



VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: PPIR CO  
 ATC SITE NUMBER: 411241  
 VERIZON SITE NAME: PPIR  
 VERIZON SITE NUMBER: 5000268092  
 VERIZON FUZE PID: 16583205  
 SITE ADDRESS: 17610 MIDWAY RANCH ROAD  
 FOUNTAIN, CO 80817



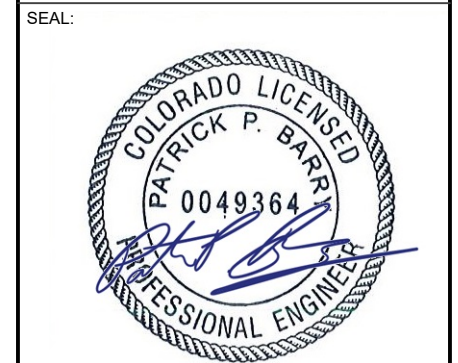
LOCATION MAP

**AMERICAN TOWER®**  
 ATC TOWER SERVICES LLC  
 1 FENTON MAIN  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	2/4/2025

ATC SITE NUMBER:  
**411241**  
 ATC SITE NAME:  
**PPIR CO**  
 VERIZON SITE NAME:  
**PPIR**  
 SITE ADDRESS:  
 17610 MIDWAY RANCH ROAD  
 FOUNTAIN, CO 80817



**VERIZON AMENDMENT DRAWINGS**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  2015 IBC NATIONAL ELECTRICAL CODE (NFPA 70, NEC 2020)	<u>SITE ADDRESS:</u> 17610 MIDWAY RANCH ROAD FOUNTAIN, CO 80817 COUNTY: EL PASO  <u>REGISTERED COORDINATES:</u>  LATITUDE: 38.577286 38° 34' 38.23" N LONGITUDE: -104.6633 104° 39' 47.88" W GROUND ELEVATION: 5333' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:  <u>TOWER SOW:</u> REMOVE (10) ANTENNA(S), (6) RRH(S), (2) OVP(S), AND (6) 7/8" COAX CABLE(S)  INSTALL MOUNT MODIFICATIONS, (2) SIDE-BY-SIDE ANTENNA MOUNT(S), (6) ANTENNA(S), (4) RRH(S), AND (1) OVP(S)  EXISTING (6) 7/8" COAX & (2) 1-5/8" 12X24 HYBRID CABLE(S) TO REMAIN  <u>GROUND SOW:</u> REMOVE (2) CDMA CABINET(S)  EXISTING (3) RRH(S) TO BE RELOCATED FROM SHELTER TO TOWER	SHEET NO: G-001 G-002 C-101 C-201 C-401 C-501 E-501	DESCRIPTION: TITLE SHEET GENERAL NOTES DETAILED SITE PLAN TOWER ELEVATION ANTENNA INFORMATION & SCHEDULE CONSTRUCTION DETAILS GROUNDING DETAILS	REV: 0 0 0 0 0 0	DATE: 2/4/2025 2/4/2025 2/4/2025 2/4/2025 2/4/2025 2/4/2025	BY: EDNA EDNA EDNA EDNA EDNA EDNA
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> ATC TOWER SERVICES LLC 1 FENTON MAIN, STE 300 CARY, NC 27511  <u>PROPERTY OWNER:</u> ULYSSES ASSET SUB II, LLC 17610 MIDWAY RANCH ROAD FOUNTAIN, CO 80817  <u>APPLICANT:</u> VERIZON WIRELESS 10000 PARK MEADOW DR, STE 300 LONE TREE, CO 80124 CONTACT: CHAD WEBER PHONE: 303-345-8242 EMAIL: CHESTER.WEBER@VERIZONWIRELESS.COM	<u>PROJECT NOTES</u>  1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).	<u>CONTRACTOR PMI REQUIREMENTS</u>  PMI ACCESSED AT: <a href="https://pmi.vzwsmart.com">HTTPS://PMI.VZWSMART.COM</a> SMART TOOL VENDOR PROJECT NUMBER: 10260516 VZW LOCATION CODE (PSLC): 5000268092 ***PMI AND REQUIREMENTS ALSO EMBEDDED IN MOUNT ANALYSIS REPORT  MOUNT MODIFICATION REQUIRED: YES VZW APPROVED SMART KIT VENDORS: REFER TO MOUNT MODIFICATION DRAWINGS PAGES FOR VZW SMART KIT APPROVED VENDORS				
<u>UTILITY COMPANIES</u>  POWER COMPANY: MVEA PHONE: (719) 495-2283  TELEPHONE COMPANY: UNKNOWN PHONE: N/A	<u>PROJECT LOCATION DIRECTIONS</u>  DRIVING FROM PUEBLO, TAKE I-25 NORTH FOR 21 OR SO MILES. TAKE EXIT 119 AND TURN LEFT TOWARDS MIDWAY RANCH ROAD. TURN RIGHT ON MIDWAY RACH ROAD IN ABOUT A MILE YOU WILL BE AT A GATED DRIVEWAY ON YOUR LEFT. FOLLOW DRIVEWAY PAST THE HOUSE AND KEEP RIGHT WHEN THE GRAVEL PATH FORKS. FOLLOW THIS TO THE TOWER.						

**verizon**  
 ATC JOB NO: 14912246\_GO  
 CUSTOMER ID: PPIR  
 CUSTOMER #: 5000268092

**TITLE SHEET**  
 SHEET NUMBER: **G-001**  
 REVISION: **0**



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**GENERAL CONSTRUCTION NOTES:**

1. OWNER FURNISHED MATERIALS, VERIZON "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
  - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
  - B. AC/TELCO INTERFACE BOX (PPC)
  - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
  - D. TOWERS, MONOPOLES
  - E. TOWER LIGHTING
  - F. GENERATORS & LIQUID PROPANE TANK
  - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
  - H. ANTENNAS (INSTALLED BY OTHERS)
  - I. TRANSMISSION LINE
  - J. TRANSMISSION LINE JUMPERS
  - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
  - L. TRANSMISSION LINE GROUND KITS
  - M. HANGERS
  - N. HOISTING GRIPS
  - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF VERIZON TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE VERIZON REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE VERIZON CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE VERIZON REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH VERIZON AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH VERIZON REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY VERIZON REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29. COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
31. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
32. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON REP. ANY WORK FOUND BY THE VERIZON REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
33. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
34. VERIZON FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE VERIZON WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
35. VERIZON OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO VERIZON OR THEIR ARCHITECT/ENGINEER.

- B. ALL COAXIAL/HYBRID CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL/HYBRID CABLE (NOT WITHIN BENDS)

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL/HYBRID CABLES ARE FURNISHED BY VERIZON UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
  - B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.
  - E. INSTALL COAXIAL/HYBRID CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2. ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
  - A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

**ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.**



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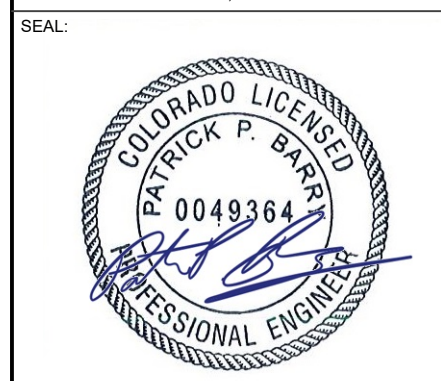
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	2/4/2025

