

Market: MINDI
Cell Site Number: MI2011
Cell Site Name: Mack Plaza
Fixed Asset Number: 10083371

SEVENTH AMENDMENT TO LICENSE AGREEMENT

THIS SEVENTH AMENDMENT TO LICENSE AGREEMENT (“**Amendment**”), dated as of the latter of the signature dates below, effective _____, 2026, is by and between the City of Grosse Pointe Woods, (hereinafter referred to as “**Licensor**”), having a mailing address of 20025 Mack Plaza, Grosse Pointe Woods, MI 48236 and New Cingular Wireless PCS, LLC, a Delaware limited liability company, as successor-in-interest to AT&T Wireless PCS, Inc., having a mailing address of 1025 Lenox Park Blvd NE, 3rd Floor, Atlanta, GA 30319-5309 (hereinafter referred to as “**AT&T**” or “**Licensee**”).

WHEREAS, Licensor and AT&T, or its predecessor-in-interest entered into a License Agreement dated June 17, 1996, First Amendment dated March 30, 2004, Second Amendment dated September 24, 2008, Third Amendment dated September 6, 2011, Fourth Amendment dated September 25, 2018, and Fifth Amendment dated October 1, 2021, Sixth Amendment dated May 30, 2023, (collectively, the “**Agreement**”) whereby Licensor licensed AT&T to utilize for certain wireless telecommunications purposes, certain Premises, therein described, which are a portion of the Property located at 20025 Mack Plaza, Grosse Pointe Woods, MI 48236; and

WHEREAS, Licensor and AT&T desire to amend the Agreement to allow AT&T to modify AT&T’s existing Antenna Facilities;

WHEREAS, Licensor and AT&T, in their mutual interest, wish to amend the Agreement as set forth below accordingly.

NOW, THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Licensor and AT&T agree as follows:

1. Equipment. Licensor acknowledges and agrees that AT&T shall have the right to change, modify or add equipment as more completely described in attached Exhibit D-4, within one (1) year of the execution of this amendment. All work to be done in accordance with all plans, specifications and applications to be submitted to, reviewed and approved by the City of Grosse Pointe Woods, such approval not to be unreasonably withheld. Future changes, modifications or additions of equipment requested by AT&T for installation after the City’s permit is issued, or those changes, modifications or additions of equipment beyond the scope of the changes included in Exhibit D-4, shall require review and approval of all plans and specifications and, consent of the Licensor. All direct and reasonable costs incurred by Licensor related to these adjustments presently or in the future to be reimbursed by Licensee upon proof of payment.

2. Other Terms and Conditions Remain. In the event of any inconsistencies between the original license Agreement dated June 17, 1996, Addenda thereto or any other Amendments entered into prior to this Amendment, the terms of this Amendment shall control. Except as expressly set forth

in this Amendment, the Agreement otherwise is unmodified and remains in full force and effect. Each reference in the Agreement to itself shall be deemed also to refer to this Amendment.

14. Capitalized Terms. All capitalized terms used but not defined herein shall have the same meanings as defined in the Agreement.

IN WITNESS WHEREOF, the parties have caused this Amendment to be effective as of the last date written below.

LICENSOR:

City of Grosse Pointe Woods

AT&T:

New Cingular Wireless PCS, LLC,
a Delaware limited liability company

By: _____

Print Name: Susan Como

Its: City Manager

Date: _____

By: _____

Print Name:

Its

Date: _____

EXHIBIT D-4

Pages 1 thru 20 of the Construction Drawings prepared by David W. Chickering, Engineer

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 - CONTRACTOR – GENERAL CONTRACTOR
 - SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 - OWNER – AT&T MOBILITY
 - OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSIONS OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, QUANTITIES AND DIMENSIONS BEFORE STARTING ANY WORK. NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES OR INCONSISTENCIES BEFORE PROCEEDING WITH THE WORK.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND TI CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FOR THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC 13 EDITION SPECIFICATIONS.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES".
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT DOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. ALL ANTENNA PIPES SHALL BE SCHEDULE 80.
20. LIMITS OF LIABILITY – ITEMS REFERENCED ARE OWNER/CLIENT DICTATED ITEMS, OR SUPPLIED ITEMS WHICH ARE REPRODUCED WITHOUT ALTERATION AS DIRECTED BY OWNER/CLIENT, AND OWNER/CLIENT ASSUMES ANY AND ALL LIABILITY FOR USE OF, CONSEQUENCES OF, OR INTERPRETATION OF SAID ITEM, SPECIFICATION, OR DIRECTIVE; AND AGREES TO INDEMNIFY AND HOLD ENGINEER COMPLETELY HARMLESS.
21. PROFESSIONAL SEAL – DETAILS, SPECIFICATION(S), OR ITEMS REFERENCED, ARE NOT PART OF THE PROFESSIONAL DESIGN PERFORMED BY LICENSEE AND THE PROFESSIONAL SEAL DOES NOT APPLY.

ELECTRICAL INSTALLATION NOTES

- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
- SUBCONTRACTORS SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTs) SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC & OSHA, AND MATCH EXISTING INSTALLATION REQUIREMENTS
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS WHERE PERMITTED SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. USE LOW PROFILES TIE WRAPS.
- 0. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (12 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- 1. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- 2. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR 2 AWG SOLID TINNED COPPED CABLE, UNLESS OTHERWISE SPECIFIED.
- 3. POWER WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (12 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90°C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- 4. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT OR LESS THAN 75°C (90°C IF AVAILABLE).
- 5. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
- 6. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- 7. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- 8. ELECTRICAL METALLIC TUBING (EMT) OR ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- 9. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- 0. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- 1. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- 2. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- 3. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- 4. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- 5. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 34 (OR BETTER) OUTDOORS.
- 6. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 34 (OR BETTER) OUTDOORS.
- 7. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- 8. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- 9. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- 0. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ). THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 91) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER INDOORS BTS; 2 AWG STRANDED COPPER FOR OUTDOORS BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIODANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL, SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUND SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FOR 8 FEET TO 10 FEET.
14. ALL GROUND WIRE TO RRUS SHALL BE #2 GREEN STRANDED.
15. ALL OUTDOOR LUGS SHALL USE BLACK HEAT SHRINK AND INDOOR LUGS SHALL USE CLEAR HEAT SHRINK.
16. ALL OUTDOOR LUGS TO BE LONG BARREL 2 HOLE WITHOUT INSPECTION HOLES AND INDOOR LUGS TO HAVE INSPECTION HOLES.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	MAX	MAXIMUM
AMSL	ABOVE MEAN SEA LEVEL	MFR	MANUFACTURER
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BAR
BLDG	BUILDING	MIN	MINIMUM
DWG	DRAWING	N.T.S.	NOT TO SCALE
FT	FOOT	(P)	PROPOSED
EMT	ELECTRICAL METALLIC TUBING	PPC	POWER PROTECTION CABINET
ELEV	ELEVATION	RBS	RADIO BASE STATION
EQUIP	EQUIPMENT	IN	INCH(ES)
(E)	EXISTING	INT	INTERIOR
EXT	EXTERIOR	LB(S) OR #	POUND(S)
FND	FOUNDATION	SF	SQUARE FOOT
F	FIBER	TYP	TYPICAL
GALV	GALVANIZED	W/	WITH
GPS	GLOBAL POSITIONING SYSTEM	XFMR	TRANSFORMER
GND	GROUND		
LTE	LONG-TERM EVOLUTION		



319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625

NOT FOR CONSTRUCTION UNLESS
LABELED AS CONSTRUCTION SET



David W. Chickering
Telamon Tower Engineering PLLC
PE # 6201310381 Exp. 09/17/2027

MACK PLAZA

FA # / SITE ID:
10083371 / SIMI002577

SHEET TITLE

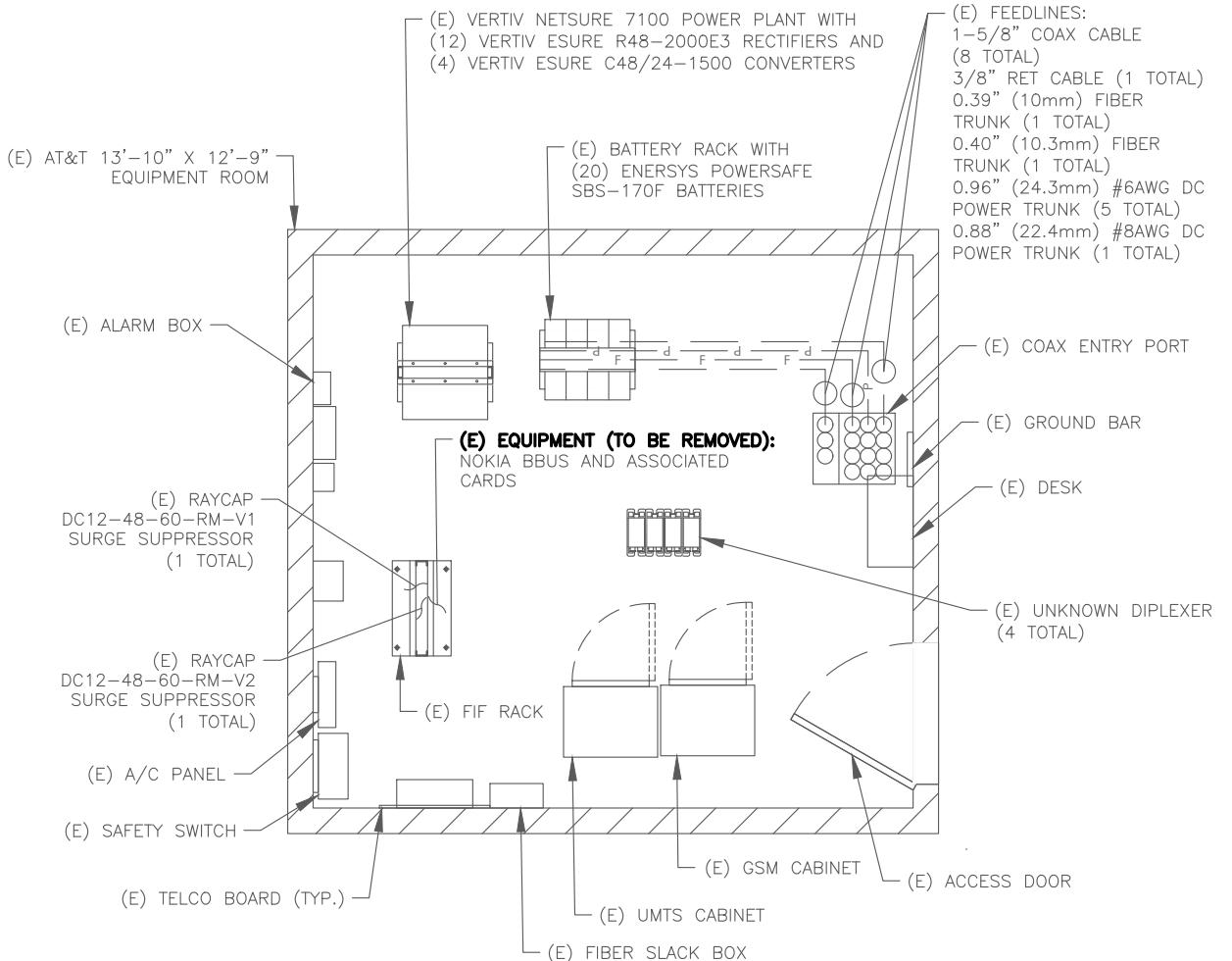
GENERAL NOTES

SHEET NUMBER

GN1

SITE PLAN DISCLAIMER

PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. TELAMON HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET. CONTRACTOR TO VERIFY LOCATION OF EXISTING EQUIPMENT.



