Robinson+Cole

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Also admitted in Massachusetts
and New York

January 20, 2022

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification**
208 Kirk Road (a/k/a 1075 Paradise Avenue), Hamden, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas and remote radio heads attached to a tower and associated equipment on the ground near the base of the tower. The tower and Cellco's use of the tower were approved by the Siting Council ("Council") in September of 2017 (Docket No. 471). A copy of the Council's Docket No. 471 Decision and Order is included in Attachment 1.

Cellco now intends to modify its facility by removing six (6) antennas and installing (3) new Samsung MT6407-77A antennas and three (3) new NNH4-65B-R6 antennas on Cellco's new T-Arm mount assemblies. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antennas are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Hamden's Chief Elected Official and Land Use Officer.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas will be installed on new t-arm antenna mounts.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for Cellco's modified facility is included in Attachment 3. The modified facility will be capable of providing Cellco's 5G wireless service.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. According to the attached Structural Analysis ("SA") and Mount Analysis ("MA"), the existing tower, tower foundation and mount assemblies, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:

Lauren Garrett, Hamden Mayor
Erik Johnson, Acting Town Planner
Joseph Vignola and Denise Courtemanche, Property Owners
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 471 - Cellco Partnership d/b/a Verizon Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at Hamden Tax Assessor's Map 2826, Block 24, 208 Kirk Road (a/k/a 1075 Paradise Avenue), Hamden, Connecticut.	}	Connecticut
	}	Siting
	}	Council

September 28, 2017

Decision and Order

Pursuant to Connecticut General Statutes §16-50p, and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at Alternate Site 2 at 208 Kirk Road, Hamden, Connecticut. The Council denies certification of the Proposed Site and Alternate Site 1 located at 208 Kirk Road, Hamden, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter at the Alternate Site 2 location, and subject to the following conditions:

1. The tower shall be constructed as a monopole at a height of 120 feet above ground level at the Alternate Site 2 location to provide the proposed wireless services, sufficient to accommodate the antennas of Cellco Partnership d/b/a Verizon Wireless and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Hamden for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) final site plan(s) for development of the facility that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code and include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, emergency backup generator, compound fencing and landscaping;
    b) construction plans for site clearing, grading, water drainage and stormwater control, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
    c) specifications for an access drive security gate with the gate installed at least 12 feet from the edge of the Country Club Drive cul-de-sac;
    d) specifications for vinyl coated chain link fencing with privacy slats enclosing the compound;
    e) provision for the application of a color treatment to the tower, antenna mounts and antennas to match surrounding vegetation during leaf-off conditions;
    f) an eastern box turtle protection plan in accordance with established Department of Energy and Environmental Protection protocols; and
    g) hours of construction.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Hamden.

8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated May 1, 2017, and notice of issuance published in the *New Haven Register*.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

ATTACHMENT 2

verizon

WIRELESS COMMUNICATIONS FACILITY

SITE NAME:
HAMDEN 8 CT

208 KIRK RD.
HAMDEN, CT 06514

ANTENNA MODIFICATION

PROJECT SUMMARY	
SITE NAME:	HAMDEN 8 CT
SITE ADDRESS:	208 KIRK RD. HAMDEN, CT 06514
PROPERTY OWNER:	JOE VIGNOLA & DENISE COURTMANCHE VIGNOLA 208 KIRK RD. HAMDEN, CT 06514
TOWER OWNER/MGMT:	VERIZON
PARCEL ID:	2826-024-00-0000
COORDINATES:	41° 23' 43.872" N 72° 55' 47.732" W
AMSL:	296.5 FT.
VERIZON CONSTRUCTION:	WALTER CHARCZYNSKI (860) 306-1806
VERIZON REAL ESTATE:	ALEX TYURIN (860) 550-3195

AERIAL VIEW

SHEET INDEX	
DE-1	TITLE SHEET
DE-2	COMPOUND PLAN & ELEVATION
DE-3	ANTENNA PLANS & ELEVATION
DE-4	RF PLUMBING DIAGRAM & B.O.M.
DE-5	GENERAL CONSTRUCTION NOTES

verizon
WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net

LICENSURE

STATE OF CONNECTICUT
DAVID A. WEINPAHL
NO. 22144
LICENSED PROFESSIONAL ENGINEER

DAVID WEINPAHL, P.E.
CT LIC NO. 22144

SUBMITTALS

NO	DATE	DESCRIPTION
0	09.25.23	REVIEW
1	11.30.23	REVISED PER MOUNT ANALYSIS
2	01.10.22	REVISED PER VZW REGULATORY

DRAWN BY:	MF
CHECKED BY:	DW

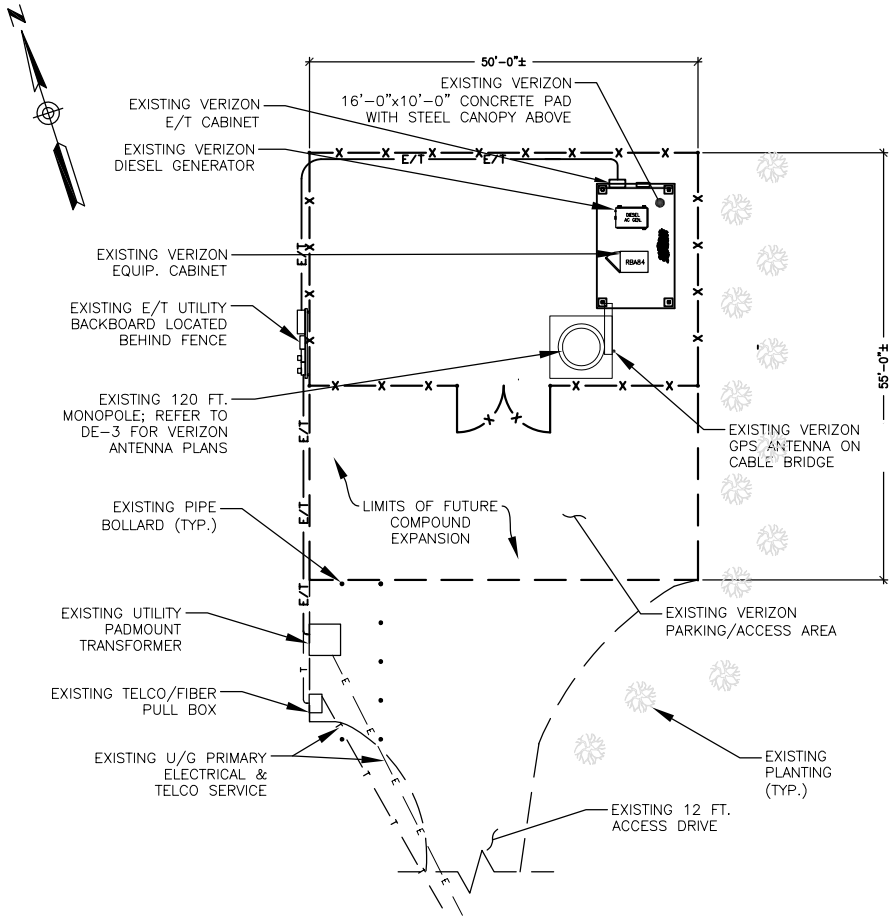
PROJECT NAME:
ANTMO
MT6407
DESIGN EXHIBITS

SITE NAME:
HAMDEN 8 CT

SITE ADDRESS:
208 KIRK RD.
HAMDEN, CT 06514

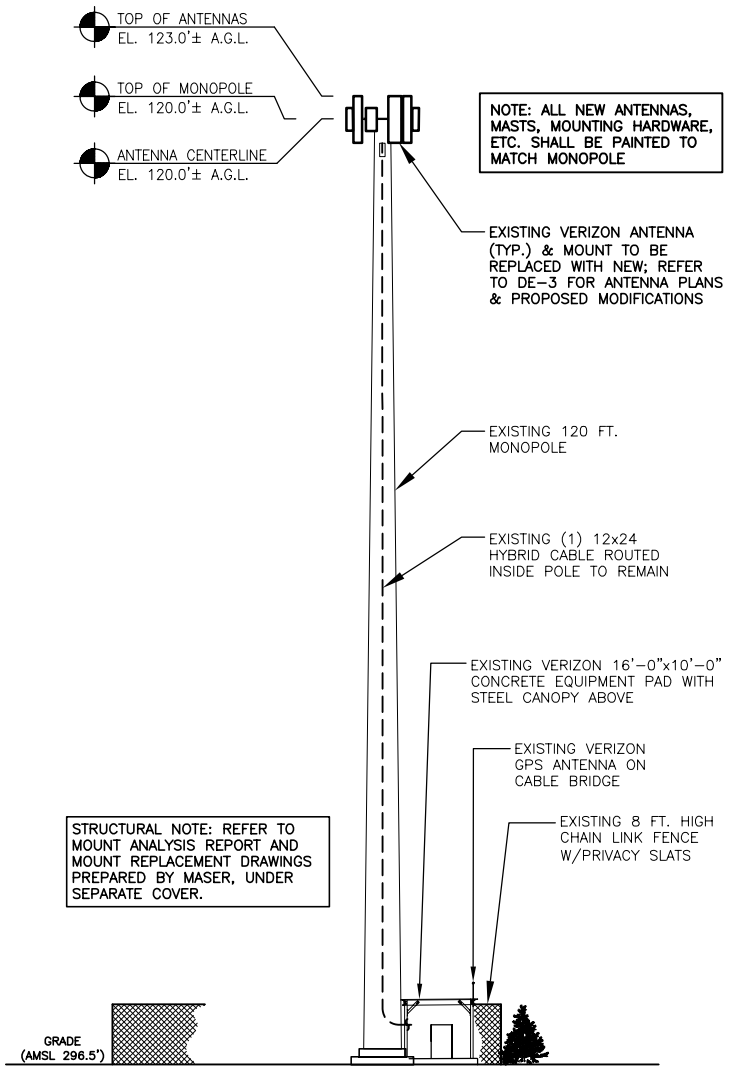
SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
DE-1



1 / DE-2 COMPOUND PLAN
Scale: 1/16" = 1'-0"

NOTES:
1. COMPOUND PLAN IS COMPILED FROM EXISTING DRAWINGS PREPARED BY ON AIR ENGINEERING, LLC AND A LIMITED DESIGN VISIT ON 07-27-21 FOR A PROPOSED VERIZON ANTENNA MODIFICATION.
2. PLANS ARE DIAGRAMMATIC ONLY AND NOT TO BE SCALED.
3. REFER TO STRUCTURAL TOWER AND MOUNT ANALYSIS REPORTS, BY OTHERS UNDER SEPARATE COVER, FOR ANY REQUIRED TOWER & MOUNT REINFORCEMENTS, WHICH MUST BE PERFORMED PRIOR TO ANY OTHER VERIZON ANTENNA MODIFICATIONS.



2 / DE-2 SOUTH ELEVATION
Scale: NTS

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WIRELESS COMMUNICATIONS FACILITY

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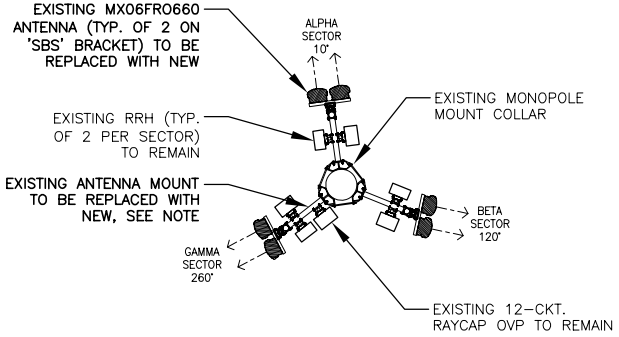
SITE NAME:
HAMDEN 8 CT

SITE ADDRESS:
208 KIRK RD.
HAMDEN, CT 06514

SHEET TITLE:
COMPOUND PLAN
& ELEVATION

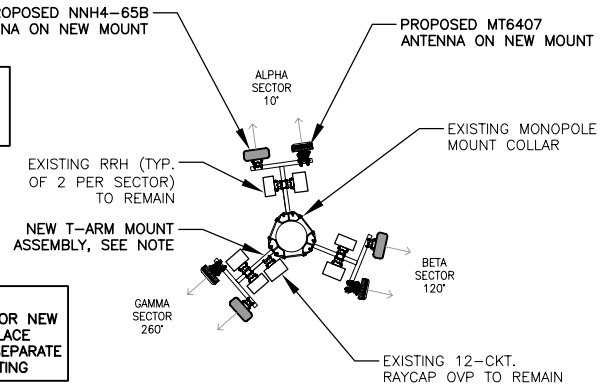
SHEET NUMBER:
DE-2



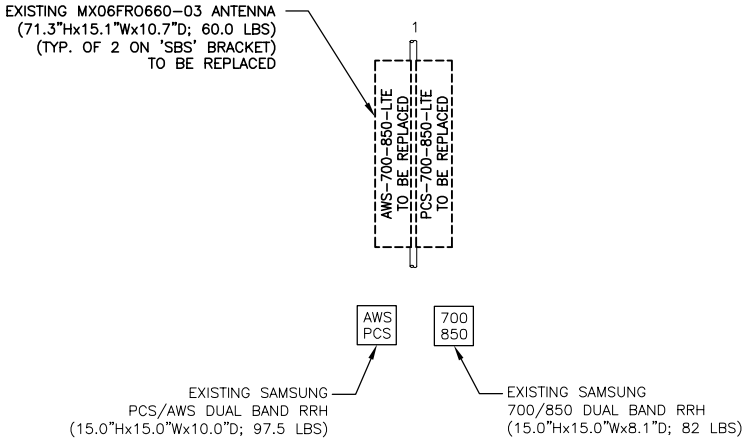
1 DE-3 ANTENNA PLAN - EXISTING
Scale: 1/8" = 1'-0"

NOTE: ALL NEW ANTENNAS, MASTS, MOUNTING HARDWARE, ETC. SHALL BE PAINTED TO MATCH MONOPOLE

NOTE: REFER TO MOUNT REPLACEMENT DRAWINGS FOR NEW T-ARM ASSEMBLY TO REPLACE EXISTING MOUNT, UNDER SEPARATE COVER BY MASER CONSULTING

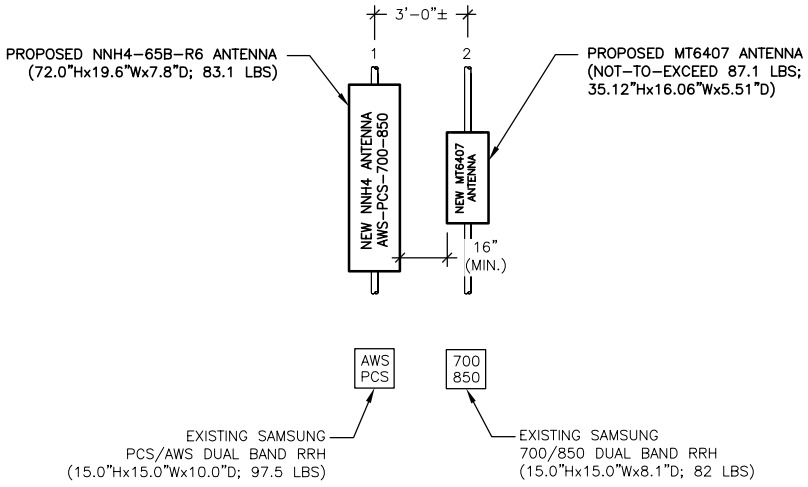


2 DE-3 ANTENNA PLAN - PROPOSED
Scale: 1/8" = 1'-0"



(VIEWED FROM BEHIND SECTOR)

3 DE-3 ANTENNA ELEVATION (TYP.) - EXISTING
Scale: 1/4" = 1'-0"



(VIEWED FROM BEHIND SECTOR)

4 DE-3 ANTENNA ELEVATION (TYP.) - PROPOSED
Scale: 1/4" = 1'-0"

verizon
WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
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CHECKED BY:	DW

PROJECT NAME:
ANTMO
MT6407
DESIGN EXHIBITS

SITE NAME:
HAMDEN 8 CT

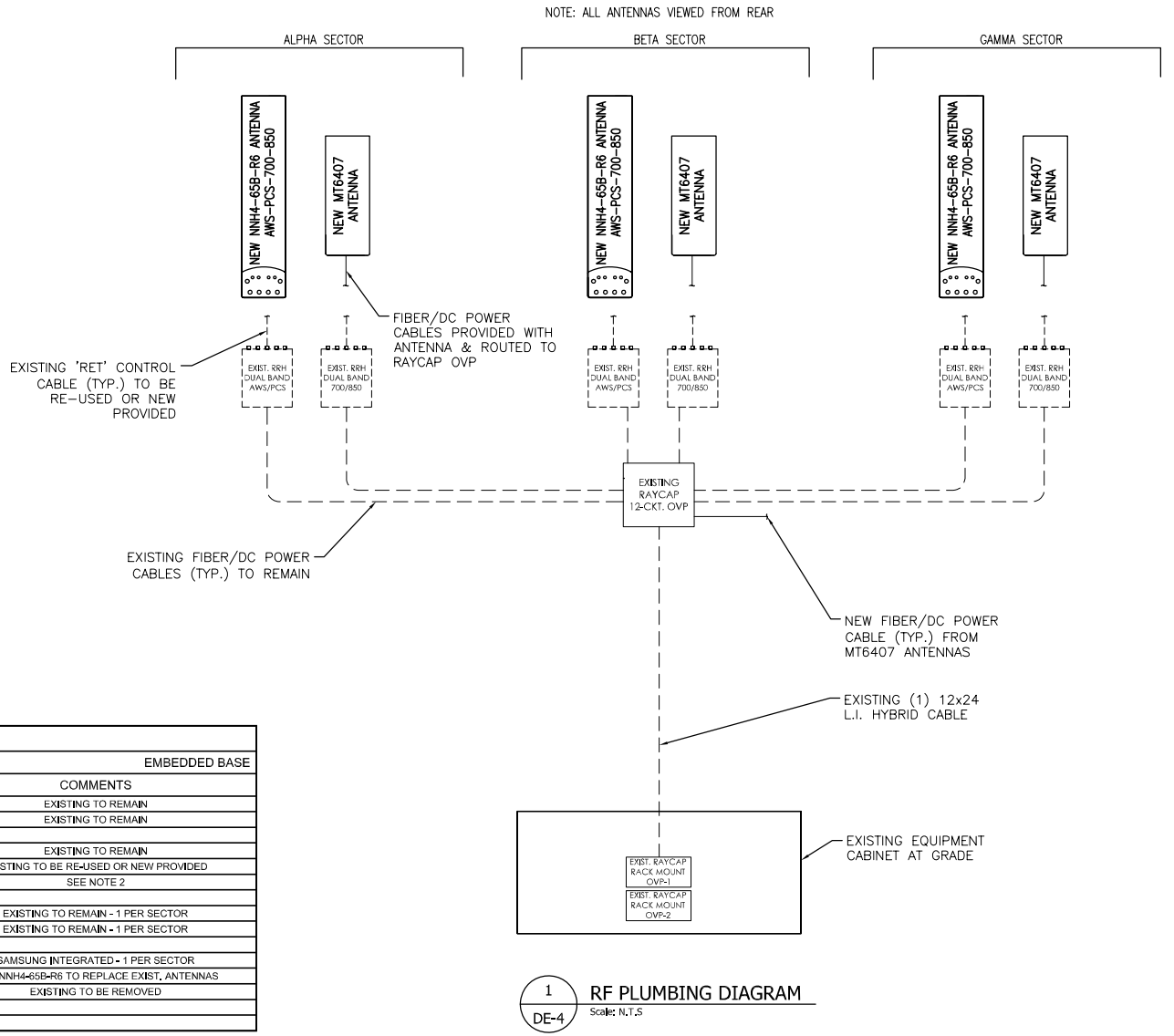
SITE ADDRESS:
208 KIRK RD.
HAMDEN, CT 06514

SHEET TITLE:
ANTENNA PLANS & ELEVATION

SHEET NUMBER:
DE-3

GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS AND MANUFACTURERS INSTRUCTIONS. EXTERIOR CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING SUPPORTS EVERY 4 FT. MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS WHEN REQUIRED.
3. ALL CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY - DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS
4. REFER TO RFDS FOR DETAILED PLUMBING DIAGRAM SHOWING ALL JUMPER AND OTHER CABLING CONNECTIONS AT ANTENNAS, RRH's, DIPLEXERS OR OTHER DEVICES.



1 DE-4 RF PLUMBING DIAGRAM
Scale: N.T.S

BILL OF MATERIALS			
SITE NAME: HAMDEN 8 CT		ANTMO MT6407	EMBEDDED BASE
DESCRIPTION	QTY	LENGTH	COMMENTS
6-CKT. LOWER OVP	-	-	EXISTING TO REMAIN
12-CKT. UPPER OVP	-	-	EXISTING TO REMAIN
12x24 L.I. HYBRID CABLE	-	-	EXISTING TO REMAIN
RET CONTROL CABLE	-	-	EXISTING TO BE RE-USED OR NEW PROVIDED
1/2" JUMPERS	-	-	SEE NOTE 2
AWS/PCS DUAL BAND RRH	-	-	EXISTING TO REMAIN - 1 PER SECTOR
700/850 DUAL BAND RRH	-	-	EXISTING TO REMAIN - 1 PER SECTOR
MT6407 ANTENNA	3	-	SAMSUNG INTEGRATED - 1 PER SECTOR
AWS-PCS-700-850-LTE ANTENNA	3	-	NEW NNH4-65B-R6 TO REPLACE EXIST. ANTENNAS
DUAL MOUNTING BRACKET	-	-	EXISTING TO BE REMOVED

NOTES:
1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS RFDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
2. CONTRACTOR SHALL DETERMINE AND PROVIDE ALL REQUIRED PRE-FAB JUMPER QUANTITIES AND LENGTHS, KEEPING ALL LENGTHS TO A MINIMUM.

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HAMDEN 8 CT

SITE ADDRESS:
208 KIRK RD.
HAMDEN, CT 06514

SHEET TITLE:
RF PLUMBING DIAGRAM & B.O.M.

SHEET NUMBER:
DE-4

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY *CELLCO PARTNERSHIP d/b/a VERIZON, THE PRO*PERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS AND ALL LOCAL LAWS AND REGULATIONS, CURRENT EDITIONS.

3. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

5. CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND ALL RELATED PARTIES. THE SUB-CONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.

6. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON DRAWINGS OR WRITTEN IN SPECIFICATIONS.

7. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.

8. CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE ALL PERMITS AND ALL INSPECTIONS REQUIRED FROM FEDERAL AND STATE GOVERNMENTS, COUNTIES, MUNICIPALITIES AND OTHER REGULATORY AGENCIES WHICH MAY BE REQUIRED FOR THE PROJECT.

10. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

11. ALL MATERIAL PROVIDED BY *CELLCO PARTNERSHIP d/b/a VERIZON IS TO BE* REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTOR PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDED MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGERS ATTENTION IMMEDIATELY.

12. THE MATERIALS INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.

13. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, FOR SEQUENCES AND PROCEDURES TO BE USED, AND TO ENSURE THE SAFETY OF THE EXISTING BUILDING AND ITS COMPONENT DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.

14. CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATION OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC.

15. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.

16. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.

17. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL O.S.H.A REQUIREMENTS.

19. CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.

21. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.

22. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING, ANTENNA AND ANTENNA CABLES AND REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.

23. CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.

24. CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.

25. BEFORE FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.

verizon

WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
201-456-4624
onair@optonline.net

LICENSURE

STATE OF CONNECTICUT
DAVID A. WEINPAHL
NO. 22144
LICENSED
LICENSED PROFESSIONAL ENGINEER

DAVID WEINPAHL, P.E.
CT LIC NO. 22144

SUBMITTALS

NO	DATE	DESCRIPTION
0	09.25.23	REVIEW
1	11.30.23	REVISED PER MOUNT ANALYSIS
2	01.10.22	REVISED PER VZW REGULATORY

DRAWN BY:	MF
CHECKED BY:	DW

PROJECT NAME:

ANTMO
MT6407
DESIGN EXHIBITS

SITE NAME:

HAMDEN 8 CT

SITE ADDRESS:

208 KIRK RD.
HAMDEN, CT 06514

SHEET TITLE:

GENERAL CONSTRUCTION NOTES

SHEET NUMBER:

DE-5

SAMSUNG

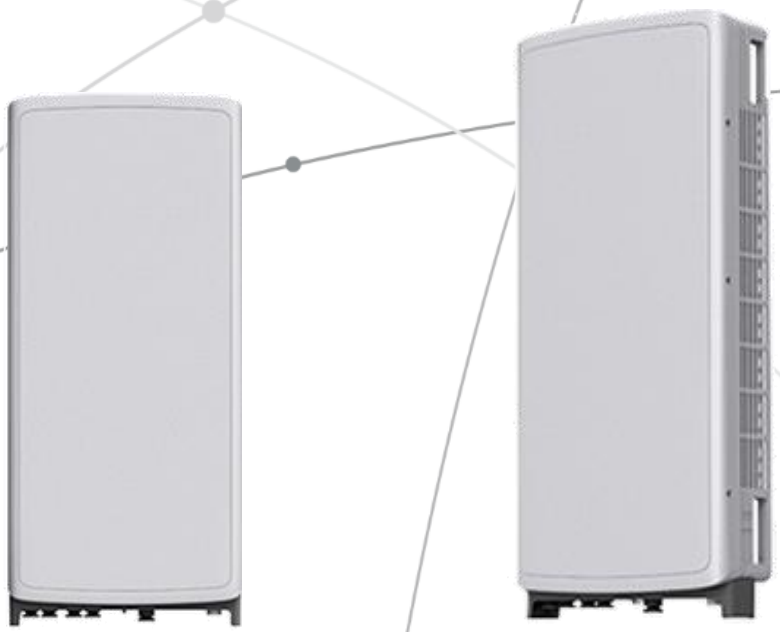
SAMSUNG

C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A

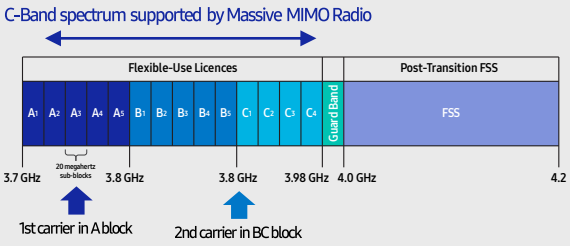


Points of Differentiation

Wide Bandwidth

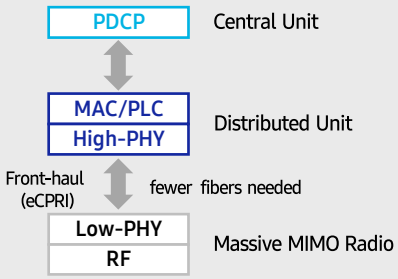
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.
It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

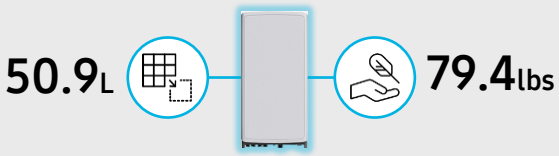
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

Furthermore, as C-Band massive MIMO Radio supports MU-MIMO(Multi-user MIMO) , it enables to increase user throughput by minimizing interference.

Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment..



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/ Weight	16.06 x 35.06 x 5.51 inch (50.86L)/ 79.4 lbs

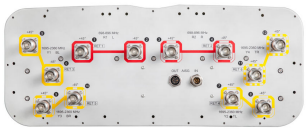
SAMSUNG

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

NNH4-65B-R6



12-port sector antenna, 4x 698–896 and 8x 1695–2360 MHz, 65° HPBW, 6x RET.

- Features broadband Low Band (698-896 MHz) and High Band (1695-2360 MHz) arrays for 4T4R (4X MIMO) capability for Band 14, AWS, PCS and WCS applications.
- Independent tilt for all arrays.
- Array configuration provides capability for 4T4R (4x MIMO) on Low band and Dual 4T4R (4x MIMO) on High band
- Optimized SPR performance across all operating bands
- Excellent wind loading characteristics

General Specifications

Antenna Type	Sector
Band	Multiband
Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	4.3-10 Female
RF Connector Location	Bottom
RF Connector Quantity, high band	8
RF Connector Quantity, low band	4
RF Connector Quantity, total	12

Remote Electrical Tilt (RET) Information

RET Hardware	CommRET v2
RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	1 female | 1 male
Input Voltage	10–30 Vdc
Internal RET	High band (4) | Low band (2)
Power Consumption, idle state, maximum	1 W
Power Consumption, normal conditions, maximum	8 W

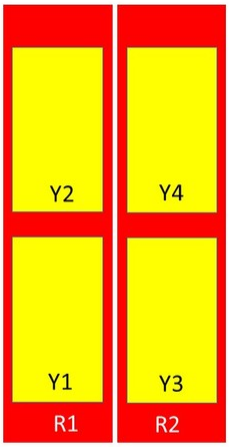
NNH4-65B-R6

Protocol	3GPP/AISG 2.0 (Multi-RET)

Dimensions

Width	498 mm | 19.606 in
Depth	197 mm | 7.756 in
Length	1828 mm | 71.969 in
Net Weight, without mounting kit	37.7 kg | 83.114 lb

Array Layout

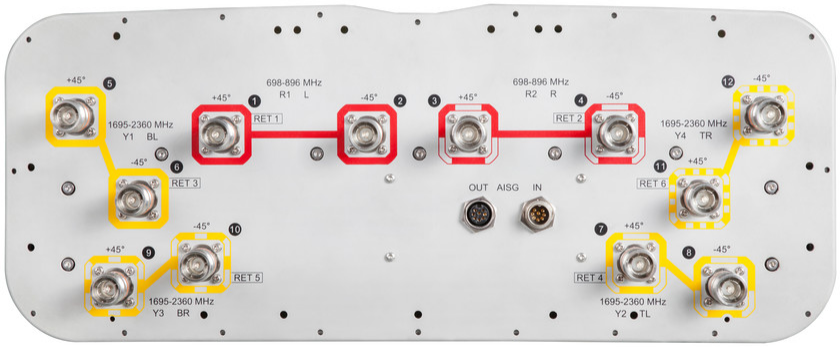


Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	CPxxxxxxxxxxxxxxxxmm.1
R2	698-896	3-4	2	CPxxxxxxxxxxxxxxxxmm.2
Y1	1695-2360	5-6	3	CPxxxxxxxxxxxxxxxxmm.3
Y2	1695-2360	7-8	4	CPxxxxxxxxxxxxxxxxmm.4
Y3	1695-2360	9-10	5	CPxxxxxxxxxxxxxxxxmm.5
Y4	1695-2360	11-12	6	CPxxxxxxxxxxxxxxxxmm.6

(Sizes of colored boxes are not true depictions of array sizes)

Port Configuration

NNH4-65B-R6



Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2180**	**2300–2360**
Gain, dBi	14.4	15	15.7	16.3	16.5	16.9
Beamwidth, Horizontal, degrees	69	65	58	60	60	58
Beamwidth, Vertical, degrees	12	10.5	11.2	10.4	9.8	8.8
Beam Tilt, degrees	2–14	2–14	2–14	2–14	2–14	2–14
USLS (First Lobe), dB	16	18	18	19	19	17
Front-to-Back Ratio at 180°, dB	28	32	33	38	35	37
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	25	25	25	25	25	25
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0

PIM, 3rd Order, 2 x 20 W, dBc	-150	-150	-150	-150	-150	-150
Input Power per Port at 50°C, maximum, watts	300	300	250	250	250	200

Electrical Specifications, BASTA

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2180**	**2300–2360**
Gain by all Beam Tilts, average, dBi	14	14.7	15.2	16	16.1	16.5
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.6	±0.8	±0.5	±0.4	±0.5
Gain by Beam Tilt, average, dBi	2 ° | 14.1 8 ° | 14.1 14 ° | 13.7	2 ° | 14.8 8 ° | 14.8 14 ° | 14.3	2 ° | 15.2 8 ° | 15.2 14 ° | 15.0	2 ° | 16.0 8 ° | 16.0 14 ° | 15.9	2 ° | 16.1 8 ° | 16.2 14 ° | 16.0	2 ° | 16.5 8 ° | 16.4 14 ° | 16.4
Beamwidth, Horizontal Tolerance, degrees	±3.7	±4.0	±5.7	±1.8	±2.8	±6.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.9	±0.8	±0.5	±0.6	±0.4
USLS, beampeak to 20° above beampeak, dB	16	16	18	19	17	16
Front-to-Back Total Power at 180° ± 30°, dB	21	21	28	32	28	28
CPR at Boresight, dB	23	24	15	21	21	17
CPR at Sector, dB	10	5	9	8	7	9

Mechanical Specifications

Effective Projective Area (EPA), frontal	0.64 m² | 6.889 ft²
Effective Projective Area (EPA), lateral	0.22 m² | 2.368 ft²
Wind Loading @ Velocity, frontal	685.0 N @ 150 km/h (154.0 lbf @ 150 km/h)
Wind Loading @ Velocity, lateral	232.0 N @ 150 km/h (52.2 lbf @ 150 km/h)
Wind Loading @ Velocity, maximum	889.0 N @ 150 km/h (199.9 lbf @ 150 km/h)
Wind Loading @ Velocity, rear	564.0 N @ 150 km/h (126.8 lbf @ 150 km/h)
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	608 mm | 23.937 in
Depth, packed	352 mm | 13.858 in
Length, packed	2010 mm | 79.134 in
Weight, gross	53 kg | 116.845 lb

NNH4-65B-R6

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Above maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
ROHS	Compliant/Exempted

Included Products

BSAMNT-3	–	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ATTACHMENT 3

Site Name: ***HAMDEN 8 CT***
Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW 700	751	4	619	2478	120	0.0062	0.5007	1.24%
VZW Cellular	874	4	701	2806	120	0.0070	0.5827	1.20%
VZW PCS	1975	4	1276	5106	120	0.0128	1.0000	1.28%
VZW AWS	2120	4	1054	4217	120	0.0105	1.0000	1.05%
VZW CBAND	3730.08	2	21627	43254	120	0.1080	1.0000	10.80%

Total Percentage of Maximum Permissible Exposure 15.57%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992
**Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz
mW/cm^2 = milliwatts per square centimeter
ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 4

PAUL J. FORD & COMPANY

Report Date: December 13, 2021

Client: On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
Attn: David Weinpahl, P.E.
(201) 456-4624
dweinpahl@onaireng.com

Structure: Existing 120-ft Monopole
Site Name: Hamden 8 CT
Site Address: 208 Kirk Rd
City, County, State: Hamden, New Haven County, CT
Latitude, Longitude: 41.39552 , -72.929926

PJF Project: A42921-0020.001.7805

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**" to determine the monopole stress level.

Analysis Criteria:

This analysis utilizes an ultimate 3-second gust wind speed of 119 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

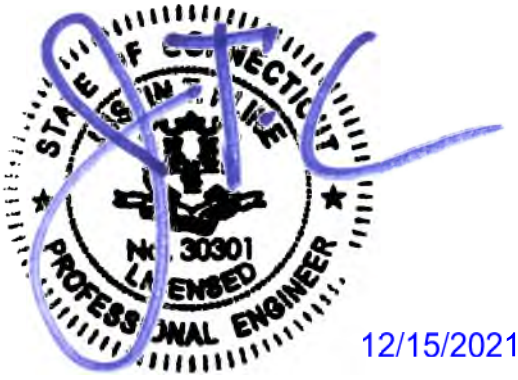
Proposed Appurtenance Loads:
The structure was analyzed with the proposed loading configuration shown in Table 1.

Summary of Analysis Results:
Existing Structure: Pass – 13.0%
Existing Foundation: Pass – 24.0%

We at Paul J. Ford and Company appreciate the opportunity of providing our continuing professional services to you and On Air Engineering, LLC. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully Submitted by:
Paul J. Ford and Company

Kyle Jamison, EI
Structural Designer
kjamison@pauljford.com



12/15/2021

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 119 ft Monopole tower designed by Sabre in November of 2018.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
Risk Category: II
Wind Speed: 119 mph
Exposure Category: C
Topographic Factor: 1
Ice Thickness: 1 in
Wind Speed with Ice: 50 mph
Service Wind Speed: 60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
120.0	120.0	3	commscope	NNH4-65B-R6 w/ Mount Pipe	1	12x24
		1	raycap	RVZDC-6627-PF-48		
		3	samsung telecommunications	B2/B66A RRH-BR049		
		3	samsung telecommunications	B5/B13 RRH-BR04C		
		3	samsung telecommunications	MT6407-77A w/ Mount Pipe		
		1	tower mounts	T-Arm Mount [TA 702-3]		

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Tower & Foundation Drawings	Sabre, 11/08/2018	19-4005-RAM-R1	On Air Engineering
Geotechnical Report	Terracon, 10/17/2018	J2185044	
Mount Analysis	Maser, October 1, 2021	21777738A R1	
Mount Replacement Drawings	Colliers, October 1, 2021	21777738A	
Construction Drawings	On Air Engineering, 11/30/2021	-	

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) All coaxial cables are assumed to run internal to the monopole shaft.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J. Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	120 - 97.25	Pole	TP31.08x24.18x0.3125	1	-3.94	1796.00	4.8	Pass
L2	97.25 - 48	Pole	TP45.38x29.166x0.5	2	-15.46	4190.32	8.3	Pass
L3	48 - 1	Pole	TP58.62x42.4858x0.5	3	-34.63	5665.62	13.0	Pass
							Summary	
						Pole (L3)	13.0	Pass
						Rating =	13.0	Pass

Table 4 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	11.4	Pass
1	Base Plate	0	12.3	Pass
1	Base Foundation (Structure)	0	14.9	Pass
1	Base Foundation (Soil Interaction)	0	24.0	Pass

Structure Rating (max from all components) =	24.0%

Notes:

- All structural ratings are per TIA-222-H Section 15.5

1) See additional documentation in “Appendix B – Additional Calculations” for calculations supporting the % capacity consumed.

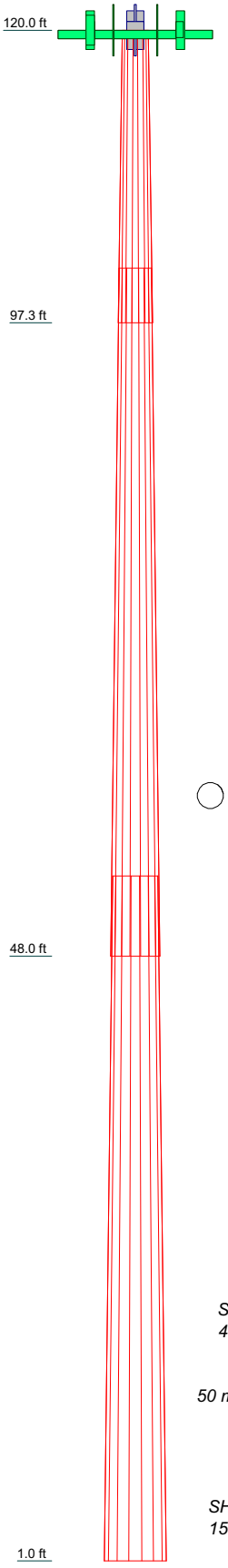
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3
Length (ft)	22.7500	53.5000	53.2500
Number of Sides	18	18	18
Thickness (in)	0.3125	0.5000	0.5000
Socket Length (ft)	4.2500	6.2500	
Top Dia (in)	24.1800	29.1660	42.4858
Bot Dia (in)	31.0800	45.3800	58.6200
Grade	A572-65		
Weight (K)	2.1	10.6	14.4



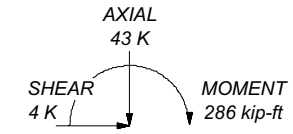
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

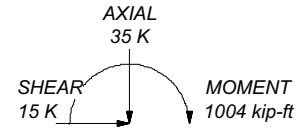
TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 119 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.0000 ft
7. TIA-222-H Annex S
8. TOWER RATING: 13%

ALL REACTIONS ARE FACTORED



TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 0 kip-ft
REACTIONS - 119 mph WIND

PJFLogo

Paul J. Ford and Company
250 East Broad Street, STE 600
Columbus, OH
Phone: 614-221-6679
FAX:

Job:	***149' Monopole | Willow Grove***		
Project:	***48521-0001.001.7805 | 461296***		
Client: Scherner Design Group		Drawn by: Kyle Jamison, EI	App'd:
Code: TIA-222-H		Date: 12/13/21	Scale: NTS
Path: G:\TOWER\429_On Air Engineering\2021\42921-0020_Hamden,8 CT\42921-0020.001.7805_SA\tnx\42921-0020.eri			Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

- Tower base elevation above sea level: 317.5700 ft.
- Basic wind speed of 119 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.0000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.00 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
Use Code Stress Ratios	Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-H Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	*Elevation ft*	*Section Length ft*	*Splice Length ft*	*Number of Sides*	*Top Diameter in*	*Bottom Diameter in*	*Wall Thickness in*	*Bend Radius in*	*Pole Grade*
L1	120.0000-97.2500	22.7500	4.25	18	24.1800	31.0800	0.3125	1.2500	A572-65 (65 ksi)
L2	97.2500-48.0000	53.5000	6.25	18	29.1660	45.3800	0.5000	2.0000	A572-65 (65 ksi)
L3	48.0000-1.0000	53.2500		18	42.4858	58.6200	0.5000	2.0000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.5048	23.6736	1703.7866	8.4730	12.2834	138.7060	3409.8150	11.8390	3.7057	11.858
	31.5113	30.5175	3649.8164	10.9225	15.7886	231.1672	7304.4354	15.2617	4.9201	15.744
L2	30.8467	45.4929	4722.9698	10.1764	14.8163	318.7680	9452.1542	22.7508	4.2532	8.506
	46.0029	71.2246	18124.7874	15.9324	23.0530	786.2211	36273.4239	35.6190	7.1069	14.214
L3	44.9870	66.6315	14839.6245	14.9050	21.5828	687.5669	29698.7753	33.3221	6.5975	13.195
	59.4472	92.2364	39363.2722	20.6326	29.7790	1321.8485	78778.3397	46.1270	9.4371	18.874

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 120.0000-97.2500				1	1	1			
L2 97.2500-48.0000				1	1	1			
L3 48.0000-1.0000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
NTM 201 3929/2 41.5MM(1 5/8")	C	No	No	Inside Pole	120.0000 - 1.0000	1	No Ice	0.0000	0.00
							1/2" Ice	0.0000	0.00
							1" Ice	0.0000	0.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	120.0000-97.2500	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	97.2500-48.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04
L3	48.0000-1.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	120.0000-97.2500	A	1.126	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	97.2500-48.0000	A	1.080	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04
L3	48.0000-1.0000	A	0.971	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	120.0000-97.2500	0.0000	0.0000	0.0000	0.0000
L2	97.2500-48.0000	0.0000	0.0000	0.0000	0.0000
L3	48.0000-1.0000	0.0000	0.0000	0.0000	0.0000

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
NNH4-65B-R6 w/ Mount Pipe	A	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	7.5500 8.0400 8.5300	4.2300 4.6700 5.1200	0.12 0.21 0.30
NNH4-65B-R6 w/ Mount Pipe	B	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	7.5500 8.0400 8.5300	4.2300 4.6700 5.1200	0.12 0.21 0.30
NNH4-65B-R6 w/ Mount Pipe	C	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	7.5500 8.0400 8.5300	4.2300 4.6700 5.1200	0.12 0.21 0.30
MT6407-77A w/ Mount Pipe	A	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	4.9069 5.2559 5.6147	2.6821 3.1450 3.6241	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	B	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	4.9069 5.2559 5.6147	2.6821 3.1450 3.6241	0.10 0.14 0.18
MT6407-77A w/ Mount Pipe	C	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	4.9069 5.2559 5.6147	2.6821 3.1450 3.6241	0.10 0.14 0.18
B2/B66A RRH-BR049	A	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
B2/B66A RRH-BR049	B	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
B2/B66A RRH-BR049	C	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
B5/B13 RRH-BR04C	A	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
B5/B13 RRH-BR04C	B	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
B5/B13 RRH-BR04C	C	From Leg	3.0000 0.00 0.00	0.0000	120.0000	No Ice 1/2" Ice 1" Ice	1.8750 2.0454 2.2231	1.0125 1.1445 1.2840	0.07 0.09 0.11
RVZDC-6627-PF-48	C	From Leg	3.0000	0.0000	120.0000	No Ice	3.7922	2.5137	0.03

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	4.0441	2.7270	0.06
			0.00			1" Ice	4.3033	2.9472	0.10
T-Arm Mount [TA 702-3]	C	None		0.0000	120.0000	No Ice	4.7500	4.7500	0.34
						1/2" Ice	5.8200	5.8200	0.43
						1" Ice	6.9800	6.9800	0.55
(3) 2.375" OD x 4' Mount Pipe	A	From Leg	1.0000	0.0000	120.0000	No Ice	0.8657	0.8657	0.02
			0.00			1/2" Ice	1.1106	1.1106	0.03
			0.00			1" Ice	1.3648	1.3648	0.04
(3) 2.375" OD x 4' Mount Pipe	B	From Leg	1.0000	0.0000	120.0000	No Ice	0.8657	0.8657	0.02
			0.00			1/2" Ice	1.1106	1.1106	0.03
			0.00			1" Ice	1.3648	1.3648	0.04
(3) 2.375" OD x 4' Mount Pipe	C	From Leg	1.0000	0.0000	120.0000	No Ice	0.8657	0.8657	0.02
			0.00			1/2" Ice	1.1106	1.1106	0.03
			0.00			1" Ice	1.3648	1.3648	0.04
***									

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 120.0000-97.2500	108.1516	1.287	0.044	53.099	A	0.000	53.099	53.099	100.00	0.000	0.000
					B	0.000	53.099		100.00	0.000	0.000
					C	0.000	53.099		100.00	0.000	0.000
L2 97.2500-48.0000	71.4466	1.179	0.040	157.702	A	0.000	157.702	157.702	100.00	0.000	0.000
					B	0.000	157.702		100.00	0.000	0.000
					C	0.000	157.702		100.00	0.000	0.000
L3 48.0000-1.0000	24.4860	0.941	0.032	204.517	A	0.000	204.517	204.517	100.00	0.000	0.000
					B	0.000	204.517		100.00	0.000	0.000
					C	0.000	204.517		100.00	0.000	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 120.0000-97.2500	108.1516	1.287	0.008	1.1260	57.368	A	0.000	57.368	57.368	100.00	0.000	0.000
						B	0.000	57.368		100.00	0.000	0.000
						C	0.000	57.368		100.00	0.000	0.000
L2 97.2500-48.0000	71.4466	1.179	0.007	1.0803	166.945	A	0.000	166.945	166.945	100.00	0.000	0.000
						B	0.000	166.945		100.00	0.000	0.000
						C	0.000	166.945		100.00	0.000	0.000
L3 48.0000-1.0000	24.4860	0.941	0.006	0.9706	212.979	A	0.000	212.979	212.979	100.00	0.000	0.000
						B	0.000	212.979		100.00	0.000	0.000
						C	0.000	212.979		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 120.0000-97.2500	108.1516	1.287	0.010	53.099	A	0.000	53.099	53.099	100.00	0.000	0.000
					B	0.000	53.099		100.00	0.000	0.000
					C	0.000	53.099		100.00	0.000	0.000
L2 97.2500-48.0000	71.4466	1.179	0.009	157.702	A	0.000	157.702	157.702	100.00	0.000	0.000
					B	0.000	157.702		100.00	0.000	0.000
					C	0.000	157.702		100.00	0.000	0.000
L3 48.0000-1.0000	24.4860	0.941	0.007	204.517	A	0.000	204.517	204.517	100.00	0.000	0.000
					B	0.000	204.517		100.00	0.000	0.000
					C	0.000	204.517		100.00	0.000	0.000

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service

Comb. No.	Description
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 97.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-6.41	0.40	-0.23
			Max. Mx	20	-3.94	62.95	-0.58
			Max. My	14	-3.94	0.63	-62.31
			Max. Vy	20	-4.17	62.95	-0.58
			Max. Vx	14	4.14	0.63	-62.31
			Max. Torque	24			0.50
L2	97.25 - 48	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.57	0.40	-0.23
			Max. Mx	20	-15.46	368.58	-1.88
			Max. My	14	-15.46	1.94	-366.44
			Max. Vy	20	-8.96	368.58	-1.88
			Max. Vx	14	8.92	1.94	-366.44
			Max. Torque	24			0.50
L3	48 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.35	0.40	-0.23
			Max. Mx	20	-34.63	1002.44	-3.35
			Max. My	14	-34.63	3.41	-998.60
			Max. Vy	20	-14.78	1002.44	-3.35
			Max. Vx	14	14.75	3.41	-998.60
			Max. Torque	24			0.50

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	43.35	0.00	-0.00
	Max. H_x	21	25.97	14.78	-0.03
	Max. H_z	3	25.97	-0.03	14.74
	Max. M_x	2	998.45	-0.03	14.74
	Max. M_z	8	1002.19	-14.78	0.03
	Max. Torsion	24	0.50	7.36	12.75
	Min. Vert	5	25.97	-7.41	12.78
	Min. H_x	9	25.97	-14.78	0.03
	Min. H_z	15	25.97	0.03	-14.74
	Min. M_x	14	-998.60	0.03	-14.74
	Min. M_z	20	-1002.44	14.78	-0.03
	Min. Torsion	12	-0.50	-7.36	-12.75

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	28.86	0.00	0.00	0.06	0.10	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	34.63	0.03	-14.74	-998.45	-3.15	-0.43
0.9 Dead+1.0 Wind 0 deg - No Ice	25.97	0.03	-14.74	-996.36	-3.18	-0.43
1.2 Dead+1.0 Wind 30 deg - No Ice	34.63	7.41	-12.78	-866.32	-503.87	-0.25
0.9 Dead+1.0 Wind 30 deg - No Ice	25.97	7.41	-12.78	-864.42	-502.79	-0.25
1.2 Dead+1.0 Wind 60 deg -	34.63	12.81	-7.40	-502.03	-869.54	-0.00

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
0.9 Dead+1.0 Wind 60 deg - No Ice	25.97	12.81	-7.40	-500.99	-867.73	-0.00
1.2 Dead+1.0 Wind 90 deg - No Ice	34.63	14.78	-0.03	-3.21	-1002.19	0.25
0.9 Dead+1.0 Wind 90 deg - No Ice	25.97	14.78	-0.03	-3.22	-1000.10	0.25
1.2 Dead+1.0 Wind 120 deg - No Ice	34.63	12.78	7.35	496.50	-866.26	0.43
0.9 Dead+1.0 Wind 120 deg - No Ice	25.97	12.78	7.35	495.43	-864.46	0.43
1.2 Dead+1.0 Wind 150 deg - No Ice	34.63	7.36	12.75	863.18	-498.19	0.50
0.9 Dead+1.0 Wind 150 deg - No Ice	25.97	7.36	12.75	861.26	-497.12	0.50
1.2 Dead+1.0 Wind 180 deg - No Ice	34.63	-0.03	14.74	998.60	3.41	0.43
0.9 Dead+1.0 Wind 180 deg - No Ice	25.97	-0.03	14.74	996.47	3.37	0.43
1.2 Dead+1.0 Wind 210 deg - No Ice	34.63	-7.41	12.78	866.46	504.12	0.25
0.9 Dead+1.0 Wind 210 deg - No Ice	25.97	-7.41	12.78	864.61	503.02	0.25
1.2 Dead+1.0 Wind 240 deg - No Ice	34.63	-12.81	7.40	502.18	869.80	-0.00
0.9 Dead+1.0 Wind 240 deg - No Ice	25.97	-12.81	7.40	501.10	867.92	-0.00
1.2 Dead+1.0 Wind 270 deg - No Ice	34.63	-14.78	0.03	3.35	1002.44	-0.25
0.9 Dead+1.0 Wind 270 deg - No Ice	25.97	-14.78	0.03	3.33	1000.29	-0.25
1.2 Dead+1.0 Wind 300 deg - No Ice	34.63	-12.78	-7.35	-496.35	866.52	-0.43
0.9 Dead+1.0 Wind 300 deg - No Ice	25.97	-12.78	-7.35	-495.27	864.57	-0.43
1.2 Dead+1.0 Wind 330 deg - No Ice	34.63	-7.36	-12.75	-863.04	498.44	-0.50
0.9 Dead+1.0 Wind 330 deg - No Ice	25.97	-7.36	-12.75	-861.23	497.36	-0.50
1.2 Dead+1.0 Ice+1.0 Temp	43.35	-0.00	0.00	0.23	0.40	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	43.35	0.01	-4.31	-283.80	-0.21	-0.09
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	43.35	2.16	-3.73	-246.06	-142.50	-0.05
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	43.35	3.74	-2.16	-142.32	-246.50	0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	43.35	4.31	-0.01	-0.38	-284.34	0.05
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	43.35	3.73	2.15	141.72	-245.88	0.09
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	43.35	2.15	3.73	245.91	-141.43	0.11
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	43.35	-0.01	4.31	284.28	1.03	0.09
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	43.35	-2.16	3.73	246.53	143.33	0.05
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	43.35	-3.74	2.16	142.79	247.33	0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	43.35	-4.31	0.01	0.86	285.17	-0.05
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	43.35	-3.73	-2.15	-141.24	246.71	-0.09
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	43.35	-2.15	-3.73	-245.43	142.25	-0.11
Dead+Wind 0 deg - Service	28.86	0.01	-3.35	-226.64	-0.64	-0.10
Dead+Wind 30 deg - Service	28.86	1.69	-2.91	-196.64	-114.32	-0.06
Dead+Wind 60 deg - Service	28.86	2.91	-1.68	-113.93	-197.34	0.00
Dead+Wind 90 deg - Service	28.86	3.36	-0.01	-0.68	-227.45	0.06
Dead+Wind 120 deg -	28.86	2.91	1.67	112.77	-196.59	0.10

