

AT&T SITE NUMBER: PR65 AT&T SITE NAME: **SANDY** 10097182 **AT&T FA CODE:**

MRWOR058699, MRWOR058667, MRWOR059124, MRWOR059539 **AT&T PACE NUMBER:**

5G NR 1SR C-BAND AT&T PROJECT:

BUSINESS UNIT #: 856326 18243 ANTLER AVE **SITE ADDRESS: COUNTY: CLACKAMAS**

SELF SUPPORT TOWER **SITE TYPE:**

125'-0" **TOWER HEIGHT:**

LOCATION MAP



INFINIGY ENGINEERING, PLLC 500 WEST OFFICE CENTER DR. SUITE 150 | FORT WASHINGTON, PA 19034 www.infinigy.com

AT&T SITE NUMBER: PR65

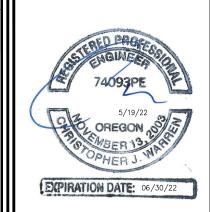
BU #: 856326 SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

EXISTING 125'-0" SELF SUPPORT TOWER

REV	DATE	DRWN	DESCRIPTION	DES./QA
Α	04/14/2022	RCD	PRELIMINARY	SD
0	05/11/2022	HL	FINAL CD'S	SD
1	05/18/2022	TJ	REVISED	SD
=				

ISSUED FOR:



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

SHEET NUMBER:

REVISION:

SITE INFORMATION

CROWN CASTLE USA INC.

COUNTY:

A&E FIRM:

CROWN CASTLE

CONTACTS:

USA INC. DISTRIC

SANDY SITE NAME:

SITE ADDRESS: 18243 ANTLER AVE SANDY, OR 97055-6820 CLACKAMAS

MAP/PARCEL #: 5016847 AREA OF CONSTRUCTION: EXISTING

45° 23' 30.90" N (45.3919400°) LATITUDE: 122° 14' 50.40" N (-122.2472200°) LONGITUDE NAD83 LAT/LONG TYPE:

GROUND ELEVATION: ±1084' AMSL CURRENT ZONING: SANDY UGB **IURISDICTION:** CITY OF SANDY, OR

OCCUPANCY CLASSIFICATION: U TYPE OF CONSTRUCTION:

FACILITY IS UNMANNED AND NOT FOR A.D.A. COMPLIANCE:

HUMAN HABITATION

PROPERTY OWNER: GLOBAL SIGNAL ACQUISITIONS IV LLC

TOWER OWNER:

CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317

PROJECT TEAM

INFINIGY ENGINEERING, PLLC

FORT WASHINGTON, PA 19034

SEATTLE, WA 98109

PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE

CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

500 WEST OFFICE CENTER DR. SUITE 150

1505 WESTLAKE AVENUE NORTH, SUITE 800

STEVE HANDY - CONSTRUCTION MANAGER

JACLYN MCCOY - PROJECT MANAGER

CARRIER/APPLICANT: AT&T TOWER ASSET GROUP

575 MOROSGO DRIVE ATLANTA, GA 30324-3300

SHEET# SHEET DESCRIPTION T-1 TITLE SHEET GENERAL NOTES T-2 OVERALL SITE PLAN C-1 C-1.1 SITE PLAN EQUIPMENT PLAN FINAL ELEVATION & ANTENNA PLANS FINAL EQUIPMENT SCHEDULE C-3 EQUIPMENT DETAILS C-5 GROUNDING SCHEMATIC GROUNDING DETAILS

DRAWING INDEX

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 1X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALI IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



TTACHED PLUMBING DIAGRAM

(800) 332-2344 CALL 3 WORKING DAYS





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

TOWER SCOPE OF WORK:

REMOVE (3) COMMSCOPE - NNHH-65C-R4 ANTENNAS

REMOVE (3) AIRSCALE - B66A RRH4X45-4R RRHS

RELOCATE (3) 4T4R B5 160W AHCA RRHS

RELOCATE (3) AIRSCALE - B66A RRH4X45-4R RRHS

INSTALL (6) NOKIA - AEQK + AEQU (STACKED) (2 PER SECTOR, 8 TOTAL)

INSTALL (3) COMMSCOPE - NNH4-65C-R6-HG

INSTALL (1) RAYCAP - DC9-48-60-24-8C-EV SQUID

GROUND SCOPE OF WORK:

- REMOVE (1) ASIK
- INSTALL (1) ASIL
- INSTALL (3) ABIC

PROJECT DESCRIPTION

REMOVE (3) COMMSCOPE - SBNHH-1D45C PANEL ANTENNAS

- REMOVE (1) ABIL

THIS PAGE CONTAINS CONFIDENTIAL, PROPRIETARY OR TRADE SECRET INFORMATION EXEMPT FROM

APPLICABLE CODES/REFERENCE DOCUMENTS

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:

2019 OSSC/2018 IBC MECHANICAL 2019 OMSC/2018 IMC

ELECTRICAL 2017 OESC/2020 NEC

DATED: 03/30/2022

MOUNT ANALYSIS: TOWER ENGINEERING PROFESSIONALS

DATED: 11/22/2021

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF CODE TYPE

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS: B+T GROUP

DATED: 03/25/2022

NO SCALE

RFDS REVISION: 2

ORDER ID: 591822

DISCLOSURE UNDER APPLICABLE LAW.

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 REINFUNCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE HE INTEGRIT OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING HER ROPE, BENDING OF 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 CLIM 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 ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPELETED, 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
- ALL SITE WORK TO COMPLY WITH DAS-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 ANTENNAS 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.
- 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.
- RECOMMENDATIONS OURLESS SPECIFICALLY STATED OTHERWISE.

 9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

 10. 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 BY CONSIDER SAFE OF 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 SAFFTY PROCEDURES
- 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
- 16. 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 FROSION CONTRO SURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES. 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
- 20. 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.

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION CARRIER: AT&T TOWER OWNER: CROWN CASTLE USA INC.
- 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 KNOWLEGE 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.
- 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 HE SEPRESENTATIVE WILL NOT INCLUDE
 INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- INSPECTION OF HESE HEMS AND IS FOR STRUCTURAL OBSERVATION OF THE HINSHED 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 DISCREPANCES COCUR BETWEEN PLANS, DETAILS,

 GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER

 CLAFIFICATION 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.
- 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 INSTALLAL 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 PROMINED.
- 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 GROWN 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
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

DESIGNATED LOCATION

- 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°F AT TIME OF
- 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 SECULOWS. AS FOLLOWS: #4 RARS AND SMALLER
- ON DRAWINGS CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.
- CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 BARS AND LARGER..... #5 BARS AND SMALLER. ..1-1/2
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER: BEAMS AND COLUMNS.
- 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.

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—POTENTAL 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
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT
- WETAL 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.
 EXCITERMIC 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.

- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXCHERMICALLY BONDED OR BULLED 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.

 MISCELLANGOUS 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 SOLD TINNED COPPER GROUND CONDUCTORS.

 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 COPE 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 CALLE. (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/O 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).

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 FLIMINATED
- 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. VERYIPY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT 4.2.
- 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 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, FHW, 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/JEEE 15. 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. 18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION
- COURS OF FLEXIBLEY IS NEEDED.

