

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 ONSITE 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 QAS–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 GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS 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-ELECTRIC 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 DETAILS 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:
CARRIER: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
TOWER OWNER: 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 1500 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 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 OF 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.
- UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC ON STRAIGHTS AND SCHEDULE 80 PVC UNDER ALL TRAFFIC EASEMENTS AND ALL ELBOWS/90s. ABOVE GRADE CONDUIT TO BE SCH 80 PVC OR IMC/RMC CONDUIT. EMT IS ALLOWED AT STUB UP LOCATIONS AND INDOORS ONLY.
- 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 (WIREMOULD SPECIMATE WIREWAY).
- SLOTTED WIRING TUB 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 FISHED 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.
- 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.
- 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
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
277/480V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	YELLOW
	NEUTRAL	GREY
DC VOLTAGE	GROUND	GREEN
	POS (+)	RED**
	NEG (–)	BLACK**

* 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
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PPY	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

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



VERIZON SITE NUMBER:
5000078299

BU #: 809329

CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
0	10/15/25	MAT	CONSTRUCTION	MAT



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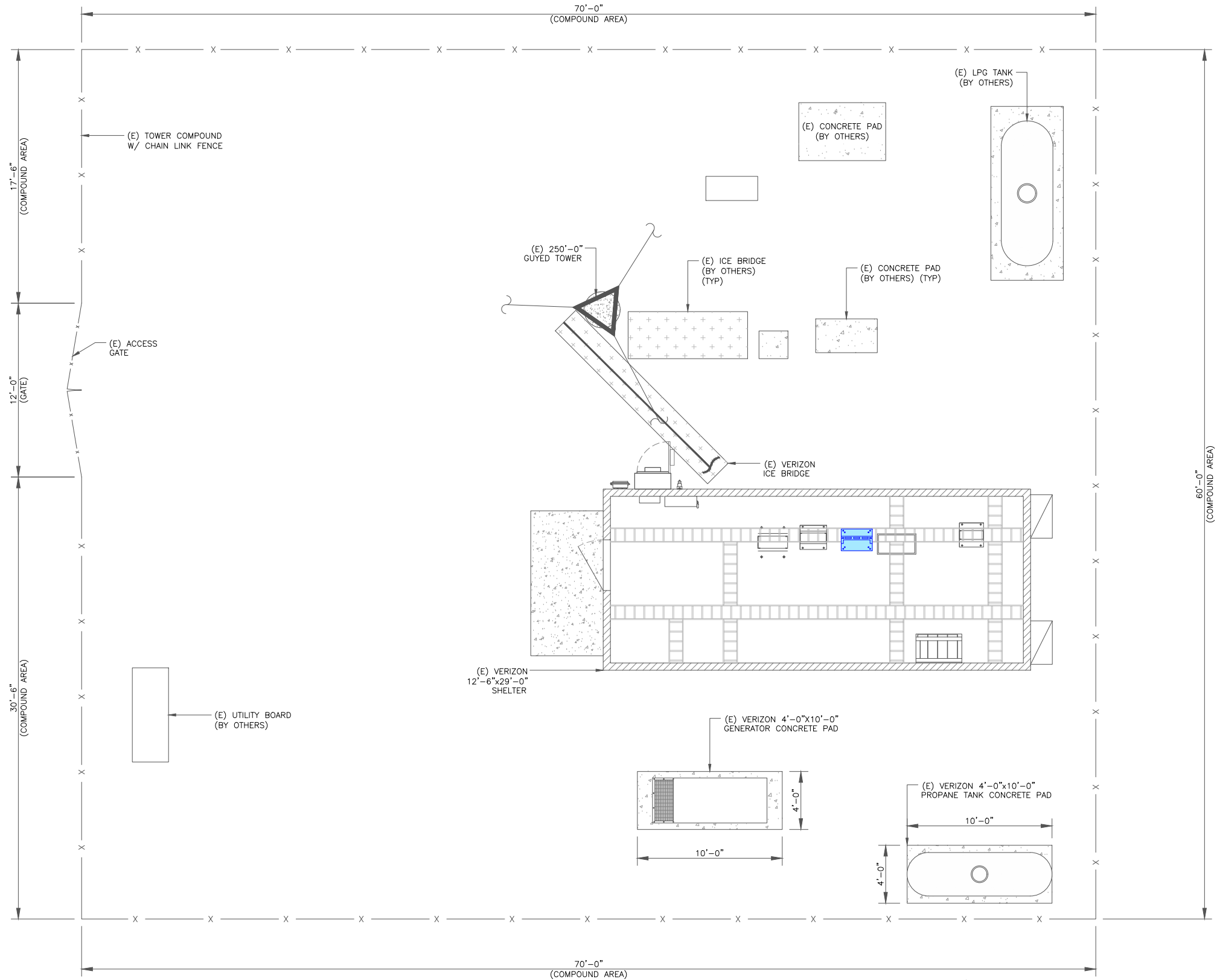
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REVISION:

