

KENNETH C. BALDWIN

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Also admitted in Massachusetts  
and New York

June 14, 2021

*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  
720 Quinebaug Road, Thompson, 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 related equipment on the ground, near the base of the tower. The tower was approved by the Town of Thompson Planning and Zoning Commission (“Town”) in 1998 and is located at the Quinebaug Volunteer Fire Station. Cellco’s shared use of the tower was approved by the Council in July of 2007 (EM-VER-141-070614). A copy of the Town’s tower approval and Cellco’s Exempt Modification approval are included in Attachment 1.

Cellco now intends to modify its facility by installing three (3) Samsung MT6407-77A antennas on its existing antenna platform and replacing six (6) remote radio heads (“RRHs”) with six (6) new RRHs behind the antennas. A set of project plans showing Cellco’s proposed facility modifications and the new antenna and RRH specifications 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 Thompson’s Chief Elected Official and Land Use Officer.

Melanie A. Bachman, Esq.  
June 14, 2021  
Page 2

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 Cellco's existing antenna platform.
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. Far field approximation tables for Cellco's modified facility are 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 antenna mounting device, with certain modifications, can support Cellco's proposed modifications. Copies of the SA and MA are included in Attachment 4. Also included in Attachment 4 is a separate letter prepared by the consulting engineer responsible for the preparation of the SA verifying that the antenna model described in the SA as a VZS01 Antenna, is the Samsung 64T64R model antenna and RRH that will be installed on the tower.

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).

Melanie A. Bachman, Esq.  
June 14, 2021  
Page 3

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Enclosures

Copy to:

Amy St. Onge, Thompson First Selectman  
Tyra Penn-Gesek, Thompson Director Planning and Development  
Quinebaug Volunteer Fire Department, Property Owner  
Aleksy Tyurin

# **ATTACHMENT 1**

Town of Thompson

PLANNING & ZONING COMMISSION

MUNICIPAL BUILDING

ROUTE 12

NORTH GROSVENDOR DALE, CONN. 06255

TEL.: 203-923-9002

MINUTES

PLANNING & ZONING COMMISSION

MARCH 23, 1998 \* 7:00 PM

MERRILL SENEY COMMUNITY ROOM

- 5). Discussion Regarding Proposed Telecommunications Facility  
720 Thompson Road; Map 120, Block 30, Lot 14, Industrial Zone  
John Kowalski, Techstar Communications

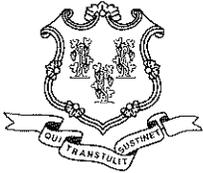
John Kowalski gave a brief presentation, they received a conceptual approval from the commission last month, he has submitted new information including the 10 ft. fence, materials stating the coverage afforded, they will be located in an industrial zone, the tower will co-host two additional users on the 140 ft. monopole. They are seeking their zoning permit at this time, there is no existing tower in town that will meet their coverage. Atty. St. Onge stated the rules are up in the air at this time, in the Town's Zoning Regulations a structure is defined as all inclusive, a building is defined with the exclusion of radio and TV antennas, and that is the only difference between a building and a structure; clearly there was an intention in the regulations but it was not spelled out. It does fit in under the industrial zone, where it accepts radio & TV towers but the regulations don't list where they're permitted. The law is the Town can regulate but it can't prohibit. The Town does need a regulation to address this issue and specify the height issue, setbacks, screening, fencing, co-location, minimum lot size, signs & lights, removal, etc. The commission may want to act on this application since he already has a conceptual approval but then either a moratorium or drafting of a new regulation must begin immediately to meet the Federal requirements. John Rice noted some approval stipulations: a letter signed by the Director of CT. operations for Techstar Communications that the commission reserves the right to require other applicant's to share their tower; also that Techstar agrees to dismantle and remove at their expense if the facility is not in use for 12 consecutive months, this removal shall occur within 90 days of the end of such 12 month period; the design and plan shall indicate how the tower will collapse without encroaching upon any adjoining property if failure occurs; a report from a licensed telecommunications system engineer indicating that the proposed wireless telecommunications facility will comply with F.C.C. radio frequency emissions standards and that the installation will not interfere with public safety communications. Discussion followed. Mr. Kowalski stated there will be no lights and no signs except for a warning sign.

A Motion was made by John Rice to approve the zoning permit for a free standing 140 ft. monopole tower and in conformity with the drawings submitted upon meeting all aforementioned stipulations and reviewed by the Zoning Enforcement Officer, seconded by Randolph Blackmer. All in favor.

VOTE: 9 YES MOTION CARRIED

Discussion followed regarding amending the regulations, it could be

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 n favor.



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

Daniel F. Caruso

Chairman

July 11, 2007

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597

RE: **EM-VER-141-070614** - Cellco Partnership d/b/a Verizon Wireless notice of intent to modify an existing telecommunications facility located at 720 Quinebaug Road, Thompson, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on July 3, 2007, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated June 14, 2007, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

Daniel F. Caruso  
Chairman

DFC/MP/laf

- c: The Honorable A. David Babbitt, First Selectman, Town of Thompson
- Meredith Robson, Town Manager, Town of Thompson
- John E. Mahon, Jr., Zoning Enforcement Officer, Town of Thompson
- Christopher B. Fisher, Esq., Cuddy & Feder LLP
- Michele G. Briggs, New Cingular Wireless PCS, LLC
- Quinebaug Volunteer Fire Department

# **ATTACHMENT 2**

**DO NOT SCALE DRAWINGS**

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE PROJECT OWNERS REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

**SHEET INDEX**

SHEET NUMBER	SHEET DESCRIPTION
T-1	TITLE SHEET
A-1	COMPOUND PLAN & STRUCTURE ELEVATION
A-2	ANTENNA PLAN, DETAILS & NOTES
A-3	ANTENNA SECTOR CONFIGURATIONS, DETAILS & NOTES
A-4	RET SYSTEM WIRING SCHEMATIC

**VICINITY MAP**



APPLICANT:  
CELLCO PARTNERSHIP d/b/a  
VERIZON WIRELESS

SCOPE OF WORK:  
PROPOSED EQUIPMENT & ANTENNA MODIFICATIONS  
TO AN EXISTING VERIZON WIRELESS INSTALLATION  
AT A 125'-0"± MONOPOLE

SITE NAME  
QUINEBAUG CT

LOCATION CODE  
468550

TOWER OWNER  
TOWN OF QUINEBAUG  
FIRE DEPARTMENT

ADDRESS  
720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262

COORDINATES  
42° 01' 21.90" N  
71° 56' 57.48" W

**NOTES**

**GENERAL NOTES:**

- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS 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 ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- APPLICABLE BUILDING CODES:  
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.  
BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE (IBC 2015)  
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS  
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

AISC 360-10: SPECIFICATIONS STEEL FOR STRUCTURAL STEEL BUILDINGS.

ANSI/TIA-222-G WITH ADDENDUMS, STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

**ELECTRICAL & GROUNDING NOTES**

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- GROUNDING SHALL COMPLY WITH NEC ART. 250.
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
- CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGG GROUND IN BTS UNIT).
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
- BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
- TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
- BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.

PREPARED BY:

**nexius**

TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:  
300 APOLLO DRIVE, SUITE 7  
CHELMSFORD, MA 01824  
1 (978) 923-7965

APPLICANT:  
CELLCO PARTNERSHIP d/b/a

**verizon**

20 ALEXANDER DRIVE, 2<sup>ND</sup> FLOOR  
WALLINGFORD, CT 06492

PROFESSIONAL STAMP:



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**SUBMITTALS**

REV	DATE	DESCRIPTION	BY
0	03/30/21	PER CONSTRUCTION	MLB
1	04/15/21	REVISED PER COMMENTS	AA
2	05/14/21	PER MOUNT MODIFICATION	MLB

**SITE INFORMATION:**

SITE NAME:  
**QUINEBAUG CT**  
LOCATION CODE:  
**468550**  
SITE ADDRESS:  
**720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262**

DRAWN BY: AA	DATE: 04/15/21
CHECKED BY: KB	DATE: 05/14/21

NEXIUS PROJECT NO.:  
VZ11509

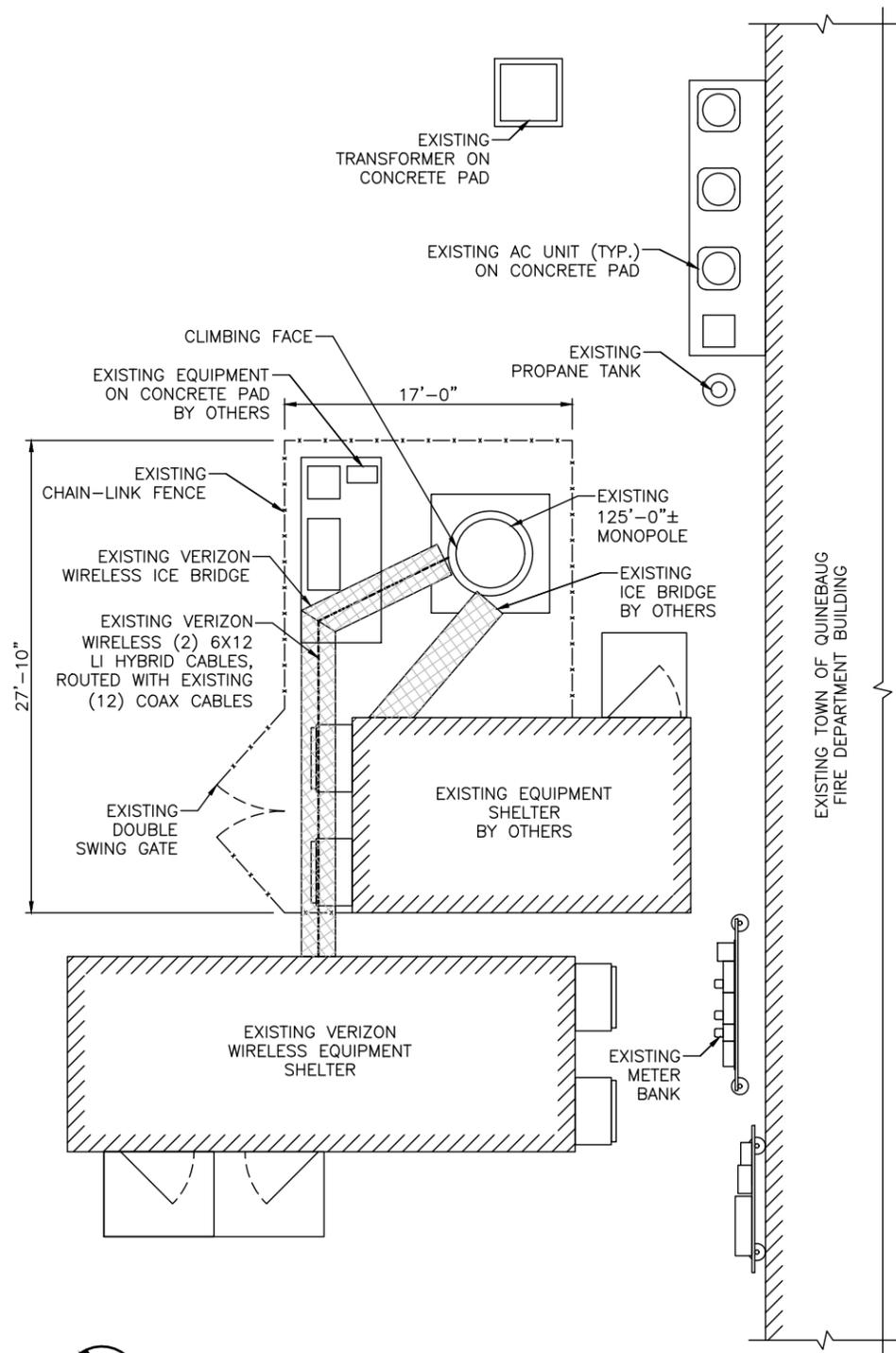
SHEET TITLE:  
**TITLE SHEET**

SHEET NUMBER:

**T-1**

**MOUNT STRUCTURAL ANALYSIS PREPARED BY MASER CONSULTING**  
 MOUNT STRUCTURAL MODIFICATION DESIGN AND ANALYSIS PREPARED BY MASER CONSULTING, ENTITLED POST-MOD ANTENNA MOUNT ANALYSIS REPORT AND PMI REQUIREMENTS, DATED APRIL 27, 2021, STATES THAT THE EXISTING MOUNTS ARE ADEQUATE FOR THE EXISTING AND PROPOSED LOADING AFTER INSTALLING THE PROPOSED MODIFICATIONS.

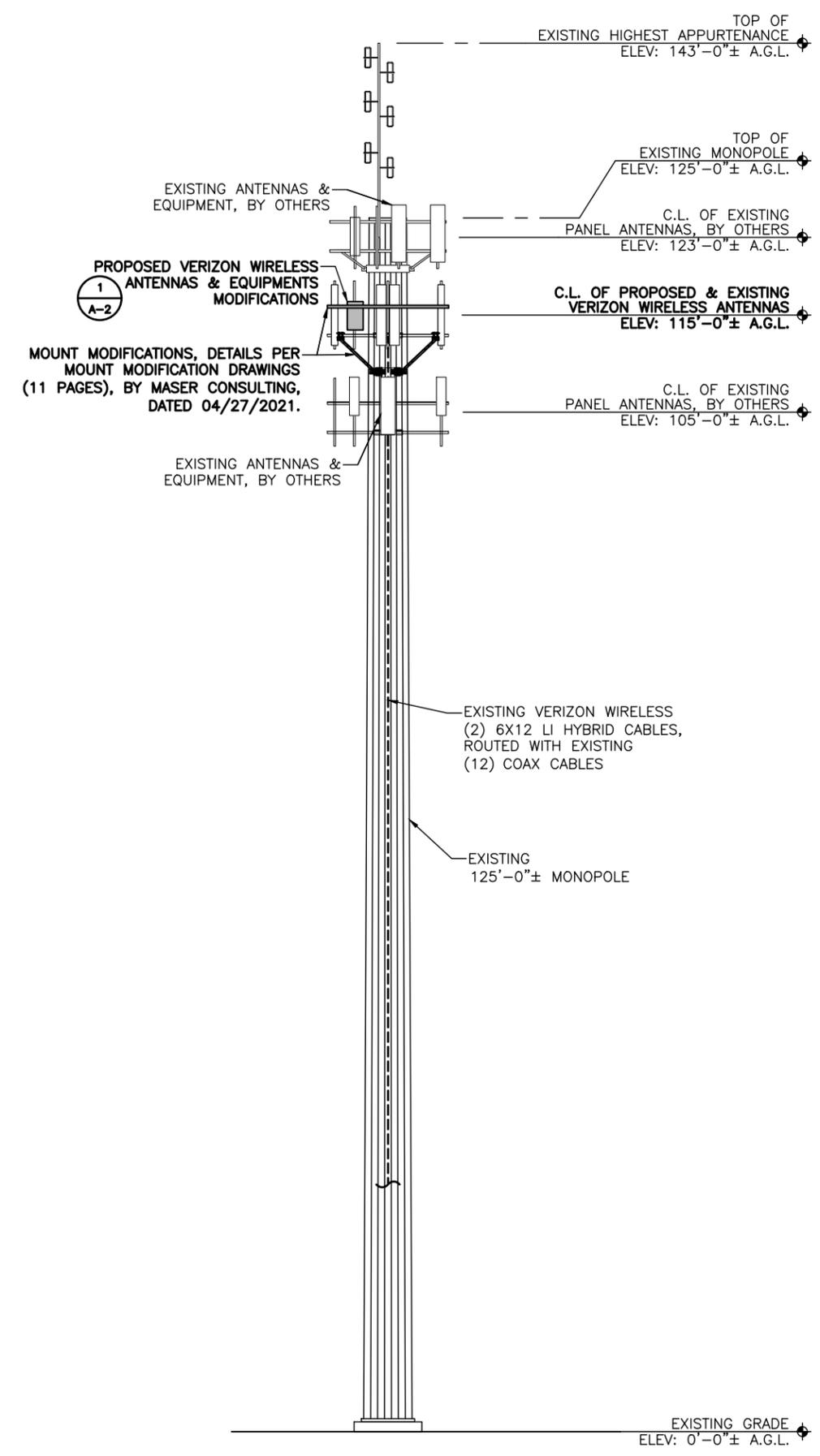
**TOWER STRUCTURAL ANALYSIS REPORT PREPARED BY NEXIUS**  
 TOWER STRUCTURAL ANALYSIS REPORT, PREPARED BY NEXIUS, ENTITLED STRUCTURAL ANALYSIS REPORT, DATED MAY 14, 2021, STATES THAT THE EXISTING STRUCTURE IS ADEQUATE FOR THE EXISTING AND PROPOSED LOADING.



APPROX. NORTH

**1** **COMPOUND PLAN**  
 SCALE: 3/16" = 1'-0"

GRAPHIC SCALE: 3/16" = 1'-0"



**2** **STRUCTURE ELEVATION**  
 SCALE: 1/8" = 1'-0"

GRAPHIC SCALE: 1/8" = 1'-0"

PREPARED BY:  
**nexius**  
 TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:  
 300 APOLLO DRIVE, SUITE 7  
 CHELMSFORD, MA 01824  
 1 (978) 923-7965

APPLICANT:  
 CELLCO PARTNERSHIP d/b/a

**verizon**

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2	05/14/21	PER MOUNT MODIFICATION	MLB

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SITE NAME:  
**QUINEBAUG CT**

LOCATION CODE:  
**468550**

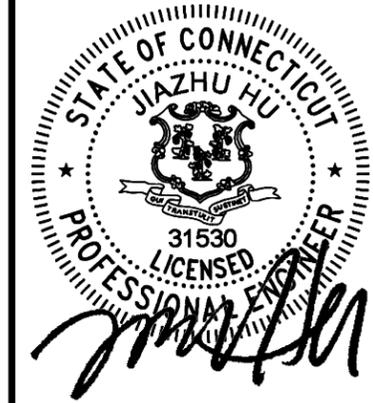
SITE ADDRESS:  
**720 QUINEBAUG ROAD  
 QUINEBAUG, CT 06262**

DRAWN BY: AA	DATE: 04/15/21
CHECKED BY: KB	DATE: 05/14/21

NEXIUS PROJECT NO.:  
 VZ11509

SHEET TITLE:  
**COMPOUND PLAN &  
 STRUCTURE ELEVATION**

SHEET NUMBER:  
**A-1**



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**720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262**

DRAWN BY: AA DATE: 04/15/21

CHECKED BY: KB DATE: 05/14/21

NEXIUS PROJECT NO.: VZ11509

SHEET TITLE:  
**ANTENNA PLAN,  
DETAILS & NOTES**

SHEET NUMBER:

**SCOPE OF WORK:**  
INSTALL MOUNT MODIFICATIONS FOR ALL SECTORS.

**ALPHA SECTOR:**

- INSTALL (1) NEW "VZS01 ANTENNA W/ RRH" AS SHOWN ON PLANS.
- INSTALL (1) NEW COMMSCOPE CBC78T-DS-43-2X 700/850 DIPLEXER
- REMOVE (2) EXISTING RRHS (850 & AWS).
- INSTALL (1) NEW BRO4C B5/B13 700/850 RRH AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) NEW BRO49 B2/B66A AWS/PCS RRH AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW 1x2 HYBRID CABLE FROM OVP BOX TO "VZS01 ANTENNA W/ RRH".
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED.

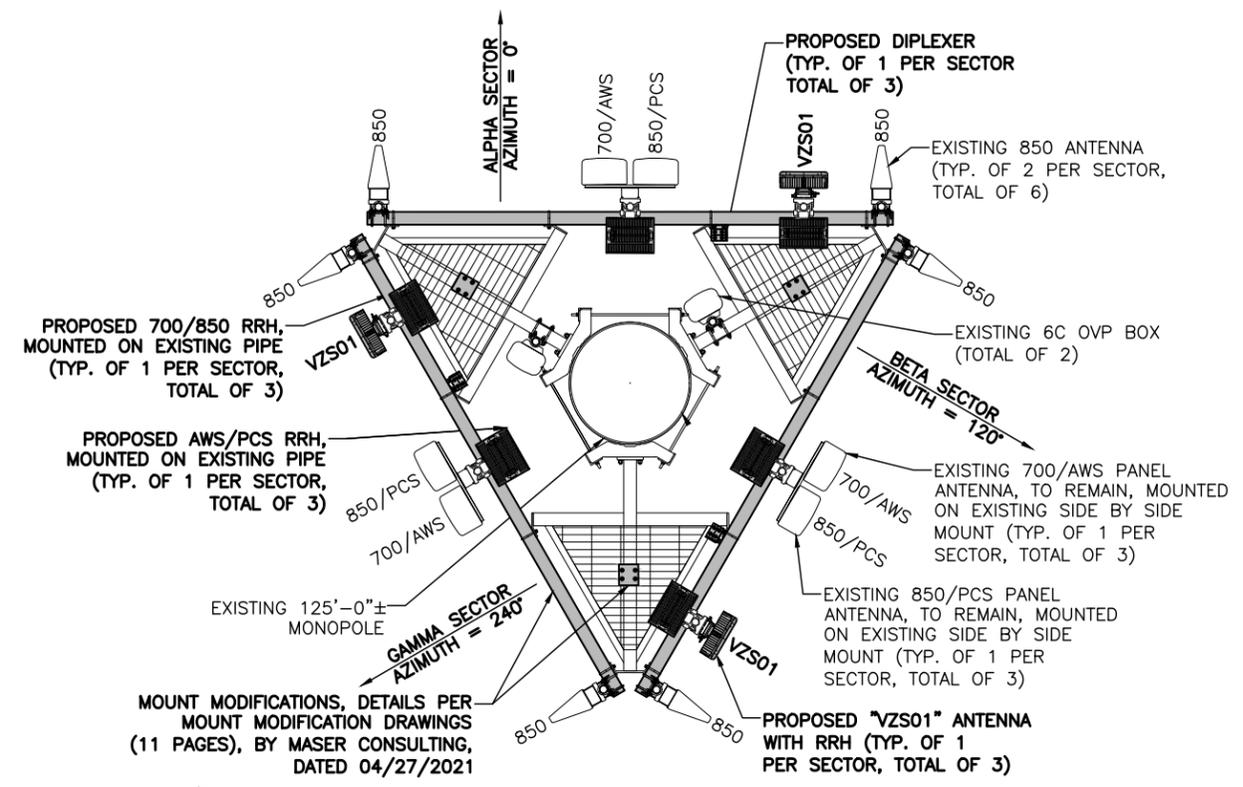
**BETA SECTOR:**

- INSTALL (1) NEW "VZS01 ANTENNA W/ RRH" AS SHOWN ON PLANS.
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- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW 1x2 HYBRID CABLE FROM OVP BOX TO "VZS01 ANTENNA W/ RRH".
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED.

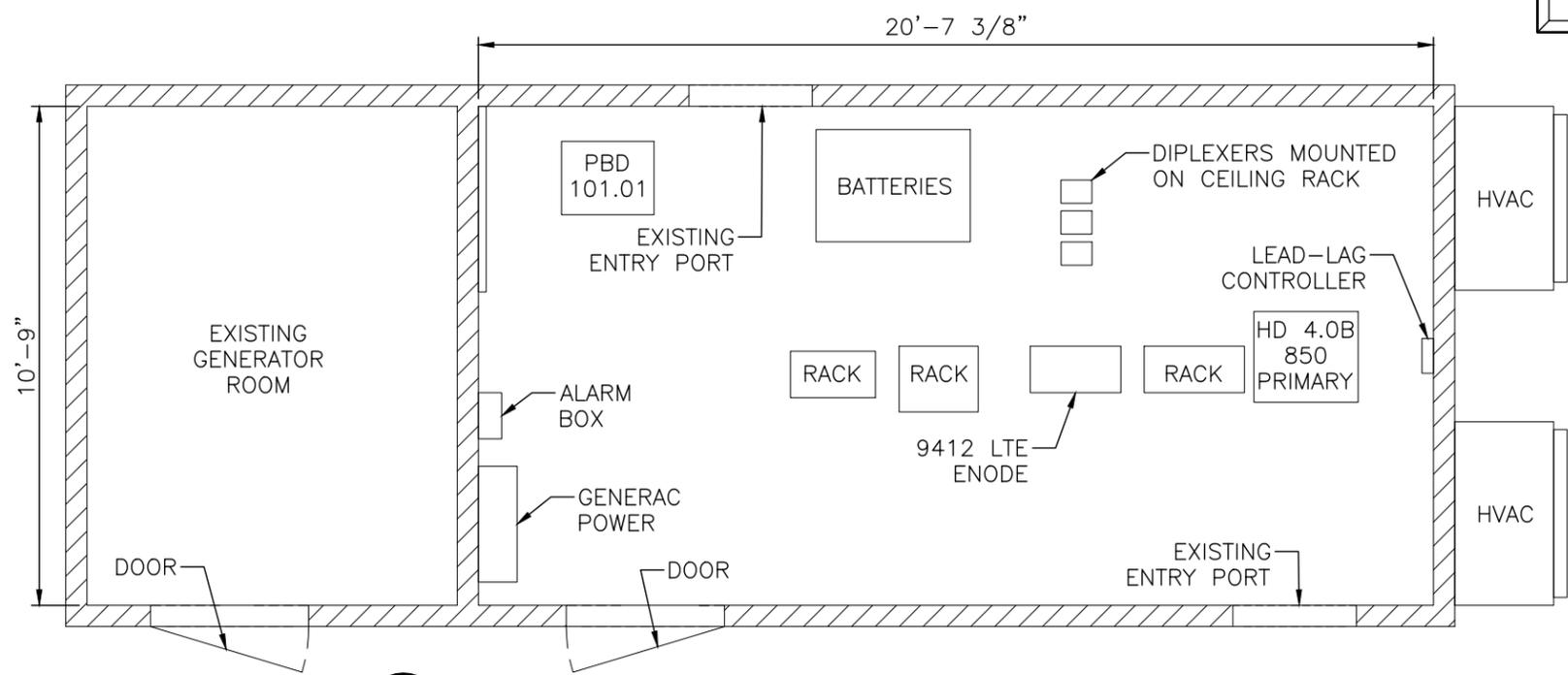
**GAMMA SECTOR:**

- INSTALL (1) NEW "VZS01 ANTENNA W/ RRH" AS SHOWN ON PLANS.
- INSTALL (1) NEW COMMSCOPE CBC78T-DS-43-2X 700/850 DIPLEXER
- REMOVE (2) EXISTING RRHS (850 & AWS).
- INSTALL (1) NEW BRO4C B5/B13 700/850 RRH AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) NEW BRO49 B2/B66A AWS/PCS RRH AT ANTENNAS, AS SHOWN ON PLANS.
- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO 700/850 RRH.
- INSTALL (1) NEW SAMSUNG JUMPER FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW POWER CABLE FROM OVP BOX TO AWS/PCS RRH.
- INSTALL (1) NEW 1x2 HYBRID CABLE FROM OVP BOX TO "VZS01 ANTENNA W/ RRH".
- INSTALL 1/2" ANTENNA JUMPERS, AS REQUIRED.

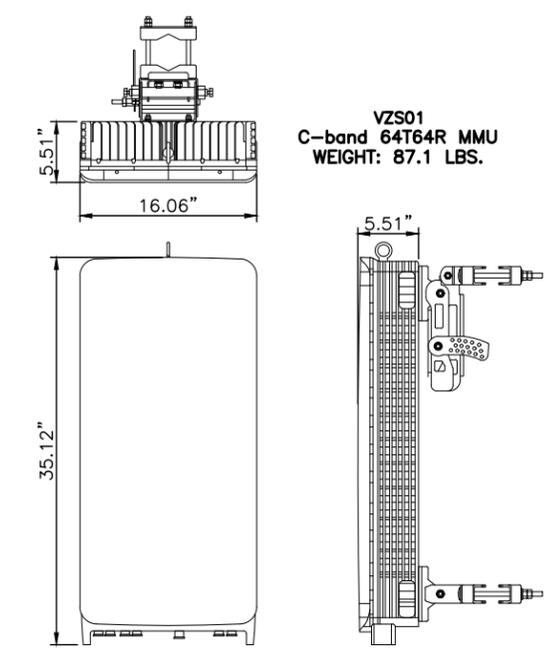
**DESIGN SHOWN HEREIN IS BASED OFF A RFDS PROVIDED BY VERIZON WIRELESS DATED 03/01/2021.**



**1 ANTENNA PLAN**  
SCALE: 3/8" = 1'-0"  
GRAPHIC SCALE: 3/8" = 1'-0"  
APPROX. NORTH

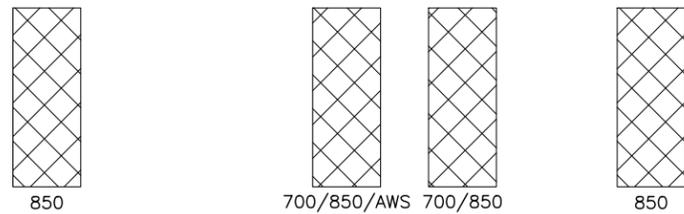


**2 SHELTER PLAN**  
SCALE: 3/8" = 1'-0"  
GRAPHIC SCALE: 3/8" = 1'-0"  
APPROX. NORTH

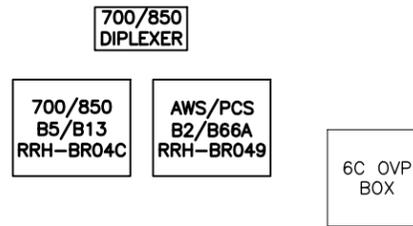
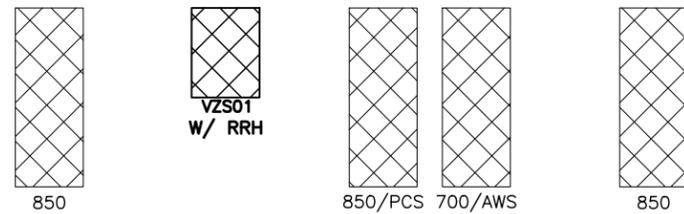


**3 ANTENNA SPEC. (NOT TO EXCEED)**  
SCALE: N.T.S.

NOTE: ALL ANTENNAS ARE VIEWED FROM FRONT

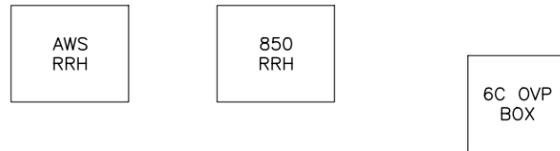
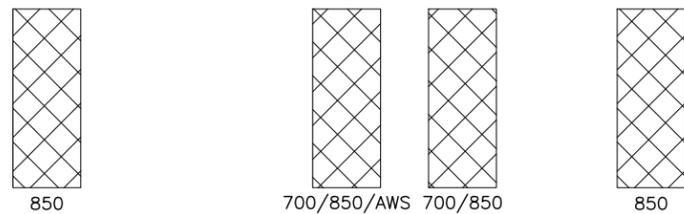


EXISTING CONFIGURATION

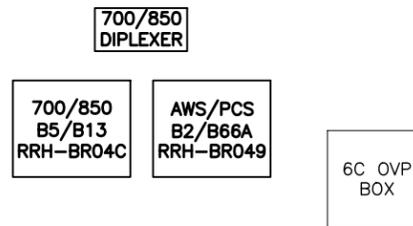
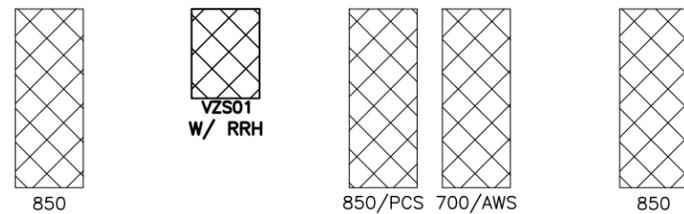


PROPOSED CONFIGURATION

ALPHA SECTOR ANTENNA CONFIGURATION

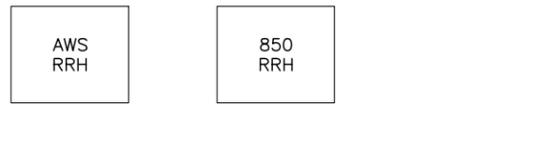
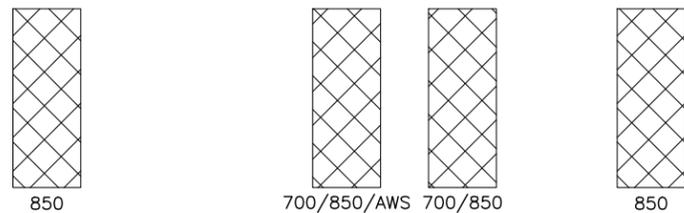


EXISTING CONFIGURATION

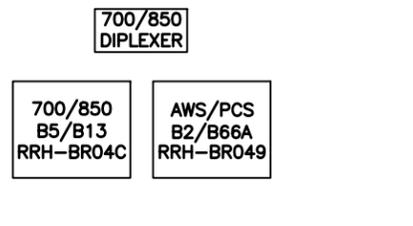
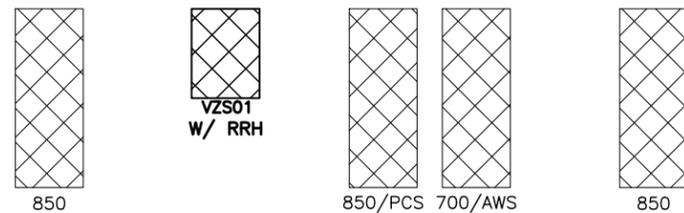


PROPOSED CONFIGURATION

BETA SECTOR ANTENNA CONFIGURATION



EXISTING CONFIGURATION



PROPOSED CONFIGURATION

GAMMA SECTOR ANTENNA CONFIGURATION

GENERAL NOTES:

1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS, AND HARDWARE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES, AND RRH'S IN ACCORDANCE WITH THE NEC ARTICLE 250 & THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANY INSTALLED SAFETY DEVICES.

