Verizon Site: Belmar North
Location Code: 461626
Attorney/Date: Richard L. Schneider, Esq./9-23-22

AMENDMENT NO. 1 TO LEASE AGREEMENT

THIS AMENDMENT NO. 3 TO LEASE AGREEMENT ("Amendment") made this ____ day of _____, 20__, between the Borough of Belmar, with its principal offices located at 601 Main Street, Belmar, New Jersey 07719, hereinafter designated as "Lessor", and New York SMSA Limited Partnership d/b/a Verizon Wireless, with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920, hereinafter designated as "Lessee". Lessor and Lessee are at time collectively referred to hereinafter as the "Parties" or individually as the "Party".

WITNESSETH

WHEREAS, on or about August 5, 2016, Lessor and Lessee entered into a certain Lease Agreement ("Lease Agreement") pursuant to which Lessor leased to Lessee certain Premises, as defined therein, for the operation by Lessee of a wireless communications facility and uses incidental thereto; and

WHEREAS, Lessee has sought the approval of Lessor to modify its wireless communications facility as more particularly set forth herein; and

WHEREAS, Lessor has consented to Lessee's modification of its wireless communications facility pursuant to the specific terms and conditions herein set forth.

NOW, THEREFORE, with the foregoing recitals incorporated herein by reference and for other good and valuable consideration, it is agreed by and between the Lessor and Lessee as follows:

1. Lessee is hereby granted the right to modify its wireless communications facility in accordance with Exhibit A-1 attached hereto and made a part hereof. Upon completion of the authorized modification, Exhibit A-1 amends Exhibit A to the Lease Agreement.

2. In consideration for the right granted to Lessee to effectuate its authorized modification in accordance with Exhibit A-1, commencing October 1, 2022, the annual rent shall be amended from its current rent of Thirteen Thousand, Two Hundred Dollars ($13,200.00) to the sum of Fifteen Thousand, Eight Hundred Dollars ($15,800.00). The additional annual rent due, representing an increase in the amount of Two Thousand, Six Hundred Dollars ($2,600.00), shall be paid within sixty (60) days of execution of this Amendment.

3. The second paragraph of Paragraph 5 of the Lease Agreement shall be amended to address the annual rent for the second, third, and fourth extension terms to provide as follows:

   A. The annual rent for the second five-year extension term shall be increased to Eighteen Thousand, Nine Hundred Sixty Dollars ($18,960.00).

B. The annual rent for the third five-year extension shall be increased to Twenty-Two Thousand, Seven Hundred Fifty-Two Dollars ($22,752.00).

C. The annual rent for the fourth five-year extension term shall be increased to Twenty-Seven Thousand, Three Hundred Two Dollars and Forty Cents ($27,302.40).

4. Except to the extent modified herein, all terms and conditions of the Lease Agreement shall otherwise remain in full force and effect.

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

LESSOR
Borough of Belmar

_____
Witness

_____
Print Name

By: _____
Print Name: _____
Title: _____
Date: _____

LESSEE
New York SMSA Limited Partnership d/b/a
Verizon Wireless
By Cellco Partnership, Its General Partner

_____
Witness

_____
Print Name

By: _____
Print Name: _____
Title: _____
Date: _____

Verizon Site: Belmar North
Location Code: 461626
Attorney/Date: Richard L. Schneider, Esq./9-23-22

EXHIBIT A-1
SEE ATTACHED

verizon

SITE NAME: BELMAR NORTH SC - A

601 MAINSTREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

SITE INFORMATION

SCOPE OF WORK:	PROJECT CONSISTS OF INSTALLING ADDITIONAL EQUIPMENT AND/OR ANTENNAS TO AN EXISTING WIRELESS TELECOMMUNICATIONS FACILITY.
SITE ADDRESS:	601 MAINSTREET BELMAR, NJ 07719
JURISDICTION:	BELMAR TOWNSHIP MONMOUTH COUNTY
LATITUDE (NAD 83): LONGITUDE (NAD 83):	40-10-59.05N (40.18306944°) 74-01-29.14W (-74.02476111°)
BLOCK NUMBER: LOT NUMBER: PARCEL NUMBER:	66 1 07-00066-0000-00001
PROPERTY OWNER:	BOROUGH OF BELMAR P.O. BOX A BELMAR, NJ 07719
VZW SITE ID:	N/A
FUZE PROJECT ID:	16318741
STRUCTURE TYPE:	ROOFTOP
CONSTRUCTION TYPE:	IIB
USE GROUP:	U
GROUND ELEVATION:	11.0' (AMSL)
SITE ACQ:	KRISTY BURKHOLDER

CONTRACTOR PMI REQUIRMENTS

PMI DOCUMENTATION:	VZWMOUNTS@NBCLLC.COM
PROJECT NUMBER:	100574
VERIZON LOCATION CODE (PSLC):	461626

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

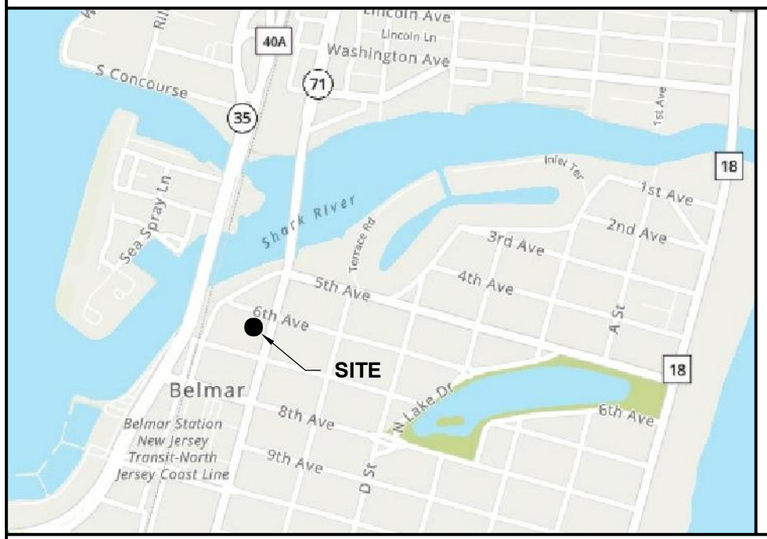
MOUNT MODIFICATION REQUIRED

NO

VERIZON APPROVED VENDORS

* REFER TO MOUNT MODIFICATION DRAWINGS.

VICINITY MAP



DIRECTIONS

FROM WARREN, NJ: HEAD NORTH ON PARK VIEW DR TOWARD DUBOIS RD, TURN RIGHT ONTO DUBOIS RD, TURN LEFT ONTO MT BETHEL RD, CONTINUE ONTO WARRENVILLE RD, TURN LEFT ONTO US-22 E,, CONTINUE ONTO WASHINGTON AVE, CONTINUE STRAIGHT TO STAY ON STELTON RD, MERGE WITH I-287 S, KEEP LEFT TO CONTINUE ON NJ-440 N, TAKE THE GARDEN STATE PARKWAY SOUTH EXIT, KEEP LEFT AT THE Y JUNCTION TO STAY ON GARDEN STATE PKWY, FOLLOW SIGNS FOR 117, 105/ASBURY PARK/SOUTH JERSEY, KEEP LEFT TO STAY ON GARDEN STATE PKWY, TAKE EXIT 100 A TO MERGE WITH NJ-33 E TOWARD OCEAN GROVE, MERGE WITH NJ-33 E, TURN RIGHT ONTO RIVER RD, SHARP LEFT ONTO 6TH AVE, TURN RIGHT, DESTINATION WILL BE ON THE LEFT, LEADS TO LATITUDE 40.183243° AND LONGITUDE -74.025097°. (FRONT OF BUILDING)

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2018 INTERNATIONAL BUILDING CODE(NJ EDITION)
- 2014 NATIONAL ELECTRICAL CODE
- 2015 NATIONAL STANDARD PLUMBING CODE
- 2009 NFPA 101, LIFE SAFETY CODE
- 2015 IFC
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 15TH EDITION
- ANSI/TIA-222-H
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275
- ANSI/T 311

DRAWING INDEX

DO NOT SCALE DRAWINGS

THESE DRAWINGS ARE FORMATTED TO BE FULL-SIZE AT 22"X34". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

APPROVAL BLOCK

		APPROVED	APPROVED AS NOTED	DISAPPROVED/ REVISE
CONSTRUCTION MANAGER	DATE	☐	☐	☐
SITE ACQUISITION	DATE	☐	☐	☐
RF ENGINEER	DATE	☐	☐	☐
LESSOR/LESSOR REP	DATE	☐	☐	☐

ENGINEER

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
1777 SENTRY PARKWAY WEST
VEVA 17, SUITE 400
BLUE BELL, PA 19422
(267) 460-0122

APPLICANT

NEW YORK SMSA
LIMITED PARTNERSHIP d/b/a
VERIZON WIRELESS
verizon
400 WARREN CORPORATE
CENTER DRIVE
BUILDING D
WARREN, NJ 07059

SITE INFORMATION

BELMAR NORTH SC - A
601 MAIN STREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
2	11/16/21	FINAL CDs	JH
1	10/19/21	PRELIMINARY CDs	MA

