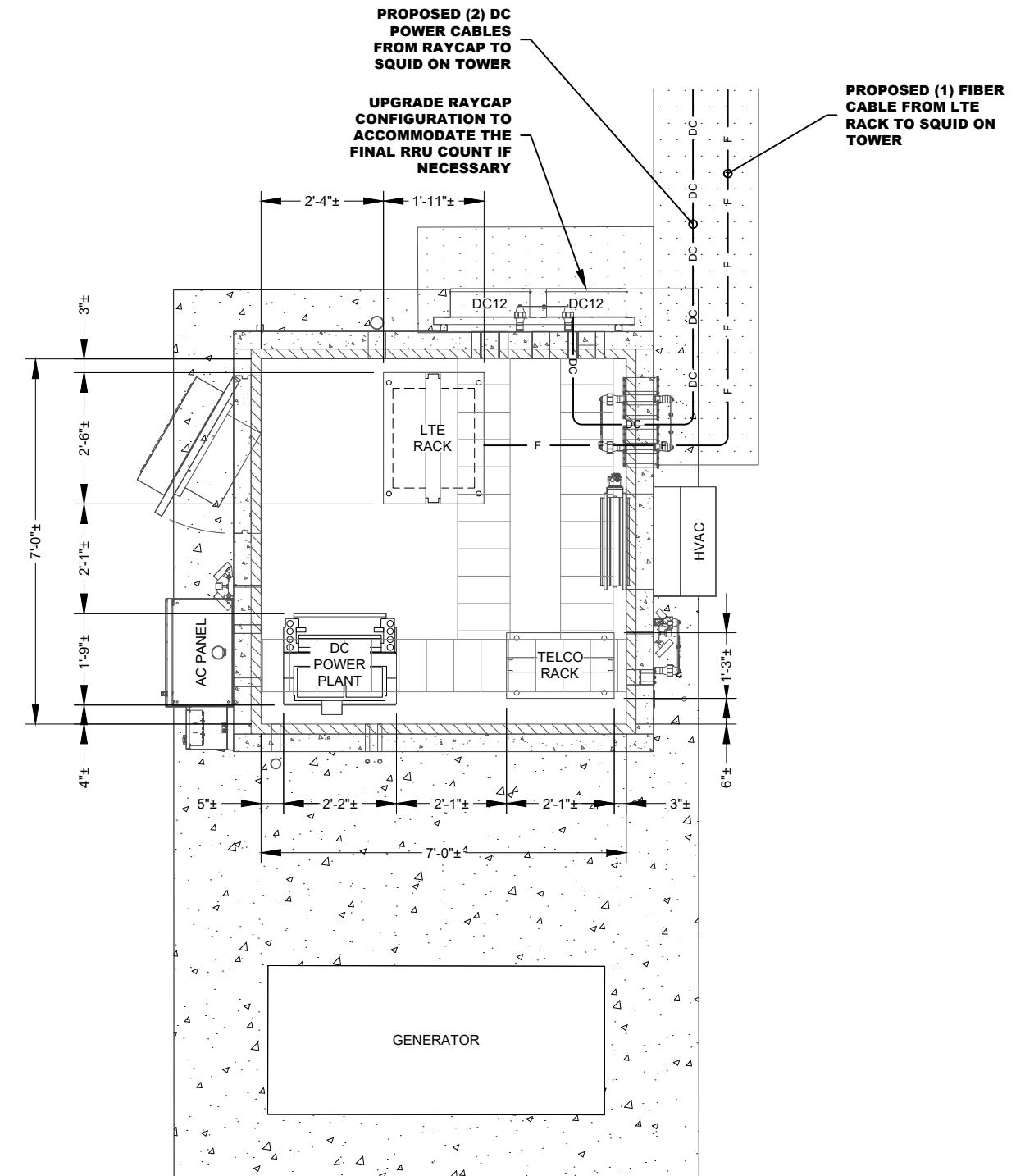


**SITE PLAN**  
11"x17" SCALE: 1"=15'-0"  
24"x36" SCALE: 1"=7'-6"

**NOTES:**

- ADD (3) 60AMP BREAKERS FOR AIR6449 ANTENNAS
- ADD (3) 60AMP BREAKERS FOR AIR6419 ANTENNAS



**EQUIPMENT LAYOUT**  
11"x17" SCALE: 1"=3'-0"  
24"x36" SCALE: 1"=1'-6"



2/25/2022

RAPHAEL MOHAMED, P.E.  
TENNESSEE LIC. NO. 110341