ATC SITE NUMBER:  
**411241**

ATC SITE NAME:  
**PPIR CO**

VERIZON SITE NAME:  
**PPIR**

SITE ADDRESS:  
17610 MIDWAY RANCH ROAD  
FOUNTAIN, CO 80817



Digitally Signed: 2025-02-04



ATC JOB NO:	14912246_G0
CUSTOMER ID:	PPIR
CUSTOMER #:	5000268092

**GENERAL NOTES**

SHEET NUMBER: <b>G-002</b>	REVISION: <b>0</b>
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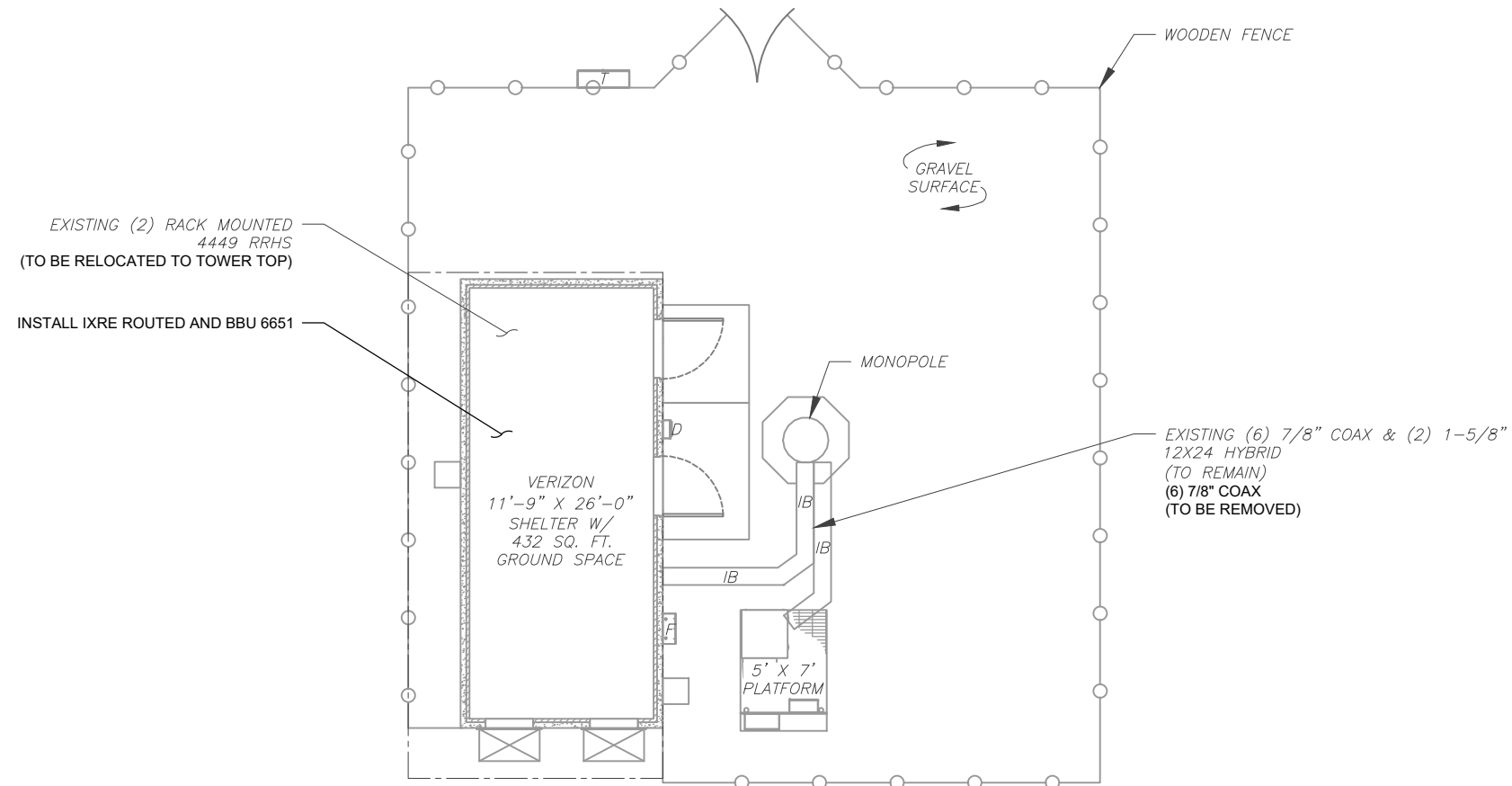
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**SITE PLAN NOTES:**

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. NO ELECTRICAL SCOPE IS INCLUDED IN THIS PROJECT.

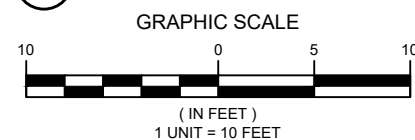
- REMOVE (2) CDMA CABINETS
- UPGRADE 24VDC PDF WITH LOW CAP INFINITY M CONVERSION TO -48VDC PDF
- RECOMMEND REPLACING EXISTING GNB BATTERIES WITH ONE NEW STRING OF SAFT TLX 180S LOCATED ON SHELVE UNDER THE NEWLY UPGRADED PDF



**LEGEND**

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
—	CHAINLINK FENCE

**1 DETAILED SITE PLAN**




**AMERICAN TOWER®**  
**ATC TOWER SERVICES LLC**  
 1 FENTON MAIN  
 SUITE 300  
 CARY, NC 27511  
 PHONE: (919) 468-0112

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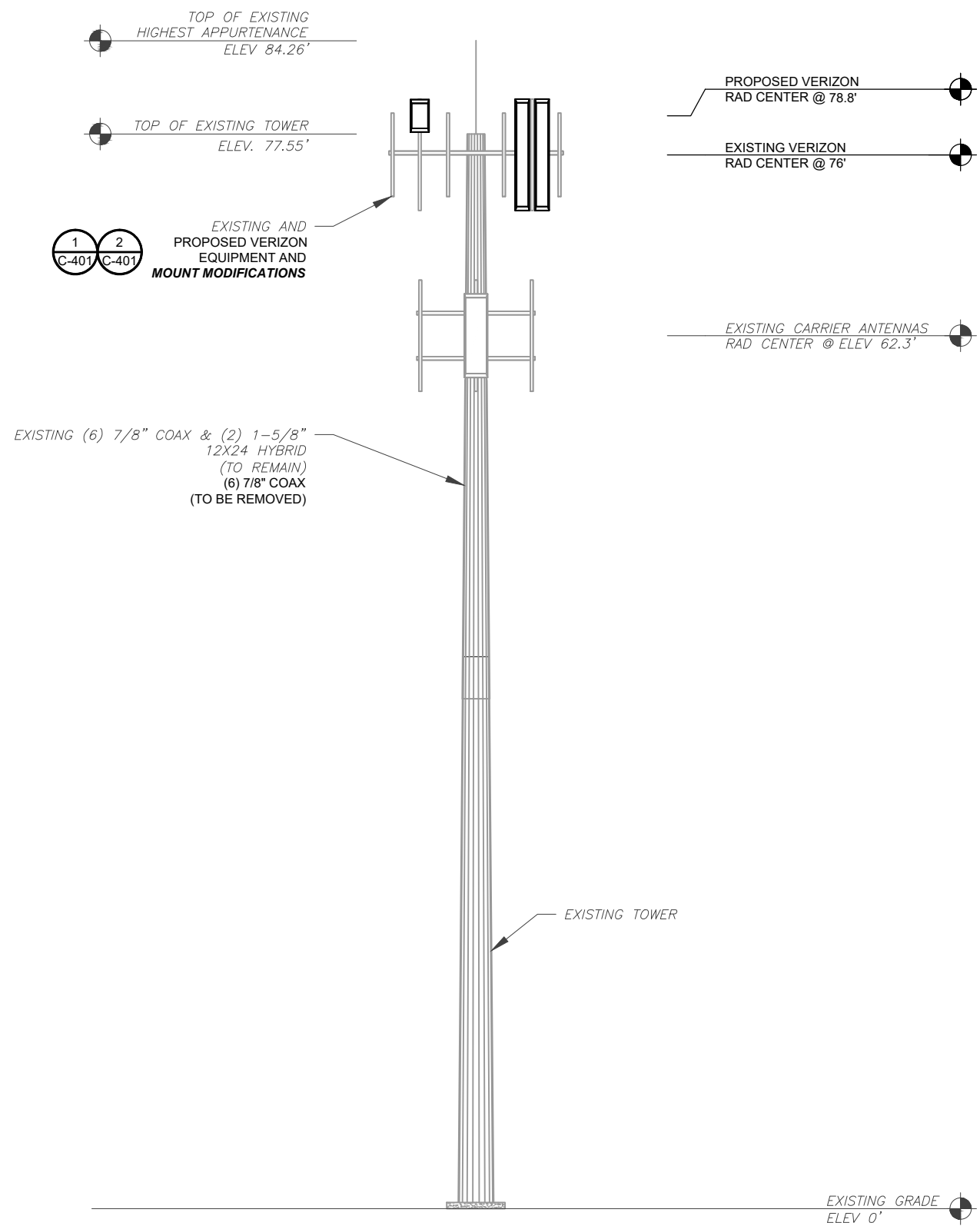


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CUSTOMER ID:	PPIR
CUSTOMER #:	5000268092

**DETAILED SITE PLAN**

SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

PER MOUNT ANALYSIS COMPLETED BY NETWORK BUILDING + CONSULTING, LLC, DATED 12/6/2024, THE EXISTING MOUNT **MUST BE MODIFIED** TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



EXISTING AND PROPOSED VERIZON EQUIPMENT AND MOUNT MODIFICATIONS

EXISTING (6) 7/8" COAX & (2) 1-5/8" 12X24 HYBRID (TO REMAIN)  
(6) 7/8" COAX (TO BE REMOVED)

**1 TOWER ELEVATION**  
SCALE: N.T.S.

**ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)**

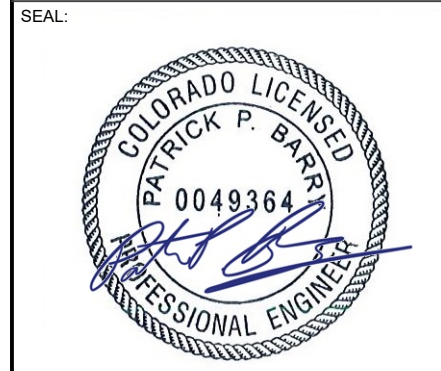
**TOWER NOTE:**  
 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.  
 2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.  
 3. TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.