PROFESSIONAL STAMP

RAISED SEAL
AVAILABLE UPON
REQUEST

STATE OF NEW JERSEY CERTIFICATE OF AUTHORIZATION #246GA28226400 EXP 08/31/22

ENGINEER

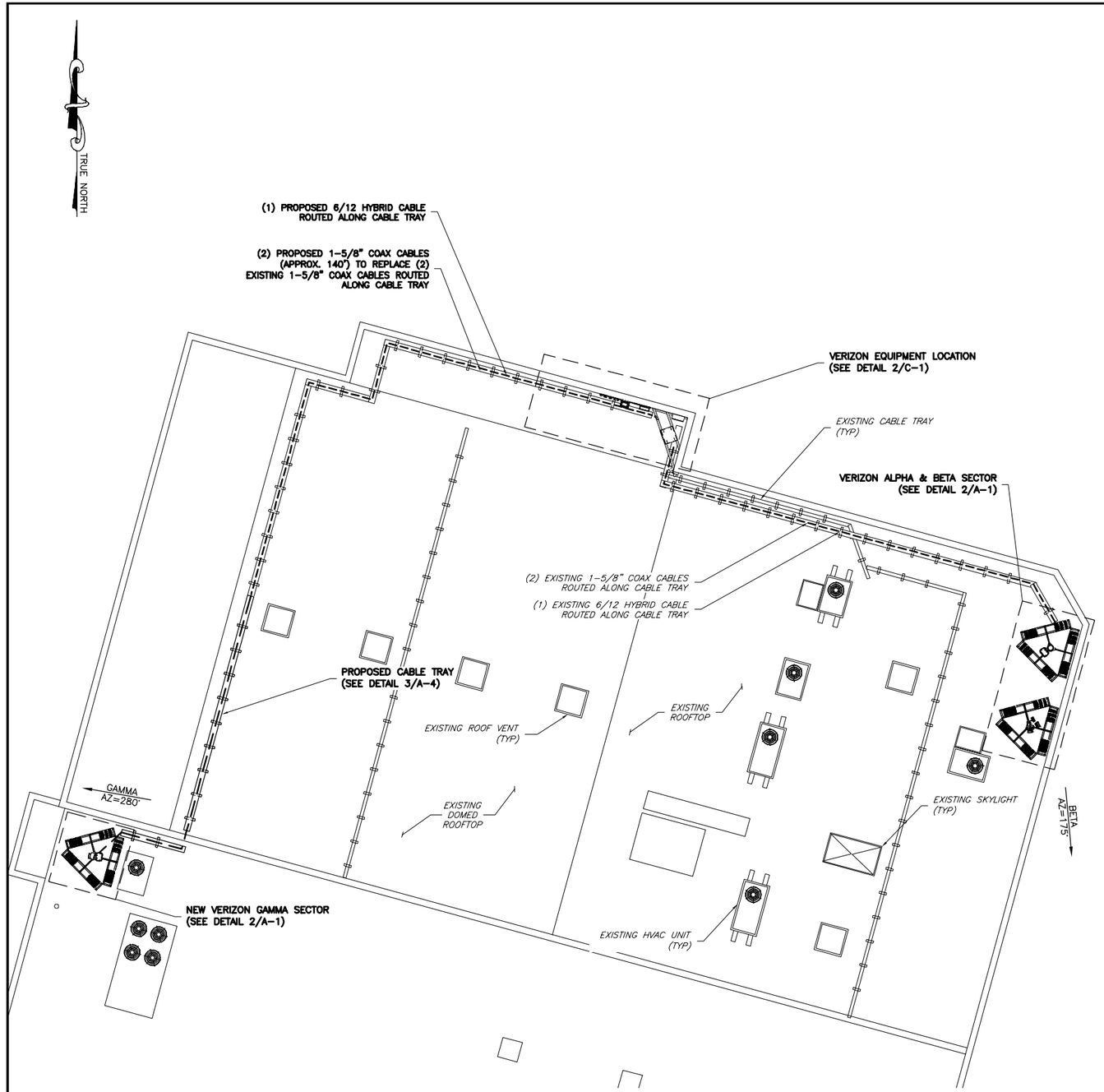
KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

TITLE SHEET

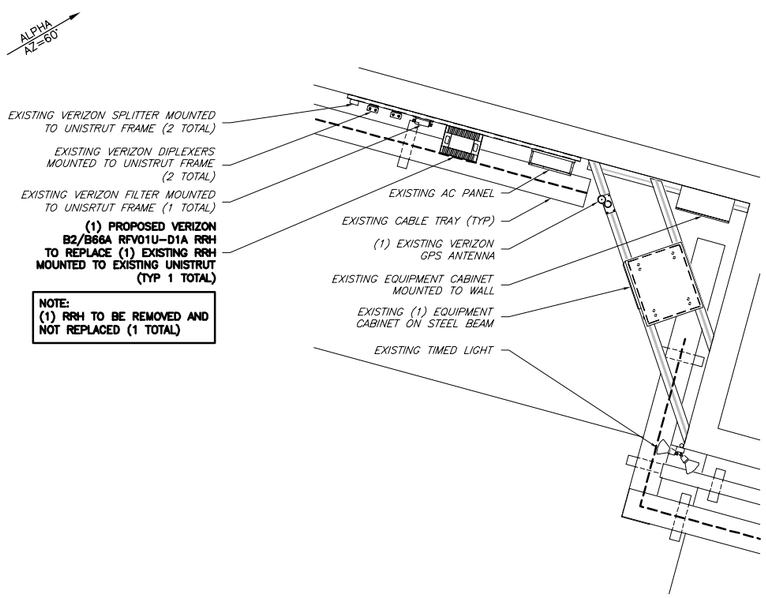
SHEET NUMBER

T-1



1 C-1 ############
SCALE: 1" = 10' (22X34)
SCALE: 1" = 20' (11X17)

GRAPHIC SCALE
10 0 5 10 20 40
1 INCH = 10 FEET (22X34)
1 INCH = 20 FEET (11X17)



2 C-1 EQUIPMENT PLAN
SCALE: 3/8" = 1' (22X34)
SCALE: 3/16" = 1' (11X17)

GRAPHIC SCALE
4 0 1 2 4 8
3/8 INCH = 1 FOOT (22X34)
3/16 INCH = 1 FOOT (11X17)

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
3. 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. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
5. 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 THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
8. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
9. IF ANY UNDERGROUND UTILITIES OR STRUCTURES EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
10. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION BY TECHNICIANS APPROXIMATELY 2 TIMES PER MONTH.
11. THIS PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
12. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
13. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
14. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.

ENGINEER

NB+C™
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
1777 SENTRY PARKWAY WEST
VEVA 17, SUITE 400
BLUE BELL, PA 19422
(267) 460-0122

APPLICANT

NEW YORK SMSA
LIMITED PARTNERSHIP d/b/a
VERIZON WIRELESS
verizon
400 WARREN CORPORATE
CENTER DRIVE
BUILDING D
WARREN, NJ 07059

SITE INFORMATION

BELMAR NORTH SC - A
601 MAIN STREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
2	11/16/21	FINAL CDs	JH
1	10/19/21	PRELIMINARY CDs	MA

PROFESSIONAL STAMP

RAISED SEAL
AVAILABLE UPON
REQUEST

STATE OF NEW JERSEY CERTIFICATE OF AUTHORIZATION #246GA28226400 EXP 08/31/22

ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

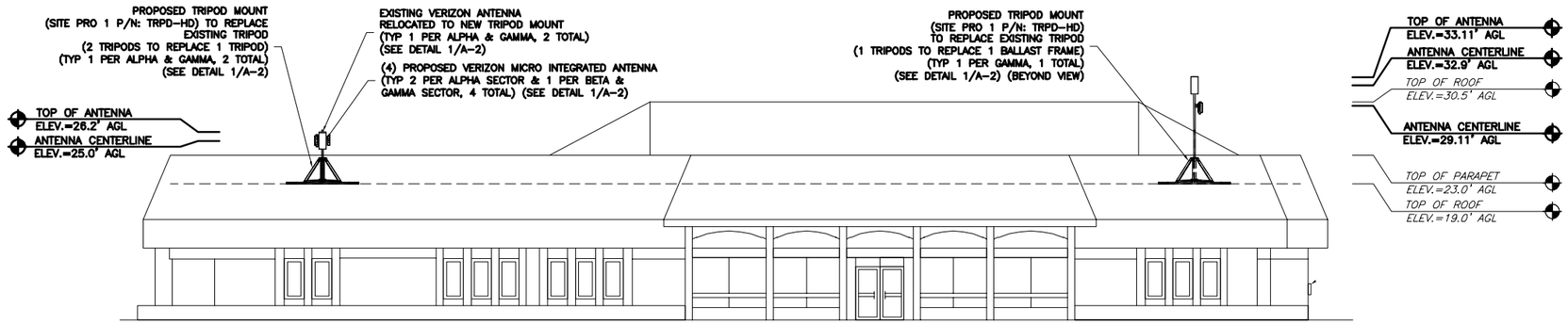
ROOFTOP & EQUIPMENT PLAN

SHEET NUMBER

C-1

NOTE:
POST-MODIFICATION INSPECTION (PMI) REQUIRED ON ALL SITES. REFER TO SHEET GN-1 OF THESE CONSTRUCTION DRAWINGS, AS WELL AS THE MOUNT ANALYSIS PREPARED BY NB+C, LLC DATED 10/22/21 FOR ADDITIONAL DETAILS.

