

FOURTH AMENDMENT TO LEASE AGREEMENT

This Fourth Amendment to Tower Lease Agreement ("Fourth Amendment") is made as of _____, 20____, by and between the City of Milwaukee, a Wisconsin municipal corporation, with its principal mailing address 200 E. Wells Street, Milwaukee, Wisconsin 53202 (hereinafter referred to as "Lessor"), and Cellco Partnership d/b/a Verizon Wireless, with its principal office located at One Verizon Way, Mailstop 4AW100, Basking Ridge, New Jersey 07920 (hereinafter referred to as "Lessee"). Lessor and Lessee are at times collectively referred to hereinafter as the "Parties".

WHEREAS, the Parties, and or their predecessors in interest, previously entered into that certain Lease Agreement dated July 18, 2001, as amended by that certain First Amendment To Lease Agreement dated February 8, 2013, and that certain Second Amendment to Lease Agreement dated August 13, 2018, and that certain Third Amendment to Lease Agreement dated June 18, 2020 (collectively, the "Lease") that provides for the operation of communications equipment on Lessor's tower ("Existing Tower"), and other equipment on portion of the real property owned by Lessor and occupied by the Milwaukee Fire Department (the "MFD"), located in the City of Milwaukee as described in Exhibit "A" to the Lease ("Property"), together with certain non-exclusive easement rights of access for utility lines and cables and vehicular ingress and egress across and over the Property (collectively the "Leased Space"); and

WHEREAS, Lessee wishes to reconfigure its equipment installation in and on the Leased Space; and

WHEREAS, the Parties wish to amend the Lease in order to address the above item and to reach new agreements with respect to the same;

NOW, THEREFORE, in consideration of the promises hereinafter made and other good and valuable consideration, the receipt of which is hereby acknowledged, the Parties agree to the following:

1. The Parties agree to supplement the existing Exhibit "C-1" to the Lease with a supplemental Exhibit "C-4" attached hereto which references Lessee's equipment modifications to the Leased Space.
2. All capitalized terms herein shall have the meaning ascribed to them in this Fourth Amendment or the Lease, as applicable.
3. In the event of any inconsistency between this Fourth Amendment and Lease, this Fourth Amendment shall control.

Verizon Wireless Site Name: MFD 56th & Oklahoma
Attorney/ Date: JAC/ 2-22-21
VZW PSLC# 113511

4. Except as modified by this Fourth Amendment, all other terms and conditions of the Lease shall remain in full force and effect.
5. This Fourth Amendment may be executed in one or more counterparts, all of which counterparts taken together shall constitute one and the same agreement.

[Signatures appear on following page]

Verizon Wireless Site Name: MFD 56th & Oklahoma
Attorney/ Date: JAC/ 2-22-21
VZW PSLC# 113511

IN WITNESS WHEREOF, the parties have set their hands and affixed their respective seals the day and year first above written.

LESSEE:
CELLCO PARTNERSHIP
D/B/A VERIZON WIRELESS

Dena Ranieri

By: Dena Ranieri
Title: Sr. Manager - Network RE

LESSOR:
CITY OF MILWAUKEE

By: _____
 Mayor

By: _____
 City Clerk

COUNTERSIGNED

By: _____
 City Comptroller

Signatures of _____, _____, and _____,
authenticated this _____ day of _____, 2021.

_____, Assistant City Attorney

Approved as to form and execution
this _____ day of _____, 2021.

Assistant City Attorney

APPROVALS

REAL ESTATE: _____

RF: _____

CONSTRUCTION: _____

EQUIPMENT ENGINEERING: _____

OPERATIONS: _____

PROJECT TYPE

PROPOSED ANTENNA MODIFICATION ON AN EXISTING WIRELESS SITE

CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT: [HTTPS://PMI.VZWMSMART.COM](https://pmi.vzwmSMART.COM)

SMART TOOL VENDOR PROJECT #: 10016559

VZW LOCATION CODE (PSLC): 113511

***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT.

REGIONAL MAP N.T.S.

VICINITY MAP N.T.S.

CONSULTANT TEAM

PROJECT CONSULTANT:
TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
COLUMBUS, IL 60008
(847) 698-6406

STRUCTURAL CONSULTANT:
(TOWER ANALYSIS)
PAUL J FORD AND COMPANY
250 E. BROAD STREET SUITE 1500
COLUMBUS OH 43215
(614) 248-4105 (FAX)

STRUCTURAL CONSULTANT:
(MOUNT ANALYSIS)
BY OTHERS

MOUNT ANALYSIS STATUS:
COMPLETE

MOUNT ANALYSIS RESULTS:
PASS

MOUNT ANALYSIS DATE:
09/29/2020

STRUCTURAL ANALYSIS DATE:
01/19/2021

CONSULTANT TEAM

TERRA CONSULTING GROUP, LTD.
600 BUSSE HIGHWAY
COLUMBUS, IL 60008
PH: 847-698-6406
FAX: (847) 706-7415

VERIZON
1701 GOLF ROAD
TOWER 2, SUITE 400
ROLLING MEADOWS, IL 60008
PHONE: (847) 619-5397

PROJECT INFORMATION

OCCUPANCY:
UNINHABITED

SITE ADDRESS:
5600 W OKLAHOMA AVE
MILWAUKEE, WI 53219

LATITUDE:
42° 59' 20.16" N (APPROXIMATE)

LONGITUDE:
87° 59' 04.73" W (APPROXIMATE)

STRUCTURE OWNER:
CITY OF MILWAUKEE
875 SOUTH WAVERLY
MILWAUKEE, WI 53202

APPLICANT:
VERIZON WIRELESS
707 GOLF ROAD
TOWER 2, SUITE 400
ROLLING MEADOWS, IL 60008

REAL ESTATE MANAGER:
ALLEN WAITES (630) 291-7845

NO.	DATE	DESCRIPTION
	02/06/2021	ISSUED FOR REVIEW

SHEET	DRAWING INDEX	REVISION
T-1	TITLE SHEET	
C-1	SITE LAYOUT	
ANT-1	SITE ELEVATION	
ANT-2	ANTENNA LAYOUT	
ANT-2A	PROPOSED ANTENNA LAYOUT	
ANT-2B	PROPOSED ANTENNA LAYOUT	
ANT-3	ANTENNA INFORMATION	
ANT-3A	COMBINER CABLE DATA & CABLE DIAGRAM	
ANT-4	DETAILS	
EX-1	PHOTO EXHIBIT	