PREPARED BY:

**nexius**

TRANSFORM YOUR BUSINESS...THROUGH WIRELESS

A&E OFFICE:  
300 APOLLO DRIVE, SUITE 7  
CHELMSFORD, MA 01824  
1 (978) 923-7965

APPLICANT:

CELLCO PARTNERSHIP d/b/a

**verizon**

20 ALEXANDER DRIVE, 2<sup>ND</sup> FLOOR  
WALLINGFORD, CT 06492

PROFESSIONAL STAMP:



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SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	03/30/21	PER CONSTRUCTION	MLB
1	04/15/21	REVISED PER COMMENTS	AA
2	05/14/21	PER MOUNT MODIFICATION	MLB

SITE INFORMATION:

SITE NAME:  
**QUINEBAUG CT**  
LOCATION CODE:  
**468550**  
SITE ADDRESS:  
**720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262**

DRAWN BY: AA	DATE: 04/15/21
CHECKED BY: KB	DATE: 05/14/21

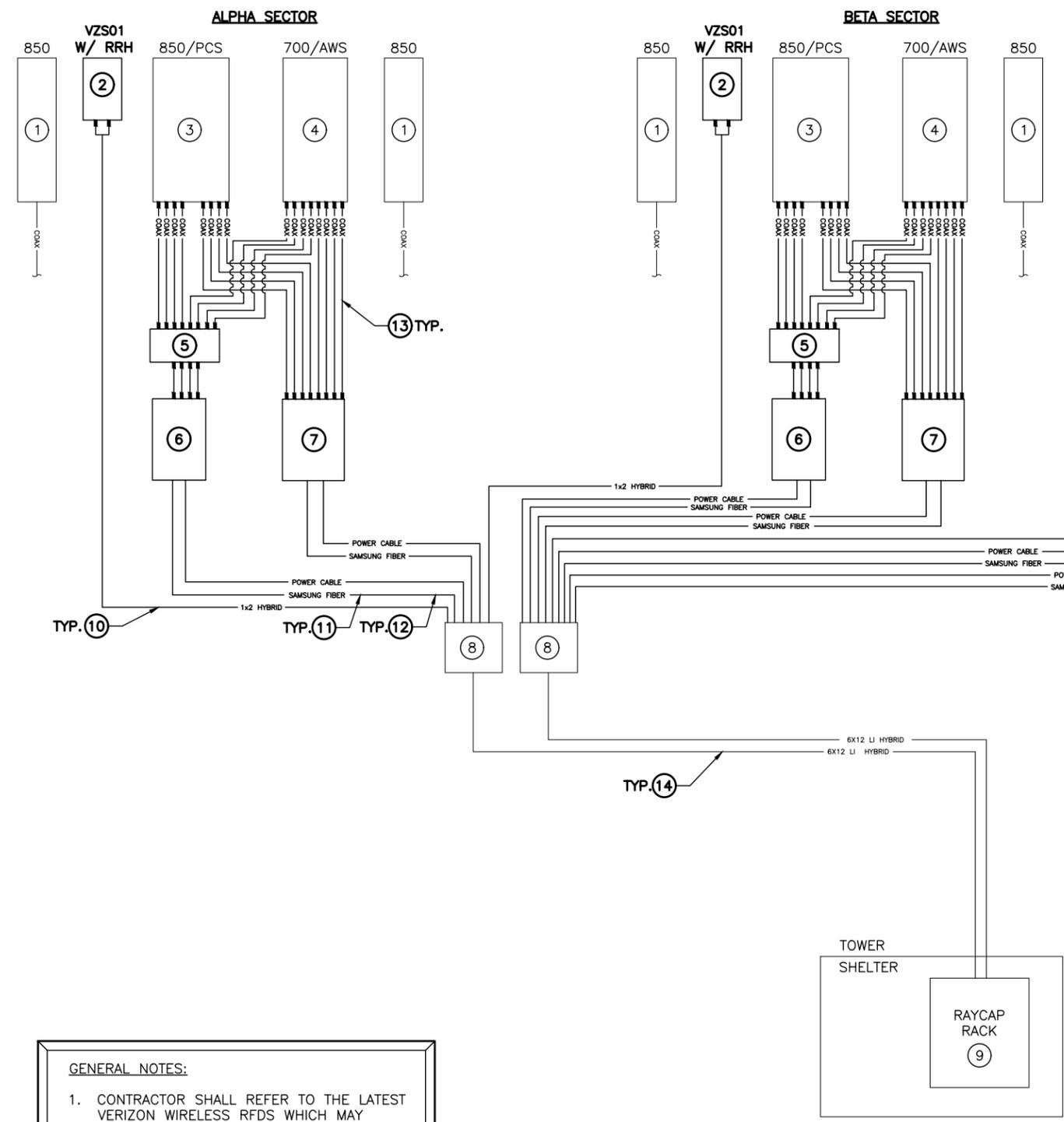
NEXIUS PROJECT NO.:  
VZ11509

SHEET TITLE:  
**ANTENNA SECTOR  
CONFIGURATIONS, DETAILS  
& NOTES**

SHEET NUMBER:

**A-3**

NOTE: ALL ANTENNAS ARE VIEWED FROM FRONT



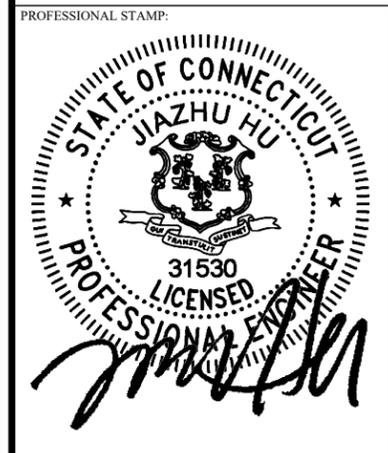
- GENERAL NOTES:**
1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
  2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS & MANUFACTURERS INSTRUCTIONS. EXTERIOR CONTROL CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING COAXIAL CABLES EVERY 4' MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS IN CERTAIN APPLICATIONS.
  3. RET CABLES SHALL BE ROUTED & SECURED ON STRUCTURAL MEMBERS ONLY. DO NOT LOOP THE CABLES IN MID-AIR BETWEEN ANTENNAS.
  4. CONTRACTOR SHALL VERIFY ALL CABLE LENGTHS PRIOR TO CONSTRUCTION.

BILL OF MATERIALS					
ITEM	DESCRIPTION	EXISTING/PROPOSED	QTY.	LENGTH	COMMENTS
①	850 ANTENNA	EXISTING	6	NA	RETAIN EXISTING 850 PANEL ANTENNA
②	VZS01 ANTENNA	PROPOSED	3	NA	INSTALL NEW "VZS01" ANTENNA W/ RRH
③	850/PCS ANTENNA	EXISTING	3	NA	RETAIN EXISTING ANDREW JAHH-65B-R3B 700/850/AWS/PCS PANEL ANTENNA
④	700/AWS ANTENNA	EXISTING	3	NA	RETAIN EXISTING ANDREW JAHH-65B-R3B 700/850/AWS/PCS PANEL ANTENNA
⑤	700/850 DIPLEXER	PROPOSED	3	NA	INSTALL NEW COMMSCOPE CBC78T-DS-43-2X DIPLEXER
⑥	700/850 RRH	PROPOSED	3	NA	INSTALL NEW RRH: 700/850 SAMSUNG B5/B13 RRH BRO4C AT ANTENNAS
⑦	AWS/PCS RRH	PROPOSED	3	NA	INSTALL NEW RRH: AWS/PCS SAMSUNG B2/B66A RRH BRO49 AT ANTENNAS
⑧	UPPER OVP BOX	EXISTING	2	NA	RETAIN EXISTING 6C OVP BOX AT ANTENNAS
⑨	LOWER OVP RACK MOUNT	EXISTING	2	NA	RETAIN EXISTING RAYCAP WITHIN SHELTER
⑩	1x2 HYBRID	PROPOSED	3	15'	INSTALL AT NEW "VZS01" ANTENNA W/ RRH
⑪	SAMSUNG FIBER	PROPOSED	6	15'	INSTALL NEW AT 700/850 & AWS/PCS RRH
⑫	POWER CABLES	PROPOSED	6	15'	INSTALL NEW AT 700/850 & AWS/PCS RRH
⑬	1/2" COAX CABLES	PROPOSED	60	15' EA	ROUTED AS SHOWN ON SCHEMATIC
⑭	6X12 LI HYBRID CABLE	EXISTING	2	180'±	RETAIN EXISTING FROM SHELTER TO TOWER

1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY, REFER TO VERIZON WIRELESS' B.O.M. FOR ALL MANUFACTURERS PART NUMBERS & ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.  
 2. 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.  
 \* SIGNIFIES LEASE ONLY.

PREPARED BY:  
**nexius**  
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 20 ALEXANDER DRIVE, 2<sup>ND</sup> FLOOR  
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SUBMITTALS

REV	DATE	DESCRIPTION	BY
0	03/30/21	PER CONSTRUCTION	MLB
1	04/15/21	REVISED PER COMMENTS	AA
2	05/14/21	PER MOUNT MODIFICATION	MLB

SITE INFORMATION:  
 SITE NAME:  
**QUINEBAUG CT**  
 LOCATION CODE:  
**468550**  
 SITE ADDRESS:  
**720 QUINEBAUG ROAD  
 QUINEBAUG, CT 06262**

DRAWN BY: AA DATE: 04/15/21  
 CHECKED BY: KB DATE: 05/14/21

NEXIUS PROJECT NO.: VZ11509

SHEET TITLE:  
**RET SYSTEM WIRING SCHEMATIC**

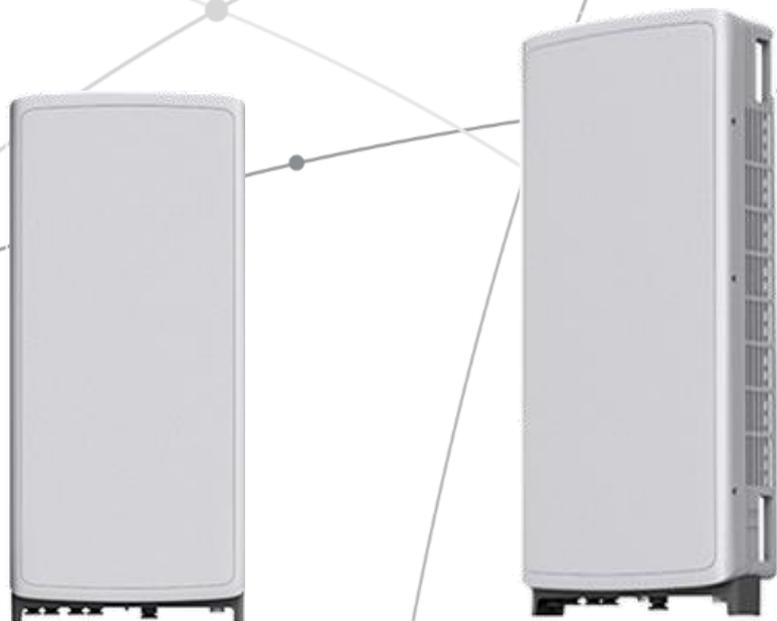
SHEET NUMBER:

## **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



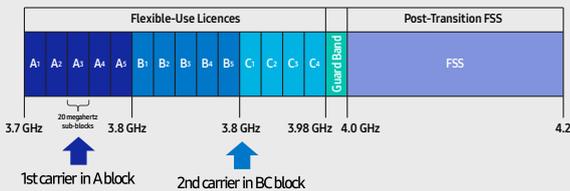
## Points of Differentiation

### 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

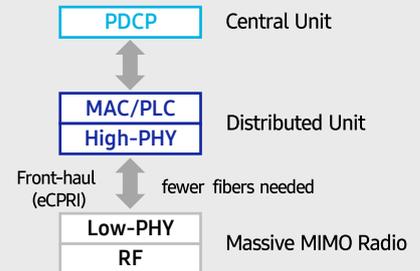
C-Band spectrum supported by Massive MIMO Radio



### 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.

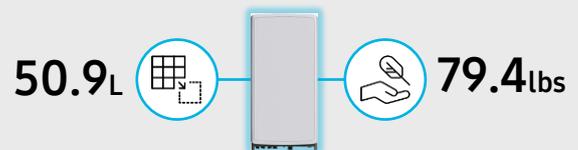
Furthermore, as C-Band massive MIMO Radio supports MU-MIMO (Multi-user MIMO), it enables to increase user throughput by minimizing interference.



### 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.

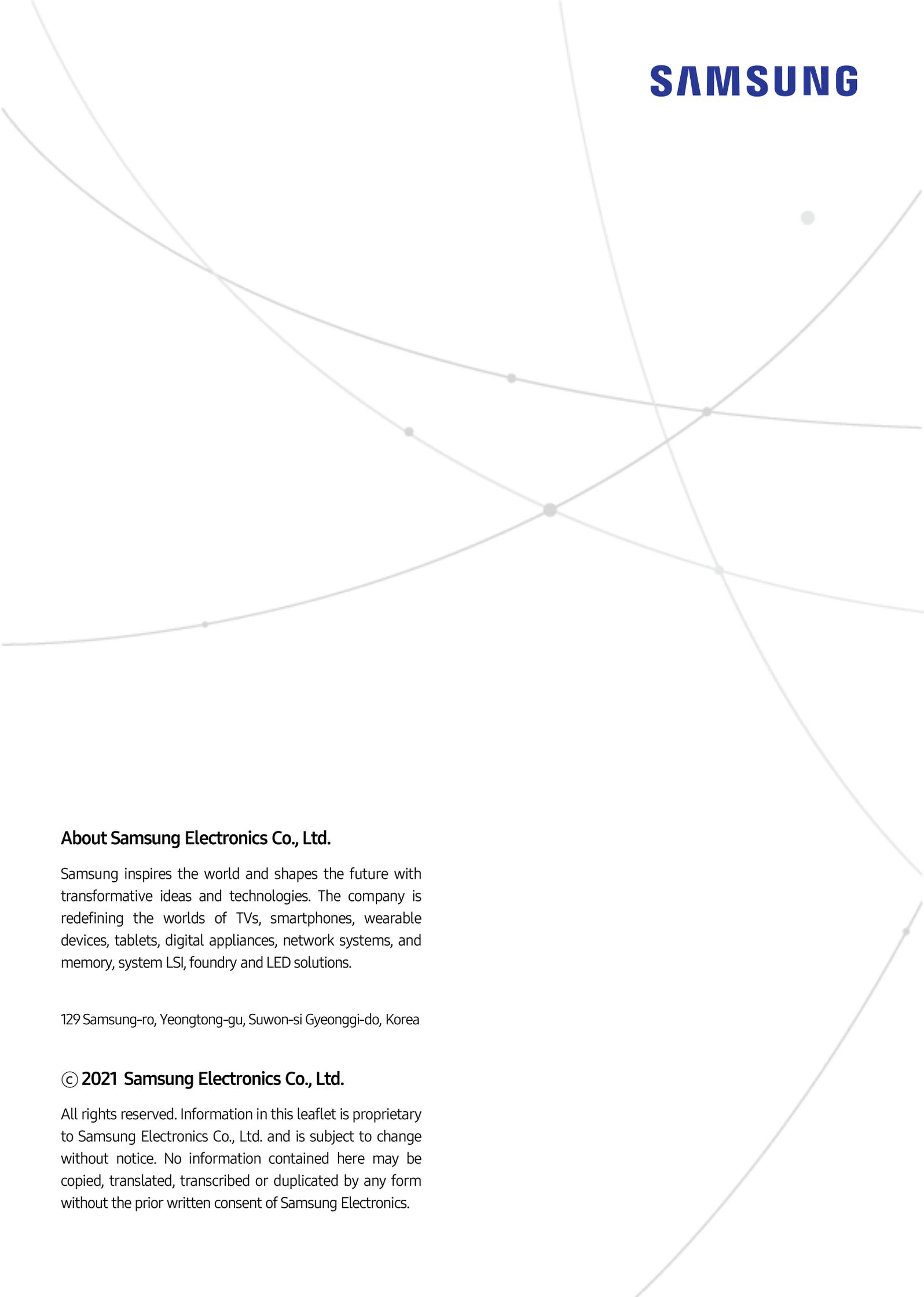


## Technical Specifications

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

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# SAMSUNG

## Dual-Band Radio Unit AWS/PCS (B66/B2)

RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

### Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

### Key Technical Specifications

Duplex Type: FDD

Operating Frequencies:

B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)

B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)

Instantaneous Bandwidth:

70MHz(B66) + 60MHz(B2)

RF Chain: 4T4R/2T4R/2T2R

Output Power: Total 320W

DU-RU Interface: CPRI (10Gbps)

Dimensions: 380 x 380 x 255mm (36.8L)

Weight: 38.3kg

Input Power: -48V DC

Operating Temp.: -40 - 55°(w/o solar load)

Cooling: Natural convection

# SAMSUNG

## Dual-Band Radio Unit 700/850MHz (B13/B5) RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.



The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

### Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

### Key Technical Specifications

Duplex Type: FDD  
Operating Frequencies:  
B13: DL(746-756MHz)/UL(777-787MHz)  
B5: DL(869-894MHz)/UL(824-849MHz)  
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)  
RF Chain: 4T4R/2T4R/2T2R  
Output Power: Total 320W  
DU-RU Interface: CPRI (10Gbps)  
Dimensions: 380 x 380 x 207mm (29.9L)  
Weight: 31.9kg  
Input Power: -48V DC  
Operating Temp.: -40 - 55°(w/o solar load)  
Cooling: Natural convection

# **ATTACHMENT 3**

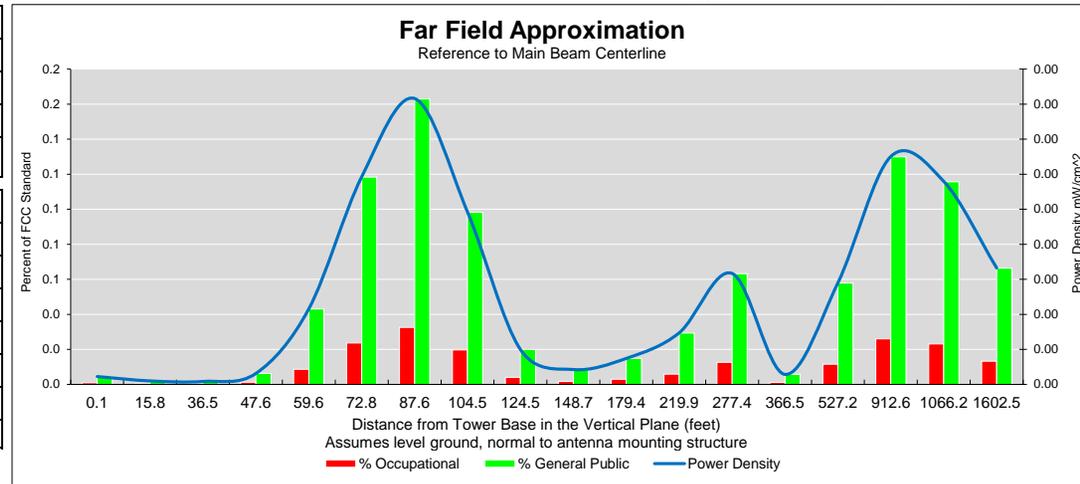
Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission**  
**Single Emitter Far Field Model**  
**Dipole/Wire/Yagi Antenna Types**

Location:	Quinebaug CT
Site #:	2-0020
Date:	06/01/21
Name:	Wesley Stevens
File Name:	Quinebaug CT - FF Power

Antenna Type:	JAHH-65B-R3B
Operating Freq. (MHz):	751
Antenna Height (ft):	115.0
Antenna Gain (dBi):	14.3
Downtilt (degrees):	2.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	82.0	72.0	67.0	62.0	57.0	52.0	47.0	42.0	37.0	32.0	27.0	22.0	17.0	12.0	7.0	6.0	4.0
Solve for r, dx to antenna	112.0	113.1	117.8	121.7	126.9	133.6	142.2	153.2	167.5	186.2	211.4	246.8	299.1	383.3	539.0	919.5	1072.0	1606.4
Distance from Antenna Structure Base in Horizontal plane	0.1	15.8	36.5	47.6	59.6	72.8	87.6	104.5	124.5	148.7	179.4	219.9	277.4	366.5	527.2	912.6	1066.2	1602.5
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	35.3	38.76	39.14	33.13	24.38	19.54	17.61	19.16	25.33	28.11	24.58	20.26	15.26	23.57	10.53	2.38	1.55	0.45
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.03	0.02	0.01
Percent of General Population Standard	0.00	0.00	0.00	0.01	0.04	0.12	0.16	0.10	0.02	0.01	0.01	0.03	0.06	0.01	0.06	0.13	0.12	0.07

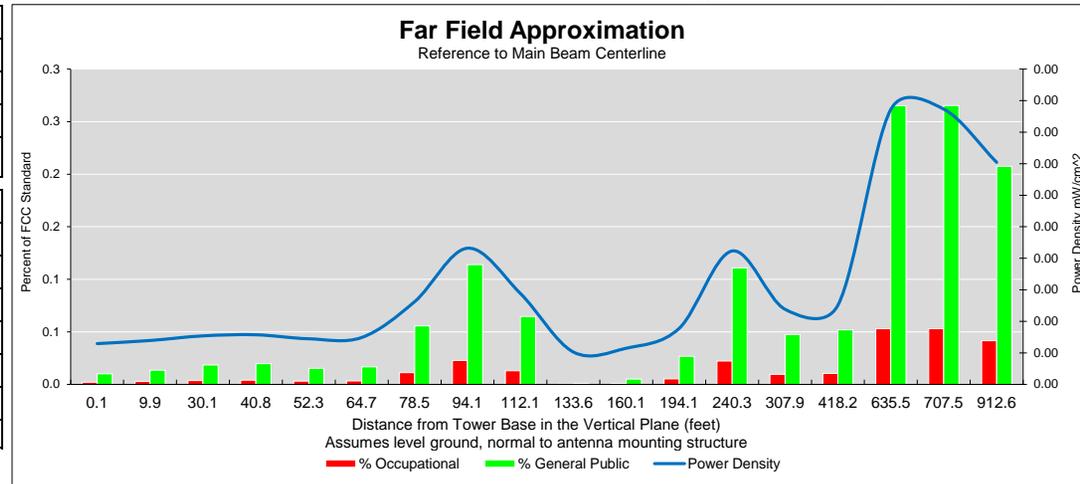
Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission**  
**Single Emitter Far Field Model**  
**Dipole/Wire/Yagi Antenna Types**

Location:	Quinebaug CT
Site #:	2-0020
Date:	06/01/21
Name:	Wesley Stevens
File Name:	Quinebaug CT - FF Power

Antenna Type:	JAHH-65B-R3B
Operating Freq. (MHz):	874
Antenna Height (ft):	115.0
Antenna Gain (dBi):	14.9
Downtilt (degrees):	5.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	85.0	75.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	9.0	7.0
Solve for r, dx to antenna	112.0	112.4	116.0	119.2	123.6	129.4	136.8	146.3	158.5	174.3	195.4	224.1	265.1	327.6	432.9	645.3	716.3	919.5
Distance from Antenna Structure Base in Horizontal plane	0.1	9.9	30.1	40.8	52.3	64.7	78.5	94.1	112.1	133.6	160.1	194.1	240.3	307.9	418.2	635.5	707.5	912.6
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	31.68	30.38	28.73	28.22	28.99	28.22	22.51	18.82	20.59	38.27	29.84	21.42	13.77	15.62	12.81	2.26	1.35	0.25
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.00	0.01	0.02	0.01	0.01	0.05	0.05	0.04
Percent of General Population Standard	0.01	0.01	0.02	0.02	0.02	0.02	0.06	0.11	0.06	0.00	0.01	0.03	0.11	0.05	0.05	0.27	0.27	0.21

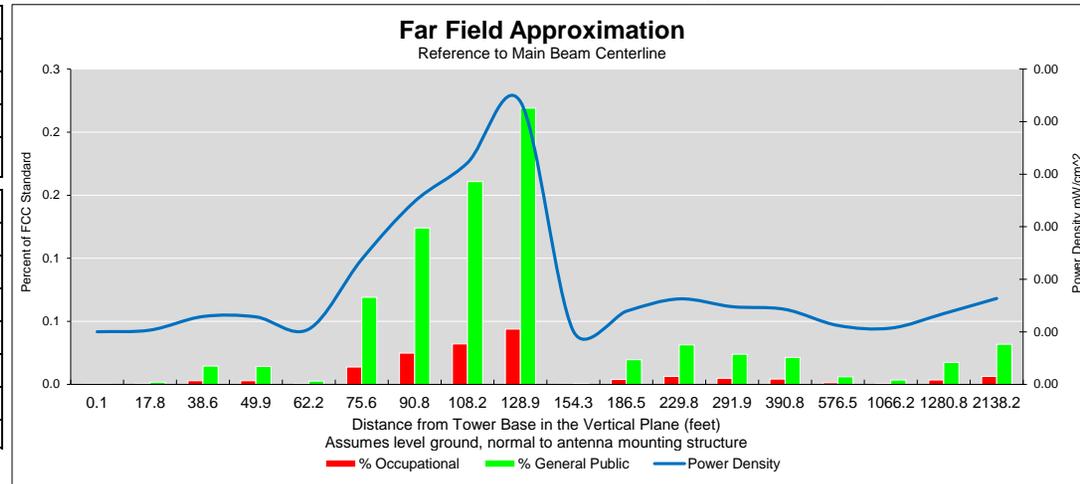
Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission**  
**Single Emitter Far Field Model**  
**Dipole/Wire/Yagi Antenna Types**

Location:	Quinebaug CT
Site #:	2-0020
Date:	06/01/21
Name:	Wesley Stevens
File Name:	Quinebaug CT - FF Power

Antenna Type:	JAHH-65B-R3B
Operating Freq. (MHz):	1978
Antenna Height (ft):	115.0
Antenna Gain (dBi):	18.1
Downtilt (degrees):	1.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



Calc Angle	90.0	81.0	71.0	66.0	61.0	56.0	51.0	46.0	41.0	36.0	31.0	26.0	21.0	16.0	11.0	6.0	5.0	3.0
Solve for r, dx to antenna	112.0	113.4	118.5	122.6	128.1	135.1	144.2	155.8	170.8	190.6	217.6	255.6	312.7	406.5	587.3	1072.0	1285.7	2141.1
Distance from Antenna Structure Base in Horizontal plane	0.1	17.8	38.6	49.9	62.2	75.6	90.8	108.2	128.9	154.3	186.5	229.8	291.9	390.8	576.5	1066.2	1280.8	2138.2
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	52.71	40.23	30.39	30.19	37.24	22.5	19.39	17.59	15.45	39.8	23.83	20.39	19.81	18.02	20.31	17.4	8.92	1.87
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.03	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
Percent of General Population Standard	0.00	0.00	0.01	0.01	0.00	0.07	0.12	0.16	0.22	0.00	0.02	0.03	0.02	0.02	0.01	0.00	0.02	0.03

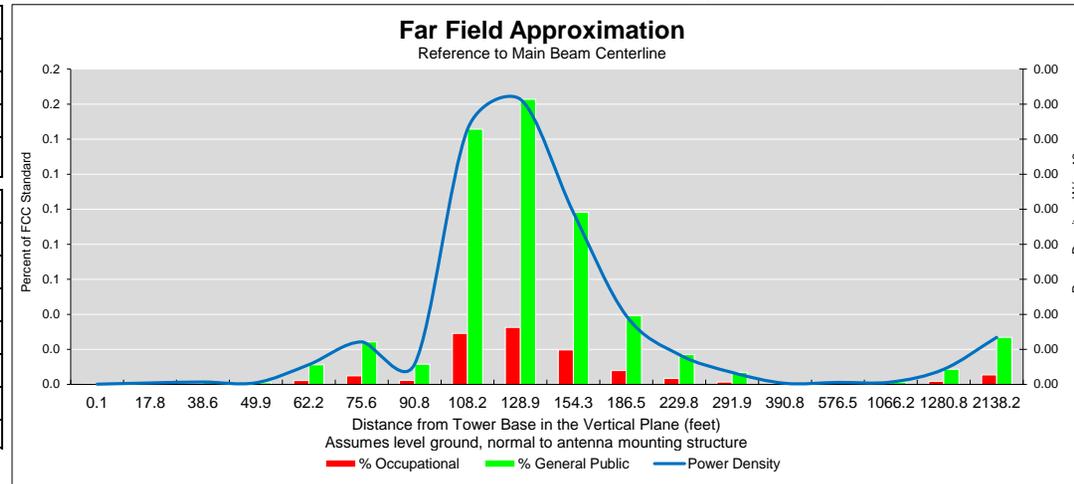
Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission**  
**Single Emitter Far Field Model**  
**Dipole/Wire/Yagi Antenna Types**