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Service						
Dead+Wind 150 deg - Service	28.86	1.67	2.90	196.02	-113.03	0.11
Dead+Wind 180 deg - Service	28.86	-0.01	3.35	226.76	0.85	0.10
Dead+Wind 210 deg - Service	28.86	-1.69	2.91	196.76	114.53	0.06
Dead+Wind 240 deg - Service	28.86	-2.91	1.68	114.06	197.55	0.00
Dead+Wind 270 deg - Service	28.86	-3.36	0.01	0.80	227.66	-0.06
Dead+Wind 300 deg - Service	28.86	-2.91	-1.67	-112.64	196.81	-0.10
Dead+Wind 330 deg - Service	28.86	-1.67	-2.90	-195.89	113.24	-0.11

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.00	-28.86	0.00	0.00	28.86	0.00	0.000%
2	0.03	-34.63	-14.74	-0.03	34.63	14.74	0.001%
3	0.03	-25.97	-14.74	-0.03	25.97	14.74	0.001%
4	7.41	-34.63	-12.78	-7.41	34.63	12.78	0.001%
5	7.41	-25.97	-12.78	-7.41	25.97	12.78	0.004%
6	12.81	-34.63	-7.40	-12.81	34.63	7.40	0.001%
7	12.81	-25.97	-7.40	-12.81	25.97	7.40	0.001%
8	14.78	-34.63	-0.03	-14.78	34.63	0.03	0.001%
9	14.78	-25.97	-0.03	-14.78	25.97	0.03	0.001%
10	12.78	-34.63	7.35	-12.78	34.63	-7.35	0.001%
11	12.78	-25.97	7.35	-12.78	25.97	-7.35	0.001%
12	7.36	-34.63	12.76	-7.36	34.63	-12.75	0.001%
13	7.36	-25.97	12.76	-7.36	25.97	-12.75	0.004%
14	-0.03	-34.63	14.74	0.03	34.63	-14.74	0.001%
15	-0.03	-25.97	14.74	0.03	25.97	-14.74	0.001%
16	-7.41	-34.63	12.78	7.41	34.63	-12.78	0.001%
17	-7.41	-25.97	12.78	7.41	25.97	-12.78	0.001%
18	-12.81	-34.63	7.40	12.81	34.63	-7.40	0.001%
19	-12.81	-25.97	7.40	12.81	25.97	-7.40	0.001%
20	-14.78	-34.63	0.03	14.78	34.63	-0.03	0.001%
21	-14.78	-25.97	0.03	14.78	25.97	-0.03	0.001%
22	-12.78	-34.63	-7.35	12.78	34.63	7.35	0.001%
23	-12.78	-25.97	-7.35	12.78	25.97	7.35	0.004%
24	-7.36	-34.63	-12.76	7.36	34.63	12.75	0.001%
25	-7.36	-25.97	-12.76	7.36	25.97	12.75	0.001%
26	0.00	-43.35	0.00	0.00	43.35	-0.00	0.000%
27	0.01	-43.35	-4.31	-0.01	43.35	4.31	0.000%
28	2.16	-43.35	-3.73	-2.16	43.35	3.73	0.000%
29	3.74	-43.35	-2.16	-3.74	43.35	2.16	0.000%
30	4.31	-43.35	-0.01	-4.31	43.35	0.01	0.000%
31	3.73	-43.35	2.15	-3.73	43.35	-2.15	0.000%
32	2.15	-43.35	3.73	-2.15	43.35	-3.73	0.000%
33	-0.01	-43.35	4.31	0.01	43.35	-4.31	0.000%
34	-2.16	-43.35	3.73	2.16	43.35	-3.73	0.000%
35	-3.74	-43.35	2.16	3.74	43.35	-2.16	0.000%
36	-4.31	-43.35	0.01	4.31	43.35	-0.01	0.000%
37	-3.73	-43.35	-2.15	3.73	43.35	2.15	0.000%
38	-2.15	-43.35	-3.73	2.15	43.35	3.73	0.000%
39	0.01	-28.86	-3.35	-0.01	28.86	3.35	0.004%
40	1.69	-28.86	-2.91	-1.69	28.86	2.91	0.004%
41	2.91	-28.86	-1.68	-2.91	28.86	1.68	0.004%
42	3.36	-28.86	-0.01	-3.36	28.86	0.01	0.004%
43	2.91	-28.86	1.67	-2.91	28.86	-1.67	0.004%
44	1.68	-28.86	2.90	-1.67	28.86	-2.90	0.004%
45	-0.01	-28.86	3.35	0.01	28.86	-3.35	0.004%
46	-1.69	-28.86	2.91	1.69	28.86	-2.91	0.004%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
47	-2.91	-28.86	1.68	2.91	28.86	-1.68	0.004%
48	-3.36	-28.86	0.01	3.36	28.86	-0.01	0.004%
49	-2.91	-28.86	-1.67	2.91	28.86	1.67	0.004%
50	-1.68	-28.86	-2.90	1.67	28.86	2.90	0.004%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	9	0.00000001	0.00005499
3	Yes	9	0.00000001	0.00005129
4	Yes	9	0.00000001	0.00004903
5	Yes	8	0.00000001	0.00014880
6	Yes	9	0.00000001	0.00005237
7	Yes	9	0.00000001	0.00004844
8	Yes	9	0.00000001	0.00005283
9	Yes	9	0.00000001	0.00004931
10	Yes	9	0.00000001	0.00006210
11	Yes	9	0.00000001	0.00005741
12	Yes	9	0.00000001	0.00004793
13	Yes	8	0.00000001	0.00014717
14	Yes	9	0.00000001	0.00005528
15	Yes	9	0.00000001	0.00005155
16	Yes	9	0.00000001	0.00005755
17	Yes	9	0.00000001	0.00005318
18	Yes	9	0.00000001	0.00005246
19	Yes	9	0.00000001	0.00004850
20	Yes	9	0.00000001	0.00005303
21	Yes	9	0.00000001	0.00004948
22	Yes	9	0.00000001	0.00004788
23	Yes	8	0.00000001	0.00014730
24	Yes	9	0.00000001	0.00006377
25	Yes	9	0.00000001	0.00005895
26	Yes	6	0.00000001	0.00000001
27	Yes	9	0.00000001	0.00007979
28	Yes	9	0.00000001	0.00008076
29	Yes	9	0.00000001	0.00008085
30	Yes	9	0.00000001	0.00007993
31	Yes	9	0.00000001	0.00008063
32	Yes	9	0.00000001	0.00008063
33	Yes	9	0.00000001	0.00008013
34	Yes	9	0.00000001	0.00008138
35	Yes	9	0.00000001	0.00008154
36	Yes	9	0.00000001	0.00008051
37	Yes	9	0.00000001	0.00008094
38	Yes	9	0.00000001	0.00008067
39	Yes	7	0.00000001	0.00011807
40	Yes	7	0.00000001	0.00011789
41	Yes	7	0.00000001	0.00011816
42	Yes	7	0.00000001	0.00011856
43	Yes	7	0.00000001	0.00011746
44	Yes	7	0.00000001	0.00011721
45	Yes	7	0.00000001	0.00011822
46	Yes	7	0.00000001	0.00011817
47	Yes	7	0.00000001	0.00011845
48	Yes	7	0.00000001	0.00011882
49	Yes	7	0.00000001	0.00011756
50	Yes	7	0.00000001	0.00011726

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 97.25	2.213	47	0.1552	0.0006

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L2	101.5 - 48	1.631	47	0.1416	0.0003
L3	54.25 - 1	0.490	47	0.0829	0.0001

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.0000	NNH4-65B-R6 w/ Mount Pipe	47	2.213	0.1552	0.0006	233184

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 97.25	9.740	18	0.6822	0.0028
L2	101.5 - 48	7.178	18	0.6231	0.0013
L3	54.25 - 1	2.155	18	0.3647	0.0004

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
120.0000	NNH4-65B-R6 w/ Mount Pipe	18	9.740	0.6822	0.0028	53384

Compression Checks
Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	120 - 97.25 (1)	TP31.08x24.18x0.3125	22.7500	0.0000	0.0	29.2390	-3.94	1710.48	0.002
L2	97.25 - 48 (2)	TP45.38x29.166x0.5	53.5000	0.0000	0.0	68.2185	-15.46	3990.78	0.004
L3	48 - 1 (3)	TP58.62x42.4858x0.5	53.2500	0.0000	0.0	92.2364	-34.63	5395.83	0.006

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	120 - 97.25 (1)	TP31.08x24.18x0.3125	63.26	1313.22	0.048	0.00	1313.22	0.000
L2	97.25 - 48 (2)	TP45.38x29.166x0.5	369.65	4463.32	0.083	0.00	4463.32	0.000
L3	48 - 1 (3)	TP58.62x42.4858x0.5	1004.35	7749.28	0.130	0.00	7749.28	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	120 - 97.25 (1)	TP31.08x24.18x0.3125	4.19	513.14	0.008	0.00	1324.72	0.000
L2	97.25 - 48 (2)	TP45.38x29.166x0.5	8.97	1197.24	0.007	0.00	4506.98	0.000
L3	48 - 1 (3)	TP58.62x42.4858x0.5	14.80	1618.75	0.009	0.00	8239.20	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 97.25 (1)	0.002	0.048	0.000	0.008	0.000	0.051	1.050	4.8.2
L2	97.25 - 48 (2)	0.004	0.083	0.000	0.007	0.000	0.087	1.050	4.8.2
L3	48 - 1 (3)	0.006	0.130	0.000	0.009	0.000	0.136	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	120 - 97.25	Pole	TP31.08x24.18x0.3125	1	-3.94	1796.00	4.8	Pass
L2	97.25 - 48	Pole	TP45.38x29.166x0.5	2	-15.46	4190.32	8.3	Pass
L3	48 - 1	Pole	TP58.62x42.4858x0.5	3	-34.63	5665.62	13.0	Pass
							Summary	
						Pole (L3)	13.0	Pass
						RATING =	**13.0**	**Pass**

APPENDIX B

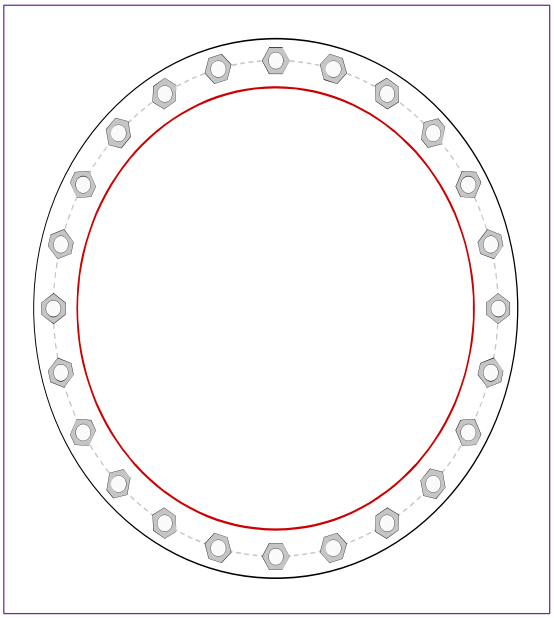
ADDITIONAL CALCULATIONS

Monopole Base Plate Connection

Analysis Considerations	
TIA-222 Revision	
Grout Considered:	No
$_{ar}$ (in)	2.25

Applied Loads	
Moment (kip-ft)	
Axial Force (kips)	
Shear Force (kips)	

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(24) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 65.75" BC

Base Plate Data

71.5" OD x 2.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

Pole Data

58.62" x 0.5" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_t = 29.09	ϕPn_t = 243.75	**Stress Rating**
Vu = 0.62	ϕVn = 149.1	
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	(Flexural)
Allowable Stress (ksi):	
Stress Rating:	**Pass**

Analysis Date: 12/13/2021

Pier and Pad Foundation

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Compression, P_{comp}:	34.63	kips
Base Shear, Vu_comp:	14.79	kips
Moment, M_u:	1004.36	ft-kips
Tower Height, **H**:	120	ft
BP Dist. Above Fdn, bp_{dist}:	12	in

Pier Properties		
Pier Shape:	Circular	
Pier Diameter, **dpier**:	8	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	44	
Pier Tie/Spiral Size, **St**:	5	
Pier Tie/Spiral Quantity, **mt**:	6	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties		
Depth, **D**:	6	ft
Pad Width, W_1:	30	ft
Pad Thickness, **T**:	2	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	67	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	5	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties		
Total Soil Unit Weight, γ:	100	pcf
Ultimate Net Bearing, Qnet:	6.000	ksf
Cohesion, **Cu**:		ksf
Friction Angle, φ:		degrees
SPT Blow Count, N_{blows}:	50	
Base Friction, μ:	0.5	
Neglected Depth, **N**:		ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	254.33	14.79	**5.5%**	**Pass**
Bearing Pressure (ksf)	4.95	1.25	**24.0%**	**Pass**
*Overturning (kip*ft)*	7457.62	1115.29	**15.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	8238.89	1070.92	**12.4%**	**Pass**
Pier Compression (kip)	35992.10	75.35	**0.2%**	**Pass**
*Pad Flexure (kip*ft)*	4369.94	443.16	**9.7%**	**Pass**
Pad Shear - 1-way (kips)	706.37	63.93	**8.6%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.201	0.025	**11.6%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	4096.22	642.55	**14.9%**	**Pass**

**Rating per TIA-222-H Section 15.5*

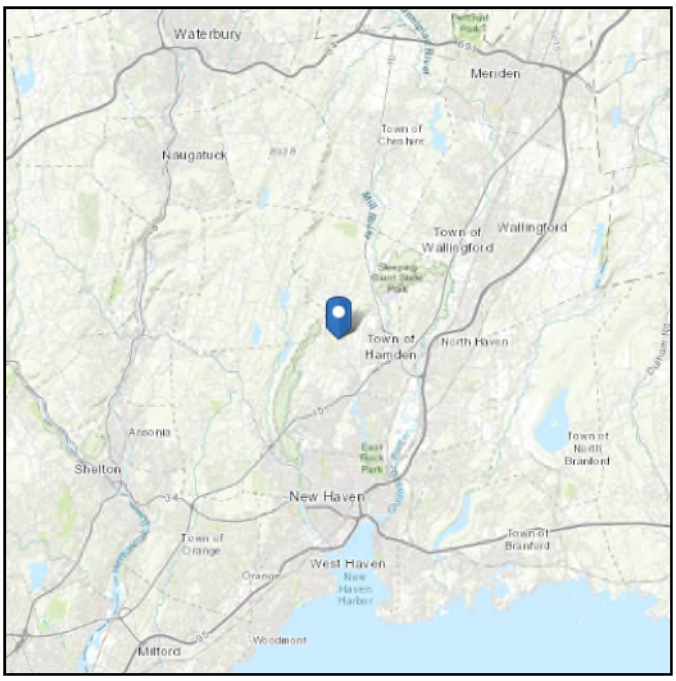
Structural Rating*:	**14.9%**
Soil Rating*:	**24.0%**

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: B - Rock

Elevation: 316.57 ft (NAVD 88)
Latitude: 41.39552
Longitude: -72.929926



Wind

Results:

Wind Speed	119 Vmph
10-year MRI	75 Vmph
25-year MRI	85 Vmph
50-year MRI	90 Vmph
100-year MRI	98 Vmph

Data Source:	ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed:	Mon Dec 13 2021

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

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

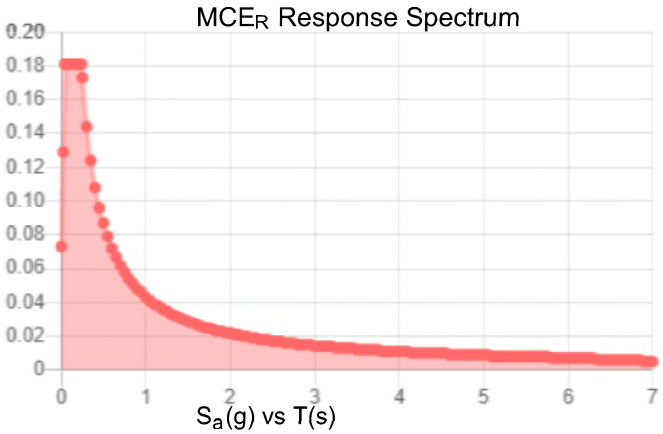
Seismic

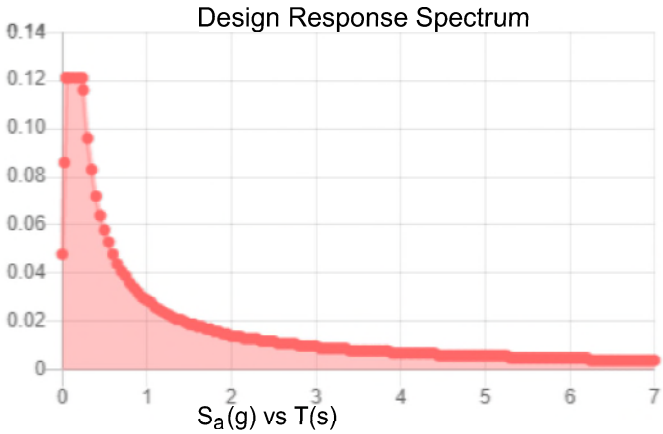
Site Soil Class: B - Rock

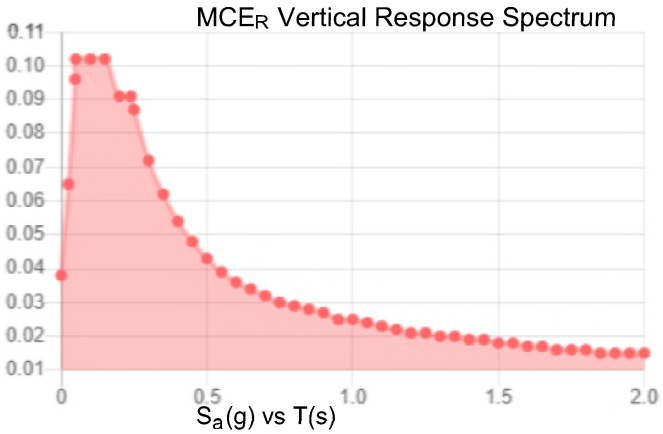
Results:

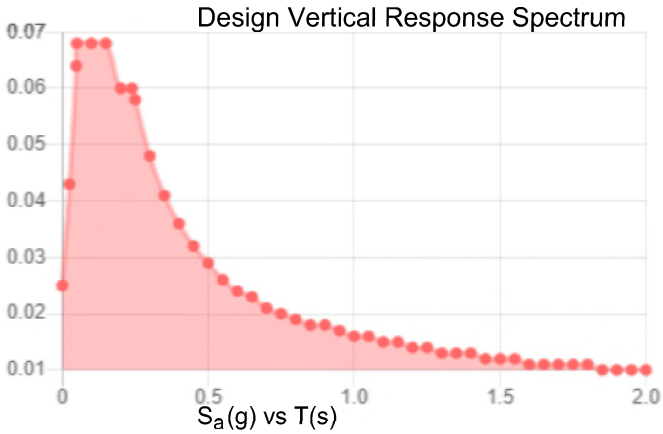
S_S :	0.202	S_{D1} :	0.029
S_1 :	0.054	T_L :	6
F_a :	0.9	PGA :	0.113
F_v :	0.8	PGA_M :	0.101
S_{MS} :	0.181	F_{PGA} :	0.9
S_{M1} :	0.043	I_e :	1
S_{DS} :	0.121	C_v :	0.702

Seismic Design Category A









Data Accessed: **Mon Dec 13 2021**

Date Source:

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Mon Dec 13 2021

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

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

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

Replacement Antenna Mount Analysis Report and PMI Requirements

Mount Analysis-R

SMART Tool Project #: 10090699
Maser Consulting Connecticut Project #: 21777738A (Rev 1)

October 1, 2021

Site Information	*Site ID:*	*467978-VZW / HAMDEN 8 CT - Josephs Tree Farm*
	Site Name:	*HAMDEN 8 CT - Josephs Tree Farm*
	Carrier Name:	*Verizon Wireless*
	Address:	*208 Kirk Rd* *Hamden, Connecticut 06514* *New Haven County*
	Latitude:	*41.39552000°*
	Longitude:	*-72.92992556°*
Structure Information	*Tower Type:*	*121-ft Monopole*
	Mount Type:	*4.00-Ft T-Arm*

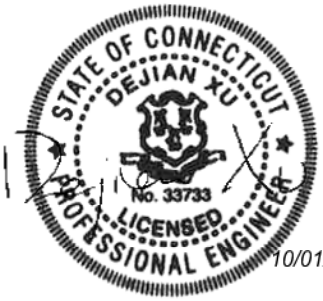
FUZE ID # 16092595

Analysis Results

Platform: **48.0% 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 may also be Noted on A & E drawings

Report Prepared By: Frank Centone



10/01/2021

Executive Summary:

The objective of this report is to determine the capacity of the proposed antenna support mount at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards. The proposed mount was assumed to be installed properly to the existing tower per the manufacturer's instructions. Maser Consulting cannot verify that the proposed mount will fit properly and is not liable for any fit-up issues during installation.

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: 2590953, dated July 16, 2021*
Construction Drawings	*On Air Engineering, LLC, Site Name: Hamden 8 CT, dated September 25, 2021*
Previous Mount Analysis Report	*Maser Consulting Connecticut, Project #: 21777738A, Dated July 26, 2021*
Mount Replacement Drawings	*Maser Consulting Connecticut, Project #: 21777738A, dated October 1, 2021*

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H	
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT}:	119 mph
	Ice Wind Speed (3-sec. Gust):	50 mph
	Design Ice Thickness:	1.00 in
	Risk Category:	II
	Exposure Category:	C
	Topographic Category:	1
	Topographic Feature Considered:	N/A
	Topographic Method:	N/A
	Ground Elevation Factor, K_e:	0.989
Seismic Parameters:	S_S:	0.202
	S_1:	0.054
Maintenance Parameters:	Wind Speed (3-sec. Gust):	50 mph
	Maintenance Live Load, Lv:	250 lbs.
	Maintenance Live Load, Lm:	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
120.00	120.00	3	Commscope	NNH4-65B-R6	Added
		3	Samsung	MT6407-77A	
		3	Samsung	B2/B66A RRH-BR049	Retained
		3	Samsung	B5/B13 RRH-BR04C	
		1	Raycap	RxxDC-6627-PF-48	

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.

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

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

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Maser Consulting Connecticut and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Maser Consulting Connecticut to verify deviation will not adversely impact the analysis.

2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

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
Face Horizontal	23.8%	Pass
Standoff Horizontal	48.0%	Pass
Mount Pipe	19.1%	Pass
RRU Pipe	8.7%	Pass
OVP Pipe	15.5%	Pass
Connection Check	42.3%	Pass

Structure Rating – *(Controlling Utilization of all Components)*	**48.0%**

Recommendation:

The proposed antenna 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. Existing Mount Photos
2. Analysis Calculations
3. **Contractor Required Post Installation Inspection (PMI) Report Deliverables**
4. Antenna Placement Diagrams
5. TIA Adoption and Wind Speed Usage Letter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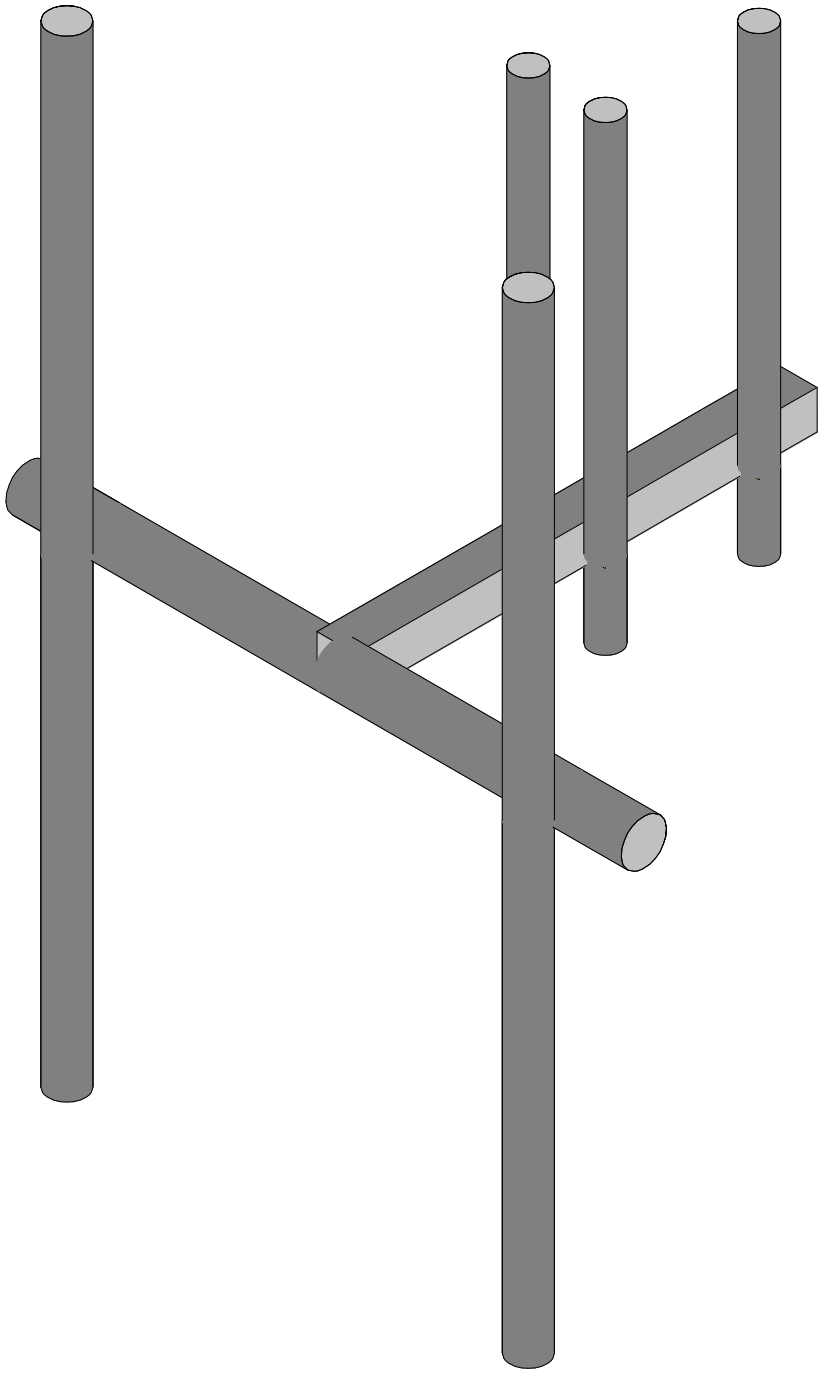

