



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

Post-Mod Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10061729
Maser Consulting Connecticut Project #: 21777029A

April 30, 2021

Site Information

Site ID: 467462-VZW / Rocky Hill CT
Site Name: Rocky Hill CT
Carrier Name: Verizon Wireless
Address: France St. Lot 1
Rocky Hill, Connecticut 06067
Hartford County
Latitude: 41.639778°
Longitude: -72.701889°

Structure Information

Tower Type: 142-Ft Monopole
Mount Type: 14.25-Ft Platform

FUZE ID # 16232011

Analysis Results

Platform: 91.8% Pass

***Contractor PMI Requirements:

Included at the end of this MA report

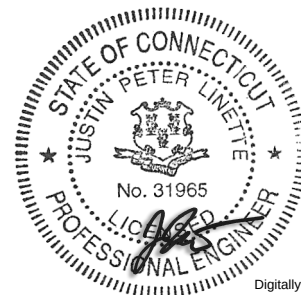
Available & Submitted via portal at <https://pmi.vzwsmart.com>

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: Selene Chen



Digitally signed by Justin Linette
Date: 2021.04.30 13:55:26-04'00'

Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

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: 324787, dated September 2, 2020
Mount Mapping Report	Level-Up Towers, Site ID: 467462, dated February 18, 2021
Mount Analysis Report	Maser Consulting Connecticut, Project #: 21777029A, dated April 2, 2021
Mount Modification Drawings	Maser Consulting Connecticut, Project #: 21777029A, dated April 30, 2021

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 118 mph Ice Wind Speed (3-sec. Gust): 50 mph Design Ice Thickness: 1.50 in Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.993
Seismic Parameters:	S_S : 0.201 S_1 : 0.055
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 mount:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
135.50	137.10	3	Andrew	LNx-6513DS-A1M	Added
		6	Commscope	NHH-65B-R2B	
	135.00	3	Samsung	XXDWMM-12.5-65-8T-CBRS	
	138.50	3	Samsung	MT6407-77A	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		2	Raycap	RRFDC-3315-PF-48*	Retained

* Equipment to be flush mounted directly to the Monopole. They are not mounted on platform mount and are not included in this mount analysis.

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:
- Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - HSS (Rectangular) ASTM 500 (Gr. B-46)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod F1554 (Gr. 36)
 - Bolts ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

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
Connection	74.2%	Pass
Back Standoff HSS	60.2%	Pass
Front Standoff HSS	26.2%	Pass
Platform Crossmember	51.9%	Pass
Corner Grating Angle	12.7%	Pass
Face Horizontal	91.8%	Pass
Support Rail	45.5%	Pass
Mount Pipe	32.1%	Pass
Mod Bracing	13.1%	Pass
Support Rail Corner Pipe	7.8%	Pass

Structure Rating – (Controlling Utilization of all Components)	91.8%
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Recommendation:

The existing mount will be **SUFFICIENT** for the final loading after the proposed modifications are successfully completed.

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:

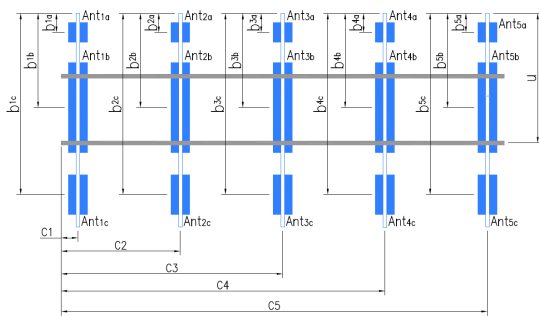
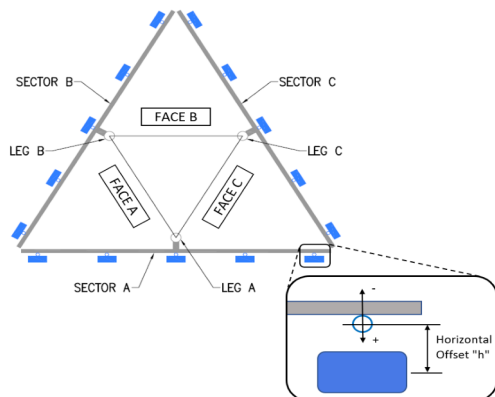
1. Mount Photos
2. Mount Mapping Report (for reference only)
3. Analysis Calculations
4. **Contractor Required PMI Report Deliverables**
5. Antenna Placement Diagrams
6. TIA Adoption and Wind Speed Usage Letter



FCC

Tower Owner:	Crown Castle	Mapping Date:	2/18/2021
Site Name:	Rocky Hill	Tower Type:	Monopole
Site Number or ID:	467462	Tower Height (Ft.):	142
Mapping Contractor:	Level-Up Towers	Mount Elevation (Ft.):	135.5

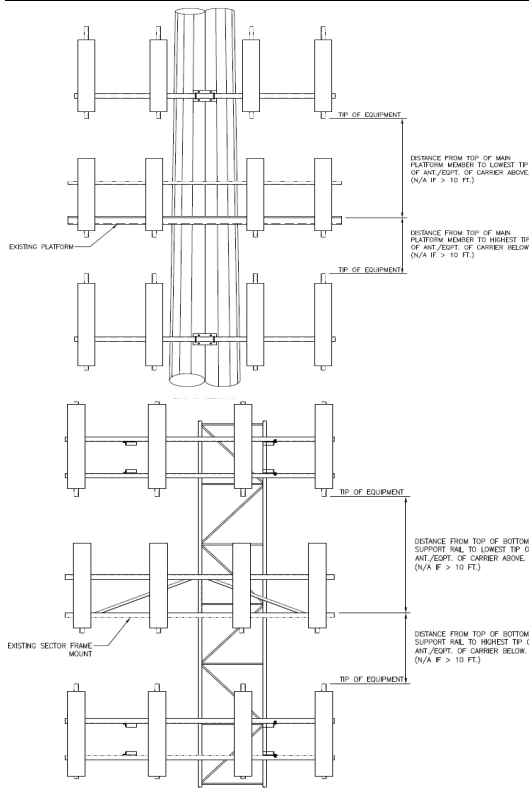
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Antenna Layout (Looking Out From Tower)

Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "y"	Horizontal Offset "C1, C2, C3, etc."
A1	P2.38X0.15", 72" Long	59.00	16.00	C1	P2.38X0.15", 72" Long	59.00	16.00
A2	P2.38X0.15", 72" Long	59.00	79.50	C2	P2.38X0.15", 72" Long	59.00	79.50
A3	P2.38X0.15", 72" Long	59.00	128.00	C3	P2.38X0.15", 72" Long	59.00	128.00
A4	P2.38X0.15", 72" Long	59.00	154.00	C4	P2.38X0.15", 72" Long	59.00	154.00
A5				C5			
A6				C6			
B1	P2.38X0.15", 72" Long	59.00	16.00	D1			
B2	P2.38X0.15", 72" Long	59.00	79.50	D2			
B3	P2.38X0.15", 72" Long	59.00	128.00	D3			
B4	P2.38X0.15", 72" Long	59.00	154.00	D4			
B5				D5			
B6				D6			
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :							
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :							
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :							
Please enter additional information or comments below.							
Tower Face Width at Mount Elev. (ft.):			Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				18

[illegible]

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B																	
Sector A:	30.00	Deg	Leg A:		Deg			Ant _{1a}	Amphenol LPA-80063	15.00	13.00	48.00	1 - 1-5/8	138	29.00	11.00	150.00	50							
Sector B:	15.00	Deg	Leg B:		Deg			Ant _{1b}																	
Sector C:	270.00	Deg	Leg C:		Deg			Ant _{2a}	Commscope SBNHH-1	12.00	7.00	72.00		137.083	40.00	10.00	150.00	53							
Sector D:		Deg	Leg D:		Deg			Ant _{2b}	Commscope SBNHH-1	12.00	7.00	72.00		137.083	40.00	10.00	150.00	53							
Climbing Facility Information								Ant _{2c}	ALU B13 RRH4x30	12.00	9.00	21.50		137.417	36.00	-7.00	150.00	58							
Location:	30.00	Deg	Sector A					Ant _{3a}																	
Climbing Facility	Corrosion Type:		Good condition.					Ant _{3b}																	
	Access:		Climbing path was unobstructed.					Ant _{3c}																	
	Condition:		Good condition.					Ant _{4a}	Amphenol LPA-80063	15.00	13.00	48.00	1 - 1-5/8	138	29.00	11.00	150.00	62							
								Ant _{4b}																	
								Ant _{4c}																	
								Ant _{5a}																	
								Ant _{5b}																	
								Ant _{5c}																	
								Ant on Standoff																	
								Ant on Standoff																	
								Ant on Tower																	
								Ant on Tower																	
								Sector C																	
								Ant _{1a}	Swedcom SC-E 6014	8.50	8.00	43.00	1 - 1-5/8	138.417	24.00	12.00	270.00	64							
								Ant _{1b}																	
								Ant _{1c}																	
								Ant _{2a}	Commscope SBNHH-1	12.00	7.00	72.00		137.083	40.00	10.00	270.00	67							
								Ant _{2b}	Commscope SBNHH-1	12.00	7.00	72.00		137.083	40.00	10.00	270.00	67							
								Ant _{2c}	ALU B13 RRH4x30	12.00	9.00	21.50		137.417	36.00	-7.00	270.00	72							
								Ant _{3a}																	
								Ant _{3b}																	
								Ant _{3c}																	
								Ant _{4a}	Swedcom SC-E 6014	8.50	8.00	43.00	1 - 1-5/8	138.417	24.00	10.00	270.00	76							
								Ant _{4b}																	
								Ant _{4c}																	
								Ant _{5a}																	
								Ant _{5b}																	
								Ant _{5c}																	
								Ant on Standoff																	
								Ant on Standoff																	
								Ant on Tower																	
								Ant on Tower																	
								Sector D																	
								Ant _{1a}																	
								Ant _{1b}																	
								Ant _{1c}																	
								Ant _{2a}																	
								Ant _{2b}																	
								Ant _{2c}																	
								Ant _{3a}																	
								Ant _{3b}																	
								Ant _{3c}																	
								Ant _{4a}																	
								Ant _{4b}																	
								Ant _{4c}																	
								Ant _{5a}																	
								Ant _{5b}																	
								Ant _{5c}																	
								Ant on Standoff																	
								Ant on Standoff																	
								Ant on Tower																	
								Ant on Tower																	

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.) 2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness. 3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab. 4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type. 5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required. 6. Please measure and report the size and length of all existing antenna mounting pipes. 7. Please measure and report the antenna information for all sectors. 8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.
Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



Antenna Mount Mapping Form (PATENT PENDING)

FCC #

Tower Owner:	Crown Castle	Mapping Date:	2/18/2021
Site Name:	Rocky Hill	Tower Type:	Monopole
Site Number or ID:	467462	Tower Height (Ft.):	142
Mapping Contractor:	Level-Up Towers	Mount Elevation (Ft.):	135.5

