



at&t

DXZW FA# 10023437 CROWN CASTLE BU# 812072

2000 CITY HALL DRIVE
LAUDERHILL, FL 33313

TOWER UPGRADE: 5G NR RADIO PACE JOB#: MRTFL008687

REV	DATE	DESCRIPTION
A	4/22/21	PRELIMINARY CDs REV "A"
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USA ENG PROJECT NO.: --

DRAWN BY:	CHECKED BY:
WL	FN



8601 W SUNRISE BLVD
PLANTATION, FL 33322



6100 BROKEN SOUND PKWY
SUITE 6
BOCA RATON, FL 33487

PREPARED BY:

2818 CYPRESS RIDGE BLVD.
SUITE 110
WESLEY CHAPEL, FL 33544
(813) 994-0365
FL COA #31705

NOT FOR CONSTRUCTION

MARC P MAIER, PE
FL PROFESSIONAL ENGINEER LIC. # 72513

DXZW FA #10023437

2000 CITY HALL DRIVE
LAUDERHILL, FL 33313

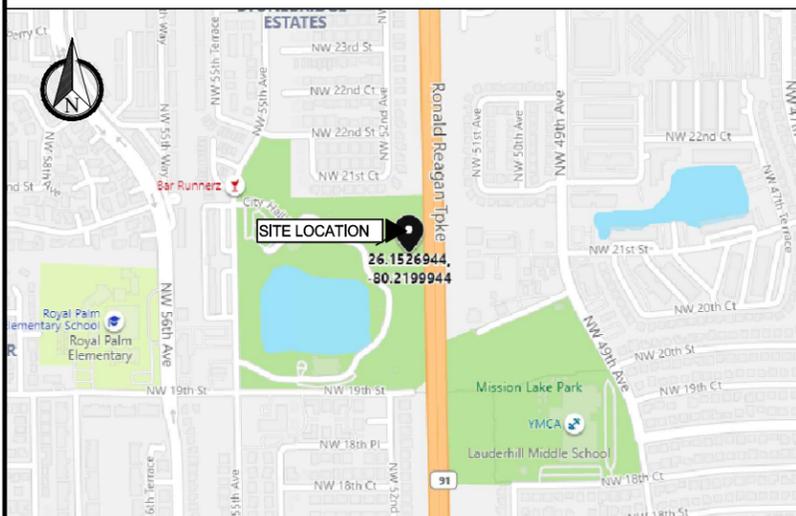
SHEET DESCRIPTION

TITLE SHEET

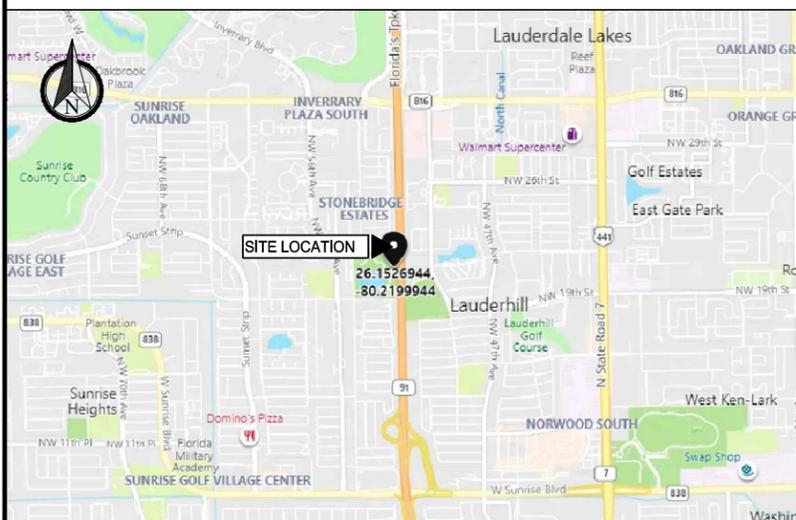
SHEET NUMBER

T-1

LOCATION MAP



VICINITY MAP



DRIVING DIRECTIONS

DEPART FROM AT&T OFFICE 8601 W. SUNRISE BLVD., PLANTATION, FL 33322

- Head southwest on W Sunrise Blvd
- Turn right onto N Pine Island Rd
- Turn right onto Sunset Strip
- Turn left onto NW 19th St
- Turn left onto NW 55th Ave
- Turn left onto City Hall Dr.
- Turn left
- Destination will be on the left

Arrive at 26.1526944, -80.2199944

APPROVALS

PROPERTY OWNER	DATE
RF ENGINEER	DATE
CONSTRUCTION	DATE
SITE ACQUISITION	DATE
ZONING	DATE
NETWORK	DATE
OPERATIONS	DATE
CONTRACTOR	DATE

PROJECT SUMMARY

SITE NAME: DXZW
 FA SITE NUMBER: 10023437
 PARCEL: 4941-26-00-0013
 PROPERTY OWNER: CITY OF LAUDERHILL FINANCE DEPARTMENT RM 230 5455 NW 19TH STREET LAUDERHILL, FL 33313
 COUNTY: BROWARD
 JURISDICTION: CITY OF LAUDERHILL
 ZONING: PL - PARK, LOCAL
 SITE COORDINATES: N 26.1526944° W 80.2199944°
 SITE TYPE: 5G NR RADIO
 STRUCTURE TYPE: MONOPOLE
 TOWER HEIGHT: 125'-0" AGL
 ANTENNA C.L. HEIGHT: 127'-0" AGL

PROJECT REFERENCES

- THESE PLANS WERE COMPLETED PER 5G NR RFDS ID#: 4200278 V1.00, DATED 12/9/2020. CONTRACTOR SHALL REQUEST CURRENT RFDS & WORKBOOK FROM CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- THESE PLANS WERE COMPLETED PER USA ENGINEERING'S MOUNT ANALYSIS DATED 4/1/21.