1 EXISTING EQUIPMENT PLAN

SCALE: $\frac{1}{2}''=1'-0''$ (FULL SIZE) $\frac{1}{4}''=1'-0''$ (11x17)



TRUE NORTH

2 PROPOSED EQUIPMENT PLAN

SCALE: $\frac{1}{2}''=1'-0''$ (FULL SIZE) $\frac{1}{4}''=1'-0''$ (11x17)

RE: GN20/GN1

(E) BATTERY RACK WITH (20) ENERSYS POWERSAFE SBS-170F BATTERIES

(P) EQUIPMENT:
INSTALL DC BREAKERS AS NEEDED PER ATT-CEM-18002

(E) VERTIV NETSURE 7100 POWER PLANT WITH (12) VERTIV ESURE R48-2000E3 RECTIFIERS AND (4) VERTIV ESURE C48/24-1500 CONVERTERS

(E) AT&T 13'-10" x 12'-9" EQUIPMENT ROOM

(E) ALARM BOX

(E) RAYCAP DC12-48-60-RM-V1 SURGE SUPPRESSOR (1 TOTAL)

(E) RAYCAP DC12-48-60-RM-V2 SURGE SUPPRESSOR (1 TOTAL)

(E) A/C PANEL

(E) SAFETY SWITCH

(P) EQUIPMENT:
ERICSSON 6610 SITE CONTROLLER (1 TOTAL), RE: 3/D2
ERICSSON 6672 ROUTER (1 TOTAL), RE: 2/D2

(E) TELCO BOARD (TYP.)

(E) FIBER SLACK BOX

(E) UMTS CABINET

(E) GSM CABINET

(E) COAX ENTRY PORT

(E) GROUND BAR

(E) DESK

(E) UNKNOWN DIPLEXER (4 TOTAL)

(E) FIF RACK

(E) RAYCAP DC12-48-60-RM-V2 SURGE SUPPRESSOR (1 TOTAL)

(E) A/C PANEL

(E) DESK

(E) UNKNOWN DIPLEXER (4 TOTAL)

(E) FIF RACK

(E) COAX ENTRY PORT

(E) GROUND BAR

(E) DESK

(E) UNKNOWN DIPLEXER (4 TOTAL)

(E) FEEDLINES:
1-5/8" COAX CABLE (8 TOTAL)
3/8" RET CABLE (1 TOTAL)
0.39" (10mm) FIBER TRUNK (1 TOTAL)
0.40" (10.3mm) FIBER TRUNK (1 TOTAL)
0.96" (24.3mm) #6AWG DC POWER TRUNK (5 TOTAL)
0.88" (22.4mm) #8AWG DC POWER TRUNK (1 TOTAL)



319 CHAPANOKE RD, SUITE 118
RALEIGH, NC 27603
PH: (405)348-5460 FAX: (405)341-4625
TELAMON PROJECT ID:
55240-10083371-A&E+ENG-P1

REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
Z	09/30/25	ZONING DRAWINGS	VH

NOT FOR CONSTRUCTION UNLESS LABELED AS CONSTRUCTION SET



David W. Chickering
Telamon Tower Engineering PLLC
PE # 6201310381 Exp. 09/17/2027

MACK PLAZA
FA # / SITE ID:
10083371 / SIMI002577

20027 MACK PLAZA
GROSSE POINTE, MI 48236

SHEET TITLE
EQUIPMENT PLANS

SHEET NUMBER
A2



TRUE NORTH

RE: GN20/GN1

STRUCTURE NOTES:

MONPOLE IS SHOWN FOR ILLUSTRATION ONLY AND FOR LOCATION OF APPURTEANCE(S).

REFER TO MONPOLE SURVEY FOR ALL EXISTING MONPOLE COMPONENTS TO INCLUDE ANTENNAS, LIGHTS, LIGHTNING ROD & MONPOLE HEIGHT.

CONTRACTOR(S) TO COMPLY WITH ALL FCC AND FAA REGULATIONS ON THIS PROJECT. COAX ROUTING MUST BE PER STRUCTURAL ANALYSIS.

PRIOR TO CONSTRUCTION:
CONTRACTOR SHALL VERIFY THAT A MONPOLE AND MOUNT STRUCTURAL ANALYSIS, DEPICTING THE LOADING SHOWN, HAS BEEN PERFORMED AND SHOWS A "PASS" OR AN "ACCEPTABLE" RATING. UNDER NO CIRCUMSTANCE WHAT SO EVER SHALL THE PROPOSED EQUIPMENT BE INSTALLED WITHOUT SAID STRUCTURAL ANALYSIS. IF SAID STRUCTURAL ANALYSIS REQUIRES THAT THE MONPOLE AND/OR MOUNT BE MODIFIED, SUCH MODIFICATIONS SHALL BE COMPLETED PRIOR TO INSTALLATION OF THE PROPOSED EQUIPMENT.

MONTE ANALYSIS DONE BY TELAMON PROJECT #55240-10083371-01-MA , DATED SEPTEMBER 23, 2025.

STRUCTURAL ANALYSIS OF MONPOLE DONE BY OTHERS.

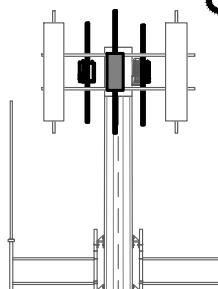
LOADING NOTES:

OTHER CARRIERS EQUIPMENT
MAY BE OMITTED FOR CLARITY

PROPOSED AT&T ANTENNA
ELEV.= 80'-0" AGL

MONPOLE HEIGHT
ELEV.= 78'-0" AGL

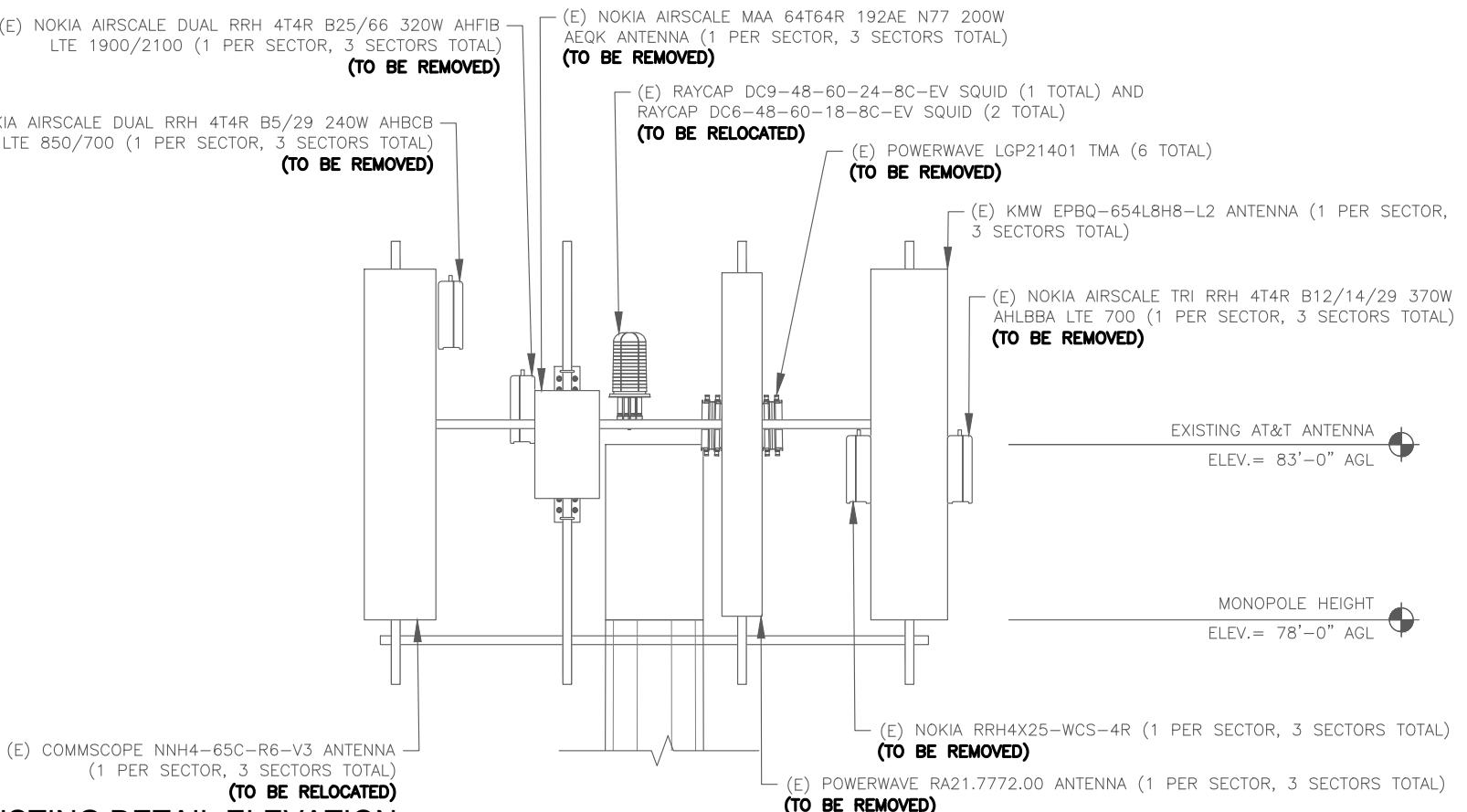
EXISTING ANTENNA
ELEV.= 72'-0" AGL
(OTHER CARRIER)



2 EXISTING DETAIL ELEVATION

SCALE: N.T.S.

RE: GN20/GN1



1 OVERALL ELEVATION

SCALE: N.T.S.

RE: GN20/GN1

FEEDLINES:
1-5/8" COAX CABLE (8 TOTAL)
3/8" RET CABLE (1 TOTAL)
0.39" (10mm) FIBER TRUNK (1 TOTAL)
0.40" (10.3mm) FIBER TRUNK (1 TOTAL)
0.96" (24.3mm) #6AWG DC POWER TRUNK (5 TOTAL)
0.88" (22.4mm) #8AWG DC POWER TRUNK (1 TOTAL)

GRADE
ELEV.= 0'-0"



(E) TOWER FOUNDATION

3 PROPOSED DETAIL ELEVATION

SCALE: N.T.S.

