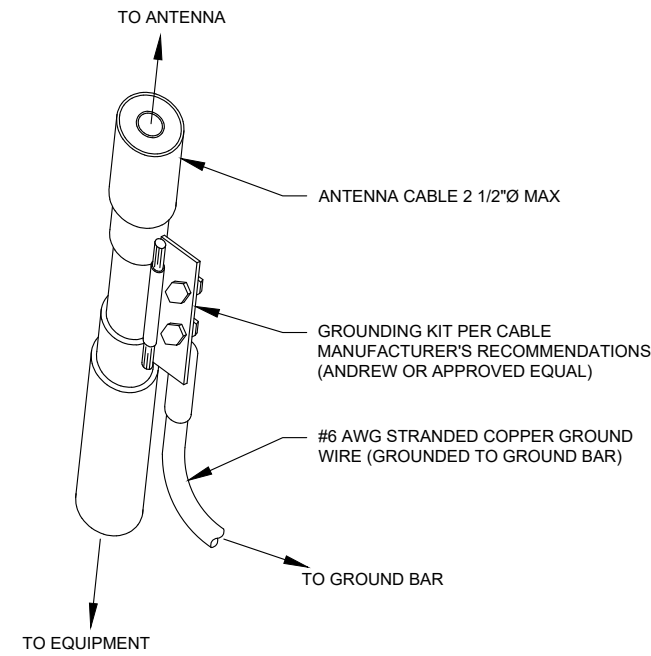
SHEET NUMBER:	REVISION:
C-501	0



**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 VERIZON GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

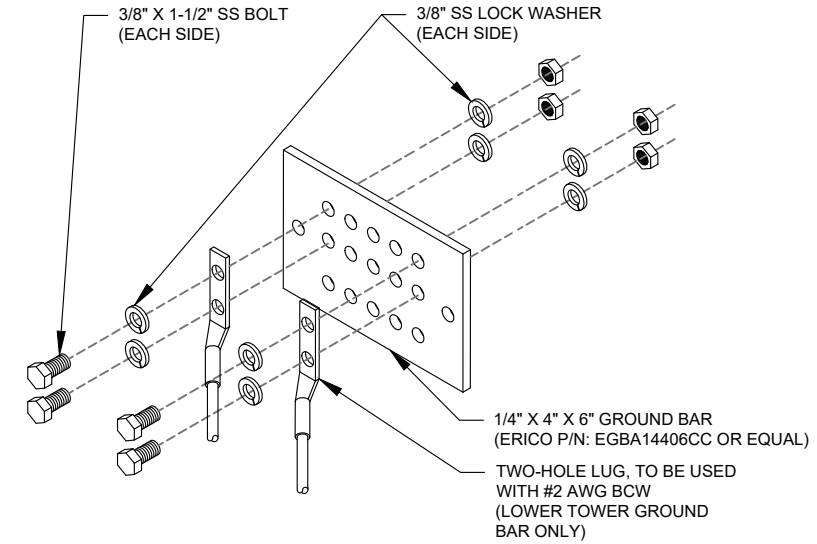
**1** TYPICAL ANTENNA GROUNDING DIAGRAM  
SCALE: N.T.S.



**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.



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DATE DRAWN:	07/19/21
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CUSTOMER #:	467860

**GROUNDING DETAILS**

SHEET NUMBER:  
**E-501**

REVISION:  
**0**



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2000 Midlantic Drive, Suite 100  
Mt. Laurel, NJ 08054  
(856) 797-0412  
peter.albano@colliersengineering.com

Mount Structural Analysis Report  
(3) 12.50-Ft Sector Frames

July 9, 2021  
Site ID: 467860-VZW / NEW FAIRFIELD CT  
Page | 3

## New Antenna Mount Analysis Report and PMI Requirements

Mount Replacement Analysis

SMART Tool Project #: 10085221  
Maser Consulting Connecticut Project #: 21777874A

July 9, 2021

### Site Information

Site ID: 467860-VZW / NEW FAIRFIELD CT  
Site Name: NEW FAIRFIELD CT  
Carrier Name: Verizon Wireless  
Address: 18 Titicus Mountain Road  
New Fairfield, Connecticut 06812  
Fairfield County  
Latitude: 41.450664°  
Longitude: -73.515989°