NOTE:
TOP OF PROPOSED ANTENNAS WILL NOT EXCEED TOP OF EXISTING ANTENNAS.



1 / C-2 ELEVATION
SCALE: 1" = 5' (22X34)
SCALE: 1" = 10' (11X17)

GRAPHIC SCALE
5 0 2.5 5 10 20
1 INCH = 5 FEET (22X34)
1 INCH = 10 FEET (11X17)

ENGINEER

NB+C ENGINEERING SERVICES, LLC.
1777 SENTRY PARKWAY WEST
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BLUE BELL, PA 19422
(267) 460-0122

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ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

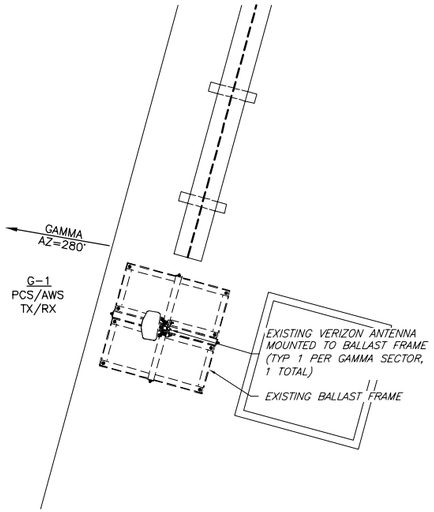
ELEVATION

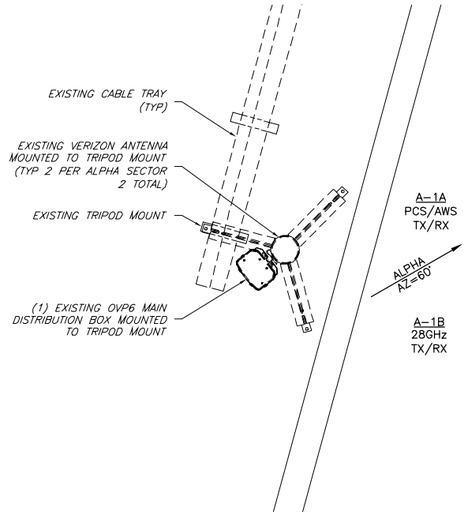
SHEET NUMBER

C-2

GENERAL ANTENNA NOTES

1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR IS TO COORDINATE AND VERIFY THE PROPOSED DOWNTILTS WITH VERIZON MANAGER PRIOR TO CONSTRUCTION.
2. ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0'. (EXISTING GRADE)
3. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE & AZIMUTH.
4. CONTRACTOR SHALL VERIFY ANTENNA TYPE AND AZIMUTH WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
5. ALL CABLE LENGTHS ARE ESTIMATED AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
6. COLOR TAPE MARKINGS MUST BE 3/4" WIDE AND UV RESISTANT, SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE.
7. CONTRACTOR SHALL COORDINATE COLOR CODINGS IN THE FIELD WITH VERIZON REPRESENTATIVE.
8. PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT OR MODIFICATION OF THE EXISTING STRUCTURE, A STRUCTURAL ANALYSIS SHALL BE PERFORMED BY THE OWNER'S AGENT TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES. THE OWNER'S AGENT SHALL FURNISH A CERTIFICATION LETTER SEALED BY A REGISTERED PROFESSIONAL ENGINEER STATING THAT THIS STRUCTURAL ANALYSIS WAS PREPARED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.





1 / A-1 EXISTING ANTENNA ORIENTATION PLAN
NTS

APPROX TRUE NORTH

EXISTING ANTENNA INFORMATION

ANTENNA POSTION	ANTENNA MANUFACTURER	ANTENNA MODEL	RAD CENTER	AZIMUTH	DOWN TILT MECH		DOWN TILT ELEC		RRH QUANTITY & MODEL	TECHNOLOGY	CABLE SIZE, LENGTH & QUANTITY
A-1	COMMSCOPE	NH180QS-DG-F0M	25.00'	60°	0°	0°	0°	0°	B25-PCS 4x30-4R (IN EQUIPMENT AREA) B66A-AWS 4x45-4R (IN EQUIPMENT AREA)	PCS/AWS	(2) 1-5/8" COAX (95') (1) 1.43"ø HYBRID CABLE(95')
A-2	NOKIA	AEUB W/ASOD	22.00'	60°	0°		0°			28GHz	
G-1	COMMSCOPE	NH65S-DG-F0M	36.00'	280°	0°	0°	0°	0°		PCS/AWS	(2) 1-5/8" COAX (75')

ENGINEER

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(267) 460-0122

APPLICANT

NEW YORK SMSA
LIMITED PARTNERSHIP d/b/a
VERIZON WIRELESS
verizon
400 WARREN CORPORATE
CENTER DRIVE
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WARREN, NJ 07059

SITE INFORMATION

BELMAR NORTH SC - A
601 MAIN STREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
2	11/16/21	FINAL CDs	JH
1	10/19/21	PRELIMINARY CDs	MA

PROFESSIONAL STAMP

RAISED SEAL
AVAILABLE UPON
REQUEST

STATE OF NEW JERSEY CERTIFICATE OF AUTHORIZATION #246GA28226400 EXP 08/31/22

ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

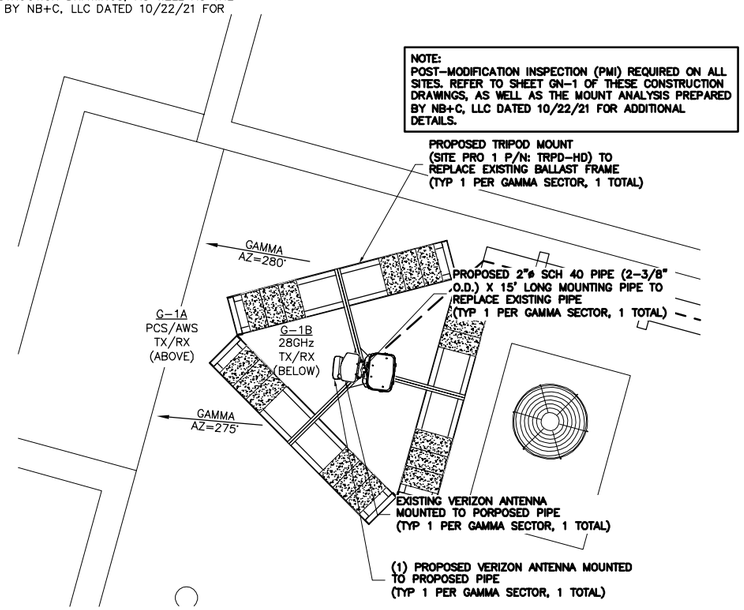
EXISTING ANTENNA PLAN & SCHEDULE

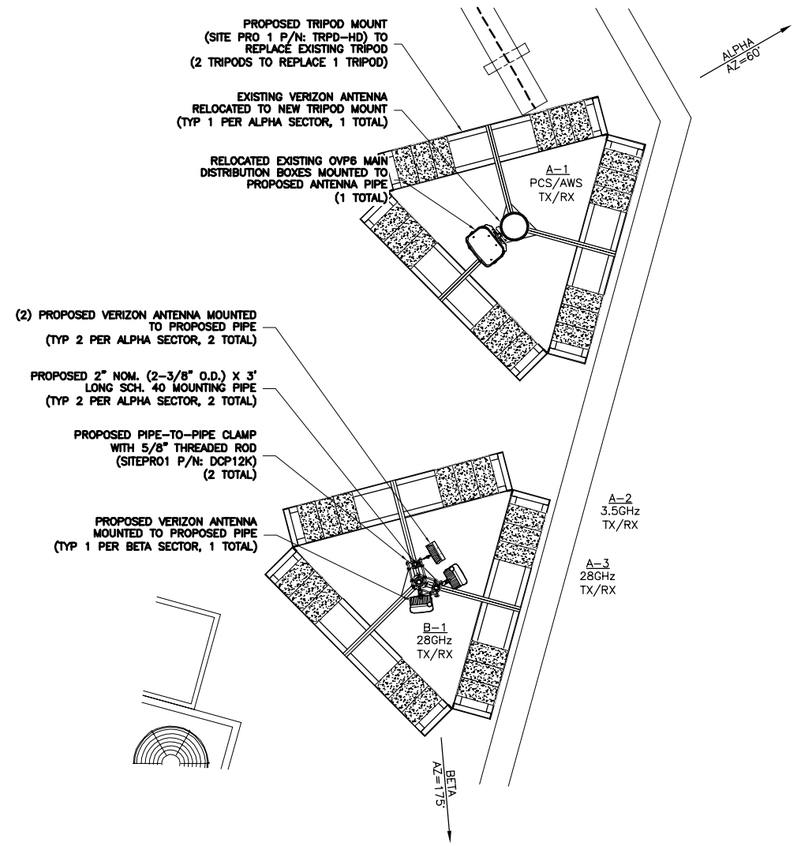
SHEET NUMBER

A-1

GENERAL ANTENNA NOTES

1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER.
2. ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0'.
3. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE & AZIMUTH.
4. CONTRACTOR SHALL VERIFY ANTENNA TYPE AND AZIMUTH WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
5. ALL CABLE LENGTHS ARE ESTIMATED AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
6. COLOR TAPE MARKINGS MUST BE 3/4" WIDE AND UV RESISTANT, SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE.
7. CONTRACTOR SHALL COORDINATE COLOR CODINGS IN THE FIELD WITH VERIZON REPRESENTATIVE.
8. A STRUCTURAL ANALYSIS REPORT HAS BEEN ISSUED BY NB+C, LLC. DATED 10/20/21 TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES.
9. A MOUNT MODIFICATION REPORT HAS BEEN ISSUED BY NB+C, LLC DATED 10/22/21 TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTUTALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES.
10. POST-MODIFICATION INSPECTION (PMI) REQUIRED ON ALL SITES. REFER TO SHEET GN-1 OF THESE CONSTRUCTION DRAWINGS, AS WELL AS THE MOUNT ANALYSIS PREPARED BY NB+C, LLC DATED 10/22/21 FOR ADDITIONAL DETAILS