DESIGN CRITERIA

- FLORIDA BUILDING CODE (7TH EDITION) 2020 ANS/EIA/TIA-222-H (ALLOWED PER EXEMPTION #5 OF 1609.1.1) ASCE 7-16
- VULT = 170 MPH (ULTIMATE 3 SECOND GUST)
- VASD = 132 MPH (NOMINAL 3 SECOND GUST)
- RISK CATEGORY = II
- EXPOSURE = C
- IMPORTANCE FACTOR= 1.0
- NATIONAL ELECTRICAL CODE, 2017 EDITION (NFPA 70 2017)
- FLORIDA FIRE PREVENTION CODE (7TH EDITION) 2020
- CONTRACTOR TO CONFIRM THAT THE SITE IS COMPLIANT WITH RF WARNING SIGNAGE & EMERGENCY SIGNAGE AS REQUIRED BY THE FEDERAL GUIDELINES CONTAINED WITH OET 65 BULLETIN & AS PER AT&T GUIDELINES

CONSTRUCTION NOTES

- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
- CONTRACTOR SHALL NOTIFY OWNER FOR ACCESS TO SITE.
- THIS PROJECT CONSISTS OF THE INSTALLATION OF: (3) NEW ANTENNAS, (1) NEW FIBER CABLE, AND ALL ASSOCIATED WORK.
- THIS PROJECT CONSISTS OF THE REMOVAL OF: (1) FIBER CABLE.

CONTACTS

APPLICANT:
AT&T MOBILITY CORP.
8601 W. SUNRISE BLVD.
PLANTATION, FL 33322

TOWER OWNER:
CROWN CASTLE
6420 CONGRESS AVENUE
SUITE 2000
BOCA RATON, FL 33487

ENGINEER:
USA ENGINEERING
2818 CYPRESS RIDGE BLVD., SUITE 110
WESLEY CHAPEL, FL 33544
CONTACT: DARRYL KROEZE, P.E.
PHONE: 813-994-0365

PROJECT INFORMATION

- THIS IS AN UNMANNED FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
- AT&T CERTIFIES THAT THIS EQUIPMENT FACILITY WILL BE SERVICED ONLY BY AT&T EMPLOYEES AND SUBCONTRACTORS AND THE WORK ASSOCIATED WITH ANY EQUIPMENT CANNOT BE PERFORMED BY HANDICAPPED PERSONS. THIS FACILITY WILL BE FREQUENTED ONLY BY SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY.
- NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
- NO WASTEWATER WILL BE GENERATED AT THIS LOCATION.
- NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

USA ENGINEERING - T:\00-2021 PROJECTS\17-Smartlink\ATT LTE\DXZW_10023437\Design\10023437_DXZW_5G NR RADIO CD.dwg April 22, 2021 2:14:20 PM wilfred.lebron

GENERAL NOTES:

1. ALL REFERENCES TO OWNER HEREIN SHALL BE CONSTRUED TO MEAN **AT&T** OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.
3. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
4. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
5. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE TESTING AGENCY PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.
6. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
8. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF THE LOCAL BUILDING CODE.
9. ALL PROPOSED CELLULAR EQUIPMENT AND FIXTURES SHALL BE FURNISHED BY OWNER FOR INSTALLATION BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE A.I.S.C. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS- ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE A.I.S.C. CODE OF STANDARD PRACTICE.
2. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
3. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1/D1.1M:2010. STRUCTURAL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX.

4. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE GRADE 304 STAINLESS STEEL.
5. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.
6. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST A.I.S.C. SPECIFICATIONS.
7. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.
8. HOT-DIP GALVANIZE ITEMS SPECIFIED TO BE ZINC-COATED, AFTER FABRICATION WHERE PRACTICAL. GALVANIZING: ASTM A 123, ASTM, A 153/A 153M OR ASTM A 653/A 653M, G90, AS APPLICABLE.
9. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A 780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED, AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS. IN STICK OR PASTE, SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
10. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS/SPECIFICATIONS IF NO INFORMATION IS CONTAINED IN THESE PLANS OR IF THE MANUFACTURER'S SPECIFICATIONS ARE STRICTER.

PERMITS:

1. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES.
2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
3. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND THE ACI 318-14, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
4. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
5. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

MISCELLANEOUS:

1. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLES SHALL CONFORM TO ASTM A307 OR ASTM 36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIA. BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE PLANE. ALL EXPOSED FASTENERS, NUTS, AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
2. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
3. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
4. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE GRADE 304 STAINLESS STEEL HARDWARE THROUGHOUT.
5. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.

6. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.
7. FOR GROUNDING TO BUILDING FRAME AND HATCH PLATE GROUND BARS, USE A TWO-BOLT HOLE NEPA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.
8. FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI-OXIDE COMPOUND SUCH AS 'NO-OXIDE A' BY DEARBORN CHEMICAL COMPANY.
9. REPAIR ALL METAL SURFACES THAT HAVE BEEN CUT OR DAMAGED BY REMOVING ANY EXISTING RUST AND APPLYING COLD GALVANIZATION.
10. ANTENNA CABLE LENGTHS HAVE BEEN DETERMINED BASED ON THESE PLANS. CABLE LENGTHS LISTED ARE APPROXIMATED AND ARE NOT INTENDED TO BE USED FOR FABRICATION. DUE TO FIELD CONDITIONS, ACTUAL CABLE LENGTHS VARY. CONTRACTOR MUST FIELD VERIFY ANTENNA CABLE LENGTHS PRIOR TO ORDER.