Location:	Quinebaug CT
Site #:	2-0020
Date:	06/01/21
Name:	Wesley Stevens
File Name:	Quinebaug CT - FF Power

Antenna Type:	JAHH-65B-R3B
Operating Freq. (MHz):	2120
Antenna Height (ft):	115.0
Antenna Gain (dBi):	18.0
Downtilt (degrees):	1.0
Feedline Loss (dB):	0.0
Tx Power (W):	40.0
No. of Channels:	4



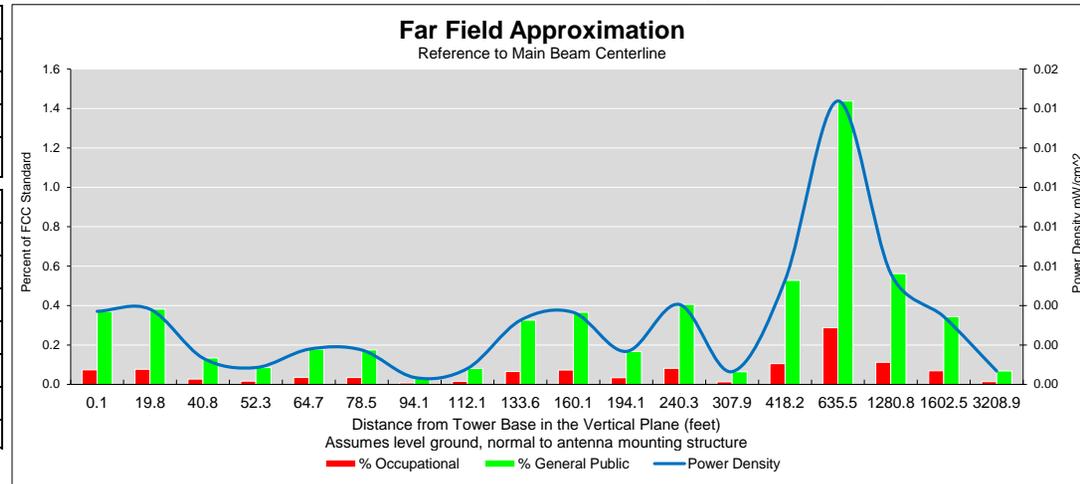
Calc Angle	90.0	81.0	71.0	66.0	61.0	56.0	51.0	46.0	41.0	36.0	31.0	26.0	21.0	16.0	11.0	6.0	5.0	3.0
Solve for r, dx to antenna	112.0	113.4	118.5	122.6	128.1	135.1	144.2	155.8	170.8	190.6	217.6	255.6	312.7	406.5	587.3	1072.0	1285.7	2141.1
Distance from Antenna Structure Base in Horizontal plane	0.1	17.8	38.6	49.9	62.2	75.6	90.8	108.2	128.9	154.3	186.5	229.8	291.9	390.8	576.5	1066.2	1280.8	2138.2
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	51.6	43.15	40.58	41.93	30.76	26.96	29.61	17.94	16.66	17.9	20.74	22.97	25.18	33.31	27.48	21.59	11.88	2.52
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Occupational Standard	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Percent of General Population Standard	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.15	0.16	0.10	0.04	0.02	0.01	0.00	0.00	0.00	0.01	0.03

Far Field Approximation  
with downtilt variation



**Estimated Radiated Emission  
Single Emitter Far Field Model  
Dipole/Wire/Yagi Antenna Types**

Location:	Quinebaug CT
Site #:	2-0020
Date:	06/01/21
Name:	Wesley Stevens
File Name:	Quinebaug CT - FF Power
Antenna Type:	VZ-MT6407-77A
Operating Freq. (MHz):	3730
Antenna Height (ft):	115.0
Antenna Gain (dBi):	25.5
Downtilt (degrees):	0.0
Feedline Loss (dB):	0.0
Tx Power (W):	30.2
No. of Channels:	4



Calc Angle	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
Solve for r, dx to antenna	112.0	113.7	119.2	123.6	129.4	136.8	146.3	158.5	174.3	195.4	224.1	265.1	327.6	432.9	645.3	1285.7	1606.4	3210.8
Distance from Antenna Structure Base in Horizontal plane	0.1	19.8	40.8	52.3	64.7	78.5	94.1	112.1	133.6	160.1	194.1	240.3	307.9	418.2	635.5	1280.8	1602.5	3208.9
Angle from Main Beam (reference to horizontal plane)	90.0	80.0	70.0	65.0	60.0	55.0	50.0	45.0	40.0	35.0	30.0	25.0	20.0	15.0	10.0	5.0	4.0	2.0
dB down from centerline (referenced to centerline)	23.06	22.8	26.95	28.58	24.98	24.59	31	26.65	19.78	18.29	20.49	15.18	21.32	9.78	1.96	0.05	0.25	1.29
Reflection Coefficient (1 to 4, 2.56 typical)	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
Power Density (mW/cm²)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00
Percent of Occupational Standard	0.07	0.08	0.03	0.02	0.04	0.03	0.01	0.02	0.07	0.07	0.03	0.08	0.01	0.11	0.29	0.11	0.07	0.01
Percent of General Population Standard	0.37	0.38	0.13	0.09	0.18	0.17	0.03	0.08	0.33	0.37	0.17	0.41	0.06	0.53	1.44	0.56	0.34	0.07

# **ATTACHMENT 4**



# Structural Analysis Report

**Property Owner** Town of Quinebaug  
**Structural Type** 125 ft Monopole Tower  
**Site Address** 720 Quinebaug Road  
Quinebaug, CT 06262  
**Latitude** 42.02275  
**Longitude** -71.9493

**Client** **Verizon Wireless**  
*118 Flanders Road, 3rd Floor*  
*Westborough, MA 01581*  
**Site Type** MACRO  
**Site ID** 675025  
**Site Name** QUINEBAUG\_CT  
**Location Code** 468550

**Prepared by** Nexius Solutions, Inc.  
*2595 North Dallas Parkway Suite 300*  
*Frisco, TX 75034*  
**Job/Task Number** VZW468550A01-NX062  
**Project** L-Sub6  
**Rev** 1  
**Email** structurals@nexius.com  
**Phone** 972-581-9888  
**Date** 05/14/2021 **Result**  
**Adequate (99.7 %)**

# NEXIUS

**Dear Sir / Madam:**

Nexius Solutions is pleased to submit this **Report** to determine the structural integrity of the referred tower.

Referenced documents used for this analysis are listed in the section DOCUMENTS & REFERENCES. This analysis has been performed in compliance with

- *2018 Connecticut State Building Code (IBC 2015 w/ State Amendments)*
- *ANSI/TIA-222-G w/ Addendums, Structural Standard for Antenna Supporting Structures and Antennas.*

Detailed design parameters are listed in Table 1. Analysis loading is detailed in Table 2 and Table 3.

Based on our analysis we have determined the following result:

Tower Stress Level	<b>Adequate (99.7 %)</b>
Foundation	<b>Adequate</b>

Nexius Solutions appreciates the opportunity of providing continued engineering services. Should you have any questions, comments or require additional information, please do not hesitate to contact us.

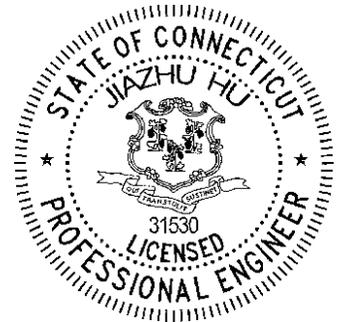
Sincerely,

Analysis Prepared by:

Akshay Doddamani, E.I.T

Approved by:

Jiazhu Hu, P.E.  
Engineering Manager  
License #: 31530



## DOCUMENTS & REFERENCES

- RFDS, Location Code: 468550, Site Name: QUINEBAUG\_CT , by Verizon Wireless, dated 03/01/2021.
- Construction Drawings (FOR CONSTRUCTION), Location Code: 468550, Verizon Site Name: QUINEBAUG\_CT, by Nexius, dated 05/14/2021.
- Structural Analysis Report, Verizon Site: 468550\_QUINEBAUG, APT Project #CT1411102, by All-Points Technology Corporation, dated 08/16/2017.
- Site visit notes, Location Code: 468550, Verizon Site Name: QUINEBAUG\_CT, by Nexius, dated 03/15/2021.
- Post-MOD Antenna Mount Analysis Report and PMI Requirements, Verizon Site Name: QUINEBAUG\_CT, Site Number: 468550, by MASER Consulting, dated 04/27/2021.
- Mount Modification Drawings, Verizon Site Name: QUINEBAUG\_CT, Site Number: 468550, by MASER Consulting, dated 04/27/2021.

## DESIGN STANDARDS & PARAMETERS

TABLE 1 STANDARDS & DESIGN PARAMETERS

Codes and Standards	
Building Code	2018 Connecticut State Building Code (IBC 2015 w/ State Amendments)
TIA Standard	ANSI/TIA-222-G w/ Addendums
Wind Parameters	
Ultimate Wind Speed	136 mph
Nominal Wind Speed	105 mph
Nominal Wind Speed with Ice	50 mph
Radial Ice Thickness	1 in
Exposure Category	B
Structure Class	III
Topographic Category	1
Seismic Design Parameters	
$S_s$	0.172
$S_1$	0.064

## RESULTS & RECOMMENDATIONS

Based on our analysis, it is determined that the existing tower structure and foundation to be **ADEQUATE** to support the existing and proposed loading.

There is only partial information available for the site geotechnical condition and foundation from the referred analysis. It is assumed that they are accurate. Foundation analysis has been performed solely based on the provided information. Geotechnical investigation and foundation mapping would be needed to obtain more accurate site condition and foundation information for performing rigorous analysis.

All structural components and connections should be checked for tightness and good condition prior to installing any proposed loading. The analysis is performed based on structural information obtained from provided analysis report and site visit pictures. The analysis assumes that the provided information is accurate. If the site conditions are different from assumptions or do not meet requirements, the analysis result would not be valid and Nexius should be notified for re-evaluation.

# NEXIUS

## LOADING

TABLE 2 – PROPOSED ANTENNA AND CABLE INFORMATION

Mount Elev. ft	Ant. Ctr. Elev. ft	Qty	Antenna Manufacturer	Antenna Model	No. of Feed Lines	Feed Line Size in	Note
115	115	3	Samsung	VZS01 Antenna w/ RRH*	-	-	-
		3	CommScope	CBC78T-DS-43-2X			
		3	Samsung	B2/B66A RRH-BR049			
		3	Samsung	B5/B13 RRH-BR04C			

\* Not to exceed 35.12"x16.06"x5.51" for dimensions and 87.1 lbs for weight.

TABLE 3 – EXISTING AND RESERVED ANTENNA AND CABLE INFORMATION

Mount Elev. ft	Ant. Ctr. Elev. ft	Qty	Antenna Manufacturer	Antenna Model	No. of Feed Lines	Feed Line Size in	Note	
123.0	123.0	1	-	20ft 4-Bay Dipole	3	7/8	1	
		1	-	10ft 8-Bay Dipole				
		1	-	10ft Omni				
123.0	123.0	6	-	91" x 21" x 7" Panel	12	1-5/8 Power Fiber	1	
		3	-	54.5" x 10.3" x 5.9" Panel				
		6	-	TMA's	2			
		9	-	RRH's				
		1	-	Squid	1			
		1	-	12 ft Platform w/ Handrail & Kicker				
115.0	115.0	6	CommScope	JAHH-65B-R3B	12	1-5/8 6x12 Hybrid	1	
		6	Antel	LPA-80080/6CF				
		2	-	6C OVP				
		1	-	12 ft Platform w/ Proposed Handrail and Kicker	2			
		3	Nokia	UHBA B13 RRH 4X30				-
		3	Nokia	UHIE B66A RRH 4X45				
105.0	105.0	8	-	54.5" x 10.3" x 5.9" Panel	12	1-5/8	1	
		4	-	95.9"x 24"x 8.7" Panel				
		8	-	RRUs				
		4	-	TMA's				
		1	SitePro1	12ft Quad Platform w/ Walkways & Handrail				

Notes:

- 1) Existing Equipment
- 2) Equipment to be removed; Not considered in this analysis

## ANALYSIS

tnxTower, a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for required loading cases. Selected output from the analysis is included in APPENDICES.

# n e x i u s

## RESULTS – MEMBER CAPACITIES

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow}$ K	% Capacity	Pass Fail	
L1	125 - 85.5	Pole	TP29.725x21.037x0.1875	1	-13.90	1080.57	91.2	Pass	
L2	85.5 - 39.42	Pole	TP39.6246x28.3602x0.2813	2	-22.71	2280.10	99.2	Pass	
L3	39.42 - 21	Pole	TP42.9745x37.8193x0.3125	3	-29.15	2826.98	99.7	Pass	
L4	21 - 0	Pole	TP47.5932x42.9745x0.3393	4	-34.64	3371.01	95.1	Pass	
							Summary		
							Pole (L3)	99.7	Pass
							Base Plate	98.6	Pass
							<b>RATING =</b>	<b>99.7</b>	<b>Pass</b>

## Standard Conditions for Providing Structural Consulting Services on Existing Structures

1. The structure is analyzed to the best of our ability using all information that is provided or can be obtained during fieldwork (if authorized by client). If the existing conditions are not as we have represented in this analysis, the analysis would not be valid, and we should be contacted to evaluate the significance of the deviation and revise the assessment accordingly.
2. The structural analysis has been performed assuming that the structural members, parts and component were originally designed properly and are all in “like new” condition. No allowance was made for excessive corrosion, damaged or missing structural members, loose bolts, misaligned parts, or any reduction in strength due to the age or fatigue of the product.
3. The structural analysis provided is an assessment of the primary load carrying capacity of the structural members, components and parts. We provided a limited scope of service. In some cases, we cannot verify the capacity of every weld, plate, connection detail, etc. In some cases, structural fabrication details are unknown at the time of our analysis, and the detailed field measurement of some of the required details may not be possible. In instances where we cannot perform connection capacity calculations, it is assumed that the existing manufactured connections develop the full capacity of the primary members being connected.
4. We cannot be held responsible for structural members, components and parts that are installed improperly, are loose or have a tendency of working loose over the lifetime. Our analysis has been performed assuming fully tightened connections, and proper installation per manufacturer’s instructions.
5. The structural analysis has been performed using information currently provided by the client and potentially field verified. We have been provided with a loading arrangement for all telecommunications equipment on the structure. Our analysis has been based upon a particular loading arrangement provided. We are not responsible for deviations in the loading arrangements that may occur over time. If deviations in loading arrangements are proposed, then the analysis would not be valid and we should be contacted to revise the analysis.
6. We cannot be held responsible for temporary and unbalanced loads on structure. Our analysis is based on a particular loading arrangement or as-build field condition. We are not responsible for the methods and means of how the loading arrangement is accomplished by the contractor. These methods and means may include rigging of equipment or hardware to lift and locate, temporary hanging of equipment in locations other than the final arrangement, movement and tie off of tower riggers, personnel, and their equipment, etc.
7. It is assumed that all welded connections are performed in the shop under the latest American Welding Society Code. No field welds are permitted or assumed for the existing pre-manufactured equipment.
8. Steel grade and strength are unknown and cannot be field tested. We cannot be held responsible for equipment manufactured from inferior steel or bolts. Our analysis assumes that standard structural grade steel has been used by the equipment manufacturer for all assembled parts of the mounting apparatus. Acceptable steels and connection components are specified by the American Institute of Steel Construction. In case no accurate info available, following material assumptions were used:

Pipe	ASTM A53 B-42
Connection Bolts	ASTM A325

n e x i u s

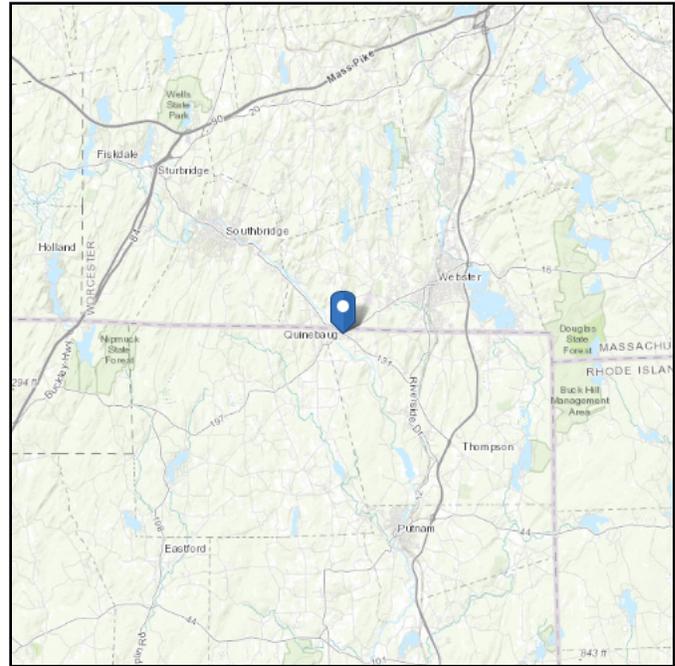
## **Appendix #1: Loading Parameters and Calculations**

# ASCE 7 Hazards Report

**Address:**  
No Address at This Location

**Standard:** ASCE/SEI 7-10  
**Risk Category:** III  
**Soil Class:** D - Stiff Soil

**Elevation:** 368.79 ft (NAVD 88)  
**Latitude:** 42.02275  
**Longitude:** -71.9493



## Wind

### Results:

Wind Speed:	136 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	95 Vmph
100-year MRI	102 Vmph

**Data Source:** ASCE/SEI 7-10 Fig. 26.5-1B and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

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 7-10 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

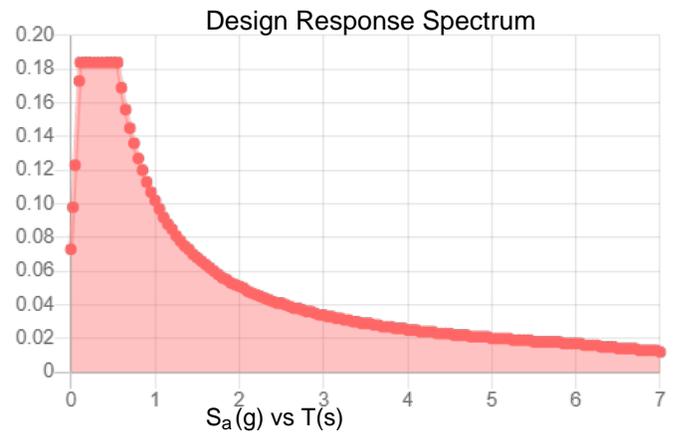
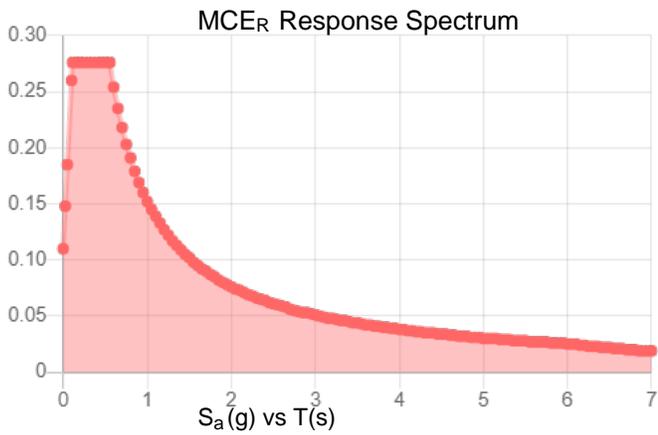
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

**Site Soil Class:** D - Stiff Soil

**Results:**

$S_S$ :	0.172	$S_{DS}$ :	0.184
$S_1$ :	0.064	$S_{D1}$ :	0.102
$F_a$ :	1.6	$T_L$ :	6
$F_v$ :	2.4	PGA :	0.085
$S_{MS}$ :	0.276	PGA <sub>M</sub> :	0.136
$S_{M1}$ :	0.152	F <sub>PGA</sub> :	1.6
		$I_e$ :	1.25

**Seismic Design Category** B



**Data Accessed:**

Mon Mar 29 2021

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

## Ice

---

### Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

**Data Source:** Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

**Date Accessed:** Mon Mar 29 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 50-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.

---

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

**Appendix #2: tnxTower Output**

**DESIGNED APPURTENANCE LOADING**

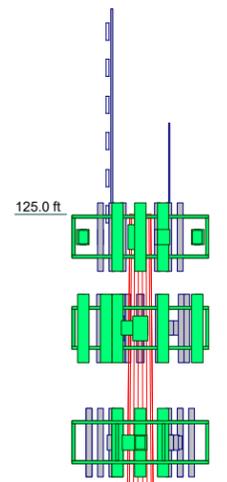
TYPE	ELEVATION	TYPE	ELEVATION
20' 4-bay Dipole (Town)	123	Samsung B2/B66A RRH BR049 (VZW)	115
10' x 1" Omni (Town)	123	Samsung B5/B13 RRH-BR04C (VZW)	115
10-ft 8-Bay Dipole (Town)	123	Samsung B5/B13 RRH-BR04C (VZW)	115
91" x 21" x 7" Panel (ATI)	123	Samsung B5/B13 RRH-BR04C (VZW)	115
91" x 21" x 7" Panel (ATI)	123	CBC78T-DS-43-2X (VZW)	115
91" x 21" x 7" Panel (ATI)	123	CBC78T-DS-43-2X (VZW)	115
91" x 21" x 7" Panel (ATI)	123	CBC78T-DS-43-2X (VZW)	115
91" x 21" x 7" Panel (ATI)	123	6 OVP Junction box (VZW)	115
91" x 21" x 7" Panel (ATI)	123	6 OVP Junction box (VZW)	115
54.5" x 10.3"x5.9" Panel (ATI)	123	12.5ft Platform w/ Handrial (LP301-1) (VZW)	115
54.5" x 10.3"x5.9" Panel (ATI)	123	VZS01 Antenna w/ RRH (VZW)	115
54.5" x 10.3"x5.9" Panel (ATI)	123	NA 509-3 (Kicker Kit) (VZW)	115
(2) RRU Unit (ATI)	123	95.9"x24"x8.7" Panel	105
(2) RRU Unit (ATI)	123	95.9"x24"x8.7" Panel	105
(2) RRU Unit (ATI)	123	54.5" x10.3"x5.9" Panel	105
RRU Unit (ATI)	123	54.5" x10.3"x5.9" Panel	105
RRU Unit (ATI)	123	54.5" x10.3"x5.9" Panel	105
(2) TMA (ATI)	123	5ft Panel w/ Mtg Pipe	105
(2) TMA (ATI)	123	5ft Panel w/ Mtg Pipe	105
(2) TMA (ATI)	123	5ft Panel w/ Mtg Pipe	105
Squid/ Junction Box (ATI)	123	5ft Panel w/ Mtg Pipe	105
12.5ft Platform w/ Handrial (LP301-1) (ATI)	123	RRU Unit	105
NA 509-3 (Kicker Kit)	123	RRU Unit	105
VZS01 Antenna w/ RRH (VZW)	115	RRU Unit	105
VZS01 Antenna w/ RRH (VZW)	115	RRU Unit	105
(2) JAHH-65B-R3B (VZW)	115	RRU Unit	105
(2) JAHH-65B-R3B (VZW)	115	RRU Unit	105
(2) JAHH-65B-R3B (VZW)	115	RRU Unit	105
LPA-80080-6CF (VZW)	115	RRU Unit	105
LPA-80080-6CF (VZW)	115	TMA	105
LPA-80080-6CF (VZW)	115	TMA	105
LPA-80080-6CF (VZW)	115	TMA	105
LPA-80080-6CF (VZW)	115	TMA	105
LPA-80080-6CF (VZW)	115	TMA	105
LPA-80080-6CF (VZW)	115	12ft Quad Platform w/ Handrail (LP 701-1+ NA 507-1)	105
Samsung B2/B66A RRH BR049 (VZW)	115	95.9"x24"x8.7" Panel	105
Samsung B2/B66A RRH BR049 (VZW)	115	95.9"x24"x8.7" Panel	105

**MATERIAL STRENGTH**

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

**TOWER DESIGN NOTES**

1. Tower designed for Exposure B to the TIA-222-G Standard.
2. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G 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 Structure Class III.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. Weld together tower sections have flange connections.
8. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
9. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
10. Welds are fabricated with ER-70S-6 electrodes.



125.0 ft

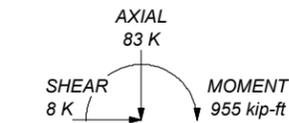
85.5 ft

39.4 ft

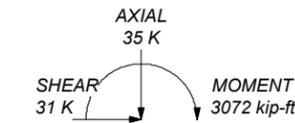
21.0 ft

0.0 ft

ALL REACTIONS ARE FACTORED



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



TORQUE 1 kip-ft  
REACTIONS - 105 mph WIND

Section	1	2	3	4						
Length (ft)	39.50	50.58	24.00	21.00						
Number of Sides	16	16	16	16						
Thickness (in)	0.1875	0.2813	0.3125	0.3993						
Socket Length (ft)	4.50	5.58								
Top Dia (in)	21.0370	28.3802	37.8193	42.9745						
Bot Dia (in)	29.7250	39.6246	42.9745	47.5932						
Grade		A572-65								
Weight (K)	2.0	5.2	3.3	3.5						14.0

<b>Nexus</b>		Job: <b>VZW468550A01_NX062</b>	
300 Apollo Drive, Suite 7		Project: <b>QUINEBAUG CT</b>	
Chelmsford, MA 01824		Client: Verizon	Drawn by: Akshay Doddaman
Phone: 1 (978) 923-7965		Code: TIA-222-G	Date: 05/13/21
FAX:		Path:	Scale: NTS
		Dwg No. E-1	

<b>tnxTower</b>  <b>Nexus</b> 300 Apollo Drive, Suite 7 Chelmsford, MA 01824 Phone: 1 (978) 923-7965 FAX:	<b>Job</b> VZW468550A01_NX062	<b>Page</b> 1 of 8
	<b>Project</b> QUINEBAUG_CT	<b>Date</b> 15:44:34 05/13/21
	<b>Client</b> Verizon	<b>Designed by</b> Akshay Doddamani

## Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 105 mph.

Structure Class III.

Exposure Category B.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 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.

Weld together tower sections have flange connections..

Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..

Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..

Welds are fabricated with ER-70S-6 electrodes..