LOC. #113511

MFD 56TH & OKLAHOMA

5600 W OKLAHOMA AVE
MILWAUKEE, WI 53219

DRAWN BY: PP

CHECKED BY: AU

DATE: 02/23/2021

PROJECT #: 134-860

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



1701 GOLF ROAD, TOWER 2, SUITE 400
ROLLING MEADOWS, ILLINOIS 60008
PHONE: (847) 619-5397 FAX: (847) 706-7415

LOCATION NUMBER: 113511

SITE NAME: MFD 56TH & OKLAHOMA

5600 W OKLAHOMA

MILWAUKEE, WI 53219



OTHER LIMITS NOT INCLUDED IN THESE WIRELESS AND LOCAL UTILITY DISTRICTS AND COMPANIES SHALL ALSO BE NOTED

22" x 34" IS FULL SCALE | 11" x 17" IS HALF SCALE

NO.	DATE	BY	DESCRIPTION

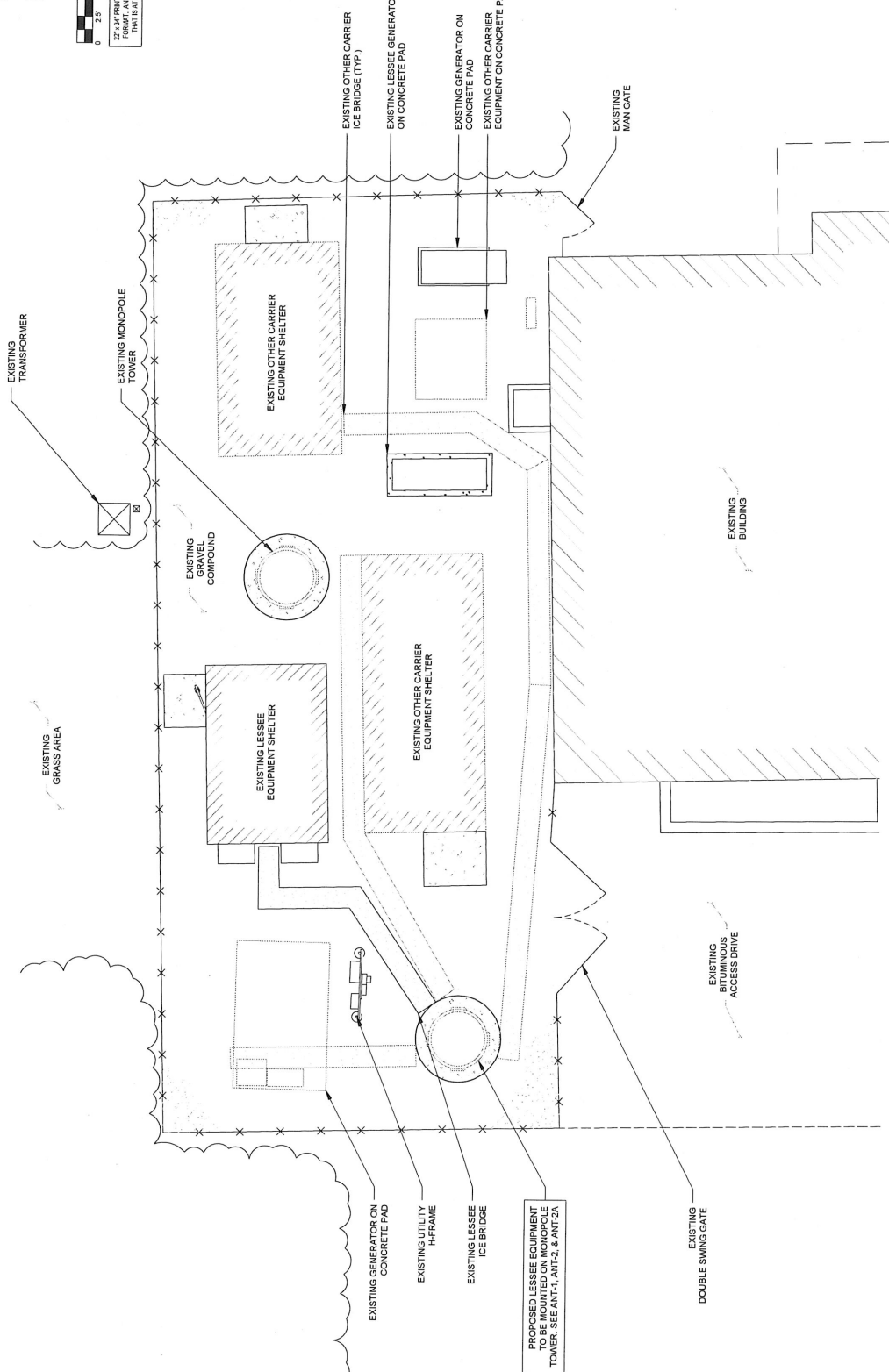
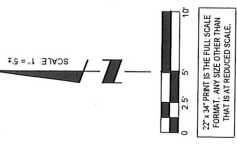
LOC. #113511
 MFD 56TH &
 OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY:	PP
CHECKED BY:	AU
DATE:	02/20/2021
PROJECT #:	124-800

SHEET TITLE
SITE LAYOUT

SHEET NUMBER
C-1



1 SITE LAYOUT

THESE PLANS ASSUME SITE WAS BUILT PER CONSTRUCTION DRAWINGS BY EDGE CONSULTING ENGINEERS DATED 06/19/19. A SITE VISIT WAS NOT PERFORMED FOR THIS UPGRADE.

FULL SCALE PRINT IS ON 22"x34" MEDIA
 HALF SCALE PRINT IS ON 11"x17" MEDIA

Verizon
 1701 GOLF ROAD,
 TOWER 2, SUITE 400
 ROCKFORD, ILLINOIS, IL 60008
 PHONE: (847) 619-5282
 FAX: (847) 706-7415

TERRA
 600 BUSSE HIGHWAY
 PARK RIDGE, IL 60066
 PH: 847-655-6400
 FAX: 847-655-6401

NO.	DESCRIPTION	DATE	BY
	ISSUED FOR REVIEW	02/08/2021	PP

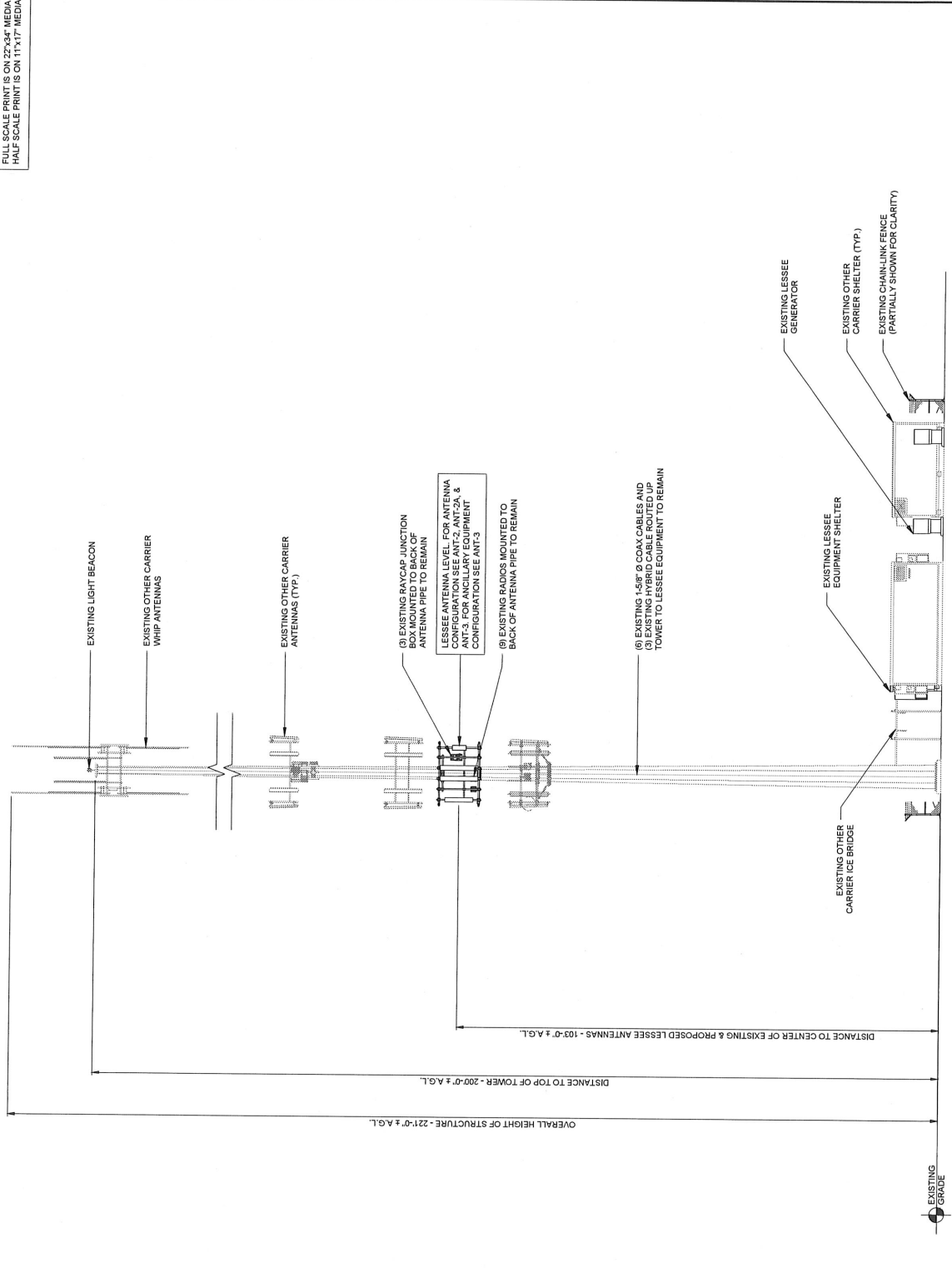
LOC. #113511
MFD 56TH & OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY:	PP
CHECKED BY:	AU
DATE:	02/02/2021
PROJECT #:	13-460