**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
2/25/2022	CONSTRUCTION	0	RM

DRAWN BY: TGE  
CHECKED BY: JFS  
APP'D BY: RM  
MNS PROJECT NO: 29043-AEC

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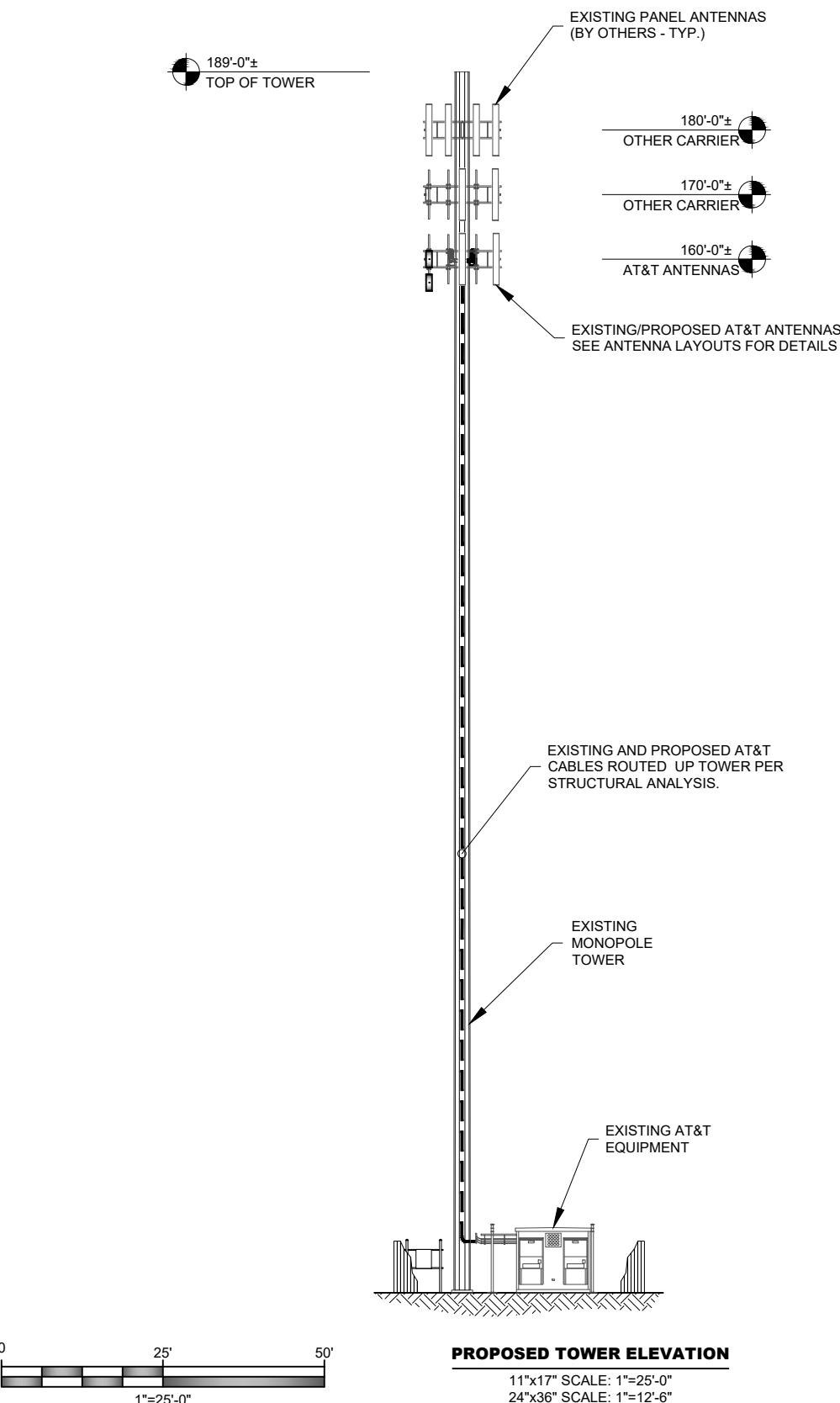
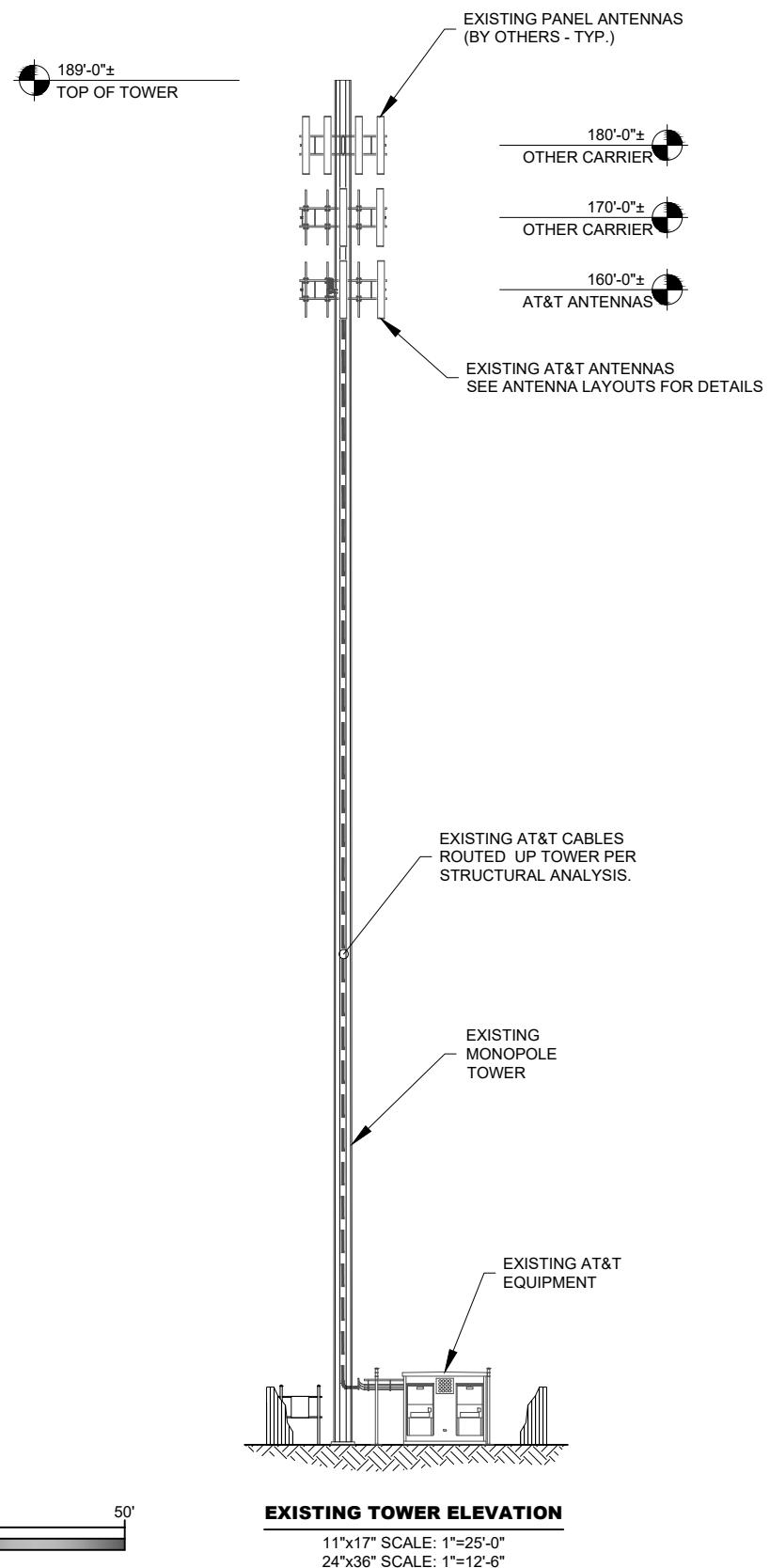
PREPARED BY:  
**MasTec**  
Network Solutions  
507 AIRPORT BLVD, SUITE 111  
MORRISVILLE, NC 27560