REV	DATE	DESCRIPTION
A	4/22/21	PRELIMINARY CDs REV "A"
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DRAWN BY:	CHECKED BY:
WL	FN



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BOCA RATON, FL 33487

PREPARED BY:



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**NOT FOR
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FL PROFESSIONAL ENGINEER LIC. # 72513

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SHEET DESCRIPTION

**GENERAL NOTES,
ABBREVIATIONS**

SHEET NUMBER

GN-1

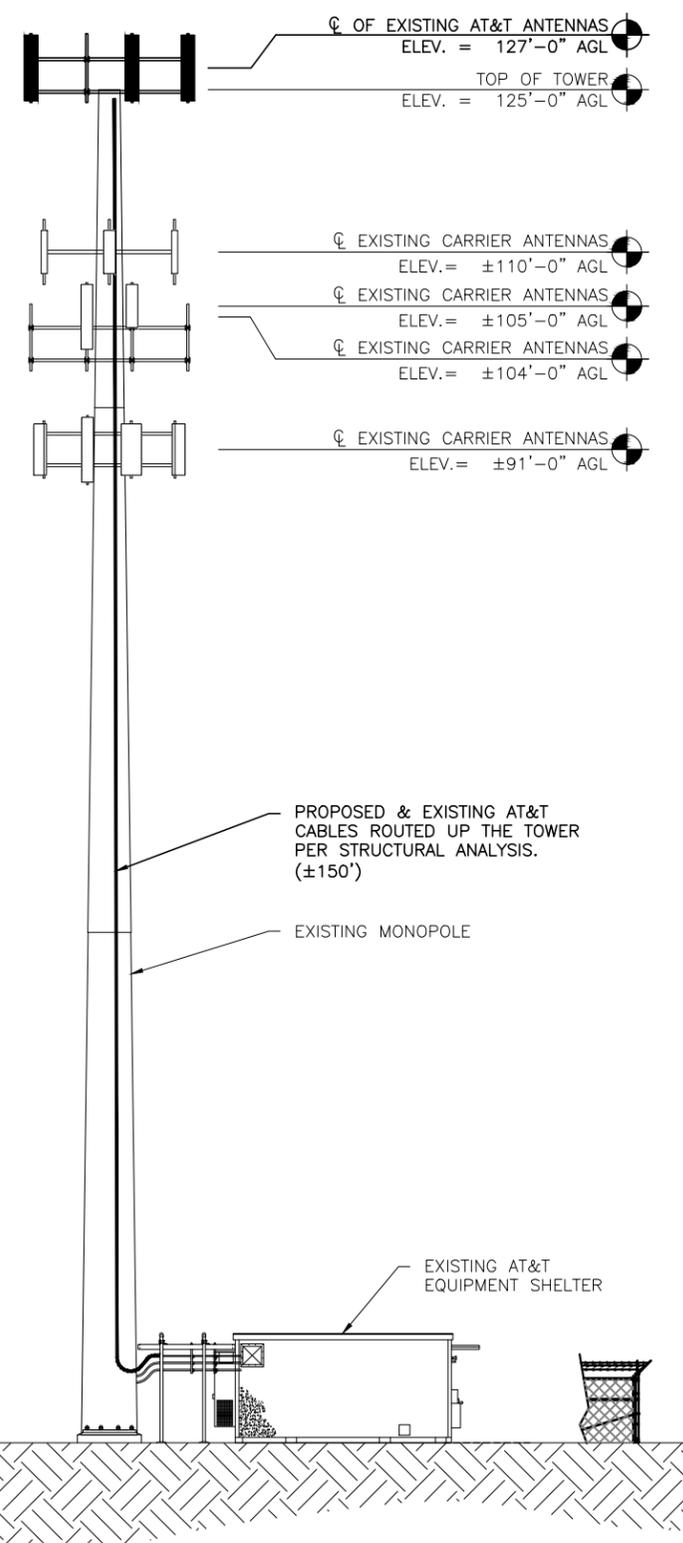
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- NOTES:**
1. A STRUCTURAL ANALYSIS SHALL BE PERFORMED BY THE OWNER'S AGENT TO CERTIFY THAT THE EXISTING/PROPOSED COMMUNICATION STRUCTURE AND COMPONENTS ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, COAXIAL CABLES AND OTHER APPURTENANCES. THE OWNER'S AGENT SHALL FURNISH A CERTIFICATION LETTER SEALED BY A REGISTERED PROFESSIONAL ENGINEER STATING THAT THIS STRUCTURAL ANALYSIS WAS PREPARED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.
 2. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION VIA NCR/CTS.
 3. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.
 4. ANTENNA AND MOUNT DESIGN MUST COMPLY WITH TIA-EIA-222-G AND ALL LOCAL CODES.
 5. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.