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CC VERIZON NATIONAL ANTENNA AMENDMENT_2024-08-05

(E) GUYED WIRE
(TYP)



EQUIPMENT LEGEND:	
	EXISTING
	TO BE RELOCATED/REMOVED
	NEW

verizon

CROWN CASTLE

NextEdge
1355 WINDWARD
CONCOURSE, SUITE 410
ALPHARETTA, GA 30005
TEL: 678-990-2338
FL COA #38599

VERIZON SITE NUMBER:
5000078299

BU #: **809329**

CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:

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C-1.1

REVISION:

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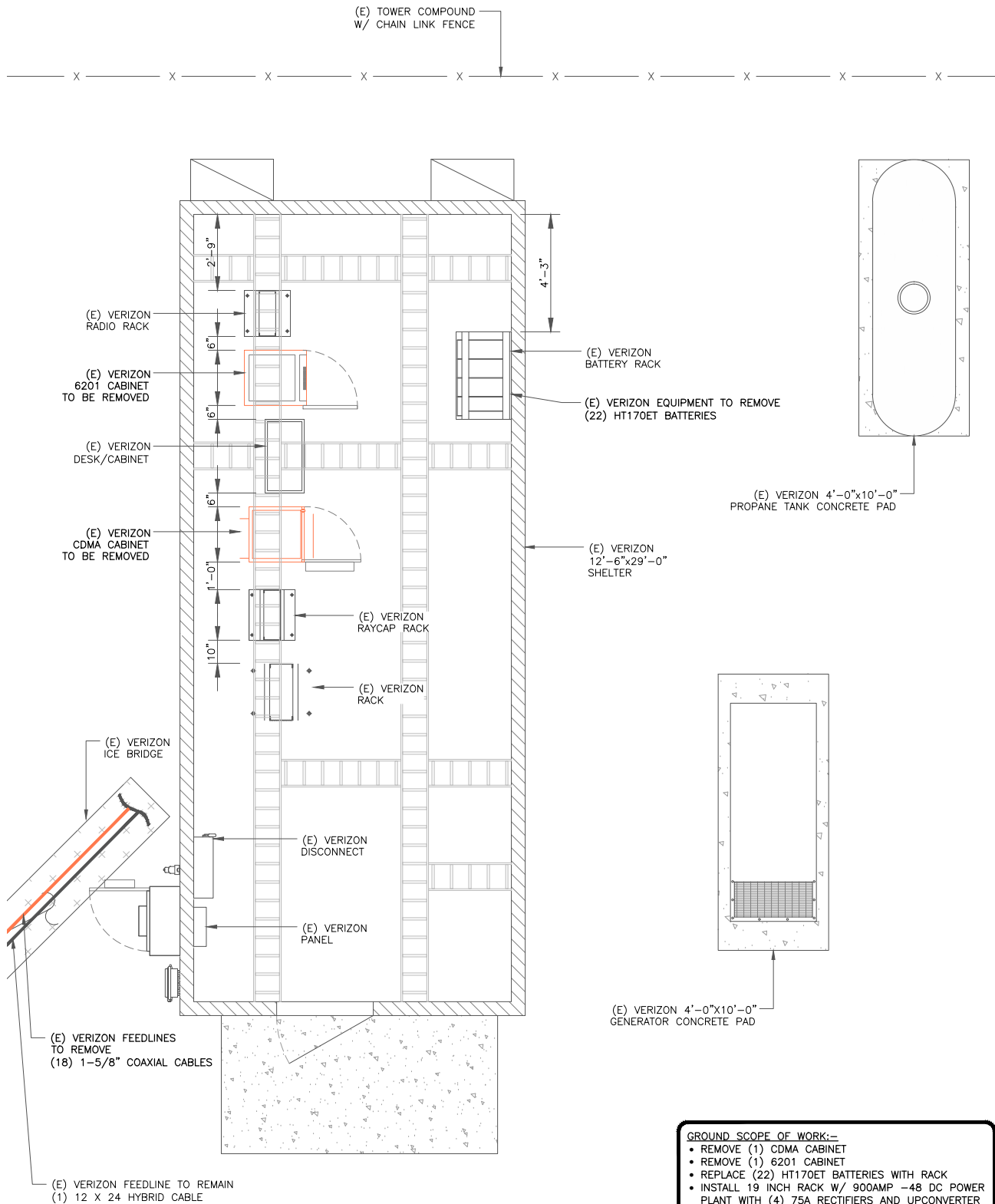
SITE PLAN