 COURS OF FLEXIBLEY IS NEEDED.

 CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION—TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- 20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND
- 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).
- . 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 INSTALLE IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE INSTRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS, ENDS OF CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

 EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY—COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
- BETTER) FOR EXTERIOR LOCATIONS.
- 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.
- 27 THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIÉR AND/OR CROWN CASTLE USA INC.
- BEFORE COMMENCING SHALL NOTIFY AND OBTAIN NECESSARY AND INCLUDENCE 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 "AT&T".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE						
SYSTEM	CONDUCTOR	COLOR				
	A PHASE	BLACK				
120/240V, 1Ø	B PHASE	RED				
120/2400, 10	NEUTRAL	WHITE				
	GROUND	GREEN				
	A PHASE	BLACK				
	B PHASE	RED				
120/208V, 3Ø	C PHASE	BLUE				
	NEUTRAL	WHITE				
	GROUND	GREEN				
	A PHASE	BROWN				
	B PHASE	ORANGE OR PURPLE				
277/480V, 3Ø	C PHASE	YELLOW				
	NEUTRAL	GREY				
	GROUND	GREEN				
DC VOLTAGE	POS (+)	RED**				
DC VOLIAGE	NEG (-)	BLACK**				

SEE NEC 210.5(C)(1) AND (2)

* POLARITY MARKED AT TERMINATION

EXISTING FACILITY INTERFACE FRAME

GENERATOR GLOBAL POSITIONING SYSTEM GLOBAL SYSTEM FOR MOBILE LONG TERM EVOLUTION MASTER GROUND BAR MICROWAVE

NATIONAL ELECTRIC CODE

RADIO BASE STATION

RADIO BASE STATION
REMOTE ELECTRIC TILT
RADIO FREQUENCY DATA SHEET
REMOTE RADIO HEAD
REMOTE RADIO UNIT
SMART INTEGRATED DEVICE
TOWER AUGUSTED

TOWER MOUNTED AMPLIFIER

UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM

ABBREVIATIONS

GEN GPS GSM LTE MGB MW

(N) NEC

QTY RECT

UMTS

ΔΝΙΤΕΝΝΙΔ

GENERATOR

PROPOSED POWER PLANT

RECTIFIER

NEW

YELLOW GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS

RECLAIMED WATER, IRRIGATION, AND

APWA UNIFORM COLOR CODE:

WHITE PROPOSED EXCAVATION EMPORARY SURVEY MARKINGS ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES POTABLE WATER

COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS

SLURRY LINES SEWERS AND DRAIN LINES



EXPIRATION DATE: 06/30/22

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SHEET NUMBER:

REVISION:

AT&T SITE NUMBER: PR65

SANDY 18243 ANTLER AVE

CROWN

505 WESTLAKE AVENUE NORTH, SUITE 800

SEATTLE, WA 98109

NFINIGY ENGINEERING, PLLC

500 WEST OFFICE CENTER DR. SUITE 150 | FORT WASHINGTON, PA 19034 www.infinigy.com

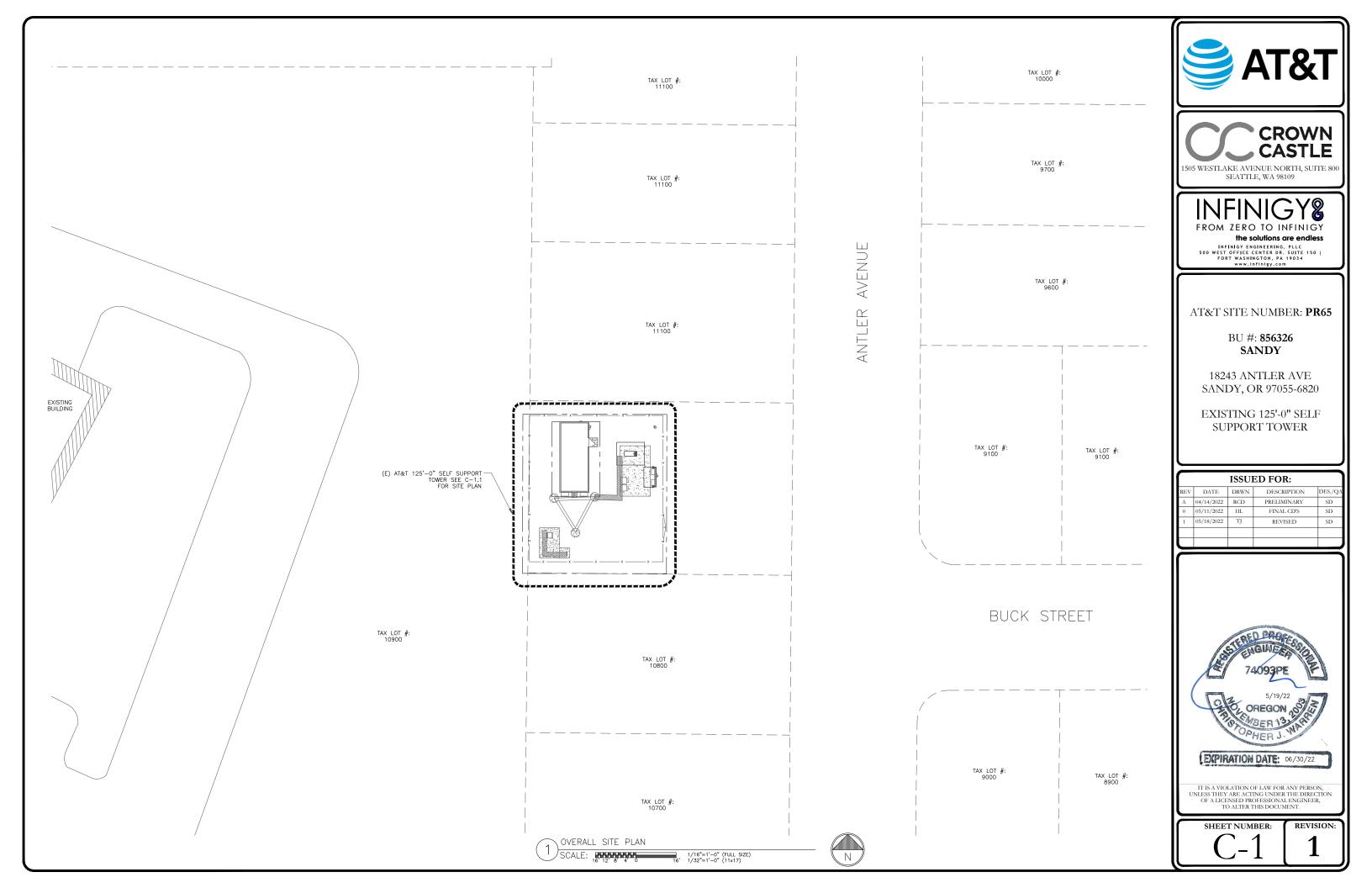
BU #: 856326

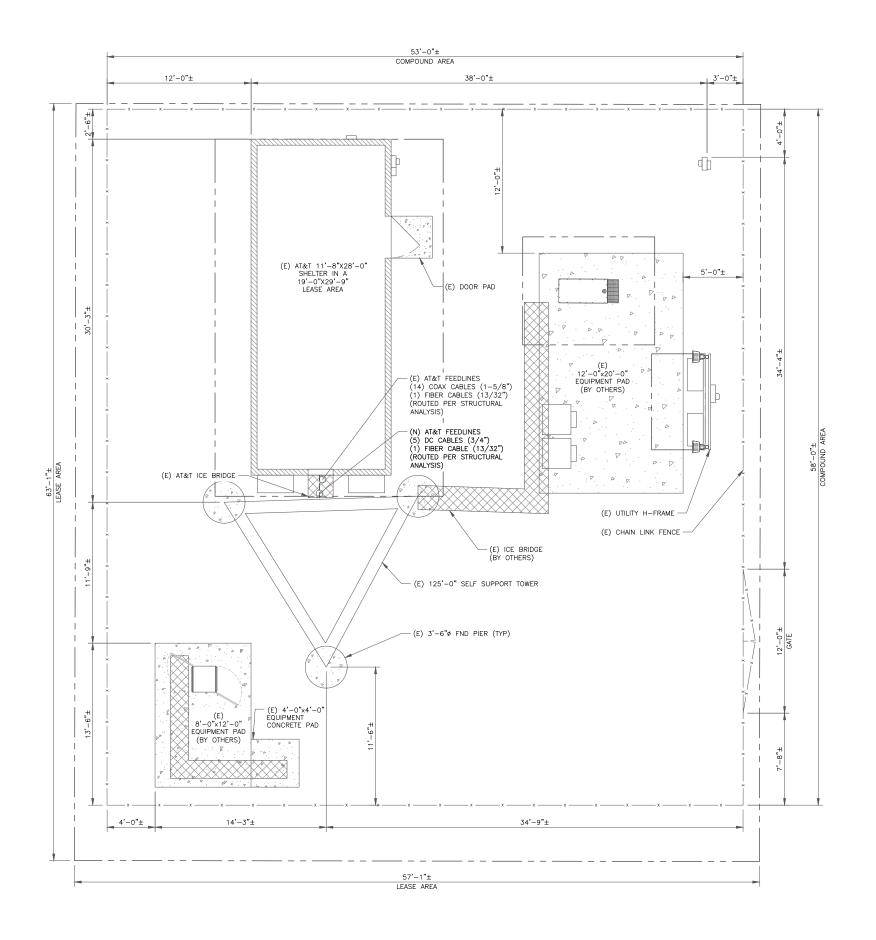
SANDY, OR 97055-6820

the solutions are endless

EXISTING 125'-0" SELF SUPPORT TOWER

l	ISSUED FOR:										
П	REV	DATE	DRWN	DESCRIPTION	DES./Q						
П	Α	04/14/2022	RCD	PRELIMINARY	SD						
I	0	05/11/2022	HL	FINAL CD'S	SD						
ı	1	05/18/2022	TJ	REVISED	SD						
ı											
П											









FROM ZERO TO INFINIGY the solutions are endless

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AT&T SITE NUMBER: **PR65**

BU #: **856326** SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

EXISTING 125'-0" SELF SUPPORT TOWER

	ISSUED FOR:							
REV	DATE	DRWN	DESCRIPTION	DES./QA				
Α	04/14/2022	RCD	PRELIMINARY	SD				
0	05/11/2022	HL	FINAL CD'S	SD				
1	05/18/2022	TJ	REVISED	SD				

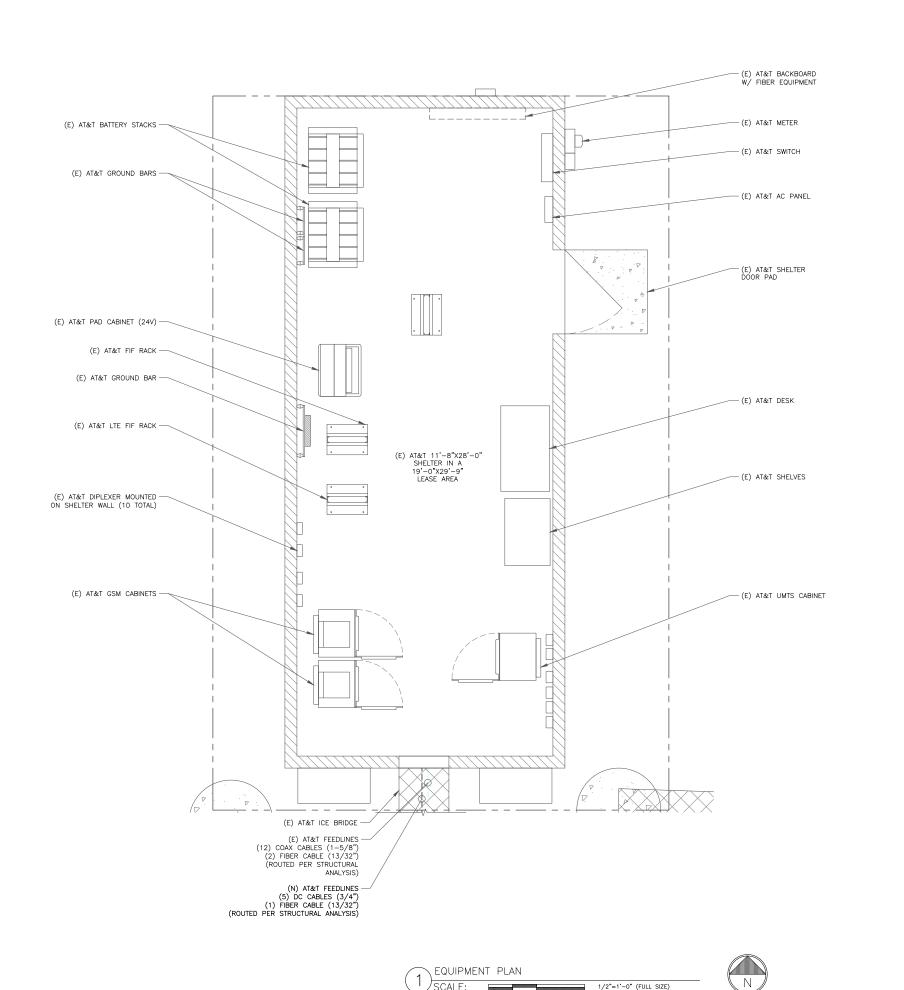


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GROUND SCOPE OF WORK:

•REMOVE (1) ASIK •REMOVE (1) ABIL •INSTALL (1) ASIL •INSTALL (3) ABIO





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AT&T SITE NUMBER: **PR65**

BU #: **856326** SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

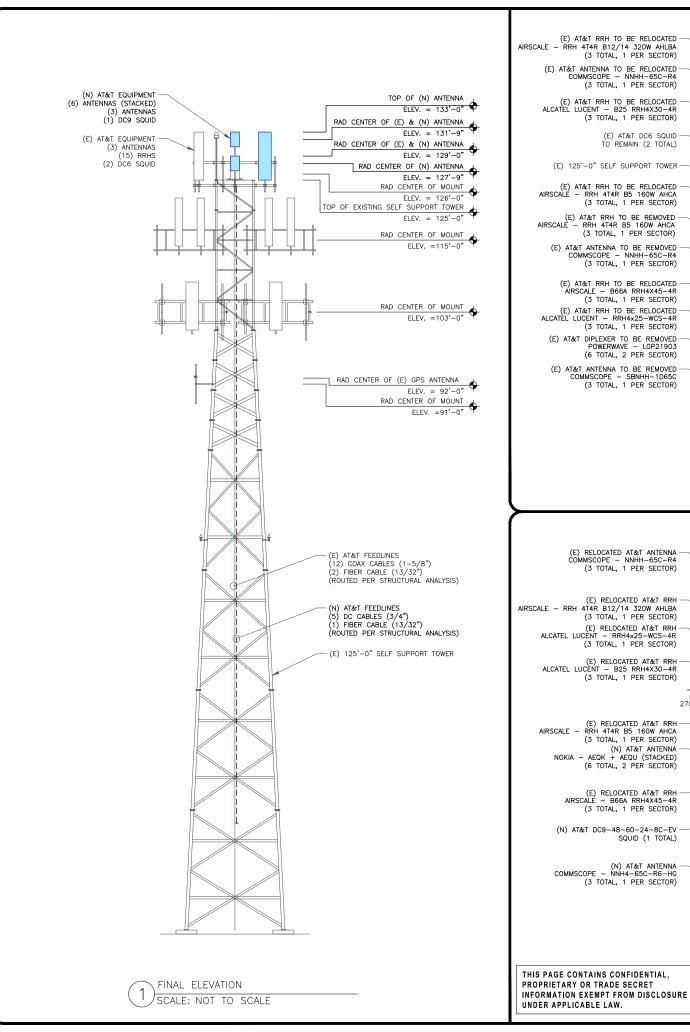
EXISTING 125'-0" SELF SUPPORT TOWER

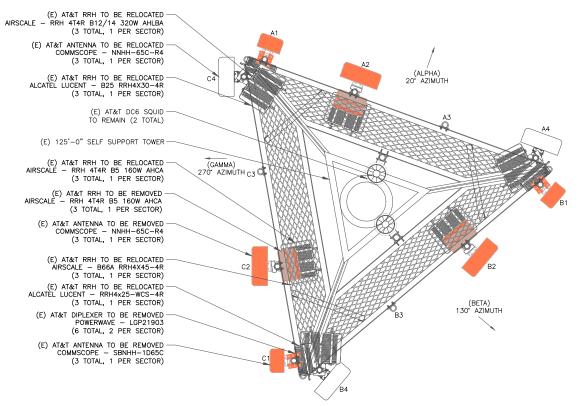
	ISSUED FOR:							
REV	DATE	DRWN	DESCRIPTION	DES./QA				
Α	04/14/2022	RCD	PRELIMINARY	SD				
0	05/11/2022	HL	FINAL CD'S	SD				
1	05/18/2022	TJ	REVISED	SD				

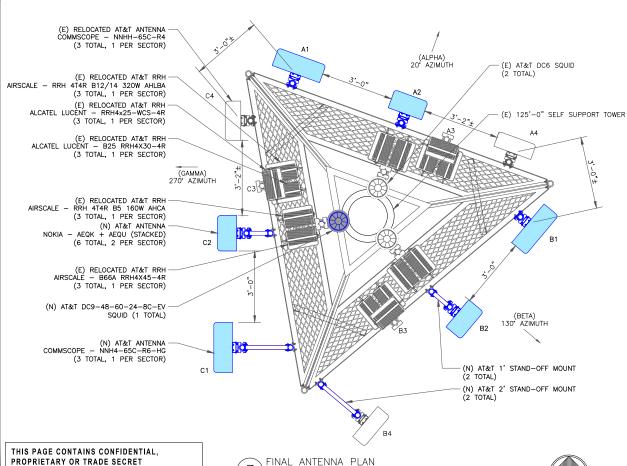


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SHEET NUMBER:







(3)SCALE:

EXISTING ANTENNA PLAN

SCALE:

"LOOK UP" - CROWN CASTLE USA INC.

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, 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 OT 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.

Ν

- REFERENCE C-3 FOR FINAL EQUIPMENT
- REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS
- CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.

TOWER SCOPE OF WORK:

- REMOVE (6) ANTENNAS •INSTALL (9) ANTENNAS •INSTALL (1) DC9
- RELOCATE (6) RRHS

MOUNT ANALYSIS NOTES:

- THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID ONLY WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS AND
- CONTRESPONDING PASSING MODIN AWALTSIS AND STRUCTURAL ANALYSIS.

 CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
- ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY





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AT&T SITE NUMBER: PR65

BU #: **856326** SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

EXISTING 125'-0" SELF SUPPORT TOWER

ISSUED FOR:									
REV	DATE	DRWN	DESCRIPTION	DES./QA					
Α	04/14/2022	RCD	PRELIMINARY	SD					
0	05/11/2022	HL	FINAL CD'S	SD					
1	05/18/2022	TJ	REVISED	SD					



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SHEET NUMBER:

FINAL EQUIPMENT SCHEDULE (VERIFY WITH CURRENT RFDS)