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
ANT-1



1 SOUTH ELEVATION
 SCALE: 3/32" = 1'-0"

NOTES:
 THIS DRAWING IS FOR EXHIBIT AND LAYOUT PURPOSES ONLY.
 PLEASE REFER TO TOWER ANALYSIS PROVIDED BY PAUL J. LECRO & COMPANY AND MOUNT ANALYSIS PROVIDED BY OTHERS FOR ANALYSIS AND STRUCTURAL REQUIREMENTS.
 THE ANALYSIS OF THE ANTENNA MOUNT WAS PERFORMED BY OTHERS. TERRA CONSULTING ENGINEERS IS NOT RESPONSIBLE FOR THE ANALYSIS OF THE TOWER DIRECTLY CONTRACTED TO THE OWNER ANALYSIS WITH OTHERS.

THESE PLANS ASSUME SITE WAS BUILT PER CONSTRUCTION DRAWINGS BY EDGE CONSULTING ENGINEERS DATED 08/18/19. A SITE VISIT WAS NOT PERFORMED FOR THIS UPGRADE.

Verizon
 1701 GOLF ROAD,
 TOWER 2, SUITE 400
 KOLLING MANSIONS, IL 60008
 PHONE: (647) 619-5297
 FAX: (647) 706-7415

TERRA
 605 BUCKLE HOBBINS
 PARK RD. #200
 PH: 647-638-0430
 FAX: 647-638-0431

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR REVIEW	02/02/21	PP

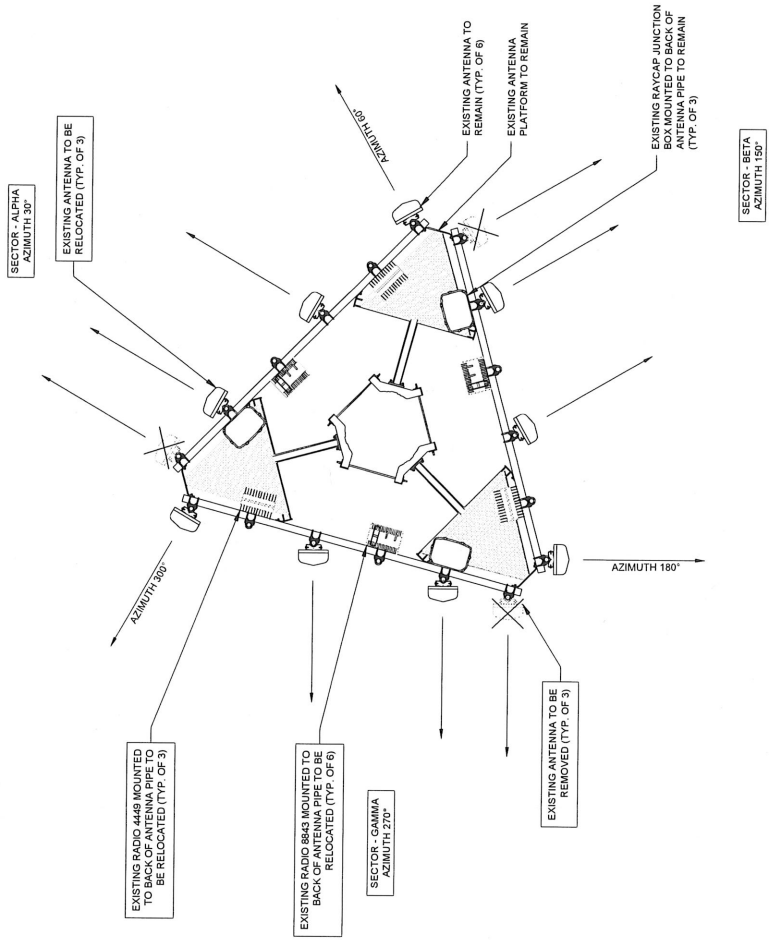
LOC. #113511
 MFD 56TH &
 OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY:	PP
CHECKED BY:	AU
DATE:	02/23/21
PROJECT #:	124-850

SHEET TITLE
 ANTENNA
 LAYOUT

SHEET NUMBER
ANT-2



- NOTES:**
- THIS DRAWING IS FOR EXHIBIT AND LAYOUT PURPOSES ONLY. VERIZON WIRELESS HAS PROVIDED A MOUNT ANALYSIS (BY OTHERS) WHICH NEEDS TO BE REVIEWED BY THE CONTRACTOR. IF THERE IS ANY DISCREPANCY BETWEEN THIS DRAWING AND THE MOUNT ANALYSIS, THE CONTRACTOR IS TO NOTIFY VERIZON WIRELESS. THE MOUNT ANALYSIS IS THE GOVERNING DOCUMENT.
 - NO ANTENNA OR LINE WORK TO BEGIN PRIOR TO CONFIRMATION OF ADEQUATE TOWER AND MOUNT CAPACITY.
 - G.C. TO VERIFY ANTENNA TECHNOLOGIES PRIOR TO REMOVAL OF ANY ANTENNAS.
 - REFER TO ANT-3 & ANT-3A FOR DETAIL ON EXISTING & PROPOSED RF CONFIGURATION.

THESE PLANS ASSUME SITE WAS BUILT PER
 CONSTRUCTION DRAWINGS BY EDGE
 CONSULTING ENGINEERS DATED 08/19/16. ASITE
 VISIT WAS NOT PERFORMED FOR THIS UPGRADE.