RE: GN20/GN1

(P) ERICSSON AIR6472 B77G B77M ANTENNA (1 PER SECTOR, 3 SECTORS TOTAL), RE: 1/D1

(E) COMMSCOPE NNH4-65C-R6-V3 ANTENNA (1 PER SECTOR, 3 SECTORS TOTAL) (RELOCATED)

(P) ERICSSON RRUS-4490 B5/B12A LTE 850/700 (1 PER SECTOR, 3 SECTORS TOTAL), RE: 2/D1

(E) KMW EPBQ-654L8H8-L2 ANTENNA (1 PER SECTOR, 3 SECTORS TOTAL)

PROPOSED AT&T ANTENNA
ELEV.= 80'-0" AGL

MONPOLE HEIGHT
ELEV.= 78'-0" AGL

EXISTING AT&T MOUNT TO BE MODIFIED AS PER MOUNT ANALYSIS
DONE BY TELAMON PROJECT #55240-10083371-01-MA, DATED
SEPTEMBER 23, 2025, RE: ADDENDUM

(P) ERICSSON RRUS-4890 B25/B66 LTE 1900/2100 (1 PER SECTOR, 3 SECTORS TOTAL), RE: 1/D2

(E) RAYCAP DC9-48-60-24-8C-EV SQUID (1 TOTAL) AND RAYCAP DC6-48-60-18-8C-EV SQUID (2 TOTAL) (RELOCATED)

(P) ERICSSON RRUS-4494 B14/B29 LTE 700 (1 PER SECTOR, 3 SECTORS TOTAL), RE: 3/D1



REVISIONS			
REV.	DATE	DESCRIPTION	INITIALS
Z	09/30/25	ZONING DRAWINGS	VH

NOT FOR CONSTRUCTION UNLESS
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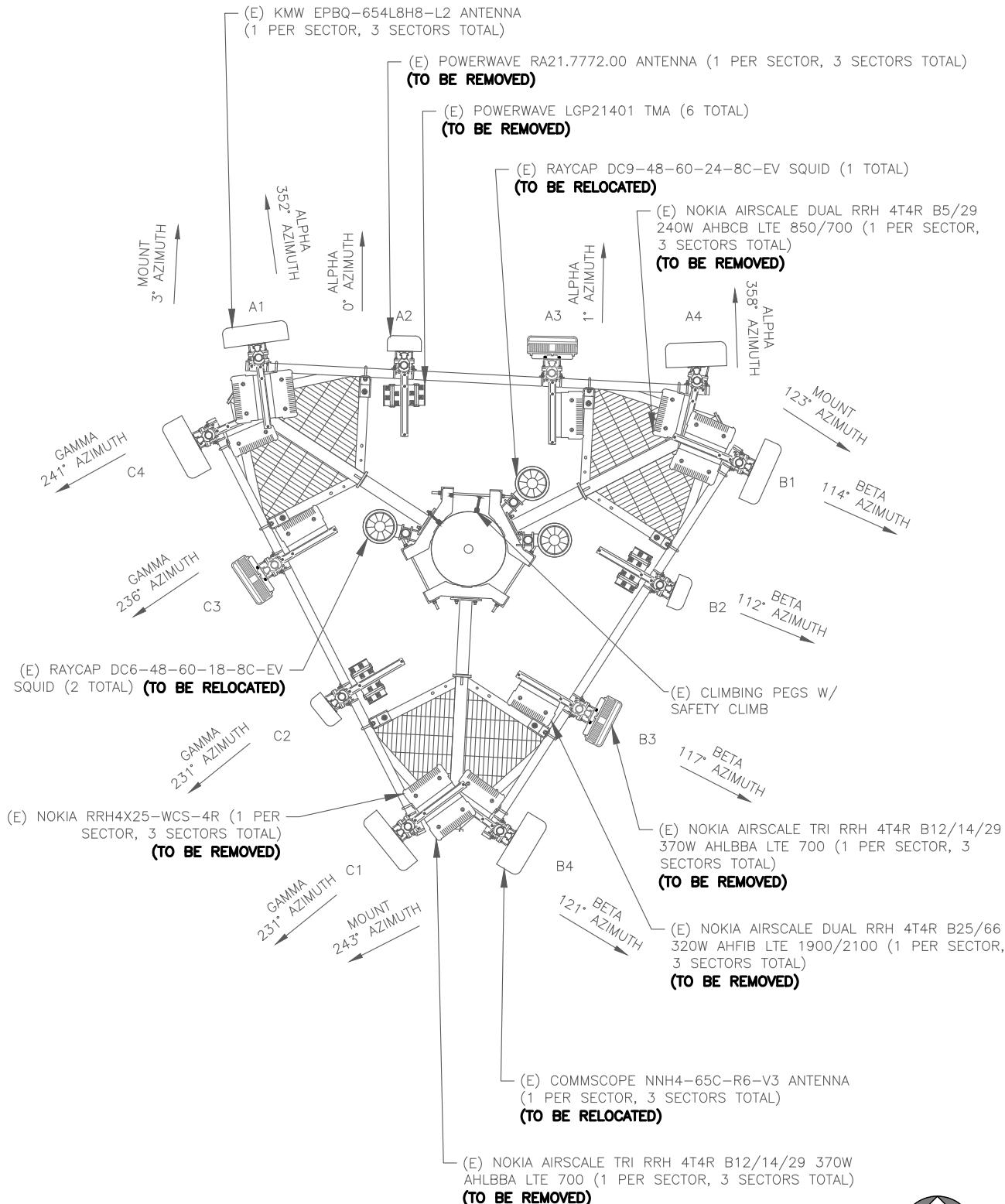


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SHEET TITLE
MONOPOLE
ELEVATIONS

SHEET NUMBER
A3



1 EXISTING ANTENNA PLAN

SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

TRUE NORTH

RE: GN20/GN1

MOUNT ROTATION NOTE

EXISTING PLATFORM TO BE ROTATED
MATCH THE FINAL MOUNT AND ANTENNA
AZIMUTHS:
ALPHA: 0°, BETA: 120°, GAMMA: 240°

NOTE:

STANDARD MOUNT PIPE POSITIONS
TYPICALLY DETERMINED BY FACE
HORIZONTAL LENGTH CANNOT BE MET
DUE TO SPACE CONSTRAINTS BY
PLATFORM BRACING

LOADING NOTES:

FINAL ANTENNA DESIGN WILL MEET
±2" FACE PLANE TOLERANCE AFTER
INSTALLATION.

(E) KMW EPBQ-654L8H8-L2 ANTENNA (1 PER SECTOR, 3 SECTORS TOTAL)

(E) RAYCAP DC9-48-60-24-8C-EV SQUID (1 TOTAL)
(RELOCATED)

(P) ERICSSON AIR6472 B77G B77M ANTENNA
(1 PER SECTOR, 3 SECTORS TOTAL), RE: 1/D1

(P) ERICSSON RRUS-4494 B14/B29 LTE 700 (1 PER
SECTOR, 3 SECTORS TOTAL), RE: 3/D1

(P) ERICSSON RRUS-4890 B25/B66 LTE 1900/2100
(1 PER SECTOR, 3 SECTORS TOTAL), RE: 1/D2

(E) CLIMBING PEGS W/
SAFETY CLIMB

1'-0"±
(MIN.)

3'-2"±

3'-6"±
(MAX.)

1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

2 PROPOSED ANTENNA PLAN

1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)



TRUE NORTH

RE: GN20/GN1



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SHEET TITLE

ANTENNA PLANS

SHEET NUMBER

A4



MasTec



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ANTENNA EQUIPMENT & CABLE SCHEDULE (BOLD DENOTES PROPOSED OR RECONFIGURED EQUIPMENT) (E) = EXISTING (R) = RELOCATED (P) = PROPOSED										
ANTENNA MARK	SECTOR	RAD CENTER	AZIMUTH	ANTENNAS	TMAS / DIPLEXER / FILTER	SURGE PROTECTION	RRUS	FREQUENCY	FEEDLINE	FEEDLINE LENGTH
A1	ALPHA	80'-0"	0°	(E) KMW EPBQ-654L8H8-L2	—	(R) RAYCAP DC9-48-60-24-8C-EV SQUID	(P) ERICSSON RRUS-4490 B5/B12A	LTE 700/850	(E) (8) 1-5/8" COAX CABLE (E) (1) 3/8" RET CABLE (E) (1) 0.39" (10mm) FIBER TRUNK (E) (1) 0.40" (10.3mm) FIBER TRUNK (E) (5) 0.96" (24.3mm) #6AWG DC POWER TRUNK (E) (1) 0.88" (22.4mm) #8AWG DC POWER TRUNK	±230'
A2	ALPHA	80'-0"	0°	(P) ERICSSON AIR6472 B77G B77M	—		—	DOD C-BAND		
A3	ALPHA	80'-0"	0°	(R) COMMSCOPE NNH4-65C-R6-V3	—		(P) ERICSSON RRUS-4494 B14/B29 (P) ERICSSON RRUS-4890 B25/B66	LTE 700 LTE 1900/2100		
B1	BETA	80'-0"	120°	(E) KMW EPBQ-654L8H8-L2	—		(P) ERICSSON RRUS-4490 B5/B12A	LTE 700/850		
B2	BETA	80'-0"	120°	(P) ERICSSON AIR6472 B77G B77M	—		—	DOD C-BAND		
B3	BETA	80'-0"	120°	(R) COMMSCOPE NNH4-65C-R6-V3	—		(P) ERICSSON RRUS-4494 B14/B29 (P) ERICSSON RRUS-4890 B25/B66	LTE 700 LTE 1900/2100		
C1	GAMMA	80'-0"	240°	(E) KMW EPBQ-654L8H8-L2	—	(R) RAYCAP DC6-48-60-18-8C-EV SQUID	(P) ERICSSON RRUS-4490 B5/B12A	LTE 700/850		
C2	GAMMA	80'-0"	240°	(P) ERICSSON AIR6472 B77G B77M	—		—	DOD C-BAND		
C3	GAMMA	80'-0"	240°	(R) COMMSCOPE NNH4-65C-R6-V3	—		(P) ERICSSON RRUS-4494 B14/B29 (P) ERICSSON RRUS-4890 B25/B66	LTE 700 LTE 1900/2100		