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**PPIR CO**  
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 17610 MIDWAY RANCH ROAD  
 FOUNTAIN, CO 80817



Digitally Signed: 2025-02-04



ATC JOB NO: 14912246\_GO  
 CUSTOMER ID: PPIR  
 CUSTOMER #: 5000268092

**TOWER ELEVATION**

SHEET NUMBER: **C-201** REVISION: **0**

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	2/4/2025

ATC SITE NUMBER:  
**411241**  
 ATC SITE NAME:  
**PPIR CO**  
 VERIZON SITE NAME:  
**PPIR**  
 SITE ADDRESS:  
 17610 MIDWAY RANCH ROAD  
 FOUNTAIN, CO 80817

SEAL:



Digitally Signed: 2025-02-04

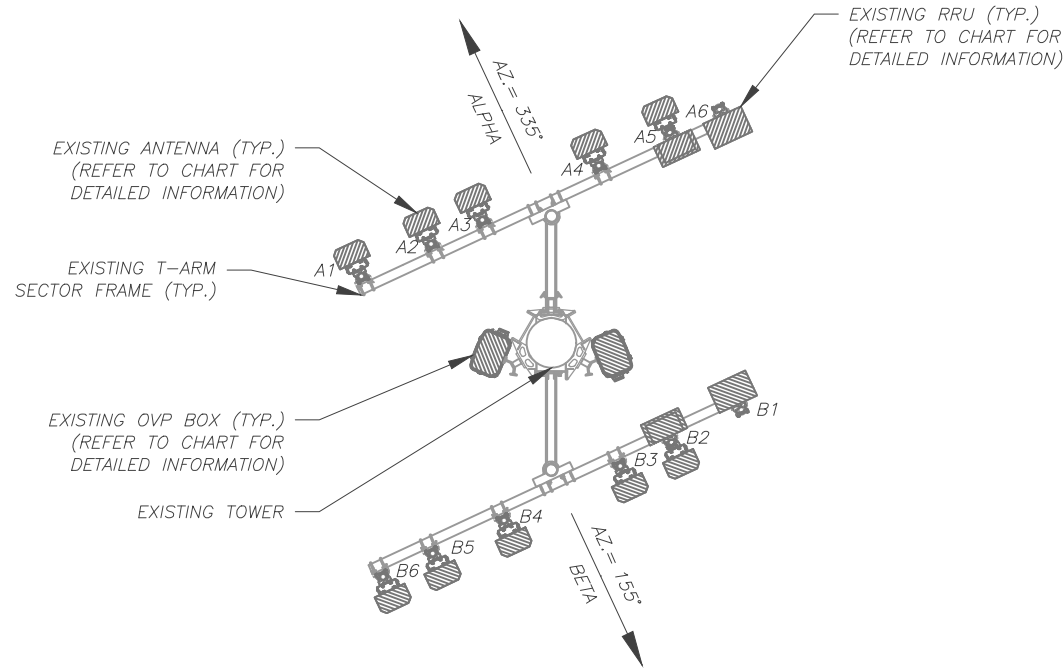


ATC JOB NO: 14912246\_G0  
 CUSTOMER ID: PPIR  
 CUSTOMER #: 5000268092

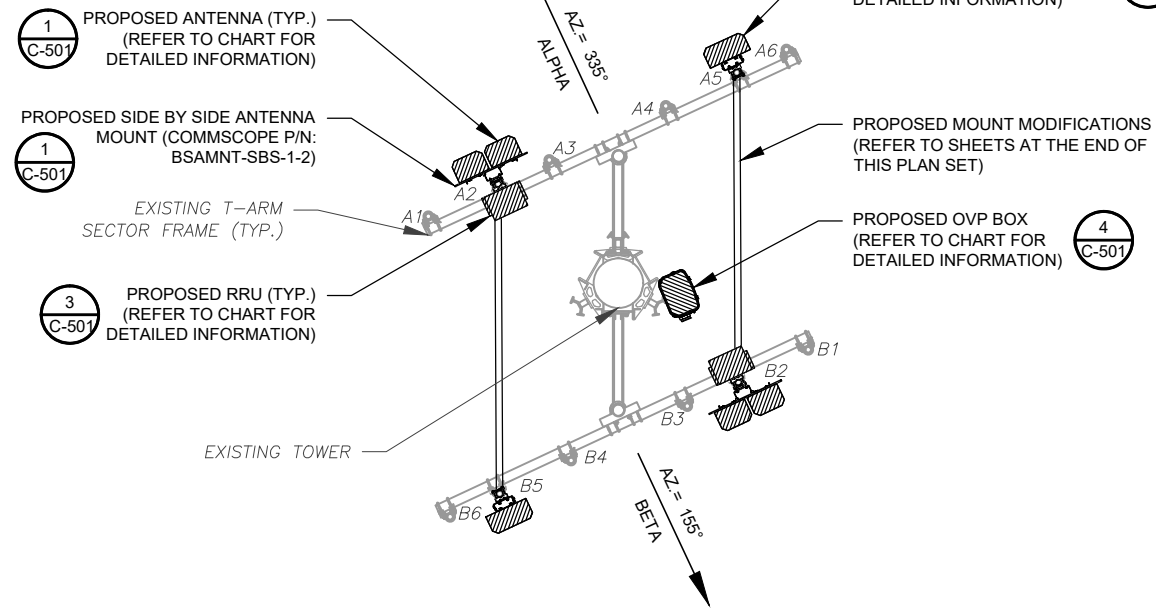
**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER:  
**C-401**  
 REVISION:  
**0**

PER MOUNT ANALYSIS COMPLETED BY NETWORK BUILDING + CONSULTING, LLC, DATED 12/6/2024, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



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



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

EXISTING ANTENNA SCHEDULE										
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY			
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS		
ALPHA	76'	335°	A1	FV105-10-000A2	-	RMV	-	-		
			A2	CWWX063X19G00	-	RMV	-	-		
			A3	FV105-10-000A2	-	RMV	-	-		
			A4	FV105-10-000A2	-	RMV	-	-		
			A5	CWWX063X19G00	-	RMV	RRH2X60-AWS BAND 4 B66A RRH4X45-4R	RMV	RMV	
			A6	-	-	-	-	-	RRH2x40-07-U	RMV
BETA	155°	76'	B1	-	-	-	RRH2x40-07-U	RMV		
			B2	CWWX063X19G00	-	RMV	RRH2X60-AWS BAND 4 B66A RRH4X45-4R	RMV	RMV	
			B3	FV105-10-000A2	-	RMV	-	-		
			B4	FV105-10-000A2	-	RMV	-	-		
			B5	CWWX063X19G00	-	RMV	-	-		
			B6	FV105-10-000A2	-	RMV	-	-		

**NOTES**

- GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.
- GC TO CAP ALL UNUSED PORTS.
- GC TO CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

**STATUS ABBREVIATIONS**

RMV: TO BE REMOVED  
 RMN: TO REMAIN  
 REL: TO BE RELOCATED  
 ADD: TO BE ADDED

**CABLE LENGTHS FOR JUMPERS**

JUNCTION BOX TO RRU: 15'  
 RRU TO ANTENNA: 10'

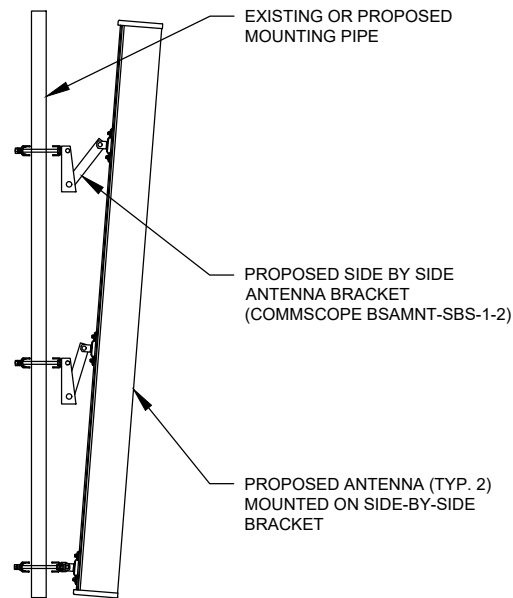
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	
ALPHA	76'	335°	A1	-	-	-	-	-	
			A2	(2) NHH-65C-HG-R2B	700/850/1900/AWS/AWS3 LTE	ADD	RADIO 4449 - B13&B5 RADIO 4890HP 48B2 48B66 S	ADD	ADD
			A3	-	-	-	-	-	
			A4	-	-	-	-	-	
			A5	AIR 6419 B77D	L-SUB6 5G	ADD	-	-	
			A6	-	-	-	-	-	
BETA	76'	155°	B1	-	-	-	-	-	
			B2	(2) NHH-65C-HG-R2B	700/850/1900/AWS/AWS3 LTE	ADD	RADIO 4449 - B13&B5 RADIO 4890HP 48B2 48B66 S	ADD	ADD
			B3	-	-	-	-	-	
			B4	-	-	-	-	-	
			B5	AIR 6419 B77D	L-SUB6 5G	ADD	-	-	
			B6	-	-	-	-	-	

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	-	(6) 7/8" COAX & (2) 1-5/8" 12X24 HYBRID	RMN
(2) RXXDC-3315-PF-48 (OVP6)	RMV	(6) 7/8" COAX	RMV

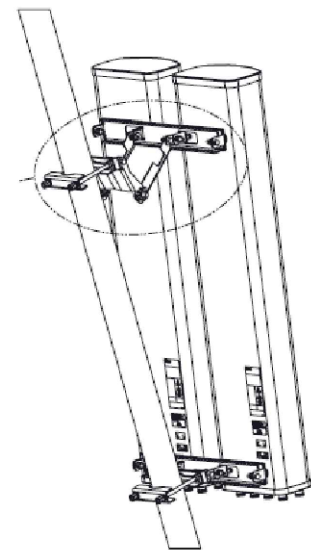
**3** EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	-	(6) 7/8" COAX & (2) 1-5/8" 12X24 HYBRID	RMN
RCMDC-6627-PF-48 (OVP12)	ADD	-	-

EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.