### Structure Information

Tower Type: 200-Ft Self Support  
Mount Type: 12.50-Ft Sector Frame

FUZE ID # 16069223

### Analysis Results

Sector Frame: 29.1% Pass

### \*\*\*Contractor PMI Requirements:

Included at the end of this MA report  
Available & Submitted via portal at <https://pmi.vzsmart.com>  
Contractor - Please Review Specific Site PMI Requirements Upon Award  
Requirements also Noted on Mount Modification Drawings  
Requirements may also be Noted on A & E drawings

Report Prepared By: Calvin Gould



### Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
146.00	146.00	6	JMA Wireless	MX06FRO660-03	Added
		3	Samsung	MT6407-77A	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR049	
		2	Commscope	TD-850B-LTE78-43	
		1	Raycap	RVZDC-6627-PF-48	Retained

Any proposed antennas not currently installed should be mounted such that the centerline of the antennas does not exceed 6 inches vertically from the center of the antenna mounts.

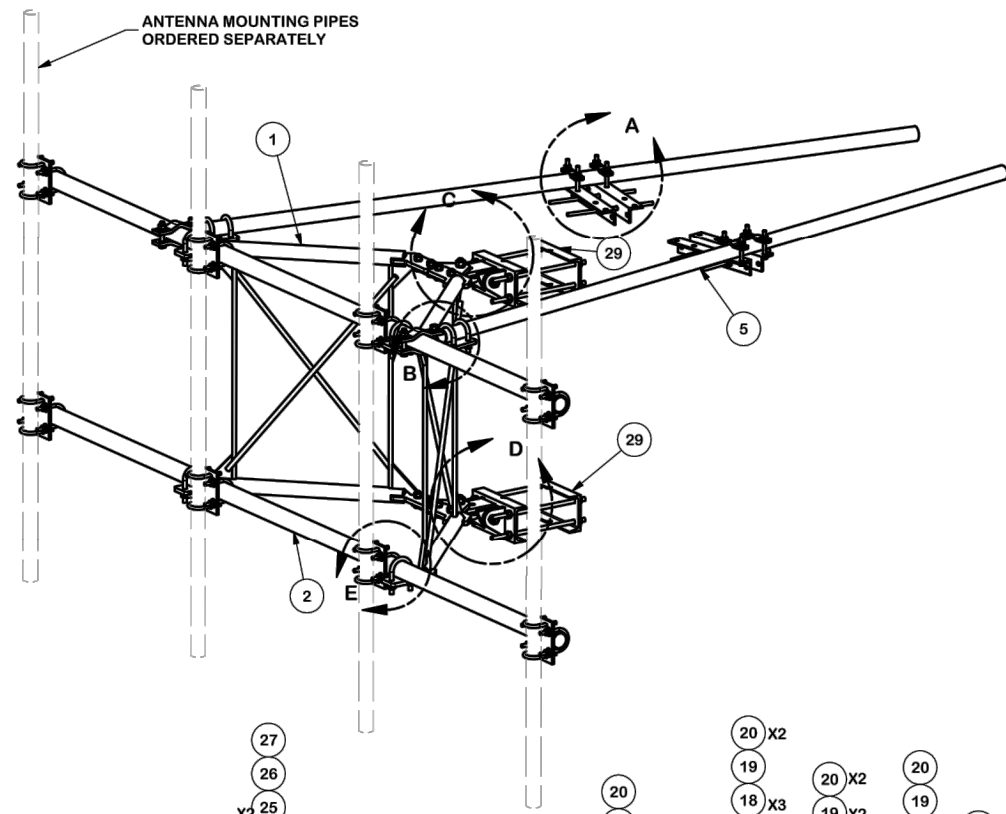
The recent mount mapping reported existing OVP units. It is acceptable to install up to any three (3) of the OVP model numbers listed below as required at any location other than the mount face without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Model Number	Ports	AKA
DB-B1-6C-12AB-0Z	6	OVP-6
RVZDC-6627-PF-48	12	OVP-12