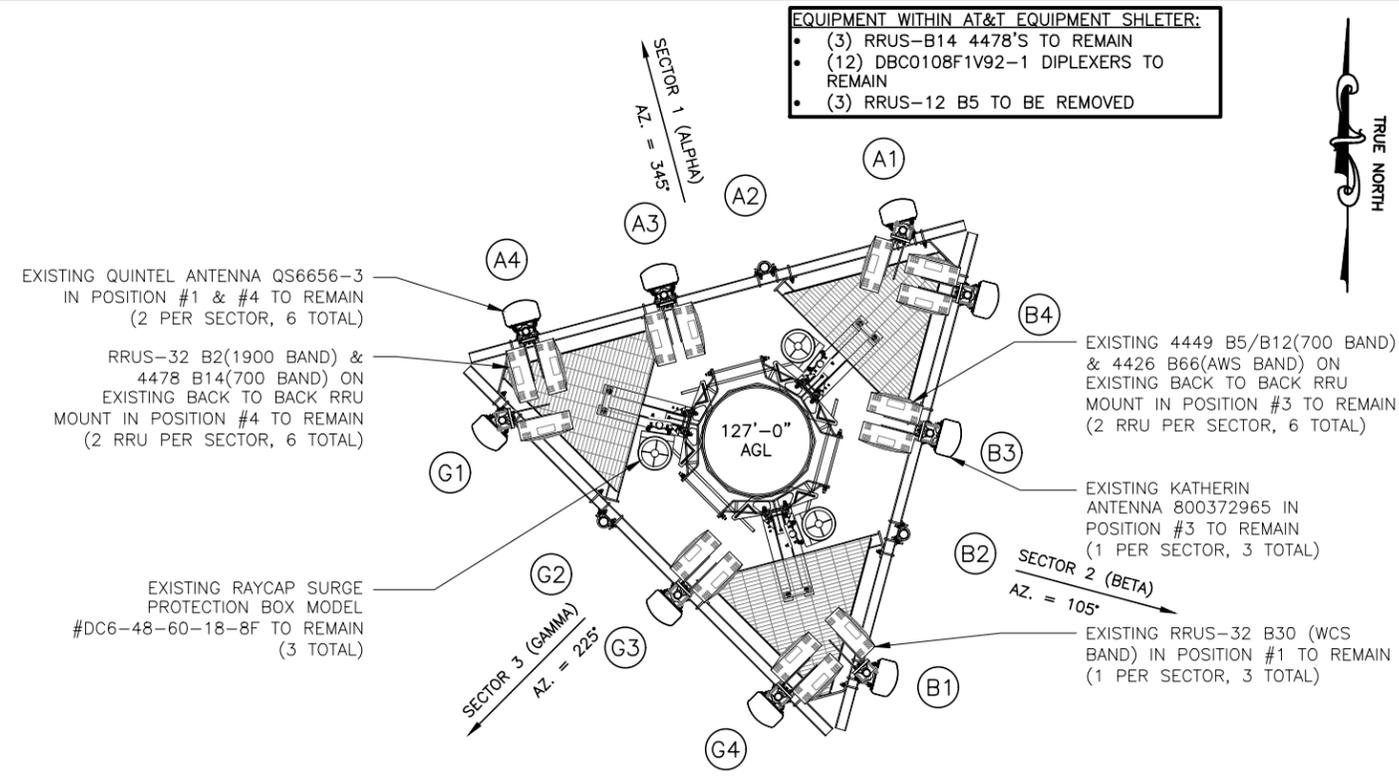
CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE RAYCAP INSTALLED ON THE TOWER TO ACCOMMODATE THE QUANTITY OF RRU'S.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

- NOTES:**
1. REFER TO CURRENT RFDS FOR ADDITIONAL INFO.
 2. ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTH SPECIFIED AND LIMIT RF SHADOWING
 3. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
 4. CONTRACTOR TO RETURN ALL EXISTING ANTENNAS BEING REMOVED TO AT&T.

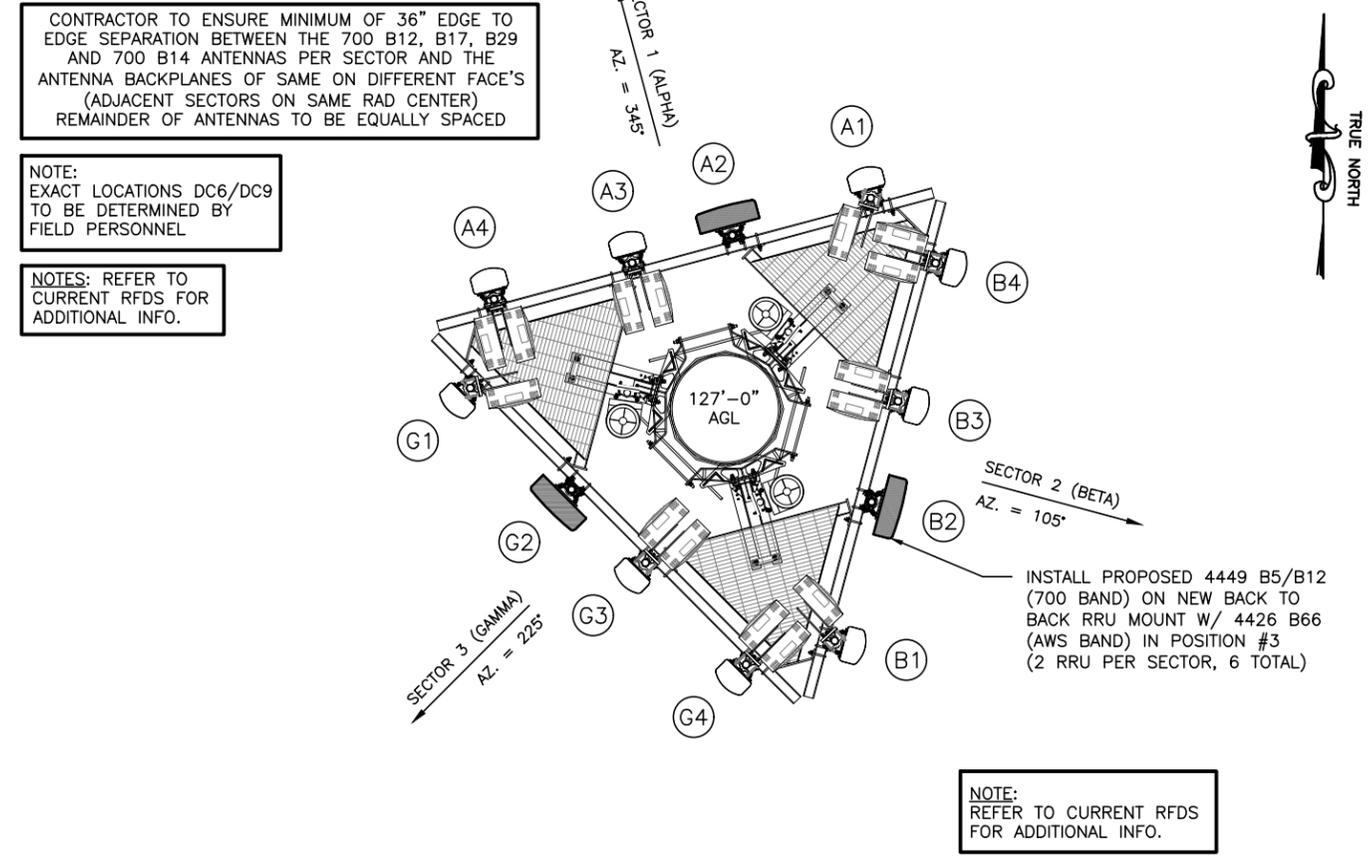


1 TOWER ELEVATION
SCALE: N.T.S.



NOTE: REFER TO CURRENT RFDS FOR ADDITIONAL INFO.