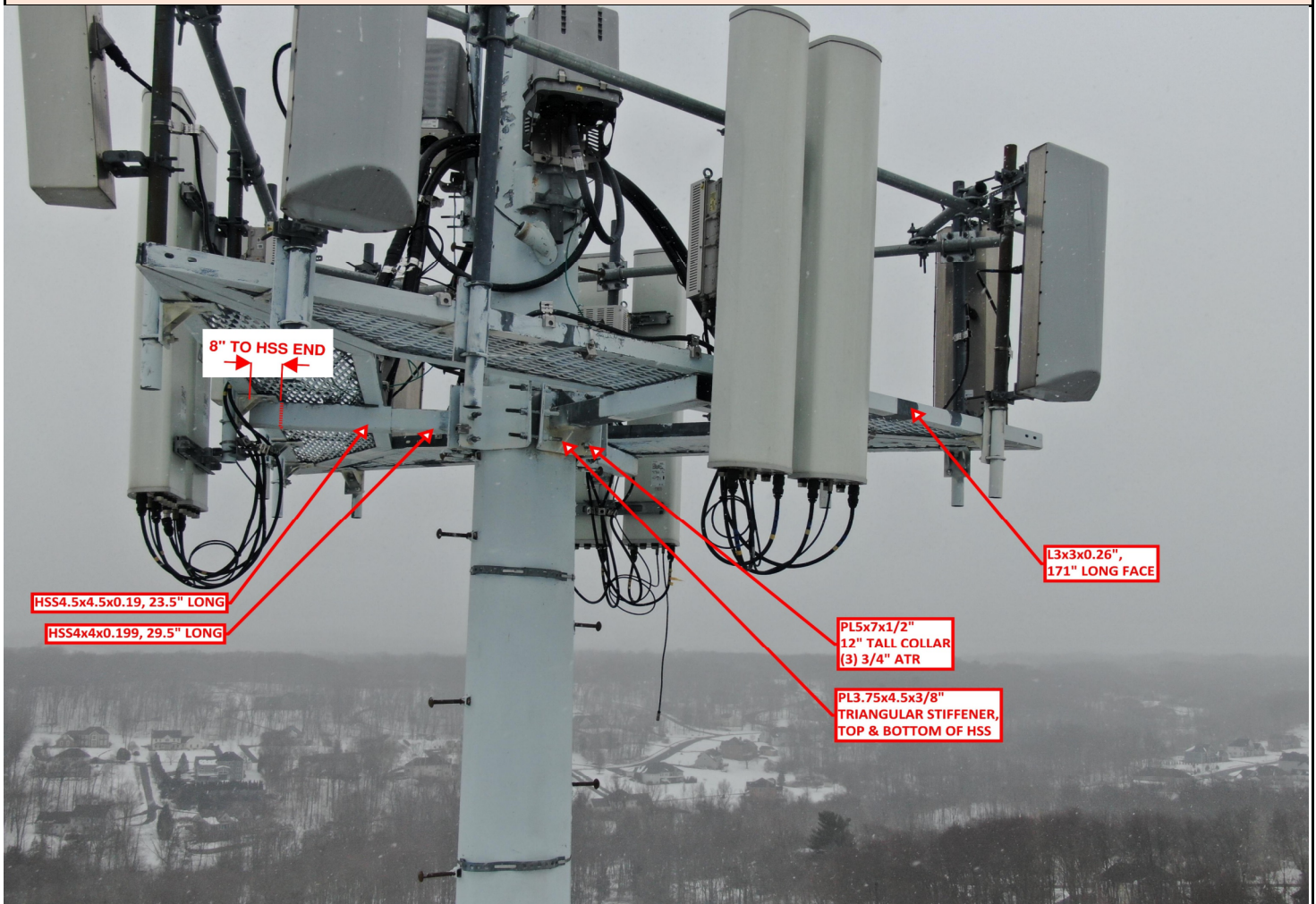
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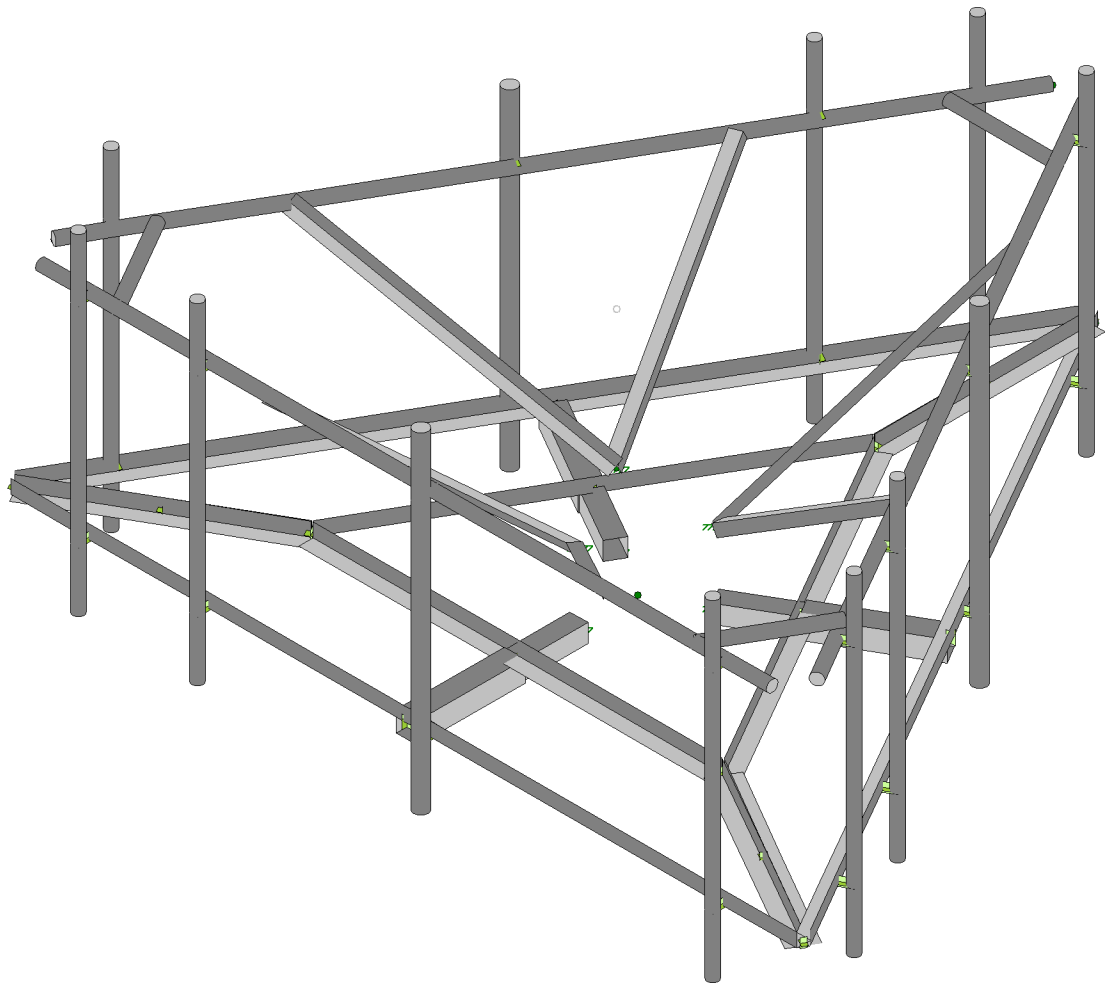
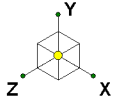
Please Insert Sketches of the Antenna Mount



Please Insert Sketches of the Antenna Mount, cont'd







Envelope Only Solution

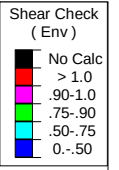
Maser Consulting

467462-VZW_MT_LO_H

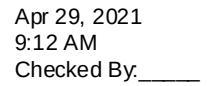
SK - 1

Apr 29, 2021 at 9:11 AM

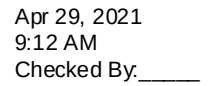
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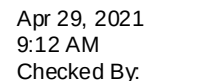


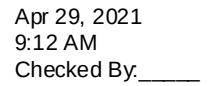
Maser Consulting	467462-VZW_MT_LO_H	SK - 3
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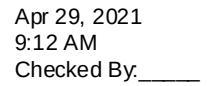


BLC Description		Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me... Surface(P...	
1	Antenna D	None					99		
2	Antenna Di	None					99		
3	Antenna W o (0 Deg)	None					99		
4	Antenna W o (30 Deg)	None					99		
5	Antenna W o (60 Deg)	None					99		
6	Antenna W o (90 Deg)	None					99		
7	Antenna W o (120 Deg)	None					99		
8	Antenna W o (150 Deg)	None					99		
9	Antenna W o (180 Deg)	None					99		
10	Antenna W o (210 Deg)	None					99		
11	Antenna W o (240 Deg)	None					99		
12	Antenna W o (270 Deg)	None					99		
13	Antenna W o (300 Deg)	None					99		
14	Antenna W o (330 Deg)	None					99		
15	Antenna W i (0 Deg)	None					99		
16	Antenna W i (30 Deg)	None					99		
17	Antenna W i (60 Deg)	None					99		
18	Antenna W i (90 Deg)	None					99		
19	Antenna W i (120 Deg)	None					99		
20	Antenna W i (150 Deg)	None					99		
21	Antenna W i (180 Deg)	None					99		
22	Antenna W i (210 Deg)	None					99		
23	Antenna W i (240 Deg)	None					99		
24	Antenna W i (270 Deg)	None					99		
25	Antenna W i (300 Deg)	None					99		
26	Antenna W i (330 Deg)	None					99		
27	Antenna W m (0 Deg)	None					99		
28	Antenna W m (30 Deg)	None					99		
29	Antenna W m (60 Deg)	None					99		
30	Antenna W m (90 Deg)	None					99		
31	Antenna W m (120 De...	None					99		
32	Antenna W m (150 De...	None					99		
33	Antenna W m (180 De...	None					99		
34	Antenna W m (210 De...	None					99		
35	Antenna W m (240 De...	None					99		
36	Antenna W m (270 De...	None					99		
37	Antenna W m (300 De...	None					99		
38	Antenna W m (330 De...	None					99		
39	Structure D	None		-1				3	
40	Structure Di	None						42	3
41	Structure Wo (0 Deg)	None						84	
42	Structure Wo (30 Deg)	None						84	
43	Structure Wo (60 Deg)	None						84	
44	Structure Wo (90 Deg)	None						84	
45	Structure Wo (120 D...	None						84	
46	Structure Wo (150 D...	None						84	
47	Structure Wo (180 D...	None						84	
48	Structure Wo (210 D...	None						84	
49	Structure Wo (240 D...	None						84	
50	Structure Wo (270 D...	None						84	
51	Structure Wo (300 D...	None						84	

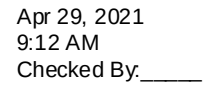
Page 2







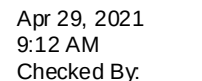
Page 5

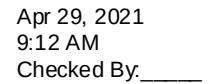


	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
104	N106	-2.054112	0	-9.400507	0	
105	N107	-2.054112	3.791667	-9.400507	0	
106	N108	-2.054112	4.916667	-9.400507	0	
107	N109	-2.054112	-1.083333	-9.400507	0	
108	N110	-0.754273	0	-11.151895	0	
109	N111	-0.754273	3.791667	-11.151895	0	
110	N112	-0.970779	0	-11.276895	0	
111	N113	-0.970779	3.791667	-11.276895	0	
112	N114	-0.970779	4.916667	-11.276895	0	
113	N115	-0.970779	-1.083333	-11.276895	0	
114	N114A	5.416667	0	-0.9375	0	
115	N115A	-5.416667	0	-0.9375	0	
116	N116	0.052123	0	-10.409721	0	
117	N117	5.468789	0	-1.027779	0	
118	N118	-5.468789	0	-1.027779	0	
119	N119	-0.052123	0	-10.409721	0	
120	N134	-.25	0	0.041667	0	
121	N135	.25	0	0.041667	0	
122	N136	-5.75	0	0.041667	0	
123	N137	-4.375	0	0.041667	0	
124	N138	-3	0	0.041667	0	
125	N139	-1.625	0	0.041667	0	
126	N191	-6.483439	0	-1.228687	0	
127	N127	0.	1.123333	-3.083333	0	
128	N128	0.90211	3.623333	-4.645833	0	
129	N129	-0.90211	3.623333	-4.645833	0	
130	N130	-2.5	3.791667	0.041667	0	
131	N131	3.5	3.791667	0.041667	0	
132	N133	0.90211	1.123333	-4.645833	0	
133	N134A	4.858439	3.791667	-4.04327	0	
134	N135A	1.858439	3.791667	-9.239422	0	
135	N137A	-0.90211	1.123333	-4.645833	0	
136	N138A	-2.358439	3.791667	-8.373397	0	
137	N139A	-5.358439	3.791667	-3.177244	0	