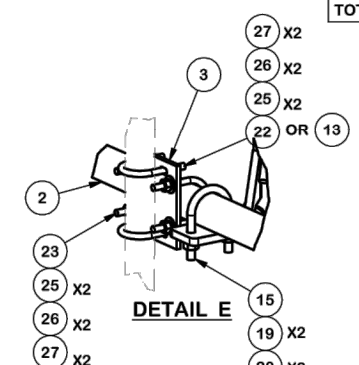
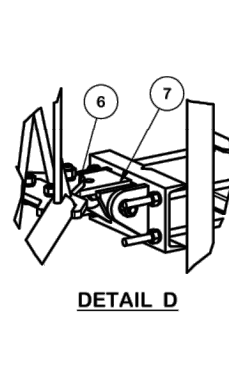
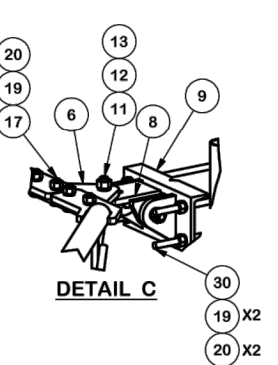
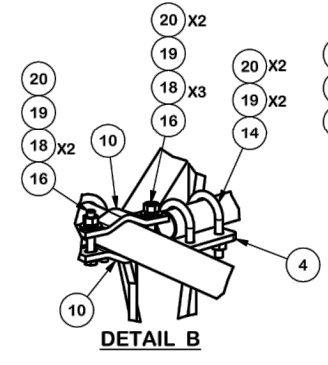
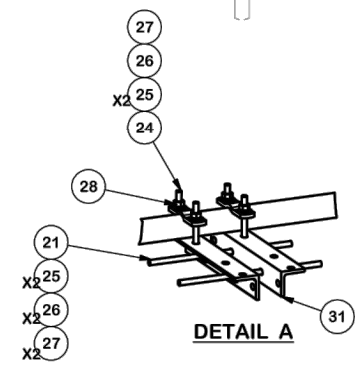
### Standard Conditions:

- All engineering services are performed on the basis that the information provided to Maser Consulting Connecticut and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Maser Consulting Connecticut to verify deviation will not adversely impact the analysis.
- Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.  
  
Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.  
  
The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.
- For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped by Maser Consulting Connecticut, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
- All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.

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.



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		66.80	133.59
2	2	P30150	2-7/8" X 150" (2-1/2" SCH. 40) GALVANIZED PIPE	150 in	76.94	153.87
3	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
4	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
5	2	P2126	2-3/8" OD X 126" SCH 40 GALVANIZED PIPE	126 in	40.75	81.50
6	2	X-VFAPL3	VFA-HD PIVOT PLATE	24 in	9.69	19.38
7	1	X-LPB	LOWER PIVOT BRACKET		8.84	8.84
8	1	X-UPB	UPPER PIVOT BRACKET		8.84	8.84
9	2	X-HDPMW	HEAVY DUTY PIPE MOUNT WELDMENT		18.61	37.21
10	4	DCP	1/2" THICK, 5-3/4" C NTER TO CENTER CLAMP HALF	8 1/8 in	2.42	9.68
11	6	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	2.87
12	6	G34LW	3/4" HDG LOCKWASHER		0.04	0.26
13	6	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	1.27
14	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
15	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
16	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
17	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
18	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
19	44	G58LW	5/8" HDG LOCKWASHER		0.03	1.15
20	46	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	5.98
21	4	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.40	1.60
22	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	4.11
23	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
24	8	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	2.38
25	88	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	3.00
26	80	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.11
27	80	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	5.73
28	4	X-100064	CLAMP (4" V-CLAMP) GALVANIZED		0.91	3.65
29	2	X-HDPMBP	HEAVY DUTY PIPE MOUNT BACKING PLATE	12 in	13.44	26.89
30	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)	18 in	0.40	3.19
31	4	X-LLTB	ANGLE BRACKET FOR LLTB	16 1/2 in	7.06	28.25
TOTAL WT. #						648.71