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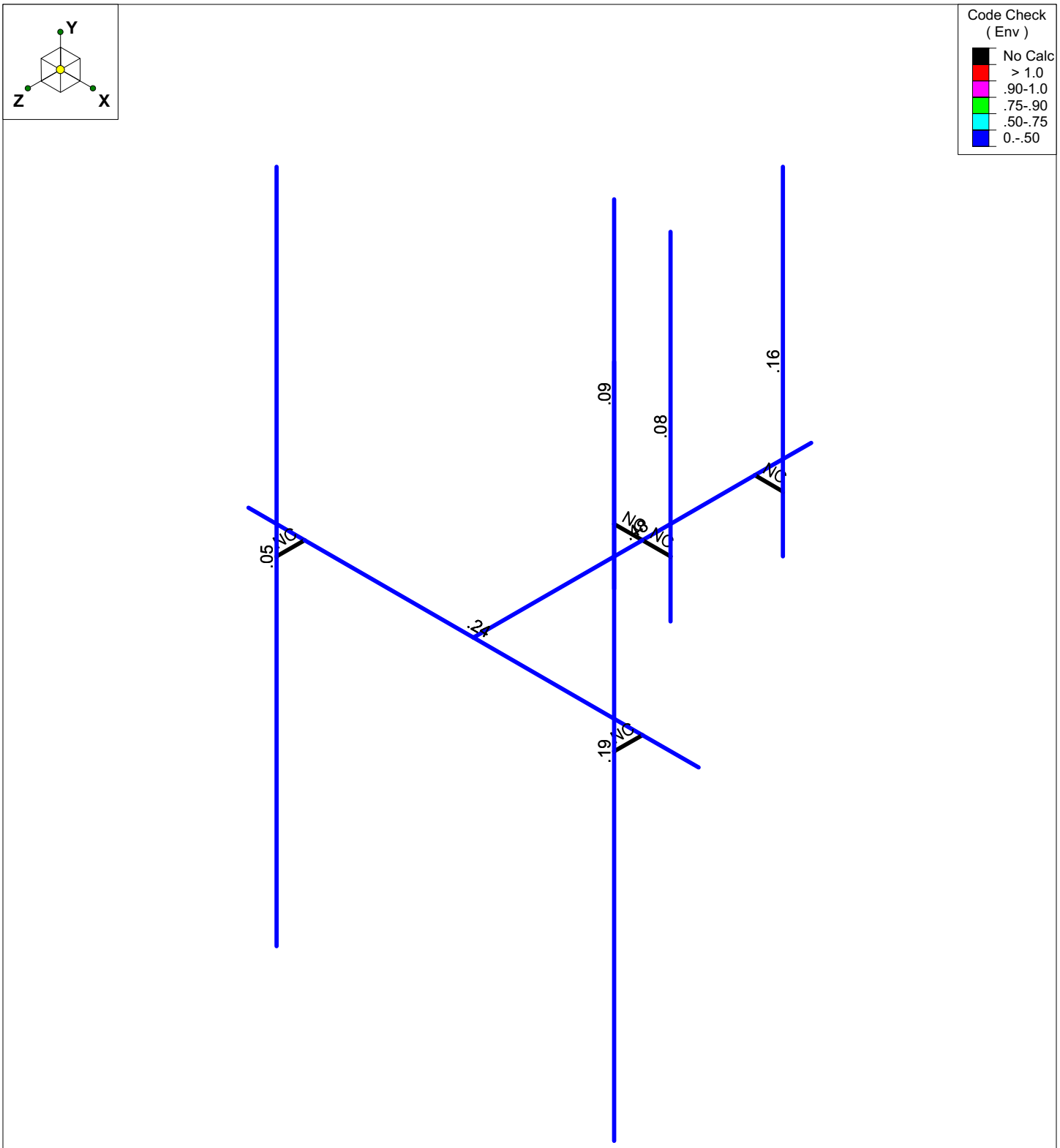

Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

		SK - 2
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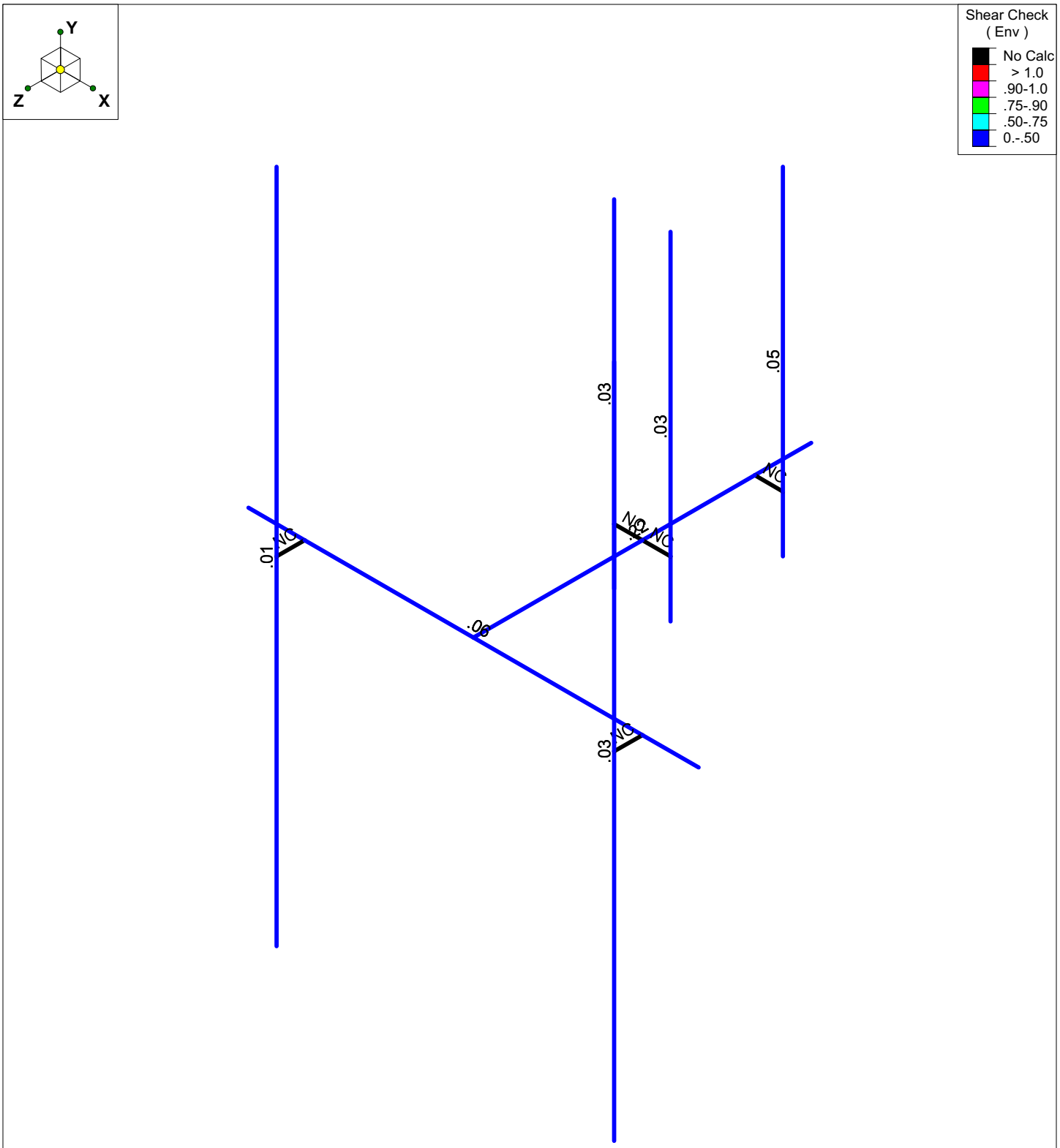
		467978-VZW_MT_LOT_A_H.r3d



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

		SK - 3
		Oct 1, 2021 at 4:24 PM
		467978-VZW_MT_LOT_A_H.r3d

Basic Load Cases

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

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
62	Structure Wi (270 De...	None						14		
63	Structure Wi (300 De...	None						14		
64	Structure Wi (330 De...	None						14		
65	Structure Wm (0 Deg)	None						14		
66	Structure Wm (30 De...	None						14		
67	Structure Wm (60 De...	None						14		
68	Structure Wm (90 De...	None						14		
69	Structure Wm (120 D...	None						14		
70	Structure Wm (150 D...	None						14		
71	Structure Wm (180 D...	None						14		
72	Structure Wm (210 D...	None						14		
73	Structure Wm (240 D...	None						14		
74	Structure Wm (270 D...	None						14		
75	Structure Wm (300 D...	None						14		
76	Structure Wm (330 D...	None						14		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			

Load Combinations

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
1	1.2D+1.0Wo (0 ...	Yes	Y		1	1.2	39	1.2	3	1	41	1														
2	1.2D+1.0Wo (30...	Yes	Y		1	1.2	39	1.2	4	1	42	1														
3	1.2D+1.0Wo (60...	Yes	Y		1	1.2	39	1.2	5	1	43	1														
4	1.2D+1.0Wo (90...	Yes	Y		1	1.2	39	1.2	6	1	44	1														
5	1.2D+1.0Wo (12...	Yes	Y		1	1.2	39	1.2	7	1	45	1														
6	1.2D+1.0Wo (15...	Yes	Y		1	1.2	39	1.2	8	1	46	1														
7	1.2D+1.0Wo (18...	Yes	Y		1	1.2	39	1.2	9	1	47	1														
8	1.2D+1.0Wo (21...	Yes	Y		1	1.2	39	1.2	10	1	48	1														
9	1.2D+1.0Wo (24...	Yes	Y		1	1.2	39	1.2	11	1	49	1														
10	1.2D+1.0Wo (27...	Yes	Y		1	1.2	39	1.2	12	1	50	1														
11	1.2D+1.0Wo (30...	Yes	Y		1	1.2	39	1.2	13	1	51	1														
12	1.2D+1.0Wo (33...	Yes	Y		1	1.2	39	1.2	14	1	52	1														
13	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1										
14	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1										
15	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1										
16	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1										
17	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1										
18	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1										
19	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1										
20	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1										
21	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1										
22	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1										
23	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1										
24	1.2D + 1.0Di + 1....	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1										
25	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1												
26	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1												
27	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1												
28	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1												
29	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1												
30	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1												
31	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1												
32	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1												
33	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1												
34	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1												
35	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1												
36	1.2D + 1.5Lm1 +...	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1												
37	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1												
38	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1												

Load Combinations (Continued)

	Description	So...	P...	S...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...	BLC	Fac...
39	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5Lm2 +...	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5Lv1	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5Lv2	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	Seismic Mass		Y		1	1	39	1																
53	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX		SY	1	SZ	-1										
54	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	-.866										
55	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	-.5										
56	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	1	SY	1	SZ											
57	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.866	SY	1	SZ	.5										
58	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	.5	SY	1	SZ	.866										
59	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX		SY	1	SZ	1										
60	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	.866										
61	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.866	SY	1	SZ	.5										
62	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-1	SY	1	SZ											
63	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.866	SY	1	SZ	-.5										
64	1.2D + 1.0Ev + 1...		Y		1	1.2	39	1.2	SX	-.5	SY	1	SZ	-.866										

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	0	0	
2	N2	0	0	3	0	
3	N3	-2	0	3	0	
4	N4	2	0	3	0	
5	N5	1.5	0	3	0	
6	N6	-1.5	0	3	0	
7	N7	1.5	0	3.25	0	
8	N8	-1.5	0	3.25	0	
9	N9	1.5	-3	3.25	0	
10	N10	-1.5	-3	3.25	0	
11	N11	1.5	3	3.25	0	
12	N12	-1.5	3	3.25	0	
13	N13	0	0	1.5	0	
14	N14	-.25	0	1.5	0	
15	N15	.25	0	1.5	0	
16	N16	-.25	-.5	1.5	0	
17	N17	.25	-.5	1.5	0	
18	N18	-.25	2.5	1.5	0	
19	N19	.25	2.5	1.5	0	
20	N20	0	0	.5	0	
21	N21	.25	0	.5	0	
22	N22	.25	-.5	.5	0	
23	N23	.25	2.5	.5	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Arm	HSS3X3X4	None	None	A500 Gr.B Rect	Typical	2.44	3.02	3.02	5.08
2	Mount Pipe	PIPE_2.5	None	None	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	Face Horizontal	PIPE_3.0	None	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
4	RRU Pipe	PIPE_2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N1			Standoff Arm	None	None	A500 Gr.B...	Typical
2	M2	N4	N3			Face Horizontal	None	None	A53 Gr.B	Typical
3	MP2A	N12	N10			Mount Pipe	None	None	A53 Gr.B	Typical
4	MP1A	N11	N9			Mount Pipe	None	None	A53 Gr.B	Typical
5	LIVE2	N8	N6			RIGID	None	None	RIGID	Typical
6	LIVE1	N7	N5			RIGID	None	None	RIGID	Typical
7	RRU3	N18	N16			RRU Pipe	None	None	A53 Gr.B	Typical
8	RRU2	N19	N17			RRU Pipe	None	None	A53 Gr.B	Typical
9	M9	N13	N15			RIGID	None	None	RIGID	Typical
10	M10	N13	N14			RIGID	None	None	RIGID	Typical
11	OVP	N23	N22			RRU Pipe	None	None	A53 Gr.B	Typical
12	M12	N20	N21			RIGID	None	None	RIGID	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoff Arm	3									Lateral
2	M2	Face Horizo...	4									Lateral
3	MP2A	Mount Pipe	6									Lateral
4	MP1A	Mount Pipe	6									Lateral
5	RRU3	RRU Pipe	3									Lateral
6	RRU2	RRU Pipe	3									Lateral
7	OVP	RRU Pipe	3									Lateral

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-41	.5
2	MP1A	My	-.021	.5
3	MP1A	Mz	0	.5
4	MP1A	Y	-41	5.5
5	MP1A	My	-.021	5.5
6	MP1A	Mz	0	5.5
7	MP2A	Y	-43.55	2
8	MP2A	My	-.022	2
9	MP2A	Mz	0	2
10	MP2A	Y	-43.55	4
11	MP2A	My	-.022	4
12	MP2A	Mz	0	4
13	RRU3	Y	-84.4	1
14	RRU3	My	.042	1
15	RRU3	Mz	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	Y	-70.3	1
17	RRU2	My	.035	1
18	RRU2	Mz	0	1
19	OVP	Y	-32	1
20	OVP	My	-.016	1
21	OVP	Mz	0	1

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	Y	-85.031	.5
2	MP1A	My	-.043	.5
3	MP1A	Mz	0	.5
4	MP1A	Y	-85.031	5.5
5	MP1A	My	-.043	5.5
6	MP1A	Mz	0	5.5
7	MP2A	Y	-35.058	2
8	MP2A	My	-.018	2
9	MP2A	Mz	0	2
10	MP2A	Y	-35.058	4
11	MP2A	My	-.018	4
12	MP2A	Mz	0	4
13	RRU3	Y	-44.189	1
14	RRU3	My	.022	1
15	RRU3	Mz	0	1
16	RRU2	Y	-39.735	1
17	RRU2	My	.02	1
18	RRU2	Mz	0	1
19	OVP	Y	-86.563	1
20	OVP	My	-.043	1
21	OVP	Mz	0	1

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	-246.631	.5
3	MP1A	Mx	0	.5
4	MP1A	X	0	5.5
5	MP1A	Z	-246.631	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	-94.703	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	-94.703	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	-50.374	1
15	RRU3	Mx	0	1
16	RRU2	X	0	1
17	RRU2	Z	-40.702	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	-163.614	1
21	OVP	Mx	0	1

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	106.969	.5
2	MP1A	Z	-185.276	.5
3	MP1A	Mx	-.053	.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	106.969	5.5
5	MP1A	Z	-185.276	5.5
6	MP1A	Mx	-.053	5.5
7	MP2A	X	40.148	2
8	MP2A	Z	-69.539	2
9	MP2A	Mx	-.02	2
10	MP2A	X	40.148	4
11	MP2A	Z	-69.539	4
12	MP2A	Mx	-.02	4
13	RRU3	X	28.335	1
14	RRU3	Z	-49.078	1
15	RRU3	Mx	.014	1
16	RRU2	X	24.708	1
17	RRU2	Z	-42.796	1
18	RRU2	Mx	.012	1
19	OVP	X	76.959	1
20	OVP	Z	-133.296	1
21	OVP	Mx	-.038	1

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	128.65	.5
2	MP1A	Z	-74.276	.5
3	MP1A	Mx	-.064	.5
4	MP1A	X	128.65	5.5
5	MP1A	Z	-74.276	5.5
6	MP1A	Mx	-.064	5.5
7	MP2A	X	44.585	2
8	MP2A	Z	-25.741	2
9	MP2A	Mx	-.022	2
10	MP2A	X	44.585	4
11	MP2A	Z	-25.741	4
12	MP2A	Mx	-.022	4
13	RRU3	X	59.984	1
14	RRU3	Z	-34.632	1
15	RRU3	Mx	.03	1
16	RRU2	X	57.89	1
17	RRU2	Z	-33.423	1
18	RRU2	Mx	.029	1
19	OVP	X	116.501	1
20	OVP	Z	-67.262	1
21	OVP	Mx	-.058	1

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	115.86	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	-.058	.5
4	MP1A	X	115.86	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	-.058	5.5
7	MP2A	X	37.076	2
8	MP2A	Z	0	2
9	MP2A	Mx	-.019	2
10	MP2A	X	37.076	4
11	MP2A	Z	0	4
12	MP2A	Mx	-.019	4
13	RRU3	X	75.561	1
14	RRU3	Z	0	1
15	RRU3	Mx	.038	1

Member Point Loads (BLC 6 : Antenna Wo (90 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	75.561	1
17	RRU2	Z	0	1
18	RRU2	Mx	.038	1
19	OVP	X	124.827	1
20	OVP	Z	0	1
21	OVP	Mx	-.062	1

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	128.65	.5
2	MP1A	Z	74.276	.5
3	MP1A	Mx	-.064	.5
4	MP1A	X	128.65	5.5
5	MP1A	Z	74.276	5.5
6	MP1A	Mx	-.064	5.5
7	MP2A	X	44.585	2
8	MP2A	Z	25.741	2
9	MP2A	Mx	-.022	2
10	MP2A	X	44.585	4
11	MP2A	Z	25.741	4
12	MP2A	Mx	-.022	4
13	RRU3	X	59.984	1
14	RRU3	Z	34.632	1
15	RRU3	Mx	.03	1
16	RRU2	X	57.89	1
17	RRU2	Z	33.423	1
18	RRU2	Mx	.029	1
19	OVP	X	116.501	1
20	OVP	Z	67.262	1
21	OVP	Mx	-.058	1

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	106.969	.5
2	MP1A	Z	185.276	.5
3	MP1A	Mx	-.053	.5
4	MP1A	X	106.969	5.5
5	MP1A	Z	185.276	5.5
6	MP1A	Mx	-.053	5.5
7	MP2A	X	40.148	2
8	MP2A	Z	69.539	2
9	MP2A	Mx	-.02	2
10	MP2A	X	40.148	4
11	MP2A	Z	69.539	4
12	MP2A	Mx	-.02	4
13	RRU3	X	28.335	1
14	RRU3	Z	49.078	1
15	RRU3	Mx	.014	1
16	RRU2	X	24.708	1
17	RRU2	Z	42.796	1
18	RRU2	Mx	.012	1
19	OVP	X	76.959	1
20	OVP	Z	133.296	1
21	OVP	Mx	-.038	1

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	246.631	.5
3	MP1A	Mx	0	.5

Member Point Loads (BLC 9 : Antenna Wo (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	0	5.5
5	MP1A	Z	246.631	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	94.703	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	94.703	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	50.374	1
15	RRU3	Mx	0	1
16	RRU2	X	0	1
17	RRU2	Z	40.702	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	163.614	1
21	OVP	Mx	0	1

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-106.969	.5
2	MP1A	Z	185.276	.5
3	MP1A	Mx	.053	.5
4	MP1A	X	-106.969	5.5
5	MP1A	Z	185.276	5.5
6	MP1A	Mx	.053	5.5
7	MP2A	X	-40.148	2
8	MP2A	Z	69.539	2
9	MP2A	Mx	.02	2
10	MP2A	X	-40.148	4
11	MP2A	Z	69.539	4
12	MP2A	Mx	.02	4
13	RRU3	X	-28.335	1
14	RRU3	Z	49.078	1
15	RRU3	Mx	-.014	1
16	RRU2	X	-24.708	1
17	RRU2	Z	42.796	1
18	RRU2	Mx	-.012	1
19	OVP	X	-76.959	1
20	OVP	Z	133.296	1
21	OVP	Mx	.038	1

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-128.65	.5
2	MP1A	Z	74.276	.5
3	MP1A	Mx	.064	.5
4	MP1A	X	-128.65	5.5
5	MP1A	Z	74.276	5.5
6	MP1A	Mx	.064	5.5
7	MP2A	X	-44.585	2
8	MP2A	Z	25.741	2
9	MP2A	Mx	.022	2
10	MP2A	X	-44.585	4
11	MP2A	Z	25.741	4
12	MP2A	Mx	.022	4
13	RRU3	X	-59.984	1
14	RRU3	Z	34.632	1
15	RRU3	Mx	-.03	1

Member Point Loads (BLC 11 : Antenna Wo (240 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	-57.89	1
17	RRU2	Z	33.423	1
18	RRU2	Mx	-.029	1
19	OVP	X	-116.501	1
20	OVP	Z	67.262	1
21	OVP	Mx	.058	1

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-115.86	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	.058	.5
4	MP1A	X	-115.86	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	.058	5.5
7	MP2A	X	-37.076	2
8	MP2A	Z	0	2
9	MP2A	Mx	.019	2
10	MP2A	X	-37.076	4
11	MP2A	Z	0	4
12	MP2A	Mx	.019	4
13	RRU3	X	-75.561	1
14	RRU3	Z	0	1
15	RRU3	Mx	-.038	1
16	RRU2	X	-75.561	1
17	RRU2	Z	0	1
18	RRU2	Mx	-.038	1
19	OVP	X	-124.827	1
20	OVP	Z	0	1
21	OVP	Mx	.062	1

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-128.65	.5
2	MP1A	Z	-74.276	.5
3	MP1A	Mx	.064	.5
4	MP1A	X	-128.65	5.5
5	MP1A	Z	-74.276	5.5
6	MP1A	Mx	.064	5.5
7	MP2A	X	-44.585	2
8	MP2A	Z	-25.741	2
9	MP2A	Mx	.022	2
10	MP2A	X	-44.585	4
11	MP2A	Z	-25.741	4
12	MP2A	Mx	.022	4
13	RRU3	X	-59.984	1
14	RRU3	Z	-34.632	1
15	RRU3	Mx	-.03	1
16	RRU2	X	-57.89	1
17	RRU2	Z	-33.423	1
18	RRU2	Mx	-.029	1
19	OVP	X	-116.501	1
20	OVP	Z	-67.262	1
21	OVP	Mx	.058	1

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-106.969	.5
2	MP1A	Z	-185.276	.5
3	MP1A	Mx	.053	.5

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	-106.969	5.5
5	MP1A	Z	-185.276	5.5
6	MP1A	Mx	.053	5.5
7	MP2A	X	-40.148	2
8	MP2A	Z	-69.539	2
9	MP2A	Mx	.02	2
10	MP2A	X	-40.148	4
11	MP2A	Z	-69.539	4
12	MP2A	Mx	.02	4
13	RRU3	X	-28.335	1
14	RRU3	Z	-49.078	1
15	RRU3	Mx	-.014	1
16	RRU2	X	-24.708	1
17	RRU2	Z	-42.796	1
18	RRU2	Mx	-.012	1
19	OVP	X	-76.959	1
20	OVP	Z	-133.296	1
21	OVP	Mx	.038	1

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	-47.019	.5
3	MP1A	Mx	0	.5
4	MP1A	X	0	5.5
5	MP1A	Z	-47.019	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	-18.856	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	-18.856	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	-11.04	1
15	RRU3	Mx	0	1
16	RRU2	X	0	1
17	RRU2	Z	-9.2	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	-32.657	1
21	OVP	Mx	0	1

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	20.548	.5
2	MP1A	Z	-35.59	.5
3	MP1A	Mx	-.01	.5
4	MP1A	X	20.548	5.5
5	MP1A	Z	-35.59	5.5
6	MP1A	Mx	-.01	5.5
7	MP2A	X	8.074	2
8	MP2A	Z	-13.984	2
9	MP2A	Mx	-.004	2
10	MP2A	X	8.074	4
11	MP2A	Z	-13.984	4
12	MP2A	Mx	-.004	4
13	RRU3	X	6.125	1
14	RRU3	Z	-10.609	1
15	RRU3	Mx	.003	1

Member Point Loads (BLC 16 : Antenna Wi (30 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	5.435	1
17	RRU2	Z	-9.414	1
18	RRU2	Mx	.003	1
19	OVP	X	15.438	1
20	OVP	Z	-26.739	1
21	OVP	Mx	-.008	1

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	25.329	.5
2	MP1A	Z	-14.624	.5
3	MP1A	Mx	-.013	.5
4	MP1A	X	25.329	5.5
5	MP1A	Z	-14.624	5.5
6	MP1A	Mx	-.013	5.5
7	MP2A	X	9.293	2
8	MP2A	Z	-5.365	2
9	MP2A	Mx	-.005	2
10	MP2A	X	9.293	4
11	MP2A	Z	-5.365	4
12	MP2A	Mx	-.005	4
13	RRU3	X	12.704	1
14	RRU3	Z	-7.335	1
15	RRU3	Mx	.006	1
16	RRU2	X	12.306	1
17	RRU2	Z	-7.105	1
18	RRU2	Mx	.006	1
19	OVP	X	23.652	1
20	OVP	Z	-13.656	1
21	OVP	Mx	-.012	1

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	23.324	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	-.012	.5
4	MP1A	X	23.324	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	-.012	5.5
7	MP2A	X	8.022	2
8	MP2A	Z	0	2
9	MP2A	Mx	-.004	2
10	MP2A	X	8.022	4
11	MP2A	Z	0	4
12	MP2A	Mx	-.004	4
13	RRU3	X	15.88	1
14	RRU3	Z	0	1
15	RRU3	Mx	.008	1
16	RRU2	X	15.88	1
17	RRU2	Z	0	1
18	RRU2	Mx	.008	1
19	OVP	X	25.529	1
20	OVP	Z	0	1
21	OVP	Mx	-.013	1

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	25.329	.5
2	MP1A	Z	14.624	.5
3	MP1A	Mx	-.013	.5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	25.329	5.5
5	MP1A	Z	14.624	5.5
6	MP1A	Mx	-.013	5.5
7	MP2A	X	9.293	2
8	MP2A	Z	5.365	2
9	MP2A	Mx	-.005	2
10	MP2A	X	9.293	4
11	MP2A	Z	5.365	4
12	MP2A	Mx	-.005	4
13	RRU3	X	12.704	1
14	RRU3	Z	7.335	1
15	RRU3	Mx	.006	1
16	RRU2	X	12.306	1
17	RRU2	Z	7.105	1
18	RRU2	Mx	.006	1
19	OVP	X	23.652	1
20	OVP	Z	13.656	1
21	OVP	Mx	-.012	1

