



VERIZON SITE NUMBER: 131681 **BUSINESS UNIT #:** 812072
VERIZON SITE NAME: BELLSOUTH LAUDERHILL **SITE ADDRESS:** 5455 NW 19TH ST.,LAUDERHILL, FL 33313
SITE TYPE: MONOPOLE **COUNTY:** BROWARD
MONOPOLE HEIGHT: 125'-0" **JURISDICTION:** CITY OF LAUDERHILL

VERIZON: MOD;4G_CBRS,5G_L-Sub6-Prep

verizon
 180 WASHINGTON VALLEY ROAD
 BEDMINSTER, NJ 07921

CROWN CASTLE
 2 CHASE CORPORATE DRIVE, SUITE 105
 BIRMINGHAM, AL 35244

PM&A
 P. MARSHALL & ASSOCIATES
 6801 PORTWEST DR. STE 100,
 HOUSTON, TX 77024
 OFFICE 713-677-0964

VERIZON SITE NUMBER:
 131681

BU #: 812072
 DXZW

 5455 NW 19TH ST.
 LAUDERHILL, FL 33313

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
1	05/04/2021	FC	ISSUED FOR PRELIMS	RAM

**THIS DOCUMENT IS
 PRELIMINARY IN
 NATURE AND IS NOT A
 FINAL, SIGNED AND
 SEALED DOCUMENT**

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:
T-1 **REVISION:**
1

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME: DXZW
SITE ADDRESS: 5455 NW 19TH ST. LAUDERHILL, FL 33313
COUNTY: BROWARD
MAP/PARCEL #: N/A
AREA OF CONSTRUCTION: EXISTING
LATITUDE: 26° 9' 9.60"
LONGITUDE: -80° 13' 12.10"
LAT/LONG TYPE: NAD83
GROUND ELEVATION: 8 FT
CURRENT ZONING: N/A
JURISDICTION: CITY OF LAUDERHILL
OCCUPANCY CLASSIFICATION: U
TYPE OF CONSTRUCTION: IIB
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER: N/A
TOWER OWNER: CROWN CASTLE USA, INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT: VERIZON WIRELESS 180 WASHINGTON VALLEY ROAD BEDMINSTER, NJ 07921 KEMBERLY SEWARD - REAL ESTATE SPECIALIST KEMBERLY.SEWARD@VERIZONWIRELESS.COM
ELECTRIC PROVIDER: FP&L N/A
TELCO PROVIDER: FIBER LIGHT N/A

DRAWING INDEX

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ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11" X 17". 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.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

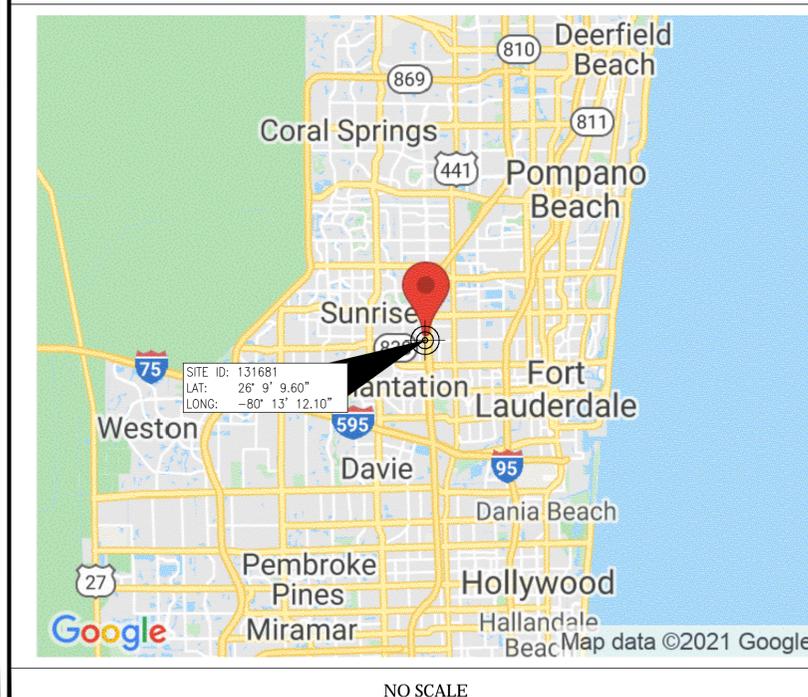
TOWER SCOPE OF WORK
 • REMOVE (6) JMA DBC-A-P-1SF DIPLEXER
 • INSTALL (3) ERICSSON KRE 105281 ANTENNA/RRH
 • INSTALL (3) VZW LSUB6 ANTENNA/RRH
 • INSTALL (1) RAYCAP RHSDC-6627-PF-48 OVP
 • INSTALL (1) COMMSCOPE HFT1206 HYBRID CABLE

GROUND SCOPE OF WORK
 • REMOVE (1) ERICSSON 6201 CABINET
 • INSTALL (1) GE -48V POWER PLANT
 • INSTALL 48V BATTERIES STRING

ELECTRICAL NOTE:
 NO NEW AC ELECTRICAL WORK IS CAPTURED WITHIN THIS PROJECT SCOPE. ALL ELECTRICAL UPGRADES AND OR WORK WILL BE HANDLED BY THE GENERAL CONTRACTOR AND PERFORMED IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL REQUIREMENTS.

EMERGENCY NOTE:
 NO EQUIPMENT PROPOSED WITHIN THE PROJECT SCOPE SHALL BE USED FOR EMERGENCY RESPONSE.

LOCATION MAP



CONTRACTOR PMI REQUIREMENTS

PMI ACCESSED AT: <https://pmi.vxwsmart.com>
SMART TOOL VENDOR PROJECT NUMBER: 10046998
VzW LOCATION CODE (PSLC): 131681

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

MOUNT MODIFICATION REQUIRED Y

VzW APPROVED SMART KIT VENDORS

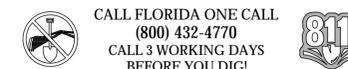
REFER TO MOUNT MODIFICATION DRAWINGS PAGE FOR VzW SMART KIT APPROVED VENDORS

APPLICABLE CODES/REFERENCE DOCUMENTS

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

CODE TYPE	CODE	REFERENCE DOCUMENTS:
BUILDING	2020 FLORIDA BUILDING CODE, 7TH EDITION - BUILDING	STRUCTURAL ANALYSIS: N/A, PROJECT # N/A
	2018 IBC W/ AMENDMENTS	DATED: N/A
MECHANICAL	2020 FLORIDA BUILDING CODE, 7TH EDITION - MECHANICAL	MOUNT ANALYSIS: MASER CONSULTING, PROJECT # 21942141A
	2018 IMC W/ AMENDMENTS	DATED: 03/31/2021
ELECTRICAL	2020 FLORIDA BUILDING CODE, 7TH EDITION - ELECTRICAL	ORDER ID: 528435
	2017 NEC (NFPA 70)	REVISION: 0
		RFDS REVISION: N/A
		DATED: 11/24/2021