SCALE:

1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (1x17)

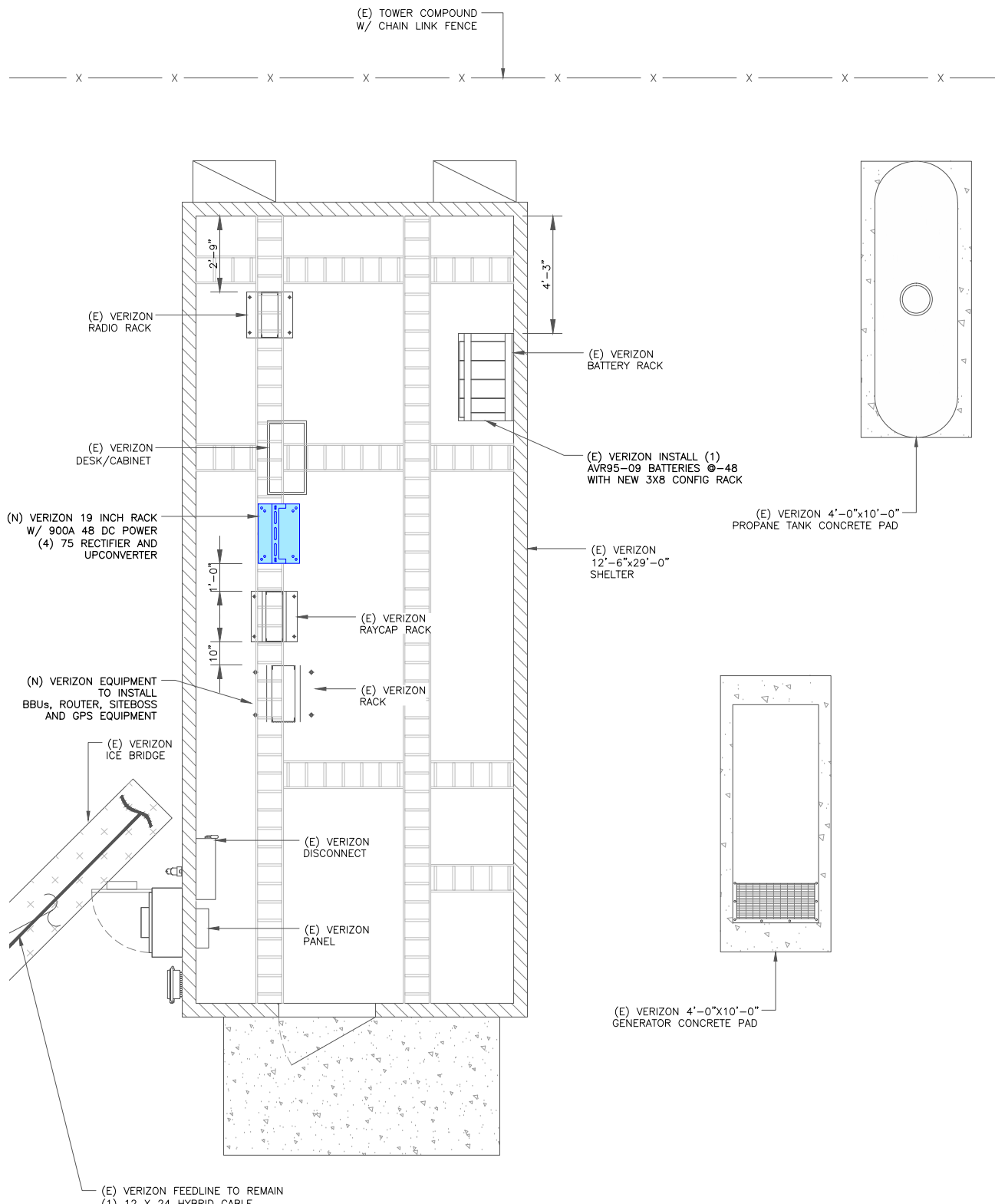


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- GROUND SCOPE OF WORK:-
- REMOVE (1) CDMA CABINET
 - REMOVE (1) 6201 CABINET
 - REPLACE (22) HT170ET BATTERIES WITH RACK
 - INSTALL 19 INCH RACK W/ 900AMP -48 DC POWER PLANT WITH (4) 75A RECTIFIERS AND UPCONVERTER
 - INSTALL BBUS, ROUTER, SITEBOSS, AND GPS EQUIPMENT IN EXISTING 19IN RACK
 - INSTALL (1) AVR95-09 BATTERIES @-48 WITH NEW 3x8 CONFIG RACK

1 EXISTING EQUIPMENT PLAN
SCALE: 2"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)
3/16"=1'-0" (11x17)



2 PROPOSED EQUIPMENT PLAN
SCALE: 2"=1'-0" (FULL SIZE)
3/8"=1'-0" (11x17)
3/16"=1'-0" (11x17)



EQUIPMENT LEGEND:

EXISTING
TO BE RELOCATED/REMOVED
NEW/RELOCATED

verizon

CROWN CASTLE

NextEdge

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ALPHARETTA, GA 30005
TEL: 678-990-2338
FL COA #38599