2 EXISTING ANTENNA CONFIGURATION DETAIL
SCALE: 1"=5'



NOTE: REFER TO CURRENT RFDS FOR ADDITIONAL INFO.

3 PROPOSED ANTENNA CONFIGURATION DETAIL
SCALE: 1"=5'

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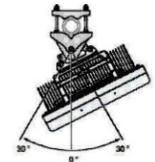
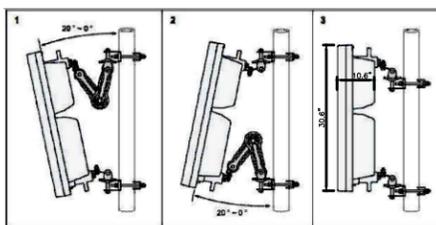
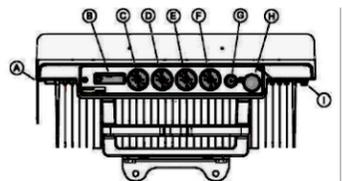
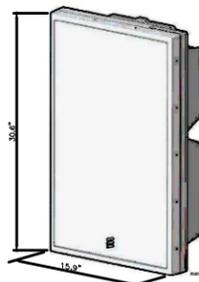
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SHEET DESCRIPTION
TOWER ELEVATION AND ANTENNA ORIENTATION

SHEET NUMBER
S-1

ERICSSON AIR 6449 B77

- ERICSSON AIR 6449 has a total of 4 ECPM connections @ 25 Gbps
- Operates over B77 band (3.3-4.2 GHz)
- Breaker size - 50A DC, DC Power Consumption - 1200W (for @max output)
- Dimensions
 - Height: 30.0" (778 mm)
 - Width: 15.0" (403 mm)
 - Depth: 10.0" (268 mm)
- Weight, excl. mounting hardware = 82.5 lbs (37.6 kg)
- Weight with Mounting Hardware = 95.5 lbs (45.4 kg)
- Max Frontal Wind Load @ 42mph = 478 N
- Horizontal Separation Required between AIR 6449 = 100mm
- Minimum Vertical Space Required below AIR 6449 = 300mm
- Minimum Height Above Users = 5m
- Outdoor installation locations to avoid:
 - Infrared cameras or fire detectors located or affected from their field of view
 - Overhead power lines
 - Overhead antenna systems
 - Infrared laser beams or communications
- Avoid radio interference by keeping the area directly in front of the antenna clear of metal surfaces such as railings, ladders or chairs or equipment generating electromagnetic fields, for example, electric motors in air conditioners or diesel generators in front of antenna
- Do not use metallic paint to cover the AIR 6449 if painting is required. Do not paint underside of AIR 6449.

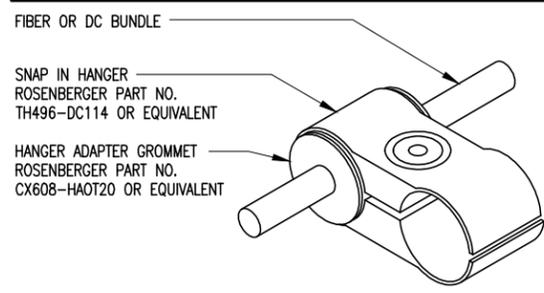


2 ANTENNA - ERICSSON AIR 6449 N77
SCALE: N.T.S.

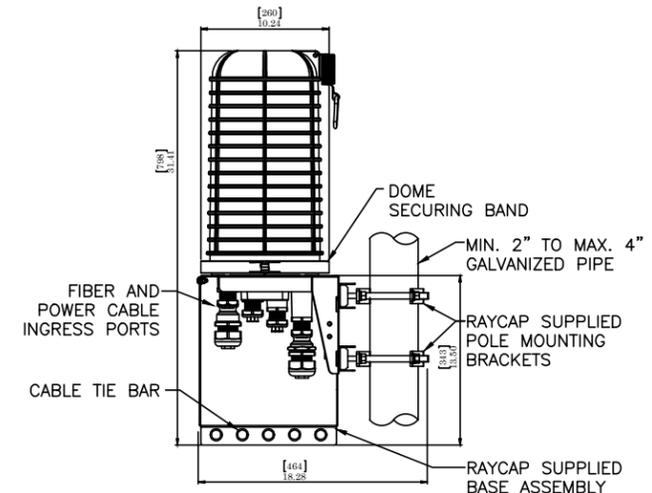
MISCELLANEOUS MATERIALS SCHEDULE

DESCRIPTION	MODEL NUMBER	QUANTITY
SNAP-IN HANGER	TH496-DC114	50
HANGER ADAPTER GROMMET	CX608-HA0711	50
HOISTING GRIP	CX051-HG38PL	-
HOISTING GRIP	CX06-HC12PL	1
GROUNDING KIT	-	-

- NOTES:
- REFER TO JSA DOCUMENTS FOR EXACT CABLE NUMBER AND MANUFACTURER SPECIFICATIONS FOR PROPER GROMMETS AND HANGER TO SUPPORT THE FIBER AND DC CABLE BUNDLES.
 - REFER TO STRUCTURAL ANALYSIS FOR EXACT CABLE ROUTING AND MOUNTING CONFIGURATION.



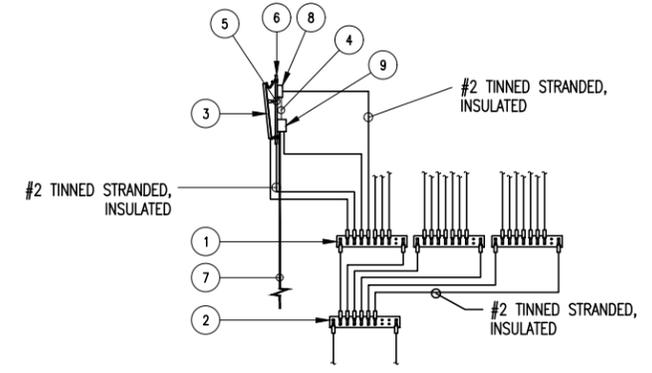
3 HANGER ADAPTER GROMMET DETAILS
SCALE: N.T.S.