SITE ID:  
**SUMMERLYN BDN**  
SITE NAME:  
**KGI TOWER, MILL CREEK**

SITE ADDRESS:  
**7377 NOLENSVILLE ROAD**  
**NOLENSVILLE, TN 37135**

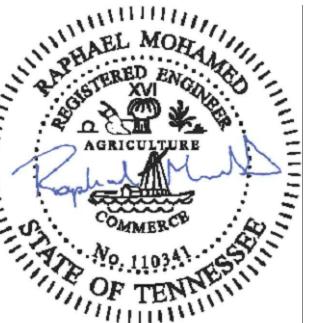
FA LOCATION:  
**14632524**  
TOWER OWNER ID:  
**416367**

SHEET TITLE  
**SITE PLAN & EQUIPMENT LAYOUT**  
SHEET NUMBER  
**C-1**



NOTES:

1. THIS ANTENNA ORIENTATION PLAN IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
2. ANTENNA CENTERLINE HEIGHT BASED ON TOP OF FOOTING ELEVATION.
3. ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE TOWER ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
4. ALL ANTENNA BRACKETS PER ANTENNA MANUFACTURER, OR EQUAL. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT WITH AT&T.
5. ALL ANTENNA INFORMATION TO BE CONFIRMED WITH AT&T RF DESIGN PRIOR TO INSTALLATION.
6. ALL ANTENNA INFORMATION BASED ON STRUCTURAL ANALYSIS REPORT REFERENCED ON SHEET T-1 IF APPLICABLE.



2/25/2022

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TENNESSEE LIC. NO. 110341

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APP'D BY: RM

MNS PROJECT NO: 29043-AEC

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PREPARED FOR:



PREPARED BY:  
**MaSTec**  
Network Solutions  
507 AIRPORT BLVD, SUITE 1100  
MORRISVILLE, NC 27560

SITE ID:  
**SUMMERLYN BDN**

SITE NAME:  
**KGI TOWER, MILL CREEK**

SITE ADDRESS:  
**7377 NOLENSVILLE ROAD  
NOLENSVILLE, TN 37135**

FA LOCATION:  
**14632524**

TOWER OWNER ID:  
**416367**

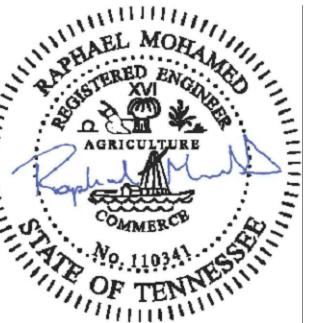
SHEET TITLE:  
**TOWER ELEVATIONS**

SHEET NUMBER:  
**C-2**

**EXISTING RF EQUIPMENT SCHEDULE**

SECTOR - POSITION	FREQUENCY BAND	ANTENNA MAKE/MODEL	RAD CENTER	AZIMUTH	E. TILT	M. TILT	(QTY.) RADIO	(QTY.) TMA/FILTERS	(QTY.) SURGE PROTECTION	(QTY.) CABLES	CABLE LENGTH
A1	-	-	-	-	-	-	-	-	-	-	-
A2	-	-	-	-	-	-	-	-	-	-	-
A3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160°-0"	30°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	(1) DC9-48-60-24-8C-EV	(1) FIBER TRUNK (3) DC TRUNKS	TBD
A4	-	-	-	-	-	-	-	-	-	-	-
A5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160°-0"	30°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
B1	-	-	-	-	-	-	-	-	-	-	-
B2	-	-	-	-	-	-	-	-	-	-	-
B3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160°-0"	150°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	-	-	-
B4	-	-	-	-	-	-	-	-	-	-	-
B5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160°-0"	150°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
C1	-	-	-	-	-	-	-	-	-	-	-
C2	-	-	-	-	-	-	-	-	-	-	-
C3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160°-0"	270°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	(1) DC9-48-60-24-8C-EV	(1) FIBER TRUNK (3) DC TRUNKS	TBD
C4	-	-	-	-	-	-	-	-	-	-	-
C5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160°-0"	270°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
<b>TOTALS</b>		<b>(6) ANTENNAS</b>					<b>(9) RRUS</b>	<b>(0) TMAS (0) FILTERS</b>	<b>(2) SPDS</b>	<b>(8) CABLES</b>	-

(RM) = REMOVE  
(RL) = RELOCATE  
(I) = INACTIVE



2/25/2022

RAPHAEL MOHAMED, P.E.  
TENNESSEE LIC. NO. 110341

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DRAWN BY: TGE

CHECKED BY: JFS

APP'D BY: RM

MNS PROJECT NO: 29043-AEC

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**PREPARED FOR:**


PREPARED BY:  
**MaSTec**  
Network Solutions  
507 AIRPORT BLVD, SUITE 111  
MORRISVILLE, NC 27560