ALPHA	(VEINIT WITH CONNENT IN 183)																	
POSITION		ANTENNA				RADIO			DIPLEXER			ТМА		SURGE PROTECTION		CABLE	is	
POSITION	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS/MANUFACTURER MODEL	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
	5G				1	(E) AIRSCALE RRH 4T4R B5 160W AHCA									1	(N) FIBER	13/32"	179'-0"
A1	850/LTE 1900/5G	(N) NNH4-65C-R6-HG	20°	129'-0"	1	(E) AIRSCALE B66A RRH4X45-4R	TOWER	_	_	-	_	-	1	(N) DC9-48-60-24-8C-EV	1	(N) DC	3/4"	179'-0"
	1900/LTE WCS				1	(E) AIRSCALE DUAL RRH4x25-WCS-4F								DC9-40-00-24-0C-EV	-	_	-	-
						, ,									-	-	_	-
A2	5G C-BAND /5G DOD	(N) NOKIA AEQK+AEQU STACKED	20°	131'-9" 127'-9"	-	=	-	-	-	-	-	=	-	=	-	_	_	_
				127 -3														
															7	(N) COAX (E) DC		179'-0" 179'-0"
A3	-	=	-	-	-	-	-	-	-	-	-	=	1	(E) DC6-48-60-18-8F	-	(L) DC	- -	-
															- 1	-	-	-
	LTE 700 (1	(E) 4T4R B12/14 320W AHLBA									7	(N) COAX	1-5/8"	179'-0"
A4	LTE 700/	(E) NNHH-65C-R4	20°	129'-0"		(=) = .=, ===	TOWER	_	_	_	_	=	1	(E) DC6-48-60-18-8C	1	(E) FIBER	13/32"	179'-0"
	AWS/5G AWS				1	(E) B25 RRH4X30-4R									2	(E) DC	3/4"	179'-0"
													l					
BETA						(E) AIRSCALE RRH 4T4R B5							1	T	I _ I	_	_	_
	5G 850/LTE				1	160W AHCA									-		_	_
B1	1900/5G 1900/LTE WCS	(N) NNH4-65C-R6-HG	130*	129'-0"	1	(E) AIRSCALE B66A RRH4X45-4R	TOWER	-	-	-	-	=	-	-	- 1	-	-	-
	wċs				1	(E) AIRSCALE DUAL RRH4x25-WCS-4F										-	-	-
	5G C-BAND	(1) 1101/11 1501/11501/101/50	130°	131'-9"											-	_	-	-
B2	/5G DOD	(N) NOKIA AEQK+AEQU STACKED		127'-9"	_	=	-	_	- -	-	-	=	-	_	-	-	-	_
															-	_	_	_
В3	_		_	_	_		_	_	=	_	_				-	-	-	_
63	_	_	_	_		_	_		_	_		_		_	-	=	-	-
															-	-	-	-
	LTE 700/				1	(E) 4T4R B12/14 320W AHLBA									-	_	-	_
B4	LTE AWS/5G AWS	(E) NNHH-65C-R4	130*	129'-0"		(E) DOE DOUANZO 4D	TOWER	-	-	-	-	=	-	-	- 1	=	-	-
	AWS				1	(E) B25 RRH4X30-4R									-	-	-	-
GAMMA																		
	5G				1	(E) AIRSCALE RRH 4T4R B5 160W AHCA									_	-	-	-
C1	850/LTE 1900/5G	(N) NNH4-65C-R6-HG	270°	129'-0"	1	(E) AIRSCALE B66A RRH4X45-4R	TOWER	_	_	_	_	=	_	=	-	-	-	-
	1900/LTE WCS				1	(E) AIRSCALE DUAL RRH4x25-WCS-4R									-	=	-	-
						· /										_	_	_
C2	5G C-BAND /5G DOD	(N) NOKIA AEQK+AEQU STACKED	270°	131'-9"	-	=	_	-	=	-	-	=	-	_	\vdash			_
	,			127'-9"											-	=	-	-
															-	-	-	-
C3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	-	-
															-	=	_	-
						(E) ATAB B12/44 700W AULDA									-	-	-	-
C4	LTE 700/ LTE	(E) NNHH-65C-R4	270°	129'-0"	1	(E) 4T4R B12/14 320W AHLBA	TOWER	_	_	_	_	=	_	_		-	-	-
	AWS/5G AWS	(_, 555 //		1.20	1	(E) B25 RRH4X30-4R									-	-	-	-
NOTE:													<u> </u>	<u> </u>	L-1	-	-	-

NOTE: (E) - EXISTING (N) - NEW

FINAL EQUIPMENT SCHEDULE SCALE: NOT TO SCALE





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AT&T SITE NUMBER: **PR65**

BU #: **856326** SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

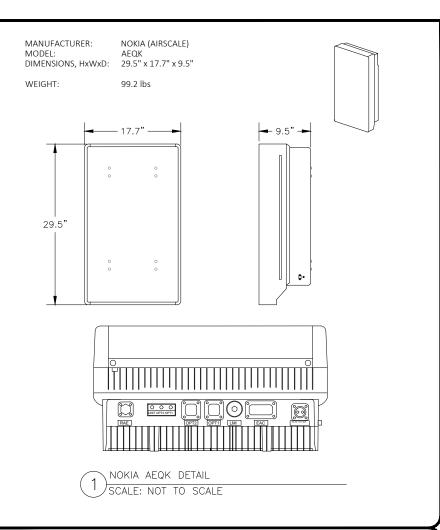
EXISTING 125'-0" SELF SUPPORT TOWER

	ISSUED FOR:								
REV	DATE	DRWN	DESCRIPTION	DES./QA					
Α	04/14/2022	RCD	PRELIMINARY	SD					
0	05/11/2022	HL	FINAL CD'S	SD					
1	05/18/2022	TJ	REVISED	SD					



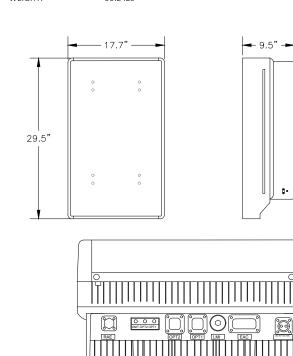
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SHEET NUMBER:





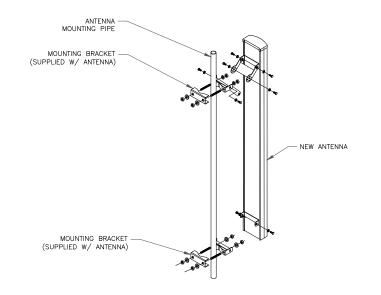
WEIGHT: 99.2 lbs



NOKIA AEQU DETAIL

SCALE: NOT TO SCALE

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRHS RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. 1. DO NOT OPEN RRH PACKAGES IN THE RAIN. 1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



ANTENNA MOUNTING DETAIL SCALE: NOT TO SCALE





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18243 ANTLER AVE SANDY, OR 97055-6820

EXISTING 125'-0" SELF SUPPORT TOWER

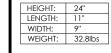
REV	DATE	DRWN	DESCRIPTION	DES./QA
Α	04/14/2022	RCD	PRELIMINARY	SD
0	05/11/2022	HL	FINAL CD'S	SD
1	05/18/2022	TJ	REVISED	SD
=				

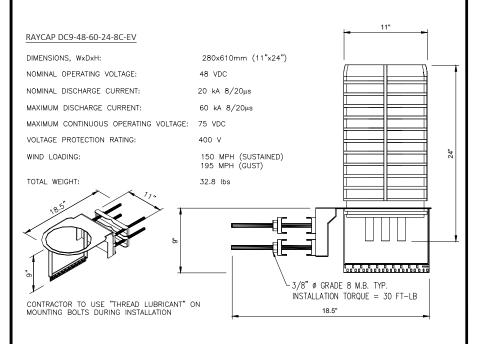


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SHEET NUMBER:

REVISION:





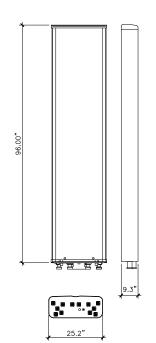
DC-9 SQUID DETAIL

SCALE: NOT TO SCALE

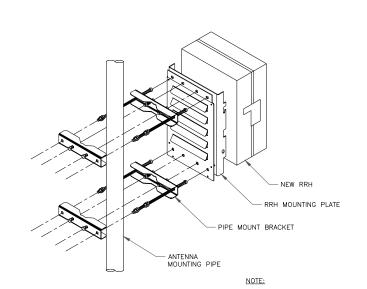
MANUFACTURER: COMMSCOPE NNH4-65C-R6-HG DIMENSIONS, HxWxD: 96.0" x 25.2" x 9.3"

157.50 lbs

WEIGHT, W/OUT MOUNT BRACKETS:

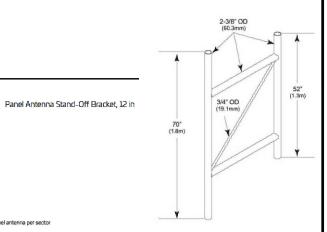


COMMSCOPE NNH4-65C-R6-HG DETAIL SCALE: NOT TO SCALE



ANTENNA NOT SHOWN FOR CLARITY

SINGLE RRH MOUNTING DETAIL (6) SCALE: NOT TO SCALE



Product Classification

Product Type Stand-off mount

General Specifications

Note One 72 in x 8 in panel antenna per sector

Dimensions

P-100

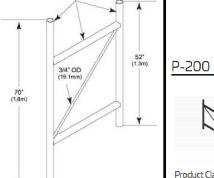
Height 1778 mm | 70 in Width 76.2 mm | 3 in 304.8 mm | 12 in 304.8 mm | 12 in Material Specifications

Material Type Hot dip galvanized steel

Mechanical Specifications

120 mph (BWS) at 150 ft AGL Wind Rating Wind Rating Test Method TIA/EIA-222

P-100 COMMSCOPE 1' STAND-OFF MOUNT (1) SCALE: NOT TO SCALE



Panel Antenna Stand-Off Bracket, 24 in

Product Classification

Product Type

General Specifications

Note One 72 in x 8 in panel antenna per sector

2 SCALE: NOT TO SCALE

Dimensions

1778 mm | 70 in Height 76.2 mm | 3 in Length 609.6 mm | 24 in 609.6 mm | 24 in

Material Specifications

Hot dip galvanized steel

Mechanical Specifications

120 mph (BWS) at 150 ft AGL

Wind Rating Test Method TIA/EIA-222

P-200 COMMSCOPE 2' STAND-OFF MOUNT

NOT USED NOT USED
SCALE: NOT TO SCALE



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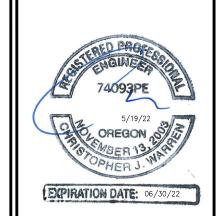
AT&T SITE NUMBER: **PR65**

BU #: **856326** SANDY

18243 ANTLER AVE SANDY, OR 97055-6820

EXISTING 125'-0" SELF SUPPORT TOWER

	ISSUED FOR:									
REV	DATE	DRWN	DESCRIPTION	DES./QA						
Α	04/14/2022	RCD	PRELIMINARY	SD						
0	05/11/2022	HL	FINAL CD'S	SD						
1	05/18/2022	TJ	REVISED	SD						



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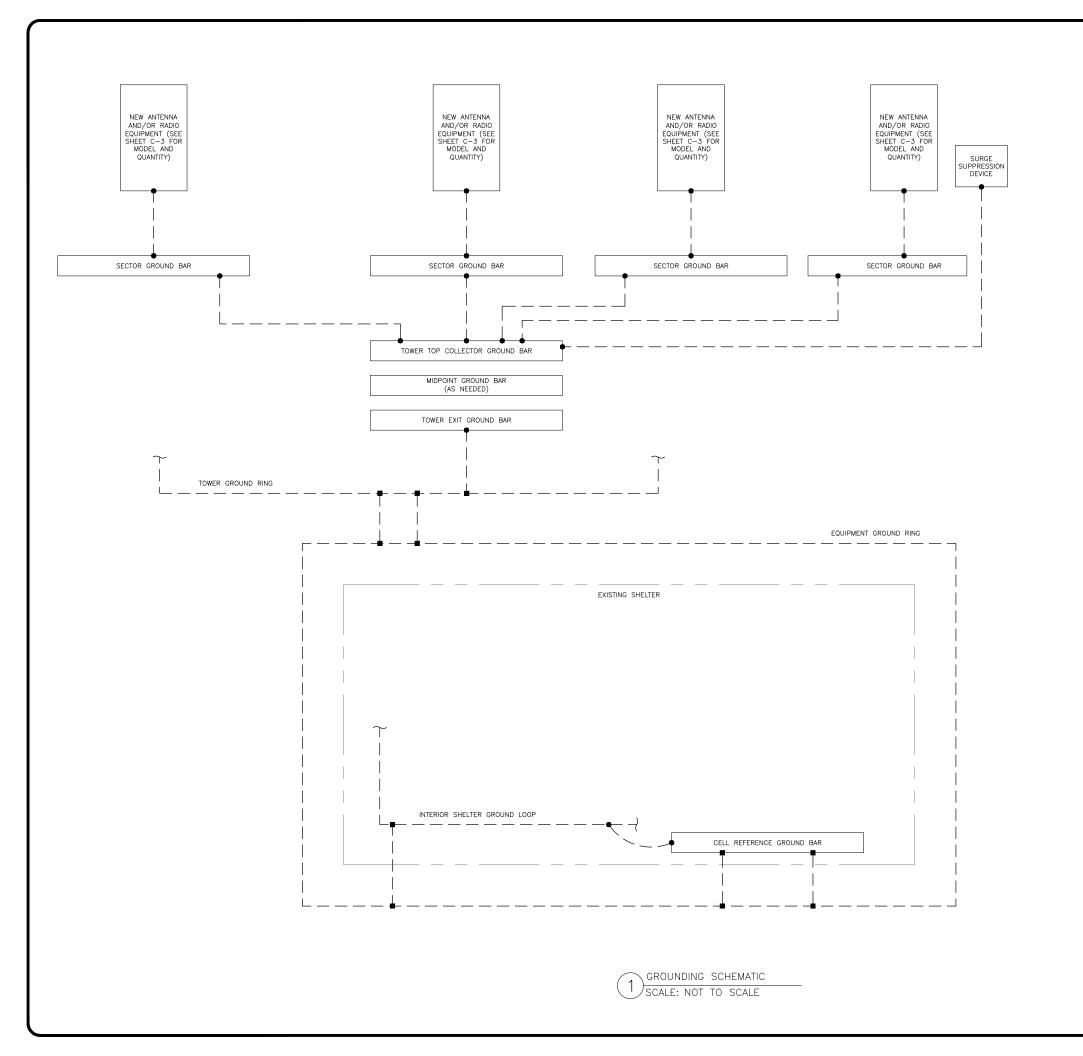
REVISION:

NOT USED SCALE: NOT TO SCALE

NOT USED (6) SCALE: NOT TO SCALE

NOT USED

4) SCALE: NOT TO SCALE



GROUNDING PLAN LEGEND:

-- GROUND WIRE

■ EXOTHERMIC WELD

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

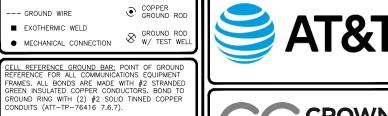
EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

MECHANICAL CONNECTION

S GROUND ROD W/ TEST WELL





SEATTLE, WA 98109

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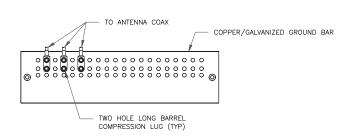
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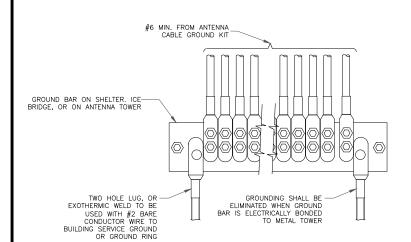
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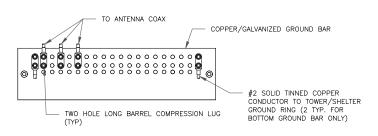
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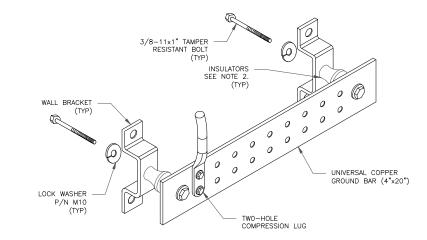
- DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.
- ANTENNA SECTOR GROUND BAR DETAIL SCALE: NOT TO SCALE