ANALYSIS CRITERIA:
 APPLICABLE CODES: TIA-222-H / ASCE 7-16
 WIND SPEED: V = 170 MPH (ULTIMATE 3 SECOND GUST)
 EXPOSURE CATEGORY: B
 RISK CATEGORY: I
 TOPOGRAPHIC CATEGORY: 1
 CREST HEIGHT: 0
 $K_{zt} = 1.0$
 SEISMIC RESPONSE: NA



PROJECT TEAM

A&E FIRM: P. MARSHALL & ASSOCIATES, LLC. 6801 PORTWEST DR. - SUITE 100 HOUSTON, TX 77024 SENIOR ENGINEER - PAT MARSHALL, P.E. PROJECT ENGINEER - REESE MINOGUE, P.E. 206-651-4389
CROWN CASTLE USA INC. DISTRICT CONTACTS: 4511 N HIMES AVE, SUITE 210 TAMPA, FL 33614
 CORRIE BASS - PROJECT MANAGER (770) 375-4928
 N/A - CONSTRUCTION MANAGER
 N/A

- NOTES:
- CONTRACTOR TO CONFIRM LATEST RFDS VERSION WITH VERIZON PRIOR TO WORK COMMENCEMENT.
 - PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED-- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT: THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ON-SITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH OAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GREENFIELD GROUNDING NOTES:

- 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.
- THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING AROUND THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- 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.
- EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
- GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING 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 CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (I.E., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
- ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL)
- BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: VERIZON
TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90° AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE--THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER--TO--CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
#4 BARS AND SMALLER..... 40 ksi
#5 BARS AND LARGER..... 60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..... 3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER.....2"
#5 BARS AND SMALLER..... 1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
SLAB AND WALLS..... 3/4"
BEAMS AND COLUMNS..... 1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
 - ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
 - ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL), THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI--CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP--STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID--TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION--TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON--PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (I.E. POWDER--ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE PUSHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- 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 BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE		
SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
120/208V, 3Ø	GROUND	GREEN
	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
277/480V, 3Ø	GROUND	BROWN
	A PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (-)	BLACK**

APWA UNIFORM COLOR CODE:

- WHITE PROPOSED EXCAVATION
- PINK TEMPORARY SURVEY MARKINGS
- RED ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
- YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
- ORANGE COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
- BLUE POTABLE WATER
- PURPLE RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
- GREEN SEWERS AND DRAIN LINES

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
NW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT



VERIZON SITE NUMBER:
131681

BU #: 812072
DXZW

5455 NW 19TH ST.
LAUDERHILL, FL 33313

EXISTING 125'-0" MONOPOLE

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES/QA
1	05/04/2021	FC	ISSUED FOR PRELIMS	RAM

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SHEET NUMBER: T-2	REVISION: 1
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SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. PM&A HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET. CONTRACTOR SHALL FIELD VERIFY SITE PLAN & EQUIPMENT SHOWN AGAINST PRESENT FIELD CONDITIONS. IF PLANS DO NOT MATCH UP WITH SITE CONDITION AT TIME OF CONSTRUCTION, CONTACT VERIZON AND THE CROWN CASTLE CM.