SITE ID:  
**SUMMERLYN BDN**

SITE NAME:  
**KGI TOWER, MILL CREEK**

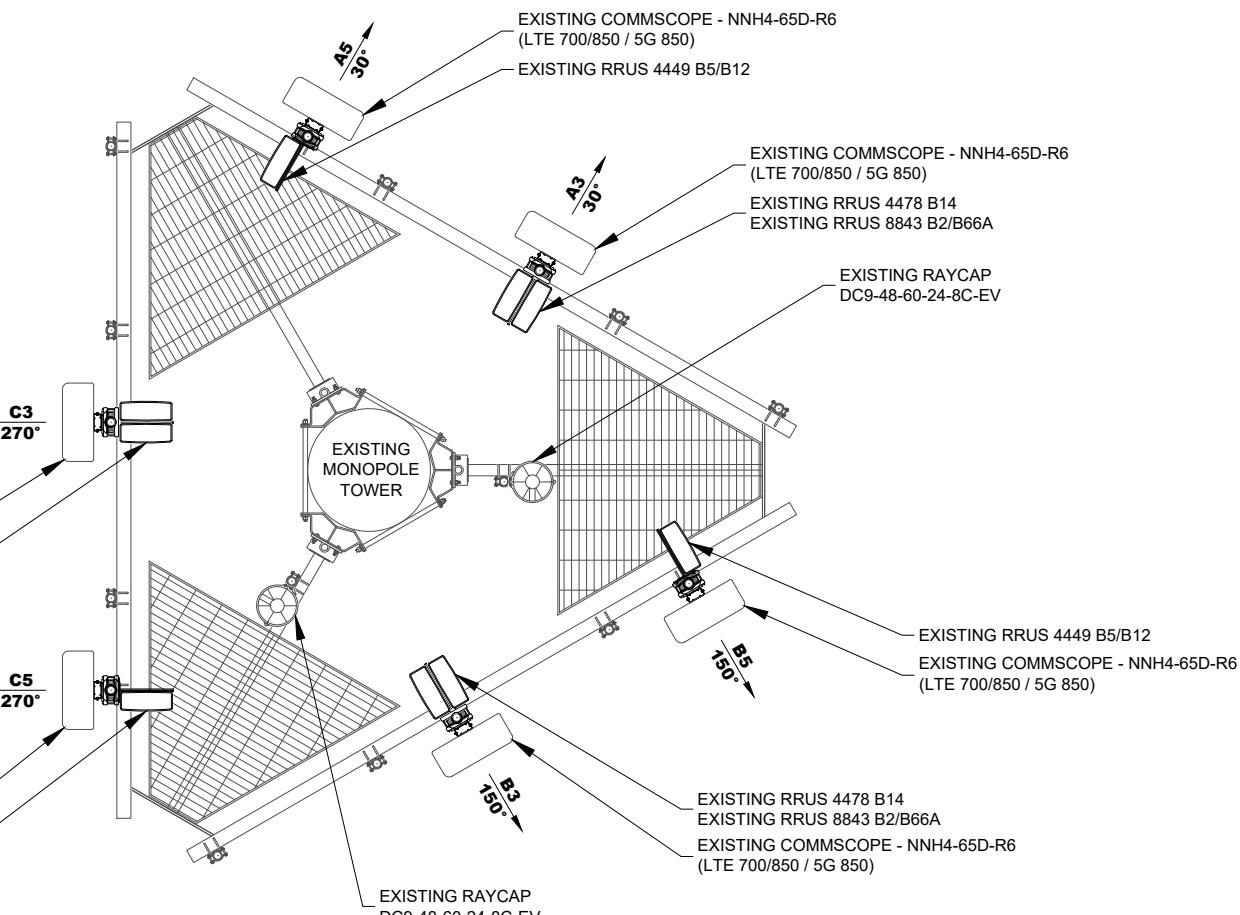
SITE ADDRESS:  
**7377 NOLENSVILLE ROAD**  
**NOLENSVILLE, TN 37135**

FA LOCATION:  
**14632524**

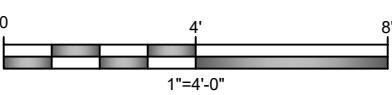
TOWER OWNER ID:  
**416367**

SHEET TITLE:  
**EXISTING ANTENNA LAYOUT**

SHEET NUMBER  
**C-3**


**EXISTING ANTENNA LAYOUT**

11"x17" SCALE: 1"=4'-0"  
24"x36" SCALE: 1"=2'-0"



### FINAL RF EQUIPMENT SCHEDULE

SECTOR - POSITION	FREQUENCY BAND	ANTENNA MAKE/MODEL	RAD CENTER	AZIMUTH	E. TILT	M. TILT	(QTY.) RADIO	(QTY.) TMA/FILTERS	(QTY.) SURGE PROTECTION	(QTY.) CABLES	CABLE LENGTH
A1	5G DOD 5G CBAND	ERICSSON - AIR6419 N77G (P) (TOP) ERICSSON - AIR6449 N77D (P) (BOTTOM)	160'-0"	30°	0°	0°	-	-	-	-	-
A2	-	-	-	-	-	-	-	-	-	-	-
A3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160'-0"	30°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	(1) DC9-48-60-24-8C-EV	(1) FIBER TRUNK (3) DC TRUNKS	TBD
A4	-	-	-	-	-	-	-	-	-	-	-
A5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160'-0"	30°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
B1	5G DOD 5G CBAND	ERICSSON - AIR6419 N77G (P) (TOP) ERICSSON - AIR6449 N77D (P) (BOTTOM)	160'-0"	150°	0°	0°	-	-	(1) DC9-48-60-24-8C-EV (P)	(1) FIBER TRUNK (P) (2) DC TRUNKS (P)	TBD
B2	-	-	-	-	-	-	-	-	-	-	-
B3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160'-0"	150°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	-	-	-
B4	-	-	-	-	-	-	-	-	-	-	-
B5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160'-0"	150°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
C1	5G DOD 5G CBAND	ERICSSON - AIR6419 N77G (P) (TOP) ERICSSON - AIR6449 N77D (P) (BOTTOM)	160'-0"	270°	0°	0°	-	-	-	-	-
C2	-	-	-	-	-	-	-	-	-	-	-
C3	LTE 700/1900/AWS	COMMSCOPE - NNH4-65D-R6	160'-0"	270°	4°	0°	(1) RRUS 4478 B14 (1) RRUS 8843 B2/B66A	-	(1) DC9-48-60-24-8C-EV	(1) FIBER TRUNK (2) DC TRUNKS	TBD
C4	-	-	-	-	-	-	-	-	-	-	-
C5	LTE 700/850 5G 850	COMMSCOPE - NNH4-65D-R6	160'-0"	270°	4°	0°	(1) RRUS 4449 B5/B12	-	-	-	-
<b>TOTALS</b>		<b>(12) ANTENNAS</b>					<b>(9) RRUS</b>	<b>(0) TMAS (0) FILTERS</b>	<b>(3) SPDS</b>	<b>(11) CABLES</b>	-