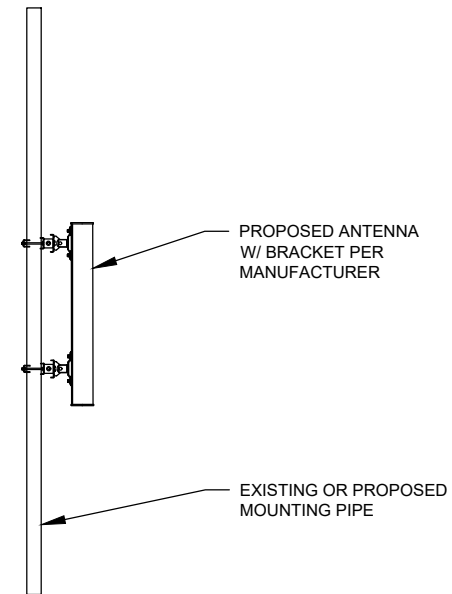


PROFILE VIEW

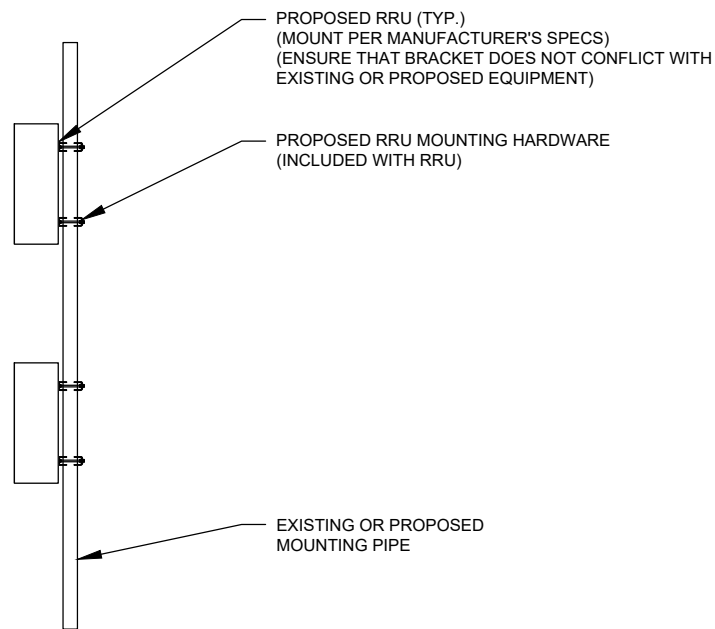


ISOMETRIC VIEW (BY MANUFACTURER)

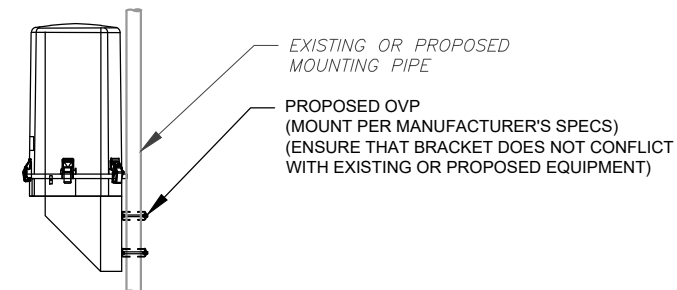
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



4 PROPOSED OVP MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.

**AMERICAN TOWER®**  
ATC TOWER SERVICES LLC  
1 FENTON MAIN  
SUITE 300  
CARY, NC 27511  
PHONE: (919) 468-0112

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	2/4/2025

ATC SITE NUMBER:  
411241  
ATC SITE NAME:  
PPIR CO  
VERIZON SITE NAME:  
PPIR  
SITE ADDRESS:  
17610 MIDWAY RANCH ROAD  
FOUNTAIN, CO 80817

SEAL:



Digitally Signed: 2025-02-04

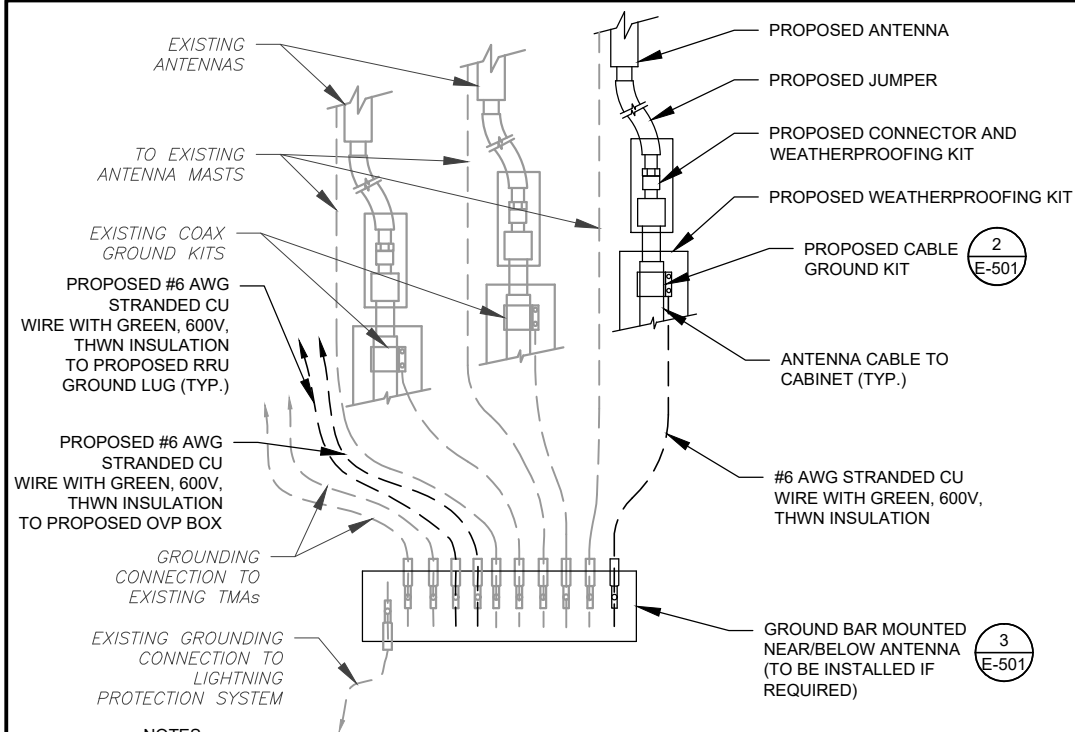
**verizon**

ATC JOB NO: 14912246\_G0  
CUSTOMER ID: PPIR  
CUSTOMER #: 5000268092

CONSTRUCTION  
DETAILS

SHEET NUMBER:  
**C-501**  
REVISION:  
**0**

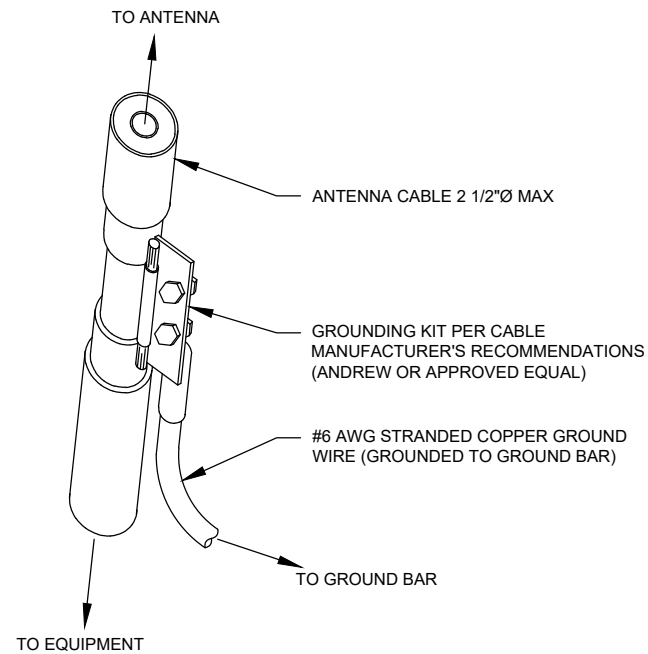




**NOTES:**

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH VERIZON GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

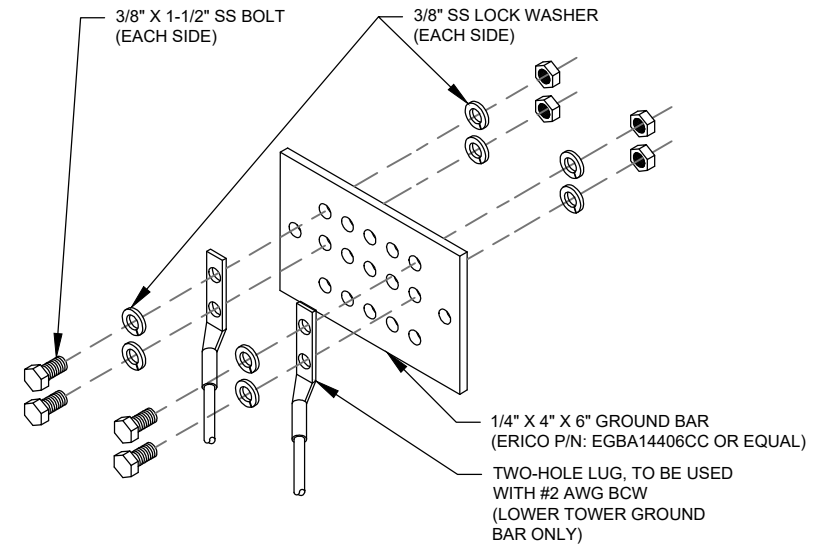
**1** TYPICAL ANTENNA GROUNDING DIAGRAM  
SCALE: N.T.S.