verizon
 180 WASHINGTON VALLEY ROAD
 BEDMINSTER, NJ 07921

CROWN CASTLE
 2 CHASE CORPORATE DRIVE, SUITE 105
 BIRMINGHAM, AL 35244

PM&A
 P. MARSHALL & ASSOCIATES
 6801 PORTWEST DR. STE 100,
 HOUSTON, TX 77024
 OFFICE 713-677-0964

VERIZON SITE NUMBER:
 131681

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LAUDERHILL, FL 33313

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

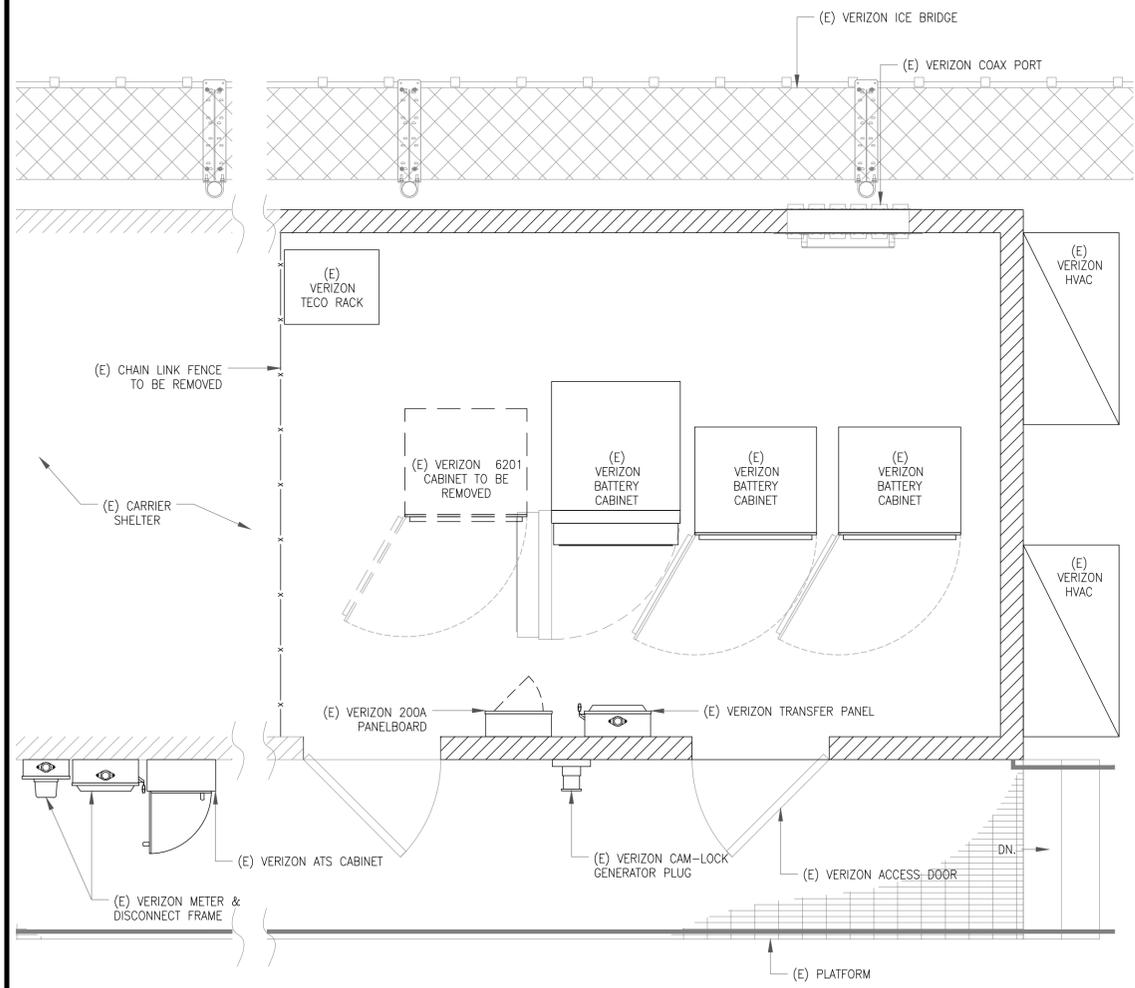
REV	DATE	DRWN	DESCRIPTION	DES./QA
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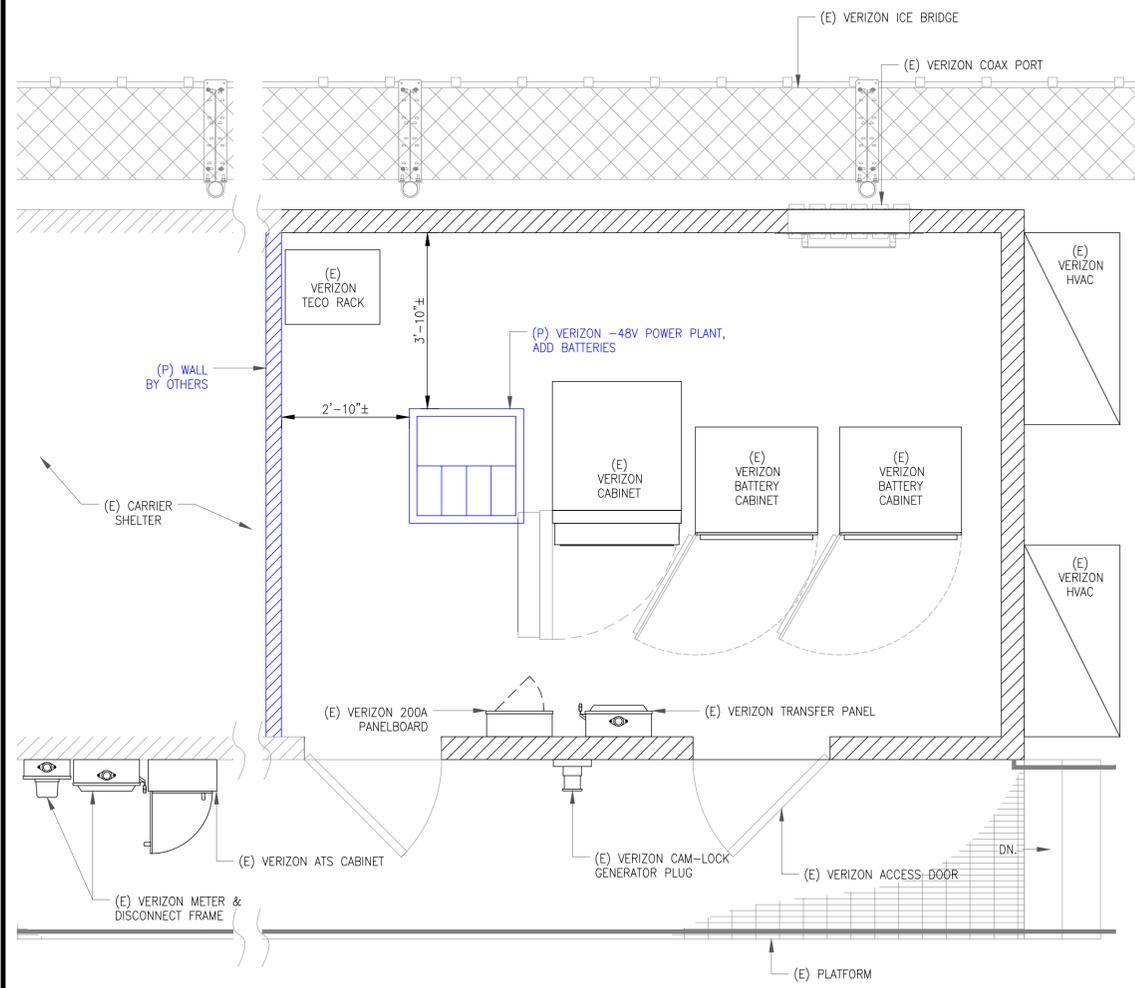
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C-1.2

REVISION:
1

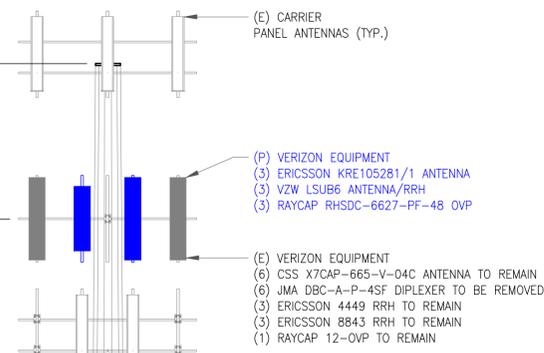


1 DETAILED DEMO SITE PLAN
 SCALE: 1/2"=1'-0" (FULL SIZE)
 1/4"=1'-0" (11x17)



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

VERIZON EQUIPMENT
 ANTENNA CL: 111'-0"
 MOUNT CL: 110'-0"