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## 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	125.00-85.50	39.50	4.50	16	21.0370	29.7250	0.1875	0.7500	A572-65 (65 ksi)
L2	85.50-39.42	50.58	5.58	16	28.3602	39.6246	0.2813	1.1252	A572-65 (65 ksi)
L3	39.42-21.00	24.00	0.00	16	37.8193	42.9745	0.3125	1.2500	A572-65 (65 ksi)
L4	21.00-0.00	21.00		16	42.9745	47.5932	0.3393	1.3571	A572-65 (65 ksi)

## Tapered Pole Properties

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	It/Q in <sup>2</sup>	w in	w/t
L1	21.4124 30.2706	12.4706 17.6671	684.8465 1947.2760	7.4224 10.5154	10.7289 15.1597	63.8321 128.4504	1380.0624 3924.0362	6.1661 8.7355	3.8132 5.5422	20.337 29.558

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	<b>Project</b> QUINEBAUG_CT	<b>Date</b> 15:44:34 05/13/21
	<b>Client</b> Verizon	<b>Designed by</b> Akshay Doddamani

Section	Tip Dia. in	Area in <sup>2</sup>	I in <sup>4</sup>	r in	C in	I/C in <sup>3</sup>	J in <sup>4</sup>	I/Q in <sup>2</sup>	w in	w/t
L2	29.8825	25.1965	2509.6684	9.9961	14.4637	173.5148	5057.3363	12.4584	5.0839	18.073
	40.3458	35.3046	6903.7830	14.0062	20.2085	341.6269	13912.0977	17.4563	7.3255	26.042
L3	39.7211	37.3896	6644.8547	13.3524	19.2878	344.5099	13390.3206	18.4872	6.9042	22.093
	43.7552	42.5287	9778.6503	15.1877	21.9170	446.1674	19705.3613	21.0282	7.9301	25.376
L4	43.7500	46.1442	10596.6611	15.1781	21.9170	483.4905	21353.7685	22.8159	7.8768	23.216
	48.4591	51.1431	14427.0265	16.8224	24.2725	594.3767	29072.4958	25.2876	8.7959	25.925

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A <sub>f</sub>	Adjust. Factor A <sub>r</sub>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft <sup>2</sup>	in					in	in	in
L1 125.00-85.50				1	1	1			
L2 85.50-39.42				1	1	1			
L3 39.42-21.00				1	1	1			
L4 21.00-0.00				1	1	1			

### Monopole Base Plate Data

#### Base Plate Data

Base plate is square	
Base plate is grouted	
Anchor bolt grade	A615-75
Anchor bolt size	2.2500 in
Number of bolts	12
Embedment length	84.0000 in
f <sub>c</sub>	4 ksi
Grout space	2.0000 in
Base plate grade	A572-60
Base plate thickness	2.2500 in
Bolt circle diameter	55.0000 in
Outer diameter	61.0000 in
Inner diameter	46.0000 in
Base plate type	Plain Plate

### Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C <sub>A</sub> A <sub>A</sub> ft <sup>2</sup> /ft	Weight plf
LCF78-50J (7/8 FOAM) (Town)	A	No	Yes	Inside Pole	123.00 - 6.00	3	No Ice	0.00	0.53
							1/2" Ice	0.00	0.53
							1" Ice	0.00	0.53
LDF7-50A (1-5/8 FOAM) (AT&T)	C	No	Yes	Inside Pole	123.00 - 6.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
Fiber Cable (AT&T)	C	No	Yes	Inside Pole	123.00 - 6.00	1	No Ice	0.00	0.20
							1/2" Ice	0.00	0.20
							1" Ice	0.00	0.20
DC Cable (AT&T)	C	No	Yes	Inside Pole	123.00 - 6.00	2	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
							1" Ice	0.00	0.30

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	<b>Client</b> Verizon	<b>Designed by</b> Akshay Doddamani

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C <sub>AA</sub> ft <sup>2</sup> /ft	Weight plf
LDF7-50A (1-5/8 FOAM) (VZW)	B	No	Yes	Inside Pole	115.00 - 6.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
Hybrid Cable 6x12 (VZW)	B	No	Yes	Inside Pole	115.00 - 6.00	2	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
							1" Ice	0.00	1.70
LDF7-50A (1-5/8 FOAM)	C	No	Yes	Inside Pole	105.00 - 6.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82

### Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> Out Face ft <sup>2</sup>	Weight K
L1	125.00-85.50	A	0.000	0.000	0.000	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.39
		C	0.000	0.000	0.000	0.000	0.59
L2	85.50-39.42	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.61
		C	0.000	0.000	0.000	0.000	0.94
L3	39.42-21.00	A	0.000	0.000	0.000	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.24
		C	0.000	0.000	0.000	0.000	0.38
L4	21.00-0.00	A	0.000	0.000	0.000	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.20
		C	0.000	0.000	0.000	0.000	0.31

### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> Out Face ft <sup>2</sup>	Weight K
L1	125.00-85.50	A	2.805	0.000	0.000	0.000	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.39
		C		0.000	0.000	0.000	0.000	0.59
L2	85.50-39.42	A	2.662	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.61
		C		0.000	0.000	0.000	0.000	0.94
L3	39.42-21.00	A	2.477	0.000	0.000	0.000	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.24
		C		0.000	0.000	0.000	0.000	0.38
L4	21.00-0.00	A	2.226	0.000	0.000	0.000	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.20
		C		0.000	0.000	0.000	0.000	0.31

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**Shielding Factor Ka**

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
---------------	----------------------	-------------	-------------------------	-----------------------	--------------------

**Discrete Tower Loads**

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C <sub>A</sub> A <sub>A</sub> Front	C <sub>A</sub> A <sub>A</sub> Side	Weight
			Horz Lateral	Vert					
***** 123 ft *****									
20' 4-bay Dipole (Town)	A	From Face	2.00	0.0000	123.00	No Ice	4.00	4.00	0.06
			0.00			1/2" Ice	6.00	6.00	0.10
			10.00			1" Ice	8.00	8.00	0.14
10' x 1" Omni (Town)	B	From Face	2.00	0.0000	123.00	No Ice	1.00	1.00	0.04
			0.00			1/2" Ice	2.02	2.02	0.05
			5.00			1" Ice	3.05	3.05	0.06
10-ft 8-Bay Dipole (Town)	C	From Face	2.00	0.0000	123.00	No Ice	2.50	2.50	0.07
			0.00			1/2" Ice	3.53	3.53	0.09
			5.00			1" Ice	4.58	4.58	0.12
*****									
91" x 21" x7" Panel (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			0.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
91" x 21" x7" Panel (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			0.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
91" x 21" x7" Panel (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			0.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
91" x 21" x7" Panel (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			-2.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
91" x 21" x7" Panel (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			-2.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
91" x 21" x7" Panel (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	17.01	7.08	0.07
			-2.00			1/2" Ice	17.61	7.64	0.16
			0.00			1" Ice	18.22	8.21	0.26
54.5" x10.3"x5.9" Panel (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	5.16	3.29	0.05
			2.00			1/2" Ice	5.51	3.64	0.08
			0.00			1" Ice	5.87	3.99	0.12
54.5" x10.3"x5.9" Panel (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	5.16	3.29	0.05
			2.00			1/2" Ice	5.51	3.64	0.08
			0.00			1" Ice	5.87	3.99	0.12
54.5" x10.3"x5.9" Panel (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	5.16	3.29	0.05
			2.00			1/2" Ice	5.51	3.64	0.08
			0.00			1" Ice	5.87	3.99	0.12
(2) RRU Unit (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			0.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09
(2) RRU Unit (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			0.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09
(2) RRU Unit (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			0.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09

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	<b>Client</b>	Verizon	<b>Designed by</b>	Akshay Doddamani

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			Horz	Lateral					
RRU Unit (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			-2.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09
RRU Unit (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			-2.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09
RRU Unit (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	1.71	1.29	0.05
			-2.00			1/2" Ice	1.87	1.43	0.07
			0.00			1" Ice	2.04	1.58	0.09
(2) TMA (AT&T)	A	From Face	2.00	0.0000	123.00	No Ice	1.10	0.35	0.01
			0.00			1/2" Ice	1.24	0.44	0.02
			0.00			1" Ice	1.38	0.54	0.03
(2) TMA (AT&T)	B	From Face	2.00	0.0000	123.00	No Ice	1.10	0.35	0.01
			0.00			1/2" Ice	1.24	0.44	0.02
			0.00			1" Ice	1.38	0.54	0.03
(2) TMA (AT&T)	C	From Face	2.00	0.0000	123.00	No Ice	1.10	0.35	0.01
			0.00			1/2" Ice	1.24	0.44	0.02
			0.00			1" Ice	1.38	0.54	0.03
Squid/ Junction Box (AT&T)	C	From Leg	0.00	0.0000	123.00	No Ice	3.36	2.19	0.03
			0.00			1/2" Ice	3.60	2.39	0.06
			0.00			1" Ice	3.84	2.61	0.09
12.5ft Platform w/ Handrial (LP301-1) (AT&T) ***** 115 ft *****	C	None		0.0000	123.00	No Ice	30.10	30.10	1.59
						1/2" Ice	40.80	40.80	2.03
						1" Ice	51.50	51.50	2.47
VZS01 Antenna w/ RRH (VZW)	A	From Face	2.00	0.0000	115.00	No Ice	5.43	3.17	0.11
			2.00			1/2" Ice	5.97	3.89	0.15
			0.00			1" Ice	6.46	4.49	0.20
VZS01 Antenna w/ RRH (VZW)	B	From Face	2.00	0.0000	115.00	No Ice	5.43	3.17	0.11
			2.00			1/2" Ice	5.97	3.89	0.15
			0.00			1" Ice	6.46	4.49	0.20
VZS01 Antenna w/ RRH (VZW)	C	From Face	2.00	0.0000	115.00	No Ice	5.43	3.17	0.11
			2.00			1/2" Ice	5.97	3.89	0.15
			0.00			1" Ice	6.46	4.49	0.20
(2) JAHH-65B-R3B (VZW)	A	From Face	2.00	0.0000	115.00	No Ice	9.11	5.98	0.06
			0.00			1/2" Ice	9.58	6.44	0.12
			0.00			1" Ice	10.05	6.91	0.19
(2) JAHH-65B-R3B (VZW)	B	From Face	2.00	0.0000	115.00	No Ice	9.11	5.98	0.06
			0.00			1/2" Ice	9.58	6.44	0.12
			0.00			1" Ice	10.05	6.91	0.19
(2) JAHH-65B-R3B (VZW)	C	From Face	2.00	0.0000	115.00	No Ice	9.11	5.98	0.06
			0.00			1/2" Ice	9.58	6.44	0.12
			0.00			1" Ice	10.05	6.91	0.19
LPA-80080-6CF (VZW)	A	From Face	2.00	0.0000	115.00	No Ice	4.32	8.63	0.02
			-2.00			1/2" Ice	4.76	9.08	0.07
			0.00			1" Ice	5.21	9.55	0.12
LPA-80080-6CF (VZW)	B	From Face	2.00	0.0000	115.00	No Ice	4.32	8.63	0.02
			-2.00			1/2" Ice	4.76	9.08	0.07
			0.00			1" Ice	5.21	9.55	0.12
LPA-80080-6CF (VZW)	C	From Face	2.00	0.0000	115.00	No Ice	4.32	8.63	0.02
			-2.00			1/2" Ice	4.76	9.08	0.07
			0.00			1" Ice	5.21	9.55	0.12
LPA-80080-6CF (VZW)	A	From Face	2.00	0.0000	115.00	No Ice	4.32	8.63	0.02
			3.00			1/2" Ice	4.76	9.08	0.07
			0.00			1" Ice	5.21	9.55	0.12
LPA-80080-6CF (VZW)	B	From Face	2.00	0.0000	115.00	No Ice	4.32	8.63	0.02
			3.00			1/2" Ice	4.76	9.08	0.07

<b>Job</b>	VZW468550A01_NX062	<b>Page</b>	6 of 8
<b>Project</b>	QUINEBAUG_CT	<b>Date</b>	15:44:34 05/13/21
<b>Client</b>	Verizon	<b>Designed by</b>	Akshay Doddamani

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight		
			Horz	Lateral							
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K		
LPA-80080-6CF (VZW)	C	From Face	0.00		0.0000	115.00	1" Ice	5.21	9.55	0.12	
			2.00				No Ice	4.32	8.63	0.02	
			3.00				1/2" Ice	4.76	9.08	0.07	
			0.00				1" Ice	5.21	9.55	0.12	
Samsung B2/B66A RRH BR049 (VZW)	A	From Face	2.00		0.0000	115.00	No Ice	1.88	1.01	0.08	
			0.00				1/2" Ice	2.05	1.14	0.10	
			0.00				1" Ice	2.22	1.28	0.12	
			0.00				No Ice	1.88	1.01	0.08	
Samsung B2/B66A RRH BR049 (VZW)	B	From Face	2.00		0.0000	115.00	1/2" Ice	2.05	1.14	0.10	
			0.00				1" Ice	2.22	1.28	0.12	
			0.00				No Ice	1.88	1.01	0.08	
			0.00				1/2" Ice	2.05	1.14	0.10	
Samsung B2/B66A RRH BR049 (VZW)	C	From Face	2.00		0.0000	115.00	1" Ice	2.22	1.28	0.12	
			0.00				No Ice	1.88	1.01	0.08	
			0.00				1/2" Ice	2.05	1.14	0.10	
			0.00				1" Ice	2.22	1.28	0.12	
Samsung B5/B13 RRH-BR04C (VZW)	A	From Face	2.00		0.0000	115.00	No Ice	1.88	1.01	0.08	
			1.00				1/2" Ice	2.05	1.14	0.10	
			0.00				1" Ice	2.22	1.28	0.12	
			0.00				No Ice	1.88	1.01	0.08	
Samsung B5/B13 RRH-BR04C (VZW)	B	From Face	2.00		0.0000	115.00	1/2" Ice	2.05	1.14	0.10	
			1.00				1" Ice	2.22	1.28	0.12	
			0.00				No Ice	1.88	1.01	0.08	
			0.00				1/2" Ice	2.05	1.14	0.10	
Samsung B5/B13 RRH-BR04C (VZW)	C	From Face	2.00		0.0000	115.00	1" Ice	2.22	1.28	0.12	
			1.00				No Ice	1.88	1.01	0.08	
			0.00				1/2" Ice	2.05	1.14	0.10	
			0.00				1" Ice	2.22	1.28	0.12	
CBC78T-DS-43-2X (VZW)	A	From Face	2.00		0.0000	115.00	No Ice	0.37	0.51	0.02	
			0.00				1/2" Ice	0.45	0.60	0.03	
			0.00				1" Ice	0.53	0.70	0.03	
			0.00				No Ice	0.37	0.51	0.02	
CBC78T-DS-43-2X (VZW)	B	From Face	2.00		0.0000	115.00	1/2" Ice	0.45	0.60	0.03	
			0.00				1" Ice	0.53	0.70	0.03	
			0.00				No Ice	0.37	0.51	0.02	
			0.00				1/2" Ice	0.45	0.60	0.03	
CBC78T-DS-43-2X (VZW)	C	From Face	2.00		0.0000	115.00	1" Ice	0.53	0.70	0.03	
			0.00				No Ice	0.37	0.51	0.02	
			0.00				1/2" Ice	0.45	0.60	0.03	
			0.00				1" Ice	0.53	0.70	0.03	
6 OVP Junction box (VZW)	A	From Face	1.00		0.0000	115.00	No Ice	3.36	2.19	0.03	
			0.00				1/2" Ice	3.60	2.39	0.06	
			0.00				1" Ice	3.84	2.61	0.09	
			0.00				No Ice	3.36	2.19	0.03	
6 OVP Junction box (VZW)	C	From Face	1.00		0.0000	115.00	1/2" Ice	3.60	2.39	0.06	
			0.00				1" Ice	3.84	2.61	0.09	
			0.00				No Ice	30.10	30.10	1.59	
			0.00				1/2" Ice	40.80	40.80	2.03	
12.5ft Platform w/ Handrial (LP301-1) (VZW)	C	None			0.0000	115.00	1" Ice	51.50	51.50	2.47	
***** 105 ft *****											
95.9"x24"x8.7" Panel	A	From Face	3.00		0.0000	105.00	No Ice	20.24	10.79	0.16	
			0.00				1/2" Ice	20.89	12.21	0.29	
			0.00				1" Ice	21.55	13.49	0.44	
95.9"x24"x8.7" Panel	B	From Face	3.00		0.0000	105.00	No Ice	20.24	10.79	0.16	
			0.00				1/2" Ice	20.89	12.21	0.29	
			0.00				1" Ice	21.55	13.49	0.44	
95.9"x24"x8.7" Panel	B	From Face	3.00		0.0000	105.00	No Ice	20.24	10.79	0.16	
			0.00				1/2" Ice	20.89	12.21	0.29	
			0.00				1" Ice	21.55	13.49	0.44	
95.9"x24"x8.7" Panel	C	From Face	3.00		0.0000	105.00	No Ice	20.24	10.79	0.16	
			0.00				1/2" Ice	20.89	12.21	0.29	
			0.00				1" Ice	21.55	13.49	0.44	
54.5" x10.3"x5.9" Panel	A	From Face	3.00		0.0000	105.00	No Ice	5.16	3.29	0.05	
			2.00				1/2" Ice	5.51	3.64	0.08	
			0.00				1" Ice	5.87	3.99	0.12	
54.5" x10.3"x5.9" Panel	B	From Face	3.00		0.0000	105.00	No Ice	5.16	3.29	0.05	

<b>tnxTower</b>  <b>Nexius</b> 300 Apollo Drive, Suite 7 Chelmsford, MA 01824 Phone: 1 (978) 923-7965 FAX:	<b>Job</b> VZW468550A01_NX062	<b>Page</b> 7 of 8
	<b>Project</b> QUINEBAUG_CT	<b>Date</b> 15:44:34 05/13/21
	<b>Client</b> Verizon	<b>Designed by</b> Akshay Doddamani

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	K	
			2.00				1/2" Ice	5.51	3.64	0.08
			0.00				1" Ice	5.87	3.99	0.12
54.5" x10.3"x5.9" Panel	C	From Face	3.00	0.0000	105.00	No Ice	5.16	3.29	0.05	
			2.00				1/2" Ice	5.51	3.64	0.08
			0.00				1" Ice	5.87	3.99	0.12
54.5" x10.3"x5.9" Panel	C	From Face	3.00	0.0000	105.00	No Ice	5.16	3.29	0.05	
			2.00				1/2" Ice	5.51	3.64	0.08
			0.00				1" Ice	5.87	3.99	0.12
5ft Panel w/ Mtg Pipe	A	From Face	3.00	0.0000	105.00	No Ice	7.70	6.15	0.07	
			-2.00				1/2" Ice	8.19	7.04	0.14
			0.00				1" Ice	8.65	7.78	0.21
5ft Panel w/ Mtg Pipe	A	From Face	3.00	0.0000	105.00	No Ice	7.70	6.15	0.07	
			-2.00				1/2" Ice	8.19	7.04	0.14
			0.00				1" Ice	8.65	7.78	0.21
5ft Panel w/ Mtg Pipe	B	From Face	3.00	0.0000	105.00	No Ice	7.70	6.15	0.07	
			-2.00				1/2" Ice	8.19	7.04	0.14
			0.00				1" Ice	8.65	7.78	0.21
5ft Panel w/ Mtg Pipe	C	From Face	3.00	0.0000	105.00	No Ice	7.70	6.15	0.07	
			-2.00				1/2" Ice	8.19	7.04	0.14
			0.00				1" Ice	8.65	7.78	0.21
RRU Unit	A	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			0.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	B	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			0.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	B	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			0.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	C	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			0.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	A	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			1.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	A	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			1.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	B	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			1.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
RRU Unit	C	From Face	2.00	0.0000	105.00	No Ice	1.71	1.29	0.05	
			1.00				1/2" Ice	1.87	1.43	0.07
			0.00				1" Ice	2.04	1.58	0.09
TMA	A	From Face	3.00	0.0000	105.00	No Ice	1.10	0.35	0.01	
			0.00				1/2" Ice	1.24	0.44	0.02
			0.00				1" Ice	1.38	0.54	0.03
TMA	B	From Face	3.00	0.0000	105.00	No Ice	1.10	0.35	0.01	
			0.00				1/2" Ice	1.24	0.44	0.02
			0.00				1" Ice	1.38	0.54	0.03
TMA	C	From Face	3.00	0.0000	105.00	No Ice	1.10	0.35	0.01	
			0.00				1/2" Ice	1.24	0.44	0.02
			0.00				1" Ice	1.38	0.54	0.03
TMA	A	From Face	3.00	0.0000	105.00	No Ice	1.10	0.35	0.01	
			0.00				1/2" Ice	1.24	0.44	0.02
			0.00				1" Ice	1.38	0.54	0.03
12ft Quad Platform w/	B	None	0.00	0.0000	105.00	No Ice	65.55	65.55	3.08	

<b>tnxTower</b>  <b>Nexius</b> 300 Apollo Drive, Suite 7 Chelmsford, MA 01824 Phone: 1 (978) 923-7965 FAX:	<b>Job</b>	VZW468550A01_NX062	<b>Page</b>	8 of 8
	<b>Project</b>	QUINEBAUG_CT	<b>Date</b>	15:44:34 05/13/21
	<b>Client</b>	Verizon	<b>Designed by</b>	Akshay Doddamani

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K
			Horz ft	Lateral Vert ft					
Handrail (LP 701-1+ NA 507-1) *****						1/2" Ice	80.05	80.05	3.82
						1" Ice	94.55	94.55	4.56
NA 509-3 (Kicker Kit)	B	None			0.0000	123.00	No Ice	11.84	11.84
							1/2" Ice	16.96	16.96
							1" Ice	22.08	22.08
NA 509-3 (Kicker Kit) (VZW)	C	None			0.0000	115.00	No Ice	11.84	11.84
							1/2" Ice	16.96	16.96
							1" Ice	22.08	22.08

### Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$\phi P_{allow}$ K	% Capacity	Pass Fail
L1	125 - 85.5	Pole	TP29.725x21.037x0.1875	1	-13.90	1080.57	91.2	Pass
L2	85.5 - 39.42	Pole	TP39.6246x28.3602x0.2813	2	-22.71	2280.10	99.2	Pass
L3	39.42 - 21	Pole	TP42.9745x37.8193x0.3125	3	-29.15	2826.98	99.7	Pass
L4	21 - 0	Pole	TP47.5932x42.9745x0.3393	4	-34.64	3371.01	95.1	Pass
						Summary		
						Pole (L3)	99.7	Pass
						Base Plate	98.6	Pass
						<b>RATING =</b>	<b>99.7</b>	<b>Pass</b>

**Appendix #3: Foundation Check**

Foundation Properties

Pier Type, Round  
 Height from ground to top of mat,  $H := 4.5 \text{ ft}$   
 Depth to water table,  $W := 4.5 \text{ ft}$   
 Projection of pier above mat,  $P := 5.0 \text{ ft}$   
 Thickness of mat,  $y := 3.5 \text{ ft}$   
 Width of mat,  $X := 20 \text{ ft}$   
 Diameter of pier,  $d := 7 \text{ ft}$

Unit weight of concrete,  $W_c := 150 \text{ pcf}$   
 Submerged unit weight of concrete,  $W_{cs} := 87.6 \text{ pcf}$   
 Unit weight of soil,  $W_s := 100 \text{ pcf}$   
 Submerged unit weight of soil,  $W_{su} := 37.6 \text{ pcf}$

Water table is above top of mat

Component      Mass      Moment Arm      Resisting Moment

Pier,  $M_p := \left( \left( \pi \cdot \frac{d^2}{4} \right) \cdot (P) \right) \cdot (W_c) = 28.863 \text{ kip}$        $R := 10 \text{ ft}$        $R_{mp} := M_p \cdot R = 288.634 \text{ ft} \cdot \text{kip}$

Pad,  $M_{pd} := (X \cdot X \cdot y) \cdot (W_{cs}) = 122.64 \text{ kip}$        $R := 10 \text{ ft}$        $R_{pad} := M_{pd} \cdot R = (1.226 \cdot 10^3) \text{ ft} \cdot \text{kip}$

Overburden,  $M_o := \left( \left( X \cdot X - \left( \pi \cdot \frac{d^2}{4} \right) \right) \cdot H \right) \cdot W_s = 162.682 \text{ kip}$        $R_o := M_o \cdot R = (1.627 \cdot 10^3) \text{ ft} \cdot \text{kip}$

Total Resisting Moment,  $M_{rt} := R_{mp} + R_{pad} + R_o = (3.142 \cdot 10^3) \text{ ft} \cdot \text{kip}$

Overturning Moment,  $M_{otm} := 3072 \text{ ft} \cdot \text{kip}$       (From TnxTower Output)

Factor of Safety,  $F := \frac{M_{rt}}{M_{otm}} = 1.023$       Sufficient

# NEXIUS

Accelerating Network and Business Transformation

## EQUIPMENT CONFIRMATION LETTER

May 17, 2021

### VERIZON WIRELESS

20 Alexander Drive, 2<sup>nd</sup> Floor  
Wallingford, CT 06492

**Location Code:** 468550  
**Site Name:** QUINEBAUG\_CT  
**Site Address:** 720 Quinebaug Road, Quinebaug, CT 06262  
**Structural Type:** 125 ft Monopole

### To Whom It May Concern:

Nexius has reviewed following engineering documents for the LS6 project for above mentioned cell site:

- *Structural Analysis Report, Site Name: Quinebaug\_CT, Location Code: 468550, Prepared for Verizon Wireless, by Nexius Solutions, Inc., dated 05/14/2021 (Rev. 1).*
- *Construction Drawings, Site Name: Quinebaug\_CT, Location Code: 468550, Prepared for Verizon Wireless, by Nexius Solutions, Inc., dated 05/14/2021 (Rev. 2).*

Upon review, we confirmed that the “VZS01 antenna w/ RRU” in the listed documents has dimensions and weight confirming to the values given in provided specifications for “C-band 64T64R MMU”.

The review is solely based on the provided documents and information. Please do not hesitate to let us know if any questions or need any additional information.

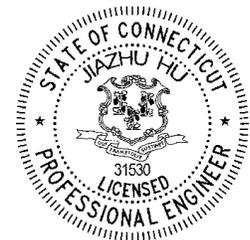
Sincerely Yours,

Prepared by:

Akshay Doddamani

Reviewed by:

Jiazhu Hu, P.E.  
Engineering Manager  
License #: 31530



# NEXIUS

Accelerating Network and Business Transformation

SAMSUNG

## C-band 64T64R MMU



\* Preliminary Design

Specifications are subject to change.

Air Technology	NR
Frequency	3700 – 3980 MHz
IBW	280 MHz
OBW	200 MHz
Carrier Bandwidth	20/40/60/80/100 MHz
# of Carriers	2 carriers
Layer	DL : 16L, UL : 16RX (8L)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	78.5 dBm (53 dBm + 25.5 dBi)
Conductive Power	200W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz, 51RBs)
EIS Sensitivity	Typical -125.9dBm @(16Rx, BLER 5%, excluding polarization loss, 18.36MHz with 30kHz, 51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,395 W @ 100% RF load, room temperature 1,428 W @ 100% RF load, all temperature 1,003 W @ 40% RF load, room temperature
Size (WHD)	408 x 892 x 140 mm (16.06 x 35.12 x 5.51 inch)
Volume	50.95L
Weight	39.5kg (87.1 lb)
Operating Temperature	-40°C - 55°C (w/o solar load)
Cooling	Natural convection
Unwanted Emission	3GPP 38.104 FCC 47 CFR 27.53 : < -13dBm/MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm Fronthaul Interface	4RX eCPRI

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## Post-Mod Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10061125  
Maser Consulting Connecticut Project #: 21777031A

April 27, 2021

### Site Information

Site ID: 468550-VZW / Quinebaug CT  
Site Name: Quinebaug CT  
Carrier Name: Verizon Wireless  
Address: 720 Quinebaug Road  
Quinebaug, Connecticut 06262  
Windham County  
Latitude: 42.022750°  
Longitude: -71.949300°

### Structure Information

Tower Type: 125-Ft Monopole  
Mount Type: 12.67-Ft Platform

FUZE ID # 16272073

### Analysis Results

Platform: **56.7% Pass**

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

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

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

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

**Requirements also Noted on Mount Modification Drawings**

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

Report Prepared By: Selene Chen



Digitally signed by Justin Linette  
Date: 2021.04.28 15:05:52-04'00'

**Executive Summary:**

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

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

**Sources of Information:**

Document Type	Remarks
Radio Frequency Data Sheet (RFDS)	Verizon RFDS, Site ID: 675025, dated March 1, 2021
Mount Mapping Report	Hudson Design Group LLC, Site ID: 468550, dated February 12, 2021
Mount Analysis Report	Maser Consulting Connecticut, Project #: 21777031A, dated March 30, 2021
Mount Modification Drawings	Maser Consulting Connecticut, Project #: 21777031A, dated April 27, 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: 1.50 in Risk Category: II Exposure Category: B Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, $K_e$ : 0.987
Seismic Parameters:	$S_s$ : 0.183 $S_1$ : 0.056
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Live Load, $L_v$ : 250 lbs. Maintenance Live Load, $L_m$ : 500 lbs.
Analysis Software:	RISA-3D (V17)

**Final Loading Configuration:**

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

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
112.50	115.00	3	Samsung	MT6407-77A	Added
		3	Commscope	CBC78T-DS-43-2X	
		3	Samsung	B2/B66A RRH-BR049	
		3	Samsung	B5/B13 RRH-BR04C	
		6	Commscope	JAHH-65B-R3B	Retained
		6	Antel	LPA-80080/6CF	
		2	Raycap	RRFDC-3315-PF-48	

**Standard Conditions:**

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

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

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

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped by Maser Consulting Connecticut, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Maser Consulting Connecticut is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
- o Channel, Solid Round, Angle, Plate      ASTM A36 (Gr. 36)
  - o HSS (Rectangular)                              ASTM 500 (Gr. B-46)
  - o Pipe                                                    ASTM A53 (Gr. B-35)
  - o Threaded Rod                                      F1554 (Gr. 36)
  - o Bolts                                                 ASTM A325
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
Mount Pipe	56.7%	Pass
Standoff Horizontal	14.1%	Pass
Crossmember	13.8%	Pass
Grating Support	18.7%	Pass
Corner Plate	21.8%	Pass
Support Rail	18.7%	Pass
Support Rail Corner	31.6%	Pass
Face Horizontal	16.1%	Pass
Connection Check	16.9%	Pass

<b>Structure Rating – (Controlling Utilization of all Components)</b>	<b>56.7%</b>
-----------------------------------------------------------------------	--------------

**Recommendation:**

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

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

**Attachments:**

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



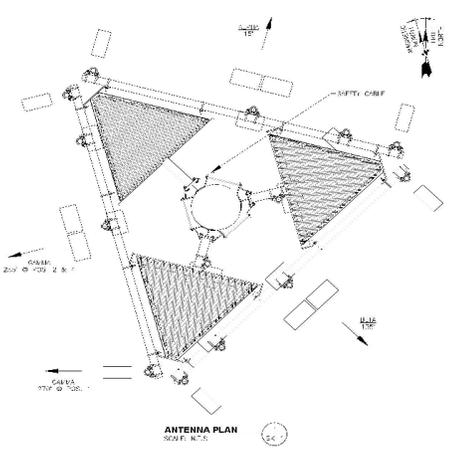


### Antenna Mount Mapping Form (PATENT PENDING)

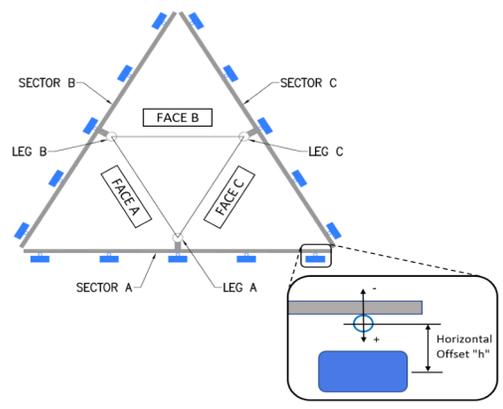
FCC #

<b>Tower Owner:</b>	Quinebaug Valley Emer Comm	<b>Mapping Date:</b>	02.12.21
<b>Site Name:</b>	QUINEBAUG CT	<b>Tower Type:</b>	Monopole
<b>Site Number or ID:</b>	468550	<b>Tower Height (Ft.):</b>	125
<b>Mapping Contractor:</b>	HUDSUN DESIGN GROUP, LLC.	<b>Mount Elevation (Ft.):</b>	115.5

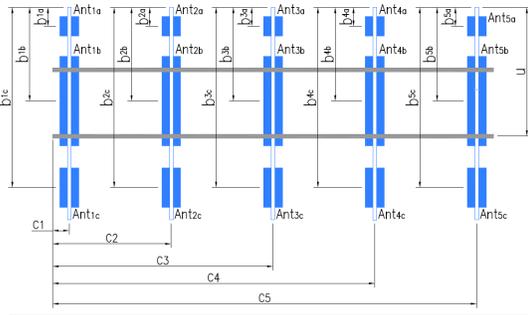
This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.