1 / A-2 PROPOSED ANTENNA ORIENTATION PLAN
NTS

APPROX TRUE NORTH

PROPOSED ANTENNA & RRH SCHEDULE

ANTENNA POSITION	ANTENNA MANUFACTURER	ANTENNA MODEL	RAD CENTER	AZIMUTH	DOWN TILT MECH	DOWN TILT ELEC	RRH QUANTITY & MODEL	TECHNOLOGY	CABLE SIZE, LENGTH & QUANTITY
A-1	COMMSCOPE	NH180QS-DG-F0M	25.00'	60°	0° 0°	0° 0°	B2/B66A RFV01DU-D1A (EQUIPMENT LOCATION)	PCS/AWS	(2) 1-5/8" COAX (75') (1) 1.43"ø HYBRID CABLE (75')
A-2	SAMSUNG	CBRS RT4401-48A	25.00'	60°	0°	8°	-	3.5GHz	
A-3	SAMSUNG	VZ-AT1K01	25.00'	60°	5°	0°	-	28GHZ	
B-1	SAMSUNG	VZ-AT1K01	25.00'	175°	5°	0°	-	28GHZ	
G-1A	COMMSCOPE	NH65S-DG-F0M	32.90'	280°	0° 0°	0° 0°	-	PCS/AWS	(2) 1-5/8" COAX (140') (1) 1.43"ø HYBRID CABLE(140')
G-1B	SAMSUNG	VZ-AT1K01	29.11'	275°	5°	0°	-	28GHZ	

NOTES:
1. CONTRACTOR TO VERIFY PROPOSED ANTENNA INFORMATION IS THE MOST CURRENT DATA AT TIME OF CONSTRUCTION.
2. CONTRACTOR TO CONFIRM CABLE LENGTHS PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE TO BUILD FROM THE LATEST RF SHEET.

ENGINEER

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NB+C ENGINEERING SERVICES, LLC.
1777 SENTRY PARKWAY WEST
VEVA 17, SUITE 400
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APPLICANT

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PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

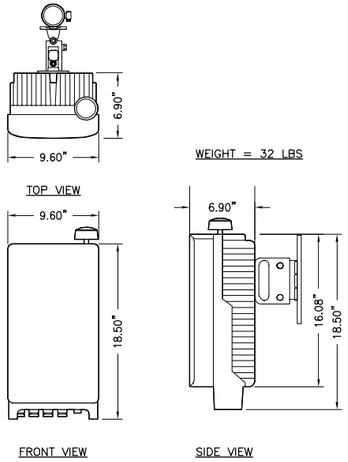
PROPOSED ANTENNA PLAN & SCHEDULE

SHEET NUMBER

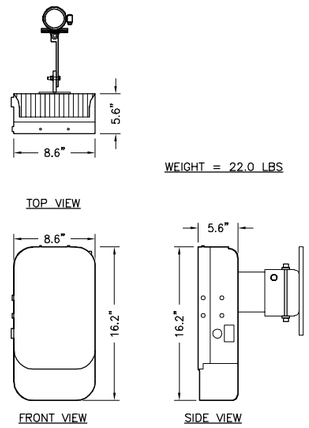
A-2

STRUCTURAL NOTES

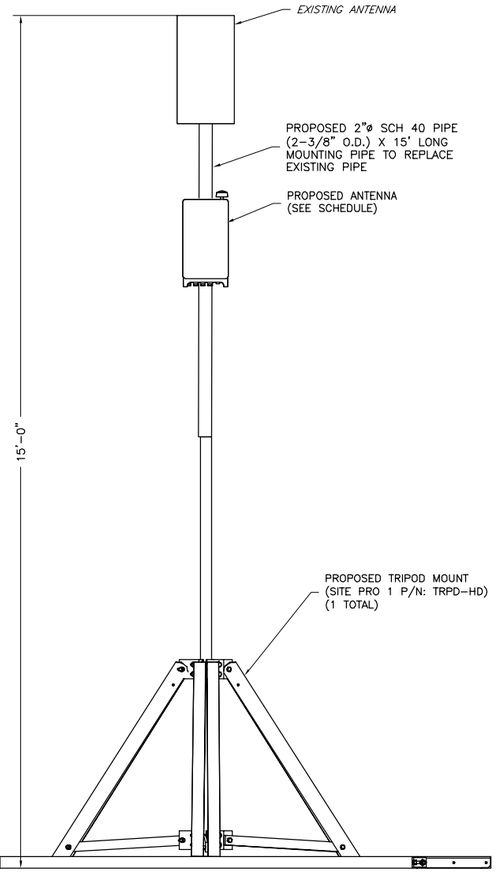
1. DESIGN REQUIREMENTS PER INTERNATIONAL BUILDING CODE 2018 AND THE ANSI/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED BY FIELD MEASUREMENT AND FROM THE EXISTING STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
3. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS – ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE AISC CODE FOR STANDARD PRACTICE.
4. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A992. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
5. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODE – STEEL WELD ELECTRODES SHALL BE E70XX.
6. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
7. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIAMETER BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED.
8. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.



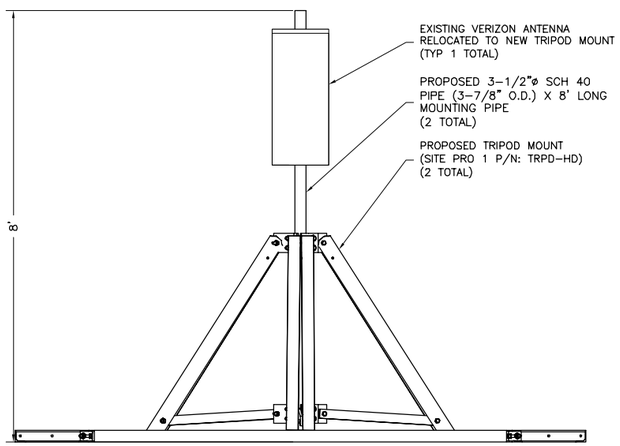
1 / A-3 AT1K01 INTEGRATED ANTENNA
NTS



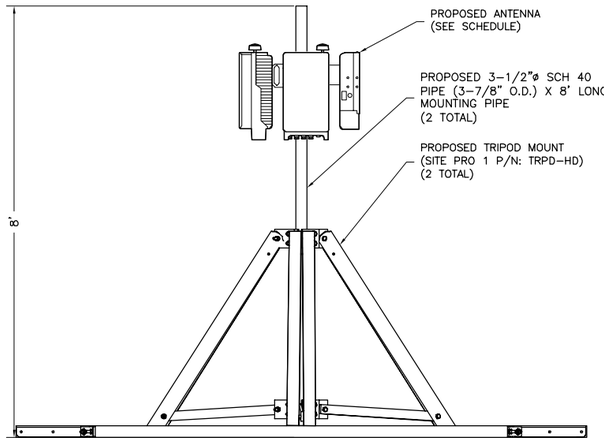
2 / A-2 CBRS RT4401-48A INTEGRATED ANTENNA
NTS



3 / A-3 ANTENNA MOUNTING DETAILS GAMMA SECTOR
NTS



4 / A-3 ANTENNA MOUNTING DETAILS ALPHA/BETA SECTOR
NTS



5 / A-3 ANTENNA MOUNTING DETAILS ALPHA/BETA SECTOR
NTS

PROPOSED ANTENNA SPECIFICATIONS

ANTENNA MANUFACTURER	ANTENNA MODEL	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
SAMSUNG	AT1K01	3	18.50"	9.60"	6.90"	32.0 LBS
SAMSUNG	CBRS RT4401-48A	1	16.20"	8.60"	5.60"	22.0 LBS

EXISTING ANTENNA SPECIFICATIONS

ANTENNA MANUFACTURER	ANTENNA MODEL	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
NOKIA	** AEUB W/ ASOD*	*1*	*24.0"*	*12.0"*	*4.7"*	*22.0 LBS*
COMMSCOPE	*NH180QS-DG-F0M*	*1*	*28.66"*	*12.0"*	*–*	*25.35 LBS*
COMMSCOPE	*NH65S-DG-F0M*	*1*	*28.66"*	*11.85"*	*7.12"*	*16.75 LBS*