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	20.548	.5
2	MP1A	Z	35.59	.5
3	MP1A	Mx	-.01	.5
4	MP1A	X	20.548	5.5
5	MP1A	Z	35.59	5.5
6	MP1A	Mx	-.01	5.5
7	MP2A	X	8.074	2
8	MP2A	Z	13.984	2
9	MP2A	Mx	-.004	2
10	MP2A	X	8.074	4
11	MP2A	Z	13.984	4
12	MP2A	Mx	-.004	4
13	RRU3	X	6.125	1
14	RRU3	Z	10.609	1
15	RRU3	Mx	.003	1
16	RRU2	X	5.435	1
17	RRU2	Z	9.414	1
18	RRU2	Mx	.003	1
19	OVP	X	15.438	1
20	OVP	Z	26.739	1
21	OVP	Mx	-.008	1

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	47.019	.5
3	MP1A	Mx	0	.5
4	MP1A	X	0	5.5
5	MP1A	Z	47.019	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	18.856	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	18.856	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	11.04	1
15	RRU3	Mx	0	1

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	0	1
17	RRU2	Z	9.2	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	32.657	1
21	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-20.548	.5
2	MP1A	Z	35.59	.5
3	MP1A	Mx	.01	.5
4	MP1A	X	-20.548	5.5
5	MP1A	Z	35.59	5.5
6	MP1A	Mx	.01	5.5
7	MP2A	X	-8.074	2
8	MP2A	Z	13.984	2
9	MP2A	Mx	.004	2
10	MP2A	X	-8.074	4
11	MP2A	Z	13.984	4
12	MP2A	Mx	.004	4
13	RRU3	X	-6.125	1
14	RRU3	Z	10.609	1
15	RRU3	Mx	-.003	1
16	RRU2	X	-5.435	1
17	RRU2	Z	9.414	1
18	RRU2	Mx	-.003	1
19	OVP	X	-15.438	1
20	OVP	Z	26.739	1
21	OVP	Mx	.008	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-25.329	.5
2	MP1A	Z	14.624	.5
3	MP1A	Mx	.013	.5
4	MP1A	X	-25.329	5.5
5	MP1A	Z	14.624	5.5
6	MP1A	Mx	.013	5.5
7	MP2A	X	-9.293	2
8	MP2A	Z	5.365	2
9	MP2A	Mx	.005	2
10	MP2A	X	-9.293	4
11	MP2A	Z	5.365	4
12	MP2A	Mx	.005	4
13	RRU3	X	-12.704	1
14	RRU3	Z	7.335	1
15	RRU3	Mx	-.006	1
16	RRU2	X	-12.306	1
17	RRU2	Z	7.105	1
18	RRU2	Mx	-.006	1
19	OVP	X	-23.652	1
20	OVP	Z	13.656	1
21	OVP	Mx	.012	1

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-23.324	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	.012	.5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	-23.324	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	.012	5.5
7	MP2A	X	-8.022	2
8	MP2A	Z	0	2
9	MP2A	Mx	.004	2
10	MP2A	X	-8.022	4
11	MP2A	Z	0	4
12	MP2A	Mx	.004	4
13	RRU3	X	-15.88	1
14	RRU3	Z	0	1
15	RRU3	Mx	-.008	1
16	RRU2	X	-15.88	1
17	RRU2	Z	0	1
18	RRU2	Mx	-.008	1
19	OVP	X	-25.529	1
20	OVP	Z	0	1
21	OVP	Mx	.013	1

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-25.329	.5
2	MP1A	Z	-14.624	.5
3	MP1A	Mx	.013	.5
4	MP1A	X	-25.329	5.5
5	MP1A	Z	-14.624	5.5
6	MP1A	Mx	.013	5.5
7	MP2A	X	-9.293	2
8	MP2A	Z	-5.365	2
9	MP2A	Mx	.005	2
10	MP2A	X	-9.293	4
11	MP2A	Z	-5.365	4
12	MP2A	Mx	.005	4
13	RRU3	X	-12.704	1
14	RRU3	Z	-7.335	1
15	RRU3	Mx	-.006	1
16	RRU2	X	-12.306	1
17	RRU2	Z	-7.105	1
18	RRU2	Mx	-.006	1
19	OVP	X	-23.652	1
20	OVP	Z	-13.656	1
21	OVP	Mx	.012	1

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-20.548	.5
2	MP1A	Z	-35.59	.5
3	MP1A	Mx	.01	.5
4	MP1A	X	-20.548	5.5
5	MP1A	Z	-35.59	5.5
6	MP1A	Mx	.01	5.5
7	MP2A	X	-8.074	2
8	MP2A	Z	-13.984	2
9	MP2A	Mx	.004	2
10	MP2A	X	-8.074	4
11	MP2A	Z	-13.984	4
12	MP2A	Mx	.004	4
13	RRU3	X	-6.125	1
14	RRU3	Z	-10.609	1
15	RRU3	Mx	-.003	1

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	-5.435	1
17	RRU2	Z	-9.414	1
18	RRU2	Mx	-.003	1
19	OVP	X	-15.438	1
20	OVP	Z	-26.739	1
21	OVP	Mx	.008	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	-43.54	.5
3	MP1A	Mx	0	.5
4	MP1A	X	0	5.5
5	MP1A	Z	-43.54	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	-16.719	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	-16.719	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	-8.893	1
15	RRU3	Mx	0	1
16	RRU2	X	0	1
17	RRU2	Z	-7.186	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	-28.885	1
21	OVP	Mx	0	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.884	.5
2	MP1A	Z	-32.709	.5
3	MP1A	Mx	-.009	.5
4	MP1A	X	18.884	5.5
5	MP1A	Z	-32.709	5.5
6	MP1A	Mx	-.009	5.5
7	MP2A	X	7.088	2
8	MP2A	Z	-12.276	2
9	MP2A	Mx	-.004	2
10	MP2A	X	7.088	4
11	MP2A	Z	-12.276	4
12	MP2A	Mx	-.004	4
13	RRU3	X	5.002	1
14	RRU3	Z	-8.664	1
15	RRU3	Mx	.003	1
16	RRU2	X	4.362	1
17	RRU2	Z	-7.555	1
18	RRU2	Mx	.002	1
19	OVP	X	13.586	1
20	OVP	Z	-23.532	1
21	OVP	Mx	-.007	1

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	22.712	.5
2	MP1A	Z	-13.113	.5
3	MP1A	Mx	-.011	.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	22.712	5.5
5	MP1A	Z	-13.113	5.5
6	MP1A	Mx	-.011	5.5
7	MP2A	X	7.871	2
8	MP2A	Z	-4.544	2
9	MP2A	Mx	-.004	2
10	MP2A	X	7.871	4
11	MP2A	Z	-4.544	4
12	MP2A	Mx	-.004	4
13	RRU3	X	10.59	1
14	RRU3	Z	-6.114	1
15	RRU3	Mx	.005	1
16	RRU2	X	10.22	1
17	RRU2	Z	-5.901	1
18	RRU2	Mx	.005	1
19	OVP	X	20.567	1
20	OVP	Z	-11.874	1
21	OVP	Mx	-.01	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	20.454	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	-.01	.5
4	MP1A	X	20.454	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	-.01	5.5
7	MP2A	X	6.545	2
8	MP2A	Z	0	2
9	MP2A	Mx	-.003	2
10	MP2A	X	6.545	4
11	MP2A	Z	0	4
12	MP2A	Mx	-.003	4
13	RRU3	X	13.34	1
14	RRU3	Z	0	1
15	RRU3	Mx	.007	1
16	RRU2	X	13.34	1
17	RRU2	Z	0	1
18	RRU2	Mx	.007	1
19	OVP	X	22.037	1
20	OVP	Z	0	1
21	OVP	Mx	-.011	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	22.712	.5
2	MP1A	Z	13.113	.5
3	MP1A	Mx	-.011	.5
4	MP1A	X	22.712	5.5
5	MP1A	Z	13.113	5.5
6	MP1A	Mx	-.011	5.5
7	MP2A	X	7.871	2
8	MP2A	Z	4.544	2
9	MP2A	Mx	-.004	2
10	MP2A	X	7.871	4
11	MP2A	Z	4.544	4
12	MP2A	Mx	-.004	4
13	RRU3	X	10.59	1
14	RRU3	Z	6.114	1
15	RRU3	Mx	.005	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	10.22	1
17	RRU2	Z	5.901	1
18	RRU2	Mx	.005	1
19	OVP	X	20.567	1
20	OVP	Z	11.874	1
21	OVP	Mx	-.01	1

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

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	18.884	.5
2	MP1A	Z	32.709	.5
3	MP1A	Mx	-.009	.5
4	MP1A	X	18.884	5.5
5	MP1A	Z	32.709	5.5
6	MP1A	Mx	-.009	5.5
7	MP2A	X	7.088	2
8	MP2A	Z	12.276	2
9	MP2A	Mx	-.004	2
10	MP2A	X	7.088	4
11	MP2A	Z	12.276	4
12	MP2A	Mx	-.004	4
13	RRU3	X	5.002	1
14	RRU3	Z	8.664	1
15	RRU3	Mx	.003	1
16	RRU2	X	4.362	1
17	RRU2	Z	7.555	1
18	RRU2	Mx	.002	1
19	OVP	X	13.586	1
20	OVP	Z	23.532	1
21	OVP	Mx	-.007	1

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	0	.5
2	MP1A	Z	43.54	.5
3	MP1A	Mx	0	.5
4	MP1A	X	0	5.5
5	MP1A	Z	43.54	5.5
6	MP1A	Mx	0	5.5
7	MP2A	X	0	2
8	MP2A	Z	16.719	2
9	MP2A	Mx	0	2
10	MP2A	X	0	4
11	MP2A	Z	16.719	4
12	MP2A	Mx	0	4
13	RRU3	X	0	1
14	RRU3	Z	8.893	1
15	RRU3	Mx	0	1
16	RRU2	X	0	1
17	RRU2	Z	7.186	1
18	RRU2	Mx	0	1
19	OVP	X	0	1
20	OVP	Z	28.885	1
21	OVP	Mx	0	1

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.884	.5
2	MP1A	Z	32.709	.5
3	MP1A	Mx	.009	.5

Member Point Loads (BLC 34 : Antenna Wm (210 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
4	MP1A	X	-18.884	5.5
5	MP1A	Z	32.709	5.5
6	MP1A	Mx	.009	5.5
7	MP2A	X	-7.088	2
8	MP2A	Z	12.276	2
9	MP2A	Mx	.004	2
10	MP2A	X	-7.088	4
11	MP2A	Z	12.276	4
12	MP2A	Mx	.004	4
13	RRU3	X	-5.002	1
14	RRU3	Z	8.664	1
15	RRU3	Mx	-.003	1
16	RRU2	X	-4.362	1
17	RRU2	Z	7.555	1
18	RRU2	Mx	-.002	1
19	OVP	X	-13.586	1
20	OVP	Z	23.532	1
21	OVP	Mx	.007	1

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-22.712	.5
2	MP1A	Z	13.113	.5
3	MP1A	Mx	.011	.5
4	MP1A	X	-22.712	5.5
5	MP1A	Z	13.113	5.5
6	MP1A	Mx	.011	5.5
7	MP2A	X	-7.871	2
8	MP2A	Z	4.544	2
9	MP2A	Mx	.004	2
10	MP2A	X	-7.871	4
11	MP2A	Z	4.544	4
12	MP2A	Mx	.004	4
13	RRU3	X	-10.59	1
14	RRU3	Z	6.114	1
15	RRU3	Mx	-.005	1
16	RRU2	X	-10.22	1
17	RRU2	Z	5.901	1
18	RRU2	Mx	-.005	1
19	OVP	X	-20.567	1
20	OVP	Z	11.874	1
21	OVP	Mx	.01	1

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-20.454	.5
2	MP1A	Z	0	.5
3	MP1A	Mx	.01	.5
4	MP1A	X	-20.454	5.5
5	MP1A	Z	0	5.5
6	MP1A	Mx	.01	5.5
7	MP2A	X	-6.545	2
8	MP2A	Z	0	2
9	MP2A	Mx	.003	2
10	MP2A	X	-6.545	4
11	MP2A	Z	0	4
12	MP2A	Mx	.003	4
13	RRU3	X	-13.34	1
14	RRU3	Z	0	1
15	RRU3	Mx	-.007	1

Member Point Loads (BLC 36 : Antenna Wm (270 Deg)) (Continued)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
16	RRU2	X	-13.34	1
17	RRU2	Z	0	1
18	RRU2	Mx	-.007	1
19	OVP	X	-22.037	1
20	OVP	Z	0	1
21	OVP	Mx	.011	1

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-22.712	.5
2	MP1A	Z	-13.113	.5
3	MP1A	Mx	.011	.5
4	MP1A	X	-22.712	5.5
5	MP1A	Z	-13.113	5.5
6	MP1A	Mx	.011	5.5
7	MP2A	X	-7.871	2
8	MP2A	Z	-4.544	2
9	MP2A	Mx	.004	2
10	MP2A	X	-7.871	4
11	MP2A	Z	-4.544	4
12	MP2A	Mx	.004	4
13	RRU3	X	-10.59	1
14	RRU3	Z	-6.114	1
15	RRU3	Mx	-.005	1
16	RRU2	X	-10.22	1
17	RRU2	Z	-5.901	1
18	RRU2	Mx	-.005	1
19	OVP	X	-20.567	1
20	OVP	Z	-11.874	1
21	OVP	Mx	.01	1

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	MP1A	X	-18.884	.5
2	MP1A	Z	-32.709	.5
3	MP1A	Mx	.009	.5
4	MP1A	X	-18.884	5.5
5	MP1A	Z	-32.709	5.5
6	MP1A	Mx	.009	5.5
7	MP2A	X	-7.088	2
8	MP2A	Z	-12.276	2
9	MP2A	Mx	.004	2
10	MP2A	X	-7.088	4
11	MP2A	Z	-12.276	4
12	MP2A	Mx	.004	4
13	RRU3	X	-5.002	1
14	RRU3	Z	-8.664	1
15	RRU3	Mx	-.003	1
16	RRU2	X	-4.362	1
17	RRU2	Z	-7.555	1
18	RRU2	Mx	-.002	1
19	OVP	X	-13.586	1
20	OVP	Z	-23.532	1
21	OVP	Mx	.007	1

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LIVE2	Y	-500	%100

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	LIVE1	Y	-500	%100

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M2	Y	-250	%50

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude[lb,k-ft]	Location[ft,%]
1	M2	Y	-250	%100

Member Distributed Loads (BLC 40 : Structure Di)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-7.479	-7.479	0	%100
2	M2	Y	-5.578	-5.578	0	%100
3	MP2A	Y	-4.883	-4.883	0	%100
4	MP1A	Y	-4.883	-4.883	0	%100
5	RRU3	Y	-4.883	-4.883	0	%100
6	RRU2	Y	-4.883	-4.883	0	%100
7	OVP	Y	-4.883	-4.883	0	%100

Member Distributed Loads (BLC 41 : Structure Wo (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-9.804	-9.804	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	-9.571	-9.571	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-9.571	-9.571	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	-7.827	-7.827	0	%100
11	RRU2	X	0	0	0	%100
12	RRU2	Z	-7.827	-7.827	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	-7.827	-7.827	0	%100

Member Distributed Loads (BLC 42 : Structure Wo (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.256	1.256	0	%100
2	M1	Z	-2.175	-2.175	0	%100
3	M2	X	3.677	3.677	0	%100
4	M2	Z	-6.368	-6.368	0	%100
5	MP2A	X	4.786	4.786	0	%100
6	MP2A	Z	-8.289	-8.289	0	%100
7	MP1A	X	4.786	4.786	0	%100
8	MP1A	Z	-8.289	-8.289	0	%100
9	RRU3	X	3.913	3.913	0	%100
10	RRU3	Z	-6.778	-6.778	0	%100
11	RRU2	X	3.913	3.913	0	%100
12	RRU2	Z	-6.778	-6.778	0	%100
13	OVP	X	3.913	3.913	0	%100
14	OVP	Z	-6.778	-6.778	0	%100

Member Distributed Loads (BLC 43 : Structure Wo (60 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	6.526	6.526	0	%100

Member Distributed Loads (BLC 43 : Structure Wo (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	M1	Z	-3.768	-3.768	0	%100
3	M2	X	2.123	2.123	0	%100
4	M2	Z	-1.226	-1.226	0	%100
5	MP2A	X	8.289	8.289	0	%100
6	MP2A	Z	-4.786	-4.786	0	%100
7	MP1A	X	8.289	8.289	0	%100
8	MP1A	Z	-4.786	-4.786	0	%100
9	RRU3	X	6.778	6.778	0	%100
10	RRU3	Z	-3.913	-3.913	0	%100
11	RRU2	X	6.778	6.778	0	%100
12	RRU2	Z	-3.913	-3.913	0	%100
13	OVP	X	6.778	6.778	0	%100
14	OVP	Z	-3.913	-3.913	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	10.047	10.047	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	9.571	9.571	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	9.571	9.571	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	7.827	7.827	0	%100
10	RRU3	Z	0	0	0	%100
11	RRU2	X	7.827	7.827	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	7.827	7.827	0	%100
14	OVP	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	6.526	6.526	0	%100
2	M1	Z	3.768	3.768	0	%100
3	M2	X	2.123	2.123	0	%100
4	M2	Z	1.226	1.226	0	%100
5	MP2A	X	8.289	8.289	0	%100
6	MP2A	Z	4.786	4.786	0	%100
7	MP1A	X	8.289	8.289	0	%100
8	MP1A	Z	4.786	4.786	0	%100
9	RRU3	X	6.778	6.778	0	%100
10	RRU3	Z	3.913	3.913	0	%100
11	RRU2	X	6.778	6.778	0	%100
12	RRU2	Z	3.913	3.913	0	%100
13	OVP	X	6.778	6.778	0	%100
14	OVP	Z	3.913	3.913	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.256	1.256	0	%100
2	M1	Z	2.175	2.175	0	%100
3	M2	X	3.677	3.677	0	%100
4	M2	Z	6.368	6.368	0	%100
5	MP2A	X	4.786	4.786	0	%100
6	MP2A	Z	8.289	8.289	0	%100
7	MP1A	X	4.786	4.786	0	%100
8	MP1A	Z	8.289	8.289	0	%100
9	RRU3	X	3.913	3.913	0	%100
10	RRU3	Z	6.778	6.778	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,%]
11	RRU2	X	3.913	3.913	0	%100
12	RRU2	Z	6.778	6.778	0	%100
13	OVP	X	3.913	3.913	0	%100
14	OVP	Z	6.778	6.778	0	%100

Member Distributed Loads (BLC 47 : Structure Wo (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	9.804	9.804	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	9.571	9.571	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	9.571	9.571	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	7.827	7.827	0	%100
11	RRU2	X	0	0	0	%100
12	RRU2	Z	7.827	7.827	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	7.827	7.827	0	%100

Member Distributed Loads (BLC 48 : Structure Wo (210 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.256	-1.256	0	%100
2	M1	Z	2.175	2.175	0	%100
3	M2	X	-3.677	-3.677	0	%100
4	M2	Z	6.368	6.368	0	%100
5	MP2A	X	-4.786	-4.786	0	%100
6	MP2A	Z	8.289	8.289	0	%100
7	MP1A	X	-4.786	-4.786	0	%100
8	MP1A	Z	8.289	8.289	0	%100
9	RRU3	X	-3.913	-3.913	0	%100
10	RRU3	Z	6.778	6.778	0	%100
11	RRU2	X	-3.913	-3.913	0	%100
12	RRU2	Z	6.778	6.778	0	%100
13	OVP	X	-3.913	-3.913	0	%100
14	OVP	Z	6.778	6.778	0	%100

Member Distributed Loads (BLC 49 : Structure Wo (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-6.526	-6.526	0	%100
2	M1	Z	3.768	3.768	0	%100
3	M2	X	-2.123	-2.123	0	%100
4	M2	Z	1.226	1.226	0	%100
5	MP2A	X	-8.289	-8.289	0	%100
6	MP2A	Z	4.786	4.786	0	%100
7	MP1A	X	-8.289	-8.289	0	%100
8	MP1A	Z	4.786	4.786	0	%100
9	RRU3	X	-6.778	-6.778	0	%100
10	RRU3	Z	3.913	3.913	0	%100
11	RRU2	X	-6.778	-6.778	0	%100
12	RRU2	Z	3.913	3.913	0	%100
13	OVP	X	-6.778	-6.778	0	%100
14	OVP	Z	3.913	3.913	0	%100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-10.047	-10.047	0	%100

Member Distributed Loads (BLC 50 : Structure Wo (270 Deg)) (Continued)

	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	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	-9.571	-9.571	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	-9.571	-9.571	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	-7.827	-7.827	0	%100
10	RRU3	Z	0	0	0	%100
11	RRU2	X	-7.827	-7.827	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	-7.827	-7.827	0	%100
14	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 51 : Structure Wo (300 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-6.526	-6.526	0	%100
2	M1	Z	-3.768	-3.768	0	%100
3	M2	X	-2.123	-2.123	0	%100
4	M2	Z	-1.226	-1.226	0	%100
5	MP2A	X	-8.289	-8.289	0	%100
6	MP2A	Z	-4.786	-4.786	0	%100
7	MP1A	X	-8.289	-8.289	0	%100
8	MP1A	Z	-4.786	-4.786	0	%100
9	RRU3	X	-6.778	-6.778	0	%100
10	RRU3	Z	-3.913	-3.913	0	%100
11	RRU2	X	-6.778	-6.778	0	%100
12	RRU2	Z	-3.913	-3.913	0	%100
13	OVP	X	-6.778	-6.778	0	%100
14	OVP	Z	-3.913	-3.913	0	%100

Member Distributed Loads (BLC 52 : Structure Wo (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.256	-1.256	0	%100
2	M1	Z	-2.175	-2.175	0	%100
3	M2	X	-3.677	-3.677	0	%100
4	M2	Z	-6.368	-6.368	0	%100
5	MP2A	X	-4.786	-4.786	0	%100
6	MP2A	Z	-8.289	-8.289	0	%100
7	MP1A	X	-4.786	-4.786	0	%100
8	MP1A	Z	-8.289	-8.289	0	%100
9	RRU3	X	-3.913	-3.913	0	%100
10	RRU3	Z	-6.778	-6.778	0	%100
11	RRU2	X	-3.913	-3.913	0	%100
12	RRU2	Z	-6.778	-6.778	0	%100
13	OVP	X	-3.913	-3.913	0	%100
14	OVP	Z	-6.778	-6.778	0	%100

Member Distributed Loads (BLC 53 : Structure Wi (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-3.233	-3.233	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	-3.309	-3.309	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-3.309	-3.309	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	-2.725	-2.725	0	%100

Member Distributed Loads (BLC 53 : Structure Wi (0 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
11	RRU2	X	0	0	0	%100
12	RRU2	Z	-2.725	-2.725	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	-2.725	-2.725	0	%100

Member Distributed Loads (BLC 54 : Structure Wi (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.39	.39	0	%100
2	M1	Z	-.675	-.675	0	%100
3	M2	X	1.212	1.212	0	%100
4	M2	Z	-2.1	-2.1	0	%100
5	MP2A	X	1.654	1.654	0	%100
6	MP2A	Z	-2.865	-2.865	0	%100
7	MP1A	X	1.654	1.654	0	%100
8	MP1A	Z	-2.865	-2.865	0	%100
9	RRU3	X	1.363	1.363	0	%100
10	RRU3	Z	-2.36	-2.36	0	%100
11	RRU2	X	1.363	1.363	0	%100
12	RRU2	Z	-2.36	-2.36	0	%100
13	OVP	X	1.363	1.363	0	%100
14	OVP	Z	-2.36	-2.36	0	%100

Member Distributed Loads (BLC 55 : Structure Wi (60 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	2.025	2.025	0	%100
2	M1	Z	-1.169	-1.169	0	%100
3	M2	X	.7	.7	0	%100
4	M2	Z	-.404	-.404	0	%100
5	MP2A	X	2.865	2.865	0	%100
6	MP2A	Z	-1.654	-1.654	0	%100
7	MP1A	X	2.865	2.865	0	%100
8	MP1A	Z	-1.654	-1.654	0	%100
9	RRU3	X	2.36	2.36	0	%100
10	RRU3	Z	-1.363	-1.363	0	%100
11	RRU2	X	2.36	2.36	0	%100
12	RRU2	Z	-1.363	-1.363	0	%100
13	OVP	X	2.36	2.36	0	%100
14	OVP	Z	-1.363	-1.363	0	%100

Member Distributed Loads (BLC 56 : Structure Wi (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	3.117	3.117	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	3.309	3.309	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	3.309	3.309	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	2.725	2.725	0	%100
10	RRU3	Z	0	0	0	%100
11	RRU2	X	2.725	2.725	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	2.725	2.725	0	%100
14	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 57 : Structure Wi (120 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	2.025	2.025	0	%100

Member Distributed Loads (BLC 57 : Structure Wi (120 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	M1	Z	1.169	1.169	0	%100
3	M2	X	.7	.7	0	%100
4	M2	Z	.404	.404	0	%100
5	MP2A	X	2.865	2.865	0	%100
6	MP2A	Z	1.654	1.654	0	%100
7	MP1A	X	2.865	2.865	0	%100
8	MP1A	Z	1.654	1.654	0	%100
9	RRU3	X	2.36	2.36	0	%100
10	RRU3	Z	1.363	1.363	0	%100
11	RRU2	X	2.36	2.36	0	%100
12	RRU2	Z	1.363	1.363	0	%100
13	OVP	X	2.36	2.36	0	%100
14	OVP	Z	1.363	1.363	0	%100

Member Distributed Loads (BLC 58 : Structure Wi (150 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.39	.39	0	%100
2	M1	Z	.675	.675	0	%100
3	M2	X	1.212	1.212	0	%100
4	M2	Z	2.1	2.1	0	%100
5	MP2A	X	1.654	1.654	0	%100
6	MP2A	Z	2.865	2.865	0	%100
7	MP1A	X	1.654	1.654	0	%100
8	MP1A	Z	2.865	2.865	0	%100
9	RRU3	X	1.363	1.363	0	%100
10	RRU3	Z	2.36	2.36	0	%100
11	RRU2	X	1.363	1.363	0	%100
12	RRU2	Z	2.36	2.36	0	%100
13	OVP	X	1.363	1.363	0	%100
14	OVP	Z	2.36	2.36	0	%100