REV	DESCRIPTION OF REVISIONS	BY	DATE
A	CHANGED TIE-BACK FRONT CONNECTION	CEK	2/2/2017
	REVISION HISTORY		

**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030"$ )  
DRILLED AND GAS CUT HOLES ( $\pm 0.030"$ ) - NO CONING OF HOLES  
LASER CUT EDGES AND HOLES ( $\pm 0.010"$ ) - NO CONING OF HOLES  
BENDS ARE  $\pm 1/2$  DEGREE  
ALL OTHER MACHINING ( $\pm 0.030"$ )  
ALL OTHER ASSEMBLY ( $\pm 0.060"$ )

PROPRIETARY NOTE:  
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION <b>12'-6" HEAVY DUTY V-FRAME ASSEMBLY WITH TWO STIFF ARMS</b>			
CPD NO.	DRAWN BY CEK	ENG. APPROVAL 6/1/2015	
CLASS 81	SUB 02	DRAWING USAGE CUSTOMER	CHECKED BY BMC 2/2/2017

**SITE PRO**  
A valmont COMPANY

Locations:  
New York, NY  
Atlanta, GA  
Los Angeles, CA  
Plymouth, IN  
Salem, OR  
Dallas, TX

Engineering Support Team:  
1-888-753-7446

PART NO. <b>VFA12-HD</b>	PAGE 1 OF 2
DWG. NO. <b>VFA12-HD</b>	

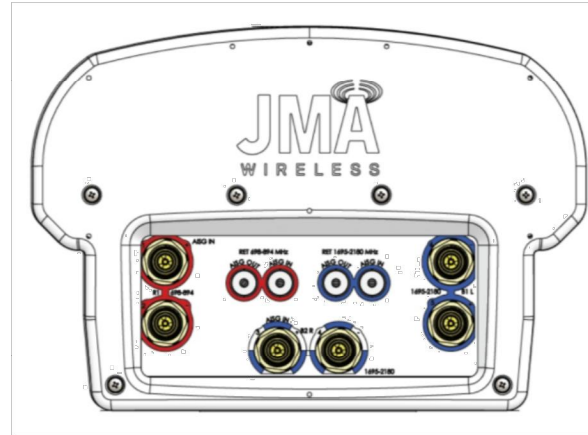
1 REPLACEMENT MOUNT DETAIL

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.