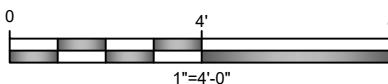
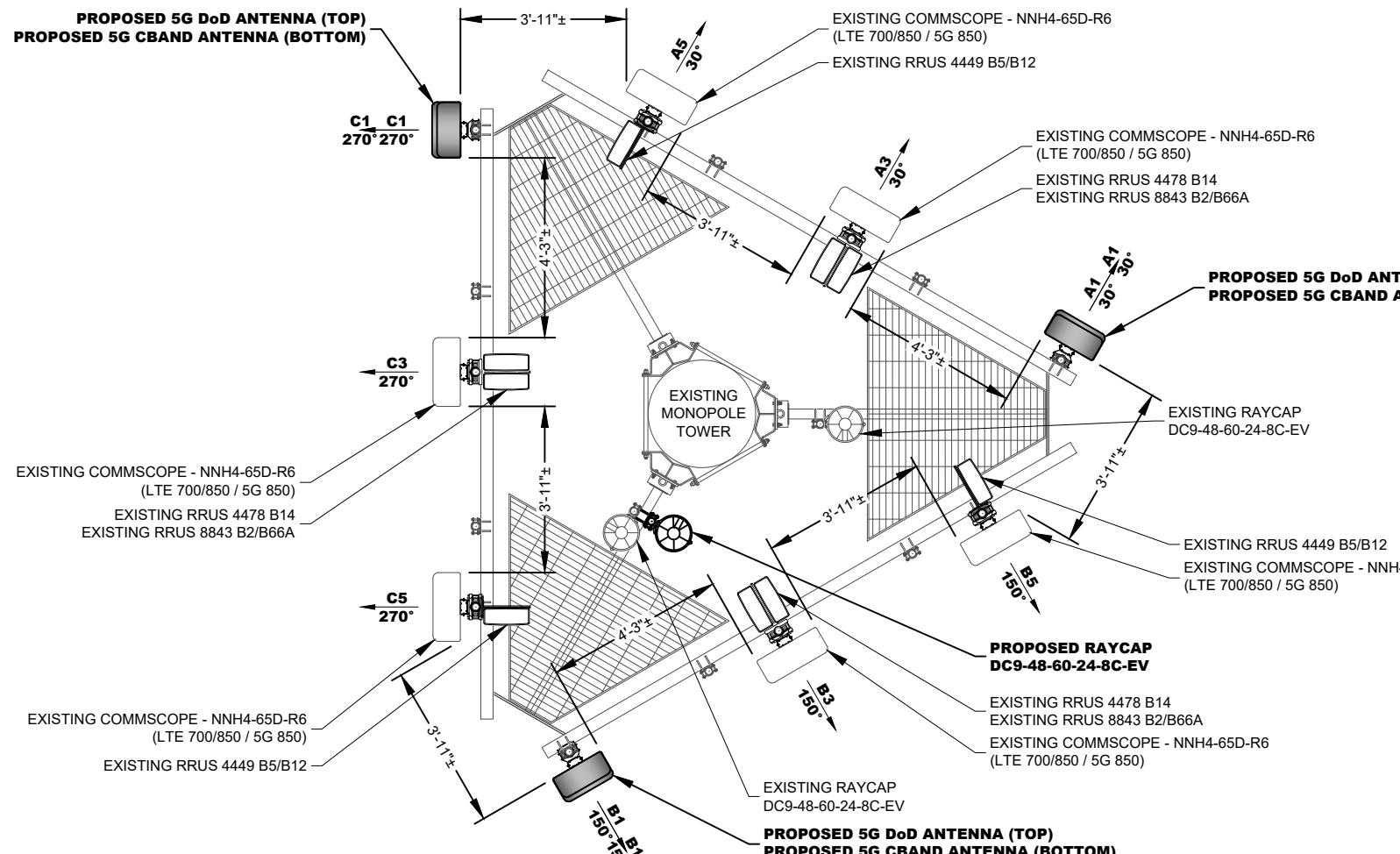
(P) = PROPOSED

(RL) = RELOCATE

(I) = INACTIVE

### SCOPING NOTES - TOWER

- INSTALL (3) AIR6419 N77G STACKED INTEGRATED ANTENNAS TO POS1, (ALL SECTORS) THIS WILL BE A STACKED ANTENNA. AIR6419 N77G WILL BE ON TOP OF STACK PER RFDS DESIGN.
- INSTALL (3) AIR6449 N77D INTEGRATED ANTENNAS TO POS1, ALL SECTORS. THIS WILL BE A STACKED ANTENNA. AIR6419 N77G WILL BE ON BOTTOM OF STACK PER RFDS DESIGN.
- INSTALL (1) DC9-48-60-24-8C-EV SQUIDS
- INSTALL (1) 18-PAIR FIBER TRUNK TO NEW BETA SQUID
- INSTALL (1) #6 DC TRUNK TO BETA SECTOR
- INSTALL (1) #6 DC TRUNK