- NOTES:
- UNIT SHALL BE MOUNTED AS PER MANUFACTURER'S RECOMMENDATIONS.
 - CONTRACTOR SHALL TIGHTEN ALL BOLTS TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
 - CONTRACTOR SHALL INSTALL RAYCAP DISTRIBUTION UNIT WITHIN 15 FEET FROM ALL RRH'S.

2 DC9-48-60-24-8C-EV MOUNT DETAIL
SCALE: N.T.S.

- KEYNOTE LEGEND:
- SECTOR GROUND BAR (TYP).
 - COLLECTOR GROUND BAR.
 - NEW ANTENNA.
 - SINGLE PAIR FIBER & DC POWER.
 - JUMPER CABLE, 1/2" (TYP).
 - PIPE MOUNT.
 - DC POWER & FIBER TO RAYCAP UNIT.
 - REMOTE RADIO HEAD (RRH) (IF APPLICABLE).
 - DC6 RAYCAP SURGE SUPPRESSOR (IF APPLICABLE).



- UTILIZE EXISTING AT&T GROUND BARS AND GROUNDING.
- ADD GROUND BARS IF THERE ARE INSUFFICIENT LUG POSITIONS.
- REFERENCE AT&T BONDING & GROUNDING PRACTICE TP76416.

4 ANTENNA GROUNDING SCHEMATIC
SCALE: N.T.S.

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MISC. DETAILS

SHEET NUMBER
S-2

USA ENGINEERING - T:\00-2021 PROJECTS\17-Smartlink\ATT LTE\DXZW_10023437\Design\10023437_DXZW_5G_NR_RADIO_CD.dwg April 22, 2021 2:14:26 PM wilfred.lebron

DC / FIBER DEMARCATON BOX						
RAYCAP DC FIBER DEMARCATON BOX			CABLES			NOTES
MOUNTING HEIGHT	MODEL	QTY	MODEL	SIZE	QTY	LENGTH PER LINE
127'-0"	DC6-48-60-18-8F	3	ROSENBERGER (18) PAIR FIBER TRUNK	3/8"	2	150'-0"
			ROSENBERGER (24) PAIR FIBER TRUNK	3/8"	1	150'-0"
			(6)-#8 AWG TINNED COPPER CONDUCTORS	3/4"	6	150'-0"

ANTENNA AND COAX SCHEDULE																								
SECTOR	AZ	RAD CENTER	ANTENNAS				CABLES					RRU		A2	DIPLEXER			TMA						
			MAKE	MODEL	(QTY)	APPROXIMATE ANTENNA SPECS	DOWN TILT	MODEL	SIZE	(QTY)	LENGTH/ LINE	COLOR CODE	MODEL	(QTY)	MOD	MODEL	TWR (QTY)	GRND (QTY)	MODEL	(QTY)				
ELEC	MECH																							
ALPHA (A1)	345°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	1 RED	-	-	-	DBC0061F1V51-1	-	2	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 RED	RRUS-32 B30	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 RED	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 RED	-	-	-	-	-	-	-				
ALPHA (A2)	345°	127'-0"	ERICSSON	AIR6449 N77	1	H=31.5" x W=15.9" x D=8.7"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	2 RED	-	-	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	2 RED	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	1	10'-0"	2 RED	-	-	-	-	-	-	-				
ALPHA (A3)	345°	127'-0"	KATHREIN	800372965	1	H=78.7" x W=14.8" x D=6.9"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 RED	4449 B5/B12	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 RED	4426 B66	1	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 RED	-	-	-	-	-	-	-				
ALPHA (A4)	345°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	4 RED	*B14 4478	1	-	-	DBC0061F1V51-1	-	2				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 RED	RRUS-32 B2	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 RED	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 RED	-	-	-	-	-	-	-				
BETA (B1)	105°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	1 BLUE	-	-	-	DBC0061F1V51-1	-	2	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 BLUE	RRUS-32 B30	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 BLUE	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 BLUE	-	-	-	-	-	-	-				
BETA (B2)	105°	127'-0"	ERICSSON	AIR6449 N77	1	H=31.5" x W=15.9" x D=8.7"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	2 BLUE	-	-	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	2 BLUE	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	1	10'-0"	2 BLUE	-	-	-	-	-	-	-				
BETA (B3)	105°	127'-0"	KATHREIN	800372965	1	H=78.7" x W=14.8" x D=6.9"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 BLUE	4449 B5/B12	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 BLUE	4426 B66	1	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 BLUE	-	-	-	-	-	-	-				
BETA (B4)	105°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	4 BLUE	*B14 4478	1	-	-	DBC0061F1V51-1	-	2				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 BLUE	RRUS-32 B2	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 BLUE	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 BLUE	-	-	-	-	-	-	-				
GAMMA (G1)	225°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	1 GREEN	-	-	-	DBC0061F1V51-1	-	2	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	1 GREEN	RRUS-32 B30	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	1 GREEN	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	1 GREEN	-	-	-	-	-	-	-				
GAMMA (G2)	225°	127'-0"	ERICSSON	AIR6449 N77	1	H=31.5" x W=15.9" x D=8.7"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	1	15'-0"	2 GREEN	-	-	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	2 GREEN	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	1	10'-0"	2 GREEN	-	-	-	-	-	-	-				
GAMMA (G3)	225°	127'-0"	KATHREIN	800372965	1	H=78.7" x W=14.8" x D=6.9"	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	4	15'-0"	3 GREEN	4449 B5/B12	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	3	15'-0"	3 GREEN	4426 B66	1	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	8	10'-0"	3 GREEN	-	-	-	-	-	-	-				
GAMMA (G4)	225°	127'-0"	QUINTEL	QS6656-3	1	H=72.0" x W=12.0" x D=9.6"	-	-	LDF5-50	7/8"	2	150'-0"	4 GREEN	*B14 4478	1	-	-	DBC0061F1V51-1	-	2				
									ROSENBERGER FIBER JUMPER (DC6 TO RRU)	3/8"	2	15'-0"	4 GREEN	RRUS-32 B2	1	-	-	-	-	-				
									ROSENBERGER SINGLE PAIR DC CABLE (DC6 TO RRU)	7/16"	1	15'-0"	4 GREEN	-	-	-	-	-	-	-				
									1/2" COAX JUMPER (RRU TO ANTENNA)	1/2"	4	10'-0"	4 GREEN	-	-	-	-	-	-	-				
TOTAL					12	TOTAL 7/8" COAX (ACTIVE)					12	1800'-0"		TOTAL		15	0	TOTAL		0	12	TOTAL		0