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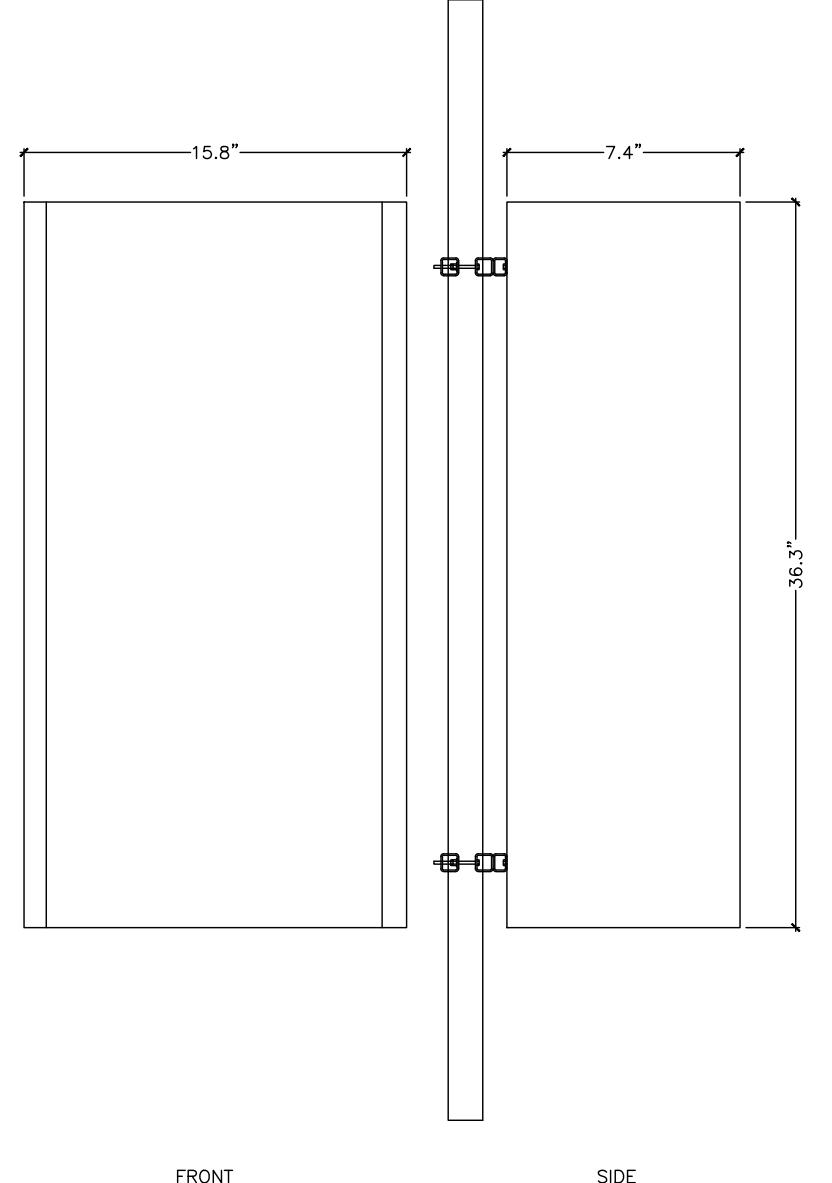
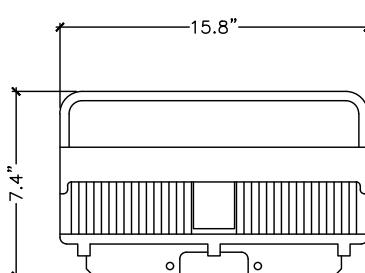
SHEET TITLE
ANTENNA
SCHEDEULE

SHEET NUMBER
A5

NOTE:
ANTENNA INFORMATION
PULLED FROM PRELIMINARY
PRODUCT DATA SHEET

1 ANTENNA SPECIFICATIONS

SCALE: N.T.S.



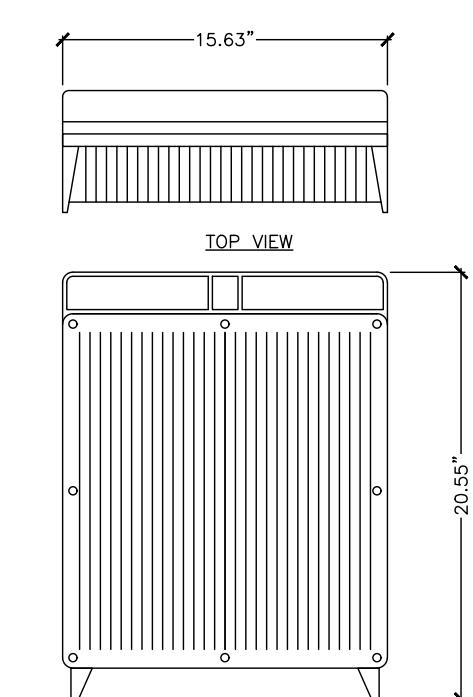
ERICSSON - AIR 6472

MANUFACTURER: ERICSSON
MODEL: AIR 6472
DIMENSIONS: 36.3" X 15.8" X 7.4"
WEIGHT: 67.2 LBS
FREQUENCY: REFER TO RF DATA SHEET

NOTE:
RRUS CAN ONLY BE PAINTED
ON SOLAR SHIELD.

3 RADIO SPECIFICATIONS

SCALE: N.T.S.



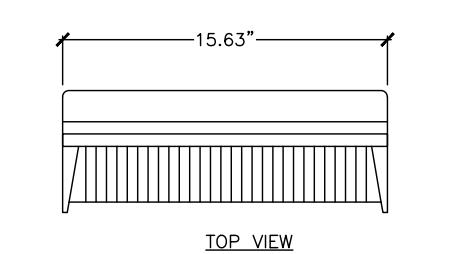
ERICSSON RRUS-4490 B5/B12A

MANUFACTURER: ERICSSON
MODEL: RRUS-4490 B5/B12A
DIMENSIONS: 20.55" X 15.62" X 7.0"
WEIGHT (LBS): 65.0 LBS
FREQUENCY: REFER TO RF DATA SHEET

2 RADIO SPECIFICATIONS

SCALE: N.T.S.

RE: GN20/GN1

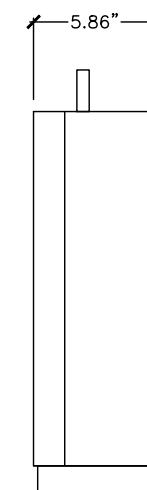


ERICSSON RRUS-4494 B14/B29

MANUFACTURER: ERICSSON
MODEL: RRU 4494 B14/B29
DIMENSIONS: 20.55" X 15.63" X 5.86"
WEIGHT (LBS): 57.32 LBS
FREQUENCY: REFER TO RF DATA SHEET

3 RADIO SPECIFICATIONS

SCALE: N.T.S.



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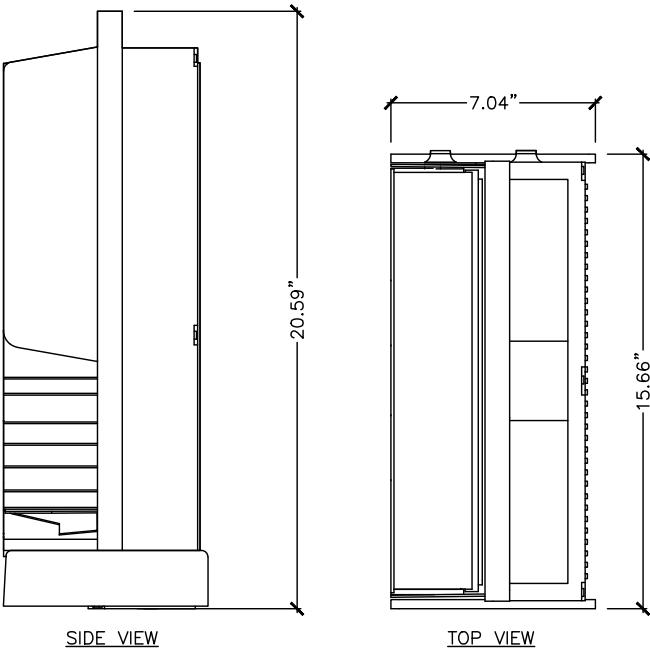
SHEET TITLE
**EQUIPMENT
SPECIFICATIONS**

SHEET NUMBER
D1

RE: GN20/GN1

RE: GN20/GN1

NOTE:
RRUS CAN ONLY BE PAINTED
ON SOLAR SHIELD.



ERICSSON RRUS-4890 B25/B66

MANUFACTURER: ERICSSON
MODEL: RRUS-4890 B25/B66
DIMENSIONS: 20.59" X 15.66" X 7.04"
WEIGHT (LBS): 67.24 LBS
FREQUENCY: REFER TO RF DATA SHEET

1 RADIO SPECIFICATIONS

SCALE: N.T.S.

RE: GN20/GN1



2 ROUTER SPECIFICATIONS

SCALE: N.T.S.

RE: GN20/GN1

ERICSSON 6672 ROUTER

MANUFACTURER: ERICSSON
MODEL: 6672
DIMENSIONS: 1.72" X 17.42" X 9.84"
(HxWxD)
WEIGHT (LBS): 13.2 LBS
NOMINAL VOLTAGE: -48VDC
MIN. FUSE RATING: 15A
MAX. FUSE RATING: 25A

3 SITE CONTROLLER SPECIFICATIONS

SCALE: N.T.S.

RE: GN20/GN1

Controller 6610

MECHANICAL

Dimensions (H x W x D): 40 x 140 x 32 mm
Mounting DIN holder or SHU holder for screw mounting
Weight: 125 g

ELECTRICAL

Input voltage: -48 VDC
Power consumption: < 10W

ENVIRONMENTAL

Normal Operating Temp. Range: -40 to +60 °C
Exceptional Temp. Range: -40 to +65 °C
Storage Temperature: -25 to +55 °C
Humidity: 5 – 90% RH

NETWORK INTERFACES

North Bound interface: 1 x 1Gbit/100/10Mbit Ethernet
Site Equipment: 1 x 1Gbit/100/10Mbit Ethernet

LOCAL INTERFACES

Serial port: 2 x RS 485 for site equipment such as power system and lithium batteries
1 x RS 485 for EC bus or other site equipment

USB 2.0: 1 x USB-C for SW management

EXTERNAL ALARM MANAGEMENT

Alarm inputs: 4 x External Alarm inputs
1 x SAU port (Support Alarm Unit)

MANAGEMENT SYSTEM

Remote Control: Integrated with ENM

STANDARDS & CERTIFICATIONS

CE/UL: IEC 62368-1:2014 Ed. 2, EN 62368-1, UL 62368-1 Ed. 2/CSA C22.2
SAFETY: EN 300 386 V1.6.1, FCC CFR 47 part 15
EMC:



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REVISIONS			
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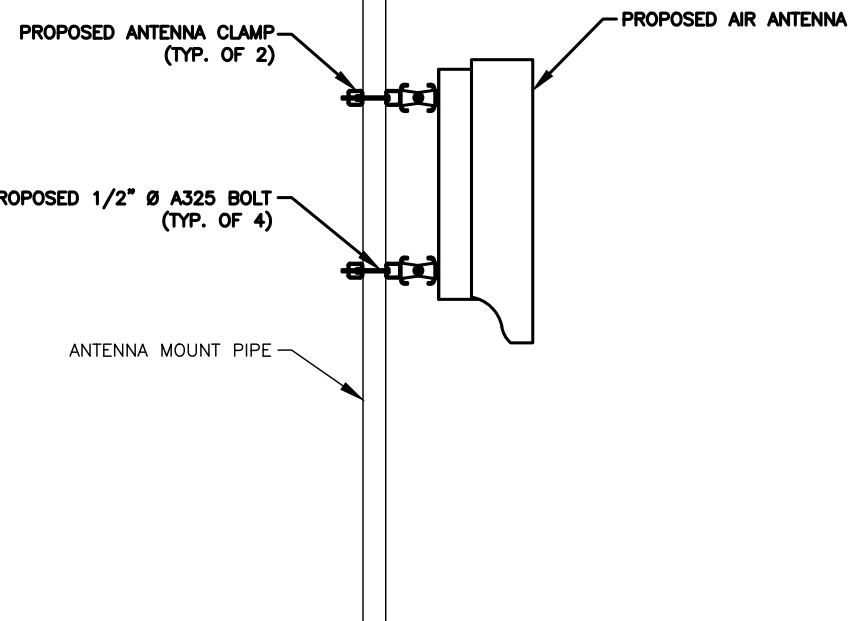
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SHEET TITLE
EQUIPMENT
SPECIFICATIONS

SHEET NUMBER
D2

NOTE:
ALL PIPES, BRACKETS AND
MISCELLANEOUS HARDWARE TO BE
GALVANIZED UNLESS NOTED OTHERWISE.