**GROUND KIT NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

**2** CABLE GROUND KIT CONNECTION DETAIL  
SCALE: N.T.S.



**GROUND BAR NOTES:**

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

**3** TOWER GROUND BAR DETAIL  
SCALE: N.T.S.

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	2/4/2025

ATC SITE NUMBER:

411241

ATC SITE NAME:

PPIR CO

VERIZON SITE NAME:

PPIR

SITE ADDRESS:

17610 MIDWAY RANCH ROAD  
FOUNTAIN, CO 80817

SEAL:



Digitally Signed: 2025-02-04



ATC JOB NO: 14912246\_G0

CUSTOMER ID: PPIR

CUSTOMER #: 5000268092

**GROUNDING DETAILS**

SHEET NUMBER:

E-501

REVISION:

0



WEST > Desert Mountain Plains > Mountain Plains > Aurora-2 > PPIR  
 Eicens, Bryan - bryan.eicens@verizonwireless.com - 20240923\_170357

Project Details				Location Information			
Carrier Aggregation	N			Site Id	394690		
Ecip	N			Search Ring#			
Project Name	4G CBRS - CARRIER ADD			E-NodeB ID#	016513		
Project Alt Name	PPIR - C-BAND ONETOUCH			PSLC#	119048		
Project Id	16583205			Switch Name	Aurora-2		
Designed Sector Carrier 4G	10			Tower Type			
Designed Sector Carrier 5G	2			Site Type	MACRO		
Additional Sector Carrier 4G	0			Street Address	16650 Midway Ranch Rd		
Additional Sector Carrier 5G	0			City	Fountain		
Suffix				State	CO		
FP Solution Type & Tech Type	MODIFICATION:4G_AWS3;5G_L-Sub6;4G_PCS:4G_Radio Swap			Zip Code	80817		
				County	El Paso		
				Latitude	38.577286/ 38° 34' 38.230"		
				Longitude	-104.6633/ 104° 39' 47.880"		

Antenna Summary												
Added Antenna												
700	850	1900	AWS	AWS3	L-Sub6	Make	Model	Center line	Tip Height	Azimuth	Install Type	Quantit
					5G	Ericsson	AIR6419	76.8	78	335(A),155(B)	PHYSICAL	2
LTE	LTE	LTE	LTE	LTE		CommScope	NHH-65C-HG-R2B	76.8	80.8	335(B),155(A)	PHYSICAL	4

Removed Antenna												
700	850	1900	AWS	AWS3	L-Sub6	Make	Model	Center line	Tip Height	Azimuth	Install Type	Quantit
	LTE					DECIBEL PRODUCTS	DB844H105ESX_0	78	80	335(B),155(A)	PHYSICAL	4
LTE			LTE			AMPHENOL	HEX656CW0000X	76.8	79.9	335(A),155(B)	PHYSICAL	4

Retained Antenna												
700	850	1900	AWS	AWS3	L-Sub6	Make	Model	Center line	Tip Height	Azimuth	Install Type	Quantit

Added: 6      Removed: 8      Retained: 0

Non Antenna Summary												
Added Non Antenna												
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity		
OVP	Tower	LTE	LTE	LTE	LTE	5G		12 OVP	PHYSICAL	1		
OVP	Shelter							12 OVP	PHYSICAL	1		
Hybrid Cable	Tower						N/A	12x24 Hybriflex	PHYSICAL	2		
RRU	Tower	LTE	LTE				Ericsson	4449	PHYSICAL	2		
RRU	Tower			LTE	LTE		Ericsson	4890	PHYSICAL	2		
BBU	Shelter						Ericsson	6651	PHYSICAL	1		
RRU	Tower					5G	Ericsson	AIR6419 B77D	PHYSICAL	0		
Mount	Tower						Commscope	BASMNT-SBS-1-2	PHYSICAL	2		

Removed Non Antenna												
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity		
RRU	Shelter		LTE				Ericsson	4449	PHYSICAL	2		
RRU	Tower	LTE					Alcatel-Lucent	UHBA B13 RRH 4x30	PHYSICAL	2		
RRU	Tower				LTE		Alcatel-Lucent	UHIC B4 RRH 2x60-4R	PHYSICAL	2		

Retained Non Antenna												
Equipment Type	Location	700	850	1900	AWS	L-Sub6	Make	Model	Install Type	Quantity		
RRU	Tower						Ericsson	4449	LEASE	2		
BBU	Shelter						Ericsson	6630	PHYSICAL	1		

Added: 11      Removed: 6      Retained: 3

1 RFDS EQUIPMENT SUMMARY

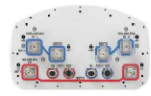
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE VERIZON CM TO ENSURE THIS IS THE MOST RECENT VERISON OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER: **R-601**      REVISION: **0**



## NHH-65C-HG-R2B



6-port Next Generation High Gain sector antenna, 2x 698-896 and 4x 1695-2200 MHz, 65° HPBW, 2x RET

- Powered by Commscope's next generation high-efficiency SEED™ technology
- Antenna optimized for higher gain with improved radiation efficiency
- Designed to reduce SUB-1 alarm triggers with pattern consistency between low band and mid band
- Enhanced interference mitigation for improved SNR and throughput
- Interleaved dipole technology results into an attractive, low-wind load mechanical package
- Internal-GR, allows remote RET control from the exact same RF jumper cable

### General Specifications

<b>Antenna Type</b>	Sector
<b>Band</b>	Multiband
<b>Color</b>	Light Gray (RAL 7035)
<b>Grounding Type</b>	RF connector body grounded to reflector and mounting bracket
<b>Performance Note</b>	Outdoor usage
<b>RF Connector Interface</b>	4.3-10 Female
<b>RF Connector Location</b>	Bottom
<b>RF Connector Quantity, Low band</b>	2
<b>RF Connector Quantity, Mid band</b>	4
<b>RF Connector Quantity, Total</b>	6

### Remote Electrical Tilt (RET) Information

<b>RET Hardware</b>	CommRET v2
<b>RET Interface</b>	8-pin DIN Male   8-pin DIN Female
<b>Power Consumption, idle state, maximum</b>	2 W
<b>Power Consumption, active state, maximum</b>	10 W
<b>Input Voltage</b>	10-30 Vdc
<b>IP65/66</b>	3GPP/IEEE 2.0 (Single RET)
<b>Internal RET, Low band</b>	1
<b>Internal RET, Mid band</b>	1
<b>Internal Bias Tee</b>	Port 1: Port 3
<b>RET Interface, quantity</b>	2 Male   2 Female

### Antenna Dimensions and Weight

<b>Length</b>	2488 mm   96.0 in
<b>Width</b>	301 mm   11.9 in
<b>Depth</b>	180 mm   7.1 in
<b>Net Weight, without mounting kit</b>	26 kg   57.3 lb

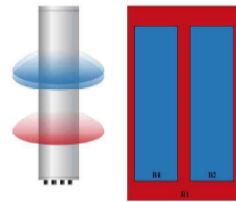
Page 1 of 4

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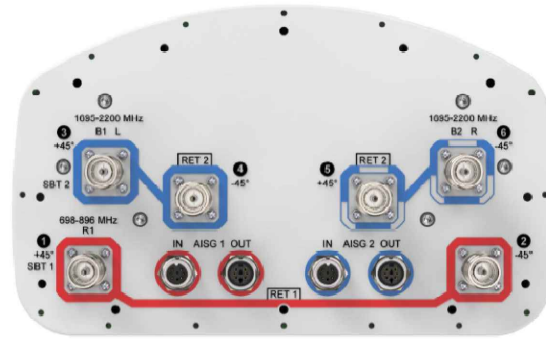
## NHH-65C-HG-R2B

### Array Layout



Array ID	Frequency (MHz)	RF Connector	RET	ASG No.	SRT Interface	SRT PNs	RET ID
R1	698-896	1-2	1	ASG1	1	1	CXXXXXXXXXXXXX01
R2	1695-2200	3-4	2	ASG2	3	2	CXXXXXXXXXXXXX01
B1	1695-2200	5-6	2	ASG2	3	2	CXXXXXXXXXXXXX01