** TO BE REMOVED*

ENGINEER

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VEVA 17, SUITE 400
BLUE BELL, PA 19422
(267) 460-0122

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LIMITED PARTNERSHIP d/b/a
VERIZON WIRELESS
verizon
400 WARREN CORPORATE
CENTER DRIVE
BUILDING D
WARREN, NJ 07059

SITE INFORMATION

BELMAR NORTH SC - A
601 MAIN STREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
2	11/16/21	FINAL CDs	JH
1	10/19/21	PRELIMINARY CDs	MA

PROFESSIONAL STAMP

RAISED SEAL
AVAILABLE UPON
REQUEST

STATE OF NEW JERSEY CERTIFICATE OF AUTHORIZATION #246GA28226400 EXP 08/31/22

ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

ANTENNA SPECIFICATION

SHEET NUMBER

A-3

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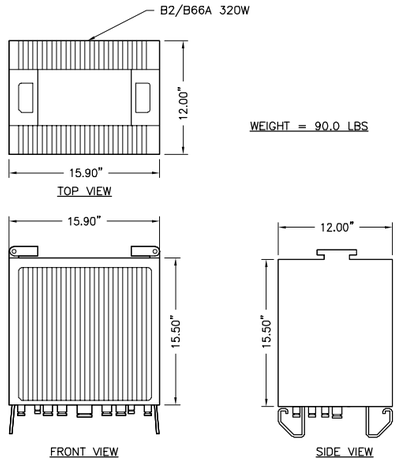
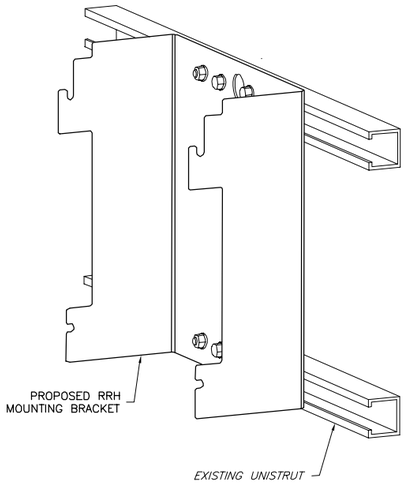
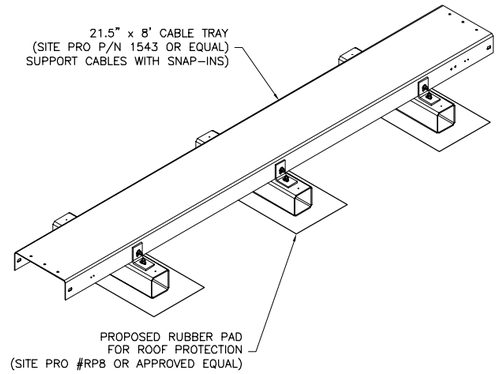


1 / A-4 B2/B66A RFV01U-D1A (REMOTE RADIO HEAD)
NTS



2 / A-4 RRH MOUNTING DETAIL
NTS



3 / A-4 ROOFTOP CABLE TRAY SECTION
NTS

PROPOSED RRH EQUIPMENT SPECIFICATIONS

MANUFRACUTRER	MODEL #	LOCATION	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
SAMSUNG	B2/B66A RFV01DU-D1A	ROOFTOP	1	15.50"	15.90"	12.00"	90.0 LBS

EXISTING RRH EQUIPMENT SPECIFICATIONS

MANUFRACUTRER	MODEL #	LOCATION	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
LUCENT	** B25-PCS 4x30-4R*	*ROOFTOP*	*1*	*21.4"*	*12.0"*	*7.20"*	*51.0 LBS*
LUCENT	** B66A-AWS 4x45-4R*	*ROOFTOP*	*1*	*25.8"*	*11.8"*	*7.2"*	*67.0 LBS*

** TO BE REMOVED*

EXISTING DISTRIBUTION EQUIPMENT SPECIFICATIONS

MANUFRACUTRER	MODEL #	LOCATION	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
RAYCAP	*RC2DC-3315-PF-48*	*ROOFTOP*	*1*	*28.93"*	*15.73"*	*10.3"*	*32.0 LBS*

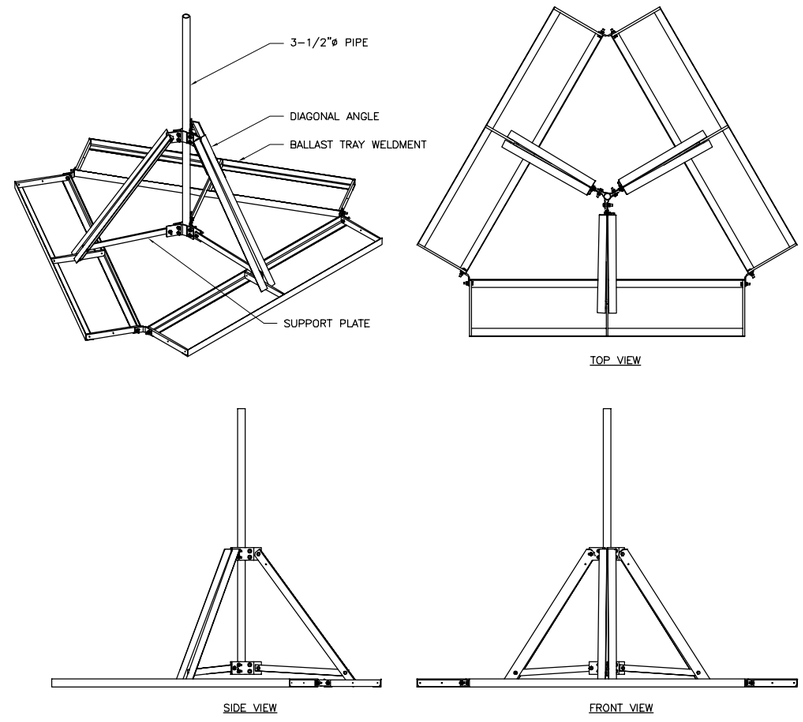
EXISTING ANTENNA SPECIFICATIONS

ANTENNA MANUFACTURER	ANTENNA MODEL	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
NOKIA	** AEUB W/ ASOD*	*1*	*24.0"*	*12.0"*	*4.7"*	*22.0 LBS*
COMMSCOPE	*NH1800S-DG-F0M*	*1*	*28.66"*	*12.0"*	*–*	*25.35 LBS*
COMMSCOPE	*NH65S-DG-F0M*	*1*	*28.66"*	*11.85"*	*7.12"*	*16.75 LBS*

** TO BE REMOVED*

EXISTING COMBINER EQUIPMENT SPECIFICATIONS

MANUFRACUTRER	MODEL #	LOCATION	QUANTITY	HEIGHT	WIDTH	DEPTH	WEIGHT
CSS	*CSS DBC-AP-EXT*	*ROOFTOP*	*2*	*12.5"*	*4.5"*	*2.5"*	*5.5 LBS*
VERDIUM	*1520075*	*ROOFTOP*	*2*	*8.7"*	*11.6"*	*4.5"*	*27.25 LBS*



4 / A-4 NON-PENETRATING TRIPOD SITE PRO 1 P/N: TRPD-HD
NTS

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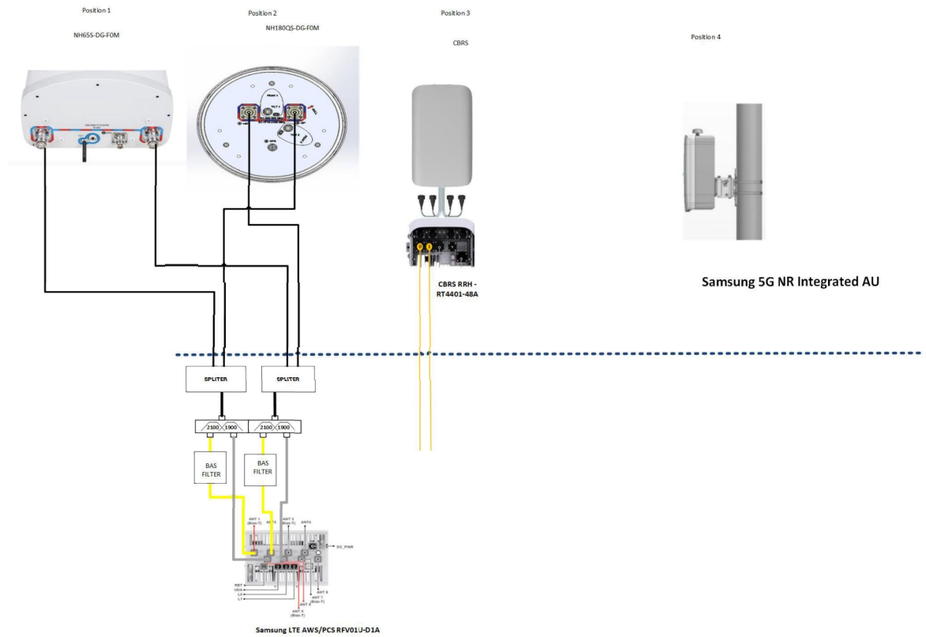
SHEET TITLE