HEIGHT OF (E) TOWER - 125'-0" AGL
 VERIZON ANTENNA RAD CENTER - 111'-0" AGL

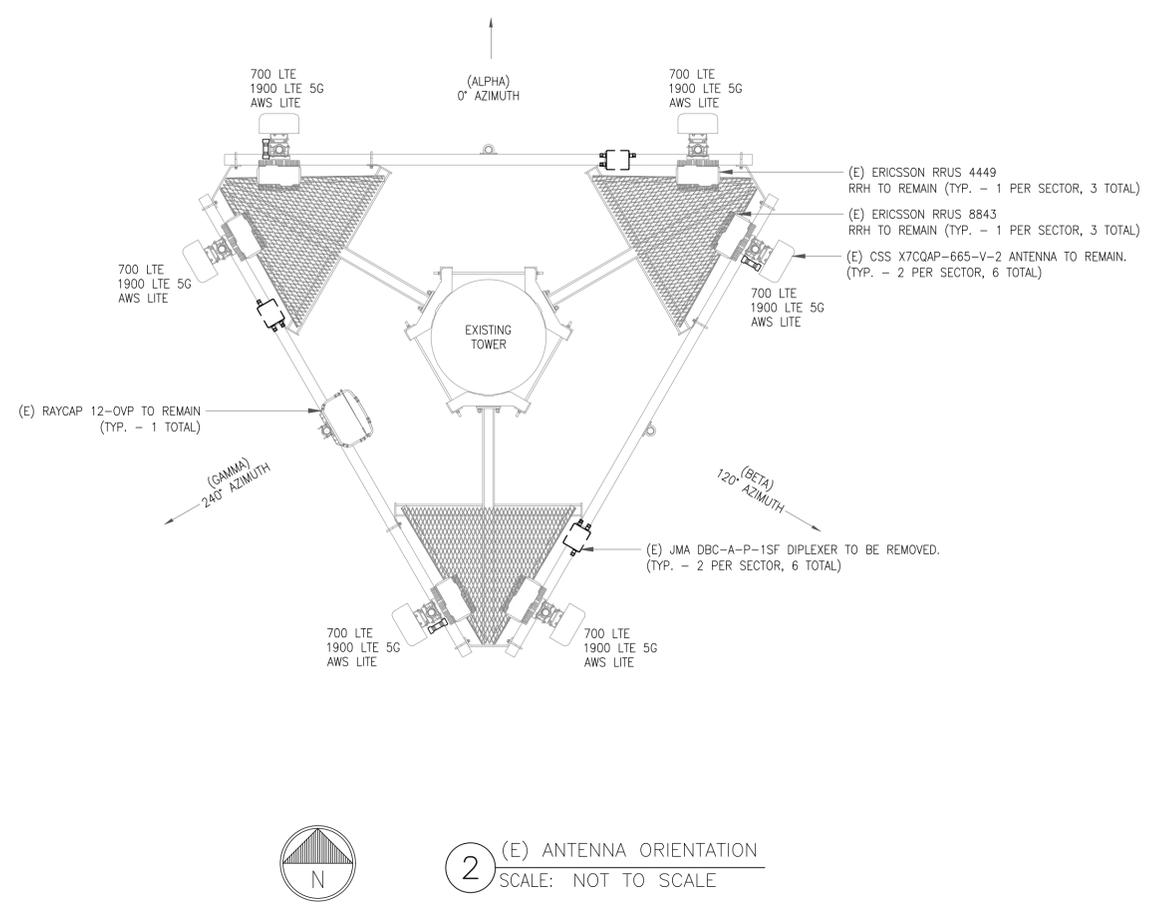
(E) 125'-0" MONOPOLE TOWER

(P) VERIZON FEEDLINE
 (1) COMMSCOPE / HFT1206-24SVL (1-5/8")

(E) VERIZON FEEDLINE
 (6) RFS/CELWAVE / FLC 158-50J (1-5/8") TO REMAIN
 (1) HUBER AND SUHNER / MLE HYBRID 9/18 RL 2 (1-5/8") TO REMAIN

GROUND ELEVATION: 8 FT AMSL

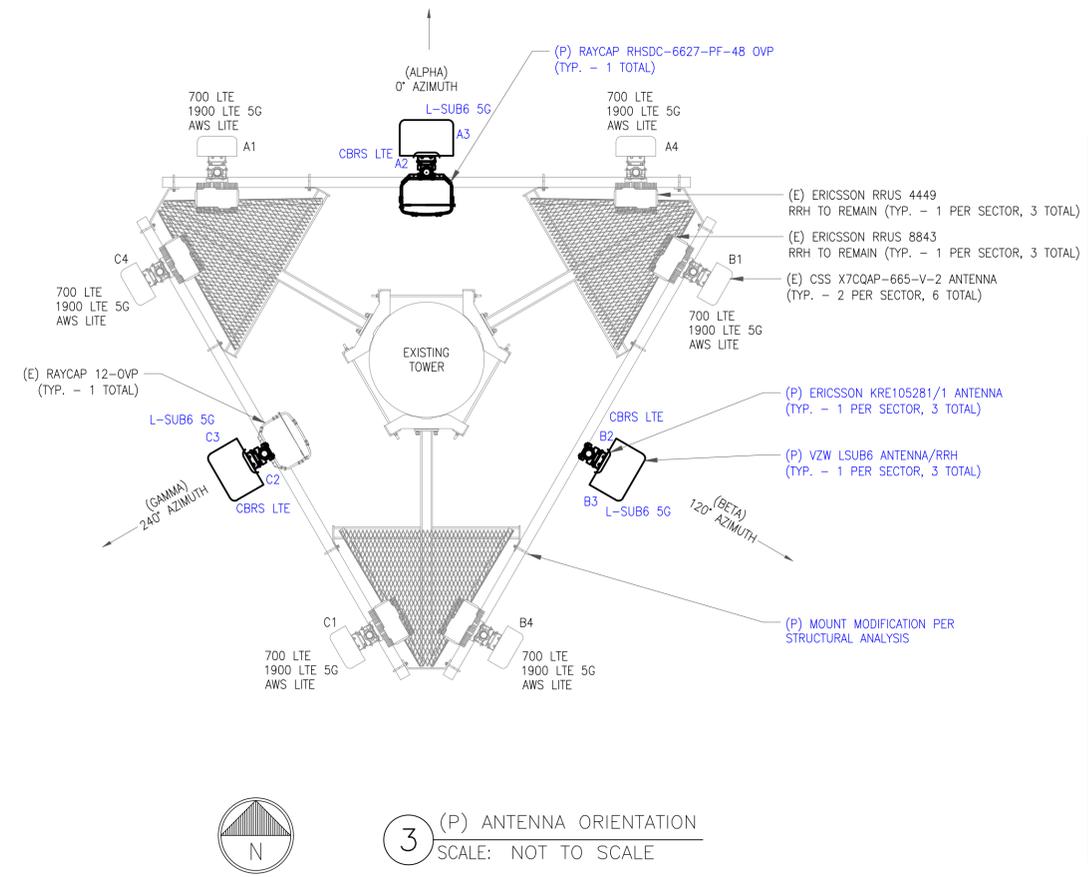
1 TOWER ELEVATION
 SCALE: NOT TO SCALE



NOTE:
 REFERENCE SHEET C-3 FOR FINAL ANTENNA EQUIPMENT SCHEDULE.

NOTE:
 DIRECT TOWER MOUNTED EQUIPMENT MUST NOT TRAP OR INTERFERE WITH CLIMBING PEGS/STEPS AND SAFETY CLIMB. DO NOT OBSTRUCT BEACON IF TOWER LIT.