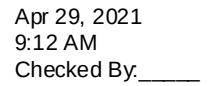
	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	l _{yy} [in4]	l _{zz} [in4]	J [in4]
1	Standoff HSS Back	HSS4X4X3	Beam	Tube	A500 Gr. B...	Typical	2.58	6.21	6.21	10
2	Platform Angle	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
3	Mounp Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	.627	.627	1.25
4	Standoff HSS Front	HSS4.5X4...	Beam	Tube	A500 Gr. B...	Typical	2.93	9.02	9.02	14.4
5	kickers	L2.5x2.5x3	Column	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011
6	Pipe 2.5	PIPE 2.5	Column	Pipe	A53 Gr. B	Typical	1.61	1.45	1.45	2.89

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt	
1	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	.3	.65	.49	35	1.5	60	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1

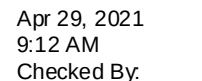




Page 8



	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic ...
11	M11						Yes				None
12	M12						Yes				None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes				None
16	M16						Yes				None
17	M17						Yes				None
18	M18						Yes				None
19	M19						Yes				None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22A						Yes	** NA **			None
23	M23A						Yes	** NA **			None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None
26	M26						Yes	** NA **			None
27	M27						Yes	** NA **			None
28	M28						Yes				None
29	M29						Yes				None
30	M30						Yes				None
31	M31						Yes	** NA **			None
32	M32						Yes	** NA **			None
33	M33						Yes	** NA **			None
34	M34	BenPIN	BenPIN				Yes	** NA **			None
35	M35	BenPIN	BenPIN				Yes	** NA **			None
36	M36	BenPIN	BenPIN				Yes	** NA **			None
37	M37						Yes	** NA **			None
38	M38						Yes	** NA **			None
39	MP1A						Yes	** NA **			None
40	M40						Yes	** NA **			None
41	M41						Yes	** NA **			None
42	MP2A						Yes	** NA **			None
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	MP3A						Yes	** NA **			None
46	M46						Yes	** NA **			None
47	M47						Yes	** NA **			None
48	MP4A						Yes	** NA **			None
49	M49						Yes	** NA **			None
50	M50						Yes	** NA **			None
51	MP1C						Yes	** NA **			None
52	M52						Yes	** NA **			None
53	M53						Yes	** NA **			None
54	MP2C						Yes	** NA **			None
55	M55						Yes	** NA **			None
56	M56						Yes	** NA **			None
57	MP3C						Yes	** NA **			None
58	M58						Yes	** NA **			None
59	M59						Yes	** NA **			None
60	MP4C						Yes	** NA **			None
61	M61						Yes	** NA **			None
62	M62						Yes	** NA **			None

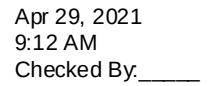


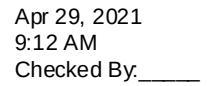
Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
81	MP1C	Mz	0	2.5
82	MP2A	Y	-84.4	3
83	MP2A	My	.042	3
84	MP2A	Mz	0	3
85	MP2B	Y	-84.4	3
86	MP2B	My	-.021	3
87	MP2B	Mz	.037	3
88	MP2C	Y	-84.4	3
89	MP2C	My	-.021	3
90	MP2C	Mz	-.037	3
91	MP3A	Y	-70.3	3
92	MP3A	My	.035	3
93	MP3A	Mz	0	3
94	MP3B	Y	-70.3	3
95	MP3B	My	-.018	3
96	MP3B	Mz	.03	3
97	MP3C	Y	-70.3	3
98	MP3C	My	-.018	3
99	MP3C	Mz	-.03	3

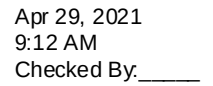
Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	Y	-74.463	1.25
2	MP4A	My	-.037	1.25
3	MP4A	Mz	0	1.25
4	MP4A	Y	-74.463	4.75
5	MP4A	My	-.037	4.75
6	MP4A	Mz	0	4.75
7	MP4B	Y	-74.463	1.25
8	MP4B	My	.019	1.25
9	MP4B	Mz	-.032	1.25
10	MP4B	Y	-74.463	4.75
11	MP4B	My	.019	4.75
12	MP4B	Mz	-.032	4.75
13	MP4C	Y	-74.463	1.25
14	MP4C	My	.019	1.25
15	MP4C	Mz	.032	1.25
16	MP4C	Y	-74.463	4.75
17	MP4C	My	.019	4.75
18	MP4C	Mz	.032	4.75
19	MP2A	Y	-95.494	1
20	MP2A	My	-.048	1
21	MP2A	Mz	.056	1
22	MP2A	Y	-95.494	5
23	MP2A	My	-.048	5
24	MP2A	Mz	.056	5
25	MP2B	Y	-95.494	1
26	MP2B	My	-.024	1
27	MP2B	Mz	-.069	1
28	MP2B	Y	-95.494	5
29	MP2B	My	-.024	5

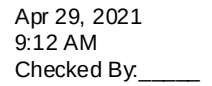
Page 14

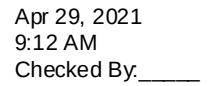


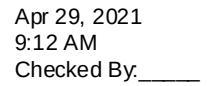
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
31	MP2C	X	0	1
32	MP2C	Z	-123.088	1
33	MP2C	Mx	-.017	1
34	MP2C	X	0	5
35	MP2C	Z	-123.088	5
36	MP2C	Mx	-.017	5
37	MP2A	X	0	1
38	MP2A	Z	-165.037	1
39	MP2A	Mx	.096	1
40	MP2A	X	0	5
41	MP2A	Z	-165.037	5
42	MP2A	Mx	.096	5
43	MP2B	X	0	1
44	MP2B	Z	-123.088	1
45	MP2B	Mx	.017	1
46	MP2B	X	0	5
47	MP2B	Z	-123.088	5
48	MP2B	Mx	.017	5
49	MP2C	X	0	1
50	MP2C	Z	-123.088	1
51	MP2C	Mx	-.089	1
52	MP2C	X	0	5
53	MP2C	Z	-123.088	5
54	MP2C	Mx	-.089	5
55	MP1A	X	0	5.5
56	MP1A	Z	-36.357	5.5
57	MP1A	Mx	0	5.5
58	MP1B	X	0	5.5
59	MP1B	Z	-14.437	5.5
60	MP1B	Mx	.006	5.5
61	MP1C	X	0	5.5
62	MP1C	Z	-14.437	5.5
63	MP1C	Mx	-.006	5.5
64	MP1A	X	0	.5
65	MP1A	Z	-95.999	.5
66	MP1A	Mx	0	.5
67	MP1A	X	0	2.5
68	MP1A	Z	-95.999	2.5
69	MP1A	Mx	0	2.5
70	MP1B	X	0	.5
71	MP1B	Z	-81.395	.5
72	MP1B	Mx	-.02	.5
73	MP1B	X	0	2.5
74	MP1B	Z	-81.395	2.5
75	MP1B	Mx	-.02	2.5
76	MP1C	X	0	.5
77	MP1C	Z	-95.999	.5
78	MP1C	Mx	0	.5
79	MP1C	X	0	2.5
80	MP1C	Z	-95.999	2.5
81	MP1C	Mx	0	2.5
82	MP2A	X	0	3

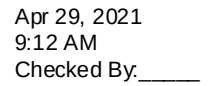


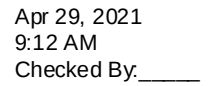
RISA-3D Version 17.0.4 [\\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 17

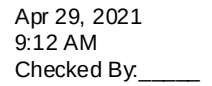
Page 18

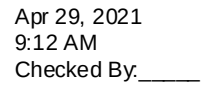
Page 20

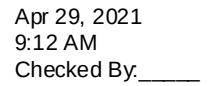


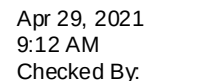
Page 22

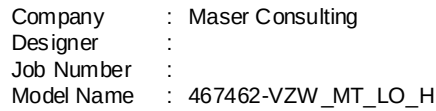


Page 24



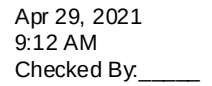
Page 26

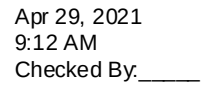


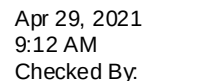


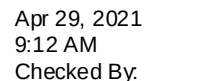
Apr 29, 2021
9:12 AM
Checked By:_____

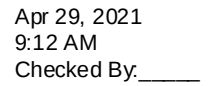
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft, %]
38	MP2A	Z	130.817	1
39	MP2A	Mx	-.039	1
40	MP2A	X	-75.527	5
41	MP2A	Z	130.817	5
42	MP2A	Mx	-.039	5
43	MP2B	X	-54.553	1
44	MP2B	Z	94.488	1
45	MP2B	Mx	-.055	1
46	MP2B	X	-54.553	5
47	MP2B	Z	94.488	5
48	MP2B	Mx	-.055	5
49	MP2C	X	-75.527	1
50	MP2C	Z	130.817	1
51	MP2C	Mx	.114	1
52	MP2C	X	-75.527	5
53	MP2C	Z	130.817	5
54	MP2C	Mx	.114	5
55	MP1A	X	-14.525	5.5
56	MP1A	Z	25.158	5.5
57	MP1A	Mx	.007	5.5
58	MP1B	X	-3.565	5.5
59	MP1B	Z	6.175	5.5
60	MP1B	Mx	-.004	5.5
61	MP1C	X	-14.525	5.5
62	MP1C	Z	25.158	5.5
63	MP1C	Mx	.007	5.5
64	MP1A	X	-40.698	.5
65	MP1A	Z	70.49	.5
66	MP1A	Mx	.02	.5
67	MP1A	X	-40.698	2.5
68	MP1A	Z	70.49	2.5
69	MP1A	Mx	.02	2.5
70	MP1B	X	-26.094	.5
71	MP1B	Z	45.196	.5
72	MP1B	Mx	.023	.5
73	MP1B	X	-26.094	2.5
74	MP1B	Z	45.196	2.5
75	MP1B	Mx	.023	2.5
76	MP1C	X	-40.698	.5
77	MP1C	Z	70.49	.5
78	MP1C	Mx	.02	.5
79	MP1C	X	-40.698	2.5
80	MP1C	Z	70.49	2.5
81	MP1C	Mx	.02	2.5
82	MP2A	X	-35.03	3
83	MP2A	Z	60.673	3
84	MP2A	Mx	-.018	3
85	MP2B	X	-25.532	3
86	MP2B	Z	44.222	3
87	MP2B	Mx	.026	3
88	MP2C	X	-35.03	3
89	MP2C	Z	60.673	3