1 EXISTING ANTENNA LAYOUT
 N.T.S.

1701 GOLF ROAD
TOWER 2, SUITE 400
ROLLING MEADOWS, IL 60068
PHONE: (647) 619-5397
FAX: (647) 708-7415

606 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 647-636-6193
FAX: 647-636-6191

NO.	DATE	DESCRIPTION

LOC. #113511
MFD 56TH & OKLAHOMA

5600 W OKLAHOMA AVE
MILWAUKEE, WI 53219

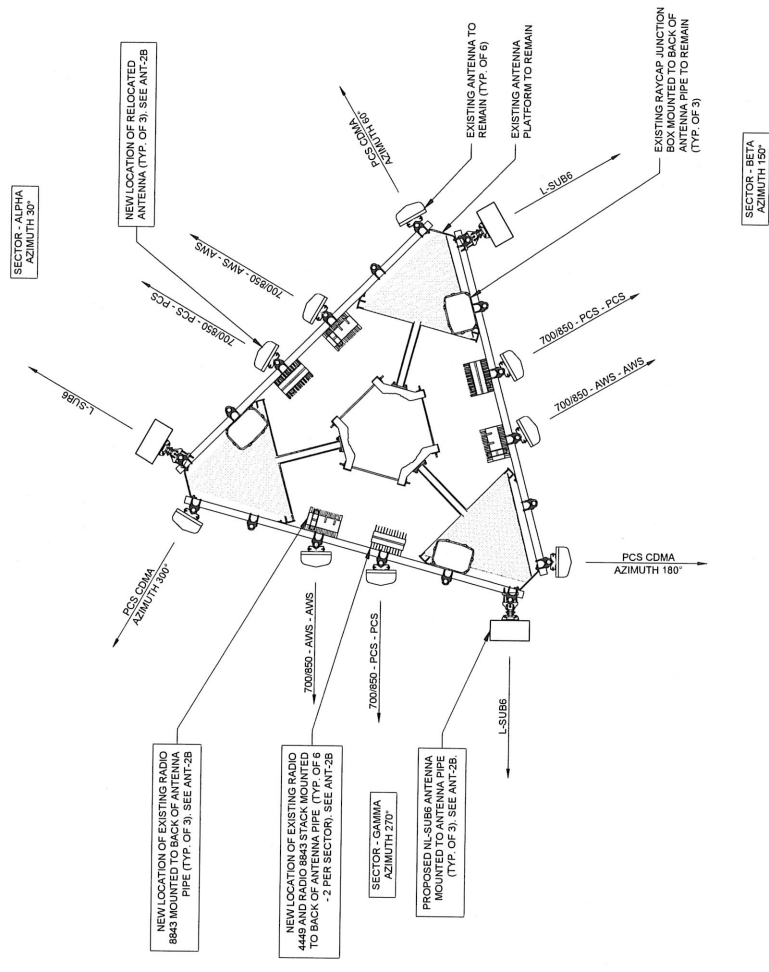
DRAWN BY: PP
CHECKED BY: AU
DATE: 02/28/02

PROJECT #: 124-850

SHEET TITLE
PROPOSED ANTENNA LAYOUT

SHEET NUMBER

ANT-2A



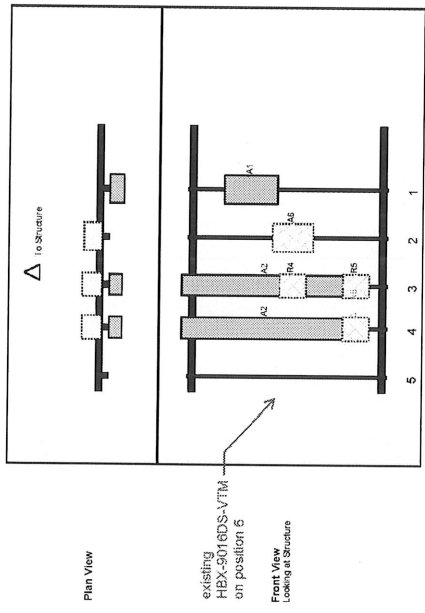
- NOTES:**
- THIS DRAWING IS FOR EXHIBIT AND LAYOUT PURPOSES ONLY. VERIZON WIRELESS HAS PROVIDED A MOUNT ANALYSIS (BY OTHERS) THAT NEEDS TO BE REVIEWED BY THE CONTRACTOR. IF THERE IS ANY DISCREPANCY BETWEEN THE MOUNT ANALYSIS AND THIS DRAWING, THE CONTRACTOR IS TO NOTIFY VERIZON WIRELESS. THE MOUNT ANALYSIS IS THE GOVERNING DOCUMENT.
 - NO ANTENNA OR LINE WORK TO BEGIN PRIOR TO CONFIRMATION OF ADEQUATE TOWER AND MOUNT CAPACITY.
 - G.C. TO VERIFY ANTENNA TECHNOLOGIES PRIOR TO REMOVAL OF ANY ANTENNAS.
 - REFER TO ANT-3 & ANT-3A FOR DETAIL ON EXISTING & PROPOSED RF CONFIGURATION.

THESE PLANS ASSUME SITE WAS BUILT PER CONSTRUCTION DRAWINGS BY EDGE ENGINEERING ENGINEERS DATED 06/19/91. A SITE VISIT WAS NOT PERFORMED FOR THIS UPGRADE.

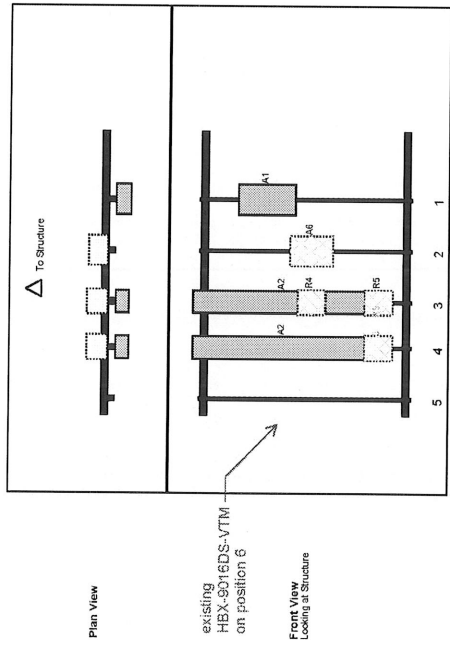
NOTE: GENERAL CONTRACTOR IS TO REFER TO THE STRUCTURAL MOUNT ANALYSIS PERFORMED BY OTHERS. IT IS THE CONTRACTOR'S RESPONSIBILITY THAT ANALYSIS. IF THERE IS CONFLICT BETWEEN THE ANALYSIS AND DRAWINGS, THE ANALYSIS TAKES PRECEDENT. VERIZON WIRELESS CONTRACTED DIRECTLY WITH THE MOUNT ANALYSIS ENGINEER. TERRA IS NOT RESPONSIBLE FOR THE MOUNT ANALYSIS.

1 PROPOSED ANTENNA LAYOUT
N.T.S.

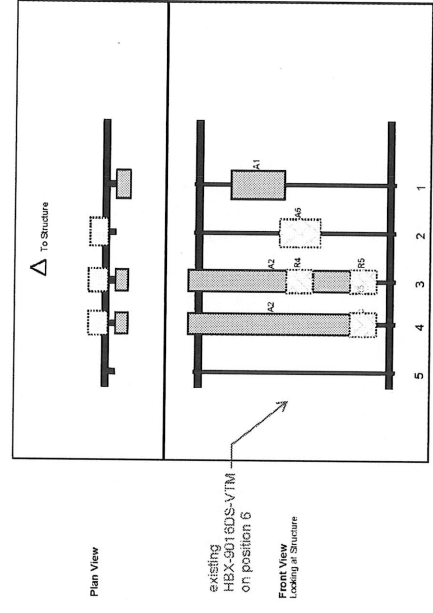
NOTE:
 THE GENERAL CONTRACTOR IS TO REFER TO THE STRUCTURAL MOUNT ANALYSIS PERFORMED BY TERRA FOR THE MOUNT ANALYSIS. THERE IS NO CONFLICT BETWEEN THE ANALYSIS AND DRAWINGS. THE ANALYSIS WAS CONTRACTED DIRECTLY WITH THE MOUNT ANALYSIS ENGINEER, TERRA IS NOT RESPONSIBLE FOR THE MOUNT ANALYSIS.