2/25/2022

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TENNESSEE LIC. NO. 110341

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CHECKED BY: JFS  
APP'D BY: RM

MNS PROJECT NO: 29043-AEC

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PREPARED FOR:



PREPARED BY:  
**MaSTec**  
Network Solutions  
507 AIRPORT BLVD, SUITE 111  
MORRISVILLE, NC 27560

SITE ID:  
**SUMMERLYN BDN**

SITE NAME:  
**KGI TOWER, MILL CREEK**

SITE ADDRESS:  
**7377 NOLENSVILLE ROAD**  
**NOLENSVILLE, TN 37135**

FA LOCATION:  
**14632524**

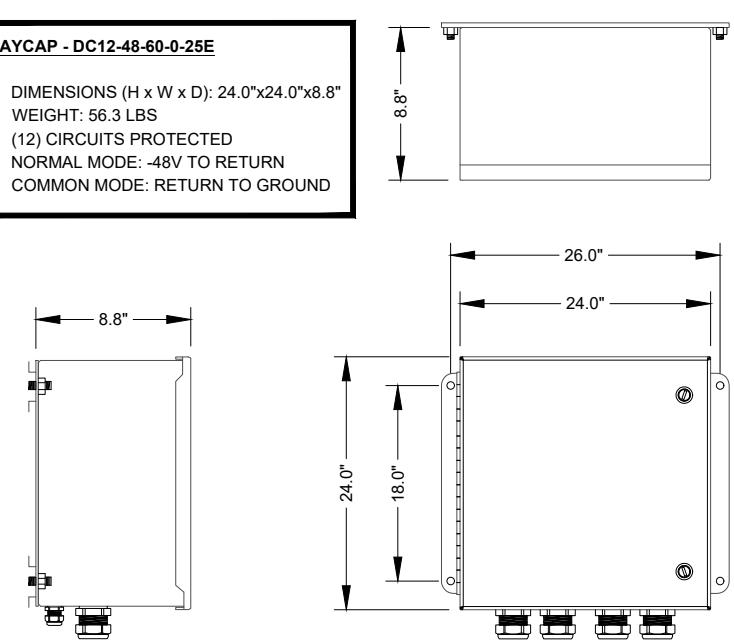
TOWER OWNER ID:  
**416367**

SHEET TITLE  
**EQUIPMENT DETAILS**

SHEET NUMBER  
**C-5**

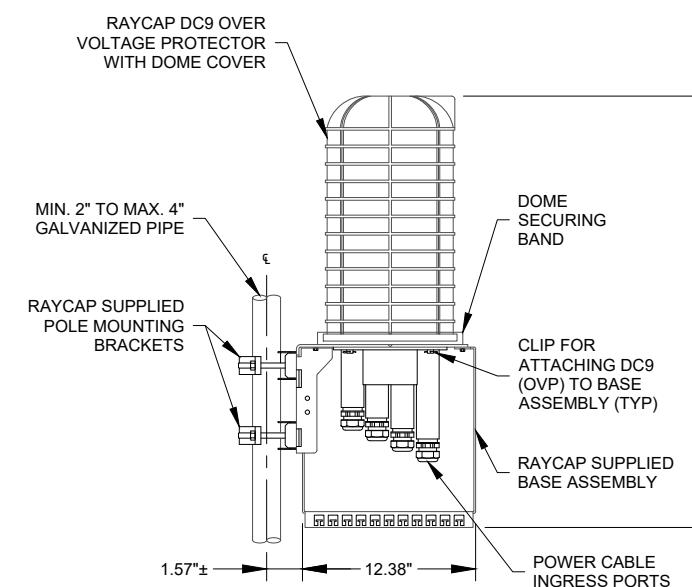
**RAYCAP - DC12-48-60-0-25E**

- DIMENSIONS (H x W x D): 24.0" x 24.0" x 8.8"
- WEIGHT: 56.3 LBS
- (12) CIRCUITS PROTECTED
- NORMAL MODE: -48V TO RETURN
- COMMON MODE: RETURN TO GROUND



**DC12-48-60-0-25E DETAIL**

SCALE: N.T.S.

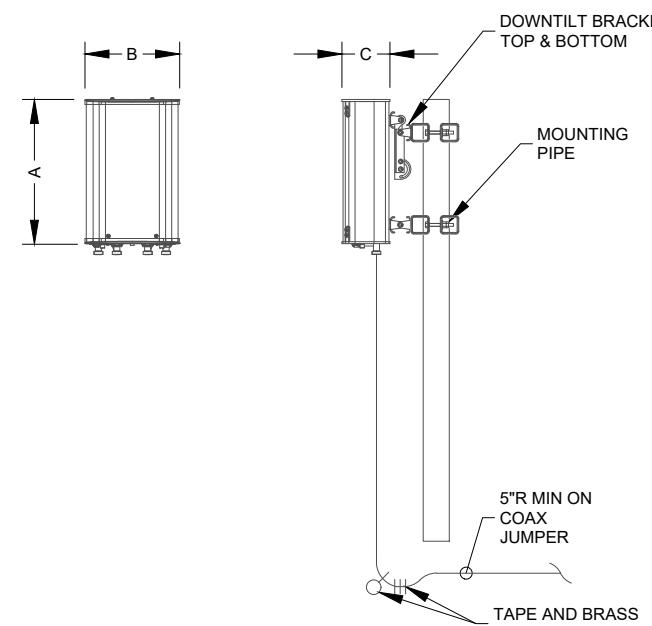


NOTES:

RAYCAP VIA AT&T SUPPLIES THE DC9 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

**RAYCAP DC9-48-60-24-8C-EV ASSEMBLY**

SCALE: N.T.S.