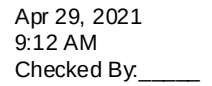
Page 30

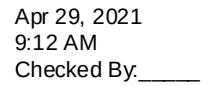


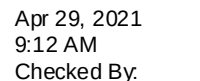


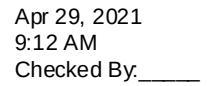


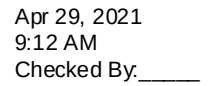
Page 35

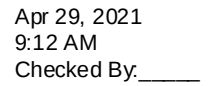
Page 36

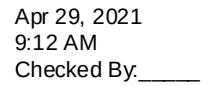
Page 37

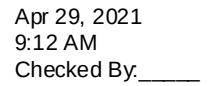


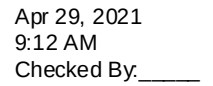


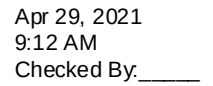


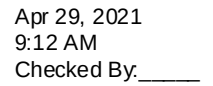
Page 42

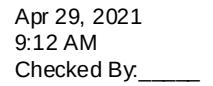
Page 44

Page 46

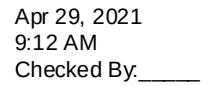


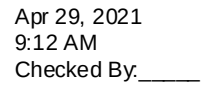
Page 48





	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	0	1.25
2	MP4A	Z	25.333	1.25
3	MP4A	Mx	0	1.25
4	MP4A	X	0	4.75
5	MP4A	Z	25.333	4.75
6	MP4A	Mx	0	4.75
7	MP4B	X	0	1.25
8	MP4B	Z	19.53	1.25
9	MP4B	Mx	-.008	1.25
10	MP4B	X	0	4.75
11	MP4B	Z	19.53	4.75
12	MP4B	Mx	-.008	4.75
13	MP4C	X	0	1.25
14	MP4C	Z	19.53	1.25
15	MP4C	Mx	.008	1.25
16	MP4C	X	0	4.75
17	MP4C	Z	19.53	4.75
18	MP4C	Mx	.008	4.75
19	MP2A	X	0	1
20	MP2A	Z	34.319	1
21	MP2A	Mx	.02	1
22	MP2A	X	0	5
23	MP2A	Z	34.319	5
24	MP2A	Mx	.02	5
25	MP2B	X	0	1
26	MP2B	Z	26.674	1
27	MP2B	Mx	-.019	1
28	MP2B	X	0	5
29	MP2B	Z	26.674	5
30	MP2B	Mx	-.019	5
31	MP2C	X	0	1
32	MP2C	Z	26.674	1
33	MP2C	Mx	.004	1
34	MP2C	X	0	5
35	MP2C	Z	26.674	5
36	MP2C	Mx	.004	5
37	MP2A	X	0	1
38	MP2A	Z	34.319	1
39	MP2A	Mx	-.02	1
40	MP2A	X	0	5
41	MP2A	Z	34.319	5
42	MP2A	Mx	-.02	5
43	MP2B	X	0	1
44	MP2B	Z	26.674	1
45	MP2B	Mx	-.004	1
46	MP2B	X	0	5
47	MP2B	Z	26.674	5
48	MP2B	Mx	-.004	5
49	MP2C	X	0	1
50	MP2C	Z	26.674	1
51	MP2C	Mx	.019	1
52	MP2C	X	0	5

Page 51

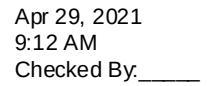


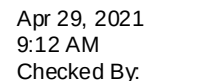
Member Point Loads (BLC 22 : Antenna Wi (210 Deg)) (Continued)

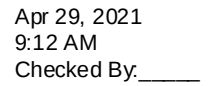
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
54	MP2C	Mx	.024	5
55	MP1A	X	-3.988	5.5
56	MP1A	Z	6.908	5.5
57	MP1A	Mx	.002	5.5
58	MP1B	X	-1.622	5.5
59	MP1B	Z	2.81	5.5
60	MP1B	Mx	-.002	5.5
61	MP1C	X	-3.988	5.5
62	MP1C	Z	6.908	5.5
63	MP1C	Mx	.002	5.5
64	MP1A	X	-8.884	.5
65	MP1A	Z	15.388	.5
66	MP1A	Mx	.004	.5
67	MP1A	X	-8.884	2.5
68	MP1A	Z	15.388	2.5
69	MP1A	Mx	.004	2.5
70	MP1B	X	-6.016	.5
71	MP1B	Z	10.42	.5
72	MP1B	Mx	.005	.5
73	MP1B	X	-6.016	2.5
74	MP1B	Z	10.42	2.5
75	MP1B	Mx	.005	2.5
76	MP1C	X	-8.884	.5
77	MP1C	Z	15.388	.5
78	MP1C	Mx	.004	.5
79	MP1C	X	-8.884	2.5
80	MP1C	Z	15.388	2.5
81	MP1C	Mx	.004	2.5
82	MP2A	X	-8.287	3
83	MP2A	Z	14.353	3
84	MP2A	Mx	-.004	3
85	MP2B	X	-6.337	3
86	MP2B	Z	10.976	3
87	MP2B	Mx	.006	3
88	MP2C	X	-8.287	3
89	MP2C	Z	14.353	3
90	MP2C	Mx	-.004	3
91	MP3A	X	-8.04	3
92	MP3A	Z	13.925	3
93	MP3A	Mx	-.004	3
94	MP3B	X	-5.349	3
95	MP3B	Z	9.264	3
96	MP3B	Mx	.005	3
97	MP3C	X	-8.04	3
98	MP3C	Z	13.925	3
99	MP3C	Mx	-.004	3

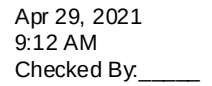
Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

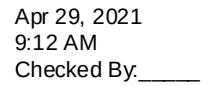
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-16.913	1.25
2	MP4A	Z	9.765	1.25



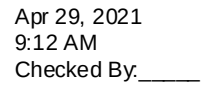


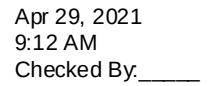


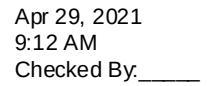




RISA-3D Version 17.0.4 [\\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 58

Page 59



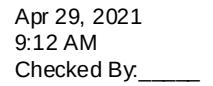
Page 61

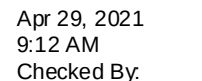
Member Point Loads (BLC 27 : Antenna Wm (0 Deg)) (Continued)

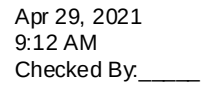
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
59	MP1B	Z	-.933	5.5
60	MP1B	Mx	.000404	5.5
61	MP1C	X	0	5.5
62	MP1C	Z	-.933	5.5
63	MP1C	Mx	-.000404	5.5
64	MP1A	X	0	.5
65	MP1A	Z	-6.205	.5
66	MP1A	Mx	0	.5
67	MP1A	X	0	2.5
68	MP1A	Z	-6.205	2.5
69	MP1A	Mx	0	2.5
70	MP1B	X	0	.5
71	MP1B	Z	-5.261	.5
72	MP1B	Mx	-.001	.5
73	MP1B	X	0	2.5
74	MP1B	Z	-5.261	2.5
75	MP1B	Mx	-.001	2.5
76	MP1C	X	0	.5
77	MP1C	Z	-6.205	.5
78	MP1C	Mx	0	.5
79	MP1C	X	0	2.5
80	MP1C	Z	-6.205	2.5
81	MP1C	Mx	0	2.5
82	MP2A	X	0	3
83	MP2A	Z	-4.938	3
84	MP2A	Mx	0	3
85	MP2B	X	0	3
86	MP2B	Z	-3.71	3
87	MP2B	Mx	-.002	3
88	MP2C	X	0	3
89	MP2C	Z	-3.71	3
90	MP2C	Mx	.002	3
91	MP3A	X	0	3
92	MP3A	Z	-4.938	3
93	MP3A	Mx	0	3
94	MP3B	X	0	3
95	MP3B	Z	-3.24	3
96	MP3B	Mx	-.001	3
97	MP3C	X	0	3
98	MP3C	Z	-3.24	3
99	MP3C	Mx	.001	3

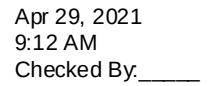
Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	3.52	1.25
2	MP4A	Z	-6.097	1.25
3	MP4A	Mx	-.002	1.25
4	MP4A	X	3.52	4.75
5	MP4A	Z	-6.097	4.75
6	MP4A	Mx	-.002	4.75
7	MP4B	X	2.534	1.25







Page 67

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
62	MP1C	Z	0	5.5
63	MP1C	Mx	.00047	5.5
64	MP1A	X	2.429	.5
65	MP1A	Z	0	.5
66	MP1A	Mx	-.001	.5
67	MP1A	X	2.429	2.5
68	MP1A	Z	0	2.5
69	MP1A	Mx	-.001	2.5
70	MP1B	X	3.373	.5
71	MP1B	Z	0	.5
72	MP1B	Mx	-.001	.5
73	MP1B	X	3.373	2.5
74	MP1B	Z	0	2.5
75	MP1B	Mx	-.001	2.5
76	MP1C	X	2.429	.5
77	MP1C	Z	0	.5
78	MP1C	Mx	-.001	.5
79	MP1C	X	2.429	2.5
80	MP1C	Z	0	2.5
81	MP1C	Mx	-.001	2.5
82	MP2A	X	3.301	3
83	MP2A	Z	0	3
84	MP2A	Mx	.002	3
85	MP2B	X	4.528	3
86	MP2B	Z	0	3
87	MP2B	Mx	-.001	3
88	MP2C	X	4.528	3
89	MP2C	Z	0	3
90	MP2C	Mx	-.001	3
91	MP3A	X	2.673	3
92	MP3A	Z	0	3
93	MP3A	Mx	.001	3
94	MP3B	X	4.372	3
95	MP3B	Z	0	3
96	MP3B	Mx	-.001	3
97	MP3C	X	4.372	3
98	MP3C	Z	0	3
99	MP3C	Mx	-.001	3

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	4.959	1.25
2	MP4A	Z	2.863	1.25
3	MP4A	Mx	-.002	1.25
4	MP4A	X	4.959	4.75
5	MP4A	Z	2.863	4.75
6	MP4A	Mx	-.002	4.75
7	MP4B	X	6.666	1.25
8	MP4B	Z	3.848	1.25
9	MP4B	Mx	0	1.25
10	MP4B	X	6.666	4.75

Member Point Loads (BLC 31 : Antenna Wm (120 Deg)) (Continued)

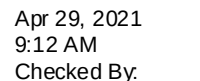
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
63	MP1C	Mx	.000404	5.5
64	MP1A	X	2.921	.5
65	MP1A	Z	1.687	.5
66	MP1A	Mx	-.001	.5
67	MP1A	X	2.921	2.5
68	MP1A	Z	1.687	2.5
69	MP1A	Mx	-.001	2.5
70	MP1B	X	4.556	.5
71	MP1B	Z	2.631	.5
72	MP1B	Mx	-.001	.5
73	MP1B	X	4.556	2.5
74	MP1B	Z	2.631	2.5
75	MP1B	Mx	-.001	2.5
76	MP1C	X	2.921	.5
77	MP1C	Z	1.687	.5
78	MP1C	Mx	-.001	.5
79	MP1C	X	2.921	2.5
80	MP1C	Z	1.687	2.5
81	MP1C	Mx	-.001	2.5
82	MP2A	X	3.213	3
83	MP2A	Z	1.855	3
84	MP2A	Mx	.002	3
85	MP2B	X	4.276	3
86	MP2B	Z	2.469	3
87	MP2B	Mx	0	3
88	MP2C	X	3.213	3
89	MP2C	Z	1.855	3
90	MP2C	Mx	-.002	3
91	MP3A	X	2.805	3
92	MP3A	Z	1.62	3
93	MP3A	Mx	.001	3
94	MP3B	X	4.276	3
95	MP3B	Z	2.469	3
96	MP3B	Mx	0	3
97	MP3C	X	2.805	3
98	MP3C	Z	1.62	3
99	MP3C	Mx	-.001	3

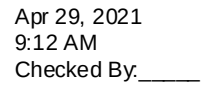
Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

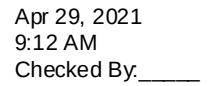
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	3.52	1.25
2	MP4A	Z	6.097	1.25
3	MP4A	Mx	-.002	1.25
4	MP4A	X	3.52	4.75
5	MP4A	Z	6.097	4.75
6	MP4A	Mx	-.002	4.75
7	MP4B	X	3.52	1.25
8	MP4B	Z	6.097	1.25
9	MP4B	Mx	-.002	1.25
10	MP4B	X	3.52	4.75
11	MP4B	Z	6.097	4.75