1 ALPHA SECTOR



3 GAMMA SECTOR



2 BETA SECTOR

Ref#	Model	Height (ft)	Width (ft)	Depth (ft)	Port #	Port 1 Pos	Port 2 Pos	Port 3 Pos	Port 4 Pos	Port 5 Pos	C-Ant	Ant	Status	Validation
A1	VZ601	32.4	15.3	114	1	8	Front	36	0	0	0	0	Added	
A2	NH4-60C-20B	95	11.9	90	3	8	Front	45	0	0	0	0	Revised	
A3	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A4	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A5	NH4-60C-20B	98	11.9	36	4	8	Front	45	0	0	0	0	Revised	
A6	CON19329-05-43	6.0	5.5	36	4	8	Behind	98	0	0	0	0	Added	
A7	8843	15	13.2	36	4	8	Behind	98	0	0	0	0	Revised	

Ref#	Model	Height (ft)	Width (ft)	Depth (ft)	Port #	Port 1 Pos	Port 2 Pos	Port 3 Pos	Port 4 Pos	Port 5 Pos	C-Ant	Ant	Status	Validation
A1	VZ601	30.4	15.3	114	1	8	Front	36	0	0	0	0	Added	
A2	NH4-60C-20B	92	11.9	90	2	8	Behind	65	0	0	0	0	Revised	
A3	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A4	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A5	NH4-60C-20B	98	11.9	36	4	8	Front	45	0	0	0	0	Revised	
A6	CON19329-05-43	6.0	5.5	36	4	8	Behind	98	0	0	0	0	Added	
A7	8843	15	13.2	36	4	8	Behind	98	0	0	0	0	Revised	

Ref#	Model	Height (ft)	Width (ft)	Depth (ft)	Port #	Port 1 Pos	Port 2 Pos	Port 3 Pos	Port 4 Pos	Port 5 Pos	C-Ant	Ant	Status	Validation
A1	VZ601	30.4	15.3	114	1	8	Front	36	0	0	0	0	Added	
A2	NH4-60C-20B	98	11.9	90	3	8	Front	45	0	0	0	0	Revised	
A3	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A4	NH4-60C-20B	15	13.2	90	3	8	Behind	65	0	0	0	0	Revised	
A5	NH4-60C-20B	98	11.9	36	4	8	Front	45	0	0	0	0	Revised	
A6	CON19329-05-43	6.0	5.5	36	4	8	Behind	98	0	0	0	0	Added	
A7	8843	15	13.2	36	4	8	Behind	98	0	0	0	0	Revised	

NOTE:
 THE GENERAL CONTRACTOR IS TO REFER TO THE STRUCTURAL MOUNT ANALYSIS PERFORMED BY OTHERS. THIS IS A REPRESENTATION TAKEN DIRECTLY FROM THAT ANALYSIS. THERE IS NO CONFLICT BETWEEN THE ANALYSIS AND DRAWINGS. THE ANALYSIS WAS CONTRACTED DIRECTLY WITH THE MOUNT ANALYSIS ENGINEER, TERRA IS NOT RESPONSIBLE FOR THE MOUNT ANALYSIS.

Verizon
 1701 GOLF ROAD
 TOWER 2, SUITE 400
 ROLLING MEADOWS, IL 60008
 PHONE: (847) 815-5287
 FAX: (847) 706-2415

TERRA
 602 BUCKLE HIGHWAY
 PARK RIDGE, IL 60068
 PHONE: (847) 639-4431
 FAX: (847) 639-4430

NO.	DATE	DESCRIPTION
02/26/2021	PP	ISSUED FOR REVIEW

LOC. #113511
 MFD 56TH &
 OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY: PP
 CHECKED BY: AU
 DATE: 02/23/2021
 PROJECT #: 124-850

SHEET TITLE
 PROPOSED ANTENNA
 LAYOUT

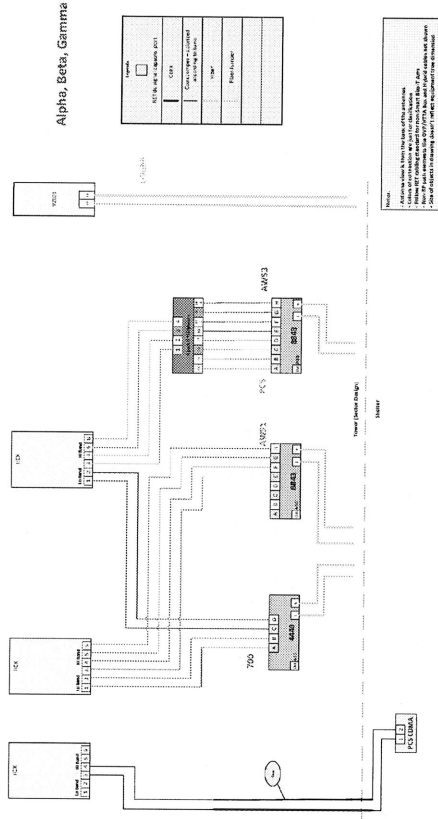
SHEET NUMBER
ANT-2B

RF EMISSIONS REPORT REQUIRED

YES NO
 DATE OF REPORT: _____ XXXXXX

EXISTING EQUIPMENT TO BE REUSED		
LOCATION	COMPONENT	COUNT
TOP	MAIN RAYCAP	3
BOTTOM	MAIN RAYCAP	3
EXISTING CABLEING TO BE REUSED		
TYPE	SIZE	COUNT
HYBRID	MAIN TRUNK	3
COAX	1-5/8" Ø	6

1 RAYCAP/HYBRID CABLE INFORMATION
 N.T.S.



2 CABLE DIAGRAM
 N.T.S.

Verizon
 1701 GOLF ROAD,
 TOWER 2, SUITE 400
 ROLLING MOUNTAINS, IL 60008
 PHONE: (647) 819-5197
 FAX: (647) 706-2415

TERRA
 602 S. 25th STREET
 PARK RIDGE, IL 60068
 PH: 847-636-5400
 FAX: 847-636-4431

NO.	DATE	BY	DESCRIPTION
	02/28/2021		ISSUED FOR REVIEW

LOC. #113511
MFD 56TH & OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY: PP
 CHECKED BY: AU
 DATE: 02/23/2021
 PROJECT #: 124-860
 SHEET TITLE: COMBINER CABLE DATA & CABLE DIAGRAM
 SHEET NUMBER:

ANT-3A

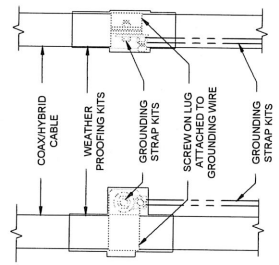
NO.	DATE	BY	DESCRIPTION
	02/28/2021	PP	ISSUED FOR REVIEW

LOC. #113511
 MFD 56TH &
 OKLAHOMA

5600 W OKLAHOMA AVE
 MILWAUKEE, WI 53219

DRAWN BY:	PP
CHECKED BY:	AU
DATE:	02/22/2021
PROJECT #:	124-890
SHEET TITLE	
DETAILS	
SHEET NUMBER	

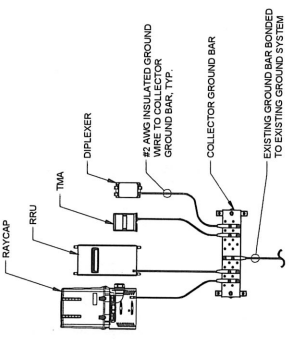
ANT-4



- NOTES:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - THIS DETAIL IS TYPICAL FOR EACH COAX CABLE WHERE IT IS SPECIFIED TO BE GROUNDING.
 - CABLE TO BE GROUNDED AT ANTENNA LEVEL AND PRIOR TO ENTERING SHELTER ENTRY PANEL.
 - CABLE ALSO TO BE GROUNDED TO GROUND BAR AT TOWER BASE IF APPLICABLE.
 - USE ONLY TIN PLATED GROUNDING KITS.