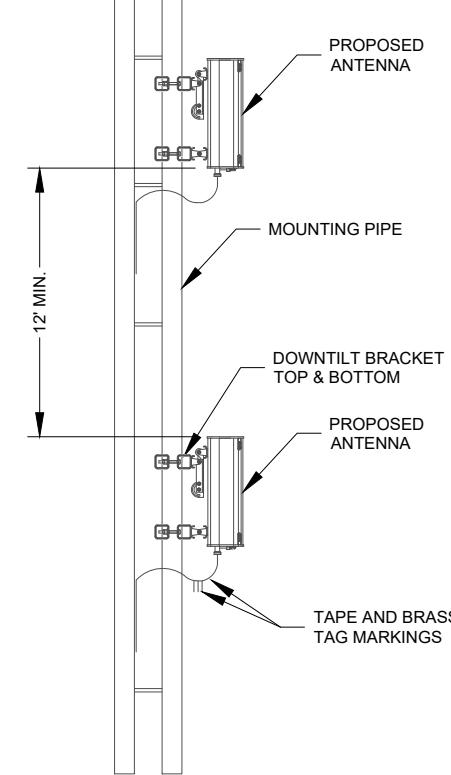


**NEW ANTENNA SPECIFICATIONS**

ANTENNA MODEL	LENGTH (A)	WIDTH (B)	DEPTH (C)	WEIGHT
ERICSSON AIR6449 B77D	30.4"	15.9"	8.1"	81.6 LBS
ERICSSON AIR6419 B77G	28.0"	15.7"	6.7"	66.1 LBS

**NEW ANTENNA SPECIFICATIONS**

SCALE: N.T.S.



**ANTENNA MOUNTING DETAIL**

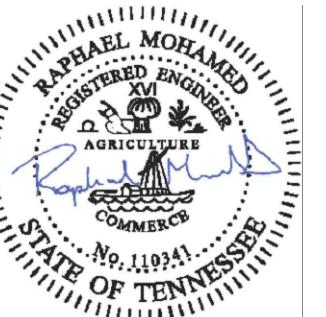
SCALE: N.T.S.

**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 T1 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 SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY 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.
22. 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.
23. **ELECTRICAL INSTALLATION NOTES:**
  1. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
  2. SUBCONTRACTORS SHALL MODIFY EXISTING CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBMIT MODIFICATIONS SUBCONTRACTOR SHALL TO CONTRACTOR FOR APPROVAL.
  3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
  4. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
  5. 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.
  6. 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
  7. 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 IDs).
  8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
  9. ALL TIE WRAPS WHERE PERMITTED SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. USE LOW PROFILES TIE WRAPS.
  10. 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.
  11. 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.
  12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR 2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
  13. 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.
  14. 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 ON LESS THAN 75°C (90°C IF AVAILABLE).
  15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
  16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
  17. 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.
  18. ELECTRICAL METALLIC TUBING (EMT) OR ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
  19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
  20. 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.
  21. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
  22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
  23. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
  24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
  25. 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.
  26. 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.
  27. 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.
  28. 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.
  29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
  30. 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.
31. **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 AFIJ). 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 ANTI-OXIDANT 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 CUPS 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.

RAPHAEL MOHAMED, P.E.  
TENNESSEE LIC. NO. 110341

2/25/2022

**SUBMITTALS**

DATE	DESCRIPTION	REV	ISSUED BY
2/25/2022	CONSTRUCTION	0	RM

DRAWN BY: TGE  
 CHECKED BY: JFS  
 APP'D BY: RM  
 MNS PROJECT NO: 29043-AEC

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**PREPARED FOR:****PREPARED BY:****SITE ID:**