EQUIPMENT SPECIFICATION

SHEET NUMBER

A-4



RFDS DATED 03/16/21, 17:47:53

Note: Add 5G-28GHz AZ:60,175,275

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LICENSE #24GE04945200

SHEET TITLE

PLUMBING DIAGRAM

SHEET NUMBER

A-5

VERIZON WIRELESS CONTRACTOR SCOPE OF WORK

- VERIZON WIRELESS CONTRACTOR IS TO SUPPLY AND INSTALL THE PROPOSED CABLE JUMPER (WITH LC TO LC CONNECTORS) FROM THE PROPOSED FIBER TRAYS TO THE PROPOSED MAIN DISTRIBUTION BOX (BOTTOM).
- VERIZON WIRELESS CONTRACTOR IS TO SUPPLY AND INSTALL ALL MOUNTING HARDWARE AND 1/2" ANTENNA JUMPER CABLES AS REQUIRED DURING CONSTRUCTION.
- VERIZON WIRELESS CONTRACTOR IS TO INSTALL (1) RUN OF HELIAX 1/1 HYBRID CABLE FROM THE EXISTING MAIN DISTRIBUTION BOXES TO THE REMOTE RADIO HEAD UNITS.
- VERIZON WIRELESS CONTRACTOR IS TO SUPPLY AND INSTALL 1/2" ANTENNA JUMPERS FROM EACH PROPOSED REMOTE RADIO HEAD UNIT (RRH) TO THE PROPOSED ANTENNAS IN ALL SECTORS (4 TOTAL 1/2" ANTENNA JUMPERS).
- VERIZON WIRELESS CONTRACTOR IS TO INSTALL THE PROPOSED REMOTE RADIO HEAD UNIT TO EXISTING PARAPET WALL.
- VERIZON WIRELESS CONTRACTOR IS TO GROUND ALL REMOTE RADIO HEAD UNITS (RRH) TO THE EXISTING GROUND BARS AS REQUIRED DURING CONSTRUCTION.
- VERIZON WIRELESS CONTRACTOR IS TO GROUND ALL PROPOSED ANTENNAS TO THE EXISTING GROUND BARS AS REQUIRED DURING CONSTRUCTION.
- VERIZON WIRELESS CONTRACTOR IS TO COMPLETE THE INSTALLATION OF THE PROPOSED ANTENNAS.
- VERIZON WIRELESS CONTRACTOR IS TO PERFORM THE FOLLOWING OPTICAL SWEEP TESTS; OTDR AND OPTICAL LOSS. RECOMMENDED UNITS – ANRITSU MT9090, JDSU, EXFO FTB-1/FTB-720 OTDR.
- VERIZON WIRELESS CONTRACTOR IS TO PERFORM THE FOLLOWING ANTENNA SYSTEM SWEEP TESTS: SYSTEM VZWR / dB RL.
- VERIZON WIRELESS CONTRACTOR IS TO PROVIDE ALL CLOSE OUT DOCUMENTS AS REQUIRED BY VERIZON WIRELESS.

SAMSUNG RRH

- DUAL RRH B2/B66A RFV01DU-D1A HELIAX 1/1 HYBRID CABLE CABLE MUST BE CONNECTED TO THE L0 PRIMARY PORT AND (1) EXTRA PAIR OF FIBER CONNECTED TO L1 SECONDARY PORT.

INTEGRATED ANTENNA

- AT1K01 1/1 HYBRID CABLE MUST BE CONNECTED TO OPT1 PORT AND (2 OR 3) EXTRA FIBER CABLE TO THE SECONDARY OPT2 PORT.
- CBRS 1/1 HYBRID CABLE MUST BE CONNECTED TO OPT1 PORT AND (1) EXTRA FIBER CABLE TO THE SECONDARY OPT2 PORT.

MOP FOR RET INSTALLS

ANTENNA CREW

1. REVIEW ANTENNA SCHEDULE WITH CELL TECH
2. FOR EACH SECTOR, LAY ANTENNAS OUT ON THE GROUND AS THEY WILL BE INSTALLED ACCORDING TO THE ANTENNA SCHEDULE
3. LABELED EACH ANTENNA WITH FACE AND POSITION WITH A SHARPIE (EX:"ALPHA-4")
4. LABEL ALL MOTORS WITH SHARPIE WITH BAND AND TECHNOLOGY (EX:"700LTE", "AWSLTE","PCSLTE","850VOICE", ETC)
5. CONNECT ALL AISG CABLES (INCLUDING JUMPERS THAT WILL BE USED IN FINAL ASSEMBLY) PER THE ANTENNA SCHEDULE
   A. WHEN DAISY CHAINING IS INEVITABLE, AS A GENERAL RULE...
      I. KEEP LOW AND HIGH BANDS ON SEPARATE AISG CHAINS AS MUCH AS POSSIBLE
      II. MINIMIZE AMOUNT OF MOTORS PER CHAIN AS MUCH AS POSSIBLE (MAX IS 6)
   B. WHEN COMPLETED ALL RET MOTOR PORTS NEED TO BE CONNECTED, INCLUDING THE MOTORS NOT BEING USED YET. THE ONLY UNUSED PORT WILL BE THE LAST IN THE DAISY CHAIN, WHICH NEEDS TO BE CAPPED AND WEATHERPROOFED.
6. ON LAPTOP, FILL OUT THE SOFTCOPY OF THE RET DEPLOYMENT FORM AND SAVE IT, REPLACING THE "######" WITH THE 6-DIGIT ENB NUMBER IN THE FILENAME (EX: RET DEPLOYMENT FORM_0981234.XLSX")
7. GIVE A SOFTCOPY OF THE RET DEPLOYMENT FORM TO VZW CELL TECH AND GC/CONSULTANT (EITHER BY EMAIL OR USB STICK)
8. USING THE SAME LAPTOP WHICH HAS THE RET DEPLOYMENT FORM OPENED, CONNECT THE CONTROL MODULE AND PROVISION EACH MOTOR RESPECTIVELY
   NOTE: CREWS MUST USE SOFTWARE THAT IS SPECIFIC TO THE MOTOR TYPE BEING PROVISIONED (IE- JMA SOFTWARE SHOULD ONLY BE SUED FOR JMA MOTORS)
   A. COPY AND PASTE "RET FRIENDLY NAME" FROM SPREADSHEET (COLUMN A) TO THE "SECTOR ID" FIELD OF EACH MOTOR
   B. POPULATE "SET RET TILT"
   C. POPULATE "MECHANICAL TILT"
9. CALIBRATE ALL MOTORS
10. DISCONNECT NECESSARY AISG JUMPERS TO TRANSPORT ANTENNAS SAFELY TO ASSEMBLY
11. INSTALL ANTENNAS ACCORDING TO THE ANTENNA SCHEDULE, USING THE SHARPIE LABELS AS REFERENCE
12. RECONNECT ALL AISG JUMPERS
13. BEFORE PLUGGING INTO EACH RRH, CONNECT MAIN AISG CABLE INTO CONTROLLER TO ENSURE ALL MOTORS ARE STILL SEEN IN THE DAISY CHAIN
14. PLUG AISG INTO RRH AND NOTIFY VZW TECH OF COMPLETION

VZW TECH (USER HELP GUIDE: \\WIN-VZWNET\NORTHEAST\PAPM_IMPLEMENTATION\SYSTEM PERFORMANCE\USERS\MOSERGA\RET\)

15. POWER ON RADIO EQUIPMENT AND RUN ANY NECESSARY WOS
16. "DISCOVER" THE RETS
    A. LOG INTO SAM
       I. VERIFY RET LICENSE ALLOCATION IN SAM
          - ENBEQUIPMENT>ENB>ACTIVATIONSERVICE>ISAISGALLOWED=CHECKED
    B. LOG INTO NEM LOCAL
       I. GO TO TREE VIEW AND HIGHLIGHT RET SUBUNIT
       II. ENABLE BUS SCAN
          - CONFIGURATION> ENABLE AISG BUS SCAN
       III. ALLOCATE CONFIG RIGHTS
          - CONFIGURATION>ALLOCATION CONFIGURATION RIGHTS
       IV. VERIFY CORRECT NUMBER OF RETS ARE DISCOVERED
17. "COMMISSION" THE RETS
    A. LOG INTO NEM LOCAL
       I. STILL IN TREE VIEW, RIGHT CLICK ON "HW MODULES"
       II. SELECT "CREATE RET MO"
       II. RELEASE CONFIG RIGHTS
          - CONFIGURATION>RELEASE CONFIGURATION RIGHTS
       IV. VERIFY RETSUBUNIT:SECTORNAME, ELECTRICAL TILT, AND MECHANICAL TILT ARE POPULATED
18. "PROVISION" THE RETS
    A. LOG INTO SAM
       I. OPEN UP THE ENB PROPERTIES AND COMPLETE A FULL RESYNC
       II. IN THE SEARCH TEXTBOX, SEARCH FOR "RETSUBUNIT"
       III. VERIFY ALL RETS ARE ACCOUNTED FOR AND "RETSUBUNIT:SECTORNAME", "ANTENNAELECTICALTILT", AND "RETSUBUNIT:MECHANICALTILT " ARE ACCURATE