### Port Configuration



Page 2 of 4

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COMMSCOPE

## NHH-65C-HG-R2B

### Electrical Specifications

<b>Operating Frequency Band</b>	698 - 896 MHz   1695 - 2200 MHz				
<b>Impedance, ohms</b>	50 ohm				
<b>Polarization</b>	+45°				
<b>RF Ports</b>	1, 2	1, 2	3, 4, 5, 6	3, 4, 5, 6	3, 4, 5, 6
<b>Array</b>	R1	R1	B1, B2	B1, B2	B1, B2
<b>Frequency Sub-Range, MHz</b>	698-796	824-896	1695-1880	1850-1990	1920-2200
<b>Gain, Maximum, dBi</b>	17.4	17.4	19.4	19.5	20.1
<b>Gain, dBi</b>	17	17.3	19.1	19.3	19.8
<b>Beamwidth, Horizontal, degrees</b>	65	60	66	65	63
<b>Beamwidth, Vertical, degrees</b>	8.7	7.7	5.2	4.9	4.7
<b>UGL (First Lobe), dB</b>	16	16	17	16	16
<b>Beam Tilt, degrees</b>	0-11	0-11	0-7	0-7	0-7
<b>Front-to-Back Ratio at 180°, dB</b>	30	31	37	35	37
<b>CPR at Sidelobe, dB</b>	17	14	17	18	19
<b>Isolation, Cross-Polarization, dB</b>	25	25	25	25	25
<b>PIM, 3rd Order, 2 x 20 W, dBc</b>	-153	-153	-153	-153	-153
<b>VSWR   Return loss, dB</b>	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
<b>Input Power per port, Maximum (at elevated temp 50°C), Watt</b>	300	300	250	250	250

### Material Specifications

<b>Radiator Material</b>	Copper   Low loss circuit board
<b>Radome Material</b>	Fiberglass, UV resistant
<b>Reflector Material</b>	Aluminum

### Mechanical Specifications

<b>Wind Loading @ Velocity, frontal</b>	393 N @ 150 km/h (88.3 bf @ 150 km/h)
<b>Wind Loading @ Velocity, lateral</b>	330 N @ 150 km/h (74.2 bf @ 150 km/h)
<b>Wind Loading @ Velocity, rear</b>	398 N @ 150 km/h (89.5 bf @ 150 km/h)
<b>Wind Loading @ Velocity, maximum</b>	797 N @ 150 km/h (170.2 lbf @ 150 km/h)
<b>Wind Speed, maximum</b>	241 km/h   150 mph

### Packaging and Weights

<b>Net Weight</b>	
<b>Length, packed</b>	2571 mm   101.2 in
<b>Width, packed</b>	380 mm   15.0 in
<b>Depth, packed</b>	295 mm   11.6 in
<b>Weight, gross</b>	38.5 kg   84.9 lb

Page 3 of 4

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COMMSCOPE

## NHH-65C-HG-R2B

### Regulatory Compliance/Certifications

<b>Agency</b>	ISO 9001:2015	<b>Classification</b>	Designed, manufactured and/or distributed under this quality management system
---------------	---------------	-----------------------	--



### Included Products

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

### \*Footnotes

**Performance Note** Severe environmental conditions may degrade optimum performance

Page 4 of 4

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COMMSCOPE

# AIR 6419 B77D/ C-Band

- Advanced Antenna System (AAS)
- 64TX/64RX with 192 AE, (3x1)x(4x8) x-pol
- Up to 320W, PSD 4W/MHz
- EIRP up to 79 dBm
- Up to 200 MHz IBW
- Max total carrier BW: 200MHz for NR
- Support number of layers: DL/UL 16/8

AIR 6419 B77D/ C-Band	Height	Width	Depth	Weight
wo protruding items	28.3 in (717 mm)	16.1 in (408 mm)	7.25 in (184 mm)	64 lbs (28.6 Kg)
w protruding items	31.3 in (793 mm)	16.1 in (408 mm)	9.1 in (230 mm)	

The weight is given with ±5% accuracy.

- 3 x 25 Gbps eCPRI
- 48 VDC (3-wire or 2-wire), Fuse Minimum 40 A, maximum 50 A
- Power consumption with 100% Load @ 25C is 1200W
- 40 to +55°C

Pending Commercial Agreements



max measurements/ will not exceed

## BSAMNT-SBS-1-2

Side-By-Side Mounting Kit to mount two antennas on a pipe with 2.375 - 4.5 inch (60 - 115 mm) diameter

- Supports SBNH and NHH 65° and 85° antennas

### Product Classification

<b>Product Type</b>	Mounting kit
---------------------	--------------

### General Specifications

<b>Application</b>	Outdoor
<b>Color</b>	Silver

### Dimensions

<b>Compatible Diameter, maximum</b>	114.3 mm   4.5 in
<b>Compatible Diameter, minimum</b>	61 mm   2.402 in
<b>Weight, net</b>	11.6 kg   25.574 lb

### Material Specifications

<b>Material Type</b>	Galvanized steel
----------------------	------------------

### Packaging and Weights

<b>Included</b>	Brackets   Hardware
<b>Packaging quantity</b>	1
<b>Weight, gross</b>	12.3 kg   27.117 lb

### Regulatory Compliance/Certifications

<b>Agency</b>	CHINA-RCHS	<b>Classification</b>	Below maximum concentration value
	ISO 9001:2015		Designed, manufactured and/or distributed under this quality management system
	REACH-SVHC		Compliant as per SVHC revision on www.commscope.com/ProductCompliance
	RoHS		Compliant



Page 1 of 2

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COMMSCOPE

# Radio 4449 – B13 + B5

## 4Tx 4RX per band

- › 4 antenna ports, 4TX/4RX for 2 bands with common RF ports
- › Up to 320W RF Power shared between 2 bands
  - › Examples:
    - › 4x40W on each band or
    - › 2x60W each band on two high-power RF ports
- › Carrier Capacity:
  - › Up to 24 carrier and up to 10+25 MHz OBW for LTE
- › 2x 10Gbps CPRI
- › Size and Weight:

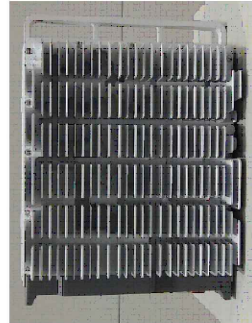
Radio 4449 - B13& B5	Height	Width	Depth	Weight
wo protruding items	15 in (380 mm)	13.2 in (335 mm)	9.3 in (235 mm)	70 lbs (31.7 Kg)
w protruding items	18 in (455 mm)	13.2 in (335 mm)	9.4 in (240 mm)	

- › -48 VDC
- › 2x20A fuse (2 power connectors, 2 or 3 wire)
- › AISG TMA & RET support (2 Bias-T, 1 ALD port)
- › Type 4.3-10 RF connectors
- › 2 external alarms
- › IP 65, -40 to +55°C

Commercial in confidence | Anders OTTO | 2017-07-13 | Page 1

Confirmed max measurements/ will not exceed

RADIO  
4449



Portrait Mount Only



# Radio 4890HP 48B2 48B66 S

- 8 RF ports, 4T8R per band (S for TX)
- B2: 4x60W
- B66: 4x60W
- Up to 480W in total RF power
- L, NR, NB-IoT
- 2x 2.5/4.9/9.8/10.1/24.3 Gbps CPRI/eCPRI

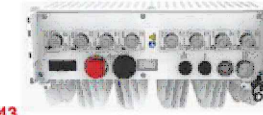
Radio 4890HP 48B2 48B66 S	Height	Width	Depth	Weight
wo protruding items	17.5 in (444 mm)	15.2 in (384 mm)	7.0 in (176 mm)	~69.5 lbs (~31.5 Kg)
w protruding items	20.6 in (522 mm)	15.7 in (397 mm)	7.2 in (182 mm)	

- -48 VDC 2-wire (single DC-connector),
- AISG v3.0 TMA & RET support via RS-485 or RF connectors
- Type 4.3-10 RF + connectors
- 2 external alarm
- Convectional cooling
  - Optional fan for increased site flexibility
- IP 65, -40 to +55°C

Pending Commercial Agreements



- B2/B25 TX: 4 ports
- B66 TX: 4 ports
- B2/B25 & B66 RX: 8 ports

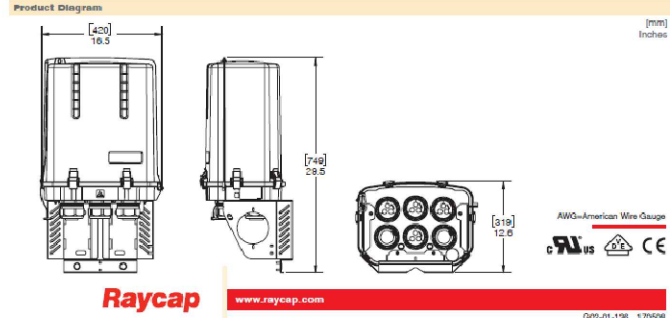


Same order as Radio 8843

Now confirmed  
max measurements/ will not exceed

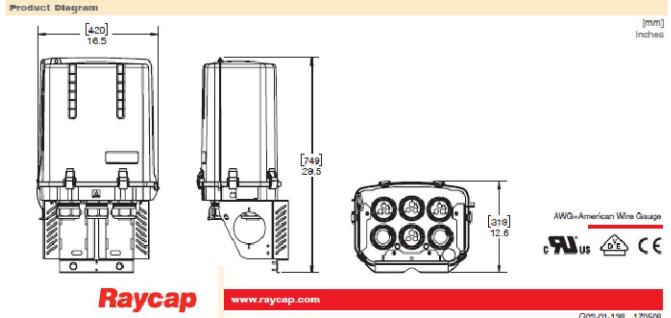
### SPECIFICATIONS DC Surge Protection for RRH/Integrated Antenna Radio Head RCMDC-6627-PF-48 Tower / Base / Rooftop