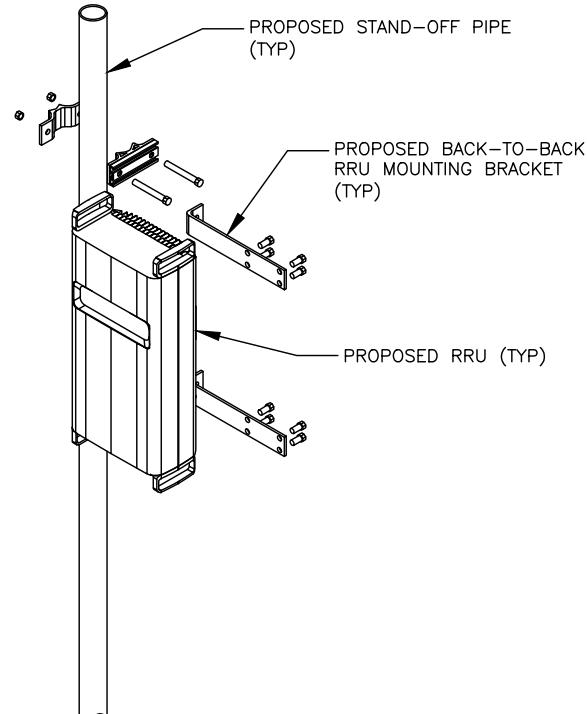


1 AIR ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

RE: GN20/GN1

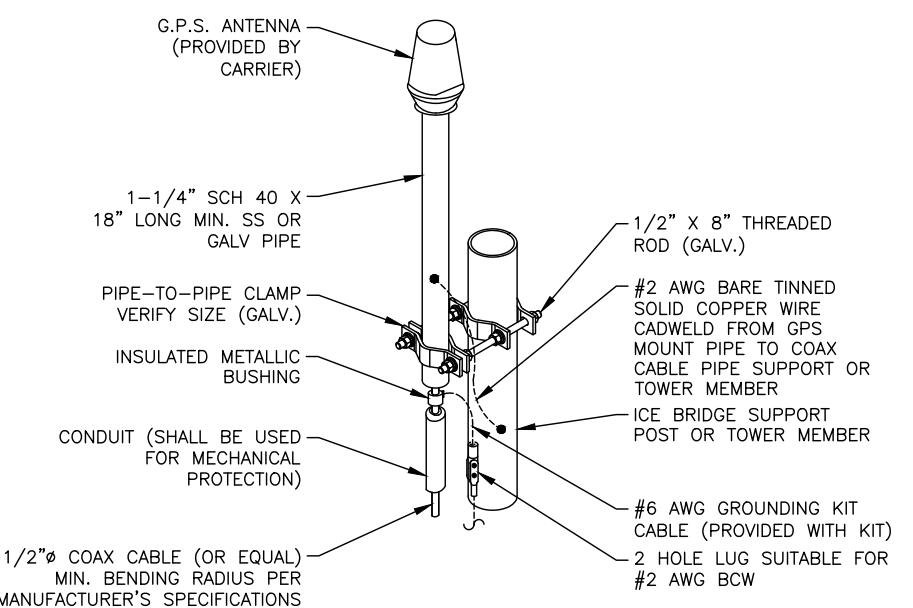
NOTE:
1. UNIT SHALL BE MOUNTED AS PER
MANUFACTURER'S RECOMMENDATIONS.
2. CONTRACTOR SHALL TIGHTEN ALL
BOLTS TO A "SNUG TIGHT" CONDITION
AS DEFINED BY AISC.
3. CONTRACTOR TO USE
ROSENBERGER SITE SOLUTIONS D200
RRU B2B BRACKET OR APPROVED
EQUAL.



2 RRU MOUNTING DETAIL

SCALE: N.T.S.

RE: GN20/GN1



3 GPS ANTENNA DETAIL

SCALE: N.T.S.

RE: GN20/GN1

CONSTRUCTION NOTES:

1. GPS SHALL BE PLACED WITH CLEAR SIGHT LINE TO THE SOUTHERN SKY.
2. CONTRACTOR TO SUPPLY COAX FOR GPS UNIT.



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REV.	DATE	DESCRIPTION	INITIALS
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MACK PLAZA

FA # / SITE ID:
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SHEET TITLE

EQUIPMENT
SPECIFICATIONS

SHEET NUMBER

D3



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REVISIONS		
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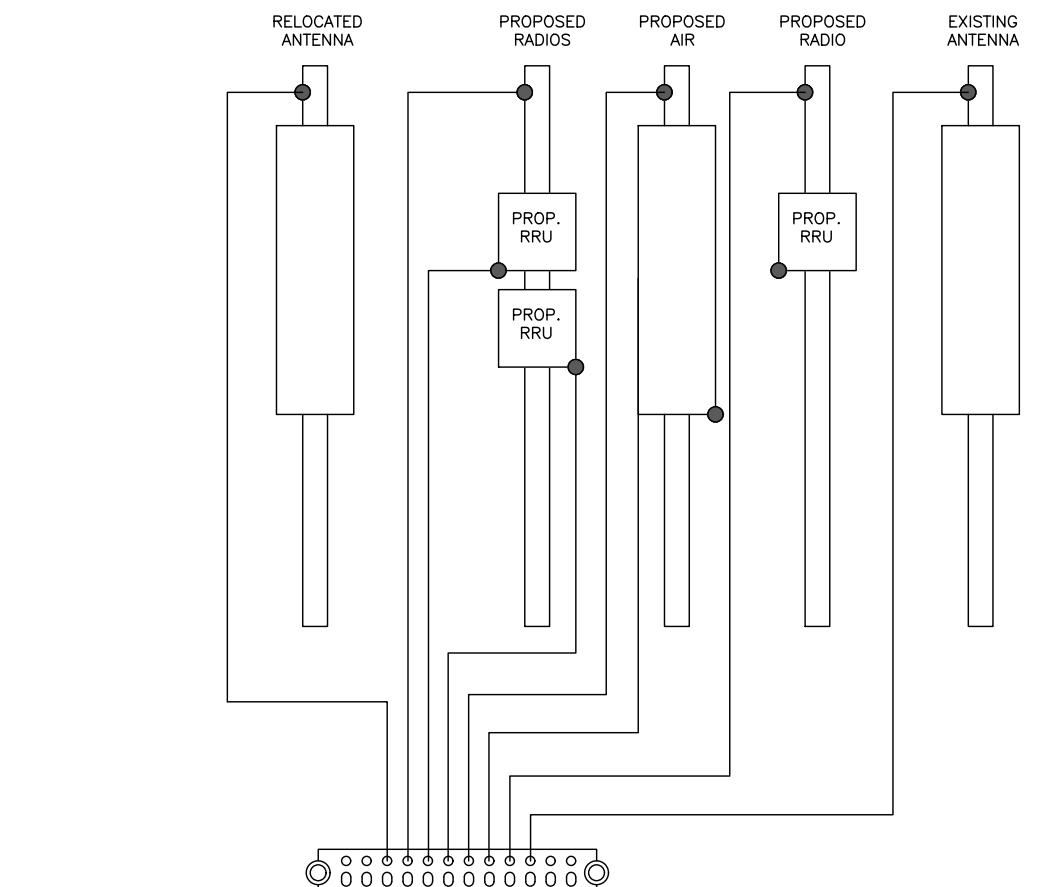
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1 GROUNDING BAR DETAILS

SCALE: N.T.S.

RE: GN20/GN1



9 TYPICAL ANTENNAS & RADIOS GROUNDING DIAGRAM

SCALE: N.T.S.

RE: GN20/GN1

MACK PLAZA
FA # / SITE ID:
10083371 / SIMI002577

20027 MACK PLAZA
GROSSE POINTE, MI 48236

SHEET TITLE
**GROUNDING
DETAILS**

SHEET NUMBER
G1

GI

Mount Analysis of Existing Platform w/ Support Rails for MasTec
SIMI002577 - MACK PLAZA

FA #: 10083371

Job Scope: LTE 1C RRH Swap

IWM #: WSIND0054129

PTN #: 3501A1HEJC

Telamon Project #55240-10083371-01-MA

September 23, 2025

MOUNT DESCRIPTION	Existing Platform w/ Support Rails at 80 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 80 ft AGL
SITE DESCRIPTION	78 ft Monopole
SITE ADDRESS	20027 Mack Plaza, Grosse Pointe, MI 4823, Wayne County
GPS COORDINATES	42.4319444, -82.9100000
ANALYSIS STANDARD	2021 IBC / 2021 Michigan Building Code / TIA-222-H
LOADING CRITERIA	108 mph, V_{ult} (3-Second Gust) w/o ice & 40 mph (3-Second Gust) w/ 2" Ice

■ ANALYSIS RESULT: Pass*

MEMBER USAGE	94%	Pass
---------------------	-----	------

*The structure has sufficient capacity once the changes described in the conclusion section of this report are completed.

Reviewed and Approved by:



Digital signature of David W. Chickering
 Date: 2025.09.23
 16:44:42-04'00'

David W. Chickering
 Telamon Tower Engineering PLLC
 PE # 6201310381 Exp. 09/17/2027

■ INTRODUCTION

The proposed equipment is to be mounted to the existing Platform w/ Support Rails. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

■ STRUCTURAL DOCUMENTS PROVIDED

STRUCTURAL DATA	Site Photos, dated October 18, 2024 Mount Mapping by B+T, Project #116411.005.01, dated April 25, 2018
PREVIOUS ANALYSES	Mount Analysis by Black & Veatch, Project #1793ATTM12-P, dated February 23, 2021 Structural Analysis by Black & Veatch, Project #1793ATTM12-S, dated February 24, 2021
CONSTRUCTION DRAWINGS	As-Built Drawings by Ericsson, Site ID: MIU2011, Rev. 2, dated November 26, 2024
LOADING DATA	AT&T scoping document, RFDS ID: #RFDS-85619, dated September 10, 2025

■ ANALYSIS CRITERIA

STANDARD	2021 IBC / 2021 Michigan Building Code / TIA-222-H
BASIC WIND SPEED	108 mph, V_{ult} (3-Second Gust)
BASIC WIND SPEED W/ ICE	40 mph (3-Second Gust) w/ 2" Radial Ice (Escalating)
EXPOSURE CATEGORY	C
MAX. TOPOGRAPHIC FACTOR, K_{zt}	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M : 250 lb; L_V : 250 lb
SEISMIC PARAMETERS	S_s : 0.10; S_1 : 0.45; Site Class: D

■ FINAL EQUIPMENT

ELEVATION (ft)	ANTENNAS			
	MOUNT	RAD.	#	NAME
80.0	80.0	3		KMW EPBQ-654L8H8-L2
		3		Commscope NNH4-65C-R6-V3
		3		Ericsson AIR 6472 B77G B77M
		1		Raycap DC9-48-60-24-8C-EV
		3		Ericsson Radio 4490 B5/B12A
		3		Ericsson 4890 B25/B66
		3		Ericsson 4494 B14/B29
		2		Raycap DC6-48-60-18-8C-EV

■ RESULTS SUMMARY

COMPONENT	PEAK USAGE	RESULT
Platform Base	94%	Pass
Mount Pipes	51%	Pass
Support Rail	35%	Pass
Connections	24%	Pass
Face Horizontals	25%	Pass
Reinforcement Members	11%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **PASS** with the below requirements. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- Relocate (1) mount pipes in POS1 and POS3 at each sector to meet AT&T requirements (3). Connect mount pipes using existing hardware.
- Remove (1) mount pipe at each sector (3 total).
- Replace existing mount pipe at POS2 with (1) Proposed Better Metal 1BPP-278120 (CONMAT # ANT.57590) mount pipes, A53 Gr.B in each sector (3 total). Connect to face horizontals pipes using (2) Proposed Better Metal 1 BXP-M12 (CONMAT # ANT.59532) crossover kit per connection (6 total).
- Install (1) Proposed Better Metal, MAST-72 (CONMAT # ANT.54959) standoff mount pipes in each sector (3 total). Connect to Stand members using hardware included in kit.