NOTE:
 NEW EQUIPMENT CANNOT BE MOUNTED TO TOWER. RELOCATE EXISTING TOWER MOUNTED EQUIPMENT TO CUSTOMER MOUNT



- TOWER & ANTENNA STANDARD NOTES:**
- TOWER STRUCTURAL ANALYSIS BY N/A, DATED N/A, PROJECT # N/A, NO NEW ANTENNAS OR EQUIPMENT INSTALLED WITHOUT APPROVAL OF STRUCTURAL ENGINEER AND CROWN CASTLE.
 - MOUNT ANALYSIS BY MASER CONSULTING, DATED 03/31/2021, PROJECT # 21942141A. NO NEW MOUNTS OR MOUNT REINFORCEMENT INSTALLED WITHOUT APPROVAL OF STRUCTURAL ENGINEER AND CROWN CASTLE.
 - INSTALLED EQUIPMENT MUST HAVE A MATCHING CROWN APPLICATION AND STRUCTURAL ANALYSIS
 - VERIFY AZIMUTHS WITH RFDS.
 - 2' ANTENNA SEPARATION REQUIRED. CONTRACTOR TO MOVE (E) ANTENNAS TO ENDS OF MOUNT AS REQUIRED.
 - MOUNT COMPLIANCE IS BY OTHERS. NO NEW ANTENNAS OR EQUIPMENT INSTALLED ON MOUNTS WITHOUT THE APPROVAL OF A STRUCTURAL ENGINEER.
 - PRIOR TO ATTACHING ANTENNAS AND MOUNTING SECTIONS, (E) TOWER AND TOWER FOUNDATION MUST BE ANALYZED BY A LICENSED STRUCTURAL ENGINEER TO VERIFY TOWER IS CAPABLE OF SUPPORTING THE PROPOSED LOADS. REFER TO STRUCTURAL ANALYSIS BY OTHERS.
 - PROPOSED ANTENNA PLACEMENT LOCATION TO BE FIELD VERIFIED BY GENERAL CONTRACTOR PRIOR TO CONSTRUCTION TO AVOID ANY INTERFERENCE OR SHADOWING OF EXISTING ANTENNAS. IF INTERFERENCE OR SHADOWING OF EXISTING ANTENNAS IS DISCOVERED DURING FIELD VERIFICATION, PLEASE CONTACT (A&E VENDOR) FOR DESIGN REVISION PRIOR TO ANY NEW ANTENNA INSTALLATION.
 - DURING INSTALLATION, THE RADIOS ARE NOT TO EXCEED 5' FROM THE WORKING SURFACE TO THE TOP OF RADIOS.
- APPLIES TO STEALTH/CONCEALMENT CANISTER TOWERS ONLY:
 HURRICANE BANDING REQUIRED. 3RD PARTY INSPECTOR REQUIRED. MUST BE SCHEDULED FOR SAME DAY AS PLANNED COMPLETE DATE. PRE-CONSTRUCTION PHOTOS ARE REQUIRED FOR SHROUDS.
- APPLIES TO FLAG POLES ONLY:
 LOAD PATH CONSIDERATION SHALL BE MADE AND CRITICAL COMPONENTS ANALYZED WHEN FLAG AND ROPE ARE DIRECTLY ATTACHED TO APPURTENANCES OR ANTENNAS.
- HANDICAP REQUIREMENTS:
 FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.

verizon
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VERIZON SITE NUMBER:
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EXISTING 125'-0" MONOPOLE

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SHEET NUMBER: **C-2** REVISION: **1**



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SHEET NUMBER: **C-3** REVISION: **1**

FINAL EQUIPMENT SCHEDULE

SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
A1	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	0°	(E) ERICSSON	(1) RADIO 8843
A2 A3	NEW NEW	ERICSSON VZW	KRE105281/1 LSUB6	111'-0"	0°	- (P) RAYCAP	- (1) RHSDC-6627-PF-48
A4	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	0°	(E) ERICSSON	(1) RADIO 4449
B1	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	120°	(E) ERICSSON	(1) RADIO 8843
B2 B3	NEW NEW	ERICSSON VZW	KRE105281/1 LSUB6	111'-0"	120°	-	-
B4	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	120°	(E) ERICSSON	(1) RADIO 4449
C1	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	240°	(E) ERICSSON	(1) RADIO 8843
C2 C3	NEW NEW	ERICSSON VZW	KRE105281/1 LSUB6	111'-0"	240°	(E) RAYCAP	(1) 12-OVP
C4	EXISTING	CSS	X7CQAP-665-V-2	111'-0"	240°	(E) ERICSSON	(1) RADIO 4449

FINAL CABLE SCHEDULE

STATUS	CABLE TYPE	SIZE	LENGTH	QTY
EXISTING	COAX	1-5/8"	200'-0"±	6
EXISTING	HYBRID	1-5/8"	200'-0"±	1
NEW	HYBRID	1-5/8"	200'-0"±	1
TOTAL CABLE QTY:				8

NOTE:
REFER TO RFDS FOR ELECTRICAL &
MECHANICAL DOWNTILTS

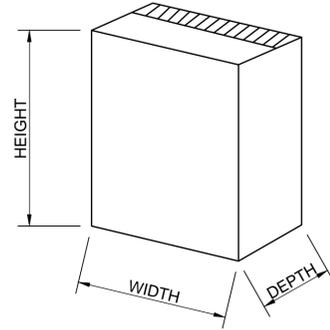
INSTALLER NOTE:

CONTRACTOR SHALL CONFIRM EQUIPMENT CONFIGURATION WITH FINAL VERIZON RF DWS BEFORE PROCEEDING WITH ANTENNA MODIFICATIONS.

1 VERIZON EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

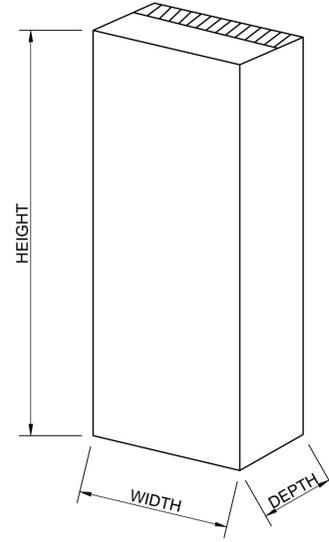
ERICSSON KRE 105 281/1

DIMENSIONS, HxWxD: 7.87" x 7.87" x 8.10"
WEIGHT: 1.76 lbs



VZW LSUB6 ANTENNA

DIMENSIONS, HxWxD: 30.8" x 16.1" x 10.8"
WEIGHT: 88.0 lbs



1 ANTENNA/RRH SPECIFICATIONS
SCALE: NOT TO SCALE

2 ANTENNA/RRH SPECIFICATIONS
SCALE: NOT TO SCALE

Product Specifications

COMMSCOPE®



HFT1 206-24S49-110
HELITAX® FiberFeed® Hybrid Cable Assembly, 6X12, UL Type TC-ER, 12 power conductors
6 AWG, 24-fiber, 18 alarm wires, PVC jacket, aluminum armor, 110 ft