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

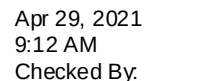
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
12	MP4B	Mx	-.002	4.75
13	MP4C	X	2.534	1.25
14	MP4C	Z	4.389	1.25
15	MP4C	Mx	.003	1.25
16	MP4C	X	2.534	4.75
17	MP4C	Z	4.389	4.75
18	MP4C	Mx	.003	4.75
19	MP2A	X	4.882	1
20	MP2A	Z	8.456	1
21	MP2A	Mx	.002	1
22	MP2A	X	4.882	5
23	MP2A	Z	8.456	5
24	MP2A	Mx	.002	5
25	MP2B	X	4.882	1
26	MP2B	Z	8.456	1
27	MP2B	Mx	-.007	1
28	MP2B	X	4.882	5
29	MP2B	Z	8.456	5
30	MP2B	Mx	-.007	5
31	MP2C	X	3.526	1
32	MP2C	Z	6.107	1
33	MP2C	Mx	.004	1
34	MP2C	X	3.526	5
35	MP2C	Z	6.107	5
36	MP2C	Mx	.004	5
37	MP2A	X	4.882	1
38	MP2A	Z	8.456	1
39	MP2A	Mx	-.007	1
40	MP2A	X	4.882	5
41	MP2A	Z	8.456	5
42	MP2A	Mx	-.007	5
43	MP2B	X	4.882	1
44	MP2B	Z	8.456	1
45	MP2B	Mx	.002	1
46	MP2B	X	4.882	5
47	MP2B	Z	8.456	5
48	MP2B	Mx	.002	5
49	MP2C	X	3.526	1
50	MP2C	Z	6.107	1
51	MP2C	Mx	.004	1
52	MP2C	X	3.526	5
53	MP2C	Z	6.107	5
54	MP2C	Mx	.004	5
55	MP1A	X	.939	5.5
56	MP1A	Z	1.626	5.5
57	MP1A	Mx	-.00047	5.5
58	MP1B	X	.939	5.5
59	MP1B	Z	1.626	5.5
60	MP1B	Mx	-.000469	5.5
61	MP1C	X	.23	5.5
62	MP1C	Z	.399	5.5
63	MP1C	Mx	.00023	5.5

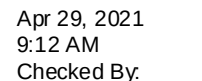


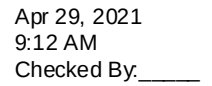




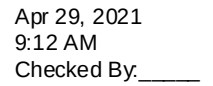
	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP4A	X	-3.52	1.25
2	MP4A	Z	6.097	1.25
3	MP4A	Mx	.002	1.25
4	MP4A	X	-3.52	4.75
5	MP4A	Z	6.097	4.75
6	MP4A	Mx	.002	4.75
7	MP4B	X	-2.534	1.25
8	MP4B	Z	4.389	1.25
9	MP4B	Mx	-.003	1.25
10	MP4B	X	-2.534	4.75
11	MP4B	Z	4.389	4.75
12	MP4B	Mx	-.003	4.75
13	MP4C	X	-3.52	1.25



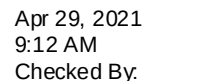


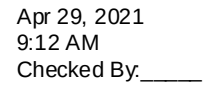


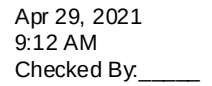
	Member Label	Direction	Magnitude[lb, k-ft]	Location[ft, %]
1	MP4A	X	-4.959	1.25
2	MP4A	Z	-2.863	1.25
3	MP4A	Mx	.002	1.25
4	MP4A	X	-4.959	4.75
5	MP4A	Z	-2.863	4.75
6	MP4A	Mx	.002	4.75
7	MP4B	X	-6.666	1.25
8	MP4B	Z	-3.848	1.25
9	MP4B	Mx	0	1.25
10	MP4B	X	-6.666	4.75
11	MP4B	Z	-3.848	4.75
12	MP4B	Mx	0	4.75
13	MP4C	X	-4.959	1.25
14	MP4C	Z	-2.863	1.25
15	MP4C	Mx	-.002	1.25
16	MP4C	X	-4.959	4.75



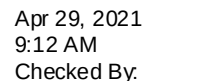
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 84

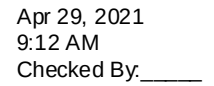


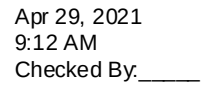




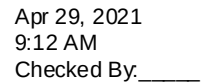
Page 87

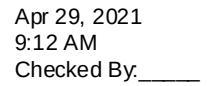






Page 90

Page 91



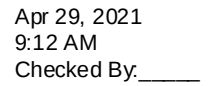
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
2	M1	Z	0	0	0	%100
3	M2	X	4.272	4.272	0	%100
4	M2	Z	0	0	0	%100
5	M3	X	0	0	0	%100
6	M3	Z	0	0	0	%100
7	M4	X	4.272	4.272	0	%100
8	M4	Z	0	0	0	%100
9	M5	X	12.541	12.541	0	%100
10	M5	Z	0	0	0	%100
11	M8	X	15.319	15.319	0	%100
12	M8	Z	0	0	0	%100
13	M9	X	17.277	17.277	0	%100
14	M9	Z	0	0	0	%100
15	M10	X	15.319	15.319	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	4.366	4.366	0	%100
18	M11	Z	0	0	0	%100
19	M12	X	3.135	3.135	0	%100
20	M12	Z	0	0	0	%100
21	M15	X	15.319	15.319	0	%100
22	M15	Z	0	0	0	%100
23	M16	X	4.366	4.366	0	%100
24	M16	Z	0	0	0	%100
25	M17	X	15.319	15.319	0	%100
26	M17	Z	0	0	0	%100
27	M18	X	17.277	17.277	0	%100
28	M18	Z	0	0	0	%100
29	M19	X	3.135	3.135	0	%100
30	M19	Z	0	0	0	%100
31	M28	X	15.172	15.172	0	%100
32	M28	Z	0	0	0	%100
33	M29	X	3.793	3.793	0	%100
34	M29	Z	0	0	0	%100
35	M30	X	3.793	3.793	0	%100
36	M30	Z	0	0	0	%100
37	M31	X	0	0	0	%100
38	M31	Z	0	0	0	%100
39	M32	X	7.277	7.277	0	%100
40	M32	Z	0	0	0	%100
41	M33	X	7.277	7.277	0	%100
42	M33	Z	0	0	0	%100
43	M34	X	5.247	5.247	0	%100
44	M34	Z	0	0	0	%100
45	M35	X	5.247	5.247	0	%100
46	M35	Z	0	0	0	%100
47	M36	X	0	0	0	%100
48	M36	Z	0	0	0	%100
49	MP1A	X	9.702	9.702	0	%100
50	MP1A	Z	0	0	0	%100
51	MP2A	X	9.702	9.702	0	%100
52	MP2A	Z	0	0	0	%100
53	MP3A	X	9.702	9.702	0	%100

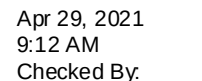
Member Distributed Loads (BLC 44 : Structure Wo (90 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
54	MP3A	Z	0	0	0	%100
55	MP4A	X	9.702	9.702	0	%100
56	MP4A	Z	0	0	0	%100
57	MP1C	X	9.702	9.702	0	%100
58	MP1C	Z	0	0	0	%100
59	MP2C	X	9.702	9.702	0	%100
60	MP2C	Z	0	0	0	%100
61	MP3C	X	9.702	9.702	0	%100
62	MP3C	Z	0	0	0	%100
63	MP4C	X	9.702	9.702	0	%100
64	MP4C	Z	0	0	0	%100
65	MP1B	X	9.702	9.702	0	%100
66	MP1B	Z	0	0	0	%100
67	MP2B	X	9.702	9.702	0	%100
68	MP2B	Z	0	0	0	%100
69	MP3B	X	9.702	9.702	0	%100
70	MP3B	Z	0	0	0	%100
71	MP4B	X	9.702	9.702	0	%100
72	MP4B	Z	0	0	0	%100
73	M76	X	11.262	11.262	0	%100
74	M76	Z	0	0	0	%100
75	M77	X	9.188	9.188	0	%100
76	M77	Z	0	0	0	%100
77	M78	X	3.943	3.943	0	%100
78	M78	Z	0	0	0	%100
79	M79	X	16.387	16.387	0	%100
80	M79	Z	0	0	0	%100
81	M80	X	14.476	14.476	0	%100
82	M80	Z	0	0	0	%100
83	M81	X	4.356	4.356	0	%100
84	M81	Z	0	0	0	%100

Member Distributed Loads (BLC 45 : Structure Wo (120 Deg))

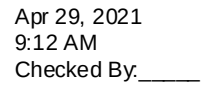
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	4.422	4.422	0	%100
2	M1	Z	2.553	2.553	0	%100
3	M2	X	.000148	.000148	0	%100
4	M2	Z	8.5e-5	8.5e-5	0	%100
5	M3	X	4.422	4.422	0	%100
6	M3	Z	2.553	2.553	0	%100
7	M4	X	11.181	11.181	0	%100
8	M4	Z	6.455	6.455	0	%100
9	M5	X	8.146	8.146	0	%100
10	M5	Z	4.703	4.703	0	%100
11	M8	X	4.422	4.422	0	%100
12	M8	Z	2.553	2.553	0	%100
13	M9	X	11.181	11.181	0	%100
14	M9	Z	6.455	6.455	0	%100
15	M10	X	4.422	4.422	0	%100
16	M10	Z	2.553	2.553	0	%100
17	M11	X	.000148	.000148	0	%100

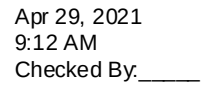




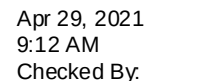
Member Distributed Loads (BLC 46 : Structure Wo (150 Deg)) (Continued)

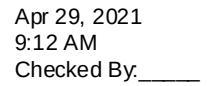
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
34	M29	Z	13.14	13.14	0	%100
35	M30	X	1.897	1.897	0	%100
36	M30	Z	3.285	3.285	0	%100
37	M31	X	3.638	3.638	0	%100
38	M31	Z	6.302	6.302	0	%100
39	M32	X	0	0	0	%100
40	M32	Z	0	0	0	%100
41	M33	X	3.638	3.638	0	%100
42	M33	Z	6.302	6.302	0	%100
43	M34	X	0	0	0	%100
44	M34	Z	0	0	0	%100
45	M35	X	2.623	2.623	0	%100
46	M35	Z	4.544	4.544	0	%100
47	M36	X	2.623	2.623	0	%100
48	M36	Z	4.544	4.544	0	%100
49	MP1A	X	4.851	4.851	0	%100
50	MP1A	Z	8.402	8.402	0	%100
51	MP2A	X	4.851	4.851	0	%100
52	MP2A	Z	8.402	8.402	0	%100
53	MP3A	X	4.851	4.851	0	%100
54	MP3A	Z	8.402	8.402	0	%100
55	MP4A	X	4.851	4.851	0	%100
56	MP4A	Z	8.402	8.402	0	%100
57	MP1C	X	4.851	4.851	0	%100
58	MP1C	Z	8.402	8.402	0	%100
59	MP2C	X	4.851	4.851	0	%100
60	MP2C	Z	8.402	8.402	0	%100
61	MP3C	X	4.851	4.851	0	%100
62	MP3C	Z	8.402	8.402	0	%100
63	MP4C	X	4.851	4.851	0	%100
64	MP4C	Z	8.402	8.402	0	%100
65	MP1B	X	4.851	4.851	0	%100
66	MP1B	Z	8.402	8.402	0	%100
67	MP2B	X	4.851	4.851	0	%100
68	MP2B	Z	8.402	8.402	0	%100
69	MP3B	X	4.851	4.851	0	%100
70	MP3B	Z	8.402	8.402	0	%100
71	MP4B	X	4.851	4.851	0	%100
72	MP4B	Z	8.402	8.402	0	%100
73	M76	X	7.238	7.238	0	%100
74	M76	Z	12.537	12.537	0	%100
75	M77	X	2.178	2.178	0	%100
76	M77	Z	3.772	3.772	0	%100
77	M78	X	5.631	5.631	0	%100
78	M78	Z	9.753	9.753	0	%100
79	M79	X	4.594	4.594	0	%100
80	M79	Z	7.957	7.957	0	%100
81	M80	X	1.971	1.971	0	%100
82	M80	Z	3.414	3.414	0	%100
83	M81	X	8.193	8.193	0	%100
84	M81	Z	14.191	14.191	0	%100