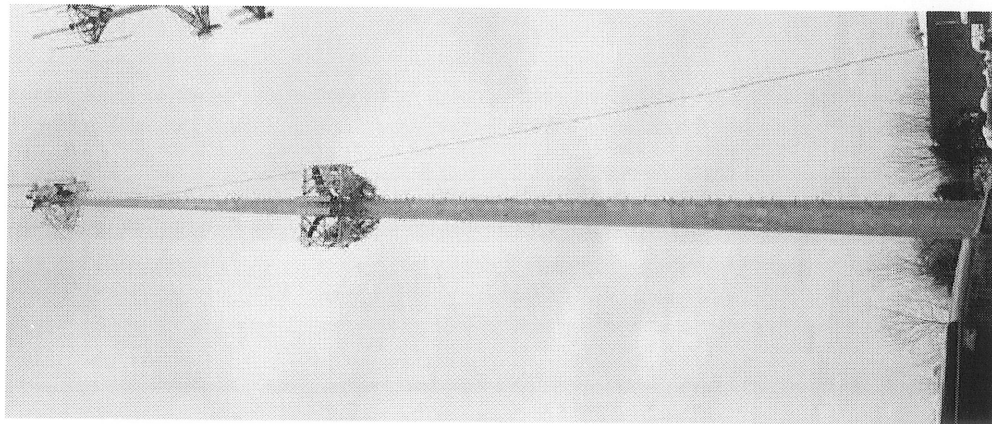
2 COAX / HYBRID CABLE GROUND KIT DETAIL
 SCALE: N.T.S.



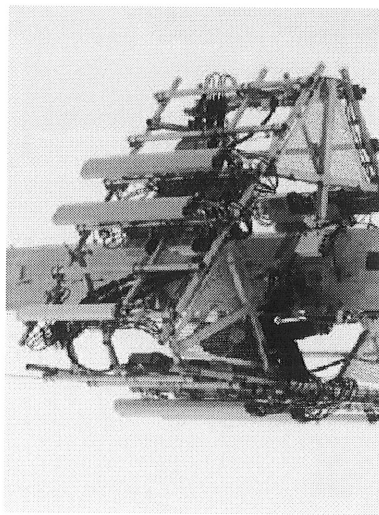
- NOTES:
- DETAIL IS CONCEPTUAL ONLY. PLEASE SEE FOR AND LAYOUT SHEETS FOR ACTUAL EQUIPMENT CONFIGURATION.
 - GROUND CONNECTIONS MUST BE DOUBLE HOLE CONNECTION. SPECIAL EXCEPTION ONLY FOR TMA CONNECTIONS WILL NOT ALLOW FOR A DOUBLE HOLE CONNECTION.

1 TYPICAL APPURTENANCE GROUNDING
 SCALE: N.T.S.

EXISTING SITE CONDITIONS SUPPLIED BY LESSEE. SITE VISIT WAS NOT PERFORMED FOR THIS UPGRADE.



1 OVERALL TOWER PHOTO
SCALE: N.T.S.



2 PHOTO OF ANTENNA LEVEL
SCALE: N.T.S.

LOC. #113511

MFD 56TH &
OKLAHOMA

5600 W OKLAHOMA AVE
MILWAUKEE, WI 53219

DRAWN BY:	PP
CHECKED BY:	AJ
DATE:	02/23/2021
PROJECT #:	124-660

SHEET TITLE
PHOTO EXHIBIT

SHEET NUMBER

EX-1

REVISONS		
NO	DATE	DESCRIPTION
1	02/28/2021	ISSUED FOR REVIEW

verizon
1701 GOLF ROAD,
TOWER 2, SUITE 400
ROLLING MEADOWS, IL 60008
PHONE: (647) 619-5397
FAX: (647) 706-7415

TERRA
602 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6900
FAX: 847-698-6631



Paul J. Ford and Company
 250 East Broad Street Suite 600
 Columbus, OH 43215
 (614) 221-6679
asage@pauljford.com

Antenna Mount Analysis Report and PMI Requirements

Mount Analysis

SMART Tool Project #: 10016559

Paul J. Ford Project #: 24320-0448.001.7190

September 29, 2020

Site Information

Site ID: 113511-VZW / MFD 56TH OKLAHOMA -- 698775
 Site Name: MFD 56TH OKLAHOMA -- 698775
 Carrier Name: Verizon Wireless
 Address: 5600 W Oklahoma Ave
 Milwaukee, Wisconsin 53219, Milwaukee County
 Latitude: 42.989100°
 Longitude: -87.984530°

Structure Information

Tower Type: 200-Ft Monopole
 Mount Type: 12.50-Ft Platform w/ support rail

FUZE ID # 16233656

Analysis Results

12.50-Ft Platform w/ support rail: 39.4% 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: Angela Sage

AMS



Paul J Ford and Company
 Firm #2979
 Expires 06.30.2021

09.29.2020

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 16233656, dated September 14, 2020
Mount Specification	SitePro1 CAGE, dated May 9, 2016
Previous Construction Drawings	Edge, Project # 21793, dated April 11, 2019

Analysis Criteria:

Codes and Standards: ANSI/TIA-222-H

Wind Parameters: Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 107 mph
Ice Wind Speed (3-sec. Gust): 40 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 : 0.974

Seismic Parameters: S_s : 0.077
 S_1 : 0.049

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 (V17.0.3)

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
103.00	103.00	3	Ericsson	VZE01	Added
		3	Commscope	CDX1923Q-DS-43	
		6	Commscope	NHH-65C-R2B	
		3	Ericsson	4449	Retained
		6	Ericsson	8843	
		3	Raycap	RC3DC-3315-PF-48	
		3	Andrew	HBX-9016DS-VTM	

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 mount.

Standard Conditions:

- All engineering services are performed on the basis that the information provided to Paul J. Ford 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 Paul J. Ford 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 PJF, 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.
- 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.
- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Paul J. Ford is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.
- Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
 - Channel, Solid Round, Angle ASTM A53 (Gr. B-35)
 - HSS (Rectangular), Plate Q235 Gr B (Fy = 34 ksi, Fu = 58 ksi)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod SAE J429 (GR2)
 - Bolts ASTM A325

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Paul J. Ford.