VERIZON SITE NUMBER:
5000078299

BU #: 809329

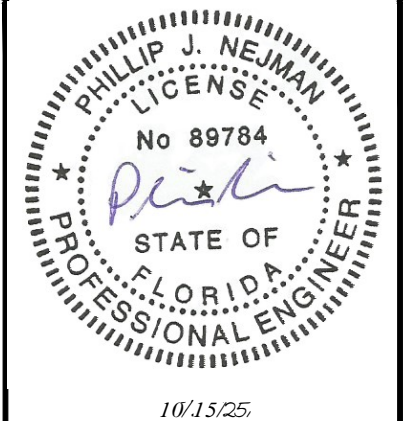
CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
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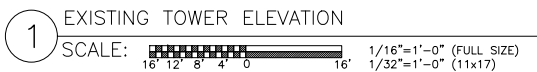
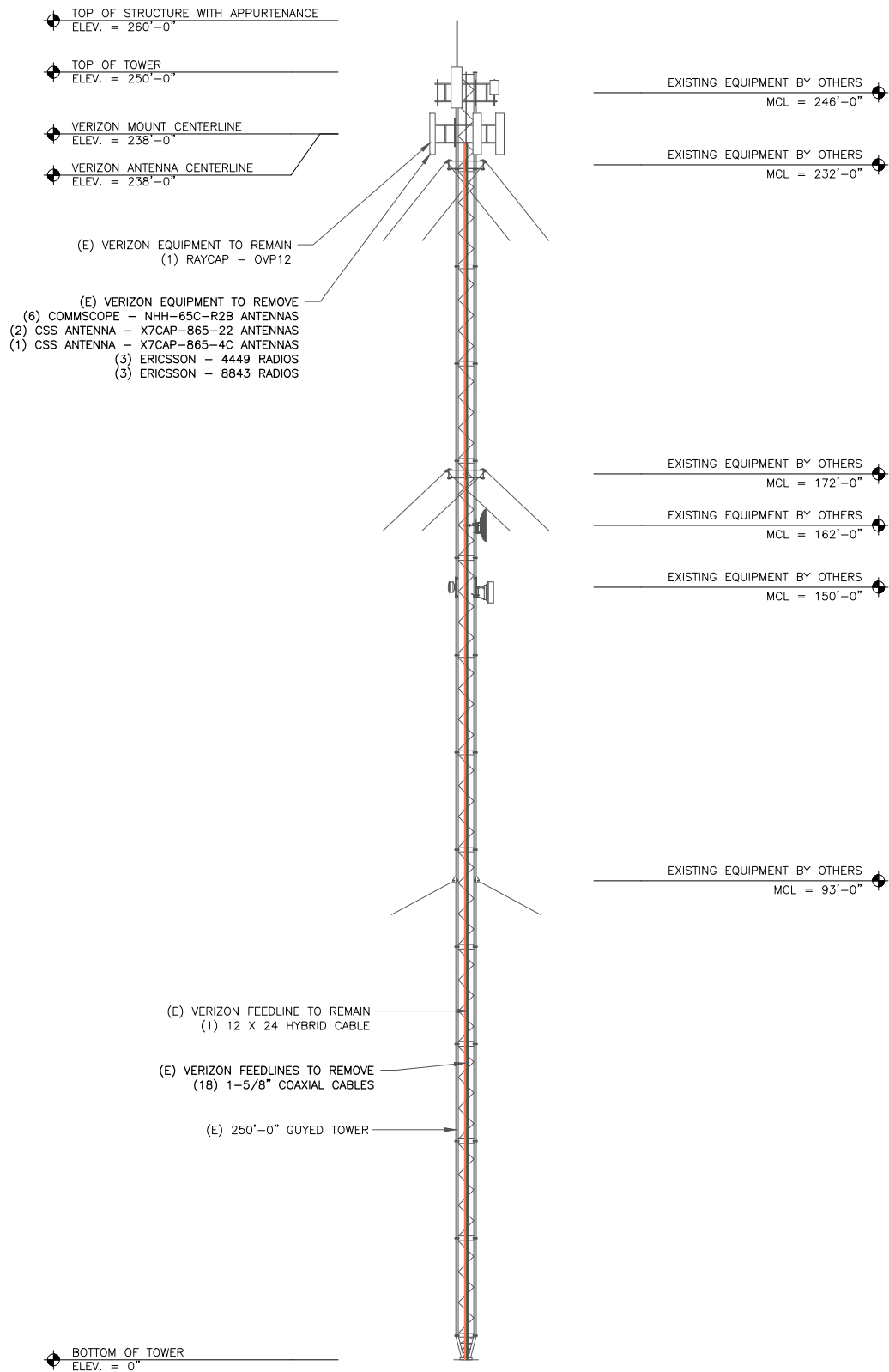
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C-1.2

REVISION:

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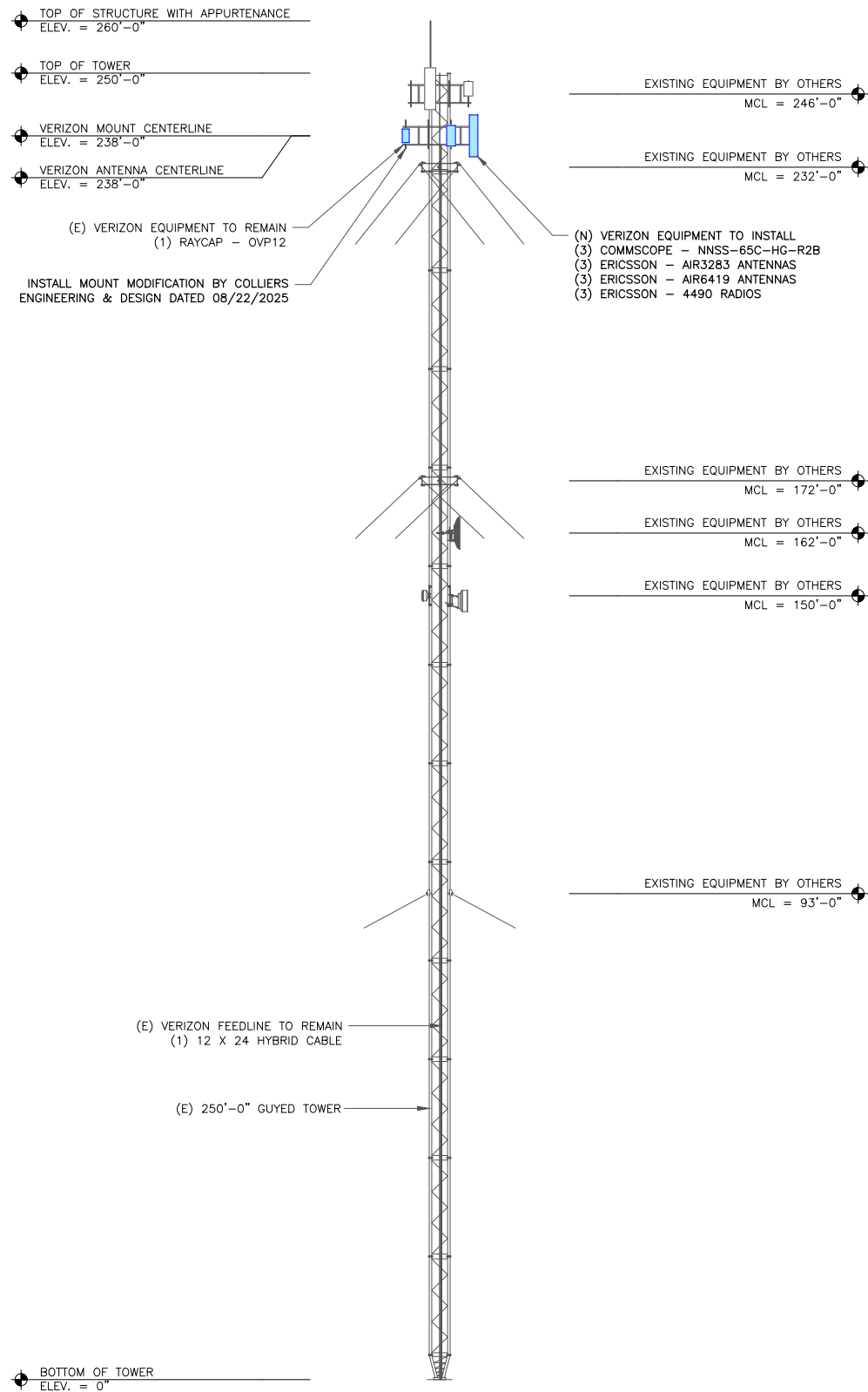
CC VERIZON NATIONAL ANTENNA AMENDMENT_2024-08-05



VERIZON EQUIPMENT
ANTENNA CL: 238'-0"
MOUNT CL: 238'-0"

FAA APPROVED HEIGHT
265'-0"

ASR HEIGHT FOR FUTURE USE
265'-0" PER REGISTRATION #1001544



verizon

CROWN
CASTLE

1355 WINDWARD
CONCOURSE, SUITE 410
ALPHARETTA, GA 30005
TEL: 678-990-2338
FL COA #38599

NextEdge

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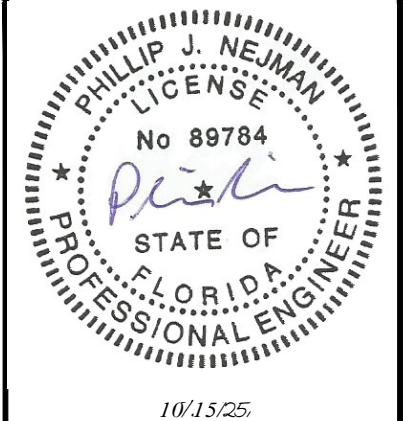
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1307 SW ENGLISH ST
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EXISTING 250'-0" GUYED
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VERIZON SITE NUMBER:
5000078299