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SHEET TITLE

SCOPE OF WORK

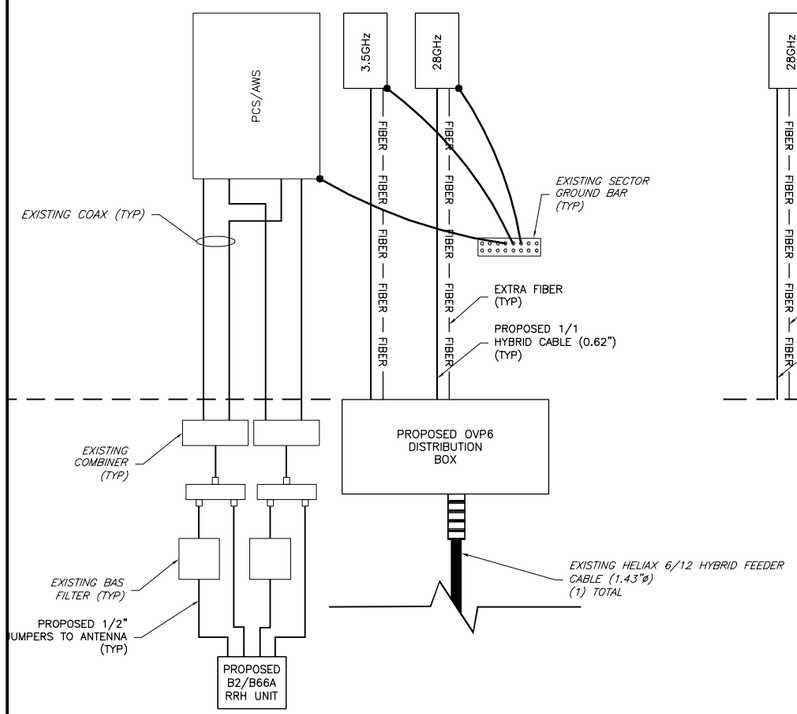
SHEET NUMBER

A-5

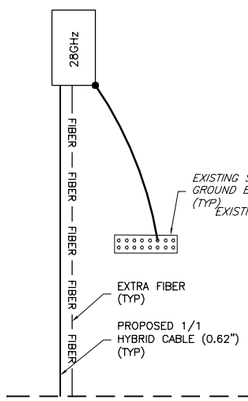
NOTE:
1) TAG ALL EXISTING AND PROPOSED CABLES/JUMPERS PER VERIZON SPECIFICATIONS (SEE RF SCHEDULE).
2) SEE A-1 & A-2 FOR CABLE LEGHTS.

NOTE:
INSTALL GROUNDING KIT TO ALL PROPOSED HYBRID FEEDER CABLES.

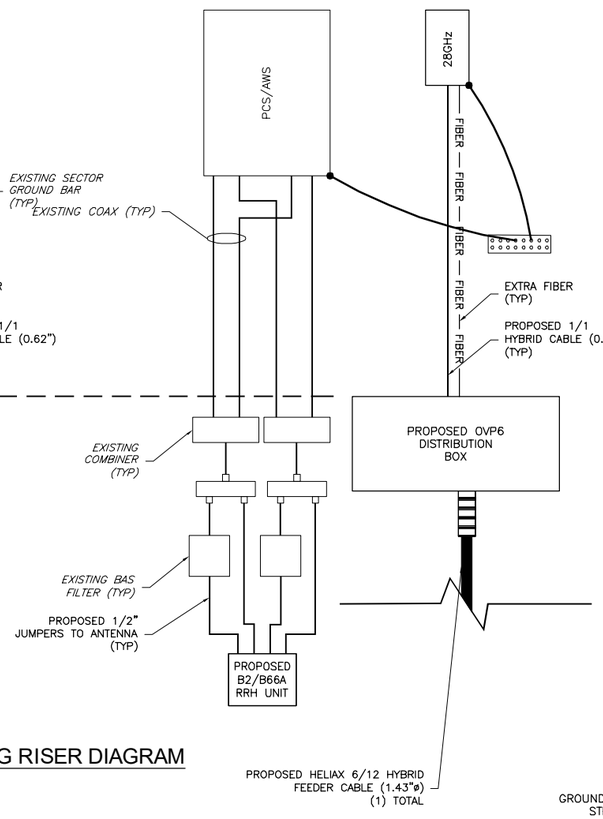
ANTENNA LOCATION (ALPHA SECTOR)



ANTENNA LOCATION (BETA SECTOR)



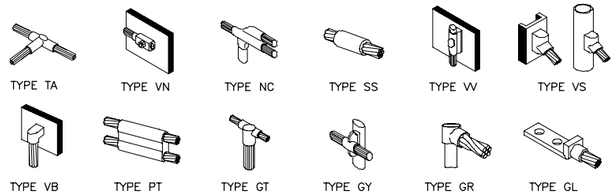
ANTENNA LOCATION (GAMMA SECTOR)



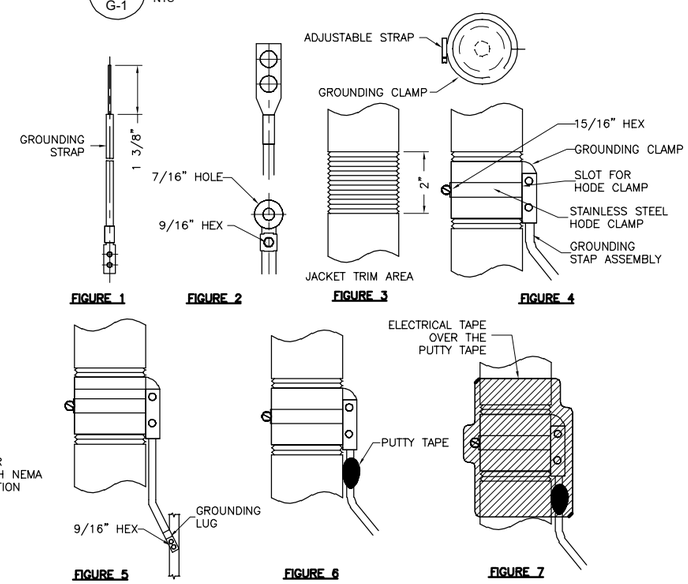
1 G-1 GROUNDING RISER DIAGRAM
NTS

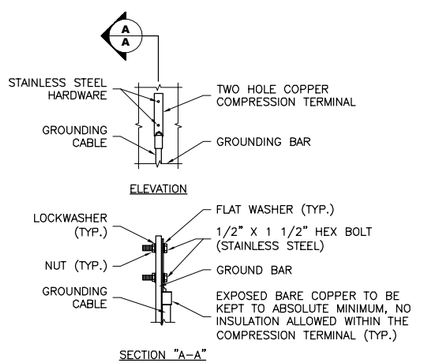
GROUNDING NOTES

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
3. ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
5. GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
6. GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
7. ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
8. INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
9. REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
10. ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
11. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
12. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.



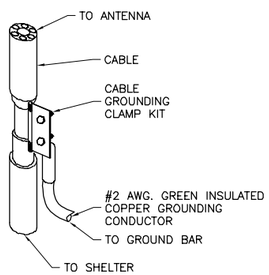
2 G-1 CADWELD GROUNDING CONNECTION DETAILS
NTS



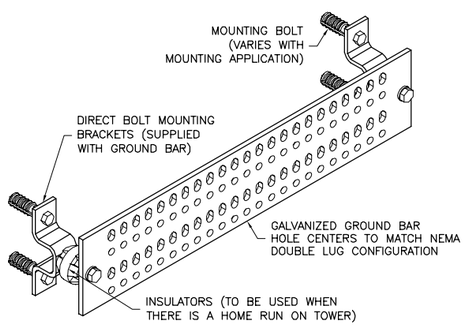


NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

3 G-1 GROUND BAR CONNECTION DETAIL
NTS



4 G-1 CABLE GROUNDING DETAIL
NTS



5 G-1 GROUND BAR DETAIL
NTS

6 G-1 GROUNDING STRAP WEATHERPROOFING DETAIL
NTS

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verizon
400 WARREN CORPORATE
CENTER DRIVE
BUILDING D
WARREN, NJ 07059

SITE INFORMATION

BELMAR NORTH SC - A
601 MAIN STREET
BELMAR, NJ 07719
BELMAR TOWNSHIP
MONMOUTH COUNTY

DESIGN RECORD

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ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.
STATE OF NEW JERSEY
PROFESSIONAL ENGINEER
LICENSE #24GE04945200

SHEET TITLE

GROUNDING DETAILS & NOTES

SHEET NUMBER

G-1

POST–MODIFICATION INSPECTION (PMI) REQUIREMENT

1. PMI REQUIRED FOR ALL SITES, REFER TO VERIZON NSTD–446 SECTIONS 1.5 AND 2.3 FOR MORE INFORMATION.

2. REFER TO THE MOUNT ANALYSIS BY NB+C, LLC DATED 10/22/21 FOR ADDITIONAL DETAILS.

3. GENERAL CONTRACTOR SHALL PROVIDE THE BELOW DOCUMENTATION TO THE ENGINEER OF RECORD VIA EMAIL TO VZWMOUNTS@NBCLLC.COM, DROPBOX, OR OTHER FILESHARE METHOD. PROVIDE HIGH RESOLUTION PHOTOS (DO NOT COMPRESS).