Mount Pipe Configuration and Geometries [Unit = Inches]								
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	
A1	PIPE 2"Ø x .125 x 72" LONG	57.00	4.00	C1	PIPE 2"Ø x .125 x 72" LONG	57.00	4.00	
A2	PIPE 2"Ø x .125 x 72" LONG	57.00	80.00	C2	PIPE 2"Ø x .125 x 72" LONG	49.00	80.00	
A3	PIPE 2"Ø x .125 x 72" LONG	57.00	124.00	C3	PIPE 2"Ø x .125 x 72" LONG	57.00	124.00	
A4	PIPE 2"Ø x .125 x 72" LONG	57.00	148.00	C4	PIPE 2"Ø x .125 x 72" LONG	57.00	148.00	
A5				C5				
A6				C6				
B1	PIPE 2"Ø x .125 x 72" LONG	57.00	4.00	D1				
B2	PIPE 2"Ø x .125 x 72" LONG	57.00	80.00	D2				
B3	PIPE 2"Ø x .125 x 72" LONG	57.00	124.00	D3				
B4	PIPE 2"Ø x .125 x 72" LONG	57.00	148.00	D4				
B5				D5				
B6				D6				
Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details.:							0.00	
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.):							6	
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.):								
Please enter additional information or comments below.								
Tower Face Width at Mount Elev. (ft.):				Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):				23

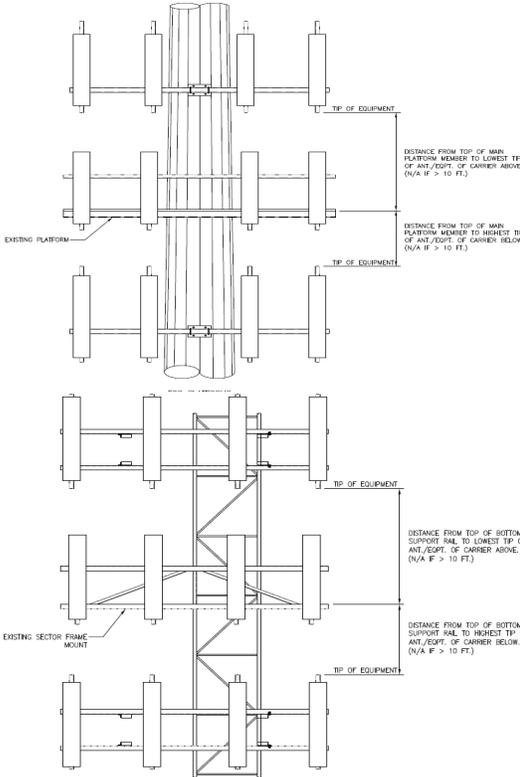


Ants. Items	Enter antenna model. If not labeled, enter "Unknown".					Mounting Locations [Units are inches and degrees]			Photos of antennas	
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b <sub>1a</sub> , b <sub>2a</sub> , b <sub>3a</sub> , b <sub>1b</sub> ,..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers
<b>Sector A</b>										
Ant <sub>1a</sub>										
Ant <sub>1b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.75	30.00	14.00	15.00	10
Ant <sub>1c</sub>										
Ant <sub>2a</sub>	B13 RRH	12.00	7.50	20.50		117.5	33.00	-6.00		11
Ant <sub>2b</sub>	(2) JAHH-65B-R3B	13.50	8.50	72.00		117	39.00	14.00	15.00	11
Ant <sub>2c</sub>										
Ant <sub>3a</sub>	B66a RRH	12.00	7.00	25.50		118.583	20.00	-6.00		12
Ant <sub>3b</sub>										
Ant <sub>3c</sub>										
Ant <sub>4a</sub>										
Ant <sub>4b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.75	30.00	14.00	15.00	12
Ant <sub>4c</sub>										
Ant <sub>5a</sub>										
Ant <sub>5b</sub>										
Ant <sub>5c</sub>										
Ant on Standoff	RRFDC-3315-PF-48	15.00	10.00	28.00			54.00			16
Ant on Standoff										
Ant on Tower										
Ant on Tower										



**Antenna Layout (Looking Out From Tower)**

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B																		
Sector A:	15.00	Deg	Leg A:		Deg	Sector B:	135.00	Deg	Leg B:		Deg	Sector C:	255.00	Deg	Leg C:		Deg	Sector D:		Deg	Leg D:		Deg			
Location:	355.00	Deg	Climbing Facility Information				Ant <sub>1a</sub>																			
Climbing Facility	Corrosion Type:		Good condition.				Ant <sub>1b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.75	30.00	14.00	135.00	14									
	Access:		Climbing path was unobstructed.				Ant <sub>1c</sub>																			
	Condition:		Good condition.				Ant <sub>2a</sub>	B13 RRH	12.00	7.50	20.50		117.5	33.00	-6.00		15									
						Ant <sub>2b</sub>	(2) JAHH-65B-R3B	13.50	8.50	72.00		117	39.00	14.00	135.00	15										
						Ant <sub>2c</sub>																				
						Ant <sub>3a</sub>	B66a RRH	12.00	7.00	25.50		118.583	20.00	-6.00		16										
						Ant <sub>3b</sub>																				
						Ant <sub>3c</sub>																				
						Ant <sub>4a</sub>																				
						Ant <sub>4b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.75	30.00	14.00	135.00	16										
						Ant <sub>4c</sub>																				
						Ant <sub>5a</sub>																				
						Ant <sub>5b</sub>																				
						Ant <sub>5c</sub>																				
						Ant on Standoff	RRFDC-3315-PF-48	15.00	10.00	28.00			54.00			38										
						Ant on Standoff																				
						Ant on Tower																				
						Ant on Tower																				
						Sector C																				
						Ant <sub>1a</sub>																				
						Ant <sub>1b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.75	30.00	14.00	270.00	17										
						Ant <sub>1c</sub>																				
						Ant <sub>2a</sub>	B13 RRH	12.00	7.50	20.50		116.833	33.00	-6.00		18										
						Ant <sub>2b</sub>	(2) JAHH-65B-R3B	13.50	8.50	72.00		116.333	39.00	14.00	255.00	18										
						Ant <sub>2c</sub>																				
						Ant <sub>3a</sub>	B66a RRH	12.00	7.00	25.50		118.583	20.00	-6.00		19										
						Ant <sub>3b</sub>																				
						Ant <sub>3c</sub>																				
						Ant <sub>4a</sub>																				
						Ant <sub>4b</sub>	LPA-80080-6CF	6.00	13.00	71.00		117.333	35.00	14.00	255.00	20										
						Ant <sub>4c</sub>																				
						Ant <sub>5a</sub>																				
						Ant <sub>5b</sub>																				
						Ant <sub>5c</sub>																				
						Ant on Standoff																				
						Ant on Standoff																				
						Ant on Tower																				
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						Sector D																				
						Ant <sub>1a</sub>																				
						Ant <sub>1b</sub>																				
						Ant <sub>1c</sub>																				
						Ant <sub>2a</sub>																				
						Ant <sub>2b</sub>																				
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						Ant <sub>5a</sub>																				
						Ant <sub>5b</sub>																				
						Ant <sub>5c</sub>																				
						Ant on Standoff																				
						Ant on Standoff																				
						Ant on Tower																				
						Ant on Tower																				



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

1		
2	(12) 1-5/8" COAX CABLES & (2) 1-1/4" HYBRID CABLES.	28 (GRD)
3		
4		
5		
6		
7		
8		

**Mapping Notes**

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

**Standard Conditions**

1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



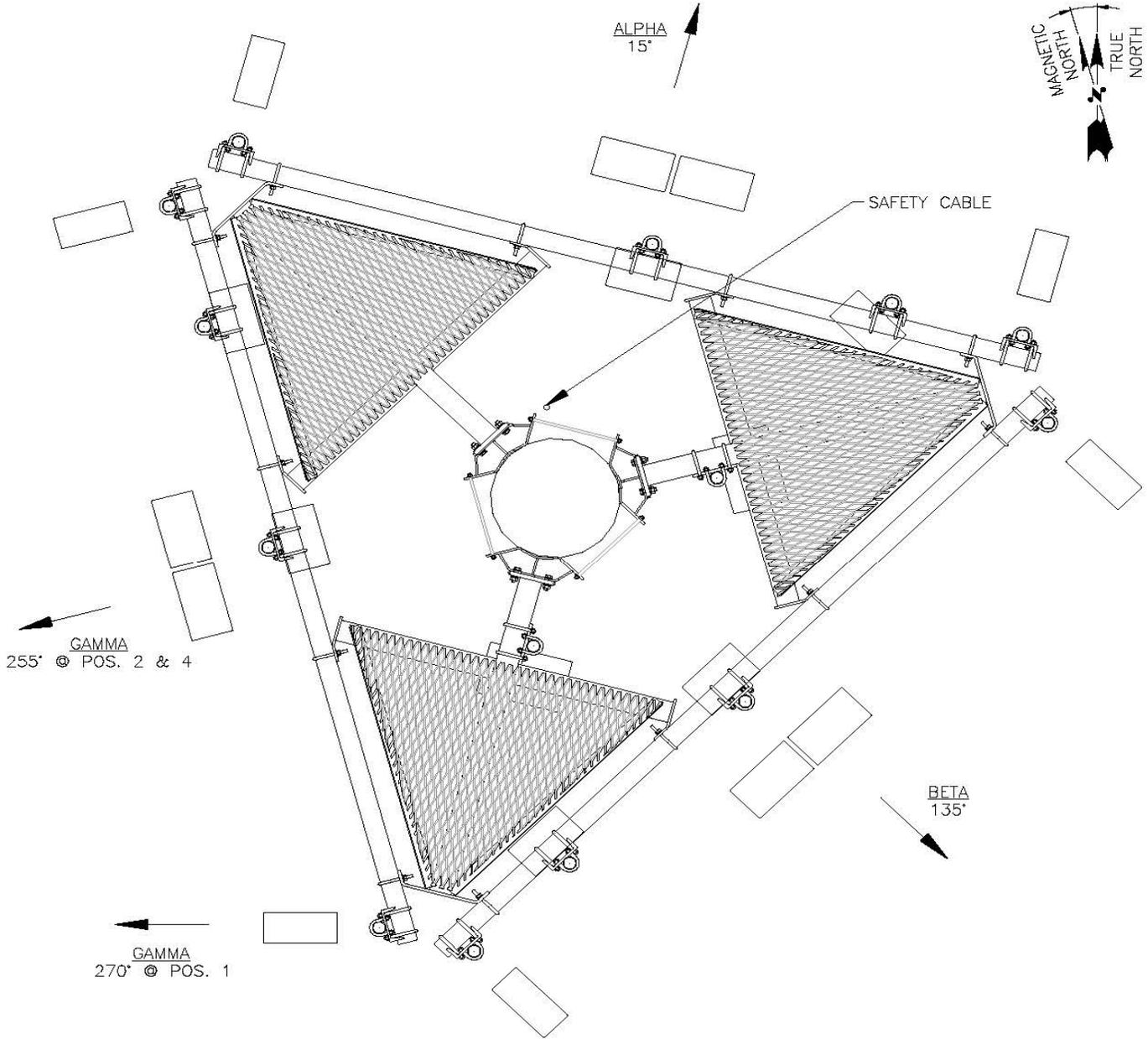
**Antenna Mount Mapping Form (PATENT PENDING)**

FCC #

<b>Tower Owner:</b>	Quinebaug Valley Emer Comm	<b>Mapping Date:</b>	02.12.21
<b>Site Name:</b>	QUINEBAUG CT	<b>Tower Type:</b>	Monopole
<b>Site Number or ID:</b>	468550	<b>Tower Height (Ft.):</b>	125
<b>Mapping Contractor:</b>	HUDSUN DESIGN GROUP, LLC.	<b>Mount Elevation (Ft.):</b>	115.5

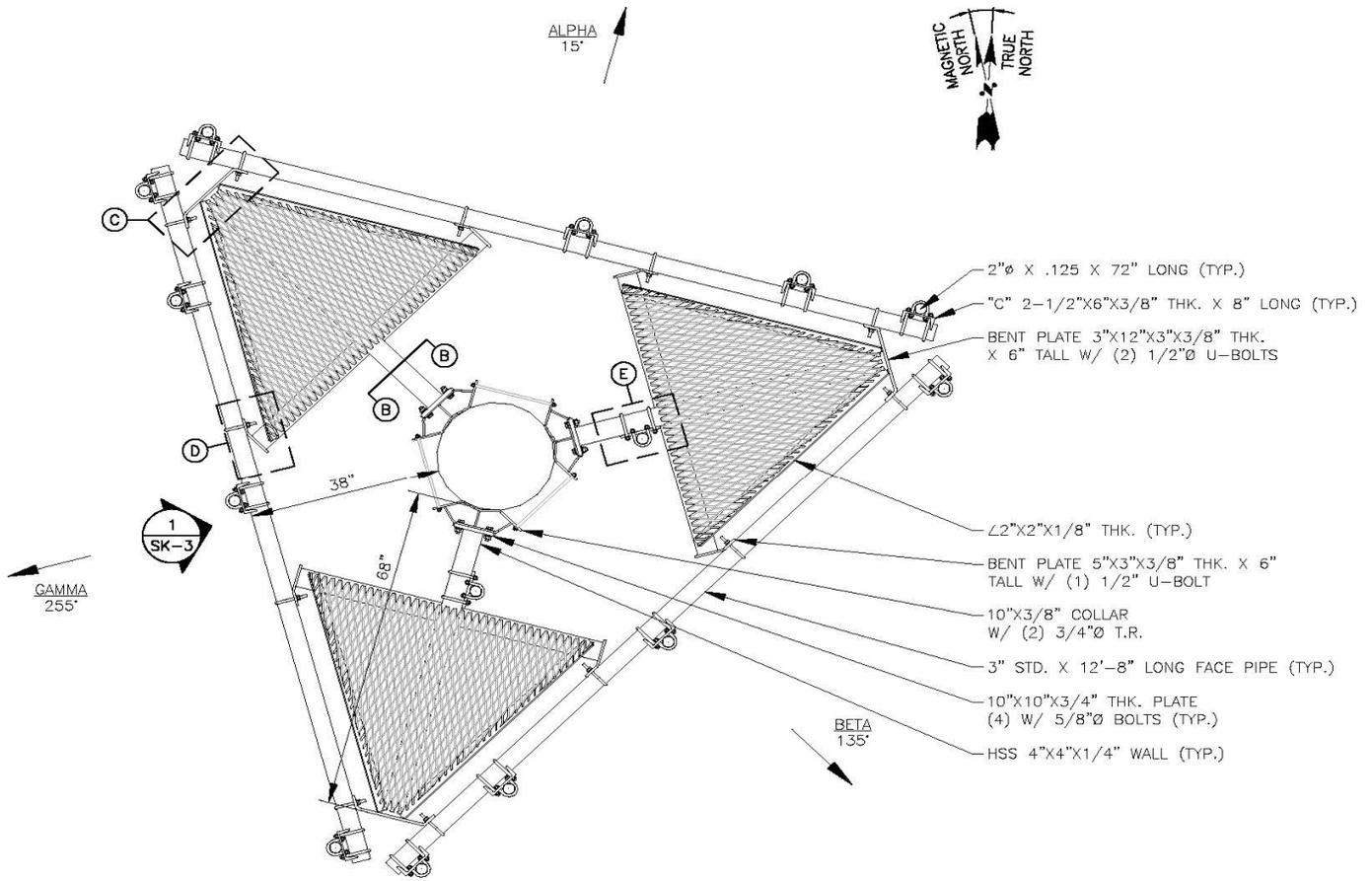
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Please Insert Sketches of the Antenna Mount



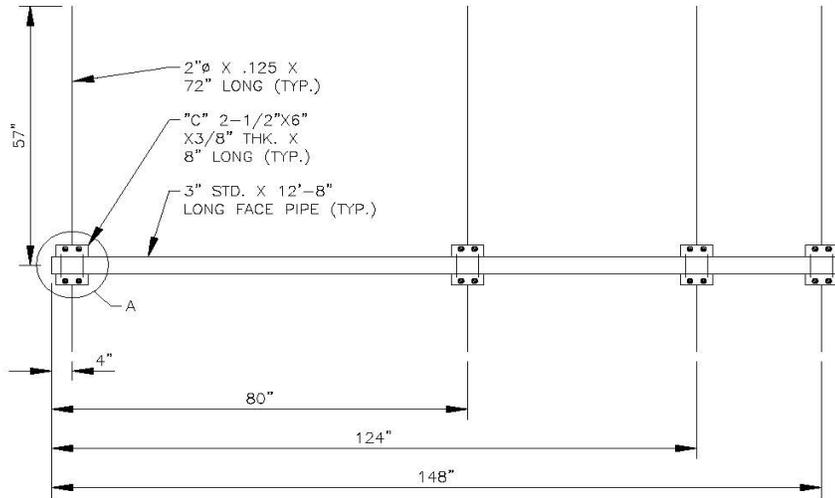
**ANTENNA PLAN**  
SCALE: N.T.S

1  
SK-1



**MOUNT PLAN**  
SCALE: N.T.S

1  
SK-2



**FACE ELEVATION**  
SCALE: N.T.S.

1  
SK-3

"C" 2-1/2"X6"  
X3/8" THK. X  
8" LONG (TYP.)

1/2"Ø U-BOLTS (TYP.)

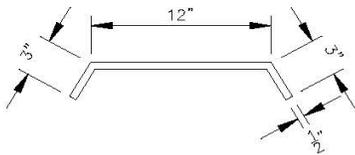
**DETAIL A**

10" X 10" X 5/8" THK. PLATE

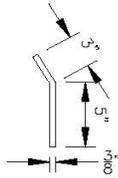
HSS 4"X4"X1/4" WALL (TYP.)

(4) 5/8"Ø BOLTS

**DETAIL B-B**



**DETAIL C**



**DETAIL D**

HSS 4"X4"X1/4" WALL (TYP.)

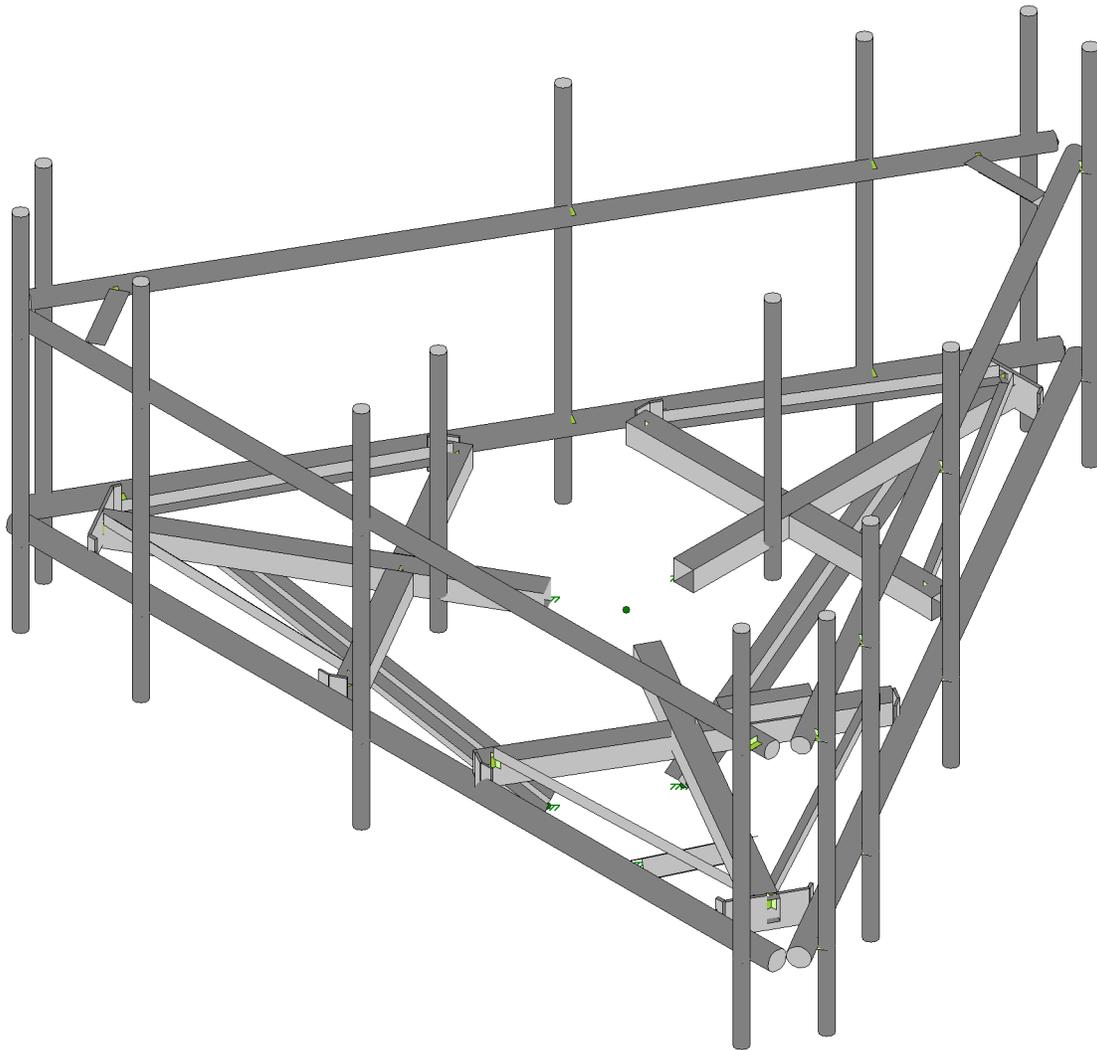
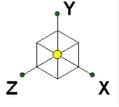
6"X8"X3/8" THK.  
CROSSOVER PLATE  
W/ 1/2"Ø HARDWARE

2" STD. X 48" LONG (TYP.)

**DETAIL E**

**DETAILS**  
SCALE: N.T.S.

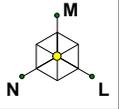
2  
SK-3



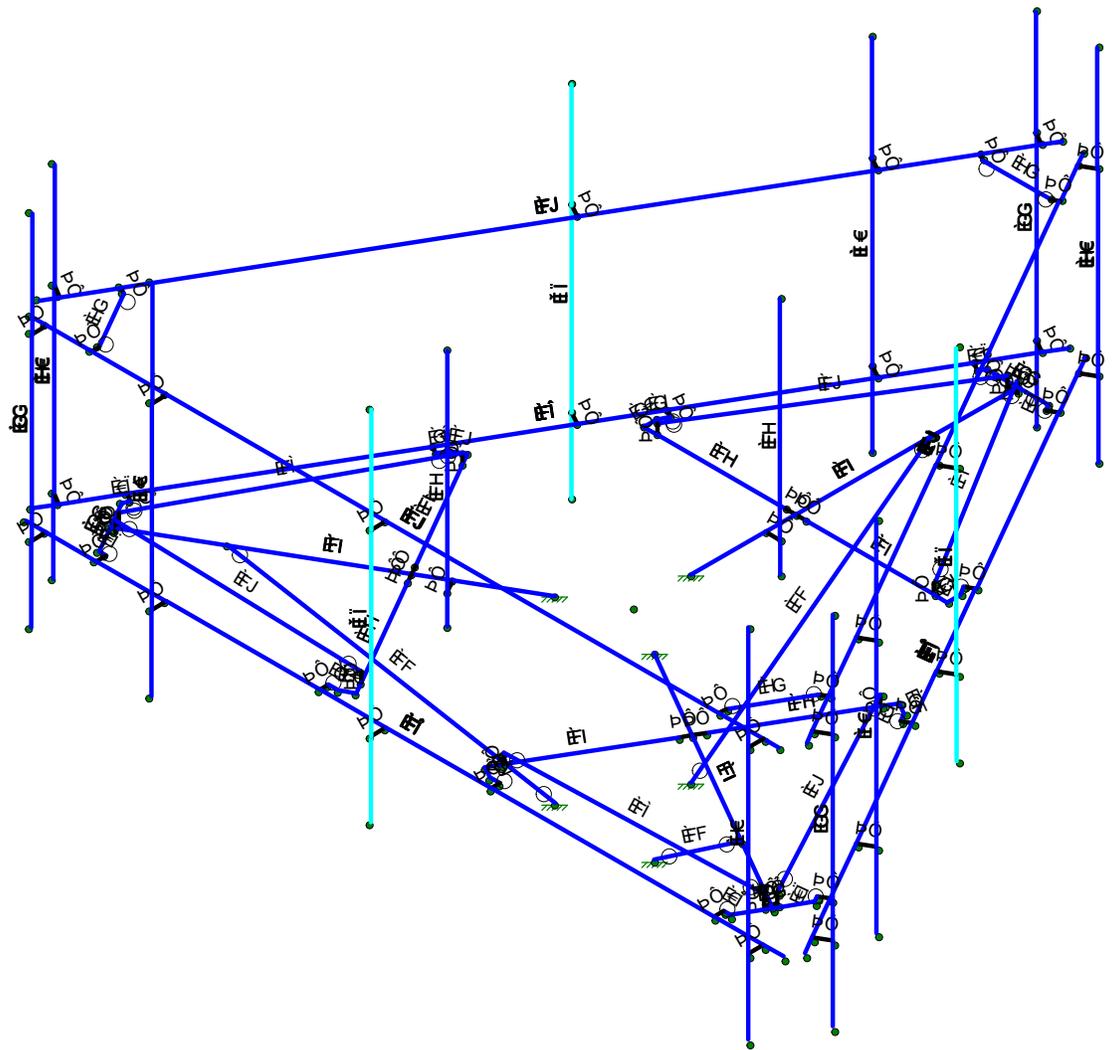

SK - 1

Apr 23, 2021 at 1:57 PM

468550-VZW\_MT\_LO\_H.r3d

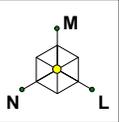


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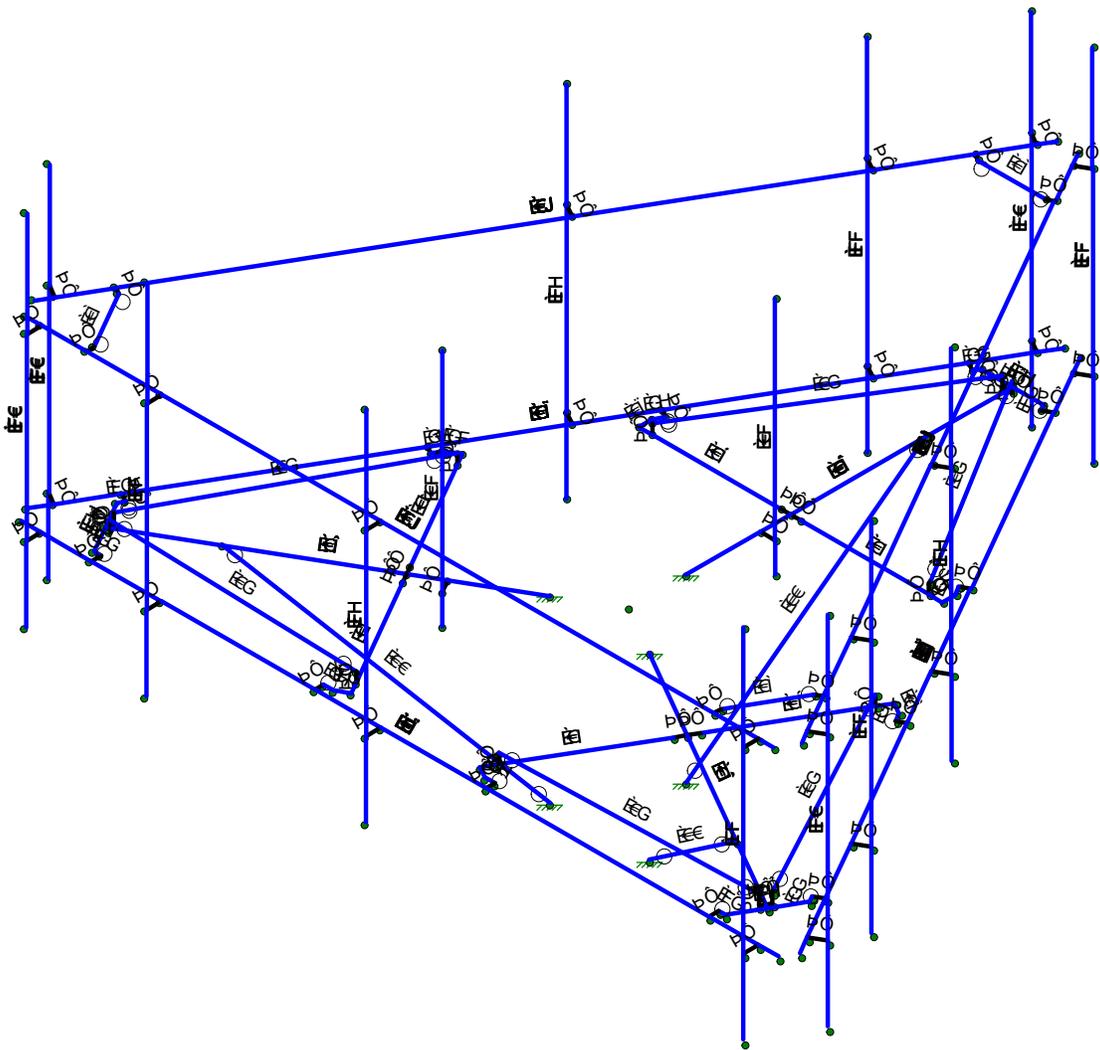


T^ { a^i A[ a^A@& . A^a ] | a^A(A) c^i [ ] ^aD  
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ÍÍ	TÍÍÓ	ÞFFÍ OE	ÞFFÍ OE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
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ÌÌ	TJFÓ	ÞFHÓ	ÞFHÖE			Öæ̃^ Á[ ä[ ] cæ̃	Ôˆæ̃	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
ÌÌ	TJGÓ	ÞFHÖE	ÞFHÍ OE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
ÌJ	TJHÖ	ÞFHÍ Ó	ÞFHÍ OE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
J€	TJÍOE	ÞFHÍ OE	ÞFHÍ OE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
JF	TJÍOE	ÞFHÜOE	ÞFÍ €E			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
JG	TF€€	ÞFÍ J	ÞFÍ €E			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
JH	TF€	ÞFÍ FÖE	ÞFÍ GÖE			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JI	TÚHÖ	ÞFHÓ	ÞFHÖE			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JÍ	TÚÍ Ö	ÞFHÓ	ÞFHÓ			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JÏ	TÚGÖ	ÞFHÍ Ö	ÞFHÍ Ö			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JÏ	TÚFÖ	ÞFHÍ Ö	ÞFHÍ Ö			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JÌ	TÚHÓ	ÞFÍ €Ö	ÞFHÜÓ			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
JJ	TÚÍ Ó	ÞFÍ GÖE	ÞFÍ FÓ			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
F€€	TÚGÓ	ÞFÍ I OE	ÞFÍ H			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
F€	TÚFÓ	ÞFÍ Í	ÞFÍ Í			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
F€G	TF€	ÞFÍ Í	ÞFÍ F			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€H	TF€	ÞFÍ G	ÞFÍ H			T[ ] cÄü ^	Ö  ]{ }	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃
F€	TF€ OE	ÞFÍ €	ÞFÍ FÓ			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€Í	TF€	ÞFÍ Ö	ÞFÍ HÖE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€Í	TF€	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€Í	TF€	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€	TF€J	ÞFÍ J	ÞFÍ €			TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
F€J	TF€	ÞFÍ F	ÞFÍ G			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FF€	TF€	ÞFÍ H	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFF	TF€G	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFG	TF€H	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FRH	TF€	ÞFÍ G	ÞFÍ H			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFI	TF€	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFI	TF€	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFI	TF€	ÞFÍ Í	ÞFÍ J			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FFI	TF€ OE	ÞFÍ I OE	ÞFÍ I OE			TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
FFI	TF€ OE	ÞFÍ Í OE	ÞFÍ Í OE			TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
FFJ	TF€J	ÞFÍ I OE	ÞFÍ J OE			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
F€E	TF€	ÞFÍ €	ÞFÍ F			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FGF	TF€	ÞFÍ G	ÞFÍ H			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FGG	TF€G	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FGH	TF€H	ÞFÍ Í	ÞFÍ Í			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FG	TF€	ÞFÍ Í	ÞFÍ J			ÜÖÖ	Þ]}ˆ	Þ]}ˆ	ÜÖÖ	V]ˆ äæ̃
FG	TF€	ÞFÍ J OE	ÞFÍ Í	FÍ €	TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä * ˆ^	ÖE * ˆ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
FG	TF€	ÞFÍ H	ÞFÍ J	FÍ €	TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä * ˆ^	ÖE * ˆ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
FG	TF€	ÞFÍ Í	ÞFÍ F	FÍ €	TUÖÄV] ]][ oæ̃ Öˆæ̃	Üä * ˆ^	ÖE * ˆ^	ÖE HÖ :EÖ	V]ˆ äæ̃	
FG	TF€	ÞFJE	ÞFJF		TUÖÄSa ˆ! Ö  ]{ }	Ö  ˆ äˆ Ö * ˆ^	ÖE CH Ö :EÖ	V]ˆ äæ̃		
FGJ	TF€J	ÞFJG	ÞFJH		TUÖÄSa ˆ! Ö  ]{ }	Ö  ˆ äˆ Ö * ˆ^	ÖE CH Ö :EÖ	V]ˆ äæ̃		
FHE	TF€	ÞFJI	ÞFJÍ		TUÖÄSa ˆ! Ö  ]{ }	Ö  ˆ äˆ Ö * ˆ^	ÖE CH Ö :EÖ	V]ˆ äæ̃		











































