No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

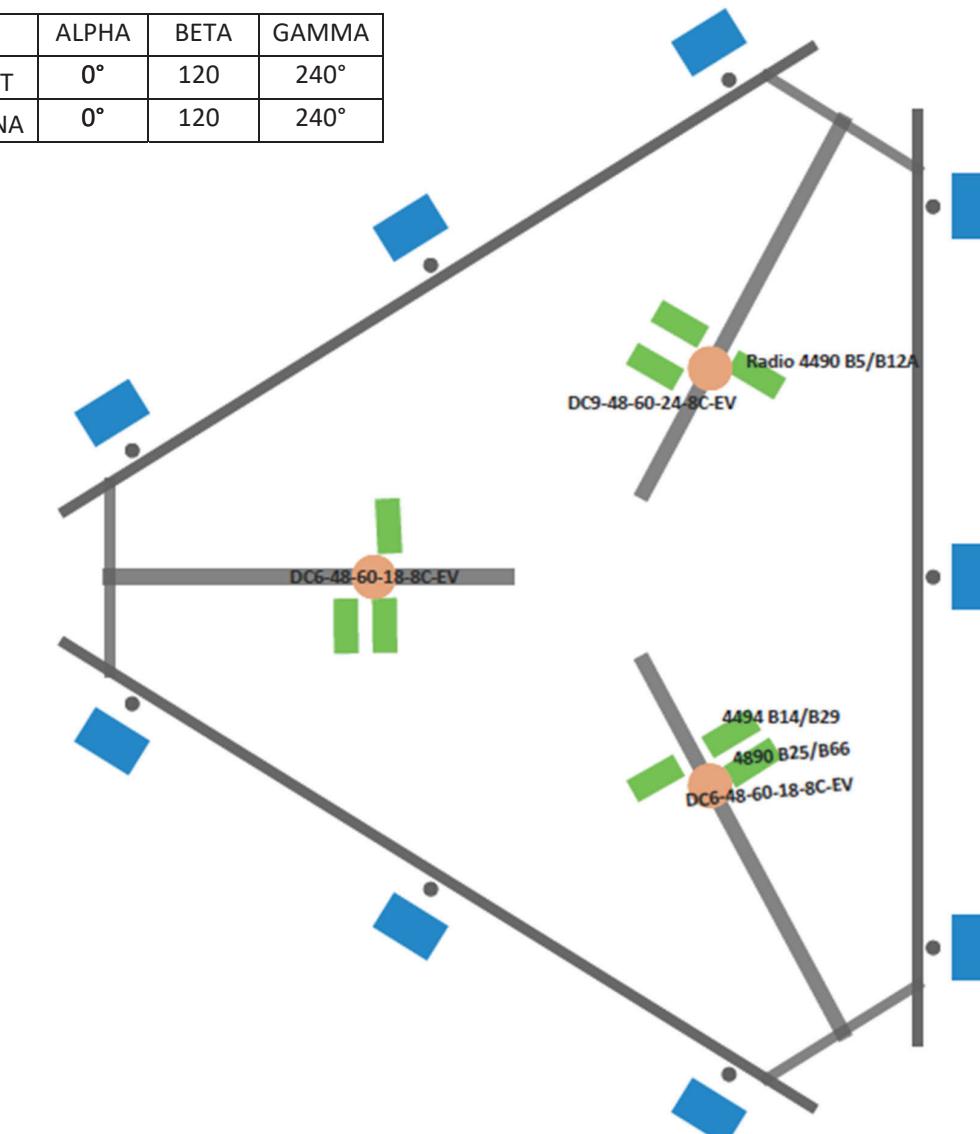
Equipment Layout Plan View

Note: Not all components of mount geometry are shown for clarity purposes.

RF Notes:- Match antenna AZ to current Mount orientation; Center antennas on mount at 80' (halfway between handrail and platform); RF approves 3 positions

The AT&T Macro Build Standards corner spacing requirement cannot be met using a standard 4-position configuration; therefore, the mount has been designed for a 3-position configuration to ensure compliance.

	ALPHA	BETA	GAMMA
MOUNT	0°	120	240°
ANTENNA	0°	120	240°

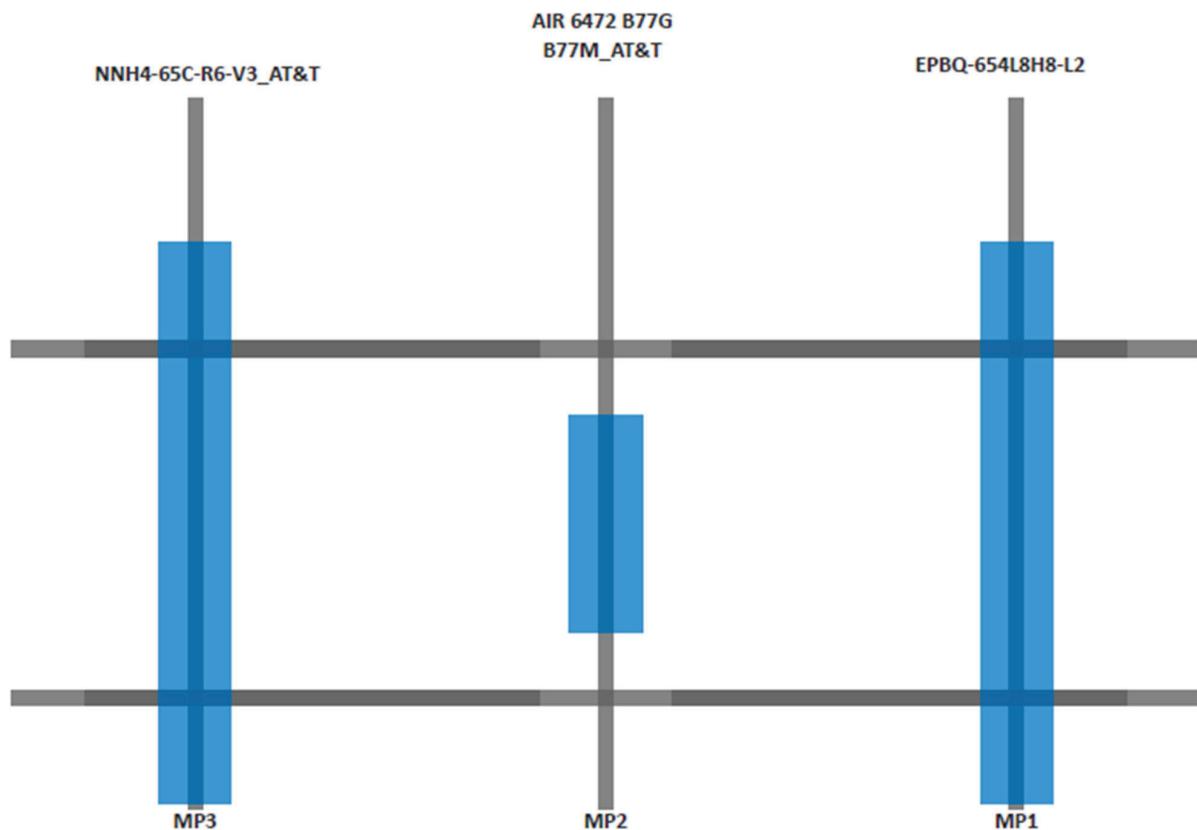


Equipment Layout Front Elevation View

Note: Not all components of mount geometry are shown for clarity purposes.

RF Notes:- Match antenna AZ to current Mount orientation; Center antennas on mount at 80' (halfway between handrail and platform); RF approves 3 positions

The AT&T Macro Build Standards corner spacing requirement cannot be met using a standard 4-position configuration; therefore, the mount has been designed for a 3-position configuration to ensure compliance.



■ ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames-mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, Telamon should be notified immediately to revise results.

This analysis assumes the following:

1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from Telamon.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. Telamon is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by Telamon verifies the adequacy of the primary members of the structure. Telamon provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.

Mount Analysis of Existing Platform w/ Support Rails for MasTec
SIMI002577 - MACK PLAZA

FA #: 10083371

Job Scope: LTE 1C RRH Swap

IWM #: WSIND0054129

PTN #: 3501A1HEJC

Telamon Project #55240-10083371-01-MA

September 23, 2025

MOUNT DESCRIPTION	Existing Platform w/ Support Rails at 80 ft AGL
ANTENNA ELEVATION	Nominal Rad. Elevation of 80 ft AGL
SITE DESCRIPTION	78 ft Monopole
SITE ADDRESS	20027 Mack Plaza, Grosse Pointe, MI 4823, Wayne County
GPS COORDINATES	42.4319444, -82.9100000
ANALYSIS STANDARD	2021 IBC / 2021 Michigan Building Code / TIA-222-H
LOADING CRITERIA	108 mph, V_{ult} (3-Second Gust) w/o ice & 40 mph (3-Second Gust) w/ 2" Ice

■ ANALYSIS RESULT: Pass*

MEMBER USAGE	94%	Pass
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*The structure has sufficient capacity once the changes described in the conclusion section of this report are completed.

Reviewed and Approved by:



David W. Chickering
 Telamon Tower Engineering PLLC
 PE # 6201310381 Exp. 09/17/2027

Digital signature of David W. Chickering
 Date: 2025.09.23
 16:44:42-04'00'

■ INTRODUCTION

The proposed equipment is to be mounted to the existing Platform w/ Support Rails. This proposed mounting configuration was analyzed using RISA-3D, a commercially available finite element analysis software package. A selection of input and output from our analysis is attached to the end of this report.