Analysis Results:

Component	Utilization %	Pass/Fail
<i>Face Horizontal</i>	10.7%	<i>Pass</i>
<i>Standoff</i>	39.4%	<i>Pass</i>
<i>Corner Plate</i>	43.3%	<i>Pass</i>
<i>Bracing Member</i>	26.3%	<i>Pass</i>
<i>Support Rail</i>	22.6%	<i>Pass</i>
<i>Mount Pipe</i>	10.8%	<i>Pass</i>
<i>Mount to Tower Connection</i>	28.1%	<i>Pass</i>

Structure Rating – (Controlling Utilization of all Components)	39.4%
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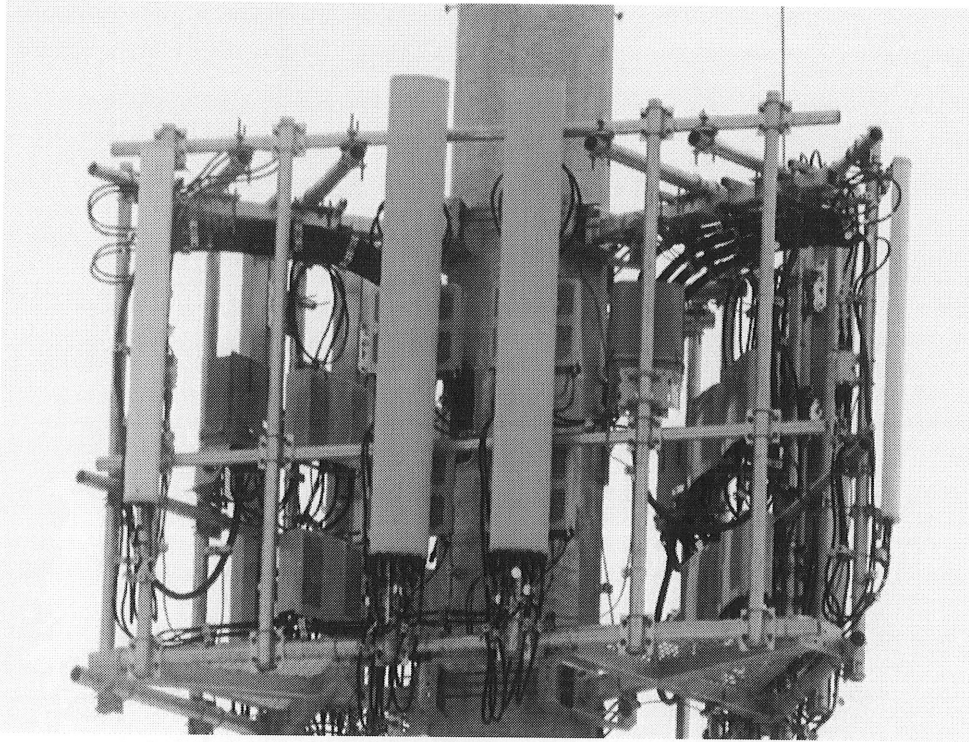
Recommendation:

The existing mount is **SUFFICIENT** for the final loading configuration and do 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:

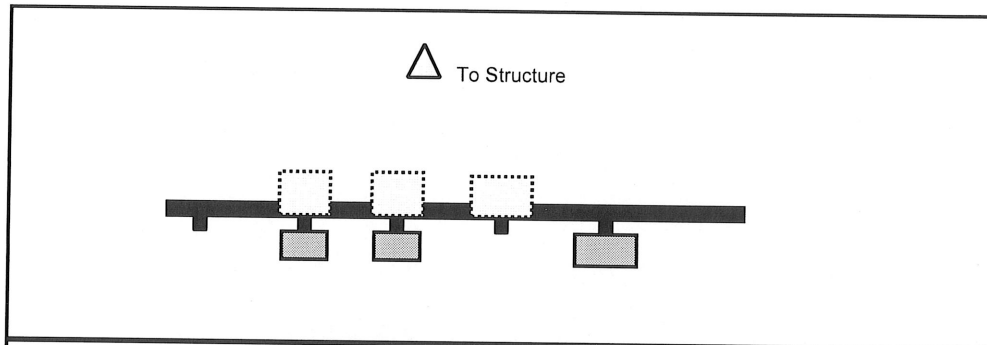
1. Mount Photos
2. Mount Manufacturer Drawings (for reference only)
3. Analysis Calculations
4. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
5. Antenna Placement Diagrams



Sector: A
 Structure Type: Monopole
 Mount Elev: 103.00

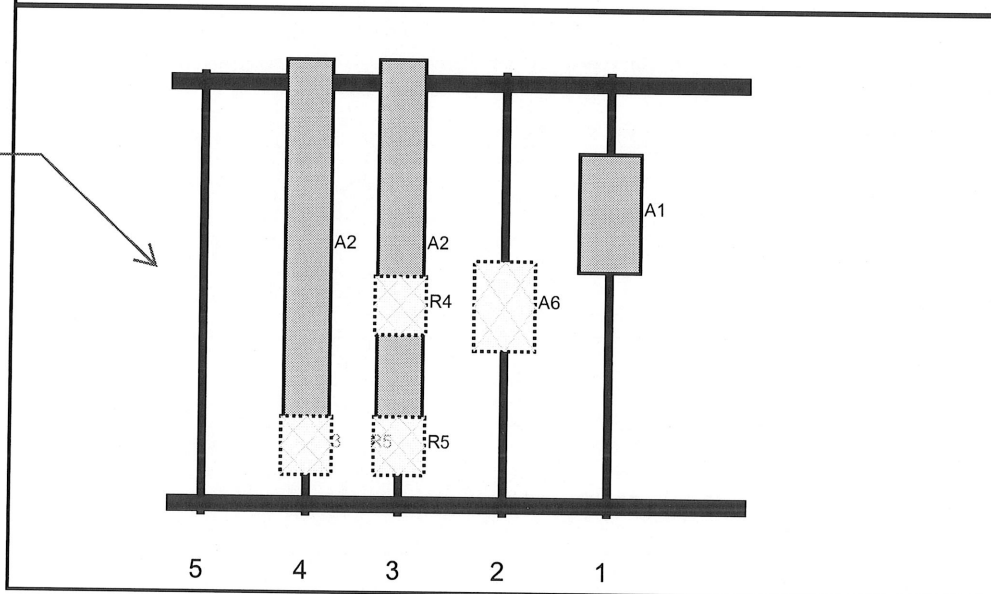
9/28/2020

Plan View



existing HBX-9016DS-VTM on position 6

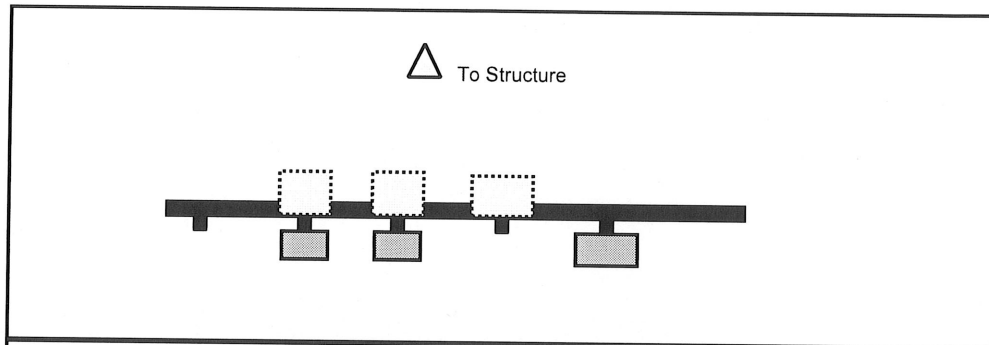
Front View
Looking at Structure



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	VZE01	30.4	15.9	114	1	a	Front	36	0	Added	
A6	RC3DC-3315-PF-48	23	15.7	87	2	a	Behind	60	0	Retained	
A2	NHH-65C-R2B	96	11.9	60	3	a	Front	45	0	Retained	
R4	4449	15	13.2	60	3	a	Behind	60	0	Retained	
R5	8843	15	13.2	60	3	a	Behind	96	0	Retained	
A2	NHH-65C-R2B	96	11.9	36	4	a	Front	45	0	Retained	
A3	CDX1923Q-DS-43	6.9	5.5	36	4	a	Behind	96	0	Added	
R5	8843	15	13.2	36	4	a	Behind	96	0	Retained	