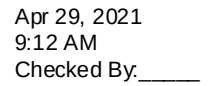


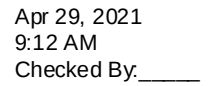
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-7.66	-7.66	0	%100
2	M1	Z	13.267	13.267	0	%100
3	M2	X	-8.639	-8.639	0	%100
4	M2	Z	14.962	14.962	0	%100
5	M3	X	-7.66	-7.66	0	%100
6	M3	Z	13.267	13.267	0	%100
7	M4	X	-2.183	-2.183	0	%100
8	M4	Z	3.781	3.781	0	%100
9	M5	X	-1.568	-1.568	0	%100
10	M5	Z	2.715	2.715	0	%100
11	M8	X	-7.66	-7.66	0	%100
12	M8	Z	13.267	13.267	0	%100
13	M9	X	-2.183	-2.183	0	%100
14	M9	Z	3.781	3.781	0	%100
15	M10	X	-7.66	-7.66	0	%100
16	M10	Z	13.267	13.267	0	%100

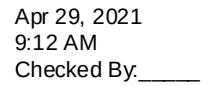




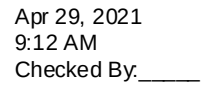
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 100

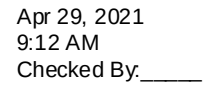


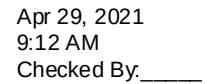


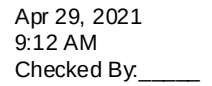


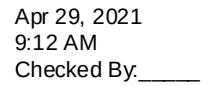
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 104



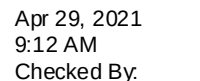


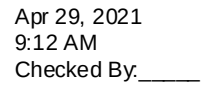


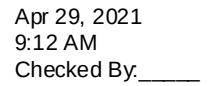




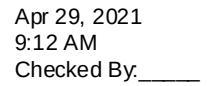
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 112

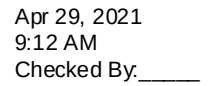






RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 115



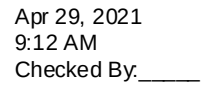


Member Distributed Loads (BLC 60 : Structure Wi (210 Deg)) (Continued)

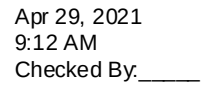
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
69	MP3B	X	-2.04	-2.04	0	%100
70	MP3B	Z	3.534	3.534	0	%100
71	MP4B	X	-2.04	-2.04	0	%100
72	MP4B	Z	3.534	3.534	0	%100
73	M76	X	-.611	-.611	0	%100
74	M76	Z	1.058	1.058	0	%100
75	M77	X	-2.535	-2.535	0	%100
76	M77	Z	4.391	4.391	0	%100
77	M78	X	-2.243	-2.243	0	%100
78	M78	Z	3.886	3.886	0	%100
79	M79	X	-.674	-.674	0	%100
80	M79	Z	1.167	1.167	0	%100
81	M80	X	-1.745	-1.745	0	%100
82	M80	Z	3.023	3.023	0	%100
83	M81	X	-1.421	-1.421	0	%100
84	M81	Z	2.462	2.462	0	%100

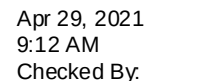
Member Distributed Loads (BLC 61 : Structure Wi (240 Deg))

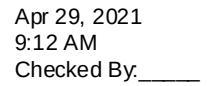
	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft, %]	End Location[ft, %]
1	M1	X	-1.343	-1.343	0	%100
2	M1	Z	.775	.775	0	%100
3	M2	X	-3.304	-3.304	0	%100
4	M2	Z	1.907	1.907	0	%100
5	M3	X	-1.343	-1.343	0	%100
6	M3	Z	.775	.775	0	%100
7	M4	X	-4.4e-5	-4.4e-5	0	%100
8	M4	Z	2.5e-5	2.5e-5	0	%100
9	M5	X	-2.47	-2.47	0	%100
10	M5	Z	1.426	1.426	0	%100
11	M8	X	-5.371	-5.371	0	%100
12	M8	Z	3.101	3.101	0	%100
13	M9	X	-3.328	-3.328	0	%100
14	M9	Z	1.921	1.921	0	%100
15	M10	X	-5.371	-5.371	0	%100
16	M10	Z	3.101	3.101	0	%100
17	M11	X	-3.328	-3.328	0	%100
18	M11	Z	1.921	1.921	0	%100
19	M12	X	0	0	0	%100
20	M12	Z	0	0	0	%100
21	M15	X	-1.343	-1.343	0	%100
22	M15	Z	.775	.775	0	%100
23	M16	X	-4.4e-5	-4.4e-5	0	%100
24	M16	Z	2.5e-5	2.5e-5	0	%100
25	M17	X	-1.343	-1.343	0	%100
26	M17	Z	.775	.775	0	%100
27	M18	X	-3.304	-3.304	0	%100
28	M18	Z	1.907	1.907	0	%100
29	M19	X	-2.47	-2.47	0	%100
30	M19	Z	1.426	1.426	0	%100
31	M28	X	-2.861	-2.861	0	%100
32	M28	Z	1.652	1.652	0	%100

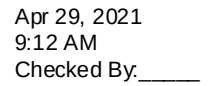


RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 121

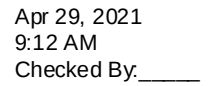


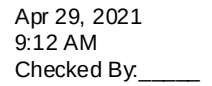


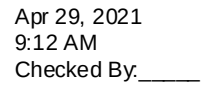


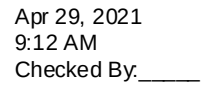


RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 125

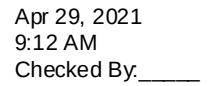


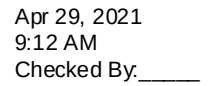




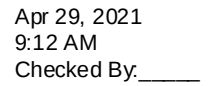


RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 130





	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%)	End Location[ft,%)
1	M1	X	.286	.286	0	%100
2	M1	Z	.165	.165	0	%100
3	M2	X	1e-5	1e-5	0	%100
4	M2	Z	6e-6	6e-6	0	%100
5	M3	X	.286	.286	0	%100
6	M3	Z	.165	.165	0	%100
7	M4	X	.723	.723	0	%100
8	M4	Z	.417	.417	0	%100
9	M5	X	.527	.527	0	%100
10	M5	Z	.304	.304	0	%100
11	M8	X	.286	.286	0	%100
12	M8	Z	.165	.165	0	%100
13	M9	X	.723	.723	0	%100
14	M9	Z	.417	.417	0	%100
15	M10	X	.286	.286	0	%100
16	M10	Z	.165	.165	0	%100

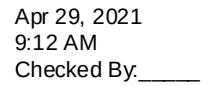


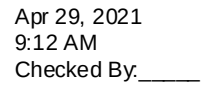
Member Distributed Loads (BLC 69 : Structure Wm (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
69	MP3B	X	.543	.543	0	%100
70	MP3B	Z	.314	.314	0	%100
71	MP4B	X	.543	.543	0	%100
72	MP4B	Z	.314	.314	0	%100
73	M76	X	.887	.887	0	%100
74	M76	Z	.512	.512	0	%100
75	M77	X	.2	.2	0	%100
76	M77	Z	.115	.115	0	%100
77	M78	X	.297	.297	0	%100
78	M78	Z	.172	.172	0	%100
79	M79	X	.873	.873	0	%100
80	M79	Z	.504	.504	0	%100
81	M80	X	.477	.477	0	%100
82	M80	Z	.276	.276	0	%100
83	M81	X	.603	.603	0	%100
84	M81	Z	.348	.348	0	%100

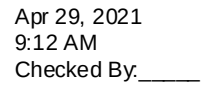
Member Distributed Loads (BLC 70 : Structure Wm (150 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.495	.495	0	%100
2	M1	Z	.858	.858	0	%100
3	M2	X	.141	.141	0	%100
4	M2	Z	.244	.244	0	%100
5	M3	X	.495	.495	0	%100
6	M3	Z	.858	.858	0	%100
7	M4	X	.558	.558	0	%100
8	M4	Z	.967	.967	0	%100
9	M5	X	.101	.101	0	%100
10	M5	Z	.176	.176	0	%100
11	M8	X	0	0	0	%100
12	M8	Z	0	0	0	%100
13	M9	X	.138	.138	0	%100
14	M9	Z	.239	.239	0	%100
15	M10	X	0	0	0	%100
16	M10	Z	0	0	0	%100
17	M11	X	.138	.138	0	%100
18	M11	Z	.239	.239	0	%100
19	M12	X	.405	.405	0	%100
20	M12	Z	.702	.702	0	%100
21	M15	X	.495	.495	0	%100
22	M15	Z	.858	.858	0	%100
23	M16	X	.558	.558	0	%100
24	M16	Z	.967	.967	0	%100
25	M17	X	.495	.495	0	%100
26	M17	Z	.858	.858	0	%100
27	M18	X	.141	.141	0	%100
28	M18	Z	.244	.244	0	%100
29	M19	X	.101	.101	0	%100
30	M19	Z	.176	.176	0	%100
31	M28	X	.123	.123	0	%100
32	M28	Z	.212	.212	0	%100

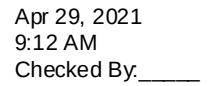


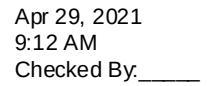


RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 137

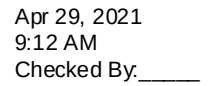


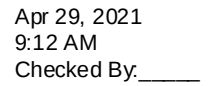
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 138



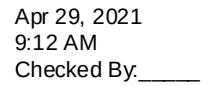


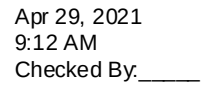
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 140



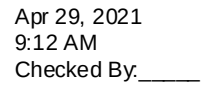


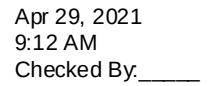
RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 142





RISA-3D Version 17.0.4 [\\.\...\Rev 0\Risa\467462-VZW MT LO H.r3d] Page 145



Page 147

Member Distributed Loads (BLC 82 : BLC 40 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
13	M1	Y	-.256	-7.564	0	2.036
14	M1	Y	-7.564	-12.318	2.036	4.071
15	M1	Y	-12.318	-11.582	4.071	6.107
16	M1	Y	-11.582	-11.582	6.107	8.143
17	M1	Y	-11.582	-12.318	8.143	10.179
18	M1	Y	-12.318	-7.564	10.179	12.214
19	M1	Y	-7.564	-.256	12.214	14.25
20	M2	Y	-1.26	-6.084	0	1.969
21	M2	Y	-6.084	-10.908	1.969	3.938
22	M3	Y	-12.646	-12.646	.012	7.405
23	M4	Y	-10.908	-6.084	0	1.969
24	M4	Y	-6.084	-1.26	1.969	3.938
25	M8	Y	-.256	-7.564	0	2.036
26	M8	Y	-7.564	-12.318	2.036	4.071
27	M8	Y	-12.318	-11.582	4.071	6.107
28	M8	Y	-11.582	-11.582	6.107	8.143
29	M8	Y	-11.582	-12.318	8.143	10.179
30	M8	Y	-12.318	-7.564	10.179	12.214
31	M8	Y	-7.564	-.256	12.214	14.25
32	M9	Y	-1.26	-6.084	0	1.969
33	M9	Y	-6.084	-10.908	1.969	3.938
34	M10	Y	-12.646	-12.646	.012	7.405
35	M11	Y	-10.908	-6.084	0	1.969
36	M11	Y	-6.084	-1.26	1.969	3.938

Member Area Loads (BLC 39 : Structure D)

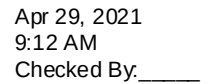
	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N23	N26A	N25	N22	Y	Two Way	-.005
2	N3	N6	N5	N2	Y	Two Way	-.005
3	N13	N16	N15	N12	Y	Two Way	-.005

Member Area Loads (BLC 40 : Structure Di)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N23	N26A	N25	N22	Y	Two Way	-.013
2	N3	N6	N5	N2	Y	Two Way	-.013
3	N13	N16	N15	N12	Y	Two Way	-.013