Ô{ }â^ K  
 Ô•â)^! K  
 Rââ{ à^! K  
 T[ â^!ââ^ K

Ç; Å ÇÇF  
 FK JÁÚ  
 Ô@&^âÁK''''

**A Ya Vvf' Dc] bh@ UXg' f6 @ '% ' : 5 bhMbU' K ] f\$ ' 8 Y' tL' T' cb] bh' YXL**

	T ^{ à^! Áâ^	Öâ^&ç	T æ) æ à^! çâ Ê Eéá	Š &ç  žčŤ á
FI	T ÚHÓ	Z	ËËË	FË
FÍ	T ÚHÓ	T ç	ËËË	FË
FÎ	T ÚHÓ	Ý	€	HË
FÏ	T ÚHÓ	Z	ËËË	HË
FÌ	T ÚHÓ	T ç	ËËË	HË
FJ	T ÚÇÈ	Ý	€	FË
G€	T ÚÇÈ	Z	ËËË Ì	FË
GF	T ÚÇÈ	T ç	€	FË
GG	T ÚGÓ	Ý	€	FË
GH	T ÚGÓ	Z	ËËË	FË
GI	T ÚGÓ	T ç	ËËËF	FË
Ĝ	T ÚGŎ	Ý	€	FË
GĜ	T ÚGŎ	Z	ËËË	FË
Gĝ	T ÚGŎ	T ç	ËËËF	FË
Gğ	T ÚÇÈ	Ý	€	H
GJ	T ÚÇÈ	Z	ËËË Ì	H
H€	T ÚÇÈ	T ç	€	H
HF	T ÚGÓ	Ý	€	H
HG	T ÚGÓ	Z	ËËË Ì	H
HH	T ÚGÓ	T ç	ËËË	H
HÍ	T ÚGÓ	Ý	€	H
HÏ	T ÚGÓ	Z	ËËË Ì	H
HÌ	T ÚGÓ	T ç	ËËË	H
HĜ	T ÚHXÈ	Ý	€	GË
HĜ	T ÚHXÈ	Z	ËËË Ì	GË
HJ	T ÚHXÈ	T ç	€	GË
I€	T ÚHÓ	Ý	€	GË
IF	T ÚHÓ	Z	ËËËH	GË
IG	T ÚHÓ	T ç	ËËË	GË
IH	T ÚHÓ	Ý	€	GË
II	T ÚHÓ	Z	ËËËH	GË
Í	T ÚHÓ	T ç	ËËË	GË
Î	T ÚÇÈ	Ý	€	F
Ï	T ÚÇÈ	Z	ËËË GH	F
Ì	T ÚÇÈ	T ç	ËËËF	F
IJ	T ÚÇÈ	Ý	€	Í
Í€	T ÚÇÈ	Z	ËËË GH	Í
ÍF	T ÚÇÈ	T ç	ËËËF	Í
ÍG	T ÚGÓ	Ý	€	F
ÍH	T ÚGÓ	Z	ËËË Ì	F
Î	T ÚGÓ	T ç	ËËË	F
Ï	T ÚGÓ	Ý	€	Í
Ï	T ÚGÓ	Z	ËËË Ì	Í
Ï	T ÚGÓ	T ç	ËËË	Í
Ī	T ÚGŎ	Ý	€	F
Ī	T ÚGŎ	Z	ËËË Ì	F
Ī	T ÚGŎ	T ç	ËËË	Í
ÍJ	T ÚGŎ	Z	ËËË Ì	F
Í€	T ÚGŎ	T ç	ËËË	F
ÍF	T ÚGŎ	Ý	€	Í
ÍG	T ÚGŎ	Z	ËËË Ì	Í
ÍH	T ÚGŎ	T ç	ËËË	Í
Ī	T ÚÇÈ	Ý	€	F
Ī	T ÚÇÈ	Z	ËËË GH	F

UOQ#HÖA^!•q ) A Ĭ ÊË ÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅÅ Å Ç Æ Å Ú Q Ő İ Ĭ Ĭ Ĭ € XZY ' T V ' Š U ' P È Æ Å Ú æ ^ Å Ĭ



























































































































Ó{ }æ^ K  
 Ô•ã}^! K  
 R àÁ~{ à^! K  
 T[ à^!Áæ^ ^ K

Çj! Á-ÉÇGF  
 FK JÁÚT  
 Ô@&^àÁ'K''''

**A Ya Vyf'8 ]gfh]Vi hYX' @ UXg'f6 @' (%.'Gfi Wñ fy'K c'f\$'8 Y] H'f' c b]h]bi YXL**

	T^{ à^!Áæ^}	Öã^&çj}	ÚçæÓ Á æ} æ' à^!Áæ^} á ÁT æ} æ' à^!Áæ^} ÚçæÓ Á &çj} ŽdĀ á	Ò) á Á &çj} ŽdĀ á
FFH	T FG	Ý	€	€
FFI	T FG	Z	€€ FJ	€€ FJ
FFÍ	T FG	Ý	€	€
FFĪ	T FG	Z	€-€€ ĭ	€-€€ ĭ
FFĪ	T FG	Ý	€	€
FFĪ	T FG	Z	€€ FJ	€€ FJ
FFJ	T FG	Ý	€	€
FO€	T FG	Z	€€ ĭ	€€ ĭ
FGF	T FGJ	Ý	€	€
FGG	T FGJ	Z	€-€€ G	€-€€ G
FGH	T FHE	Ý	€	€
FGI	T FHE	Z	€-€€ G	€-€€ G

**A Ya Vyf'8 ]gfh]Vi hYX' @ UXg'f6 @' (&.'Gfi Wñ fy'K c'f\$'8 Y] H'**

	T^{ à^!Áæ^}	Öã^&çj}	ÚçæÓ Á æ} æ' à^!Áæ^} á ÁT æ} æ' à^!Áæ^} ÚçæÓ Á &çj} ŽdĀ á	Ò) á Á &çj} ŽdĀ á
F	TF	Ý	ĭ Ė	€
G	TF	Z	€ Ė €G	€
H	TI	Ý	F€ Ė	€
I	TI	Z	€€ Ĥ	€
Í	T F€	Ý	H€ G	€
Ī	T F€	Z	€ Ė €	€
Ī	T ÚHO€	Ý	H€ F	€
Ī	T ÚHO€	Z	€ Ė G	€
J	T ÚI O€	Ý	H€ F	€
FE	T ÚI O€	Z	€ Ė G	€
FF	T ÚGO€	Ý	H€ F	€
FG	T ÚGO€	Z	€ Ė G	€
FH	T ÚFO€	Ý	H€ F	€
FI	T ÚFO€	Z	€ Ė G	€
FÍ	TI H	Ý	H€ G	€
FĪ	TI H	Z	€ Ė €	€
FĪ	TI Ī	Ý	ĭ €GJ	€
FĪ	TI Ī	Z	€-€€ ĭ	€
FJ	T Í FÓ	Ý	ĭ € F	€
GE	T Í FÓ	Z	€	€
GF	T Í GÓ	Ý	€€ ĭ	€
GG	T Í GÓ	Z	€€ J	€
GH	T Ī Ī	Ý	G€ Ĥ H	€
G	T Ī Ī	Z	€ € ĭ	€
G	T Ī Ī	Ý	ĭ € ĭ J	€
G	T Ī Ī	Z	€-€€	€
G	T ĭ €	Ý	ĭ € ĭ	€
G	T ĭ €	Z	€-€€ ĭ	€
GJ	T Ī Ī	Ý	G€ Ĥ H	€
H€	T Ī Ī	Z	€ € ĭ	€
HF	T Ī Ī	Ý	€	€
HG	T Ī Ī	Z	€	€
HH	T JF	Ý	€	€
HI	T JF	Z	€	€
HÍ	T Í G€	Ý	F€ Ė	€
HĪ	T Í G€	Z	€€ Ĥ	€









Ô{ } æ ^ K  
 Ô• a } ^! K  
 R à A } { à ^! K  
 T [ à ^! A a } ^ K

Cj : Å - É G G F  
 FK J Á Ú T  
 Ô @ & ^ à Á Ö K ' ' ' '

### A Ya Vyf'8 Jgfi]Vi hYX'@ UXg'f6 @ ' ( ' : Gfi Wi fy'K c 'ff \$'8 Yj H'f7 c bh]bi YXL

	T^{ à^! / Å a } ^	Ö ä ^ & a } ^	Ú c a o Á a } ^ a ^ à } à D a } ( )	á Á a } ^ a ^ à } à D a } ( )	Ú c a o Å } & a } ^	Ž a } Á á	Ö } à Å } & a } ^ Ž a } Á á
FFĪ	T FG	Ý	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
FFÌ	T FG	Z	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
FFJ	T FG	Ý	FFĪ Ē Ğ	FFĪ Ē Ğ	€	Ä FEE	
FGE	T FG	Z	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
FGF	T FGJ	Ý	Ī Ē FĪ	Ī Ē FĪ	€	Ä FEE	
FGG	T FGJ	Z	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
FGH	T FHE	Ý	FFĪ Ē Ğ	FFĪ Ē Ğ	€	Ä FEE	
FGI	T FHE	Z	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	

### A Ya Vyf'8 Jgfi]Vi hYX'@ UXg'f6 @ ' ( ' : Gfi Wi fy'K c 'ff \$'8 Yj H

	T^{ à^! / Å a } ^	Ö ä ^ & a } ^	Ú c a o Á a } ^ a ^ à } à D a } ( )	á Á a } ^ a ^ à } à D a } ( )	Ú c a o Å } & a } ^	Ž a } Á á	Ö } à Å } & a } ^ Ž a } Á á
F	TF	Ý	€	€	€	Ä FEE	
G	TF	Z	€	€	€	Ä FEE	
H	TI	Ý	FFĒ Ī	FFĒ Ī	€	Ä FEE	
I	TI	Z	€	€	€	Ä FEE	
Í	T FÉ	Ý	€	€	€	Ä FEE	
Ì	T FÉ	Z	€	€	€	Ä FEE	
Ī	T ÚHOE	Ý	Ī Ē FJ	Ī Ē FJ	€	Ä FEE	
Ì	T ÚHOE	Z	€	€	€	Ä FEE	
J	T ÚI OE	Ý	Ī Ē FJ	Ī Ē FJ	€	Ä FEE	
FÉ	T ÚI OE	Z	€	€	€	Ä FEE	
FF	T ÚGOE	Ý	Ī Ē FJ	Ī Ē FJ	€	Ä FEE	
FG	T ÚGOE	Z	€	€	€	Ä FEE	
FH	T ÚFOE	Ý	Ī Ē FJ	Ī Ē FJ	€	Ä FEE	
FI	T ÚFOE	Z	€	€	€	Ä FEE	
FĪ	TI H	Ý	€	€	€	Ä FEE	
FÌ	TI H	Z	€	€	€	Ä FEE	
FĪ	TI Î	Ý	€	€	€	Ä FEE	
FÌ	TI Î	Z	€	€	€	Ä FEE	
FJ	TÍ FÓ	Ý	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
GÉ	TÍ FÓ	Z	€	€	€	Ä FEE	
GF	TÍ GÓ	Ý	Ī Ē Ğ	Ī Ē Ğ	€	Ä FEE	
GG	TÍ GÓ	Z	€	€	€	Ä FEE	
GH	TĪ Î	Ý	FĪ Ē Ī	FĪ Ē Ī	€	Ä FEE	
G	TĪ Î	Z	€	€	€	Ä FEE	
Ĝ	TĪ Î	Ý	FĪ Ē FĪ	FĪ Ē FĪ	€	Ä FEE	
Ĝ	TĪ Î	Z	€	€	€	Ä FEE	
Ğ	TĪ É	Ý	FĪ Ē F	FĪ Ē F	€	Ä FEE	
Ĝ	TĪ É	Z	€	€	€	Ä FEE	
GJ	TĪ Ī	Ý	FĪ Ē Ī	FĪ Ē Ī	€	Ä FEE	
HÉ	TĪ Ī	Z	€	€	€	Ä FEE	
HF	TĪ Í	Ý	FĪ Ē FĪ	FĪ Ē FĪ	€	Ä FEE	
HG	TĪ Í	Z	€	€	€	Ä FEE	
HH	TJF	Ý	FĪ Ē F	FĪ Ē F	€	Ä FEE	
HI	TJF	Z	€	€	€	Ä FEE	
HÍ	TÍ GOE	Ý	GĒ FĪ	GĒ FĪ	€	Ä FEE	
HÌ	TÍ GOE	Z	€	€	€	Ä FEE	
HĪ	TÍ H	Ý	Ī Ē Ī	Ī Ē Ī	€	Ä FEE	
HÌ	TÍ H	Z	€	€	€	Ä FEE	
HJ	TĪ Ī	Ý	Ī Ē Ī	Ī Ē Ī	€	Ä FEE	
IÉ	TĪ Ī	Z	€	€	€	Ä FEE	



































































Ó[ { ]æ^ K  
 Ô•á }^! K  
 R à Á~ { à^! K  
 T [ à^! Á æ ^ K

Ō! Á-ŌŌGŌF  
 FK JÁUT  
 Ō@&^áÁ'K''''

**A Ya Vyf'8 ]gfh]Vi hYX'@ UXg'f6 @ )+ : 'Gfi Wñ fY'K ]''fp&\$'8 Y] ŁŁ'fT c bñbi YXL**

	T ^ { à^! Áæ ^ }	Ōá^&á }	ÚcáoÁ æ } á à^ ŽaDfññD) áÁ æ } á à^ ŽaDfññD ÚcáoŌj &æñ } ŽdĀ á	Ō) á ÁŌj &æñ } ŽdĀ á		
Jİ	T ÚHÓ	Ý	ĠĚ F	ĠĚ F	€	Ă FEE
Ji	T ÚHÓ	Z	FĚ Ġ	FĚ Ġ	€	Ă FEE
JJ	T ÚI Ó	Ý	ĠĚ F	ĠĚ F	€	Ă FEE
FĚĚ	T ÚI Ó	Z	FĚ Ġ	FĚ Ġ	€	Ă FEE
FĚF	T ÚGÓ	Ý	ĠĚ F	ĠĚ F	€	Ă FEE
FĚG	T ÚGÓ	Z	FĚ Ġ	FĚ Ġ	€	Ă FEE
FĚH	T ÚFÓ	Ý	ĠĚ F	ĠĚ F	€	Ă FEE
FĚI	T ÚFÓ	Z	FĚ Ġ	FĚ Ġ	€	Ă FEE
FĚÍ	T FĚ	Ý	ĠĚ Ġ	ĠĚ Ġ	€	Ă FEE
FĚĪ	T FĚ	Z	FĚ Ī Ī	FĚ Ī Ī	€	Ă FEE
FĚĭ	T FĚj	Ý	Ě Ī ĩ	Ě Ī ĩ	€	Ă FEE
FĚĹ	T FĚj	Z	Ě HG	Ě HG	€	Ă FEE
FĚĴ	T FFĪ ŌĚ	Ý	Ě Ī ĩ	Ě Ī ĩ	€	Ă FEE
FFĚ	T FFĪ ŌĚ	Z	Ě HG	Ě HG	€	Ă FEE
FFF	T FFĪ ŌĚ	Ý	ĠĚ JH	ĠĚ JH	€	Ă FEE
FFG	T FFĪ ŌĚ	Z	FĚ Ġ	FĚ Ġ	€	Ă FEE
FFH	T FĠ	Ý	ĠĚ HF	ĠĚ HF	€	Ă FEE
FFI	T FĠ	Z	FĚ Ī F	FĚ Ī F	€	Ă FEE
FFĭ	T FĠ	Ý	Ě HH	Ě HH	€	Ă FEE
FFĪ	T FĠ	Z	Ě Ī ĩ	Ě Ī ĩ	€	Ă FEE
FFĹ	T FĠ	Ý	Ě HH	Ě HH	€	Ă FEE
FFĴ	T FĠ	Z	Ě Ī ĩ	Ě Ī ĩ	€	Ă FEE
FFJ	T FĠ	Ý	HĚ Ī Ġ	HĚ Ī Ġ	€	Ă FEE
FĠĚ	T FĠ	Z	FĚ HF	FĚ HF	€	Ă FEE
FĠF	T FĠj	Ý	HĚ Ī Ġ	HĚ Ī Ġ	€	Ă FEE
FĠG	T FĠj	Z	FĚ HF	FĚ HF	€	Ă FEE
FĠH	T FHĚ	Ý	FĚ Ĵ J	FĚ Ĵ J	€	Ă FEE
FĠ	T FHĚ	Z	FĚ Ě	FĚ Ě	€	Ă FEE

**A Ya Vyf'8 ]gfh]Vi hYX'@ UXg'f6 @ ) , : 'Gfi Wñ fY'K ]''fp&\$'8 Y] ŁŁ**

	T ^ { à^! Áæ ^ }	Ōá^&á }	ÚcáoÁ æ } á à^ ŽaDfññD) áÁ æ } á à^ ŽaDfññD ÚcáoŌj &æñ } ŽdĀ á	Ō) á ÁŌj &æñ } ŽdĀ á		
F	TF	Ý	FĚ Ġ	FĚ Ġ	€	Ă FEE
G	TF	Z	ĠĚ Ī Ī	ĠĚ Ī Ī	€	Ă FEE
H	T Ī	Ý	Ě Ī ĩ	Ě Ī ĩ	€	Ă FEE
I	T Ī	Z	Ě JĠ	Ě JĠ	€	Ă FEE
Ī	T FĚ	Ý	FĚ Ě	FĚ Ě	€	Ă FEE
Ī	T FĚ	Z	FĚ Ĵ J	FĚ Ĵ J	€	Ă FEE
Ī	T ÚHOĚ	Ý	FĚ Ġ	FĚ Ġ	€	Ă FEE
Ī	T ÚHOĚ	Z	ĠĚ F	ĠĚ F	€	Ă FEE
J	T ÚI ŌĚ	Ý	FĚ Ġ	FĚ Ġ	€	Ă FEE
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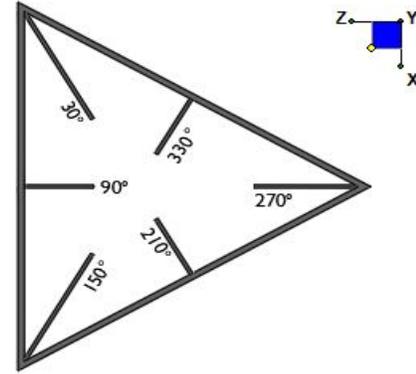




## I. Mount-to-Tower Connection Check

### RISA Model Data

Nodes (labeled per RISA)	Orientation (per graphic of typical platform)
N87D	30
N3	270
N115	150



TYPICAL PLATFORM

### Tower Connection Bolt Checks

Any moment resistance?:

Bolt Quantity per Reaction:

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

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

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength (kips):

Required Shear Strength (kips):

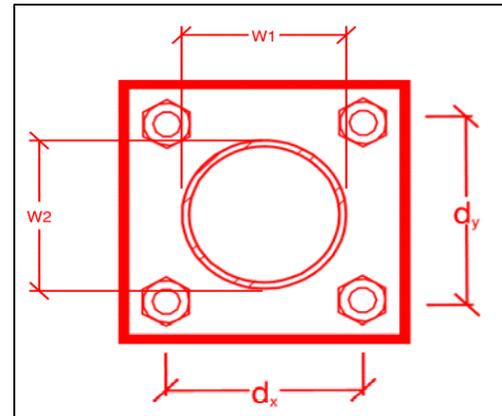
Tensile Strength / bolt (kips):

Shear Strength / bolt (kips):

Tensile Capacity Overall:

Shear Capacity Overall:

yes
4
7
7
A325N
0.625
6.2
2.7
20.7
12.4
7.5%*
5.5%



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

### Tower Connection Plate and Weld Check

Connecting Standoff Member Shape:

Plate Width (in):

Plate Height (in):

W1 (in):

W2 (in):

Fy (ksi, plate):

$t_{\text{plate}}$  (in):

Weld Size (1/16 in):

$\Phi * R_n$  (kip/in):

Required Weld Strength (kip/in):

Plate Bending Capacity:

Weld Capacity:

Rect
10
10
4
4
36
0.75
3
4.18
0.71
11.3%
16.9%

### Max Plate Bending Strengths

$Mu_{xx}$ (kip-in):	1.5
$\Phi * Mn_{xx}$ (kip-in):	45.6
$Mu_{yy}$ (kip-in):	3.7
$\Phi * Mn_{yy}$ (kip-in):	45.6

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

## Documents & Photos Required from Contractor – Mount Modification

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

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

### **Base Requirements:**

- Any special photos outside of the standard requirements will be indicated on the drawings
- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawings (proposed modification) must be shown.
- Notation that all hardware was properly installed, and the existing hardware was inspected for any issues.
- Verification that loading is as communicated in the modification drawings. NOTE If loading is different than what is conveyed in the modification drawing contact Maser Consulting Connecticut immediately.
- Each photo should be time and date stamped
- Photos should be high resolution and submitted in a Zip File and should be organized in the file structure as depicted in Schedule A attached.
- Contractor shall ensure that the safety climb wire rope is supported and not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope.
- The photos in the file structure should be uploaded to <https://pmi.vzsmart.com> as depicted on the drawings

### **Photo Requirements:**

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

- Photos taken at Mount Elevation

- Photos showing each individual sector before and also after installation of modifications. Each entire sector must be in one photo to show in the inter-connection of members.
  - These photos should also certify that the placement and geometry of the equipment on the mount is as depicted on the sketch and table in the mount analysis
- Close-up photos of each installed modification per the modification drawings; pictures should also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the measurements of the installed modification member sizes (i.e. lengths, widths, depths, diameters, thicknesses)
- Photos showing the elevation or distances of the installed modifications from the appropriate reference locations shown in the modification drawings
- Photos showing the installed modifications onto the tower with tape drop measurements (if applicable) (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, a tape drop measurement shall be provided before the elevation change
- Photos showing the safety climb wire rope above and below the mount prior to modification.
- Photos showing the climbing facility and safety climb if present.

**Material Certification:**

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

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

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

Certifying Individual: Company \_\_\_\_\_

Name \_\_\_\_\_

Signature \_\_\_\_\_

**Antenna & equipment placement and Geometry Confirmation:**

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

Certifying Individual:      Company \_\_\_\_\_  
Name \_\_\_\_\_  
Signature \_\_\_\_\_

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

**Issue:**

Contractor shall install new safety climb wire rope guides to the threaded rods of the existing and proposed mount collar assemblies to prevent interference with mount connection.

**Response:**

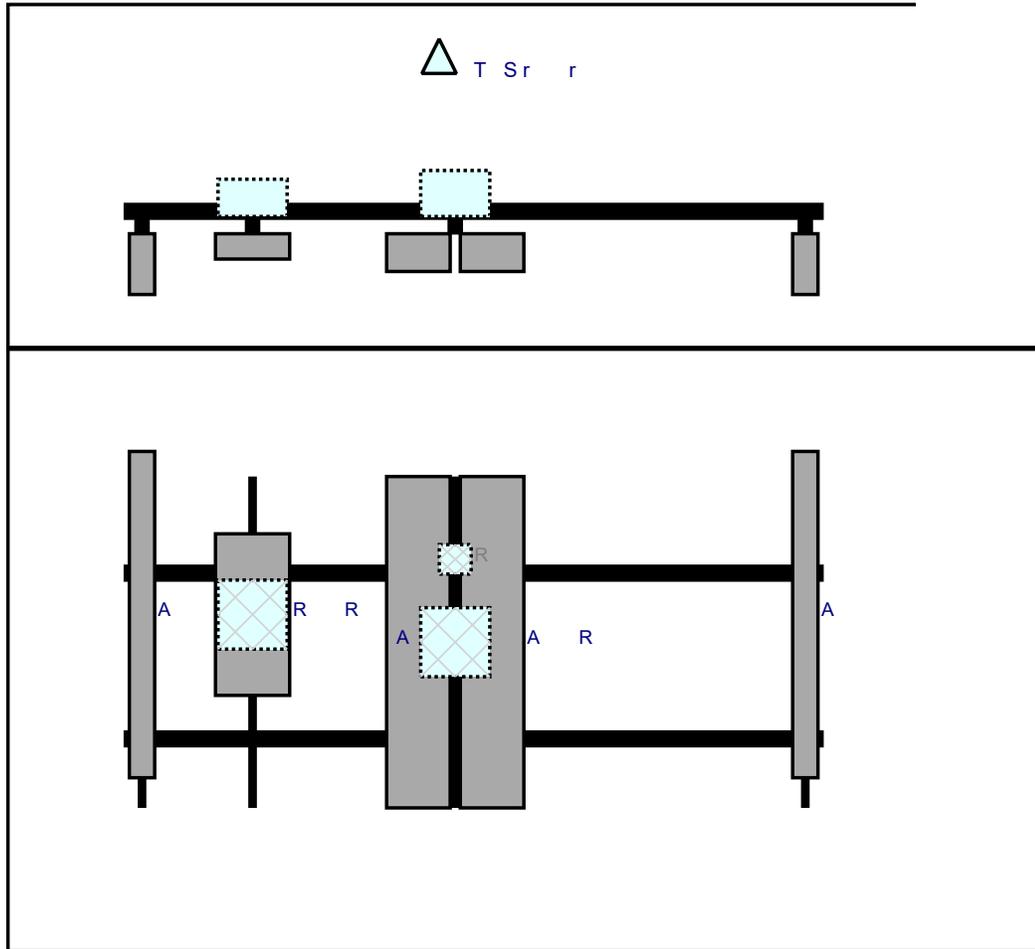
## Schedule A – Photo & Document File Structure

-  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

S r A  
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P

Plan View



Front View  
 L Sr r

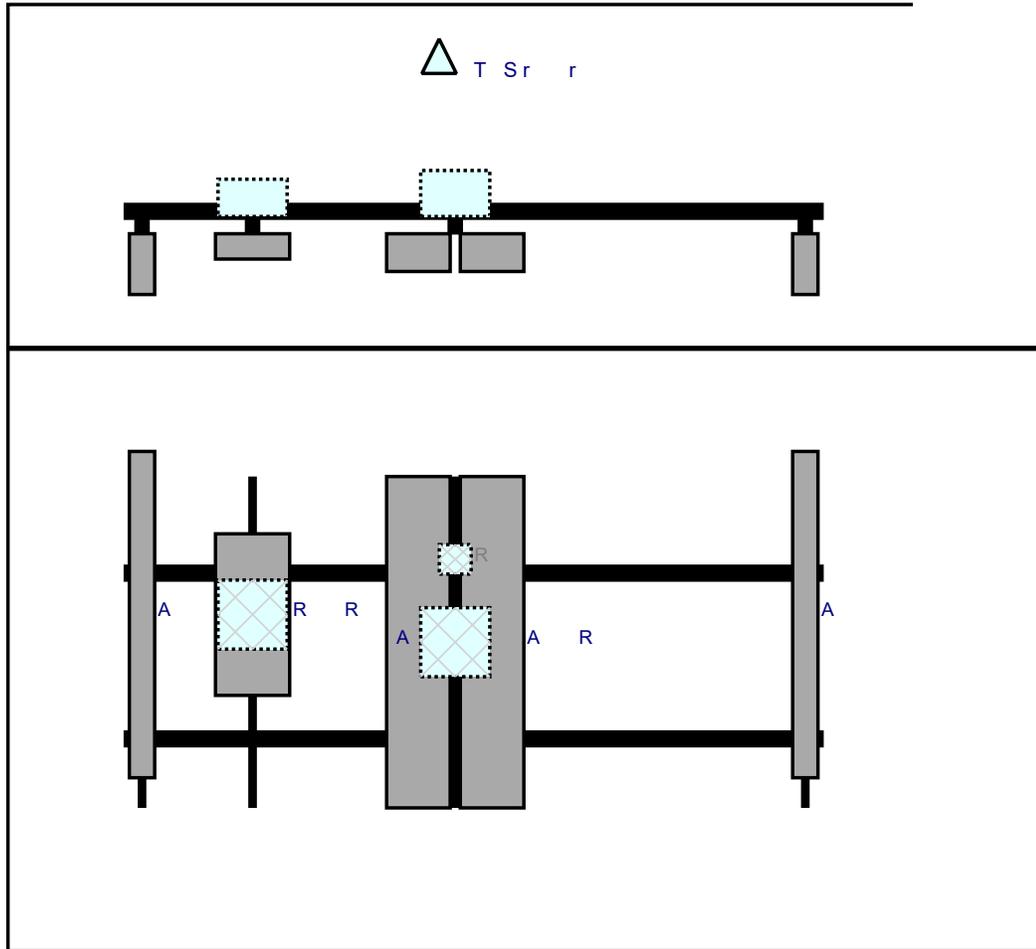
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A	A BR B					r			R	d
A	A BR B					r			R	d
R	B T DS					B	d		Add	d
R	B B ARR BR R D A					B	d		Add	d
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R	B B RR BR R D A					B	d		Add	d
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Plan View



Front View  
 L Sr r

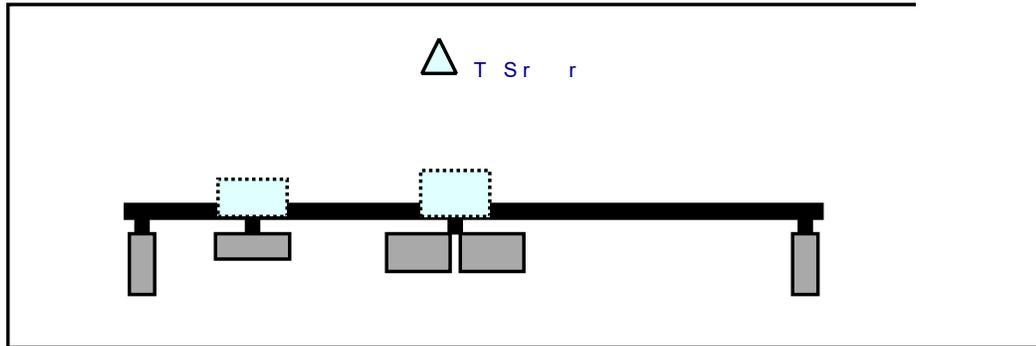
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A	LPA	.	.			r				R	d
A	A	BR	B	.		r				R	d
A	A	BR	B	.		r				R	d
R	B	T	DS	.			B	d		Add	d
R	B	B	ARR	BR	R	D	A	B	d	Add	d
R	MT	A	.	.		r				Add	d
R	B	B	RR	BR	R	D	A	B	d	Add	d
A	LPA	.	.			r				R	d

S r C  
 Sr r T M  
 M E

P

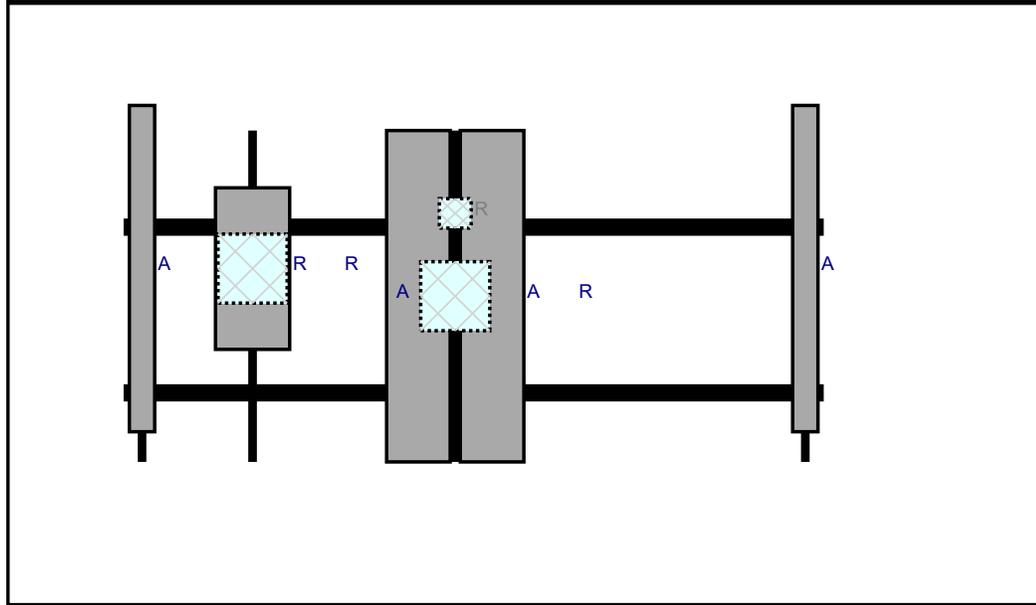


Plan View



Front View

L Sr r



d D P P A .A A

r L. P P r T. O S d

A	LPA	.	.	.	.	.	.	r	.	R	d
A	A	BR	B	.	.	.	.	r	.	R	d
A	A	BR	B	.	.	.	.	r	.	R	d
R	B	TDS	.	.	.	.	.	B	d	Add	d
R	B	B	ARR	BR	R	D	A	B	d	Add	d
R	MT	A	.	.	.	.	.	r	.	Add	d
R	B	B	RR	BR	R	D	A	B	d	Add	d
A	LPA	.	.	.	.	.	.	r	.	R	d

# Maser Consulting Connecticut

**Subject**

TIA-222-H Usage

**Site Information**Site ID: 468550-VZW / Quinebaug  
CT

Site Name: Quinebaug CT

Carrier Name: Verizon Wireless

Address:

720 Quinebaug Road

Quinebaug, Connecticut 06262

Windham County

Latitude: 42.022750°

Longitude: -71.949300°

**Structure Information**

Tower Type: 125-Ft Monopole

Mount Type: 12.67-Ft Platform

To Whom It May Concern,

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

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

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

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

Sincerely,

Justin Linette, PE  
Sr. Technical Manager

## PROJECT NOTES

- SEE MODIFICATION NOTES
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).