4. ENGINEER OF RECORD WILL CONDUCT A REVIEW OF THE PROVIDED DOCUMENTS TO PREPARE A PMI REPORT. ENGINEER OF RECORD WILL NOTIFY GENERAL CONTRACTOR IF ANY ADDITIONAL DOCUMENTATION IS REQUIRED TO COMPLETE THE PMI.

5. PMI DOCUMENTATION SHALL BE SUFFICIENT TO CONFIRM THE UPGRADE WAS BUILT AS DESIGNED, INCLUDING EQUIPMENT CHANGES AND STRUCTURAL MODIFICATIONS, AND IS IN ADDITION TO ANY OTHER REQUIRED CLOSEOUT PACKAGE DOCUMENTATION.

6. REQUIRED DOCUMENTATION FOR PMI INCLUDES THE FOLLOWING AT A MINIMUM. REFER TO THE MOUNT ANALYSIS FOR POSSIBLE ADDITIONAL INFORMATION. IF STRUCTURAL MODIFICATIONS ARE REQUIRED, REFER TO THE MODIFICATION DRAWINGS FOR POSSIBLE ADDITIONAL REQUIREMENTS.

6A. PROVIDE PRE–AND–POST CONSTRUCTION PHOTOS OF EACH SECTOR FROM THE MOUNT ELEVATION AND THE GROUND. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE PHOTOS PROVIDED PROVIDE POSITIVE CONFIRMATION THAT THE MODIFICATION/UPGRADE WAS COMPLETED IN ACCORDANCE WITH THESE CONSTRUCTION DRAWINGS AND ANY STRUCTURAL/MOUNT MODIFICATION DRAWINGS. CONTRACTOR SHALL RELAY ANY DATA THAT CAN IMPACT THE PERFORMANCE OF THE MOUNT OR MOUNT MODIFICATION, INCLUDING SAFETY ISSUES. PHOTOS SHALL HAVE A DATE/TIME STAMP IN THE PHOTO. REFER TO THE MOUNT ANALYSIS FOR FILE STRUCTURE SCHEDULE OF PHOTOS. PROVIDE PHOTOS OF THE GATE SIGNS AND CARRIER SHELTER TO IDENTIFY THE TOWER OWNER, SITE NAME, SITE NUMBER, ETC.

6B. VERIFICATION OF THE MEMBER CONNECTIONS, BRACING, AND RELEVANT DIMENSIONS.

6C. VERIFICATION OF THE ANTENNA AND OTHER EQUIPMENT CONFIGURATION (PHOTOS OF MODEL NUMBERS/TAGS FOR ALL EQUIPMENT, AS WELL AS THE FEEDLINE CONFIGURATION). TAKE PHOTOS OF THE BACK SIDE OF EACH SECTOR AS WELL AS CLOSE–UPS OF ALL EQUIPMENT. PHOTOS SHOULD CONFIRM THE HORIZONTAL AND VERTICAL POSITIONING OF THE ANTENNAS AND EQUIPMENT AND SHALL HAVE TAPE MEASURES IN THE PHOTOS TO CONFIRM.

6D. FOR TIE–BACKS, STRUTS, MOUNT PIPES, PHOTOS TO CONFIRM THE ANGLES AND LOCATION OF ATTACHMENT POINT AT BOTH ENDS OF MEMBER, AS WELL AS DIMENSIONS, THICKNESS, AND LENGTHS OF THE MEMBERS. REFER TO THE CHECKLIST IN THE MOUNT ANALYSIS FOR ADDITIONAL INFORMATION.

6E. MOUNT ATTACHMENT TO THE SUPPORTING STRUCTURE, INCLUDING ANY KICKERS OR SUPPORTS, OR TIEBACKS.

6F. MATERIALS USED (TYPE, STRENGTH, DIMENSIONS, ETC). PROVIDE BILL OF MATERIALS AND MATERIAL SPEC TO CONFIRM MATERIAL GRADES AND SIZES. PROVIDE DOCUMENTATION FOR GALVANIZATION OF MEMBERS WHETHER HOT–DIPPED OR COLD–GALVANIZED. IF MATERIALS DIFFER FROM THOSE SPECIFIED ON THESE DRAWINGS, PROVIDE DOCUMENTATION THAT THE "EQUIVALENT" MATERIAL HAS THE SAME SPECIFICATIONS.

6G. MOUNT ORIENTATION/AZIMUTH AND ELEVATION. PROVIDE TAPE DROP PHOTOS OF ANTENNA CENTERLINE(S) AND MOUNT ATTACHMENT POINTS TO THE SUPPORTING STRUCTURE. IF THERE ARE MULTIPLE RAD CENTERS, PROVIDE PHOTOS OF ALL ELEVATIONS.

POST–MODIFICATION INSPECTION (PMI) REQUIREMENT CONT.

6H. VERIFICATION THAT THE INSTALL HAS NOT CAUSED DAMAGE TO OR UNPLANNED OBSTRUCTION OF THE FOLLOWING:

--- CLIMBING FACILITIES
--- SAFETY CLIMB IF PRESENT, INCLUDING PHOTOS ABOVE AND BELOW THE MOUNT.
--- LIGHTING SYSTEM
--- OTHER INSTALLED SYSTEMS ON THE STRUCTURE.
--- CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS SUPPORTED AND NOT ADVERSELY AFFECTED BY THE INSTALLATION OF NEW COMPONENTS. THIS MAY INVOLVE THE INSTALLATION OF WIRE ROPE GUIDES OR OTHER ITEMS TO PROTECT THE WIRE ROPE.

6I. OTHER ITEMS DETERMINED BY THE STRUCTURAL ENGINEER TO ENSURE THE MOUNT WILL PERFORM AS DESIGNED. PHOTOS OF RELEVANT MEASUREMENTS, WITH SUFFICIENT DETAILS TO CONFIRM CONNECTION DETAILS, PLACEMENT OF EQUIPMENT, WALL ANCHOR DETAILS, BALLAST QUANTITIES, STRUCTURAL MODIFICATIONS ETC. DIAMETERS AND THICKNESSES OF BOLTS/THREADED RODS/ANGLES/TUBES ETC SHALL HAVE PHOTOS CONFIRMING CALIPER MEASUREMENTS.
--- CONFIRMATION THAT ALL HARDWARE WAS PROPERLY INSTALLED, AND EXISTING HARDWARE WAS INSPECTED FOR ANY ISSUES.
--- FOR BALLAST SLEDS, DOCUMENTATION OF THE WEIGHT OF BALLAST IN EACH SECTOR.
--- FOR WALL ANCHORS, PHOTOS AND MEASUREMENTS OF OUTSIDE AND INSIDE OF CONNECTIONS. DOCUMENTATION OF ADHESIVE USED, SIZE AND LENGTH OF ANCHORS, EFFECTIVE EMBEDMENT DEPTH OF THE ANCHORS, GROUTING OF HOLLOW WALLS, SPACING AND EDGE DISTANCE MEASUREMENTS, AND ANY THROUGH–BOLTS OR BACKING PLATES.
--- FOR STUD WELD CONNECTIONS, DOCUMENTATION TO CONFIRM SURFACE PREPARATION, STUD WELD SIZE, GRADE, LENGTH, AND SPACING.
--- FOR FABRICATED PARTS, SHOP DRAWINGS TO BE APPROVED BY THE ENGINEER OF RECORD PRIOR TO CONSTRUCTION.
--- FOR WELDED PARTS, CERTIFIED WELD INSPECTION.
--- FOR BOLTED PARTS, BOLT INSTALLATION AND TORQUE.

1. CONTRACTOR SHALL PROVIDE, IN ADDITION TO THE ABOVE, AS–BUILT CDS WITH REDLINES IDENTIFYING ANY CHANGES. THE AS–BUILTS SHALL THE CONTRACTOR'S NAME, PREPARER'S SIGNATURE, AND DATE.

2. IF THE MODIFICATION INSTALLATION WOULD FAIL THE PMI ("FAILED PMI"), THE CONTRACTOR SHALL WORK WITH THE ENGINEER OF RECORD TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

8A. CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENTAL PMI.

8B. OR, WITH THE EOR'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE–ANALYZE THE MODIFICATION/REINFORCEMENT/UPGRADE USING THE AS–BUILT CONDITION.

8. NOTE: IF LOADING IS DIFFERENT THAN THAT SHOWN IN THESE CONSTRUCTION DRAWINGS OR STRUCTURAL/MOUNT MODIFICATION DRAWINGS, CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY FOR RESOLUTION.

9. THE ENGINEERING FIRM PERFORMING AN ANALYSIS SHALL PROVIDE A CONTRACTOR'S PHOTO LOG AND CHECKLIST TO BE COMPLETED BY THE INSTALLING CONTRACTOR. THE CONTRACTOR SHALL THEN PROVIDE POST–INSTALLATION INFORMATION TO THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER SHALL REVIEW THE DOCUMENTS FOR ANY DEFICIENCIES THAT CAN BE DETERMINED FROM THE DESKTOP REVIEW OF THE DATA. THE ENGINEERING FIRM SHALL THEN PROVIDE DOCUMENTATION TO VZW THAT THE SITE IS COMPLETED, AND THE PMI REPORT IS APPROVED.

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