Electrical	RCMDC-6627-PF-48
Model Numbers	RCMDC-6627-PF-48
Nominal Operating Voltage	48 VDC
Nominal Discharge Current [I <sub>n</sub> ]	20kA 8/20 µs
Maximum Surge Current [I <sub>m</sub> ]	60kA 8/20 µs
Maximum Impulse (Lightning) Current per IEC 61643-11	6 kA 10/350 µs
Maximum Continuous Operating Voltage [U <sub>c</sub> ]	75 VDC
Voltage Protection Rating (VPR) per UL 1449 4th Edition	400V
Protection Class as per IEC 61643-11	Class I
Power Alarm	cross polarity, short circuit, or power outage
Intrusion Sensor	microswitch
Moisture Sensor	Infrared moisture detector
Surgecord Module Type	Surgecord modules installed to protect 12 Remote Radio Heads
Power Boost Ready	RS485 twisted pair connection available
Mechanical	
Suppression Connection Method	Compression lug, #14 - #2 AWG (2 mm <sup>2</sup> - 33 mm <sup>2</sup> )
Fiber Connection Method	LC-LC Single mode
Pressure Equalizing Vent	Qore™ vent
Environmental Rating	IP 67
Operating Temperature	-40° C to +80° C
UV Resistant	Yes
Dimensions (L x W x H)	12.6" x 16.6" x 29.6" (319mm x 420mm 749mm)
Weight	System: 32 lbs (14.51 kg)
Combined Wind Loading	150mph (sustained), 185 lbs (83 N)
Standards	UL 1449 4 <sup>th</sup> Edition, IEC 61643-11:2011, EN 61643-11:2012, IEEE C62.11, IEEE C62.41.2, IEEE C62.45 NEBS certified to: GR-63-CORE Issue 4, GR-1089-CORE Issue 6, GR-3108-CORE Issue 3, GR-487-CORE Issue 4, GR-950-CORE Issue 1

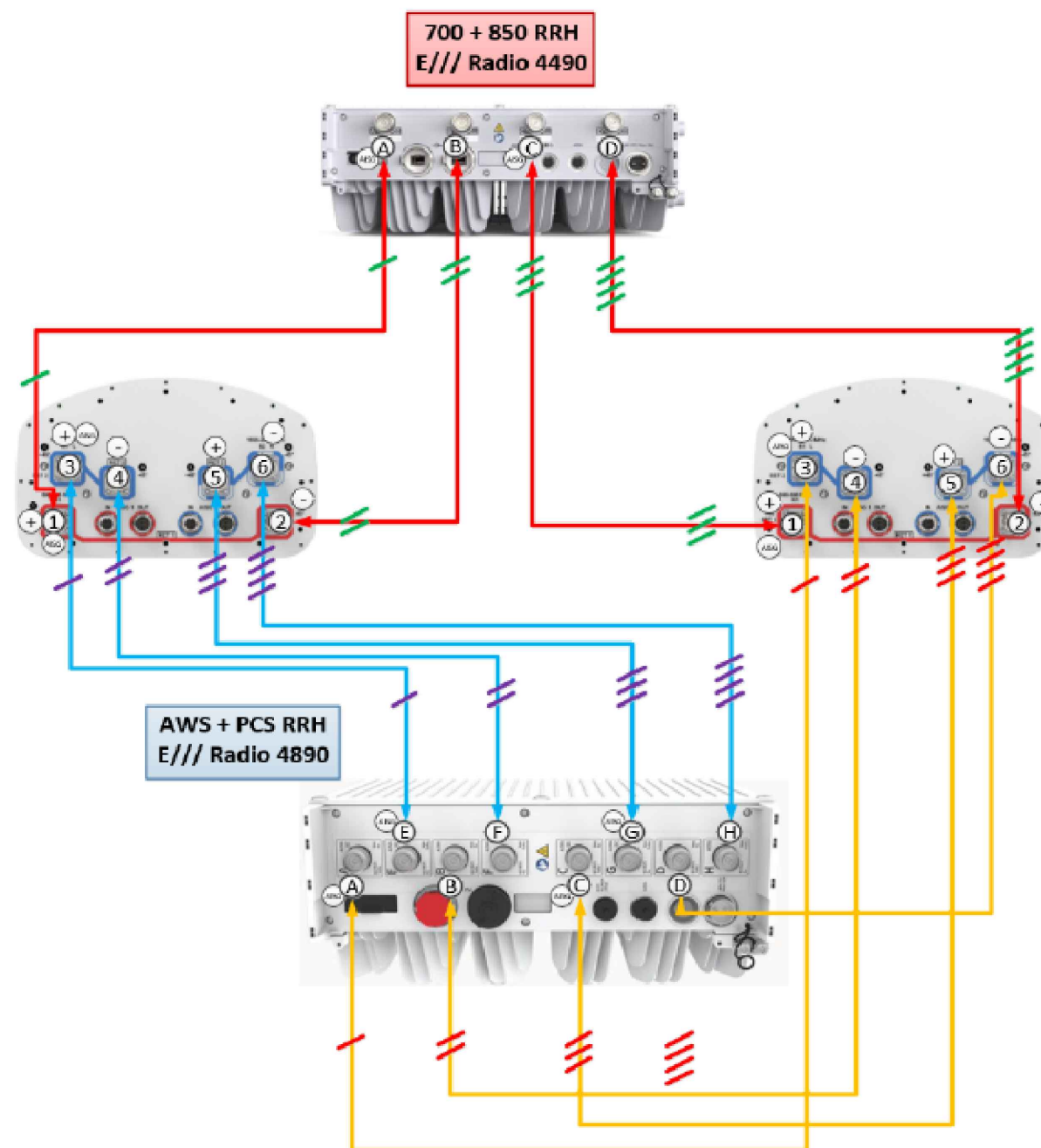


### SPECIFICATIONS DC Surge Protection for RRH/Integrated Antenna Radio Head RCMDC-6627-PF-48 Tower / Base / Rooftop

Electrical	RCMDC-6627-PF-48
Model Numbers	RCMDC-6627-PF-48
Nominal Operating Voltage	48 VDC
Nominal Discharge Current [I <sub>n</sub> ]	20kA 8/20 µs
Maximum Surge Current [I <sub>m</sub> ]	60kA 8/20 µs
Maximum Impulse (Lightning) Current per IEC 61643-11	6 kA 10/350 µs
Maximum Continuous Operating Voltage [U <sub>c</sub> ]	75 VDC
Voltage Protection Rating (VPR) per UL 1449 4th Edition	400V
Protection Class as per IEC 61643-11	Class I
Power Alarm	cross polarity, short circuit, or power outage
Intrusion Sensor	microswitch
Moisture Sensor	Infrared moisture detector
Surgecord Module Type	Surgecord modules installed to protect 12 Remote Radio Heads
Power Boost Ready	RS485 twisted pair connection available
Mechanical	
Suppression Connection Method	Compression lug, #14 - #2 AWG (2 mm <sup>2</sup> - 33 mm <sup>2</sup> )
Fiber Connection Method	LC-LC Single mode
Pressure Equalizing Vent	Qore™ vent
Environmental Rating	IP 67
Operating Temperature	-40° C to +80° C
UV Resistant	Yes
Dimensions (L x W x H)	12.6" x 16.6" x 29.6" (319mm x 420mm 749mm)
Weight	System: 32 lbs (14.51 kg)
Combined Wind Loading	150mph (sustained), 185 lbs (83 N)
Standards	UL 1449 4 <sup>th</sup> Edition, IEC 61643-11:2011, EN 61643-11:2012, IEEE C62.11, IEEE C62.41.2, IEEE C62.45 NEBS certified to: GR-63-CORE Issue 4, GR-1089-CORE Issue 6, GR-3108-CORE Issue 3, GR-487-CORE Issue 4, GR-950-CORE Issue 1



## Andrew NHH-65-HG A/B/C-R2B 2x 6-Port Antennas + 2x RRHs per sector



NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. GENERAL CONTRACTOR IS TO CHECK WITH THE VERIZON CM TO ENSURE THIS IS THE MOST RECENT VERSION OF THE RFDS.

SUPPLEMENTAL

SHEET NUMBER:  
**R-604**

REVISION:  
**0**





Network Building + Consulting, LLC  
 1777 Sentry Parkway W VEVA 17, Suite 400  
 Blue Bell, PA 19422  
 (267) 460-0122  
 NBC\_SmartTool@nbcllc.com

Mount Post-Modification Analysis Report  
 (2) 12.50-Ft T-Arms

December 6, 2024  
 Site ID: 5000268092-VZW / PPIR  
 Page | 6

**Post-Modification Antenna Mount Analysis Report and PMI Requirements**

Mount Fix

SMART Tool Project #: 10260516  
 NB+C Project #: 100820

December 6, 2024

**Site Information**

Site ID: 5000268092-VZW / PPIR  
 Site Name: PPIR  
 Carrier Name: Verizon Wireless  
 Address: 16650 Midway Ranch Rd  
 Fountain, Colorado 80817  
 El Paso County  
 Latitude: 38.577286°  
 Longitude: -104.663300°

**Structure Information**

Tower Type: 78-Ft Monopole  
 Mount Type: 12.50-Ft T-Arms

FUZE ID # 16583205

**Analysis Results**

(2) T-Arms: 73.7% Pass w/ Modifications\*

\*Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.