■ STRUCTURAL DOCUMENTS PROVIDED

STRUCTURAL DATA	Site Photos, dated October 18, 2024 Mount Mapping by B+T, Project #116411.005.01, dated April 25, 2018
PREVIOUS ANALYSES	Mount Analysis by Black & Veatch, Project #1793ATTM12-P, dated February 23, 2021 Structural Analysis by Black & Veatch, Project #1793ATTM12-S, dated February 24, 2021
CONSTRUCTION DRAWINGS	As-Built Drawings by Ericsson, Site ID: MIU2011, Rev. 2, dated November 26, 2024
LOADING DATA	AT&T scoping document, RFDS ID: #RFDS-85619, dated September 10, 2025

■ ANALYSIS CRITERIA

STANDARD	2021 IBC / 2021 Michigan Building Code / TIA-222-H
BASIC WIND SPEED	108 mph, V_{ult} (3-Second Gust)
BASIC WIND SPEED W/ ICE	40 mph (3-Second Gust) w/ 2" Radial Ice (Escalating)
EXPOSURE CATEGORY	C
MAX. TOPOGRAPHIC FACTOR, K_{zt}	1.00
RISK CATEGORY	II
MAINTENANCE LIVE LOAD	L_M : 250 lb; L_V : 250 lb
SEISMIC PARAMETERS	S_s : 0.10; S_1 : 0.45; Site Class: D

■ FINAL EQUIPMENT

ELEVATION (ft)	ANTENNAS		
	MOUNT	RAD.	#
80.0	80.0	3	KMW EPBQ-654L8H8-L2
		3	Commscope NNH4-65C-R6-V3
		3	Ericsson AIR 6472 B77G B77M
		1	Raycap DC9-48-60-24-8C-EV
		3	Ericsson Radio 4490 B5/B12A
		3	Ericsson 4890 B25/B66
		3	Ericsson 4494 B14/B29
		2	Raycap DC6-48-60-18-8C-EV

■ RESULTS SUMMARY

COMPONENT	PEAK USAGE	RESULT
Platform Base	94%	Pass
Mount Pipes	51%	Pass
Support Rail	35%	Pass
Connections	24%	Pass
Face Horizontals	25%	Pass
Reinforcement Members	11%	Pass

■ CONCLUSION AND RECOMMENDATIONS

According to our structural analysis, the mounts have been found to **PASS** with the below requirements. The mounting configuration considered in this analysis will be capable of supporting the referenced loading pursuant to referenced standards once the following scope is executed:

- Relocate (1) mount pipes in POS1 and POS3 at each sector to meet AT&T requirements (3). Connect mount pipes using existing hardware.
- Remove (1) mount pipe at each sector (3 total).
- Replace existing mount pipe at POS2 with (1) Proposed Better Metal 1BPP-278120 (CONMAT # ANT.57590) mount pipes, A53 Gr.B in each sector (3 total). Connect to face horizontals pipes using (2) Proposed Better Metal 1 BXP-M12 (CONMAT # ANT.59532) crossover kit per connection (6 total).
- Install (1) Proposed Better Metal, MAST-72 (CONMAT # ANT.54959) standoff mount pipes in each sector (3 total). Connect to Stand members using hardware included in kit.

No structural failures were addressed with the noted contingencies. Contingencies address Carrier's antenna spacing requirements.

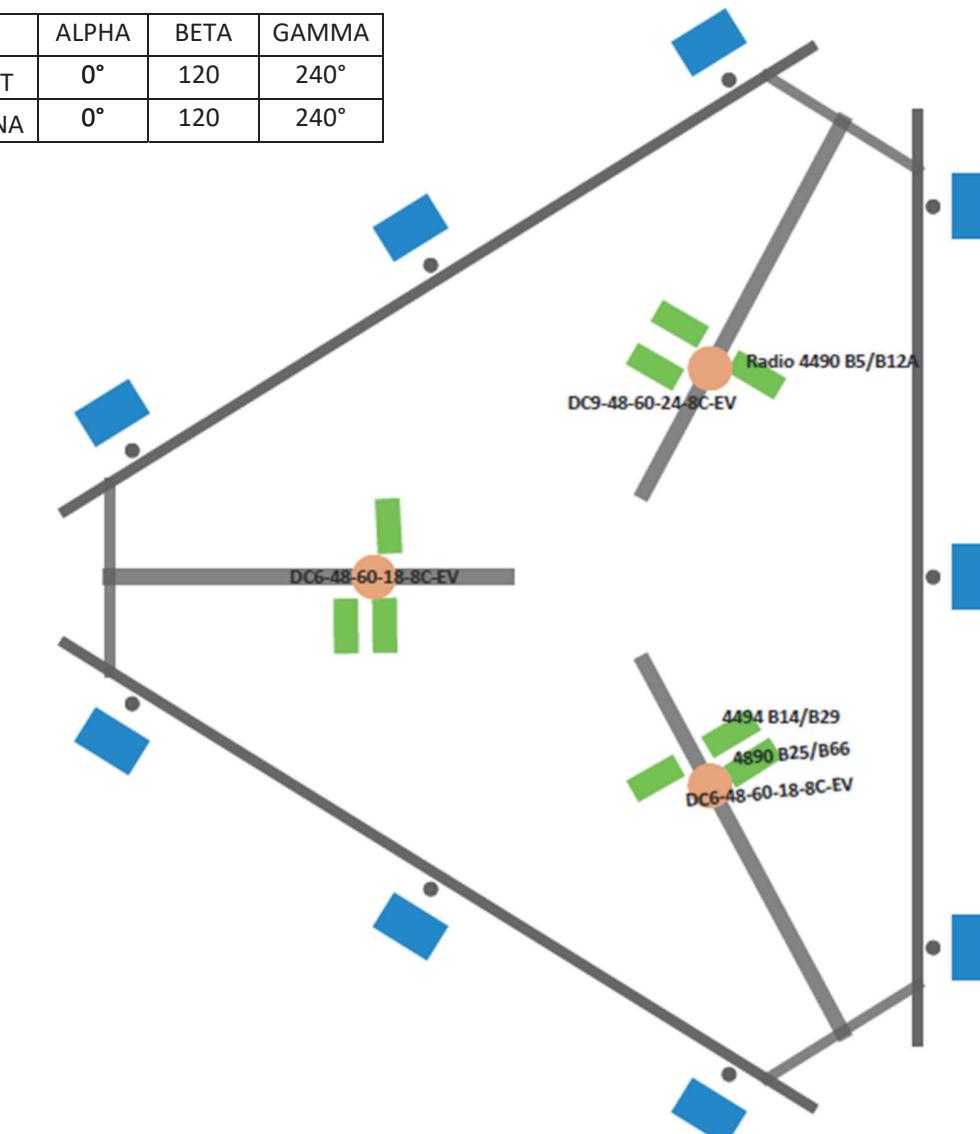
Equipment Layout Plan View

Note: Not all components of mount geometry are shown for clarity purposes.

RF Notes:- Match antenna AZ to current Mount orientation; Center antennas on mount at 80' (halfway between handrail and platform); RF approves 3 positions

The AT&T Macro Build Standards corner spacing requirement cannot be met using a standard 4-position configuration; therefore, the mount has been designed for a 3-position configuration to ensure compliance.

	ALPHA	BETA	GAMMA
MOUNT	0°	120	240°
ANTENNA	0°	120	240°

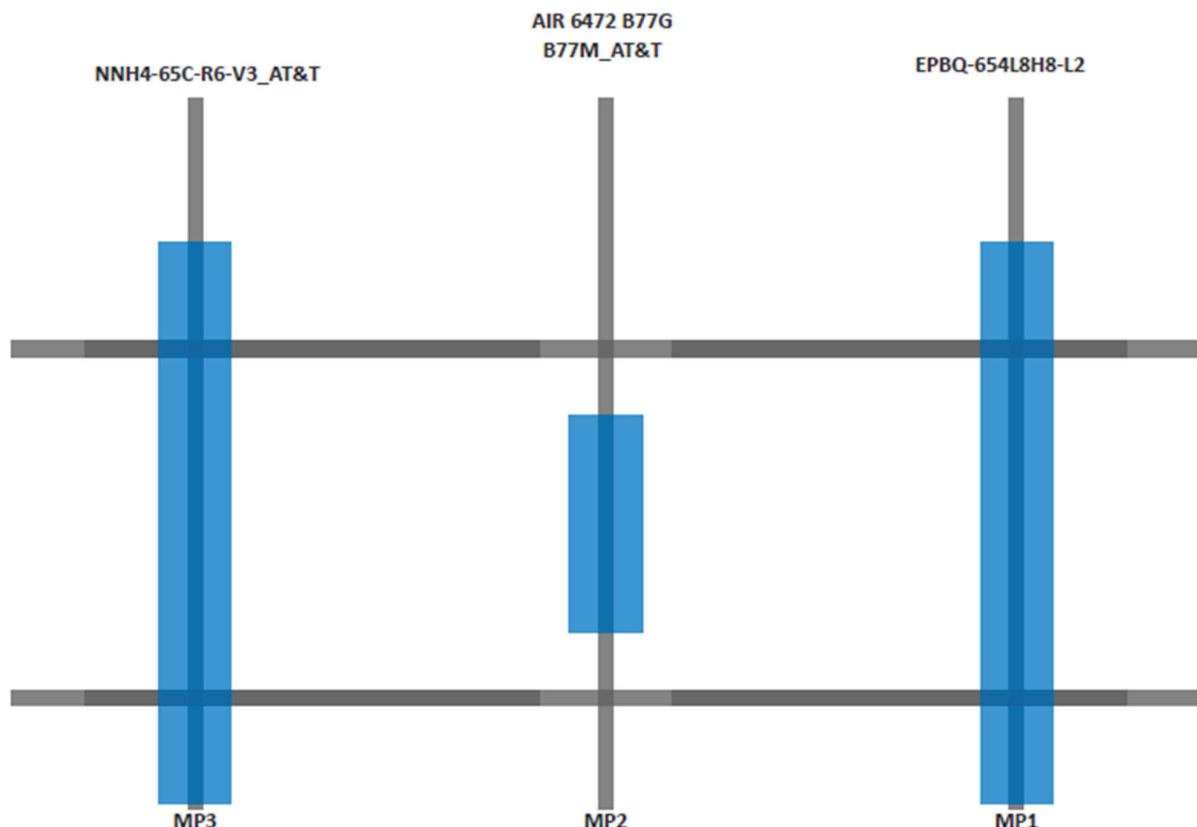


Equipment Layout Front Elevation View

Note: Not all components of mount geometry are shown for clarity purposes.

RF Notes:- Match antenna AZ to current Mount orientation; Center antennas on mount at 80' (halfway between handrail and platform); RF approves 3 positions

The AT&T Macro Build Standards corner spacing requirement cannot be met using a standard 4-position configuration; therefore, the mount has been designed for a 3-position configuration to ensure compliance.



■ ASSUMPTIONS AND CONDITIONS

This analysis is inclusive of the antenna supporting frames-mounts and all recorded connections that will support the equipment listed in this report. It considers only the theoretical capacity of structural components and it is not a condition assessment. The validity of the analysis may be dependent on the accuracy of structural information supplied by others. The client is responsible for verifying this information. If any provided information is revised after completion of this analysis, Telamon should be notified immediately to revise results.