Member Distributed Loads (BLC 59 : Structure Wi (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	3.233	3.233	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	3.309	3.309	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	3.309	3.309	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	2.725	2.725	0	%100
11	RRU2	X	0	0	0	%100
12	RRU2	Z	2.725	2.725	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	2.725	2.725	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.39	-.39	0	%100
2	M1	Z	.675	.675	0	%100
3	M2	X	-1.212	-1.212	0	%100
4	M2	Z	2.1	2.1	0	%100
5	MP2A	X	-1.654	-1.654	0	%100
6	MP2A	Z	2.865	2.865	0	%100
7	MP1A	X	-1.654	-1.654	0	%100
8	MP1A	Z	2.865	2.865	0	%100
9	RRU3	X	-1.363	-1.363	0	%100
10	RRU3	Z	2.36	2.36	0	%100

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,%]
11	RRU2	X	-1.363	-1.363	0	%100
12	RRU2	Z	2.36	2.36	0	%100
13	OVP	X	-1.363	-1.363	0	%100
14	OVP	Z	2.36	2.36	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	-2.025	-2.025	0	%100
2	M1	Z	1.169	1.169	0	%100
3	M2	X	-.7	-.7	0	%100
4	M2	Z	.404	.404	0	%100
5	MP2A	X	-2.865	-2.865	0	%100
6	MP2A	Z	1.654	1.654	0	%100
7	MP1A	X	-2.865	-2.865	0	%100
8	MP1A	Z	1.654	1.654	0	%100
9	RRU3	X	-2.36	-2.36	0	%100
10	RRU3	Z	1.363	1.363	0	%100
11	RRU2	X	-2.36	-2.36	0	%100
12	RRU2	Z	1.363	1.363	0	%100
13	OVP	X	-2.36	-2.36	0	%100
14	OVP	Z	1.363	1.363	0	%100

Member Distributed Loads (BLC 62 : Structure Wi (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-3.117	-3.117	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	-3.309	-3.309	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	-3.309	-3.309	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	-2.725	-2.725	0	%100
10	RRU3	Z	0	0	0	%100
11	RRU2	X	-2.725	-2.725	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	-2.725	-2.725	0	%100
14	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 63 : Structure Wi (300 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-2.025	-2.025	0	%100
2	M1	Z	-1.169	-1.169	0	%100
3	M2	X	-.7	-.7	0	%100
4	M2	Z	-.404	-.404	0	%100
5	MP2A	X	-2.865	-2.865	0	%100
6	MP2A	Z	-1.654	-1.654	0	%100
7	MP1A	X	-2.865	-2.865	0	%100
8	MP1A	Z	-1.654	-1.654	0	%100
9	RRU3	X	-2.36	-2.36	0	%100
10	RRU3	Z	-1.363	-1.363	0	%100
11	RRU2	X	-2.36	-2.36	0	%100
12	RRU2	Z	-1.363	-1.363	0	%100
13	OVP	X	-2.36	-2.36	0	%100
14	OVP	Z	-1.363	-1.363	0	%100

Member Distributed Loads (BLC 64 : Structure Wi (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.39	-.39	0	%100

Member Distributed Loads (BLC 64 : Structure Wi (330 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
2	M1	Z	-.675	-.675	0	%100
3	M2	X	-1.212	-1.212	0	%100
4	M2	Z	-2.1	-2.1	0	%100
5	MP2A	X	-1.654	-1.654	0	%100
6	MP2A	Z	-2.865	-2.865	0	%100
7	MP1A	X	-1.654	-1.654	0	%100
8	MP1A	Z	-2.865	-2.865	0	%100
9	RRU3	X	-1.363	-1.363	0	%100
10	RRU3	Z	-2.36	-2.36	0	%100
11	RRU2	X	-1.363	-1.363	0	%100
12	RRU2	Z	-2.36	-2.36	0	%100
13	OVP	X	-1.363	-1.363	0	%100
14	OVP	Z	-2.36	-2.36	0	%100

Member Distributed Loads (BLC 65 : Structure Wm (0 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	-1.731	-1.731	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	-1.69	-1.69	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	-1.69	-1.69	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	-1.382	-1.382	0	%100
11	RRU2	X	0	0	0	%100
12	RRU2	Z	-1.382	-1.382	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	-1.382	-1.382	0	%100

Member Distributed Loads (BLC 66 : Structure Wm (30 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	.222	.222	0	%100
2	M1	Z	-.384	-.384	0	%100
3	M2	X	.649	.649	0	%100
4	M2	Z	-1.124	-1.124	0	%100
5	MP2A	X	.845	.845	0	%100
6	MP2A	Z	-1.463	-1.463	0	%100
7	MP1A	X	.845	.845	0	%100
8	MP1A	Z	-1.463	-1.463	0	%100
9	RRU3	X	.691	.691	0	%100
10	RRU3	Z	-1.197	-1.197	0	%100
11	RRU2	X	.691	.691	0	%100
12	RRU2	Z	-1.197	-1.197	0	%100
13	OVP	X	.691	.691	0	%100
14	OVP	Z	-1.197	-1.197	0	%100

Member Distributed Loads (BLC 67 : Structure Wm (60 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.152	1.152	0	%100
2	M1	Z	-.665	-.665	0	%100
3	M2	X	.375	.375	0	%100
4	M2	Z	-.216	-.216	0	%100
5	MP2A	X	1.463	1.463	0	%100
6	MP2A	Z	-.845	-.845	0	%100
7	MP1A	X	1.463	1.463	0	%100
8	MP1A	Z	-.845	-.845	0	%100
9	RRU3	X	1.197	1.197	0	%100
10	RRU3	Z	-.691	-.691	0	%100

Member Distributed Loads (BLC 67 : Structure Wm (60 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
11	RRU2	X	1.197	1.197	0	%100
12	RRU2	Z	-.691	-.691	0	%100
13	OVP	X	1.197	1.197	0	%100
14	OVP	Z	-.691	-.691	0	%100

Member Distributed Loads (BLC 68 : Structure Wm (90 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.774	1.774	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	1.69	1.69	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	1.69	1.69	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	1.382	1.382	0	%100
10	RRU3	Z	0	0	0	%100
11	RRU2	X	1.382	1.382	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	1.382	1.382	0	%100
14	OVP	Z	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	1.152	1.152	0	%100
2	M1	Z	.665	.665	0	%100
3	M2	X	.375	.375	0	%100
4	M2	Z	.216	.216	0	%100
5	MP2A	X	1.463	1.463	0	%100
6	MP2A	Z	.845	.845	0	%100
7	MP1A	X	1.463	1.463	0	%100
8	MP1A	Z	.845	.845	0	%100
9	RRU3	X	1.197	1.197	0	%100
10	RRU3	Z	.691	.691	0	%100
11	RRU2	X	1.197	1.197	0	%100
12	RRU2	Z	.691	.691	0	%100
13	OVP	X	1.197	1.197	0	%100
14	OVP	Z	.691	.691	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	.222	.222	0	%100
2	M1	Z	.384	.384	0	%100
3	M2	X	.649	.649	0	%100
4	M2	Z	1.124	1.124	0	%100
5	MP2A	X	.845	.845	0	%100
6	MP2A	Z	1.463	1.463	0	%100
7	MP1A	X	.845	.845	0	%100
8	MP1A	Z	1.463	1.463	0	%100
9	RRU3	X	.691	.691	0	%100
10	RRU3	Z	1.197	1.197	0	%100
11	RRU2	X	.691	.691	0	%100
12	RRU2	Z	1.197	1.197	0	%100
13	OVP	X	.691	.691	0	%100
14	OVP	Z	1.197	1.197	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	0	0	0	%100

Member Distributed Loads (BLC 71 : Structure Wm (180 Deg)) (Continued)

	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	0	0	0	%100
4	M2	Z	1.731	1.731	0	%100
5	MP2A	X	0	0	0	%100
6	MP2A	Z	1.69	1.69	0	%100
7	MP1A	X	0	0	0	%100
8	MP1A	Z	1.69	1.69	0	%100
9	RRU3	X	0	0	0	%100
10	RRU3	Z	1.382	1.382	0	%100
11	RRU2	X	0	0	0	%100
12	RRU2	Z	1.382	1.382	0	%100
13	OVP	X	0	0	0	%100
14	OVP	Z	1.382	1.382	0	%100

Member Distributed Loads (BLC 72 : Structure Wm (210 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.222	-.222	0	%100
2	M1	Z	.384	.384	0	%100
3	M2	X	-.649	-.649	0	%100
4	M2	Z	1.124	1.124	0	%100
5	MP2A	X	-.845	-.845	0	%100
6	MP2A	Z	1.463	1.463	0	%100
7	MP1A	X	-.845	-.845	0	%100
8	MP1A	Z	1.463	1.463	0	%100
9	RRU3	X	-.691	-.691	0	%100
10	RRU3	Z	1.197	1.197	0	%100
11	RRU2	X	-.691	-.691	0	%100
12	RRU2	Z	1.197	1.197	0	%100
13	OVP	X	-.691	-.691	0	%100
14	OVP	Z	1.197	1.197	0	%100

Member Distributed Loads (BLC 73 : Structure Wm (240 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.152	-1.152	0	%100
2	M1	Z	.665	.665	0	%100
3	M2	X	-.375	-.375	0	%100
4	M2	Z	.216	.216	0	%100
5	MP2A	X	-1.463	-1.463	0	%100
6	MP2A	Z	.845	.845	0	%100
7	MP1A	X	-1.463	-1.463	0	%100
8	MP1A	Z	.845	.845	0	%100
9	RRU3	X	-1.197	-1.197	0	%100
10	RRU3	Z	.691	.691	0	%100
11	RRU2	X	-1.197	-1.197	0	%100
12	RRU2	Z	.691	.691	0	%100
13	OVP	X	-1.197	-1.197	0	%100
14	OVP	Z	.691	.691	0	%100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.774	-1.774	0	%100
2	M1	Z	0	0	0	%100
3	M2	X	0	0	0	%100
4	M2	Z	0	0	0	%100
5	MP2A	X	-1.69	-1.69	0	%100
6	MP2A	Z	0	0	0	%100
7	MP1A	X	-1.69	-1.69	0	%100
8	MP1A	Z	0	0	0	%100
9	RRU3	X	-1.382	-1.382	0	%100
10	RRU3	Z	0	0	0	%100

Member Distributed Loads (BLC 74 : Structure Wm (270 Deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
11	RRU2	X	-1.382	-1.382	0	%100
12	RRU2	Z	0	0	0	%100
13	OVP	X	-1.382	-1.382	0	%100
14	OVP	Z	0	0	0	%100

Member Distributed Loads (BLC 75 : Structure Wm (300 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-1.152	-1.152	0	%100
2	M1	Z	-.665	-.665	0	%100
3	M2	X	-.375	-.375	0	%100
4	M2	Z	-.216	-.216	0	%100
5	MP2A	X	-1.463	-1.463	0	%100
6	MP2A	Z	-.845	-.845	0	%100
7	MP1A	X	-1.463	-1.463	0	%100
8	MP1A	Z	-.845	-.845	0	%100
9	RRU3	X	-1.197	-1.197	0	%100
10	RRU3	Z	-.691	-.691	0	%100
11	RRU2	X	-1.197	-1.197	0	%100
12	RRU2	Z	-.691	-.691	0	%100
13	OVP	X	-1.197	-1.197	0	%100
14	OVP	Z	-.691	-.691	0	%100

Member Distributed Loads (BLC 76 : Structure Wm (330 Deg))

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.222	-.222	0	%100
2	M1	Z	-.384	-.384	0	%100
3	M2	X	-.649	-.649	0	%100
4	M2	Z	-1.124	-1.124	0	%100
5	MP2A	X	-.845	-.845	0	%100
6	MP2A	Z	-1.463	-1.463	0	%100
7	MP1A	X	-.845	-.845	0	%100
8	MP1A	Z	-1.463	-1.463	0	%100
9	RRU3	X	-.691	-.691	0	%100
10	RRU3	Z	-1.197	-1.197	0	%100
11	RRU2	X	-.691	-.691	0	%100
12	RRU2	Z	-1.197	-1.197	0	%100
13	OVP	X	-.691	-.691	0	%100
14	OVP	Z	-1.197	-1.197	0	%100

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

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	N1	max	797.251	10	1359.288	38	1161.868	1	-.988	1	2.146	9	1.211	40
2		min	-797.251	4	609.289	8	-1161.868	7	-3.763	43	-2.15	3	-1.213	34
3	Totals:	max	797.251	10	1359.288	38	1161.868	1						
4		min	-797.251	4	609.289	8	-1161.868	7						

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

	Member	Shape	Code Che...	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
1	M1	HSS3X3X4	.480	3	45	.215	3	y	34	94145....	101016	8.556	8.556	1...	H1-1b
2	M2	PIPE_3.0	.238	2	26	.064	2		25	59852....	65205	5.749	5.749	1...	H1-1b
3	MP2A	PIPE_2.5	.047	3	7	.014	3		8	37773....	50715	3.596	3.596	1...	H1-1b
4	MP1A	PIPE_2.5	.191	3	7	.033	3		6	37773....	50715	3.596	3.596	1...	H1-1b

	Member	Shape	Code Che...	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pn...	phi*Pnt...	phi*Mn...	phi*Mn...	Cb	Eqn
5	RRU3	PIPE_2.0	.087	2.5	11	.033	2.5		10	28843....	32130	1.872	1.872	1...	H1-1b
6	RRU2	PIPE_2.0	.082	2.5	11	.033	2.5		10	28843....	32130	1.872	1.872	1...	H1-1b
7	OVP	PIPE_2.0	.155	2.5	7	.053	2.5		10	28843....	32130	1.872	1.872	1	H1-1b

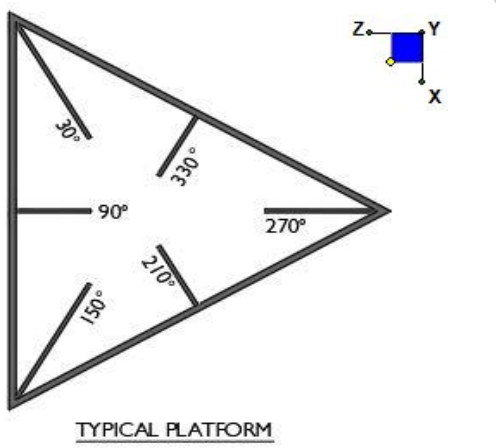
Client:	Verizon Wireless	Date:	9/30/2021
Site Name:	HAMDEN 8 CT		
Project No.	2177738A		
Title:	Mount Analysis - R	Page:	1

Version 3.1

I. Mount-to-Tower Connection Check - Proposed

RISA Model Data

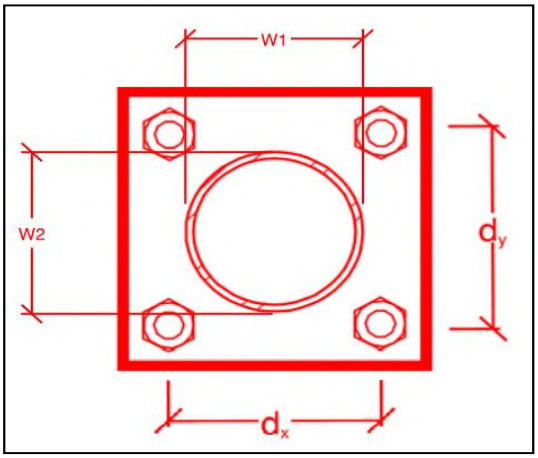
Nodes *(labeled per RISA)*	Orientation *(per graphic of typical platform)*
N1	90



TYPICAL PLATFORM

Tower Connection Bolt Checks

Any moment resistance?:	yes
Bolt Quantity per Reaction:	4
d_x (in) *(Delta X of typ. bolt config. sketch)*:	6
d_y (in) *(Delta Y of typ. bolt config. sketch)*:	6
Bolt Type:	A325N
Bolt Diameter (in):	0.625
Required Tensile Strength (kips):	14.8
Required Shear Strength (kips):	6.2
Tensile Strength / bolt (kips):	20.7
Shear Strength / bolt (kips):	12.4
Tensile Capacity Overall:	**17.9%***
Shear Capacity Overall:	**12.4%**



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

Tower Connection Plate and Weld Check

Connecting Standoff Member Shape:	Rect
Plate Width (in):	8.25
Plate Height (in):	8.25
W1 (in):	3
W2 (in):	3
Fy (ksi, plate):	52
t_{Plate} (in):	0.75
Weld Size (1/16 in):	5
Phi*Rn (kip/in):	6.96
Required Weld Strength (kip/in):	3.78
Plate Bending Capacity:	**22.2%**
Weld Capacity:	**54.3%**

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – New Mount Passing MA

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, this includes safety issues.

Base Requirements:

Any special photos outside of the standard requirements will be indicated on the passing MA

Verification that loading is as communicated in the Mount Analysis. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting Connecticut immediately.

Verification that the New Mount Installed is as specified in the MA

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 new mount;

Photos taken at Mount Elevation

- Photos showing each individual sector before and also after installation of equipment.
  - 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
- Photos showing the newly installed mount that is as specified in the Mount Analysis

- 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.
- Photos showing the climbing facility and safety climb if present.

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 _____

New Mount Certification:

- The contractor must certify that the New Mount installed is as specified

☐ The contractor certifies that the New Mount installed is as specified in the Passing Mount Analysis

☐ The contractor notes that the New Mount installed is not as specified and engineering approval was received for the New Mount Installed

☐ The contractor did not install the New Mount specified in the Passing Mount Analysis

Certifying Individual: Company _____

Name _____

Signature _____

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

Issue:

Contractor to attach (2) 36” long P2 STD RRU pipes to standoff arm 18” from the mount connection. Attach RRU pipes to standoff arm with back-to-back crossover plate (Part #: VZWSMART-MSK6). Retained OVPs to be attached 12” from the top of proposed RRU pipes Contractor to install (1) 36” long OVP pipe in Gamma sector 6” from the mount connection. Attach pipe to standoff arm with back-to-back crossover plate (Part #: VZWSMART-MSK6). Retained OVP to be attached 12” from the top of the proposed OVP Pipe. Contractor shall inspect climbing facilities and ensure that the safety climb is in good condition. Contractor shall install safety climb wire rope guide (Part #: VZWSMART-MSK10) in locations where the wire rope is rubbing against mount to tower attachments. Contractor shall provide photos of safety climb wire rope guide installation.

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

Structure: 467978-VZW - HAMDEN 8 CT - Josephs Tree Farm

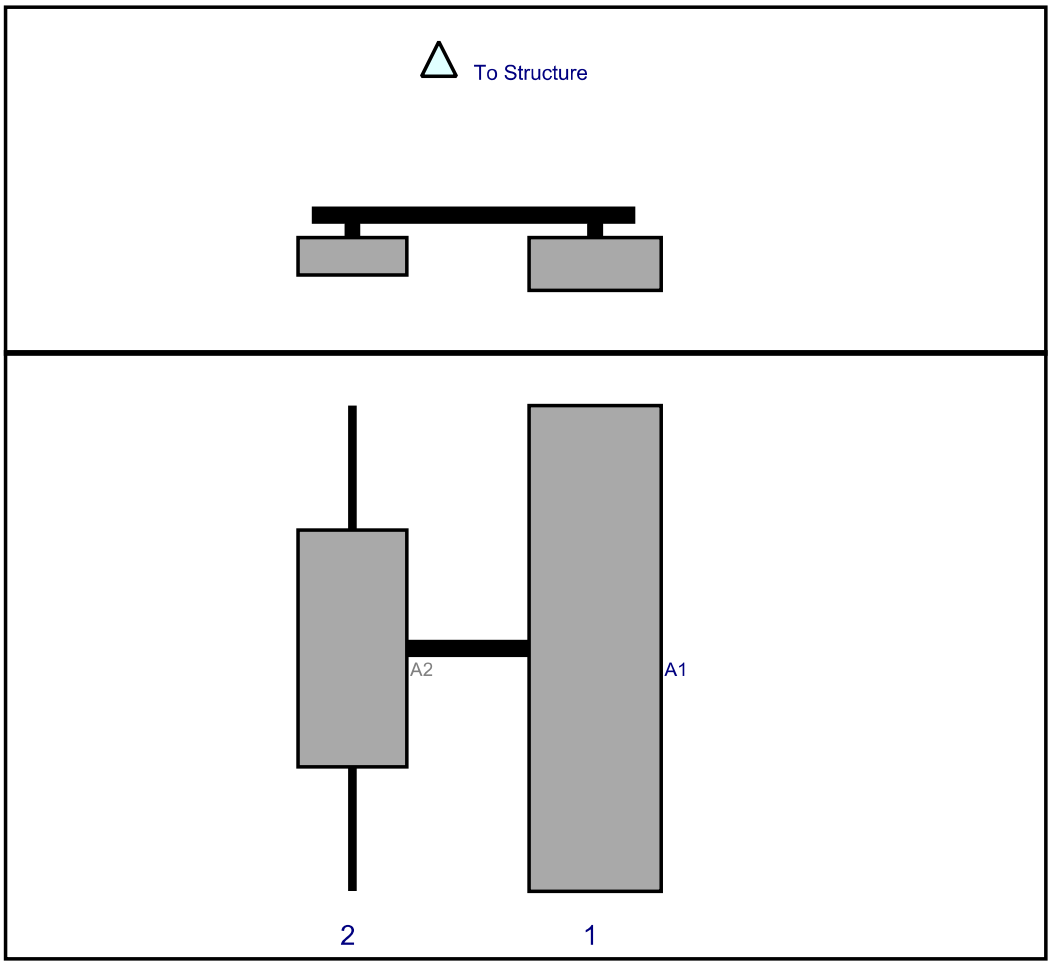
Sector: **A** 9/30/2021

Structure Type: Monopole 10090699

Mount Elev: 120.00 Page: 1

Plan View

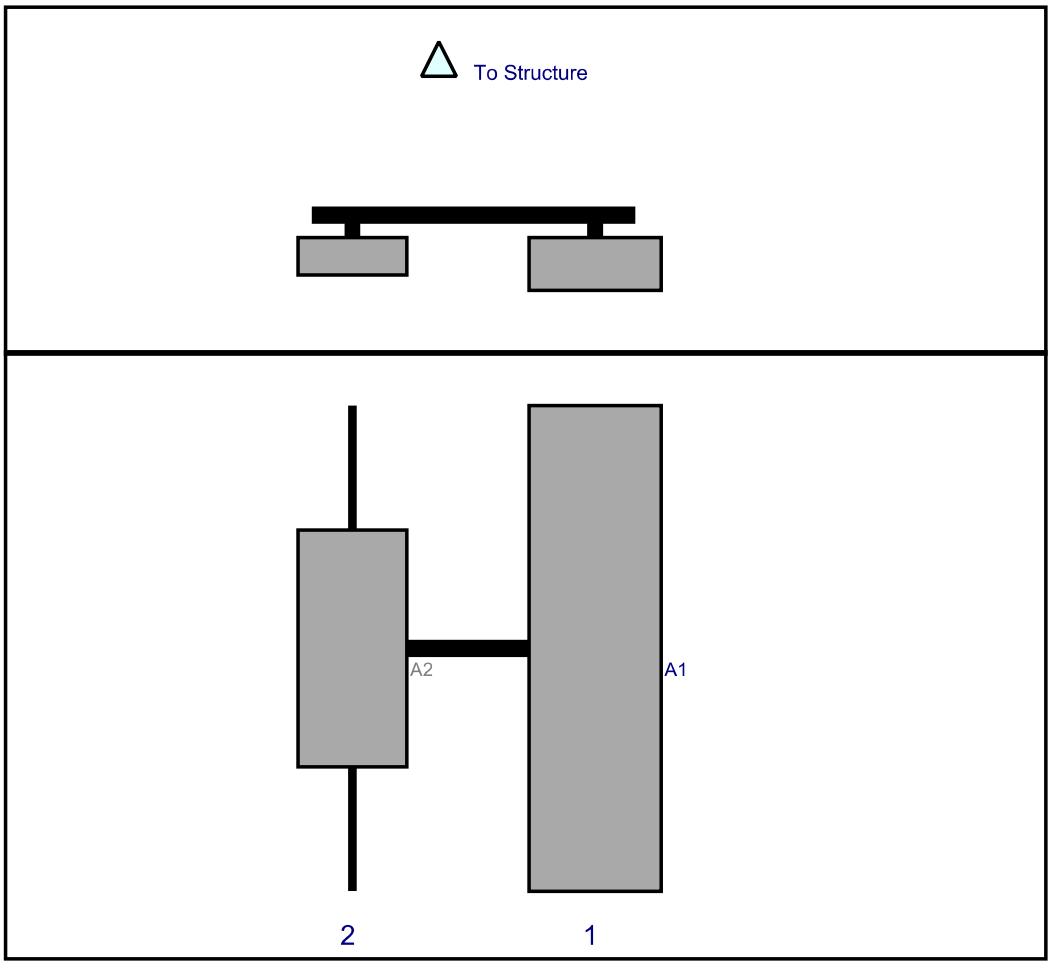
Front View
Looking at Structure



Ref#	Model	Height (in)	Width (in)	H Dist Frm L.	Pipe #	Pipe Pos V	Ant Pos	C. Ant Frm T.	Ant H Off	Status	Validation
A1	NNH4-65B-R6	72	19.6	42	1	a	Front	36	0	Added	
A2	MT6407-77A	35.1	16.1	6	2	a	Front	36	0	Added	

Plan View

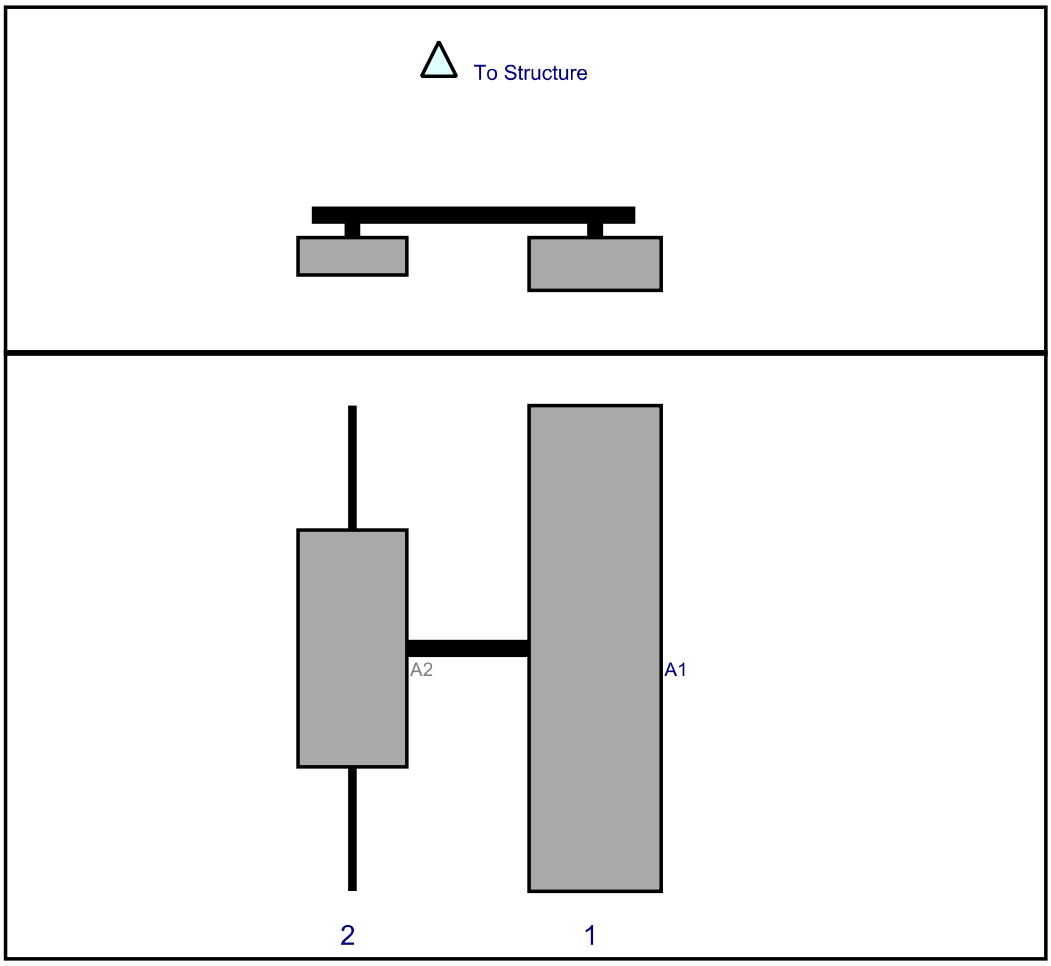
Front View
Looking at Structure



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
A1	NNH4-65B-R6	72	19.6	42	1	a	Front	36	0	Added	
A2	MT6407-77A	35.1	16.1	6	2	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
A1	NNH4-65B-R6	72	19.6	42	1	a	Front	36	0	Added	
A2	MT6407-77A	35.1	16.1	6	2	a	Front	36	0	Added	