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

Included at the end of this MA report  
 Available & Submitted via portal at <https://pmi.vzwsmart.com>  
 For additional questions and support, please reach out to:  
[vzwpmisupport@nbcllc.com](mailto:vzwpmisupport@nbcllc.com)

Report Prepared By: Ziena Ali, EIT

12/6/2024



**Requirements:**

The existing mounts will be **SUFFICIENT** for the final loading configuration (attachment 2) **after the modifications detailed in attachment 3 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. Contractor Required PMI Report Deliverables
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER: <b>R-605</b>	REVISION: <b>0</b>
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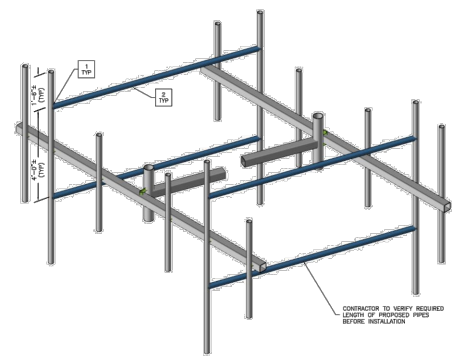


SL NO.	MOUNT MODIFICATION SCHEDULE	REFERENCE SHEET NO.
1	INSTALL VZWSMART-MK1T CROSSOVER PLATES ON EXISTING POSITIONS 2 AND 8 PIPES IN BOTH SECTIONS	SS-1, VZWSMART-MK1T
2	INSTALL VZWSMART-PIP P40-238X120 PIPES (FIELD VERIFY LENGTH REQUIRED)	SS-1, VZWSMART-PIPE

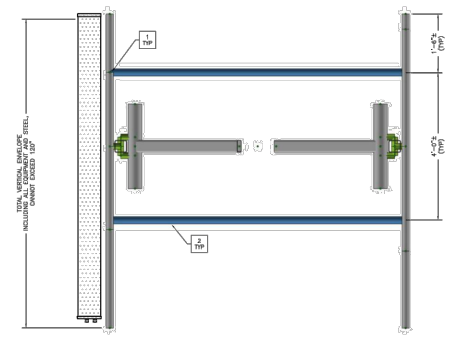
**NOTES**

1. APPURTENANCES MAY INTERFERE WITH PROPOSED MODIFICATIONS.
2. ALL MODIFICATIONS TO BE INSTALLED CONTIGUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION. CONTRACTOR TO COORDINATE WITH CARRIER PRIOR TO MODIFICATION INSTALLATION TO DETERMINE IF EXISTING ANTENNA NEEDS TO BE TURNED DOWN.
3. ANTENNA & COAX GRAPHICS NOT SHOWN FOR CLARITY. SEE MOUNT ANALYSIS REPORT FOR EXISTING ANTENNA LOADING & COAX CONFIGURATION.
4. CONTRACTOR TO FIELD VERIFY ALL LENGTHS AND QUANTITIES PRIOR TO MATERIAL ORDERS, FABRICATION, AND INSTALLATION.
5. IF EXISTING TOWER IS PAINTED CONTRACTOR TO VERIFY WITH TOWER OWNER IF NEW MODIFICATION MEMBERS ARE TO BE PAINTED TO MATCH EXISTING TOWER FINISHES.
6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THERE ARE NO INTERFERENCES WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC. PRIOR TO MODIFICATION AND INSTALLATION OF THESE MODIFICATIONS. PLEASE NOTIFY NHC-ES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING.
7. MEMBERS SHADED IN BLUE COLOR ARE NEW REINFORCEMENTS AND MEMBERS IN AQUA COLOR (IF SHOWN) ARE RELOCATED MEMBERS.
8. FIELD CUTTING AND FIELD DRILLING MAY BE NECESSARY TO ACHIEVE THE REQUIRED DIMENSIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL, AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



CONTRACTOR TO VERIFY REQUIRED LENGTH OF PROPOSED PIPES BEFORE INSTALLATION

1 MODIFICATION - ISOMETRIC VIEW  
NOT TO SCALE



2 MODIFICATION - SIDE VIEW  
NOT TO SCALE

DESIGN RECORD	DESIGN NO.	DATE	DESCRIPTION	BY

PROFESSIONAL STAMP

0047419  
EXP 10/31/25

ENGINEER: KRUPAKARAN KOLANDARELLI P.E.  
COMMERCIAL/IN CHARGE OF COLORADO PROFESSIONAL ENGINEER LICENSE #6047419

SHEET TITLE: ANTENNA MOUNT MODIFICATION DETAILS

SHEET NUMBER: SS-1




PHOTO 1




PHOTO 2

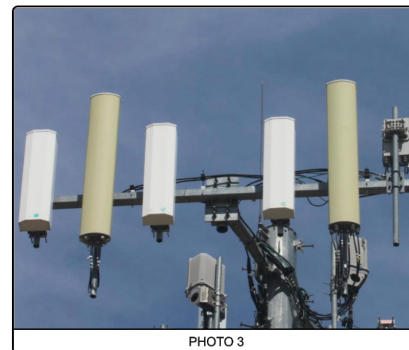


PHOTO 3




PHOTO 4

DESIGN RECORD	DESIGN NO.	DATE	DESCRIPTION	BY

PROFESSIONAL STAMP

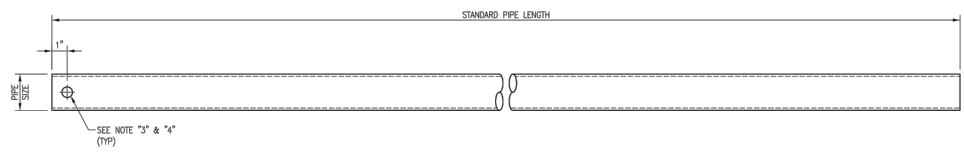
0047419  
EXP 10/31/25

ENGINEER: KRUPAKARAN KOLANDARELLI P.E.  
COMMERCIAL/IN CHARGE OF COLORADO PROFESSIONAL ENGINEER LICENSE #6047419

SHEET TITLE: ANTENNA MOUNT PHOTOS

SHEET NUMBER: SS-2

**THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY  
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS**



STANDARD PIPE LENGTH

SEE NOTE "3" & "4" (TYP)

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

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

NOTES:

1. ALL PIPE GRADE A53-B OR BETTER.
2. NOT-DIPPED GALVANIZED PER ASTM A133.
3. ALL HOLES ARE 11/16" DIA UNLESS NOTED OTHERWISE.
4. HOLES MAY OR MAY NOT BE PRESENT, DEPEND UPON MANUFACTURE DISCRETION.
5. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINCAID OR ZINC COTE PER ASTM A760 AND MANUFACTURER'S RECOMMENDATIONS.

VzW SMART Tool Vendor

verizon

DRAWN BY: [ ] CHECKED BY: [ ]

DATE: [ ] BY: [ ]

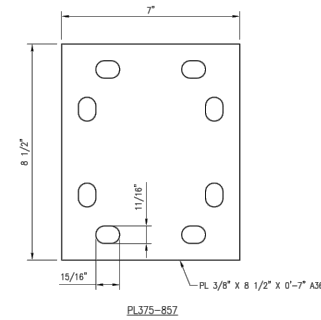
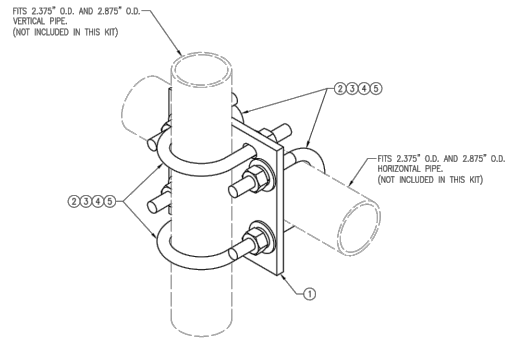
SHEET TITLE: VZWSMART STANDARD PIPE

SHEET NUMBER: VZWSMART-PIPE REV # 0

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



VZWSMART-MSK1 (CROSSOVER PLATE)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	
1	1	PL375-857	PL 3/8" X 8 1/2" X 0'-7" A36	MSK1-F1 6	
2	4	MS02-625-300-500	RU-BOLT 5/8" X 3" LW X 5" LL A36 (OR EQUIV.)	MSK1-1 5	
3	8	FW-625	5/8" HDG USS FLAT WASHER	---	
4	8	LW-625	5/8" HDG LOCK WASHER	---	
5	8	NUT-625	5/8" HDG HEX NUT	---	
				GALVANIZED WT	14

DESIGNED BY: HJE	CHECKED BY: HMA
DATE: 08/20/20	DATE: 08/20/20
SHEET TITLE:	
VZWSMART-MSK1 CROSSOVER PLATE	
SHEET NUMBER:	REV #:
VZWSMART-MSK1	0

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

**1** MOUNT MODIFICATIONS

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

**SUPPLEMENTAL**

SHEET NUMBER:  
**R-608**

REVISION:  
**0**