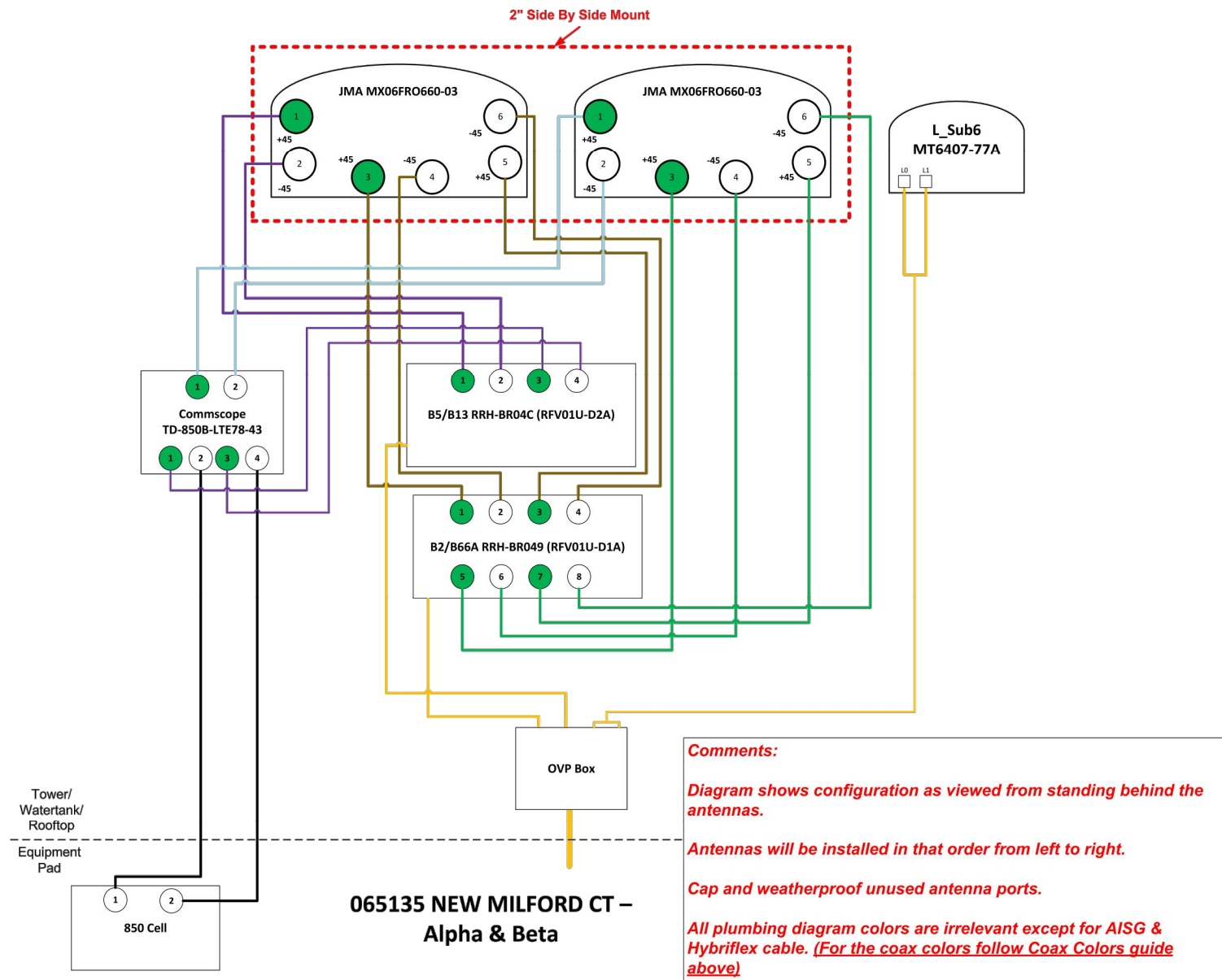
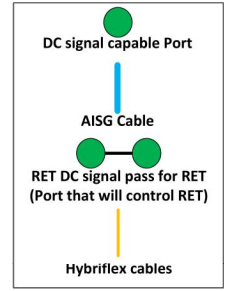
SUPPLEMENTAL

SHEET NUMBER: <b>R-602</b>	REVISION: <b>-</b>
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- Port 1 & 2 are for low band (698-896 MHz).
- Port 3,4,5, & 6 are for high band (1695-2360 MHz).
- Antenna Smart Bias Tee (SBT) is through port 1 for low band and port 3 for high band.
- AISG cable is only needed when drawn in the diagrams below, if it is not drawn then SBT is enough to control all RET motors.
- Not all SBT ports are needed to control RET, only green port connection to green port will control RET.



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

1 ANTENNA CONFIGURATION

SUPPLEMENTAL

SHEET NUMBER: <b>R-603</b>	REVISION: -
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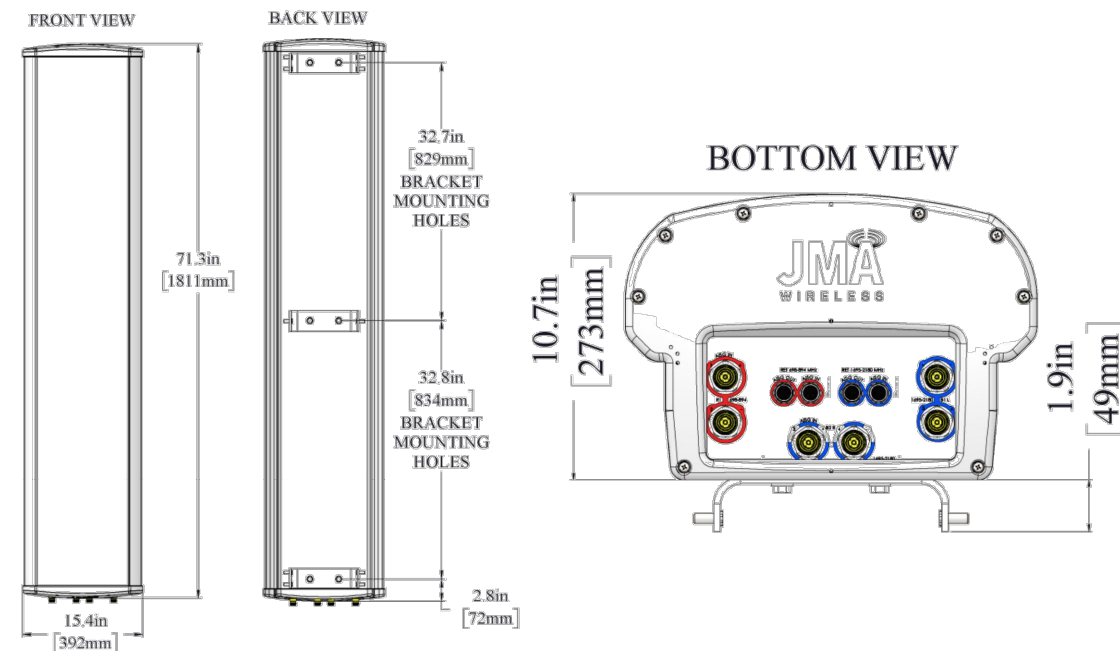
Product Specifications