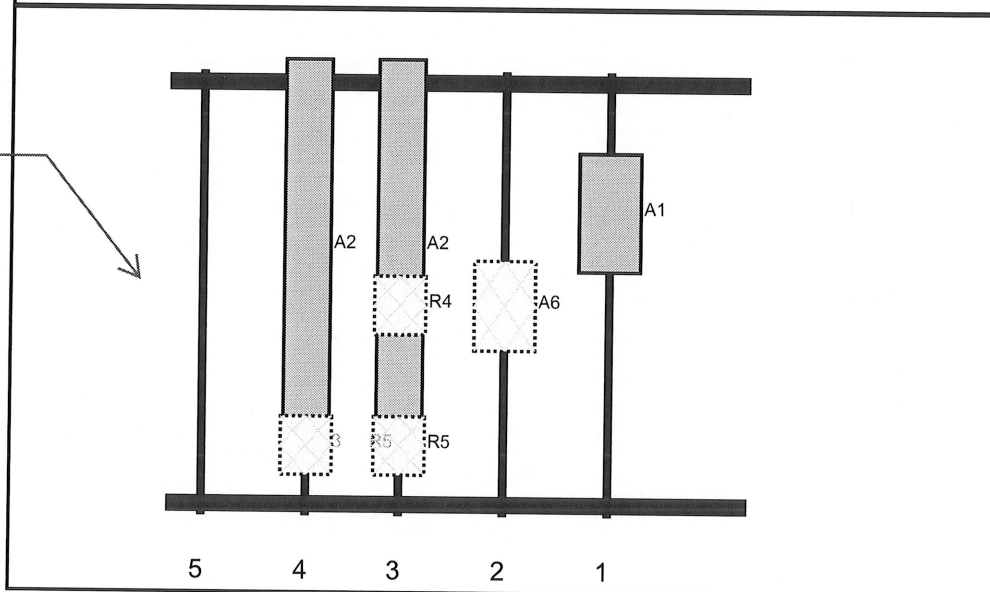
Sector: **B**
 Structure Type: Monopole
 Mount Elev: 103.00

Plan View



existing
 HBX-9016DS-VTM
 on position 6

Front View
 Looking at Structure

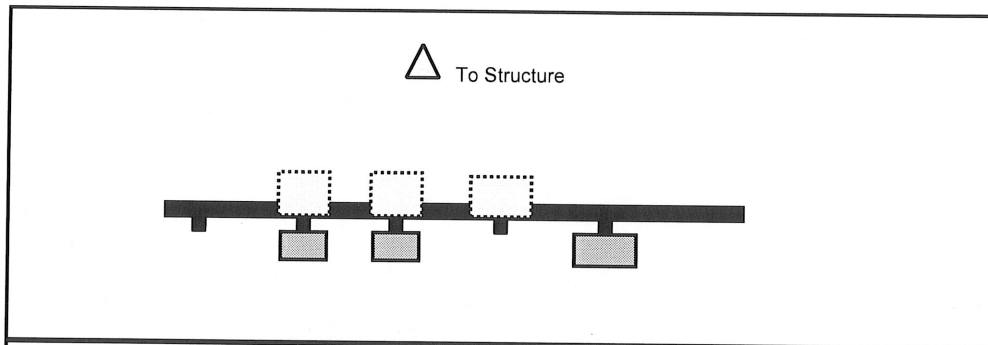


Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	VZE01	30.4	15.9	114	1	a	Front	36	0	Added	
A6	RC3DC-3315-PF-48	23	15.7	87	2	a	Behind	60	0	Retained	
A2	NHH-65C-R2B	96	11.9	60	3	a	Front	45	0	Retained	
R4	4449	15	13.2	60	3	a	Behind	60	0	Retained	
R5	8843	15	13.2	60	3	a	Behind	96	0	Retained	
A2	NHH-65C-R2B	96	11.9	36	4	a	Front	45	0	Retained	
A3	CDX1923Q-DS-43	6.9	5.5	36	4	a	Behind	96	0	Added	
R5	8843	15	13.2	36	4	a	Behind	96	0	Retained	

Sector: C
 Structure Type: Monopole
 Mount Elev: 103.00

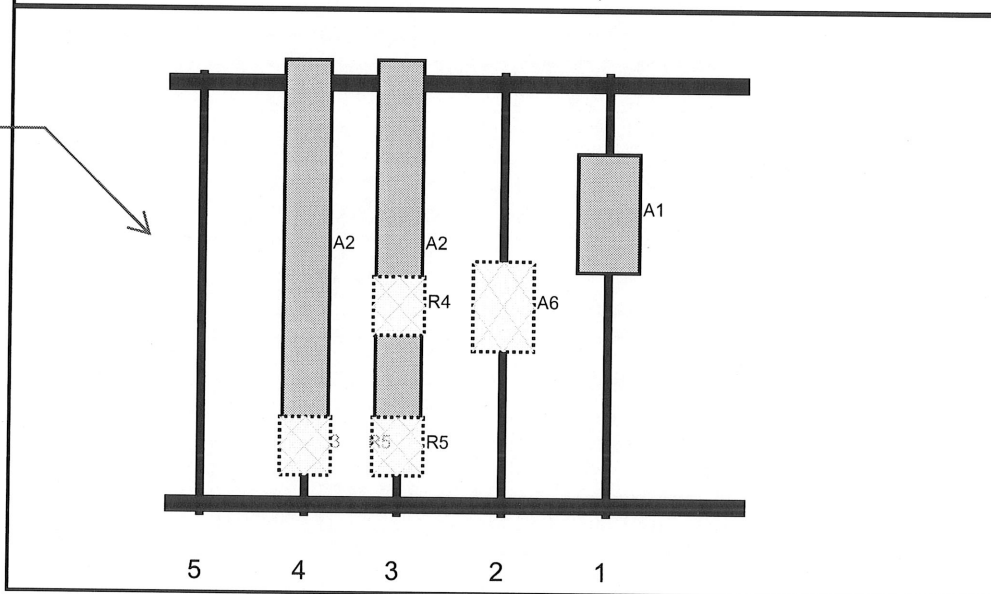
9/28/2020

Plan View



existing
 HBX-9016DS-VTM
 on position 6

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	VZE01	30.4	15.9	114	1	a	Front	36	0	Added	
A6	RC3DC-3315-PF-48	23	15.7	87	2	a	Behind	60	0	Retained	
A2	NHH-65C-R2B	96	11.9	60	3	a	Front	45	0	Retained	
R4	4449	15	13.2	60	3	a	Behind	60	0	Retained	
R5	8843	15	13.2	60	3	a	Behind	96	0	Retained	
A2	NHH-65C-R2B	96	11.9	36	4	a	Front	45	0	Retained	
A3	CDX1923Q-DS-43	6.9	5.5	36	4	a	Behind	96	0	Added	
R5	8843	15	13.2	36	4	a	Behind	96	0	Retained	