SUMMERLYN BDN

**SITE NAME:**

KGI TOWER, MILL CREEK

**SITE ADDRESS:**7377 NOLENSVILLE ROAD  
NOLENSVILLE, TN 37135**FA LOCATION:**

14632524

**TOWER OWNER ID:**

416367

**SHEET TITLE**

GENERAL NOTES

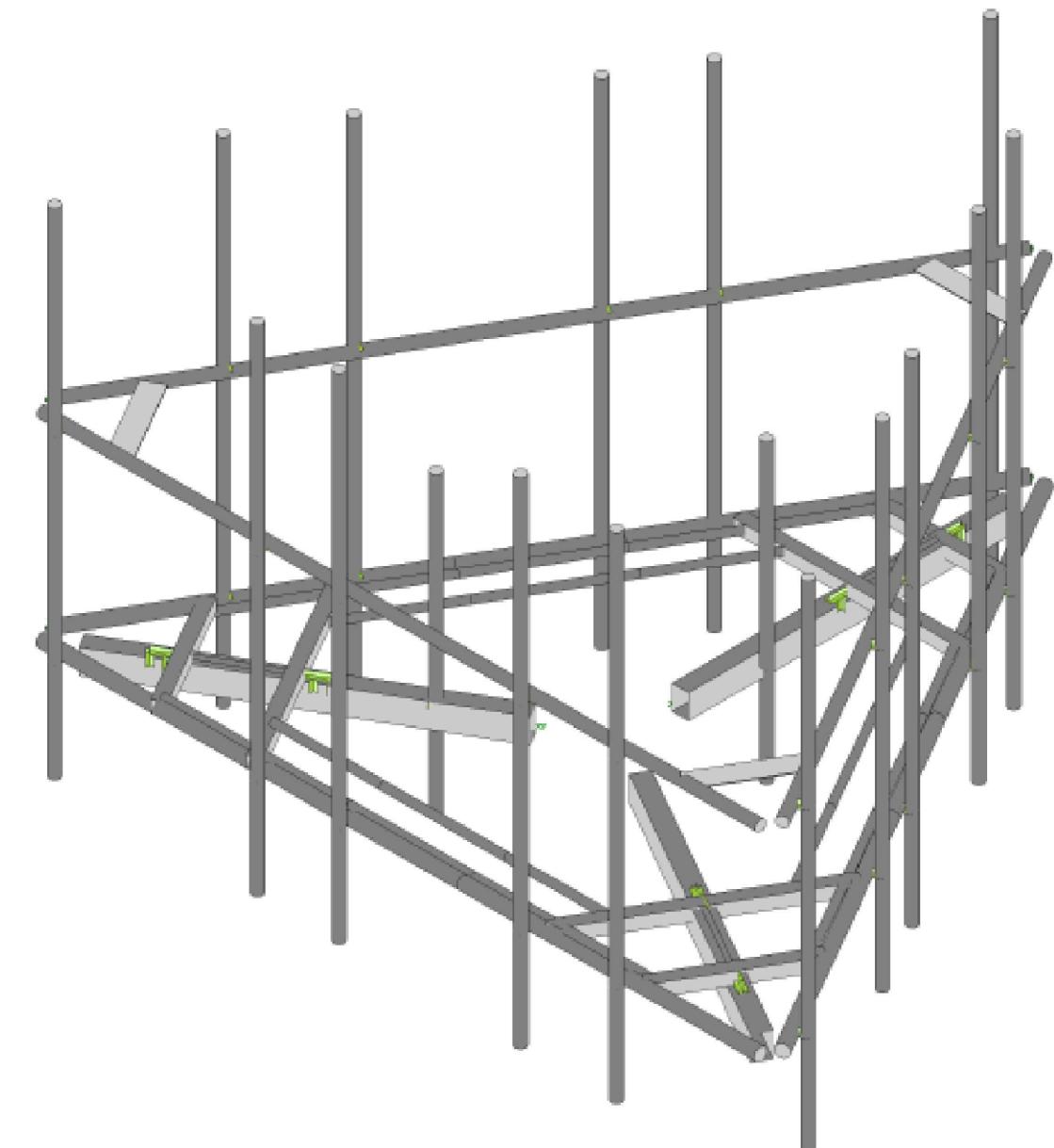
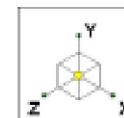
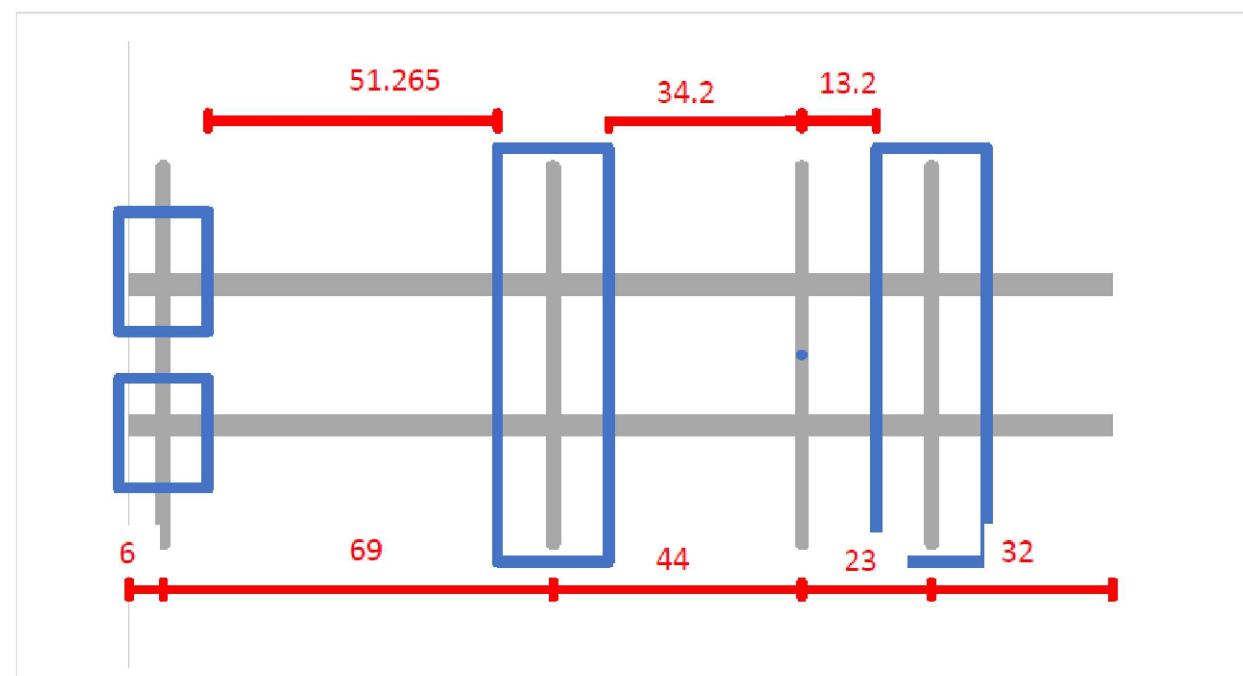
**SHEET NUMBER**

GN-1

Face Width (ft) 14.5

**MasTec**  
Network Solutions

Spacing (in)	Antenna 1		Spacing (in)	Antenna 2		Spacing (in)	Antenna 3		Spacing (in)	Antenna 4		Spacing (in)
-1.935	Height (in)	30.63	51.265	Height (in)	106	34.2	Height (in)		13.2	Height (in)	106	22.2
	Width (in)	15.87		Width (in)	19.6		Width (in)			Width (in)	19.6	
6	Depth (in)	10.55	69	Depth (in)	7.8	44	Depth (in)		23	Depth (in)	7.8	32
	Antenna 5		Spacing (in)	Antenna 6		Spacing (in)	Antenna 7		Spacing (in)	Antenna 8		Spacing (in)
	Height (in)	27.95		Height (in)			Height (in)			Height (in)		
	Width (in)	15.75		Width (in)			Width (in)			Width (in)		
	Depth (in)	6.68		Depth (in)			Depth (in)			Depth (in)		



Envelope Only Solution

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SD

29043-MNT1

KGI TOWER, MILL CREEK ( FA#14632524 )

SK - 1

Dec 14, 2021 at 10:13 AM

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