# MX06FRO660-02

NWAV™ X-Pol Antenna | Hex-Port | 6 ft | 60°



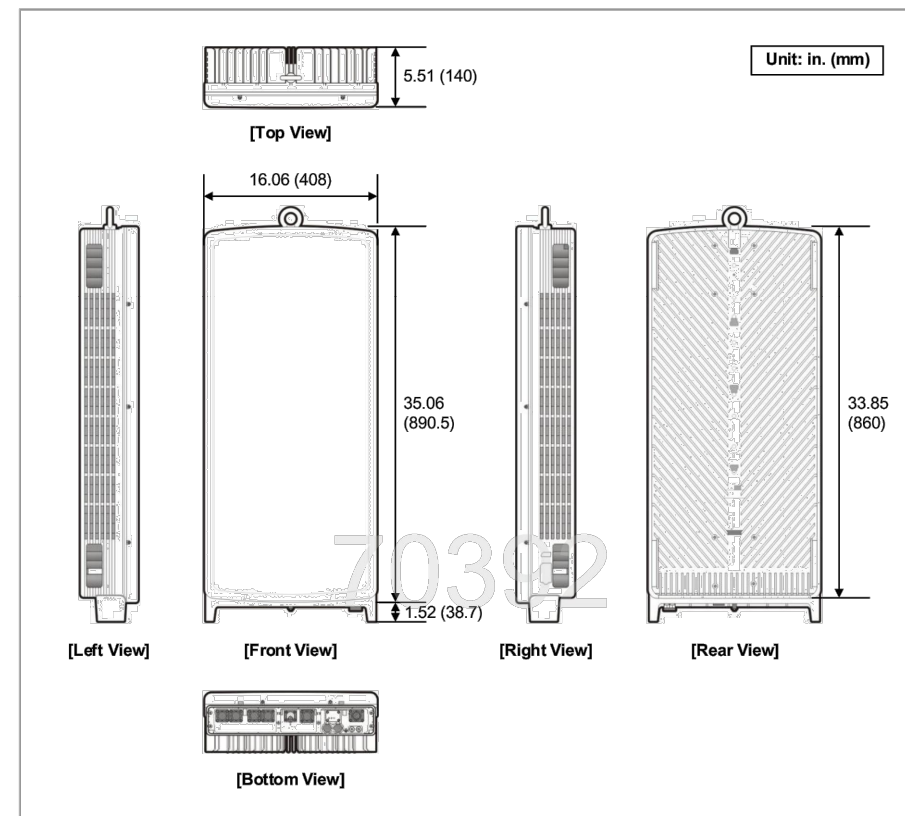
Mechanical Specifications	
Dimensions height/ width/ depth, inches (mm)	71.3/ 15.4/ 10.7 (1811/ 392/ 272)
Shipping dimensions length/ width/ height, inches (mm)	82/ 20/ 15 (2083/ 508/ 381)
No. of RF input ports, connector type & location	6 x 4.3-10 female, bottom
RF connector torque	96 lbf-in (10.85 N m or 8 lbf-ft)
Net antenna weight, lb (kg)	46 (20.0)
Shipping weight, lb (kg)	81 (37.0)
Antenna mounting and downtilt kit included with antenna	91900318
Net weight of the mounting and downtilt kit, lb (kg)	15 (6.8)
Range of mechanical up/ down tilt	-2° to 12°
Rated wind survival speed, mph (km/h)	150 (241)
Frontal, lateral & rear wind loading @ 150 km/h, lbf (N)	185 (826), 129 (574), 185 (826)
Equivalent flat plate @100 mph and Cd=2, sq. ft.	4.27