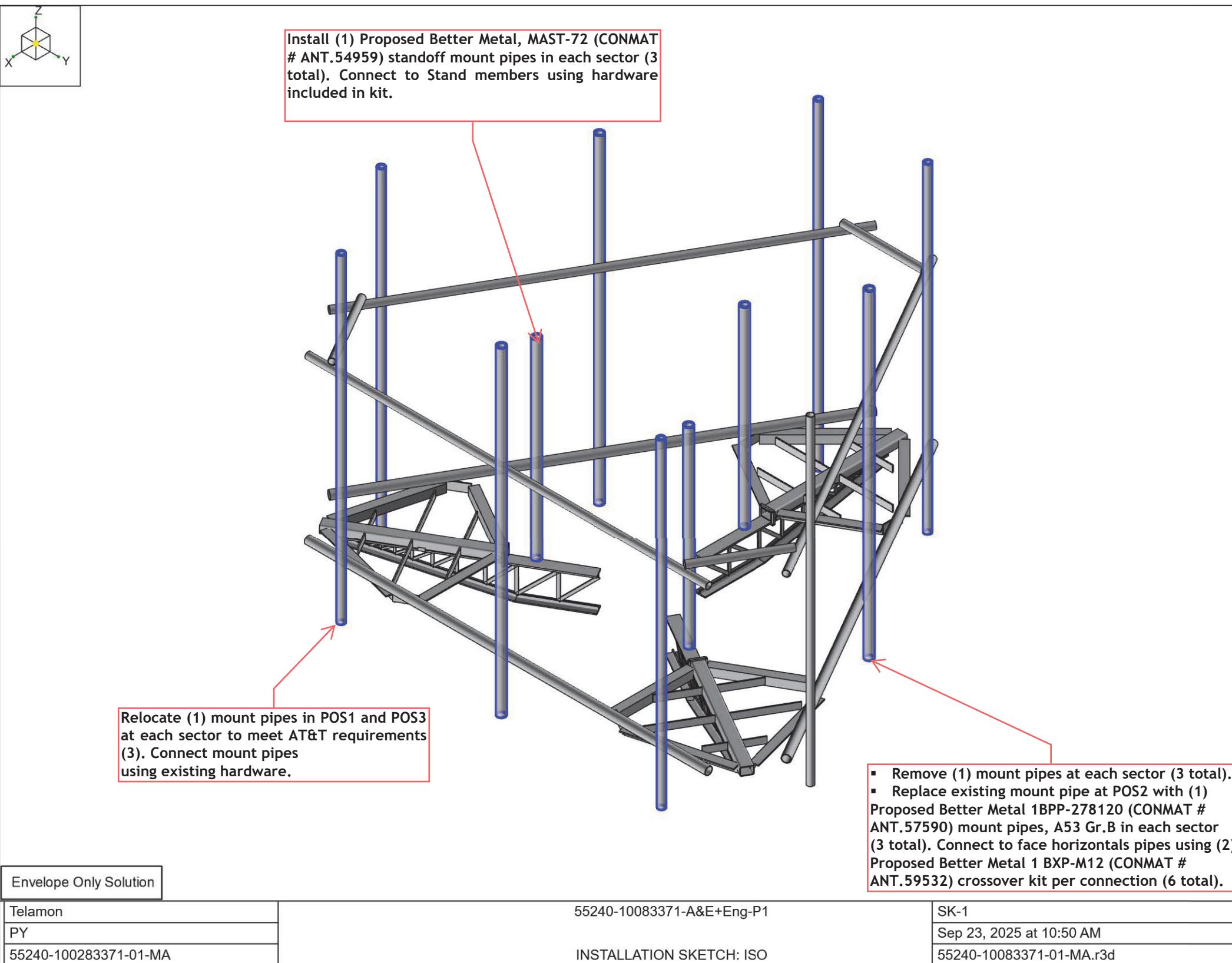
This analysis assumes the following:

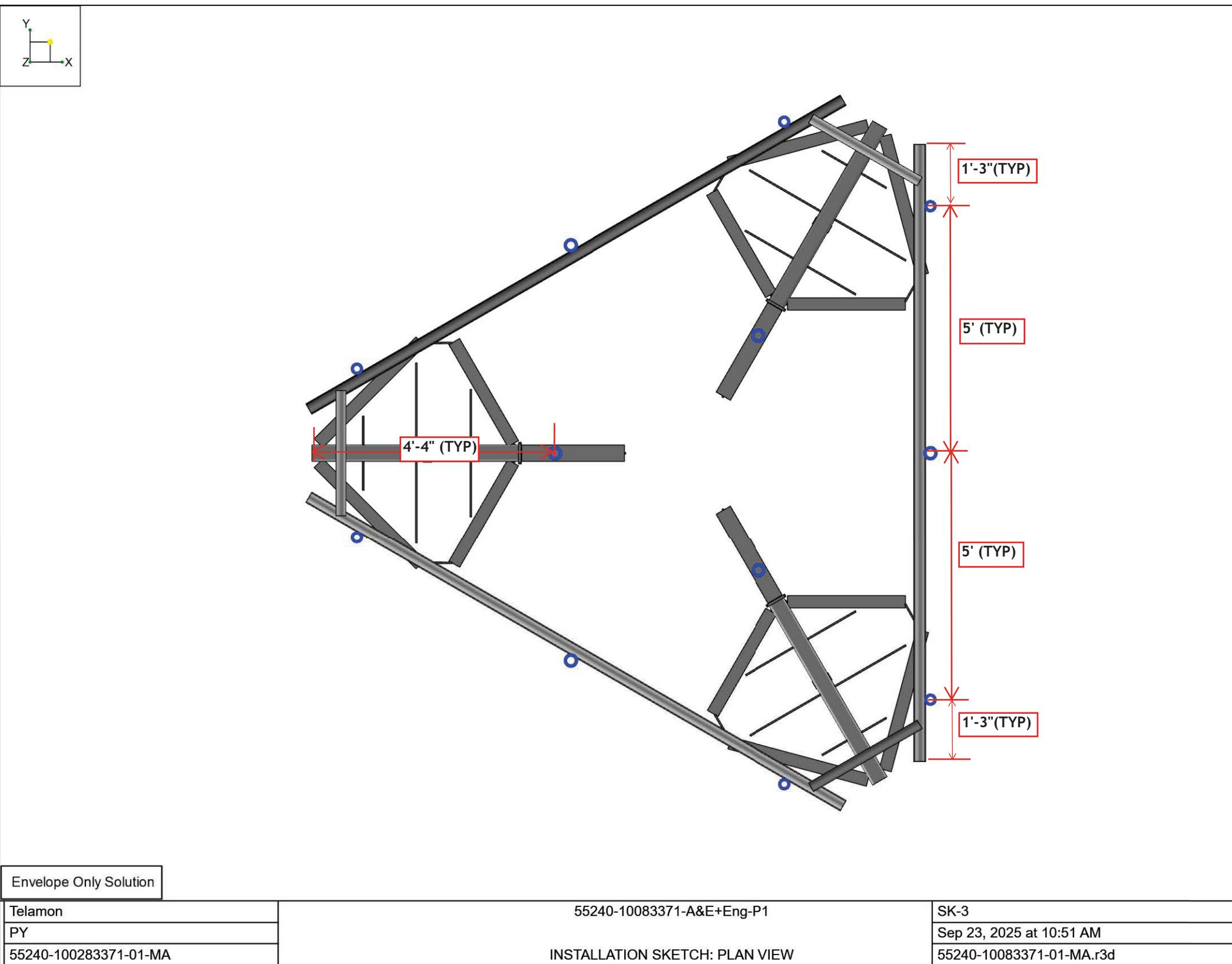
1. The tower or other superstructure and mounts (if existing) were properly constructed as per the original design and have been properly maintained in accordance with applicable code standards.
2. Member sizes and strengths are accurate as supplied or are assumed as stated in the calculations.
3. In the absence of sufficient design information, all welds and connections are assumed to develop at least the capacity of the connected member, unless otherwise stated in this analysis.
4. All prior structural modifications, if any, are assumed to be correctly installed and fully effective.
5. The loading configuration is complete and accurate as supplied and/or as modeled in the previous analysis. All appurtenances are assumed to be properly installed and supported as per manufacturer requirements.
6. Some conservative assumptions may be used regarding appurtenances and their projected areas based on careful interpretation of data supplied, previous experience and standard industry practice.

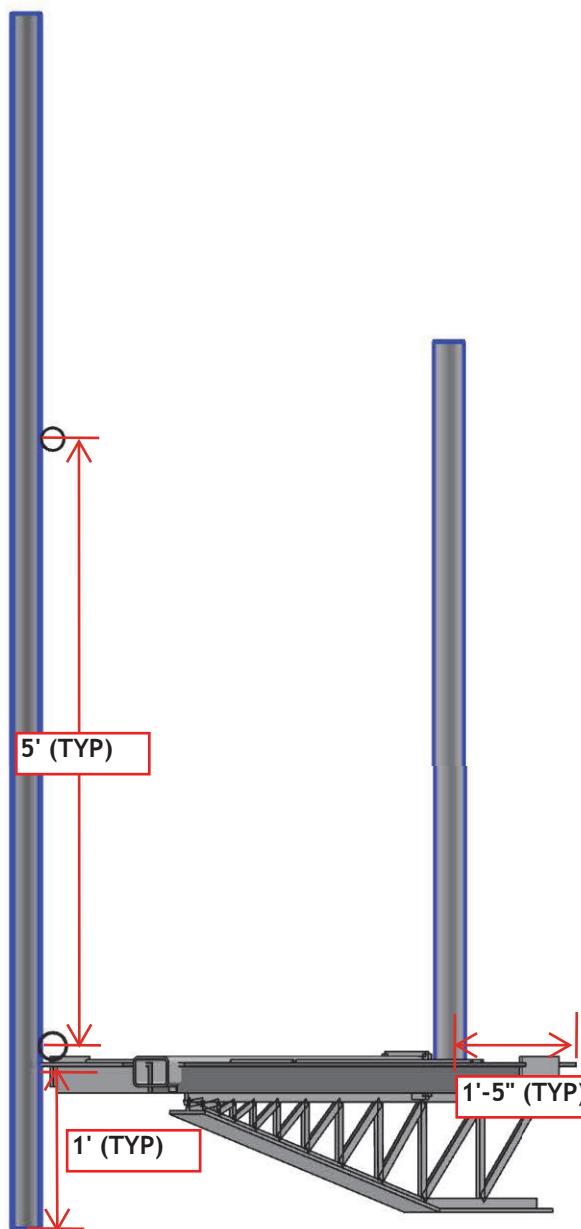
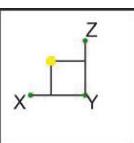
All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of the report. All opinions and conclusions contained herein are subject to revision based upon receipt of new or updated information. All services are provided exercising a level of care and diligence equivalent to the standard of our profession. No warranty or guarantee, either expressed or implied, is offered. All services are confidential in nature and this report will not be released to any other party without the client's consent. The use of this analysis is limited to the expressed purpose for which it was commissioned and it may not be reused, copied or disseminated for any other purpose without consent from Telamon.

All services were performed, results obtained and recommendations made in accordance with generally accepted engineering principles and practices. Telamon is not responsible for the conclusions, opinions or recommendations made by others based on the information supplied in this analysis.

It is not possible to have the fully detailed information necessary to perform a complete and thorough analysis of every structural sub-component of an existing structure. The structural analysis by Telamon verifies the adequacy of the primary members of the structure. Telamon provides a limited scope of service in that we cannot verify the adequacy of every weld, bolt, gusset, etc.







Envelope Only Solution

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PY
55240-100283371-01-MA

55240-10083371-A&E+Eng-P1

INSTALLATION SKETCH: SIDE VIEW

SK-3

Sep 23, 2025 at 10:59 AM

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