Construction Materials

Fiber Type Bend insensitive singlemode fiber (G.657.A1)
Total Fibers, quantity 24
Armor Type Corrugated aluminum
Jacket Color Black

Dimensions

Cord Length 33.53 m | 110.00 ft
Breakout Length, Fiber, end 1 900 mm | 35 in
950 mm | 37 in
1000 mm | 39 in
Breakout Length, Power, end 1 725 mm | 29 in
Breakout Length, Fiber, end 2 900 mm | 35 in
950 mm | 37 in
1000 mm | 39 in
Breakout Length, Power, end 2 725 mm | 29 in

Environmental Specifications

Environmental Space Wireless installation
Operating Temperature -40 °C to +80 °C (-40 °F to +176 °F)

General Specifications

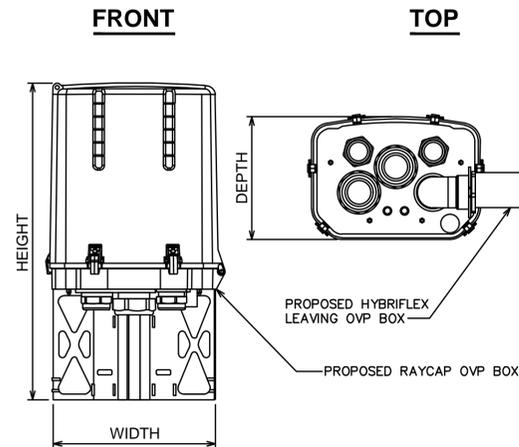
Conductors, quantity 12
Construction Type Hybrid standard trunk
Alarm Wire Gauge 18 AWG
Alarm Wire, quantity 18
Center Conductor Gauge 6 AWG
Interface Body Style, connector A Straight
Interface Body Style, connector B Straight
Interface Feature, connector A Standard
Interface Feature, connector B Standard
Interface, connector A DLC
Interface, connector B DLC
Minimum Bend Radius, furcation 30.0 mm | 1.2 in

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All specifications are subject to change without notice. See www.commscope.com for the most current information. Revised: January 16, 2016 March 10, 2016

3 HYBRID CABLE SPECIFICATIONS
SCALE: NOT TO SCALE

RAYCAP OVP BOX

MAKE: RAYCAP
MODEL: RHSDC-6627-PF-48
DIMENSIONS, HxWxD: 29.5" x 16.5" x 12.6"
WEIGHT: 32.0 lbs



4 OVP SPECIFICATIONS (MOUNT)
SCALE: NOT TO SCALE

Specifications (Cont.)

ENVIRONMENTAL	
Operating Temperature	-40°C to +75°C (-40°F to 167°F)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.655° C / (100M), 4000M peak temperature rating is 62° C

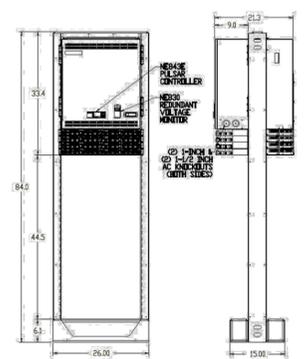
SAFETY AND STANDARDS COMPLIANCE

NEBs	Evaluated by independent NRTL test lab to Telcordia GR-63, Issue 3 and GR1089-CORE, Issue 6
Safety	CSA C22.2 No. 60950-1-07, 2nd Ed. + A1:2001 (MOD) and UL 60950-1 2nd Ed.
RohS	Compliant to RohS EU Directive 2002/95/EC RohS 5/6
EMC	European Directive 2004/108/EC, EN55022, Class A; EN55024 FCC, Class A; GR1089-CORE, Issue 6

AGENCY CERTIFICATIONS

CSA	CSA C22.2 No. 60950-1-07, 2nd Ed. + A1:2001 (MOD) and UL 60950-1 2nd Ed.
EMVIC	European Directive 2004/108/EC, EN55022 (CISPR22) Class A; EN55024 (CISPR24)
NEBS LEVEL 3	GR1089-CORE, Issue 6 Special equipment room cooling may be needed - heat dissipation exceeds values of GR-63 Table 4-5

OUTLINE DRAWING (FOR VISUAL REFERENCE ONLY)



5 -48v POWER PLANT SPECS (SHELTER)
SCALE: NOT TO SCALE

Step 1: Select the Base Power System - Infinity S (Cont.)

Single Voltage Infinity S Power Systems, -48V

OUTPUT	PEOPLESORT NUMBER	EQUIPMENT DESCRIPTION	PICTURE
-48V	150031742	400A, 48V Single Voltage system, includes 52 circuit breaker positions (25 positions primary voltage and 27 positions selectable voltage), 2 Universal Power shelves, 7N Zone 4 Frame (maximum 1200 lbs), Individual AC inputs, and Door Mounted Pulsar B43C Controller.	
48V, 400A		NES48-23-AC5-PS8-DC1E-7FTR	
-48V	150031741	400A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 2 Universal Power shelves, 7N Zone 4 Frame (maximum 1200 lbs), Individual AC inputs, and Door Mounted Pulsar B43C Controller.	
48V, 400A		NES48-23-AC5-PS8-DC1E-7FTR	
-48V	150029010	800A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 4 Universal Power shelves, Individual AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 800A		NES48-23-AC5-PS16-DC1E	
-48V	150029009	600A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 2 Universal Power shelves, Individual AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 600A		NES48-23-AC5-PS12-DC1E	
-48V	150029008	400A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 2 Universal Power shelves, Individual AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 400A		NES48-23-AC5-PS8-DC1E	
-48V	109163705	400A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 2 Universal Power shelves, Dual Meter AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 400A		NES48-23-AC1-PS8-DC1E	
-48V	150033065	300A, 48V Single Voltage system, includes 20 distribution positions selectable between -48V Load and Battery, 2 Universal Power shelves, Individual AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 300A		NES48-19-AC5-PS6-DC1E	
-48V	150029007	200A, 48V Single Voltage system, includes 26 distribution positions selectable between -48V Load and Battery, 1 Universal Power shelf, Individual AC inputs, and Door Mounted Pulsar B43C Controller. Suitable for frame or cabinet mounting (not included).	
48V, 200A		NES48-23-AC5-PS4-DC1E	

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6801 PORTWEST DR. STE 100,
HOUSTON, TX 77024
OFFICE 713-677-0964