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	1261.216	11	2703.303	19	547.617	1	1.184	1	1.261	12	1.381	4
2		min	-1267.265	5	-300.321	1	-621.637	7	-7.308	19	-1.315	6	-1.385	10
3	N17	max	903.923	10	2636.466	15	1338.463	2	3.621	14	1.247	8	6.211	15
4		min	-963.799	4	-239.408	9	-1251.213	8	-.981	8	-1.34	2	-.923	9
5	N27	max	1012.471	10	2634.994	23	1281.27	12	3.721	24	1.217	12	.856	5
6		min	-930.594	4	-258.138	5	-1235.061	6	-1.188	6	-1.27	6	-6.148	23
7	N127	max	472.393	10	1142.988	1	1356.179	1	0	6	0	4	0	4
8		min	-404.358	4	-751.843	7	-972.13	7	0	24	0	10	0	10
9	N128	max	0	51	0	51	0	51	0	51	0	51	0	51



Joint			X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
10		min	0	1	0	1	0	1	0	1	0	1	0	1
11	N129	max	0	51	0	51	0	51	0	51	0	51	0	51
12		min	0	1	0	1	0	1	0	1	0	1	0	1
13	N133	max	1117.33	9	1112.25	9	582.97	2	0	12	0	12	0	19
14		min	-785.253	3	-676.553	3	-884.524	8	0	6	0	6	0	12
15	N137A	max	779.842	11	1117.75	5	579.158	12	0	2	0	8	0	1
16		min	-1192.402	5	-690.431	11	-720.385	6	0	8	0	2	0	19
17	Totals:	max	5075.845	10	8830.712	13	5367.995	1						
18		min	-5075.833	4	2981.807	7	-5368.023	7						

	Member	Shape	Code C...	Loc[ft]	LC Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y...	phi*Mn z...	Cb	Egn	
1	M1	L3X3X4	.918	7.125	19	.220	7.125	z	19	3807.342	46656	1.688	2.774	1...	H2-1
2	M2	L3X3X4	.127	0	30	.027	3.938	z	31	33090.986	46656	1.688	3.756	2...	H2-1
3	M3	L3X3X4	.519	3.708	18	.025	3.708	z	17	14055.104	46656	1.688	3.138	1...	H2-1
4	M4	L3X3X4	.103	3.938	1	.014	1.969	y	1	33090.986	46656	1.688	3.756	2...	H2-1
5	M5	HSS4X4X3	.602	0	18	.169	0	y	9	106228.5...	106812	12.662	12.662	1...	H1-1b
6	M8	L3X3X4	.912	7.125	16	.223	7.125	z	15	3807.342	46656	1.688	2.777	1...	H2-1
7	M9	L3X3X4	.093	0	4	.013	1.969	z	3	33090.986	46656	1.688	3.756	1...	H2-1
8	M10	L3X3X4	.514	3.708	14	.025	3.708	z	17	14055.104	46656	1.688	3.136	1...	H2-1
9	M11	L3X3X4	.101	3.938	4	.019	0	z	30	33090.986	46656	1.688	3.756	2...	H2-1
10	M12	HSS4X4X3	.593	0	14	.177	0	z	6	106228.5...	106812	12.662	12.662	1...	H1-1b
11	M15	L3X3X4	.906	7.125	24	.221	7.125	z	23	3807.342	46656	1.688	2.781	1...	H2-1
12	M16	L3X3X4	.100	0	12	.015	1.969	y	12	33090.986	46656	1.688	3.756	1...	H2-1
13	M17	L3X3X4	.505	3.708	22	.025	3.708	z	20	14055.104	46656	1.688	3.139	1...	H2-1
14	M18	L3X3X4	.102	3.938	12	.014	1.969	y	5	33090.986	46656	1.688	3.756	2...	H2-1
15	M19	HSS4X4X3	.582	0	22	.180	0	y	1	106228.5...	106812	12.662	12.662	1...	H1-1b
16	M28	HSS4.5X4.5X3	.262	0	19	.082	0	y	9	119847.0...	121302	16.25	16.25	1...	H1-1b
17	M29	HSS4.5X4.5X3	.254	0	15	.085	0	y	5	119847.0...	121302	16.25	16.25	1...	H1-1b
18	M30	HSS4.5X4.5X3	.255	0	23	.087	0	y	1	119847.0...	121302	16.25	16.25	1...	H1-1b
19	M31	PIPE 2.0	.455	7.177	7	.152	1.242		13	5602.903	32130	1.872	1.872	1...	H1-1b
20	M32	PIPE 2.0	.425	7.177	3	.162	1.242		21	5602.903	32130	1.872	1.872	1...	H1-1b
21	M33	PIPE 2.0	.432	7.177	11	.157	1.242		18	5602.903	32130	1.872	1.872	1...	H1-1b
22	M34	PIPE 2.0	.011	.983	15	.066	1.967		13	30673.717	32130	1.872	1.872	1...	H1-1b
23	M35	PIPE 2.0	.011	.983	23	.078	1.967		21	30673.717	32130	1.872	1.872	1...	H1-1b
24	M36	PIPE 2.0	.011	.983	19	.067	0		18	30673.717	32130	1.872	1.872	1...	H1-1b
25	MP1A	PIPE 2.0	.272	4.875	20	.171	4.875		13	20866.733	32130	1.872	1.872	1...	H1-1b
26	MP2A	PIPE 2.5	.174	4.875	20	.065	1.125		3	37773.818	50715	3.596	3.596	1...	H1-1b
27	MP3A	PIPE 2.0	.328	4.875	18	.200	4.875		14	20866.733	32130	1.872	1.872	1...	H1-1b
28	MP4A	PIPE 2.0	.228	4.875	18	.184	4.875		13	20866.733	32130	1.872	1.872	1...	H1-1b
29	MP1C	PIPE 2.0	.252	4.875	16	.179	2.438		20	20866.733	32130	1.872	1.872	1...	H1-1b
30	MP2C	PIPE 2.5	.172	4.875	16	.065	1.125		11	37773.818	50715	3.596	3.596	1...	H1-1b
31	MP3C	PIPE 2.0	.321	4.875	14	.208	4.875		22	20866.733	32130	1.872	1.872	1...	H1-1b
32	MP4C	PIPE 2.0	.305	4.875	26	.191	4.875		21	20866.733	32130	1.872	1.872	1...	H1-1b
33	MP1B	PIPE 2.0	.266	4.875	24	.184	4.875		17	20866.733	32130	1.872	1.872	1...	H1-1b
34	MP2B	PIPE 2.5	.170	4.875	24	.070	1.125		7	37773.818	50715	3.596	3.596	1...	H1-1b
35	MP3B	PIPE 2.0	.318	4.875	23	.207	4.875		18	20866.733	32130	1.872	1.872	1...	H1-1b
36	MP4B	PIPE 2.0	.221	4.875	22	.188	4.875		17	20866.733	32130	1.872	1.872	1...	H1-1b
37	M76	L2.5x2.5x3	.107	2.455	12	.011	4.81	z	15	13721.806	29192.4	.873	1.635	1...	H2-1
38	M77	L2.5x2.5x3	.128	2.755	1	.010	0	y	23	11271.244	29192.4	.873	1.582	1...	H2-1

Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

	Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
39	M78	L2.5x2.5x3	.107	2.455	8	.011	0	z	23	13721.806	29192.4	.873	1.635	1...	H2-1
40	M79	L2.5x2.5x3	.129	2.755	20	.010	0	y	19	11271.244	29192.4	.873	1.582	1...	H2-1
41	M80	L2.5x2.5x3	.102	2.455	4	.012	4.81	z	19	13721.806	29192.4	.873	1.635	1...	H2-1
42	M81	L2.5x2.5x3	.131	2.699	6	.010	0	z	1	11271.244	29192.4	.873	1.582	1...	H2-1



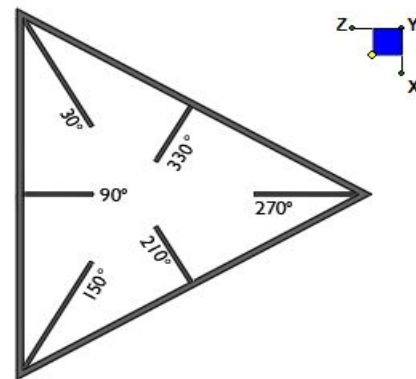
Client:	Verizon	Date:	4/29/2021
Site Name:	Rocky Hill CT		
Project No.	21777029A		
Title:	Mount Analysis	Page:	1

Version 3.1

I. Mount-to-Tower Connection Check

RISA Model Data

Nodes (labeled per RISA)	Orientation (per graphic of typical platform)
N7	90
N17	210
N27	330



TYPICAL PLATFORM

Tower Connection Plate and Weld Check

Connecting Standoff Member Shape:

W1 (in):

W2 (in):

Fy (ksi, plate):

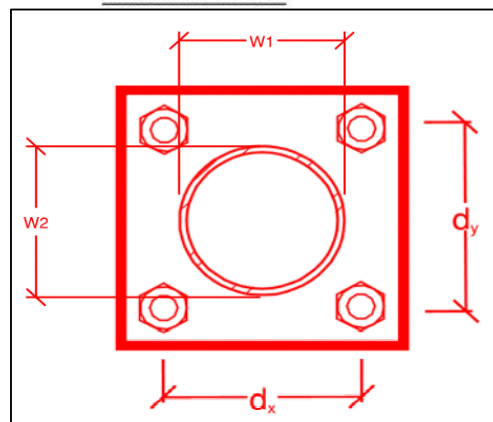
Weld Size (1/16 in):

Phi*Rn (kip/in):

Required Weld Strength (kip/in):

Weld Capacity:

Rect
4
4
36
4
5.57
4.13
74.2%



Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

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 modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- Any special photos outside of the standard requirements will be indicated on the drawings
- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawings (proposed modification) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE If loading is different than what is conveyed in the modification drawing 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.vzwsmart.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 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 modifications. Each entire sector must be in one photo to show in the inter-connection of members.
 - These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
 - Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
 - Photos showing the measurements of the installed modification member sizes (i.e. lengths, widths, depths, diameters, thicknesses)
 - Photos showing the elevation or distances of the installed modifications from the appropriate reference locations shown in the modification drawings
 - Photos showing the installed modifications onto the tower with tape drop measurements (if applicable) (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, a tape drop measurement shall be provided before the elevation change
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by Maser Consulting Connecticut.
 - If the drawings are as specified on the drawings
 - The contractor should provide the packing list or the materials utilized to perform the mount modification
 - If an equivalent is utilized
 - It is required that the Maser Consulting Connecticut certification of such is included in the contractor submission package. There may be an additional charge for this certification if the equivalent submission doesn't meet specifications as prescribed in the drawings.
- The contractor must certify that the materials meet these specifications by one of these methods.

☐ The Material utilized was as specified on the Maser Consulting Connecticut Mount Modification Drawings and included in the Material certification folder is a packing list or invoice for these materials

☐ The material utilized was an "equivalent" and included as part of the contractor submission is the Maser Consulting Connecticut certification, invoices, or specifications validating accepted status

Certifying Individual: Company _____

Name _____

Signature _____

Antenna & equipment placement and Geometry Confirmation:

- The contractor must certify that the antenna & equipment placement and geometry is in accordance with the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the antenna placement diagrams as included in this mount analysis.
- ☐ The contractor notes that the equipment on the mount is not in accordance with the antenna placement diagrams and has accordingly marked up the diagrams or provided a diagram outlining the differences.