## MOUNT MODIFICATION DRAWINGS EXISTING 12.67' PLATFORM

SITE NAME: QUINEBAUG CT  
SITE NUMBER: 468550

720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262  
WINDHAM COUNTY

PROJECT INFORMATION	
<b>SITE INFORMATION</b>	
LATITUDE:	42.022750° N
LONGITUDE:	71.949300° W
JURISDICTION:	WINDHAM COUNTY
<b>APPLICANT/LESSEE</b>	
COMPANY:	VERIZON WIRELESS
<b>CLIENT REPRESENTATIVE</b>	
COMPANY:	VERIZON WIRELESS
ADDRESS:	118 FLANDERS ROAD, THIRD FLOOR
CITY, STATE, ZIP:	WESTBOROUGH, MA 01581
CONTACT:	ANDREW CANDIELLO
EMAIL:	ANDREW.CANDIELLO@VERIZONWIRELESS.COM
<b>PROJECT MANAGER</b>	
COMPANY:	MASER CONSULTING CONNECTICUT
CONTACT:	PETER ALBANO
PHONE:	(856) 797-0412
E-MAIL:	PETER.ALBANO@COLLIERSENGINEERING.COM

SHEET INDEX	
SHEET	DESCRIPTION
T-1	TITLE SHEET
S-1	BILL OF MATERIALS
S-2	MODIFICATION NOTES
S-3	MODIFICATION NOTES
S-4	MODIFICATION DETAILS
S-5	MODIFICATION DETAILS
S-6	MODIFICATION DETAILS
S-7	MOUNT PHOTOS
	SPECIFICATION SHEETS

CONTRACTOR PMI REQUIREMENTS	
PMI LOCATION:	HTTPS://PMI.VZWSMART.COM
SMART TOOL PROJECT #:	10061125
VZW LOCATION CODE (PSLC):	468550
FUZE ID:	16272073

REFERENCED DOCUMENTS	
	FAILING MOUNT ANALYSIS REPORT
SMART TOOL PROJECT #:	10037918
MASER CONSULTING PROJECT #:	21777031A
ANALYSIS DATE:	3/30/2021

PMI REQUIREMENTS EMBEDDED WITHIN MOUNT MODIFICATION REPORT

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REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	4/27/2021	ISSUED FOR CONSTRUCTION		

Digitally signed by Justin Peter Linette  
Date: 2021.04.28 15:02:04-04'00'

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SITE NAME:  
QUINEBAUG CT  
468550  
  
720 QUINEBAUG ROAD  
QUINEBAUG, CT 06262  
WINDHAM COUNTY

MT. LAUREL OFFICE  
2000 Highlands Drive  
Suite 100  
Mount Laurel, NJ 08054  
Phone: 856.797.0412  
Fax: 856.722.1120

SHEET TITLE:  
TITLE SHEET

SHEET NUMBER:  
T-1

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

# BILL OF MATERIALS

VZWSMART KITS				
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES
1	VZWSMART	VZWSMART-PLK1	SUPPORT RAIL KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.
1		VZWSMART-PLK5	KICKER KIT	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.
1		VZWSMART-PLK7	MONOPOLE COLLAR MOUNT ASSEMBLY	

OTHER REQUIRED PARTS				
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES

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

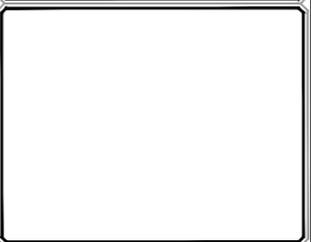
NOTE: WHEN SPECIFIED, VZWSMART KITS SHALL BE REQUIRED AND WILL BE VERIFIED DURING THE DESKTOP PMI



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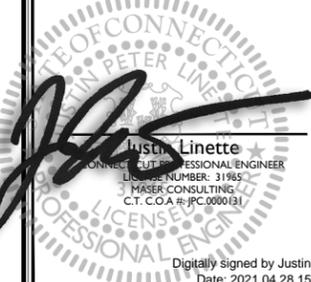
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Justin Linette  
PROFESSIONAL ENGINEER  
LICENSE NUMBER: 31945  
MASER CONSULTING  
C.T. C.O.A.#: JPC.000031  
Digitally signed by Justin Linette  
Date: 2021.04.28 15:02:39-04'00'

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QUINEBAUG, CT 06262  
WINDHAM COUNTY



**MT. LAUREL OFFICE**  
2000 Madison Drive  
Suite 100  
Mount Laurel, NJ 08054  
Phone: 856.797.0412  
Fax: 856.722.1120

SHEET TITLE:  
**BILL OF MATERIALS**

SHEET NUMBER:  
**S-1**

**GENERAL NOTES**

- 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.
- 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.
- 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.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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 ANS/I/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANS/I/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- 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.
- 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, ANS/I/TIA-322.
- 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.
- 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.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- 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.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

**DESIGN LOADS**

- WIND LOADS
- BASIC WIND SPEED (3 SECOND GUST), V = 119 MPH
  - EXPOSURE CATEGORY B
  - TOPOGRAPHIC CATEGORY I
  - MEAN BASE ELEVATION (AMSL) = 368.79'

- ICE LOADS
- ICE WIND SPEED (3 SECOND GUST), V = 50 MPH
  - ICE THICKNESS = 1.50 IN

- SEISMIC LOADS
- SEISMIC DESIGN CATEGORY B
  - SHORT TERM MCER GROUND MOTION, S<sub>s</sub> = .183
  - LONG TERM MCER GROUND MOTION, S<sub>l</sub> = .056

**STRUCTURAL STEEL**

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

- 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.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
  - SUBMIT SHOP DRAWINGS TO PETER.ALBANO@COLLIERSENGINEERING.COM
  - PROVIDE MASER CONSULTING PROJECT # AND MASER CONSULTING PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- 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.
- 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.
- 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.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- 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.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO

PROTECT STEEL BY ANY OTHER MEANS.

- 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).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.



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SCALE: AS SHOWN JOB NUMBER: 21777031A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	4/27/2021	ISSUED FOR CONSTRUCTION		

Justin Linette  
REGISTERED PROFESSIONAL ENGINEER  
LICENSE NUMBER: 31945  
MASER CONSULTING  
C.T. C.O.A.#: JPC.0000131  
Digitally signed by Justin Linette  
Date: 2021.04.28 15:03:04-04'00'

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2000 Highlands Drive  
Suite 100  
Mount Laurel, NJ 08054  
Phone: 856.797.0412  
Fax: 856.722.1120

SHEET TITLE:  
**MODIFICATION NOTES**

SHEET NUMBER:  
**S-2**

**MODIFICATION INSPECTION NOTES**

MI CHECKLIST	
CONSTRUCTION/ INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
X	EOB APPROVED SHOP DRAWINGS
NA	FABRICATION INSPECTION
NA	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
NA	FABRICATOR NDE INSPECTION
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
NA	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
X	ON SITE COLD GALVANIZING VERIFICATION
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
X	VZW PMI DOCUMENTS
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT REQUIRED FOR THE MI REPORT  
 NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

**MI INSPECTOR**

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GC INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO EOR.

**GENERAL CONTRACTOR**

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST.

**RECOMMENDATIONS**

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW THE FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

**CORRECTION OF FAILING MI'S**

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH THE OWNER TO COORDINATE A REMEDIATION PLAN:

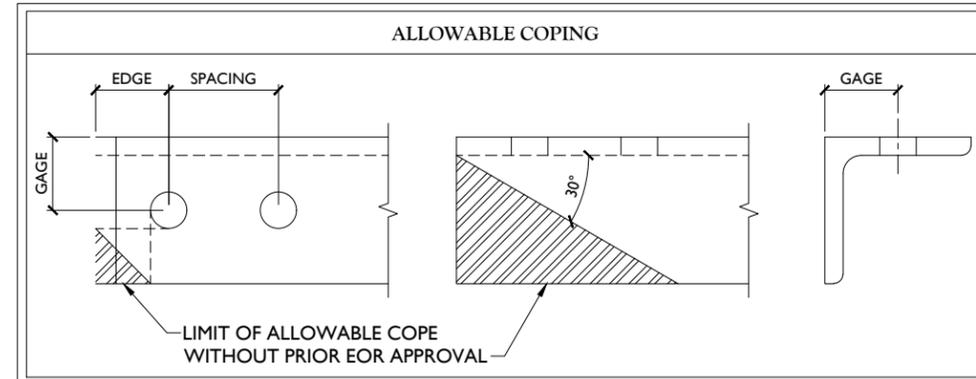
- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.

**REQUIRED PHOTOS**

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

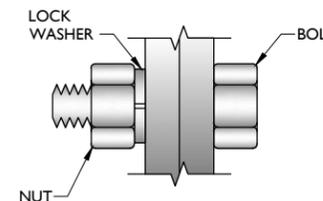
- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS
  - WELD PREPARATION
  - BOLT INSTALLATION
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.



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:**

- 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.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.



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0	4/27/2021	ISSUED FOR CONSTRUCTION		

Justin Linette  
 PROFESSIONAL ENGINEER  
 LICENSE NUMBER: 31945  
 MASAER CONSULTING  
 C.T. C.O.A.#: JPC.0000131  
 Digitally signed by Justin Linette  
 Date: 2021.04.28 15:03:04-04'00'

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 720 QUINEBAUG ROAD  
 QUINEBAUG, CT 06262  
 WINDHAM COUNTY

**MT. LAUREL OFFICE**  
 2000 Highlands Drive  
 Suite 100  
 Mount Laurel, NJ 08054  
 Phone: 856.797.0412  
 Fax: 856.722.1120

SHEET TITLE:  
**MODIFICATION NOTES**

SHEET NUMBER:  
**S-3**



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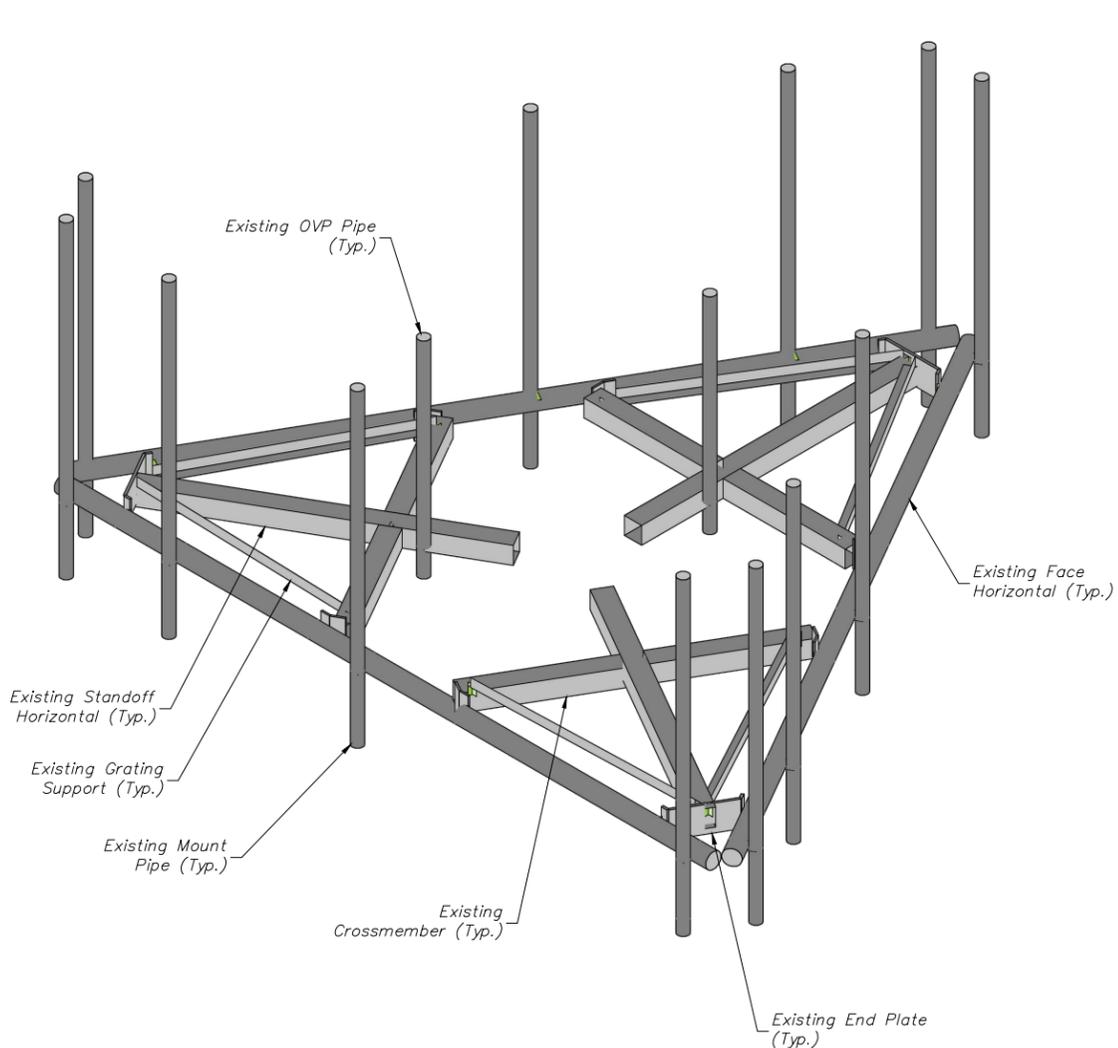
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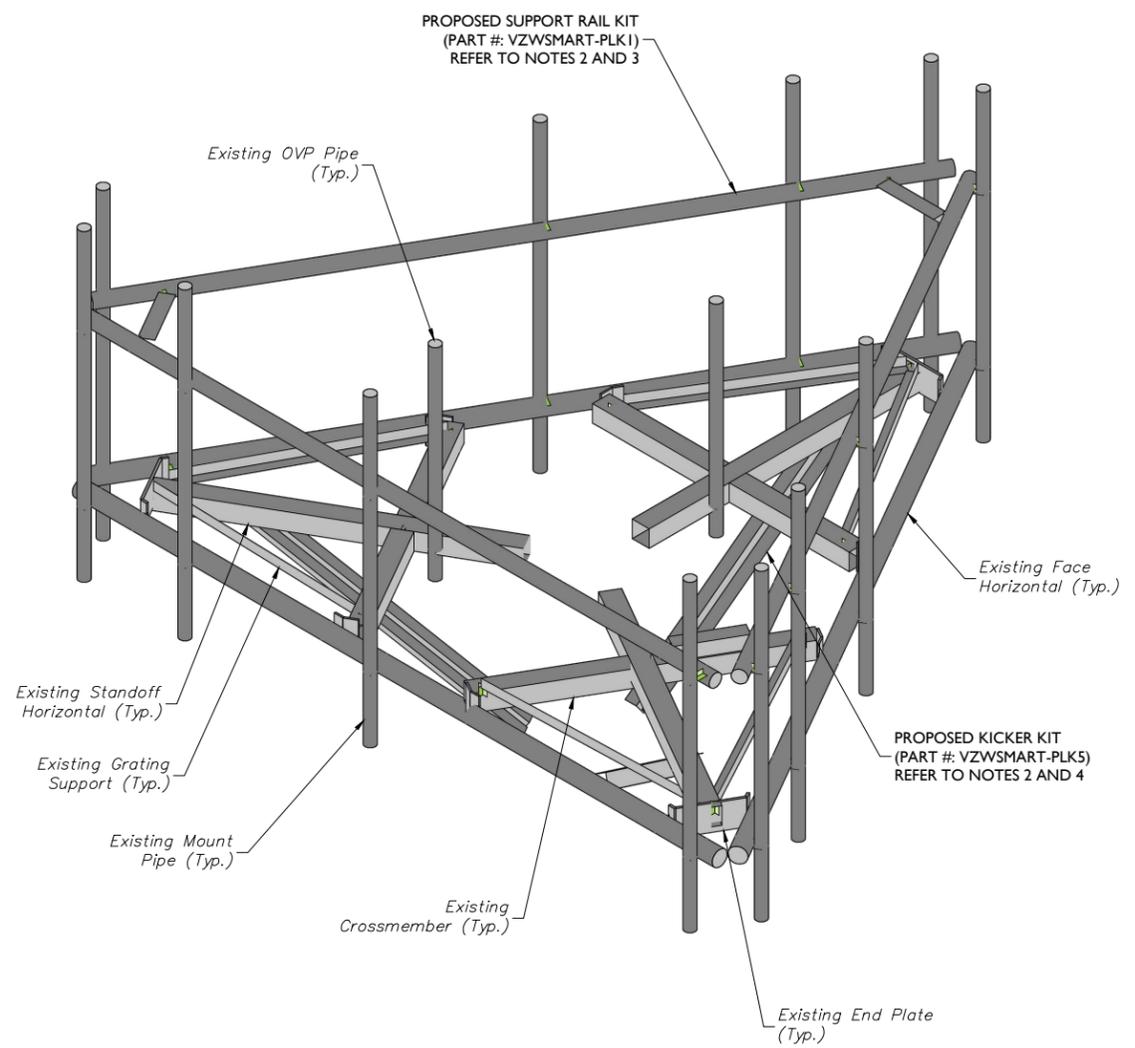
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SHEET TITLE:  
 MODIFICATION DETAILS

SHEET NUMBER:  
 S-4



**1** EXISTING PLATFORM ISOMETRIC VIEW  
 SCALE : N.T.S.



**2** PROPOSED PLATFORM ISOMETRIC VIEW  
 SCALE : N.T.S.

**STRUCTURAL NOTES:**

- PER THE MOUNT MAPPING COMPLETED BY HUDSON DESIGN GROUP, LLC ON 2/12/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (112'-6") ARE IN GOOD CONDITION, HOWEVER THEY ARE UNOBSTRUCTED BEFORE ACCESSING VERIZON'S MOUNT. MASER DOES NOT WARRANT THIS INFORMATION.
- 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.

**MODIFICATION NOTES:**

- MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
- CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.
- RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
- CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7).



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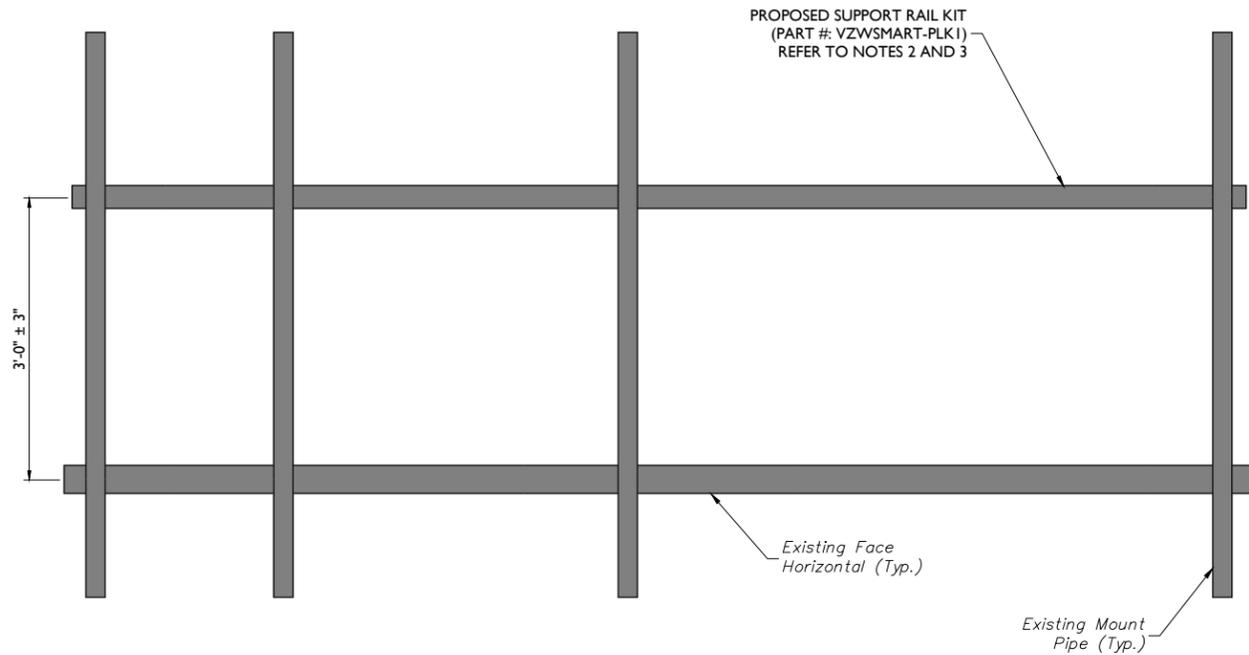
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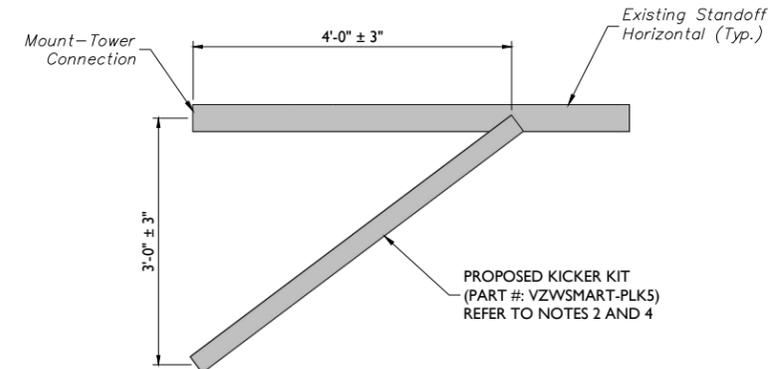
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SHEET TITLE:  
MODIFICATION DETAILS

SHEET NUMBER:  
S-5



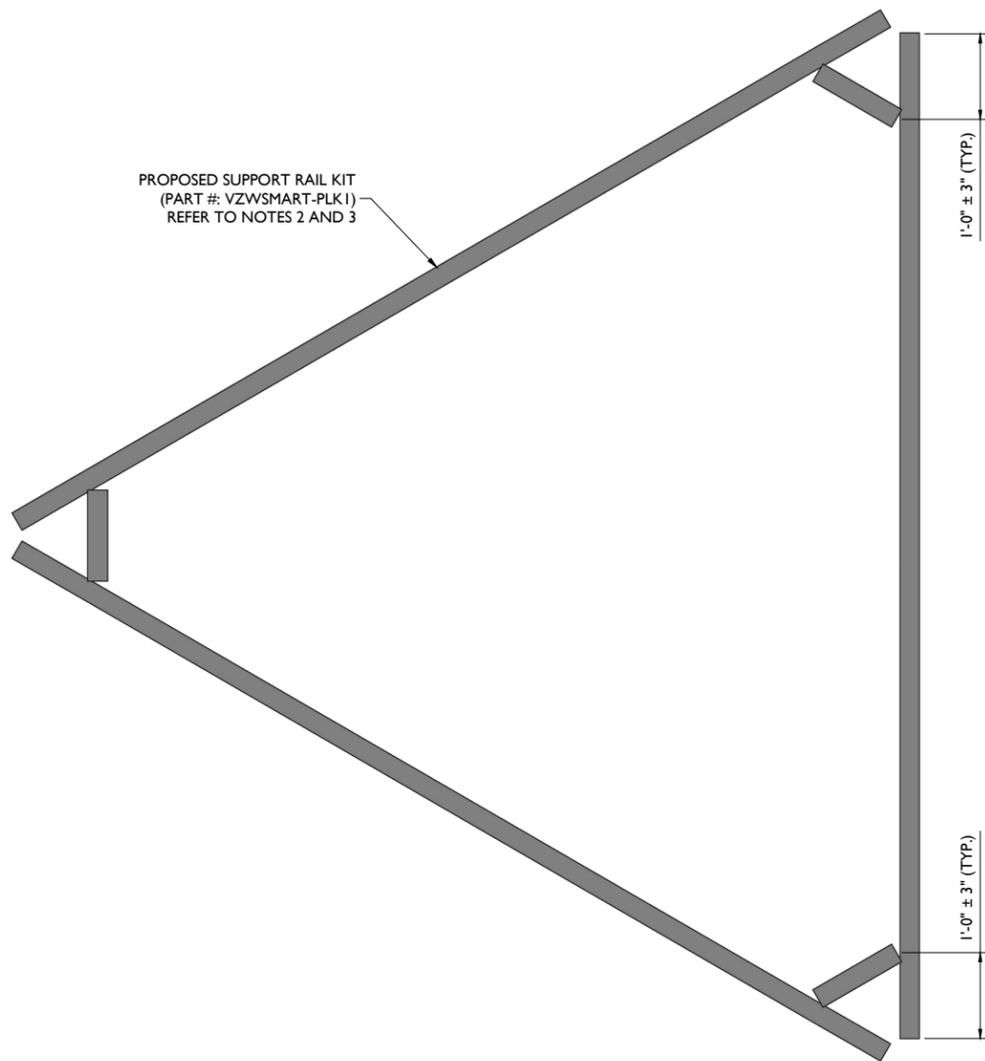
1 PROPOSED FRONT ELEVATION (TYP. ALL SECTORS)  
SCALE : N.T.S.



2 PROPOSED SIDE ELEVATION (TYP. ALL SECTORS)  
SCALE : N.T.S.

**MODIFICATION NOTES:**

1. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
2. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.
3. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
4. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7).

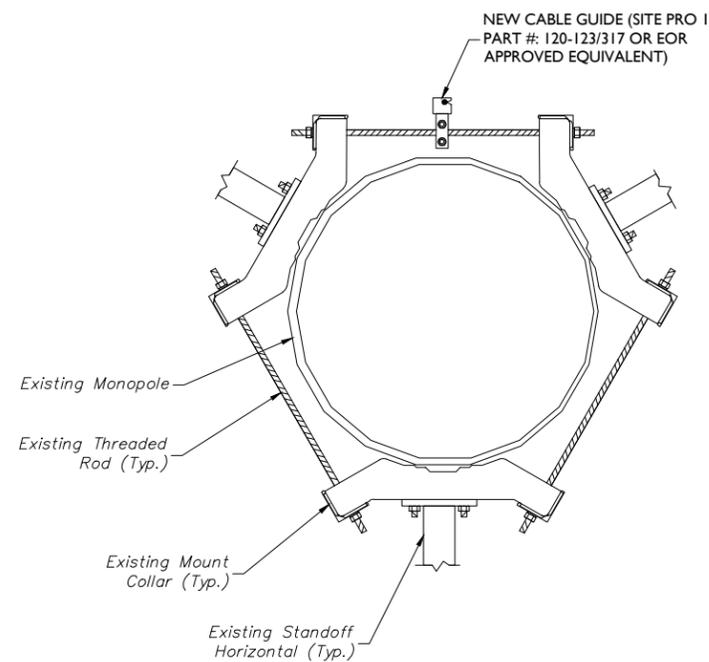


PROPOSED SUPPORT RAIL KIT  
(PART #: VZWSMART-PLK1)  
REFER TO NOTES 2 AND 3

**1** PROPOSED PLAN VIEW  
SCALE : N.T.S.

**MODIFICATION NOTES:**

1. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.
2. CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET S-2.
3. RADIO AND/OR TME POSITIONS SHALL BE ADJUSTED VERTICALLY AS NEEDED IN ORDER TO ACHIEVE INSTALLATION OF HORIZONTAL AS SHOWN. EOR SHALL BE NOTIFIED IF EQUIPMENT NEEDS TO BE RELOCATED TO ANOTHER MOUNT PIPE.
4. CONNECT OTHER END OF KICKER KIT TO MONOPOLE COLLAR MOUNT ASSEMBLY (PART #: VZWSMART-PLK7).