Maser Consulting Connecticut

Subject	TIA-222-H Usage	
Site Information	Site ID:	*467978-VZW / HAMDEN 8 CT - Josephs Tree Farm*
	Site Name:	*HAMDEN 8 CT - Josephs Tree Farm*
	Carrier Name:	*Verizon Wireless*
	Address:	*208 Kirk Rd* *Hamden, Connecticut 06514* *New Haven County*
	Latitude:	*41.39552000°*
	Longitude:	*-72.92992556°*
Structure Information	Tower Type:	*121-Ft Monopole*
	Mount Type:	*4.0 Ft- T-Arm*

To Whom It May Concern,

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

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

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

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

Sincerely,

Dejian Xu

Dejian Xu, PE
Technical Manager

MOUNT REPLACEMENT DRAWINGS
PROPOSED 4.00' T-ARM

TOWER OWNER: N/A
TOWER OWNER SITE NUMBER: N/A

CARRIER SITE NAME: HAMDEN 8 CT JOSEPHS TREE FARM
CARRIER SITE NUMBER: 467978
FUZE ID: 16092595

208 KIRK RD
HAMDEN, CONNECTICUT 06514
NEW HAVEN COUNTY

LATITUDE: 41.39552000° N
LONGITUDE: 72.92992556° W

DESIGN CRITERIA

WIND LOADS

BASIC WIND SPEED (3 SECOND GUST), V = 119 MPH
EXPOSURE CATEGORY C
TOPOGRAPHIC CATEGORY 1
MEAN BASE ELEVATION (AMSL) = 316.57'

ICE LOADS

ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
ICE THICKNESS = 1.00 IN

SEISMIC LOADS

SEISMIC DESIGN CATEGORY B
SHORT TERM MCER GROUND MOTION, S_S = .202
LONG TERM MCER GROUND MOTION, S_1 = .054

PROJECT INFORMATION

APPLICANT/LESSEE

COMPANY:	VERIZON WIRELESS

CLIENT REPRESENTATIVE

COMPANY:	VERIZON WIRELESS
ADDRESS:	118 FLANDERS ROAD, THIRD FLOOR
CITY, STATE, ZIP:	WESTBOROUGH, MA 01581
CONTACT:	ANDREW CANDIELLO
EMAIL:	ANDREW.CANDIELLO@VERIZONWIRELESS.COM

PROJECT MANAGER

COMPANY:	COLLIERS ENGINEERING & DESIGN
CONTACT:	PETER ALBANO
PHONE:	856-797-0412
E-MAIL:	PETER.ALBANO@COLLIERSENGINEERING.COM

CONTRACTOR PMI REQUIREMENTS

PMI LOCATION:	HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #:	10090699
VZW LOCATION CODE (PSLC):	467978
ANALYSIS DATE:	10/1/2021

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

SHEET INDEX

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SCALE :	JOB NUMBER :
AS SHOWN	21777738A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
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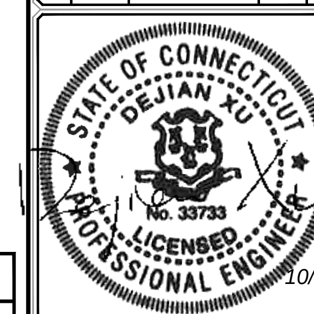
0	10/1/2021	ISSUED FOR CONSTRUCTION	FAC	DX



10/01/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:
HAMDEN 8 CT JOSEPHS TREE FARM
467978

208 KIRK RD
HAMDEN, CONNECTICUT 06514
NEW HAVEN COUNTY

MT. LAUREL
2000 Midlantic Drive,
Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE : TITLE SHEET

SHEET NUMBER : ST-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

BILL OF MATERIALS

SECTION 1 - VZWSMART KITS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-SFK4	T-ARM KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1	291	873
6		VZWSMART-MSK2	CROSSOVER PLATE		15	90
4		VZWSMART-MSK6	BACK TO BACK CROSSOVER		34	136
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY		150	150
7		P40-238X048	48" LONG P2 STD	CONTRACTOR TO TRIM MOUNT PIPE TO 36" IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1	11	77
6		P40-238X072	72" LONG P2 STD		22	132
3		P40-312X048	48" LONG P3 STD		23	69

SECTION 2 - OTHER REQUIRED PARTS

QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
					TOTAL:	1527

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.

2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM
PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM
SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM

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STATE OF CONNECTICUT · DEJIAN XU · No. 33733 · LICENSED PROFESSIONAL ENGINEER

10/01/2021

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HAMDEN 8 CT JOSEPHS TREE FARM
467978

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Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE: BILL OF MATERIALS

SHEET NUMBER: SBOM-1

PROJECT NOTES

1. SEE MODIFICATION NOTES
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
11. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
2. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
4. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
5. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
6. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
7. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
8. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
9. ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
10. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
11. CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
12. DO NOT SCALE DRAWINGS.
13. DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
14. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
15. THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

1. DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
   a. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
   b. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
   c. AISC CODE OF STANDARD PRACTICE
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE

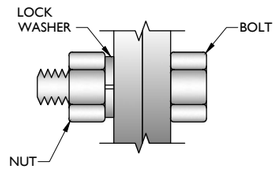
3. ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
4. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
   a. SUBMIT SHOP DRAWINGS TO
      PETER.ALBANO@COLLIERSENGINEERING.COM
   b. PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
5. DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
6. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
7. ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
8. CONTRACTOR SHALL PROTECT CUT ENDS OF ALL FIELD-CUT STEEL WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC COTE).
9. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
10. WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
11. FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
12. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
13. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
14. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINGA OR ZINC COTE), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
15. ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

WELDING NOTES

1. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.0 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELD INSPECTION (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE, DURING, AND POST INSTALLATION, USING THE ACCEPTANCE CRITERIA OF AWS D1.1.
2. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
3. THE CERTIFIED WELD INSPECTOR SHALL INDICATE, IN A WRITTEN CWI REPORT, THAT ALL WELDING OPERATIONS PRE, DURING, AND POST INSTALLATION WERE CONDUCTED IN ACCORDANCE WITH AWS D1.1 WITH PHOTOGRAPHS AND DOCUMENTATION SUPPORTING THE ACCEPTANCE OR REJECTION OF ALL WELDING. ALL CWI WELD INSPECTION DOCUMENTATION AND PHOTOS SHALL BE SUBMITTED DURING THE PMI.
4. IN CASES WHERE A WELD IS SPECIFIED BETWEEN TWO MEMBERS IN WHICH THERE IS A GAP IN BETWEEN, THE WELD IS TO BE BUILT-UP SUCH THAT THE SIZE OF WELD ON THE MEMBER IS EQUAL TO THAT SHOWN IN THE DRAWINGS.
5. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
6. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING A GALVANIZED SURFACE.
7. CONTRACTOR SHALL HAVE A FIRE PROTECTION PLAN IN PLACE THAT CONFORMS WITH ALL OSHA, ANSI/ASSP A10.48, ANSI Z49.1, AND LOCAL JURISDICTIONAL REQUIREMENTS.

BOLT SCHEDULE (IN.)				
BOLT DIAMETER	**STANDARD HOLE**	**SHORT SLOT**	**MIN. EDGE DISTANCE**	**SPACING**
1/2	9/16	9/16 x 11/16	7/8	1 1/2
5/8	11/16	11/16 x 7/8	1 1/8	1 7/8
3/4	13/16	13/16 x 1	1 1/4	2 1/4
7/8	15/16	15/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

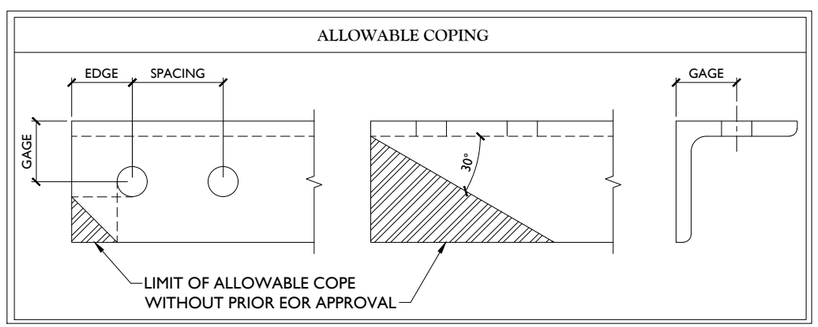
WORKABLE GAGES (IN.)	
LEG	**GAGE**
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8



TYP. BOLT ASSEMBLY

NOTES:

1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
3. SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
4. MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER
10/01/2021

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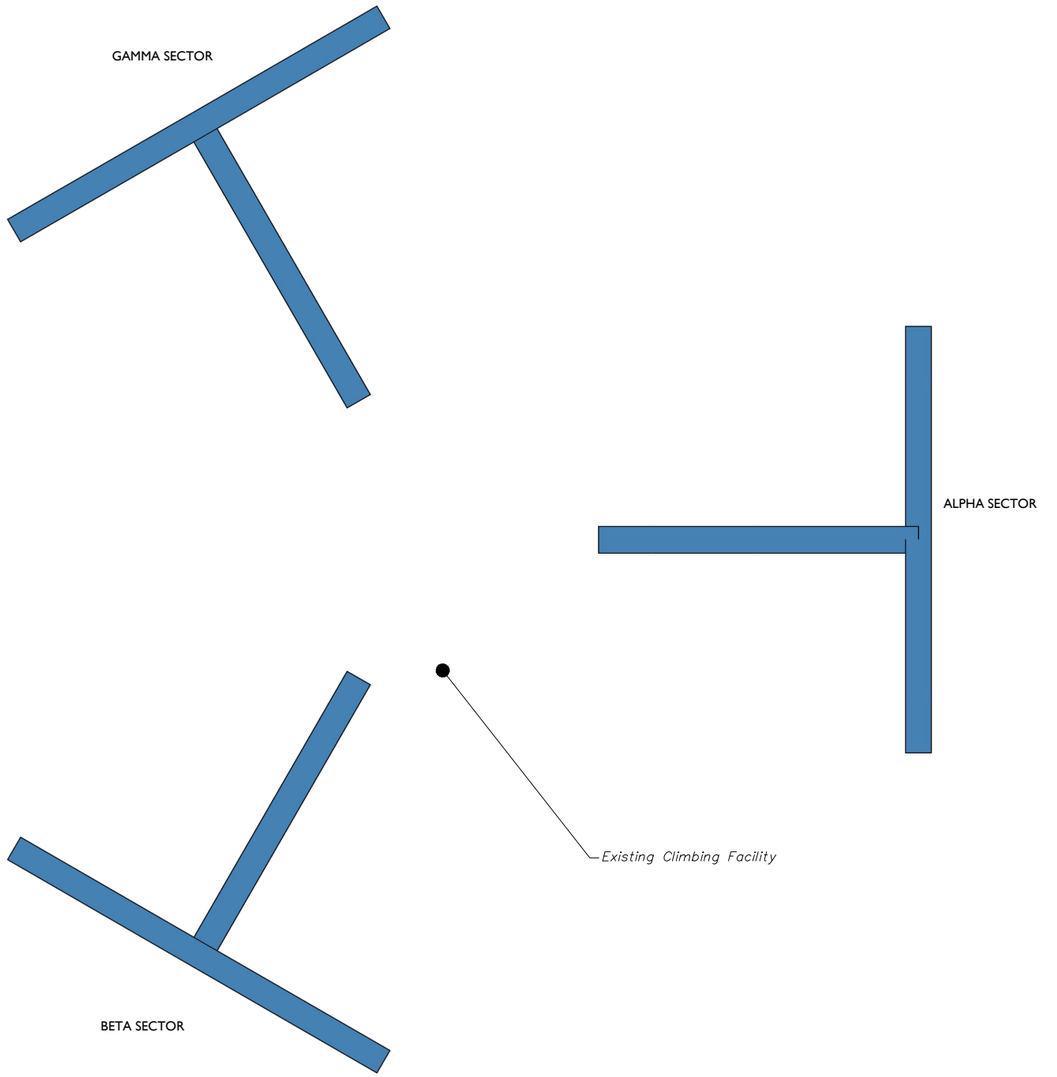
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

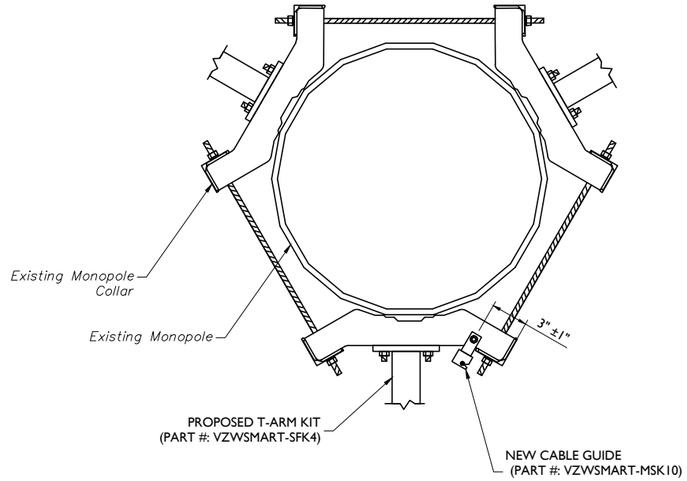
SHEET TITLE:
MODIFICATION NOTES

SHEET NUMBER:
SGN-1



1 CLIMBING FACILITY LOCATION

SCALE : N.T.S.



2 PROPOSED (T-ARM) THREADED ROD ATTACHEMENT - PLAN VIEW

SCALE : N.T.S.

CLIMBING FACILITY PHOTO

STRUCTURAL NOTES:

1. PER THE MOUNT MAPPING COMPLETED BY STRUCTURAL COMPONENTS ON 7/26/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (120'-0") ARE IN GOOD CONDITION. MASER DOES NOT WARRANT THIS INFORMATION.

2. INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	21777738A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	10/1/2021	ISSUED FOR CONSTRUCTION	FAC	DX

STATE OF CONNECTICUT · DEJIAN XU · No. 33733 · LICENSED PROFESSIONAL ENGINEER

10/01/2021

SITE NAME:
HAMDEN 8 CT JOSEPHS TREE FARM
467978

208 KIRK RD
HAMDEN, CONNECTICUT 06514
NEW HAVEN COUNTY

MT. LAUREL
2000 Midlantic Drive, Suite 100
Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE :
CLIMBING FACILITY DETAIL

SHEET NUMBER :
SCF-1

LEGEND:

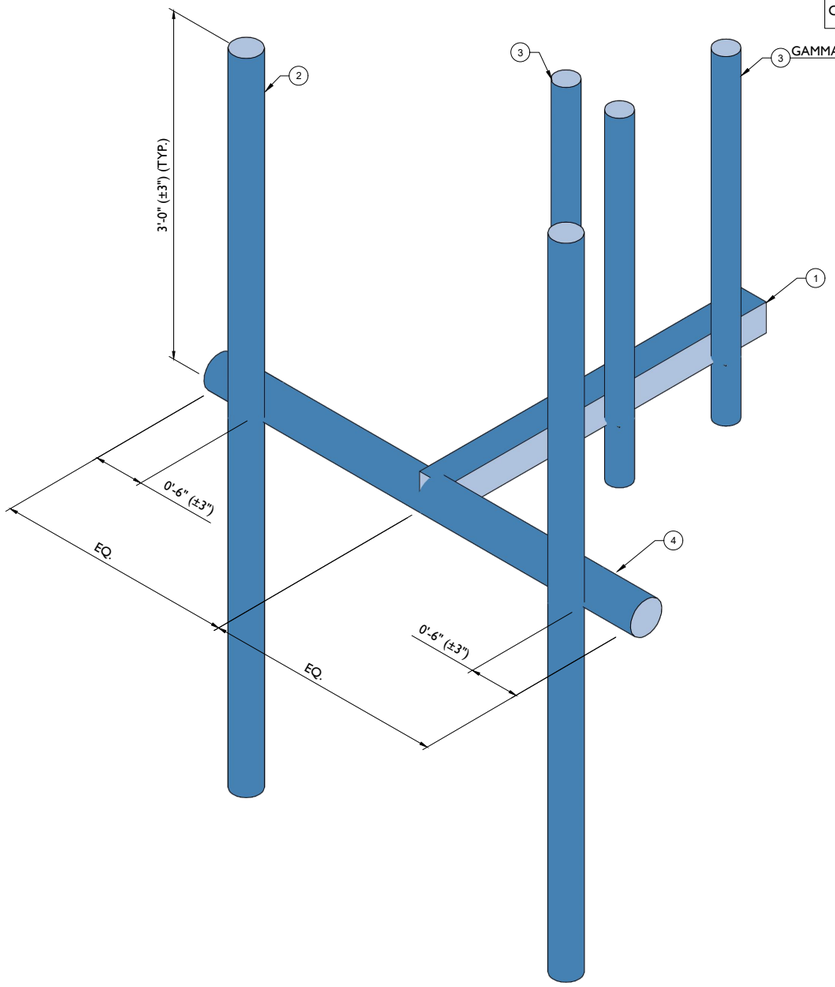
- PROPOSED
- RELOCATED
- EXISTING

MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	120'-0"	3	PROPOSED T-ARM KIT (PART #: VZWSMART-SFK4)	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT OTHER END OF T-ARM KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7).
2		6	P40-238X072	CONNECT MOUNT PIPES TO HORIZONTAL WITH CROSSOVER PLATES (PART #: VZWSMART-MSK2).
3		7	P40-238X048	CONTRACTOR TO TRIM MOUNT PIPE TO 36" IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1. CONNECT NEW OVP PIPE TO STANDOFF ARM WITH BACK TO BACK CROSSOVER PLATES (PART #: VZWSMART-MSK6).
4		3	P40-312X048	CONNECT HORIZONTAL TO PROPOSED T-ARM KIT

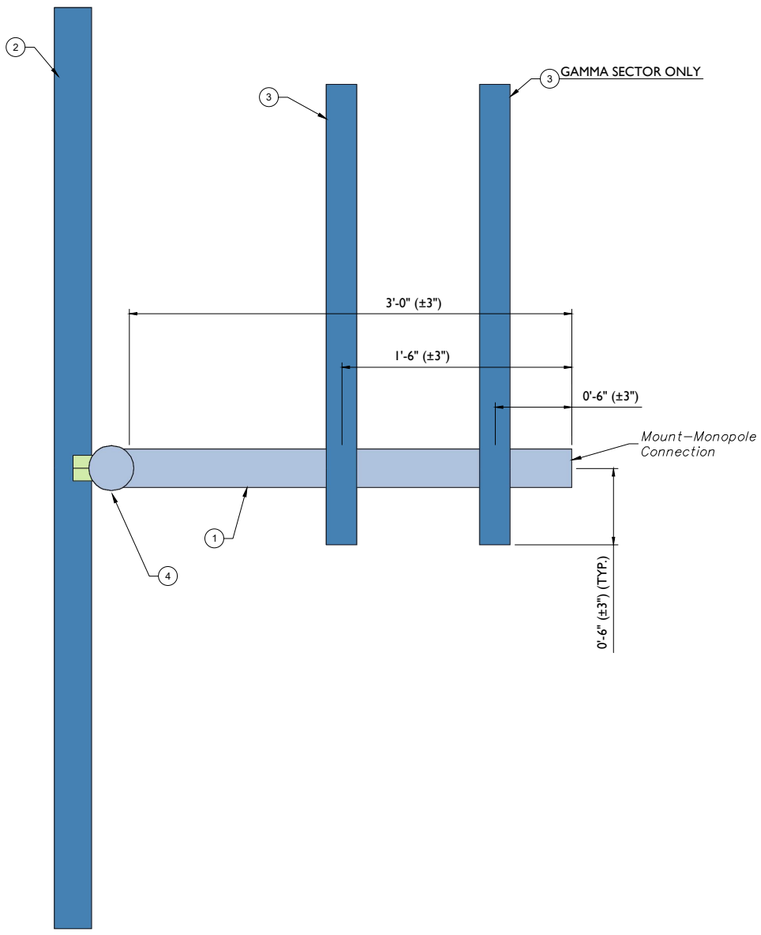
NOTES.

MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
CONTRATOR TO REMOVE AND REPLACE EXISITNG MONOPOLE COLLAR AND ASSOCIATED HARDWARE



1 PROPOSED ISOMETRIC VIEW

SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.

Colliers Engineering & Design

MASER CONSULTING C.T. C.O.A. #: PC.0000131

www.colliersengineering.com

Doing Business as MASER CONSULTING

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SCALE :	JOB NUMBER :
AS SHOWN	21777738A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	10/1/2021	ISSUED FOR CONSTRUCTION	FAC	DX

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER

10/01/2021

SITE NAME:
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208 KIRK RD
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Mt. Laurel, NJ 08054
Phone: 856.797.0412
COLLIERS ENGINEERING & DESIGN, INC. DOING BUSINESS AS MASER CONSULTING

SHEET TITLE :
MODIFICATION DETAILS

SHEET NUMBER :
SS-1

MOUNT PHOTO 1

Colliers Engineering & Design
MASER CONSULTING C.T. C.O.A. #: PC.0000131
www.colliersengineering.com

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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE : AS SHOWN

JOB NUMBER : 21777738A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	10/1/2021	ISSUED FOR CONSTRUCTION	FAC	DX

STATE OF CONNECTICUT
DEJIAN XU
No. 33733
LICENSED PROFESSIONAL ENGINEER

10/01/2021

SITE NAME:
HAMDEN 8 CT JOSEPHS TREE FARM
467978

208 KIRK RD
HAMDEN, CONNECTICUT 06514
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Mt. Laurel, NJ 08054
Phone: 856.797.0412
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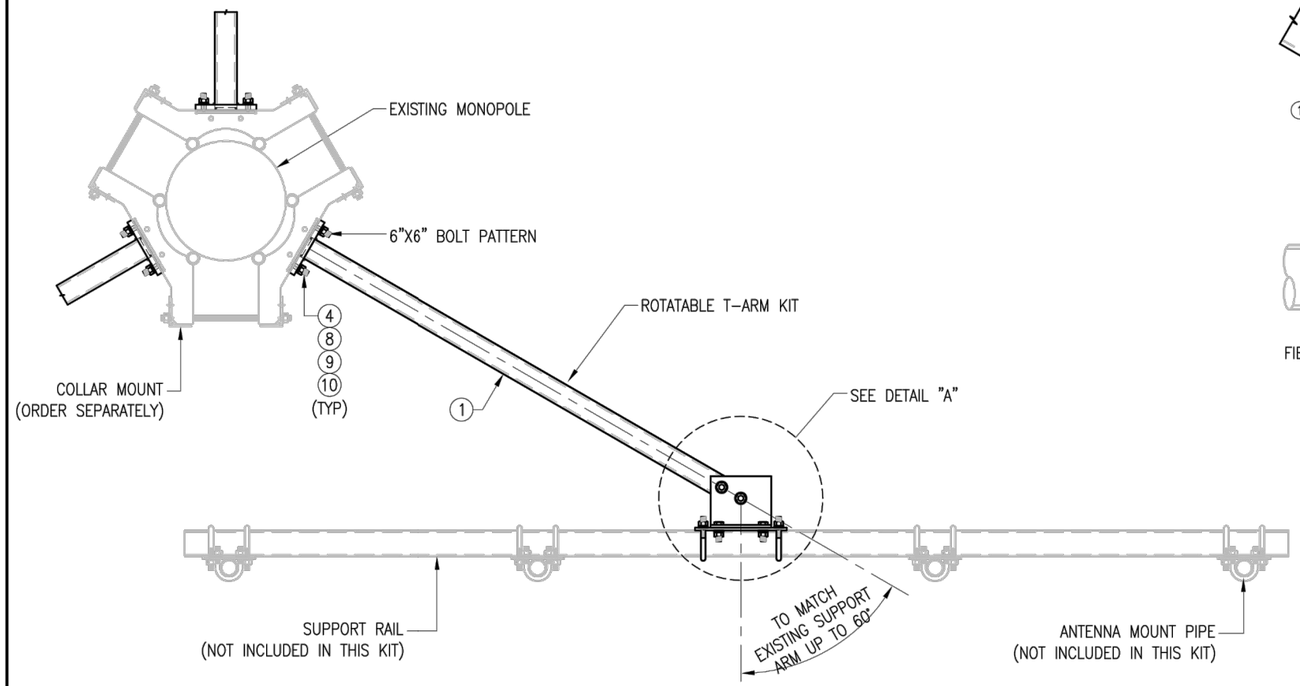
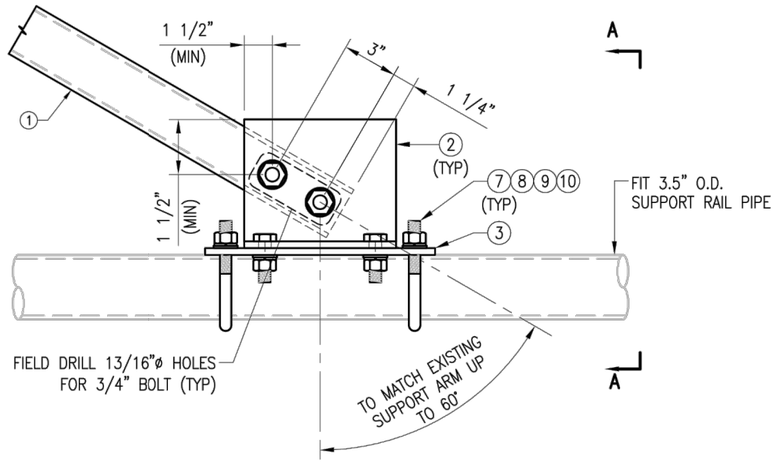
SHEET TITLE : MOUNT PHOTOS