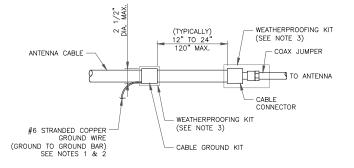
GROUNDWIRE INSTALLATION 4) SCALE: NOT TO SCALE



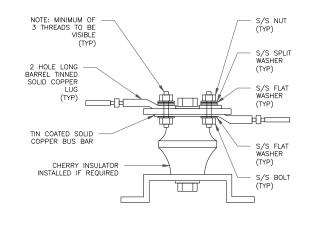
- EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.
- TOWER/SHELTER GROUND BAR DETAIL (2) SCALE: NOT TO SCALE



- 1. DOWN LEAD (HOME RUN) CONDUCTORS ARE <u>NOT</u> TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-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.
- GROUND BAR DETAIL [5] SCALE: NOT TO SCALE

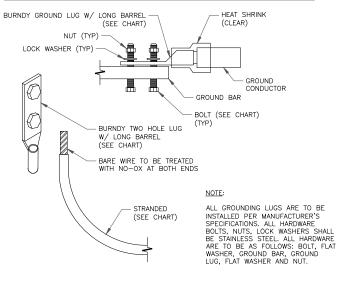


- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 WEATHER PROOFING SHALL BE TWO—PART TAPE KIT, COLD SHRINK SHALL NOT BE
- CABLE GROUND KIT CONNECTION (6) SCALE: NOT TO SCALE