Ordering Information	
Antenna Model	Description
MX06FRO660-02	6F X- Pol HEX FRO 60° 2-14°/ 0-9° RET, 4.3-10 & SBT
Optional Accessories	
992100-CA030-SC	Optional AISG jumper cable, M/F, 3.0 meters
PCU-220	Primary control unit, USB

The following figures depict the physical views of the MT6407-77A.

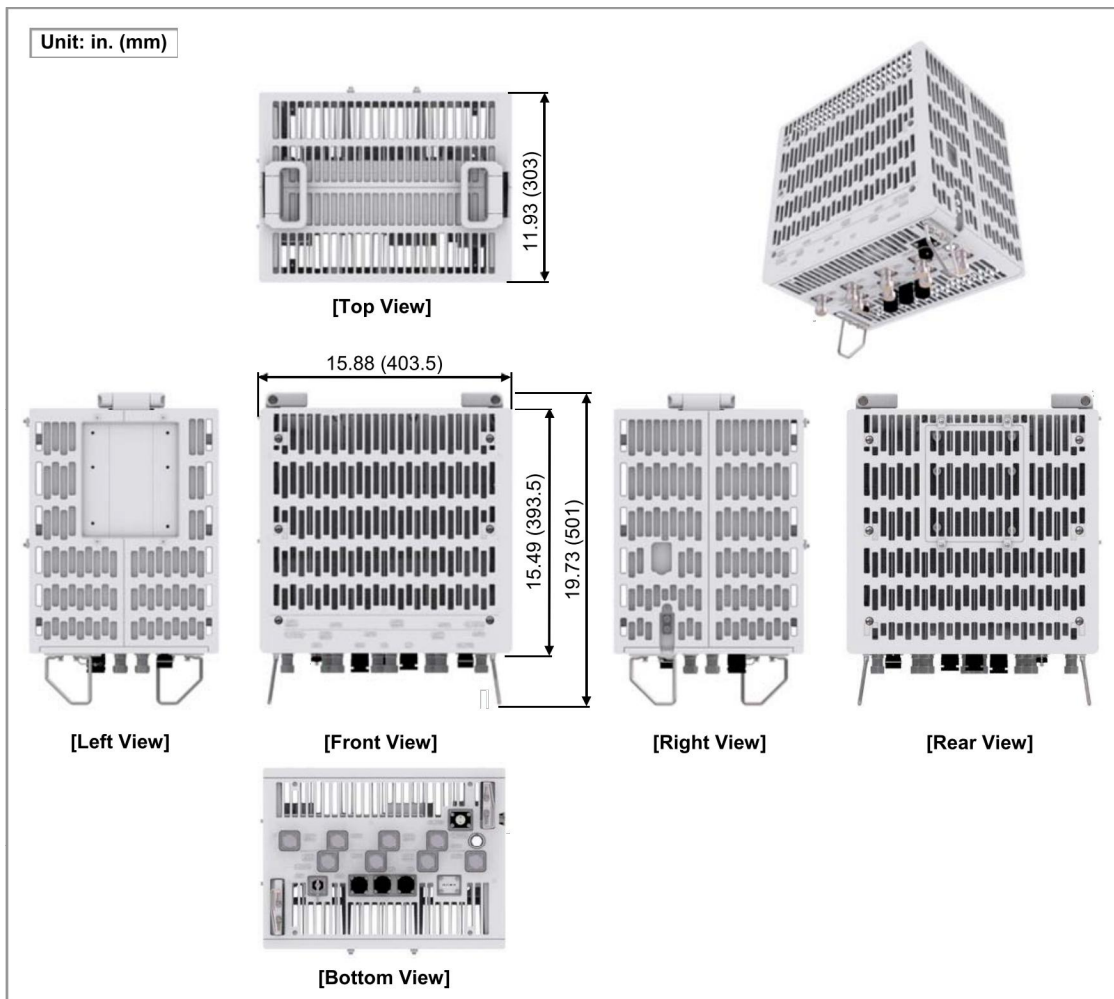
Figure 1. Appearance



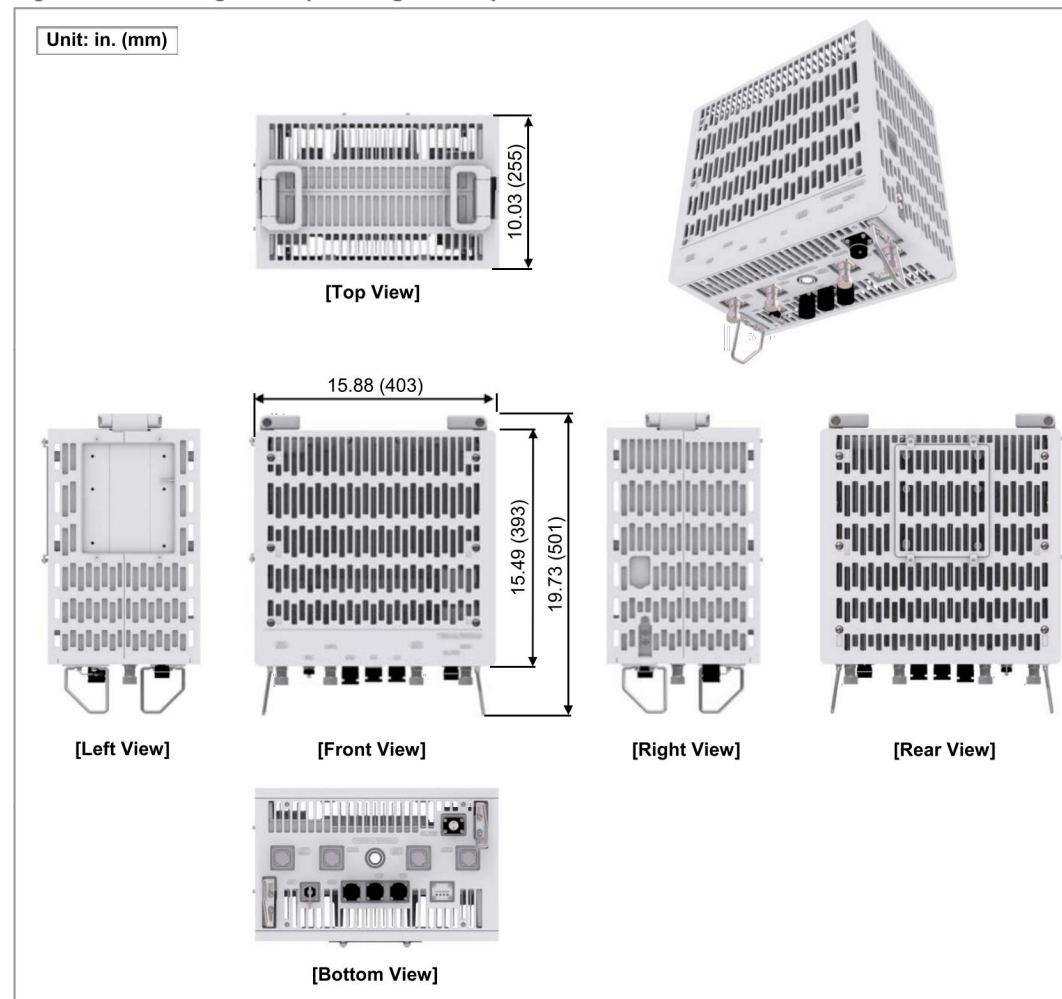
## MT6407-77A

### EQUIPMENT SPECIFICATIONS

SHEET NUMBER:	REVISION:
R-604	-



**RFV01U-D1A**



**RFV01U-D2A**

EQUIPMENT  
SPECIFICATIONS

SHEET NUMBER:

R-605

REVISION:

-