Certifying Individual: _____ Company _____

Name _____

Signature _____

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

OVP to be moved up on the tower as needed for installation of the new collar

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

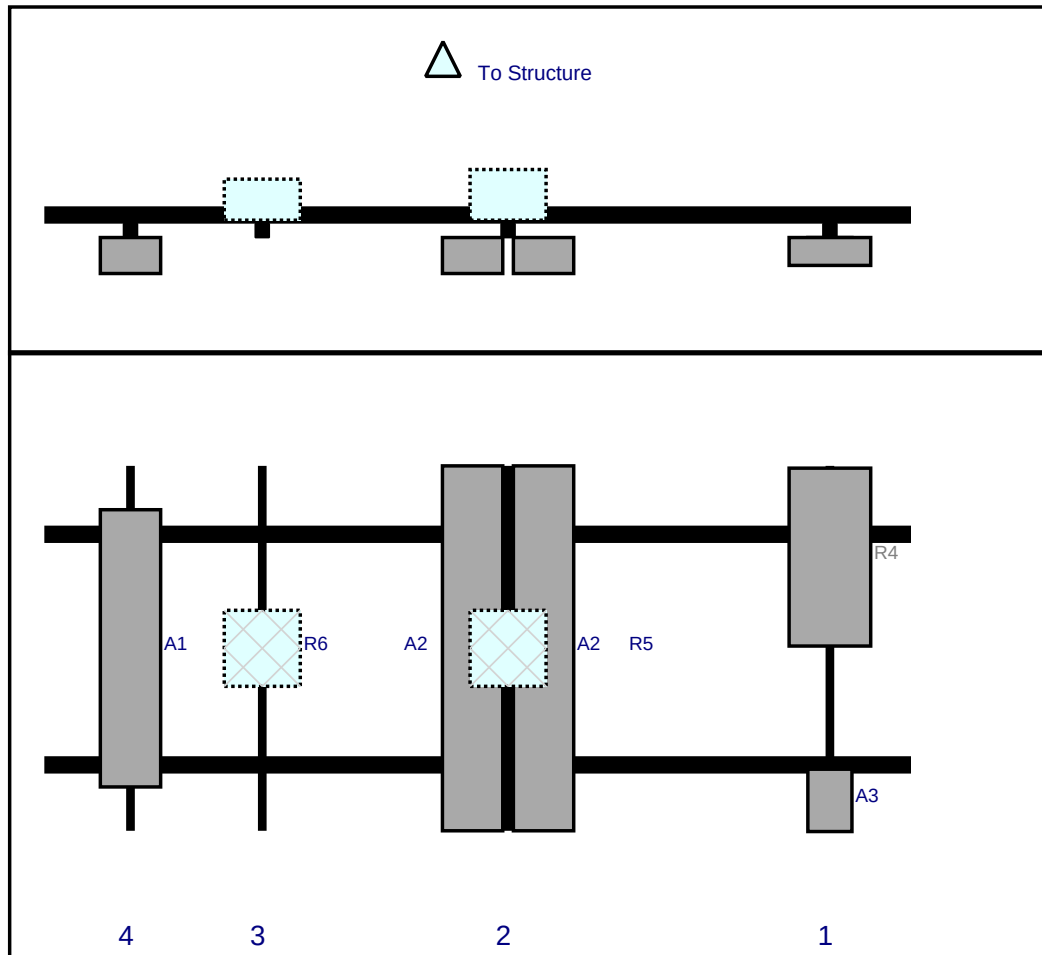


Certifications – Submission of this document including certifications



Specific Required Additional Photos

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
A3	XXDWMM-12.5-65-8T-CBRS	12.3	8.7	155	1	a	Front	66	0	Added	
R4	MT6407-77A	35.1	16.1	155	1	a	Front	18	0	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	a	Front	36	7	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	b	Front	36	-7	Added	
R5	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	91.5	2	a	Behind	36	0	Added	
R6	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	43	3	a	Behind	36	0	Added	
A1	LNx-6513DS-A1M	54.7	11.9	17	4	a	Front	36	0	Added	

Sector: **B**

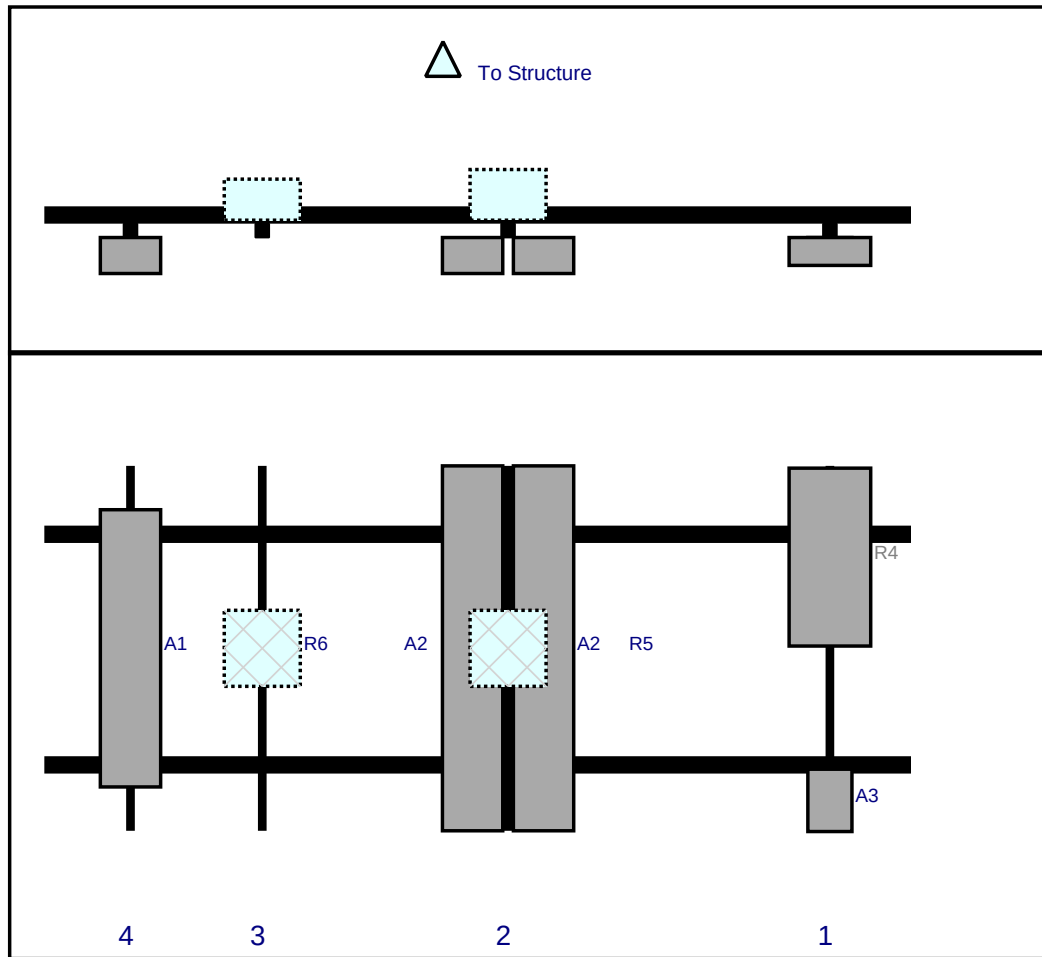
4/29/2021

Structure Type: Monopole

Mount Elev: 135.50

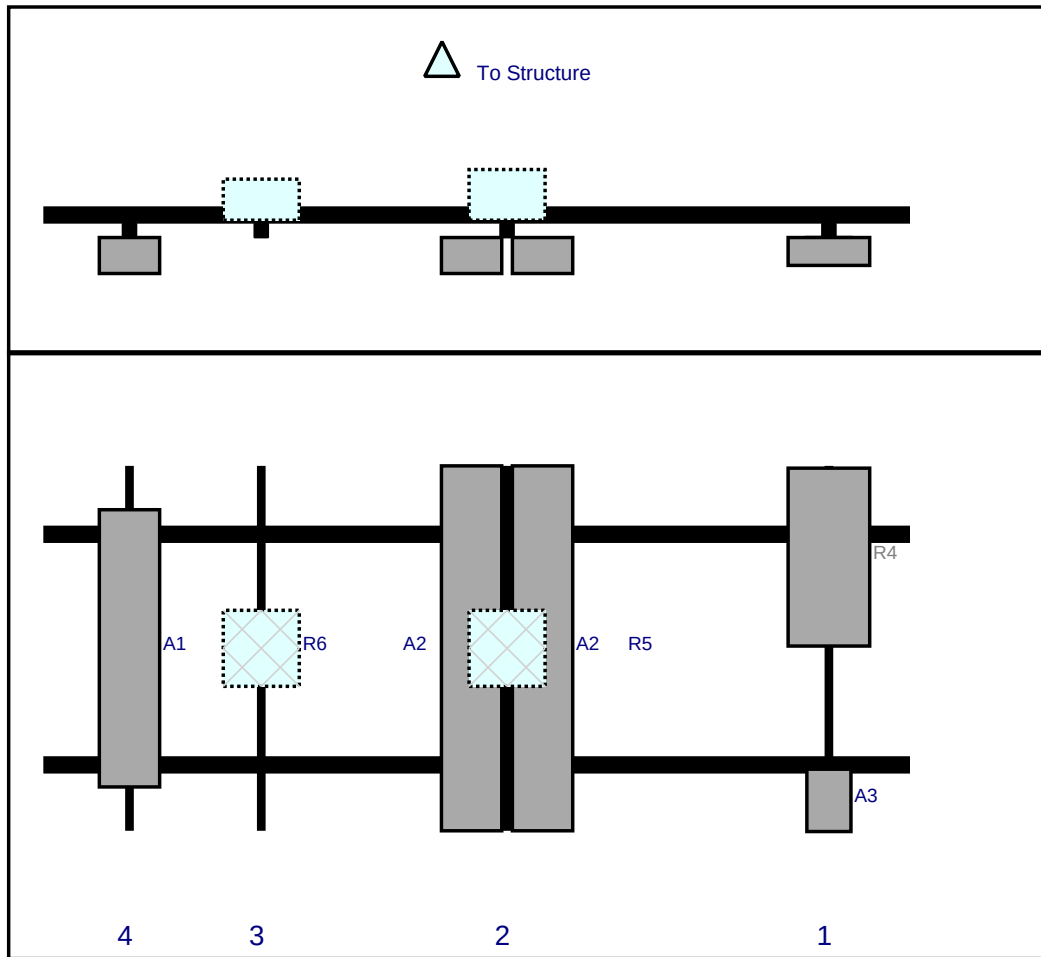
Page: 2

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
A3	XXDWMM-12.5-65-8T-CBRS	12.3	8.7	155	1	a	Front	66	0	Added	
R4	MT6407-77A	35.1	16.1	155	1	a	Front	18	0	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	a	Front	36	7	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	b	Front	36	-7	Added	
R5	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	91.5	2	a	Behind	36	0	Added	
R6	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	43	3	a	Behind	36	0	Added	
A1	LNx-6513DS-A1M	54.7	11.9	17	4	a	Front	36	0	Added	

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
A3	XXDWMM-12.5-65-8T-CBRS	12.3	8.7	155	1	a	Front	66	0	Added	
R4	MT6407-77A	35.1	16.1	155	1	a	Front	18	0	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	a	Front	36	7	Added	
A2	NHH-65B-R2B	72	11.9	91.5	2	b	Front	36	-7	Added	
R5	B2/B66A RRH-BR049 (RFV01U-D1A)	15	15	91.5	2	a	Behind	36	0	Added	
R6	B5/B13 RRH-BR04C (RFV01U-D2A)	15	15	43	3	a	Behind	36	0	Added	
A1	LNx-6513DS-A1M	54.7	11.9	17	4	a	Front	36	0	Added	

Maser Consulting Connecticut

Subject

TIA-222-H Usage

Site InformationSite ID: 467462-VZW / Rocky Hill
CT

Site Name: Rocky Hill CT

Carrier Name: Verizon Wireless

Address:

*France St. Lot 1**Rocky Hill, Connecticut 06067**Hartford County*

Latitude: 41.639778°

Longitude: -72.701889°

Structure Information

Tower Type: 142-Ft Monopole

Mount Type: 14.25-Ft Platform

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 2018 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,

Digitally signed by Justin Linette
Date: 2021.04.30 13:56:11-04'00'

Justin Linette, PE
Sr. Technical Manager