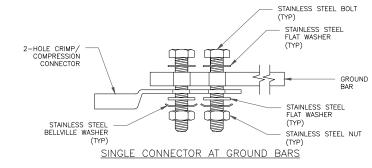


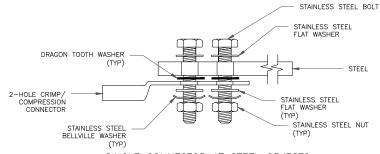
LUG DETAIL 7 SCALE: NOT TO SCALE

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

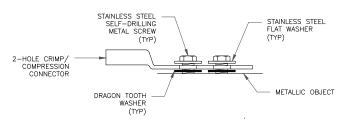


MECHANICAL LUG CONNECTION SCALE: NOT TO SCALE





SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

HARDWARE DETAIL FOR EXTERIOR CONNECTIONS SCALE: NOT TO SCALE





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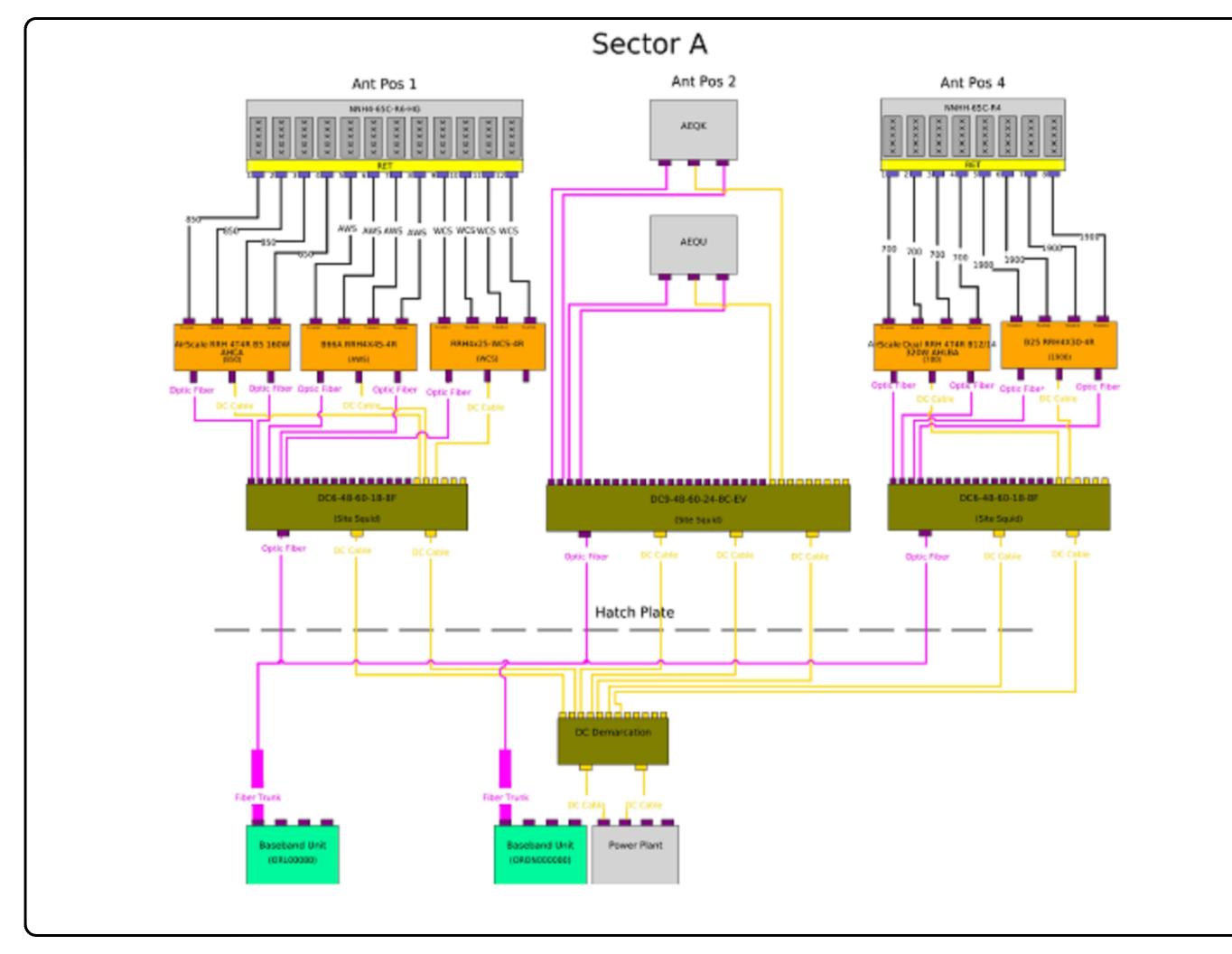
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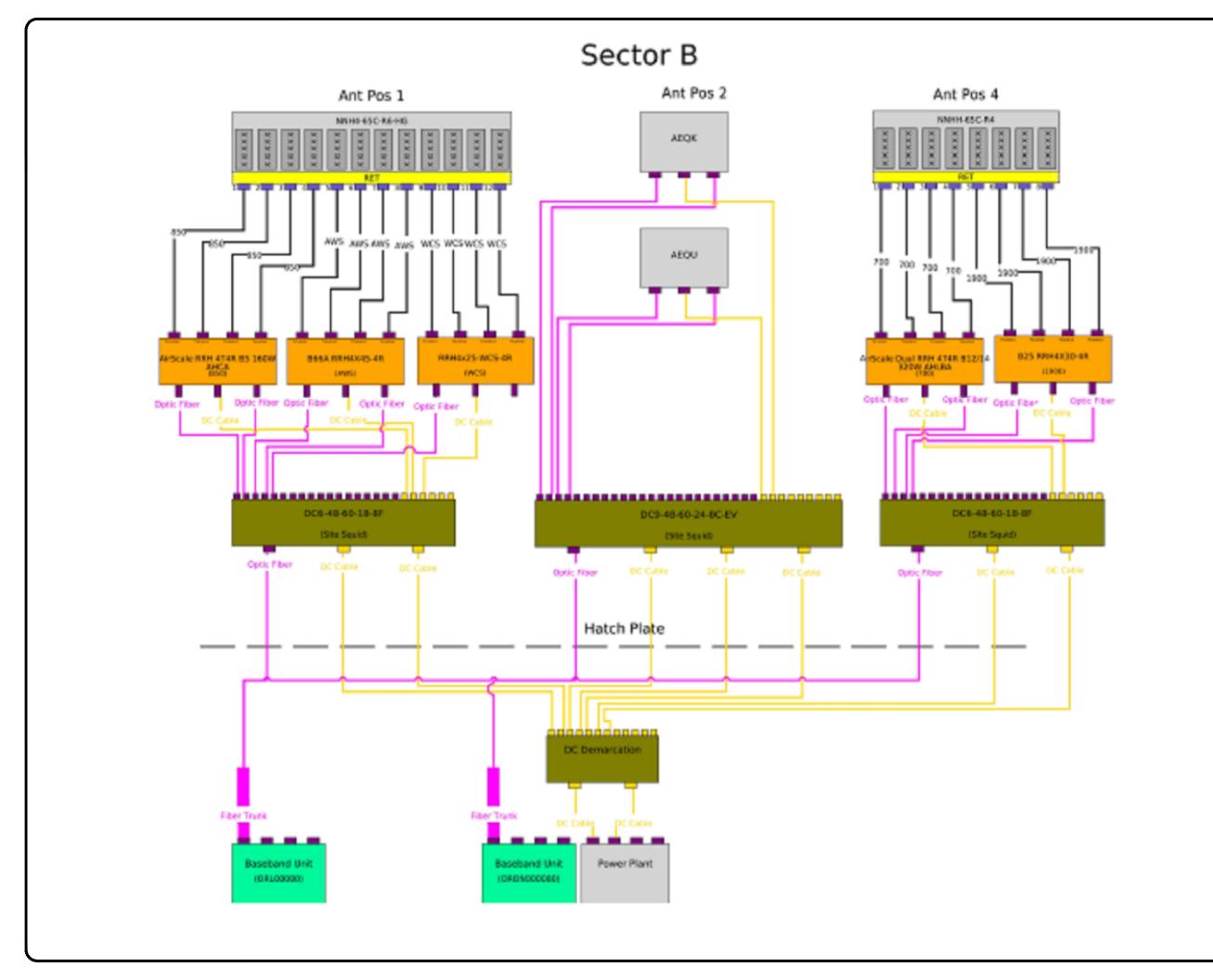
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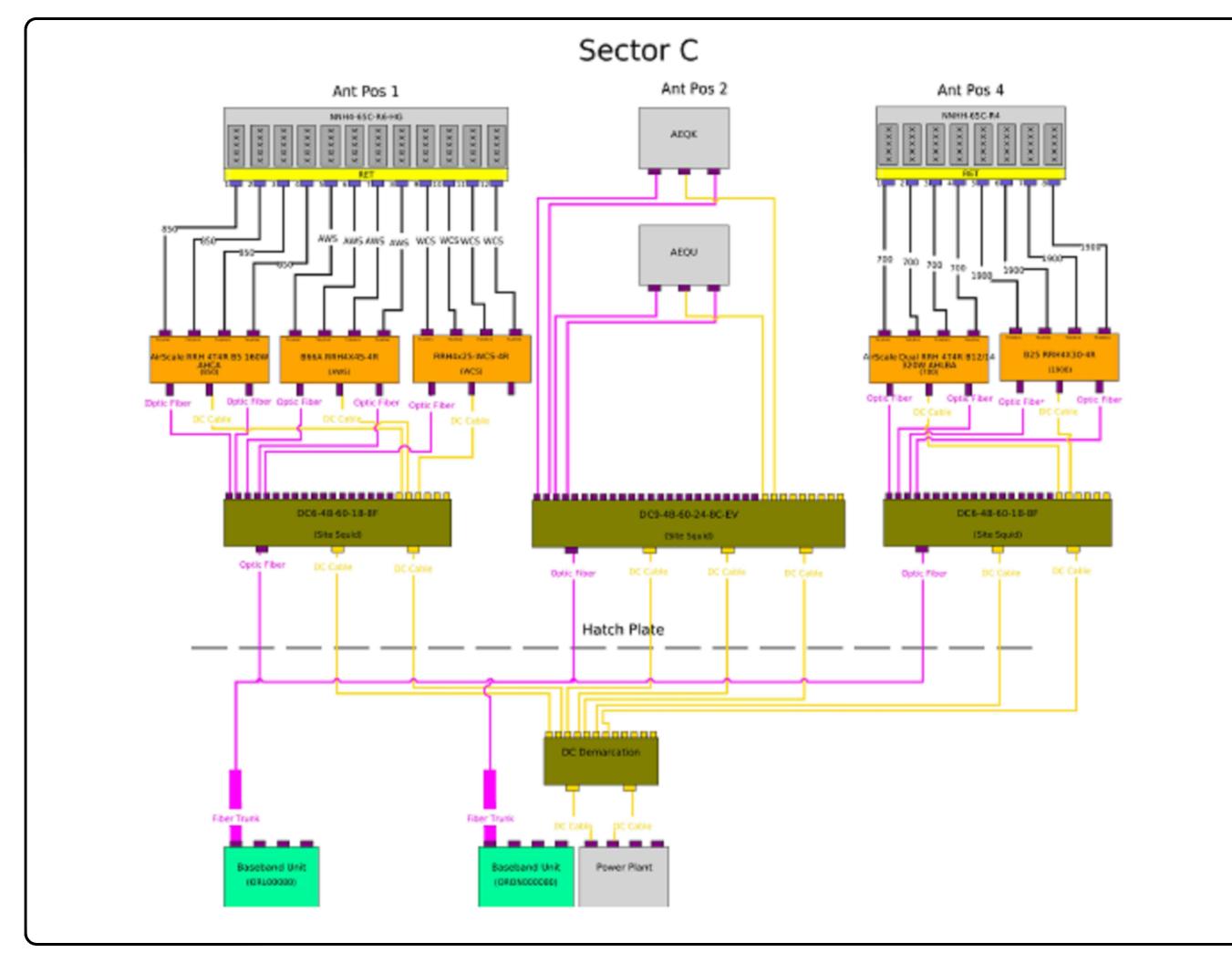
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