VERIZON SITE NUMBER:
131681

BU #: 812072
DXZW

5455 NW 19TH ST.
LAUDERHILL, FL 33313

EXISTING 125'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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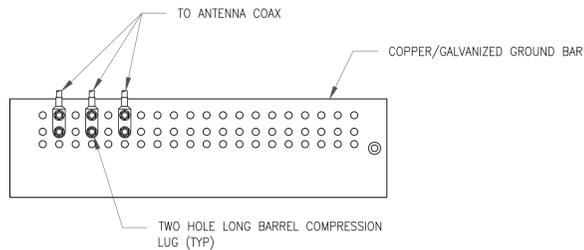
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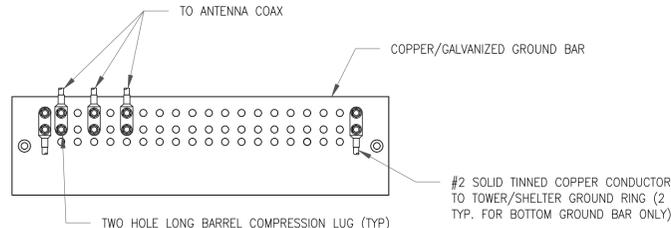
REVISION:

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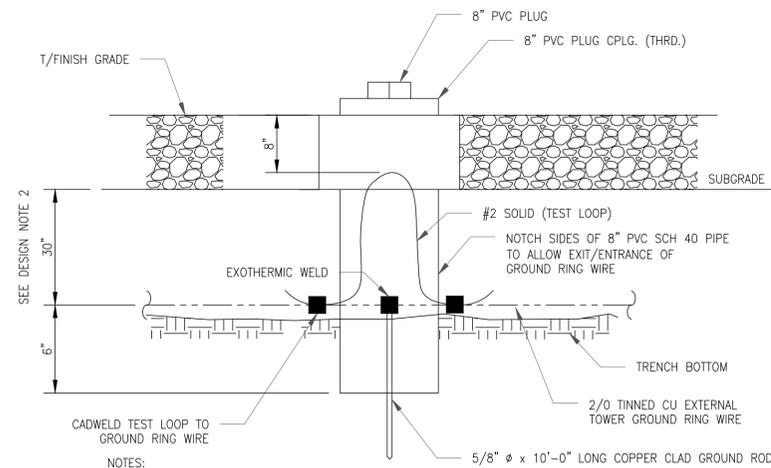
- NOTES:
- DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 - EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



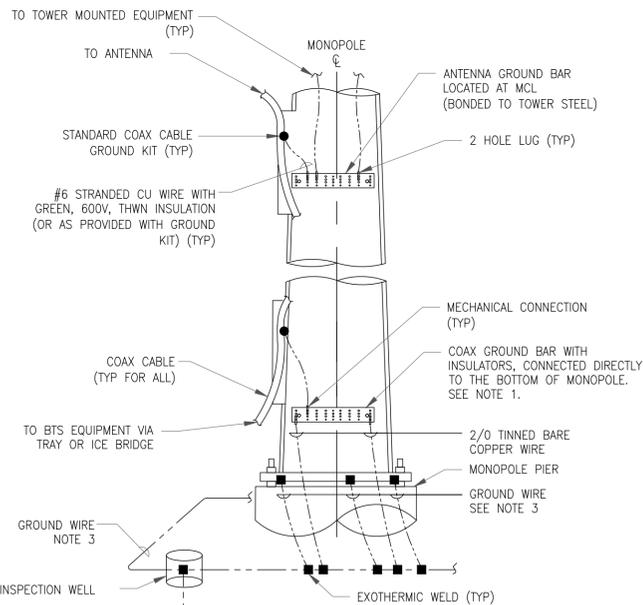
- NOTES:
- EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 - GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



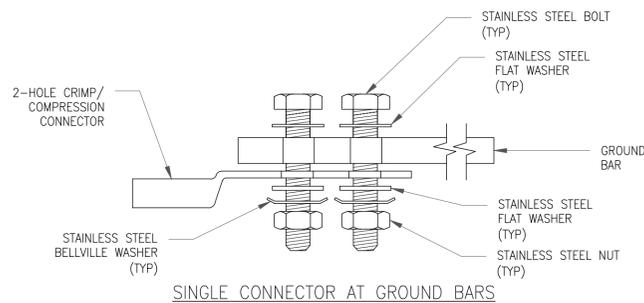
- NOTES:
- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
 - GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE

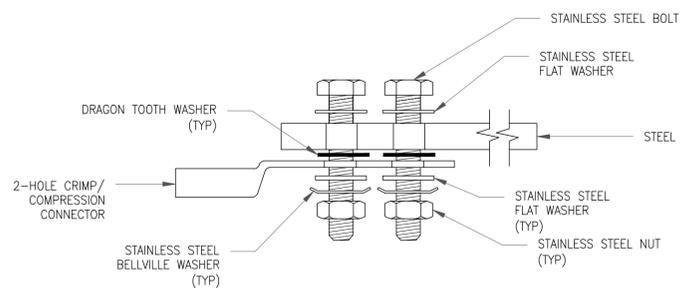


- NOTES:
- NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
 - ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
 - ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

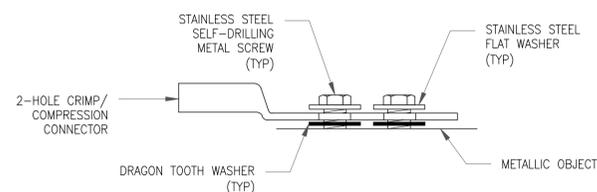
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