**2** PROPOSED CABLE GUIDE THREADED ROD ATTACHMENT - PLAN VIEW  
SCALE : N.T.S.



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SHEET TITLE:  
**MODIFICATION DETAILS**

SHEET NUMBER:  
**S-6**



MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4



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State of Connecticut Seal  
 Justin Linette  
 PROFESSIONAL ENGINEER  
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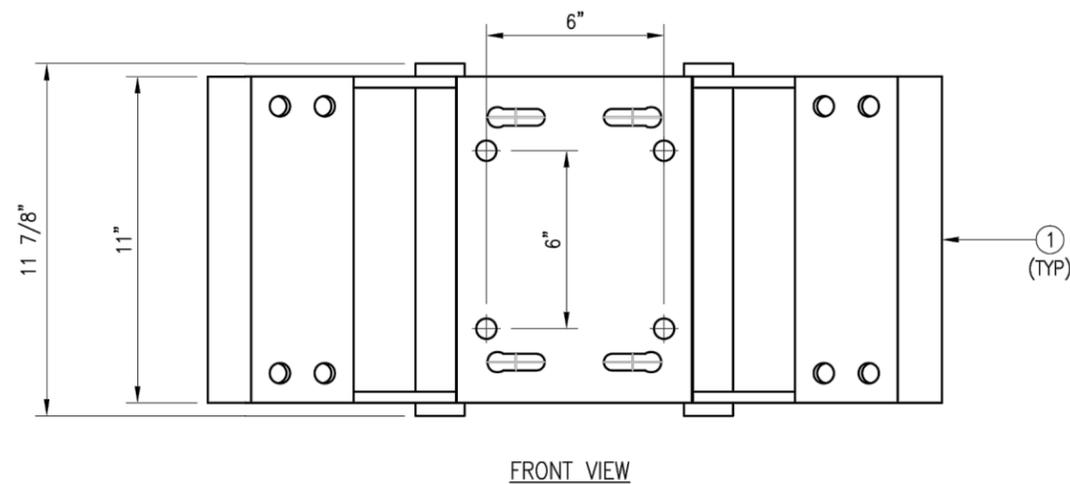
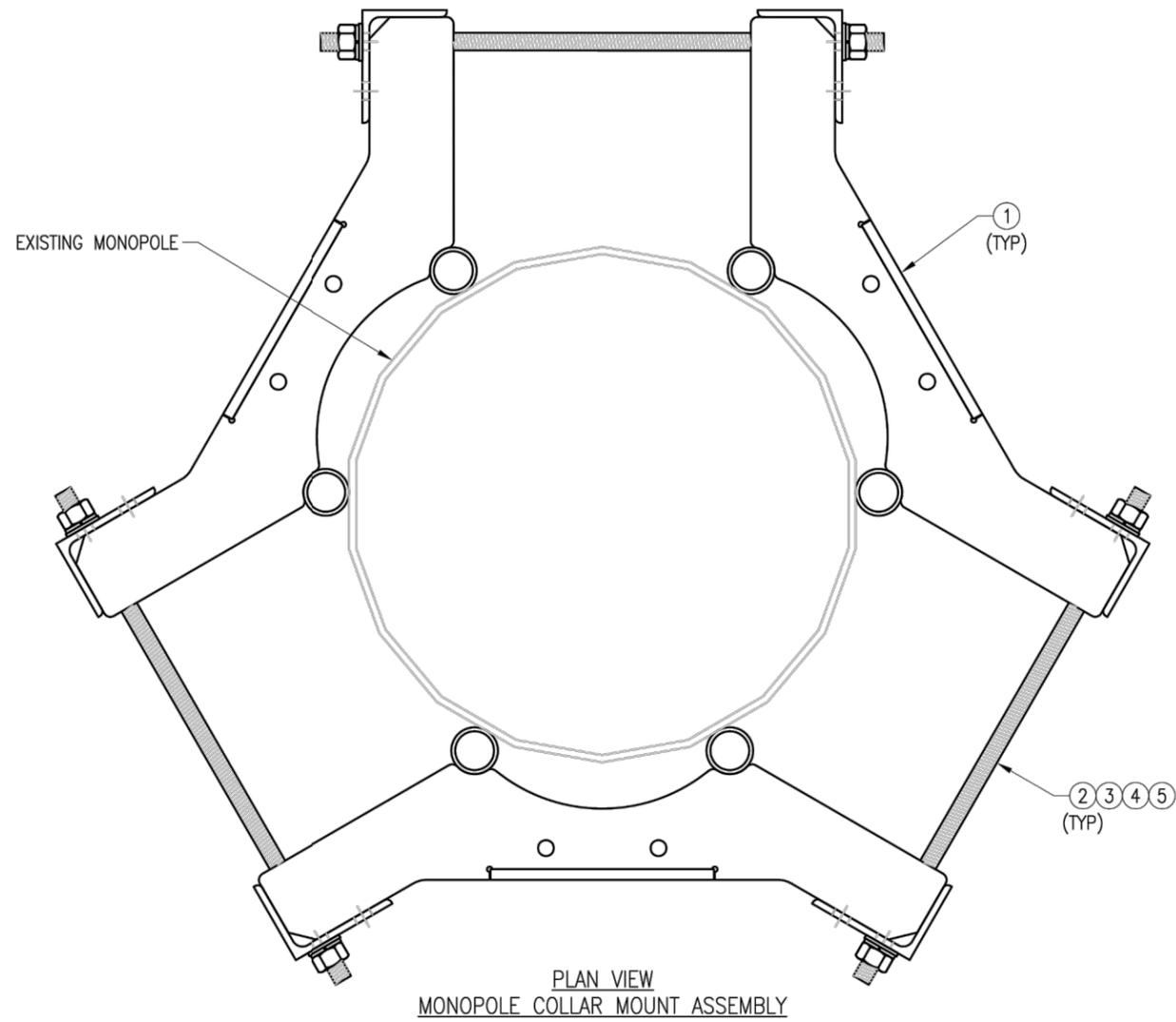
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SHEET TITLE:  
 MOUNT PHOTOS

SHEET NUMBER:  
 S-7



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

VZSMART-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

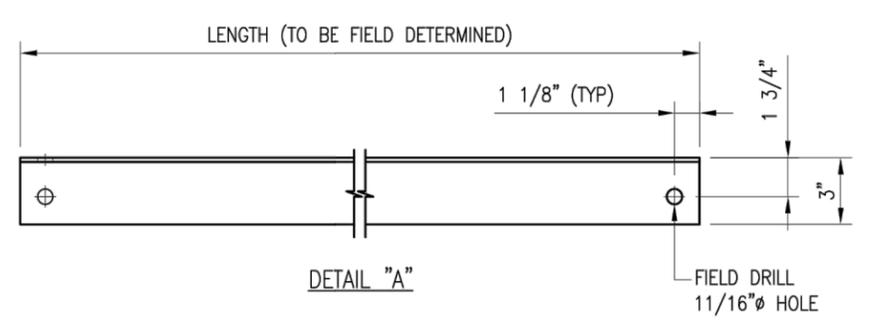
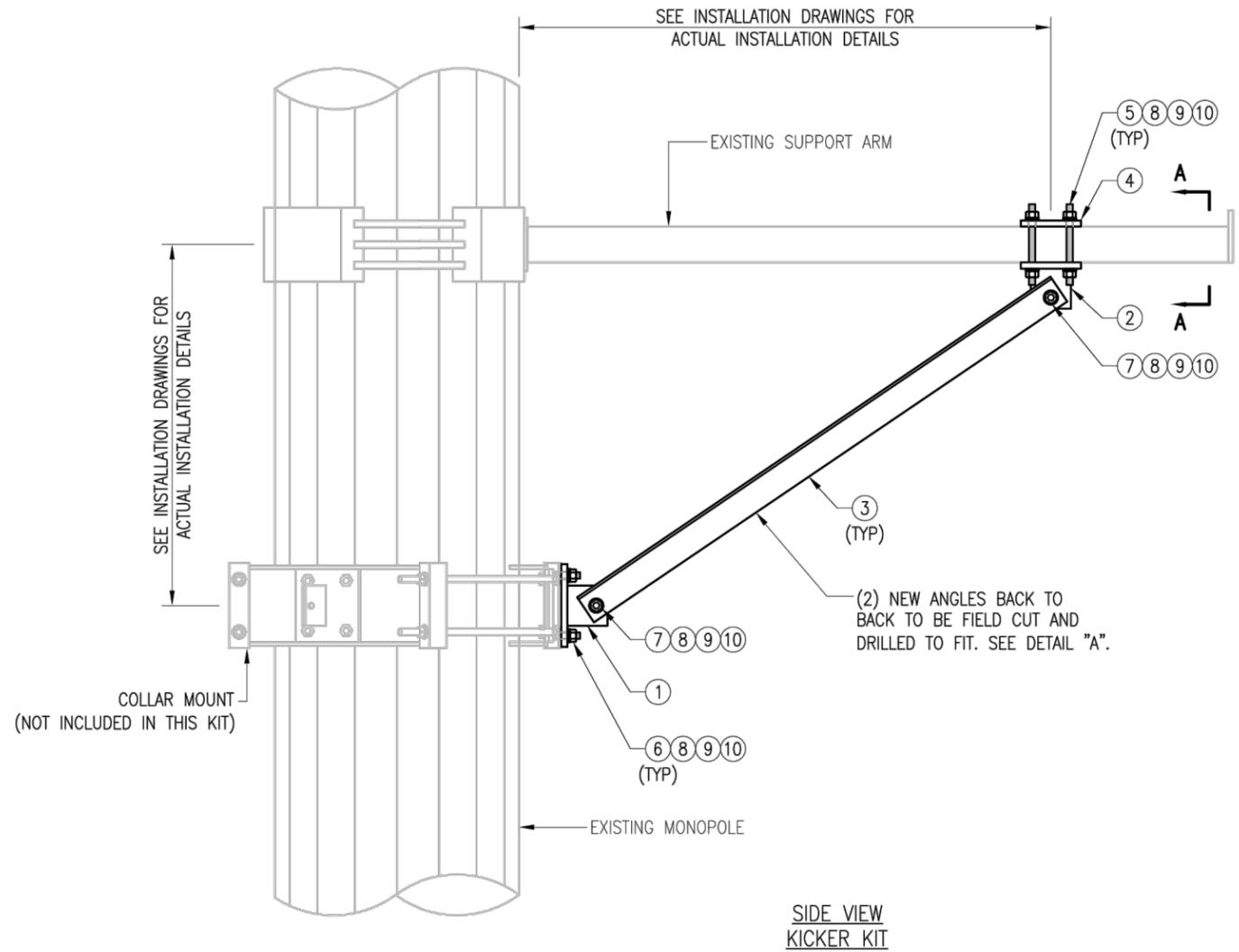
DRAWN BY: BT | CHECKED BY: HMA/KW

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

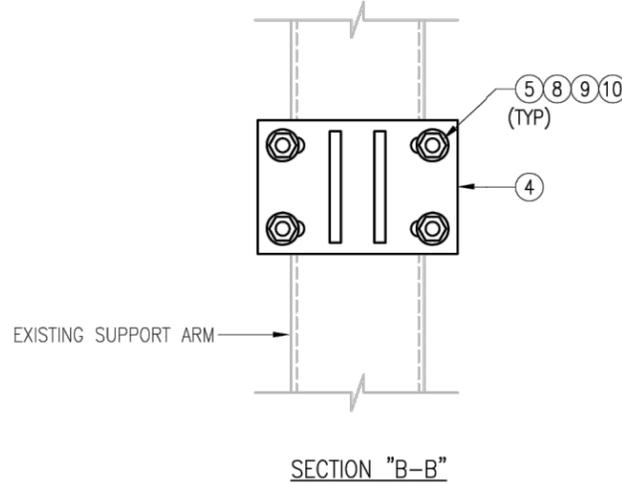
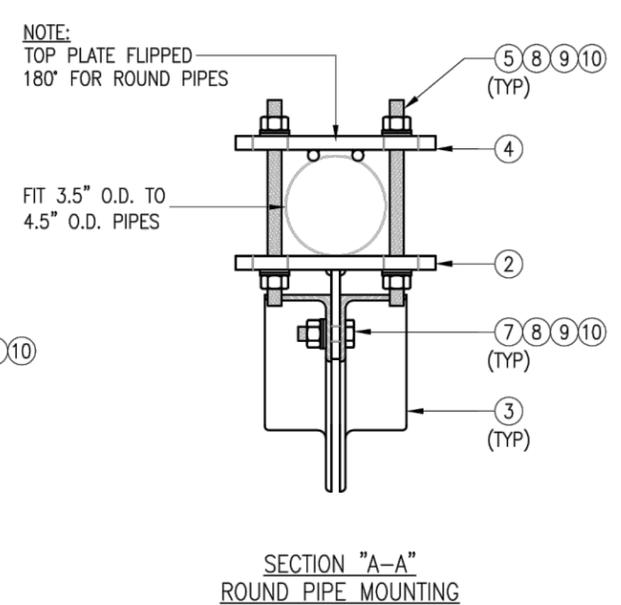
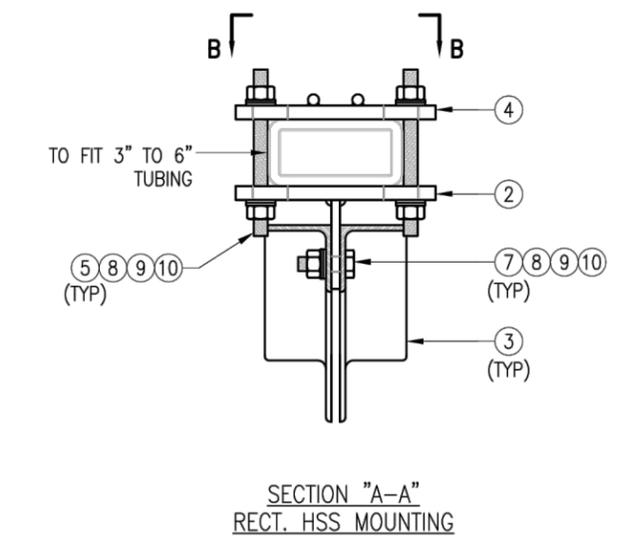
SHEET TITLE:  
 VZSMART-PLK7  
 MONOPOLE COLLAR  
 MOUNT ASSEMBLY

SHEET NUMBER: VZSMART-PLK7 | REV #: 0

NOTE:  
THE LOCATION OF KICKER AND EXISTING ANTENNA MOUNT SHOWN ON THE DRAWING IS FOR REPRESENTATION PURPOSE ONLY. SEE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION OF DETAILS.



NOTES:  
1. ALL HOLES ARE 11/16" DIA. U.N.O  
2. HOT-DIPPED GALVANIZED PER ASTM A123.  
3. FIT UP TO 6" SQ. TUBING OR 4 1/2" O.D. PIPE



VZSMART-PLK5 (KICKER KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	BRKW-XXX	BRACKET WELDMENT A36	PLK5-F3	43.8
2	3	BRKW-XXXX	BRACKET WELDMENT A36	PLK5-F2	35.7
3	6	L331875-8	L 3" X 3" X 3/16" X 8'-0" A36	PLK5-F4	182.9
4	3	PL-KI	PL 5/8" X 6" X 9" A36	PLK5-F1	29.0
5	12	---	THREADED ROD 5/8" DIA. X 1'-0" F1554-36 HDG	---	---
6	6	---	BOLT 5/8" X 2" A325	---	---
7	12	---	BOLT 5/8" X 2 1/2" A325	---	---
8	42	FW-625	5/8" HDG USS FLAT WASHER	---	3
9	42	LW-625	5/8" HDG LOCK WASHER	---	1
10	42	NUT-625	5/8" HDG HEX NUT	---	5
GALVANIZED WT					291

VzW  
**SMART Tool**<sup>®</sup>  
Vendor



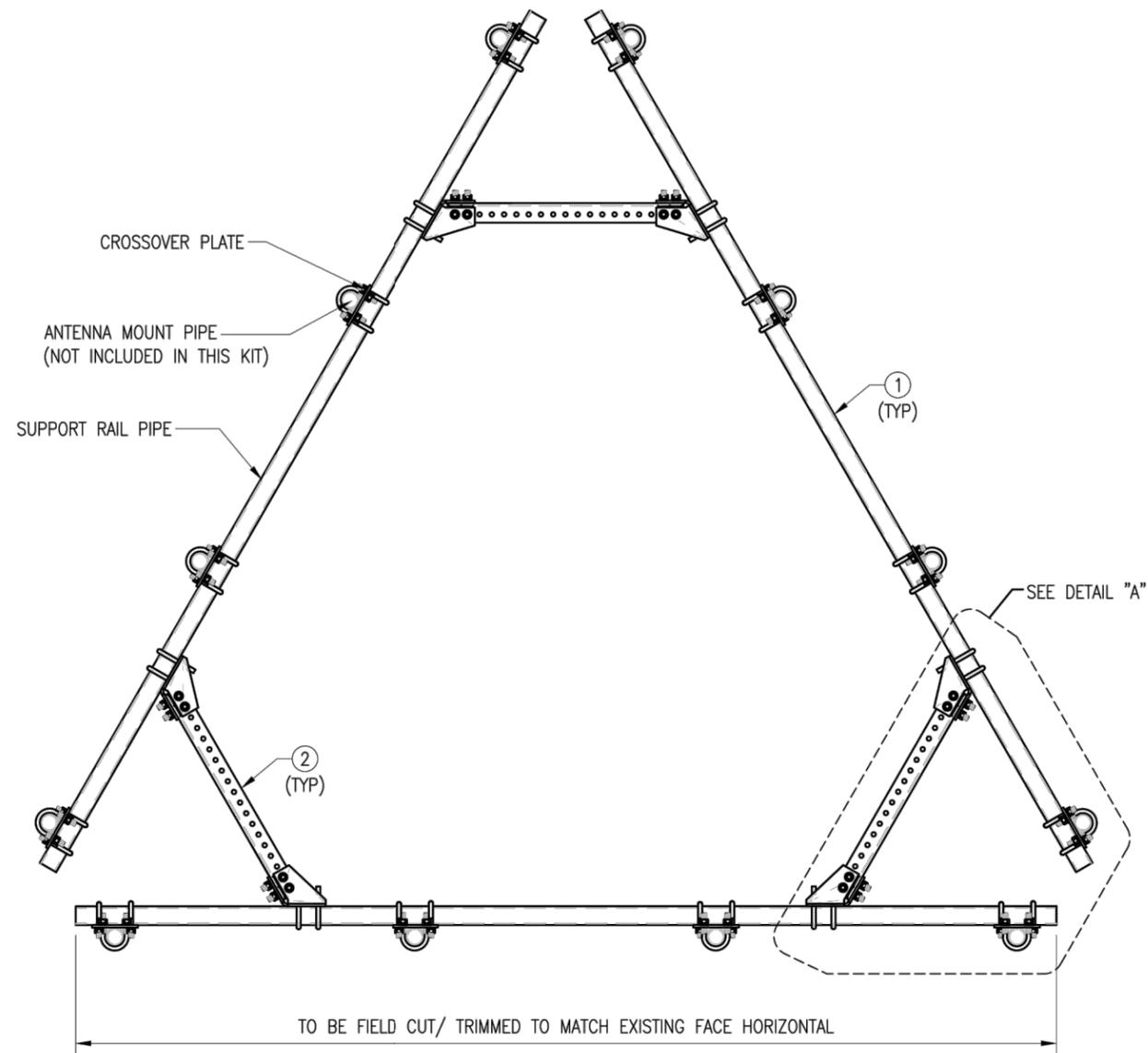
DRAWN BY: MN CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	MN	05/08/20

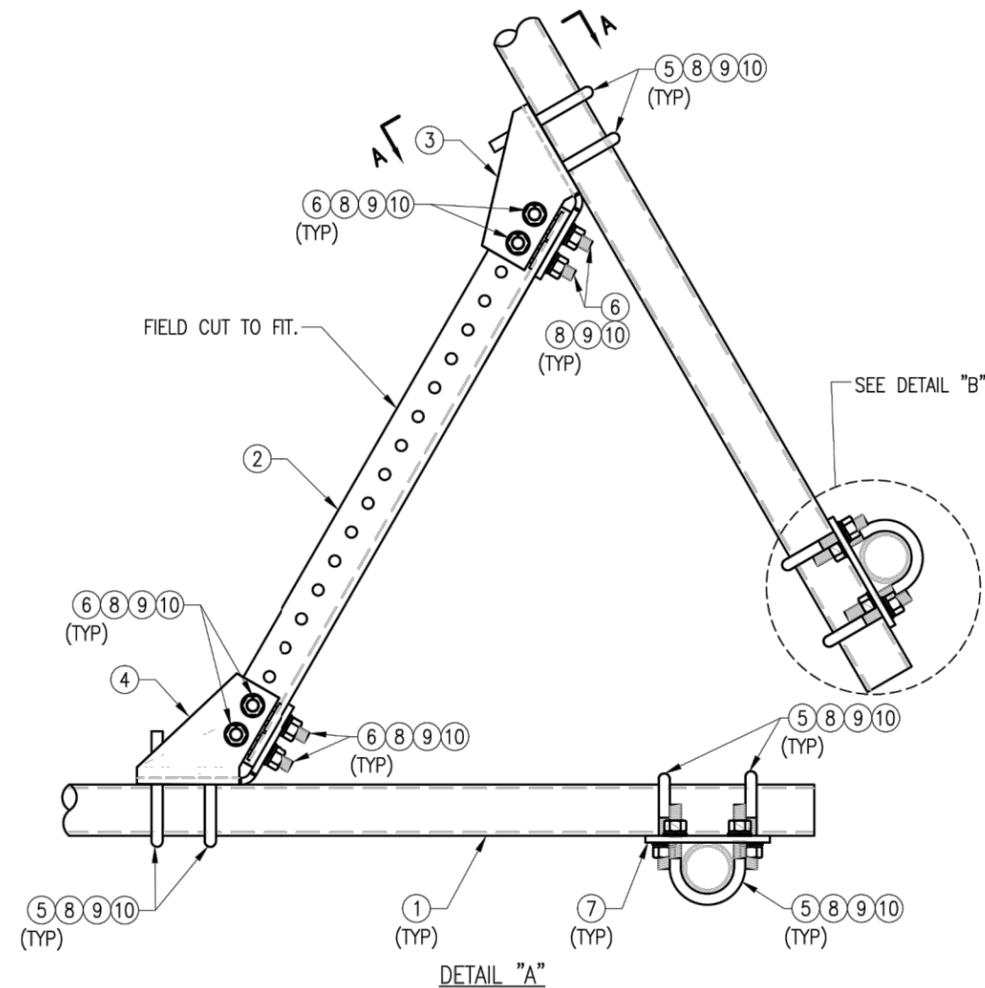
SHEET TITLE:

VZSMART-PLK5  
KICKER KIT

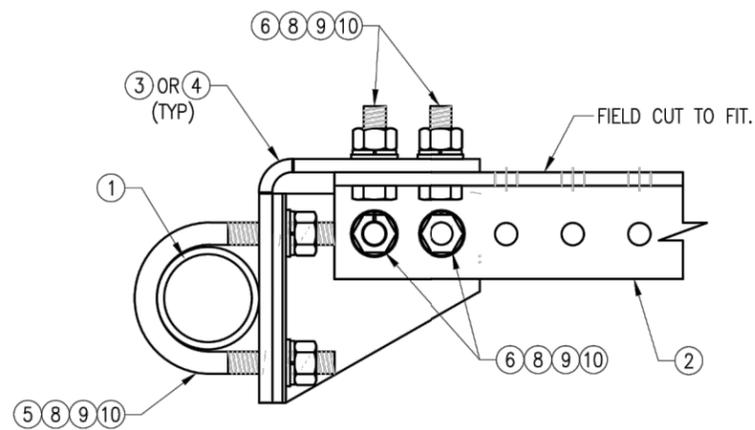
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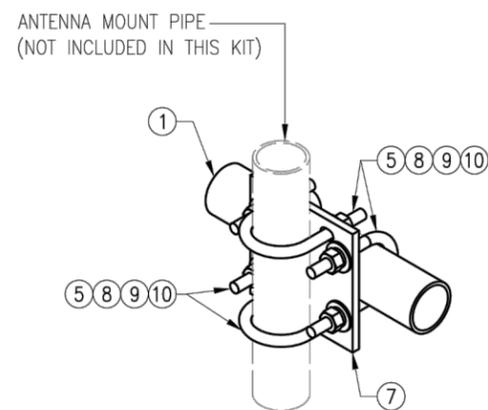
PLAN VIEW



DETAIL "A"



SECTION "A-A"



DETAIL "B"

NOTES:

1. HOT-DIPPED GALVANIZED PER ASTM A123.

VZW SMART-PLK1 (SUPPORT RAIL KIT)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	3	PST2875-12.5	2.5" PST (2.875" O.D. X 0.203" THK.) X 12'-6" A53 GR-B	PLK1-F1	292
2	3	L33375-3	L 3" X 3" X 3/8" X 3'-0" A36	PLK1-F1	66
3	3	CBP-L	CORNER BENT PLATE BRACKET	PLK1-F2	28
4	3	CBP-R	CORNER BENT PLATE BRACKET	PLK1-F2	28
5	60	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	82
6	24	---	BOLT 5/8" X 2" A325	---	9
7	12	PL375-857	PL 3/8" X 8 1/2" X 7'-0" A36	PLK1-F3	77
8	144	FW-625	5/8" HDG USS FLAT WASHER	---	12
9	144	LW-625	5/8" HDG LOCK WASHER	---	3
10	144	NUT-625	5/8" HDG HEX NUT	---	17
GALVANIZED WT					504

DRAWN BY: H.R. CHECKED BY: HMA

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

SHEET TITLE:

VZWSMART-PLK1  
SUPPORT RAIL KIT

SHEET NUMBER: VZWSMART-PLK1 REV #: 0

# **ATTACHMENT 5**





# THOMPSON,CT

720 QUINEBAUG RD

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**Location**

720 QUINEBAUG RD

**Mblu**

3/ 81/ 1/ /

**Acct#**

004936

**Owner**

QUINEBAUG VOLUNTEER FIRE DEPT

**Assessment**

\$727,600

**Appraisal**

\$1,039,500

**PID**

144

**Building Count**

1

Current Value

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**Appraisal**

Valuation Year	Improvements	Land	Total
2019	\$904,800	\$134,700	\$1,039,500

**Assessment**

Valuation Year	Improvements	Land	Total
2019	\$633,400	\$94,200	\$727,600

**Owner of Record**

**Owner** QUINEBAUG VOLUNTEER FIRE DEPT

**Co-Owner**

**Address** P O BOX 144  
QUINEBAUG, CT 06262

**Sale Price** \$0

**Certificate**

**Book & Page** 0368/0336

**Sale Date** 12/19/1997

Ownership History

**Ownership History**

Owner	Sale Price	Certificate	Book & Page	Sale Date
QUINEBAUG VOLUNTEER FIRE DEPT	\$0		0368/0336	12/19/1997

Building Information

Building 1 : Section 1

**Year Built:** 2005

**Living Area:** 4,500

**Replacement Cost:** \$844,388

**Building Percent Good:** 80

**Replacement Cost**

**Less Depreciation:** \$675,500

**Building Attributes**

Field	Description
STYLE	Fire Station
MODEL	Ind/Comm
Grade	Good +10

Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Steel Frm/Trus
Roof Cover	Metal/Tin
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr Abv Grad
Interior Floor 2	Vinyl/Asphalt
Heating Fuel	Oil
Heating Type	Hydro air
AC Type	Central
Bldg Use	MUN FIRE
Total Rooms	03
Total Bedrms	0
Total Baths	0
1st Floor Use:	
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	12
% Comn Wall	0



Building Photo

Building Layout

FGR  
Sect(2) 79

44

700

BAS

45

**Building Sub-Areas (sq ft) Legend**

Code	Description	Gross Area	Living Area
BAS	First Floor	4,500	4,500
CAN	Canopy	120	0
		4,620	4,500

Building 1 : Section 2

**Year Built:** 2005**Living Area:** 0**Replacement Cost:** \$264,350**Building Percent Good:** 80**Replacement Cost****Less Depreciation:** \$211,500**Building Attributes : Section 2 of 2**

Field	Description
STYLE	Fire Station
MODEL	Ind/Comm
Grade	Good +10
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Steel Frm/Trus
Roof Cover	Metal/Tin
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Concr Abv Grad
Interior Floor 2	Dirt/None
Heating Fuel	Oil

Heating Type	Hydro air
AC Type	Central
Bldg Use	MUN FIRE
Total Rooms	03
Total Bedrms	0
Total Baths	0
1st Floor Use:	
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	20
% Comn Wall	0



Building Photo

| Building Layout |

FGR  
Sect(2) 79

44

700

BAS

45

**Building Sub-Areas (sq ft) Legend**

Code	Description	Gross Area	Living Area
FGR	Garage	3,476	0
		3,476	0

Extra Features

**Extra Features Legend**

No Data for Extra Features

Land

Land Use

**Use Code** 9032

**Description** MUN FIRE

**Zone** R40

**Neighborhood**

**Alt Land Appr** No

**Category**

Land Line Valuation

**Size (Acres)** 2.4

**Frontage** 305

**Depth** 0

**Assessed Value** \$94,200

**Appraised Value** \$134,700

Outbuildings

**Outbuildings Legend**

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
PAV1	PAVING- ASPHALT			10000 S.F.	\$10,000	1
SHD1	SHED FRAME			392 S.F.	\$3,300	1
LT2	W/DOUBLE LIGHT			2 UNITS	\$2,000	1

LT3	W/TRIPLE LIGHT			1 UNITS	\$1,500	1
LT1	LIGHTS-IN W/PL			1 UNITS	\$1,000	1

Valuation History

**Appraisal**

Valuation Year	Improvements	Land	Total
2018	\$949,200	\$138,000	\$1,087,200
2017	\$949,200	\$138,000	\$1,087,200
2016	\$949,200	\$138,000	\$1,087,200

**Assessment**

Valuation Year	Improvements	Land	Total
2018	\$664,500	\$96,600	\$761,100
2017	\$664,500	\$96,600	\$761,100
2016	\$664,500	\$96,600	\$761,100

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closecloseclose

# **ATTACHMENT 6**



QUINEBAUG  
Certificate of Mailing — Firm

Name and Address of Sender  Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	TOTAL NO. of Pieces Listed by Sender  3	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here <i>Postmark with Date of Receipt.</i>  
	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.	Amy St. Onge, First Selectman Town of Thompson 812 Riverside Drive North Grosvenordale, CT 06255				
2.	Tyra Penn-Gesek, Director Planning & Development Town of Thompson 812 Riverside Drive North Grosvenordale, CT 06255				
3.	Quinebaug Volunteer Fire Department P.O. Box 144 Quinebaug, CT 06262				
4.					
5.					
6.					