* ANTENNA AND COAX INFORMATION PROVIDED FROM THE 5G NR RFD5 ID# 4200278 V1.00 DATED 12/9/20.
 * CONTRACTOR TO VERIFY RF INFO WITH CLIENT PRIOR TO CONSTRUCTION.
 * COAX LENGTHS ARE APPROXIMATE AND MUST BE VERIFIED PRIOR TO CONSTRUCTION.
 * ALL COAX SHALL BE COLOR CODED AT TOP AN BOTTOM JUMPER AND AT TOP OF TOWER BOTTOM OF TOWER, AND INSIDE SHELTER ON MAIN COAX.
 * EACH MAIN COAX SHALL HAVE CORROSION PROOF "ID TAGS" INSTALLED INSIDE THE SHELTER AT THE PORT AND AT THE ANTENNA.

TOTAL 7/8" COAX (ACTIVE)	12	1800'-0"
TOTAL FIBER JUMPER	21	165'-0"
TOTAL DC JUMPER	15	225'-0"
TOTAL 1/2" JUMPERS	48	420'-0"
TOTAL 5/16" RET CABLES	3	450'-0"

*RRUS INSTALLED AT GROUND LEVEL.

1 AN-1 ANTENNA & COAX SCHEDULE
 SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	4/22/21	PRELIMINARY CDs REV "A"
B		
0		
1		
2		
3		
4		
5		
6		
7		
8		

USA ENG PROJECT NO.: -
 DRAWN BY: WL CHECKED BY: FN



NOT FOR CONSTRUCTION

MARC P MAIER, PE
 FL PROFESSIONAL ENGINEER LIC. # 72513

DXZW FA #10023437
 2000 CITY HALL DRIVE LAUDERHILL, FL 33313

SHEET DESCRIPTION
ANTENNA SCHEDULE

SHEET NUMBER
AN-1

USA ENGINEERING - T:\00-2021 PROJECTS\17-Smartlink\ATT LTE\DXZW_10023437_Design\10023437_DXZW_5G_NR_RADIO_CD.dwg April 22, 2021 2:14:27 PM wilfred.lebron

REV	DATE	DESCRIPTION
A	4/22/21	PRELIMINARY CDs REV "A"
B		
0		
1		
2		
3		
4		
5		
6		
7		
8		

USA ENG PROJECT NO.: --

DRAWN BY: WL CHECKED BY: FN



8601 W SUNRISE BLVD
PLANTATION, FL 33322



6100 BROKEN SOUND PKWY
SUITE 6
BOCA RATON, FL 33487

PREPARED BY:
USA ENGINEERING
2818 CYPRESS RIDGE BLVD.
SUITE 110
WESLEY CHAPEL, FL 33544
(813) 994-0365
FL COA #31705

NOT FOR
CONSTRUCTION

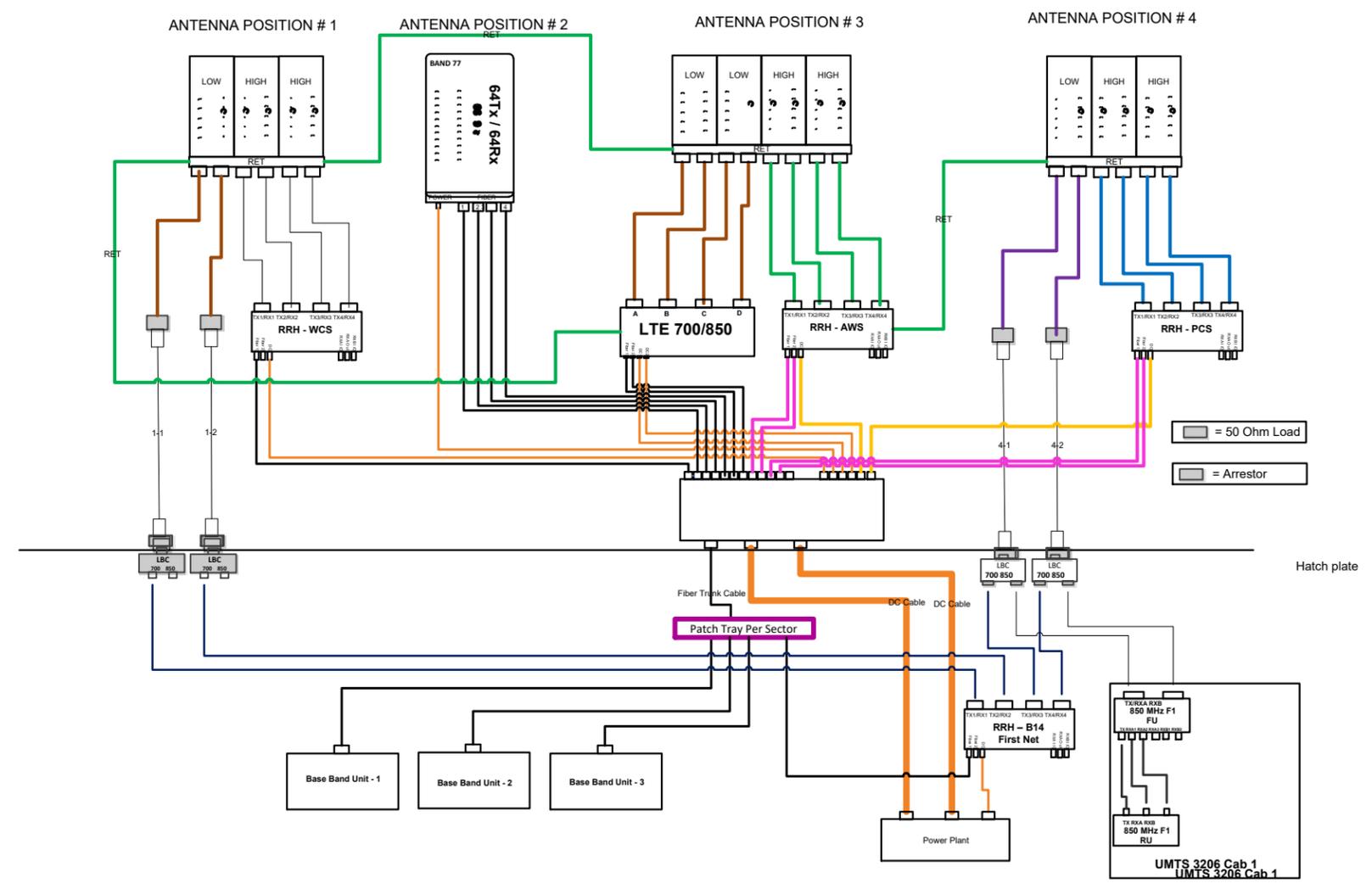
MARC P MAIER, PE
FL PROFESSIONAL ENGINEER LIC. # 72513