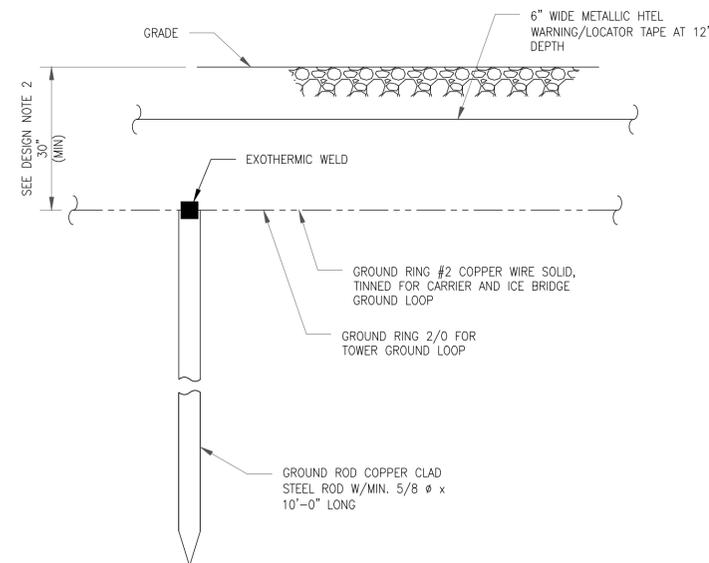


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



- NOTES:
- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
 - GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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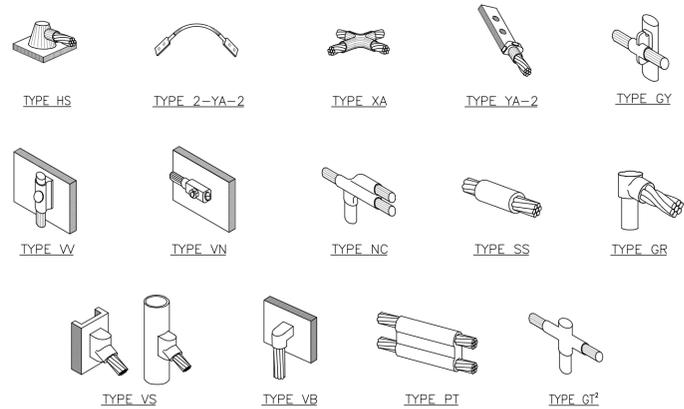
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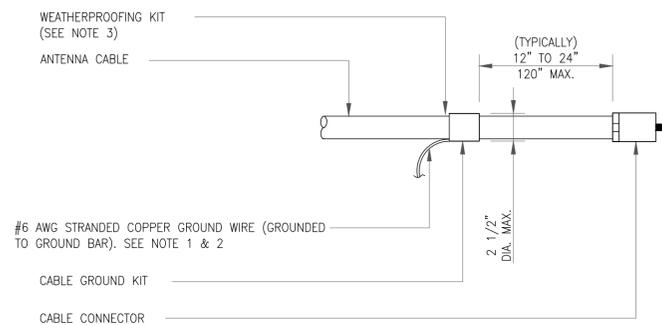
SHEET NUMBER: **G-1** REVISION: **1**



NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

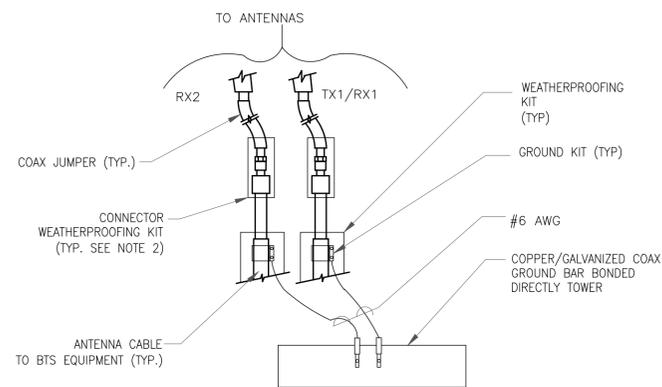
1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

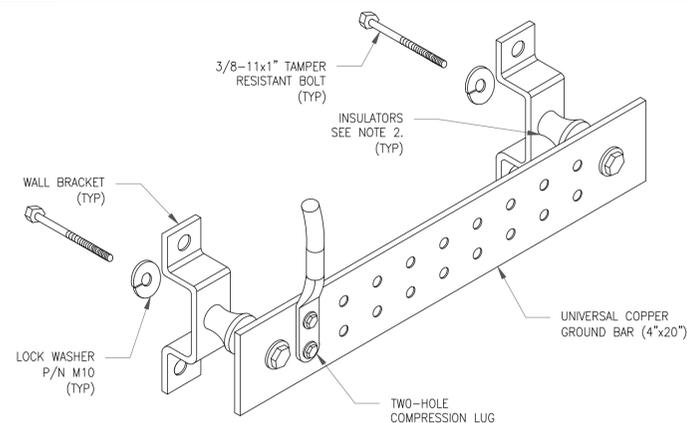
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

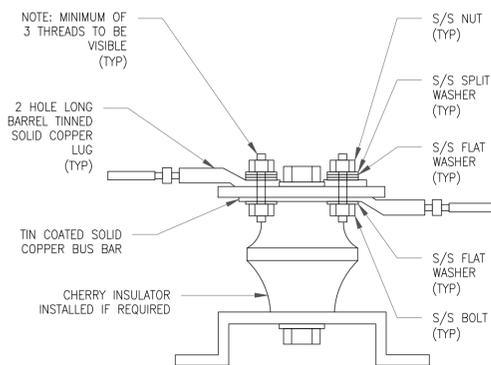
4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



NOTES:

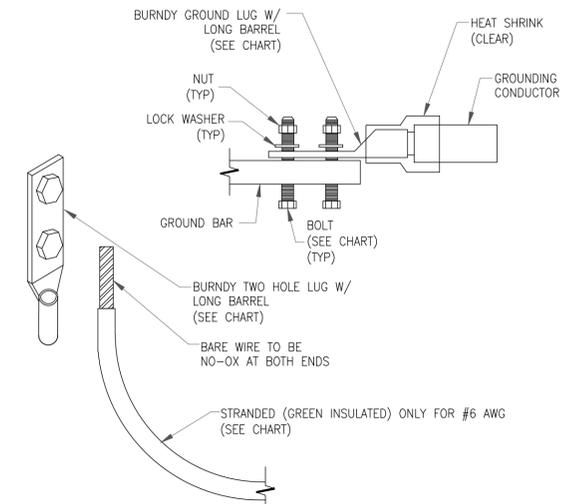
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STG-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

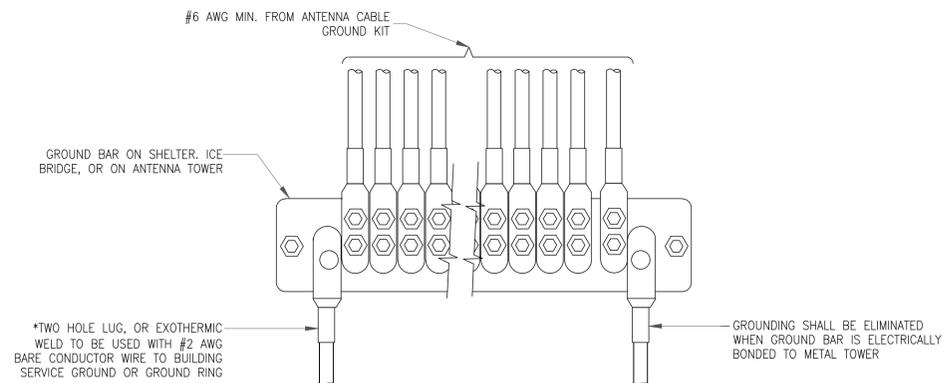
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



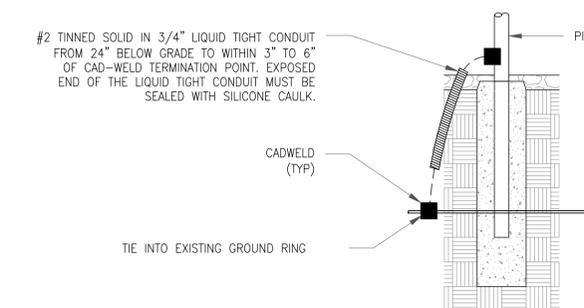
NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

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