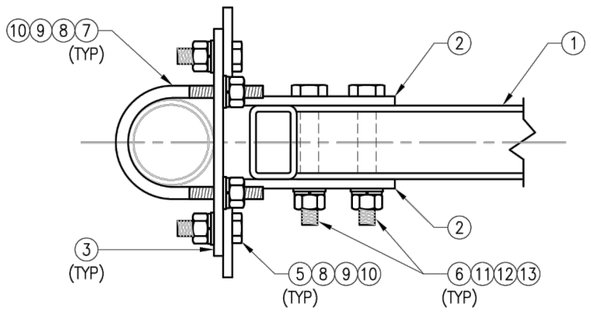
SHEET NUMBER : SS-2



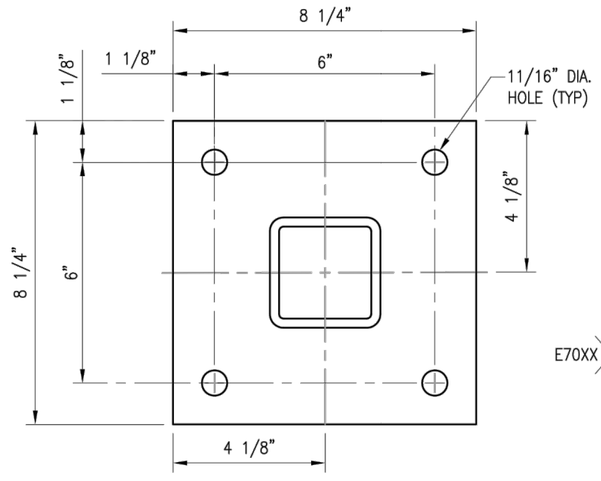
PLAN VIEW
T-ARM KIT



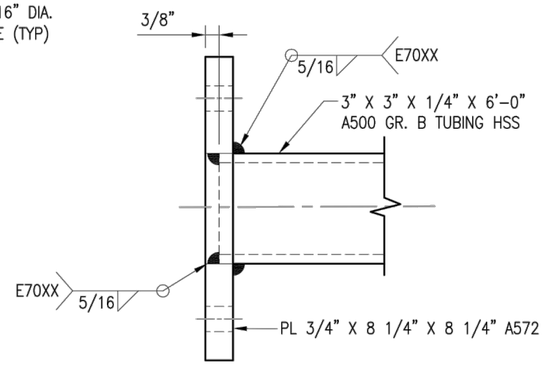
DETAIL "A"



SECTION "A-A"



FRONT VIEW



SIDE VIEW

RO-TAW-6 WELDMENT

VZWSMART-SFK4 (T-ARM KIT)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	RO-TAW-6	T-ARM WELDMENT	SFK4-F1	71
2	2	BP825-94375	PL 3/8" X 8 1/4" X 9 7/16" A36 BEND PLATE	SFK4-F2	17
3	1	PL375-92512025	PL 3/8" X 9 1/4" X 1'-0 1/2" A36	SFK4-F3	12
4	4	---	BOLT 5/8" X 2 1/4" A325	---	0
5	4	---	BOLT 5/8" X 2" A325	---	0
6	2	---	BOLT 3/4" X 5 1/4" A325	---	0
7	2	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
8	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
9	12	LW-625	5/8" HDG LOCK WASHER	---	0
10	12	NUT-625	5/8" HDG HEX NUT	---	1
11	2	FW-75	3/4" HDG USS FLAT WASHER	---	0
12	2	LW-75	3/4" HDG LOCK WASHER	---	0
13	2	NUT-75	3/4" HDG HEX NUT	---	0
				GALVANIZED WT	106

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

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Vendor

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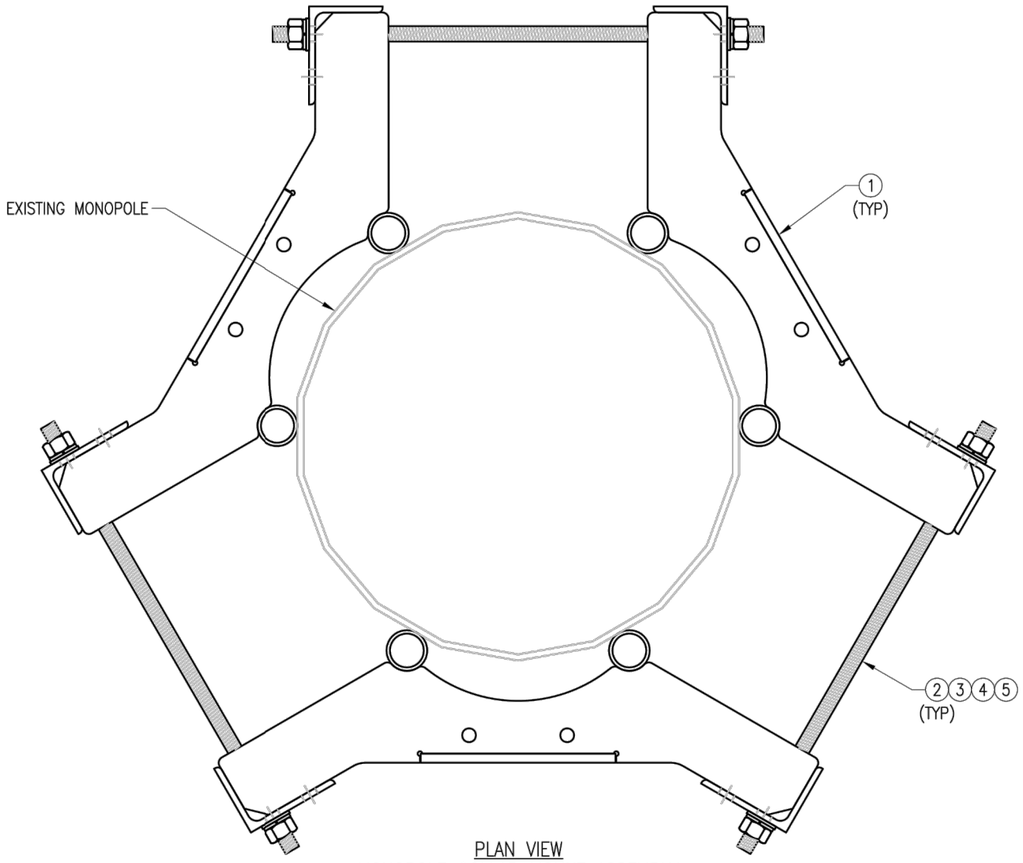
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/08/20

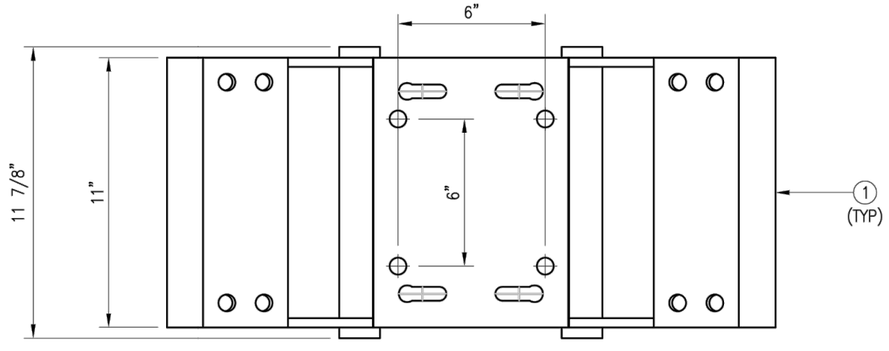
SHEET TITLE:
VZWSMART-SFK4
T-ARM KIT

SHEET NUMBER: VZWSMART-SFK4

REV #: 0



PLAN VIEW
MONOPOLE COLLAR MOUNT ASSEMBLY



FRONT VIEW

NOTES:
1. FIT 12" TO 45" DIA MONOPOLE.
2. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-PLK7 (MONOPOLE COLLAR MOUNT ASSEMBLY)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	CM-1245	COLLAR MOUNT ASSEMBLY	PLK7-F1	147
2	6	---	THREADED ROD 5/8" X 4'-0" A193-B7	---	
3	12	FW-625	5/8" HDG USS FLAT WASHER	---	1
4	12	LW-625	5/8" HDG LOCK WASHER	---	0
5	12	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	150

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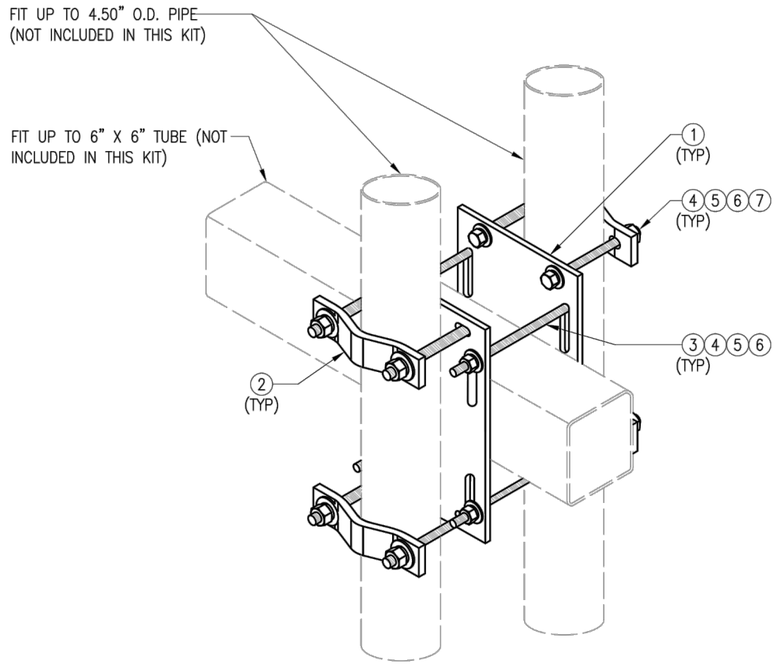
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	05/11/20

SHEET TITLE:
VZWSMART-PLK7
MONOPOLE COLLAR
MOUNT ASSEMBLY

SHEET NUMBER: VZWSMART-PLK7

REV #: 0



ISOMETRIC VIEW
BACK TO BACK CROSSOVER

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-MSK6 (VZWSMART-MSK6 - BACK TO BACK CROSSOVER)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	2	PL375-8512	PL 3/8" X 8 1/2" X 1'-0" A36	MSK6-F2	20.7
2	4	VCP	PL 1/2" X 2" X 8 5/8" A36 BENT PLATE	MSK6-F1	9.6
3	4	---	THREADED ROD 5/8" DIA. X 10" F1554-36 HDG	---	---
4	16	NUT-625	5/8" HDG HEX NUT	---	2
5	16	FW-625	5/8" HDG USS FLAT WASHER	---	1
6	16	LW-625	5/8" HDG LOCK WASHER	---	0
7	8	---	BOLT 5/8" X 6" SAE GRADE 5 ALL THREAD	---	1
				GALVANIZED WT	34

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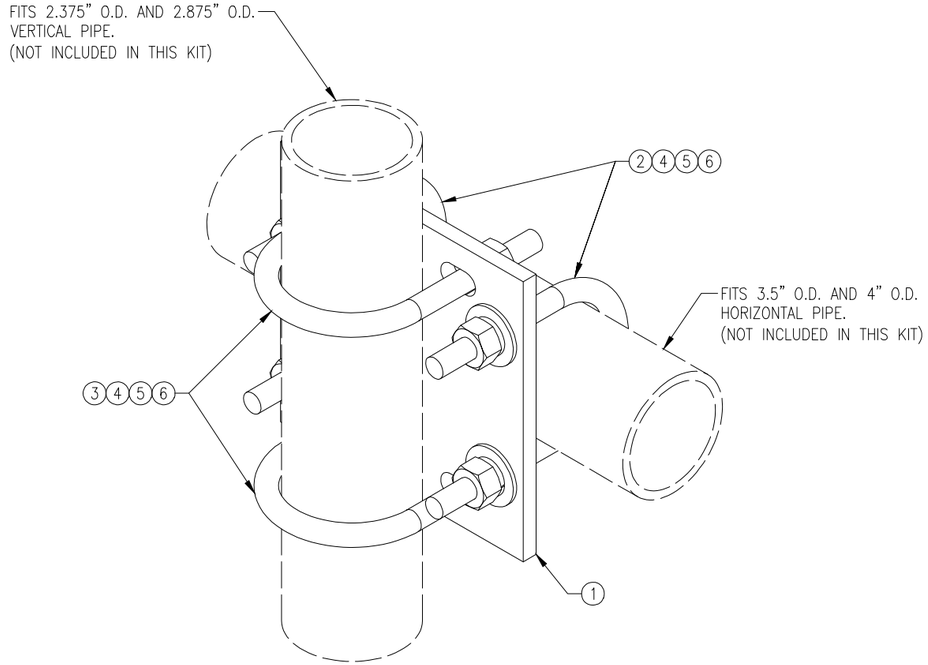
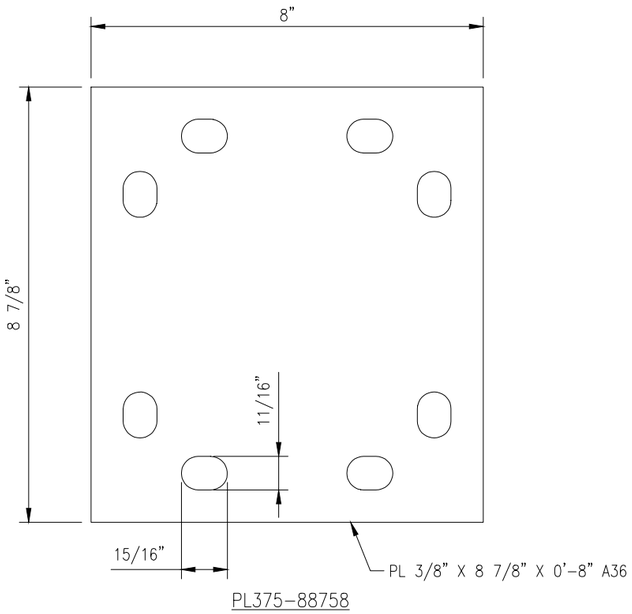
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	SK	05/08/20

SHEET TITLE:
VZWSMART-MSK6
BACK TO BACK
CROSSOVER

SHEET NUMBER: VZWSMART-MSK6

REV #: 0





PL375-88758

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZWSMART-MSK2 (CROSSOVER PLATE)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL375-88758	PL 3/8" X 8 3/4" X 0'-8" A36	MSK2-F1	8
2	2	MS02-625-4125-600	RU-BOLT 5/8" X 4 1/8" I.W. X 6" I.L. A36 (OR EQUIV.)	RBC-1	3
3	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	3
4	8	FW-625	5/8" HDG USS FLAT WASHER	---	1
5	8	LW-625	5/8" HDG LOCK WASHER	---	0
6	8	NUT-625	5/8" HDG HEX NUT	---	1
				GALVANIZED WT	15

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DRAWN BY: H.R | CHECKED BY: HMA

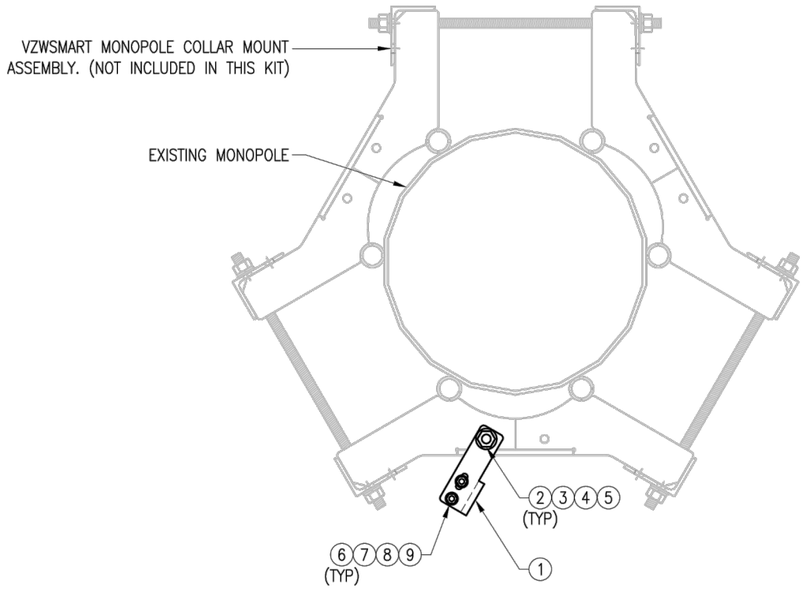
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	H.R	05/08/20

SHEET TITLE:

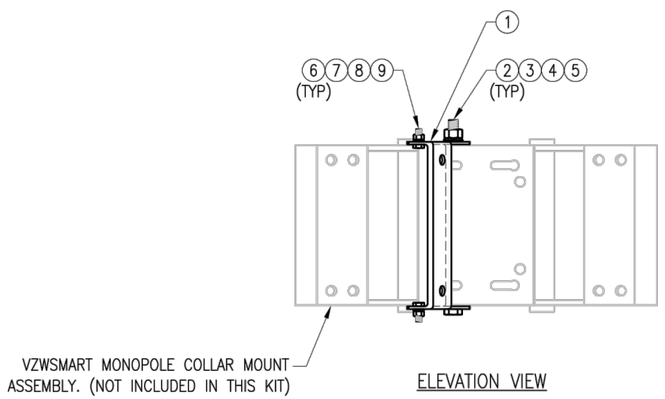
VZWSMART-MSK2
CROSSOVER PLATE

SHEET NUMBER: VZWSMART-MSK2

REV #: 0



PLAN VIEW



ELEVATION VIEW

VZWSMART–MSK10 (WIRE ROPE ROUTING BRACKET)

ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PL–CM	PL 3/16" X 6 1/2" X 2'–0 1/2" A36	MSK10–F1	2.7
2	2	---	BOLT 1/2" X 1 3/4" A325	---	0.4
3	2	FW–500	1/2" HDG USS FLAT WASHER	---	2
4	2	LW–500	1/2" HDG LOCK WASHER	---	0
5	2	NUT–500	1/2" HDG HEX NUT	---	2
6	4	---	BOLT 3/8" X 1 1/2" FULL THREAD SAE GR 5	---	0
7	4	FW–375	3/8" HDG USS FLAT WASHER	---	0
8	4	LW–375	3/8" HDG LOCK WASHER	---	0
9	4	NUT–375	3/8" HDG HEX NUT	---	0
				GALVANIZED WT	7

NOTES:
1. HOT–DIPPED GALVANIZED PER ASTM A123.

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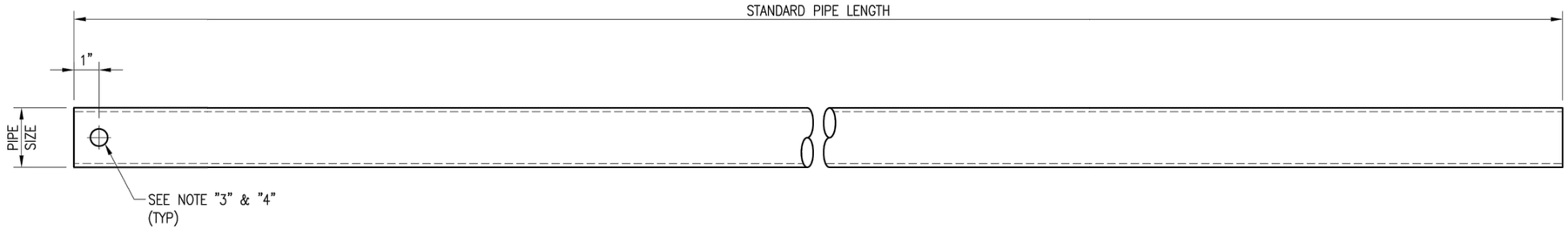
DRAWN BY: SK | CHECKED BY: KW

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	SK	04/13/21

SHEET TITLE:
VZWSMART–MSK10
WIRE ROPE ROUTING
BRACKET

SHEET NUMBER: VZWSMART–MSK10

REV #: 0



VZWSMART Standard Pipe		
VZWSMART Number	Size	Length
P40-238X048	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	48"
P40-238X072	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	72"
P40-238X096	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	96"
P40-238X120	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	120"
P40-238X126	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	126"
P40-238X150	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	150"
P40-238X174	PIPE 2 SCH40 (2.375" OD x 0.154" THK)	174"
P40-278X048	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	48"
P40-278X072	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	72"
P40-278X096	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	96"
P40-278X120	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	120"
P40-278X126	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	126"
P40-278X150	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	150"
P40-278X174	PIPE 2.5 SCH40 (2.875" OD x 0.203" THK)	174"
P40-312X048	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	48"
P40-312X072	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	72"
P40-312X126	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	126"
P40-312X150	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	150"
P40-312X174	PIPE 3 SCH40 (3.5" OD x 0.216" THK)	174"

NOTE:
APPROVED SMART KIT VENDORS ARE ALLOWED TO SUBSTITUTE AT THEIR DISCRETION PIPES LISTED ON THIS PAGE FOR CUSTOM LENGTH COMPONENTS OF MATCHING SIZE. SUBSTITUTIONS SHALL MEET THE ORIGINAL STRUCTURAL INTENT.

NOTES:
1. ALL PIPE GRADE A53–B OR BETTER.
2. HOT–DIPPED GALVANIZED PER ASTM A123.
3. ALL HOLES ARE 11/16" DIA. U.N.O
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA OR ZINC COTE PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	BT	08/04/21

SHEET TITLE:

VZWSMART STANDARD PIPE

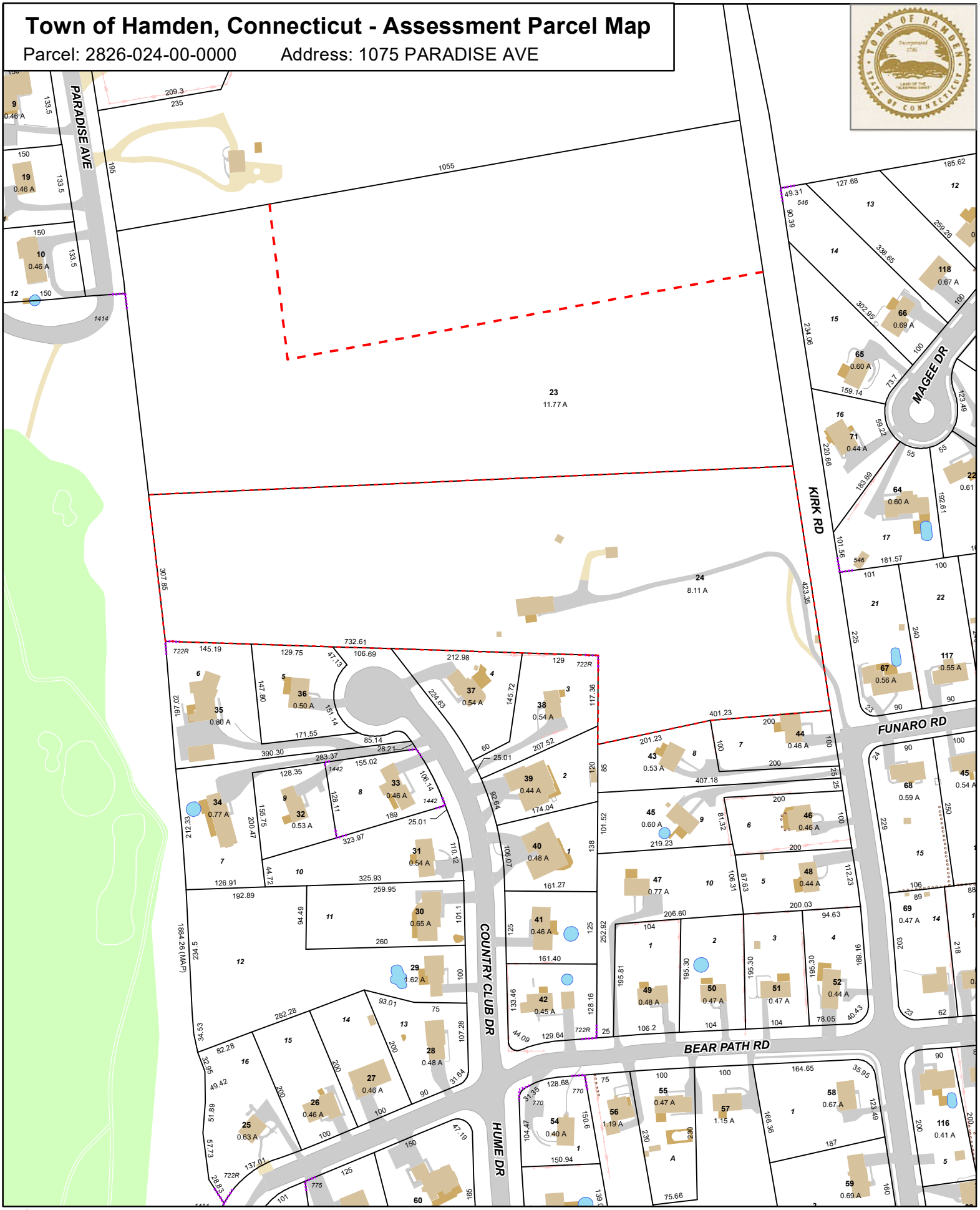
SHEET NUMBER: VZWSMART–PIPE

REV #: 0

ATTACHMENT 5

Town of Hamden, Connecticut - Assessment Parcel Map

Parcel: 2826-024-00-0000 Address: 1075 PARADISE AVE



Approximate Scale: 1 inch = 200 feet

0 100 200 300 400 Feet

Map Produced: October 2020

Detailed Parcel Information

Parcel No
2826-024-00-0000

Unique ID
13716

Account

Owner
VIGNOLA JOSEPH A & DENISE COURTEMANCHE

Location
1075 PARADISE AVE

MAILING ADDRESS
208 KIRK RD
HAMDEN CT 06514

2826-024-00-0000 04/28/2015

Scroll Down For Complete Property Detail

ATTACHMENT 6

UNITED STATES POSTAL SERVICE®

HAMDEN 8

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 01/20/2022 US POSTAGE $002.99 ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Lauren Garrett, Mayor Town of Hamden 2750 Dixwell Avenue Hamden, CT 06518				
2.	Erik Johnson, Acting Town Planner Town of Hamden 2750 Dixwell Avenue Hamden, CT 06518				
3.	Joseph Vignola and Denise Courtemanche 208 Kirk Road Hamden, CT 06514				
4.					
5.					
6.					

OLD STATE HOUSE STATION 06103 JAN 20 2021 USPS