DXZW
FA #10023437
2000 CITY HALL DRIVE
LAUDERHILL, FL 33313

SHEET DESCRIPTION
**ELECTRICAL AND
GROUNDING DIAGRAMS**

SHEET NUMBER
E-1

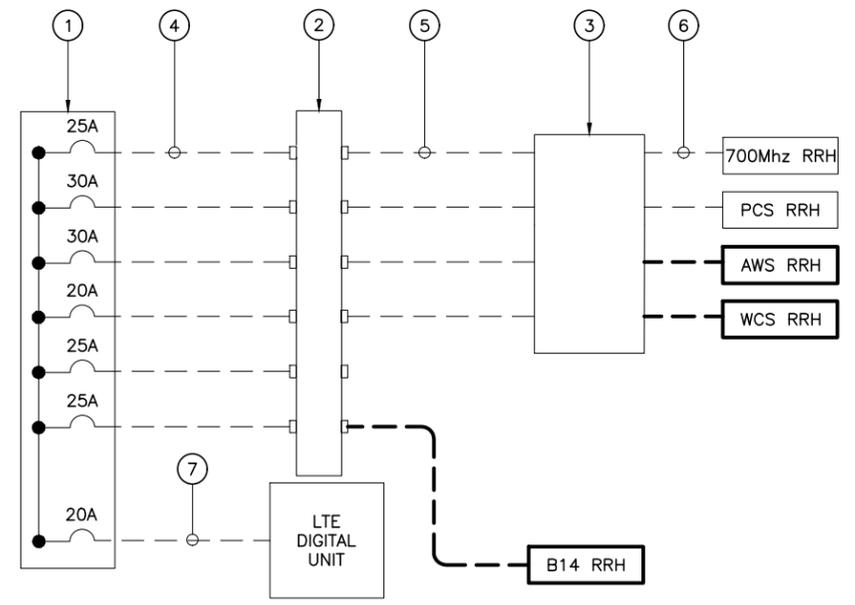
C-AIR DESIGN



1 ANTENNA RISER DIAGRAM
SCALE: N.T.S.

ERICSSON RRU BREAKER REQUIREMENTS		
ERICSSON RADIO	SIZE BREAKER	TECHNOLOGY
RRUS 32 B66	30 AMP	AWS (2100)
RRUS 32 B30	20 AMP	WCS (2300)
RRUS 32 B2	30 AMP	PCS (1900)
RRUS 11	25 AMP	VARIOUS BANDS (700 [B12], 850 [B5], 1900 [B2], 2100 [B4])
RRUS12 + A2	25 AMP	VARIOUS BANDS (850 [B5], 1900 [B2], 2100 [B4])
RRU 4415 B25	25 AMP	1900
RRU 4426 B66	30 AMP	2100
RRU 4478 B14	25 AMP	700
RRU 4478 B5	25 AMP	850
RRUS E2 B29	25 AMP	700
RRUS 4449 B5/B12	2x25 AMP	700/850
RRUS 8843 B2/B66	2x30 AMP	1900/2100
RRUS 2203 B5	10 AMP	850
RRUS 2205 B46	10 AMP	5 GHz

NO A/C ELECTRICAL UPGRADES
ARE PROPOSED



- KEYNOTE LEGEND:**
- 48V DC POWER PLANT.
 - (1) RACK MOUNTED RAYCAP DC SURGE PROTECTOR (DC6-48-60-RM).
 - RAYCAP FIBER AND DC DISTRIBUTION UNIT (DC6-48-60-18-8F) TOWER MOUNTED.
 - #8 AWG SHIELDED CONDUCTORS (WR-VG82ST-BRDA).
 - PROVIDE (2) 6-CONDUCTOR #8 AWG BUNDLES FOR DC POWER FROM RACK MOUNTED RAYCAP SURGE PROTECTION UNIT TO THE RAYCAP FIBER AND DISTRIBUTION UNIT ON TOWER.
 - DC CABLE ROUTED TO RRH UNITS.
 - #12 AWG SHIELDED CONDUCTORS (WR-VG122ST-BRDA).

2 TYPICAL DC RISER DIAGRAM
SCALE: N.T.S.