BU #: 809329

CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/15/25	MAT	CONSTRUCTION	MAT



10/15/25

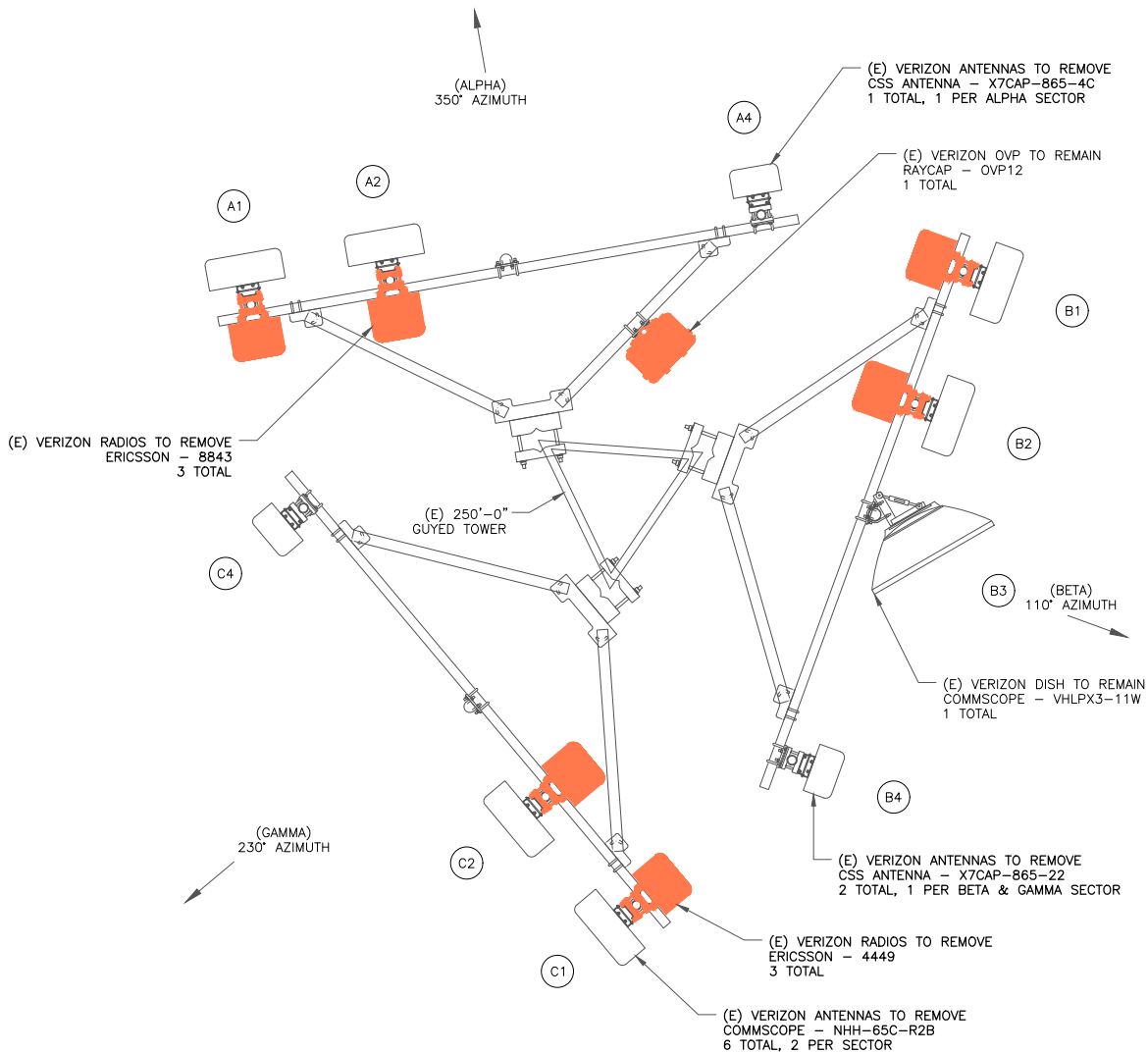
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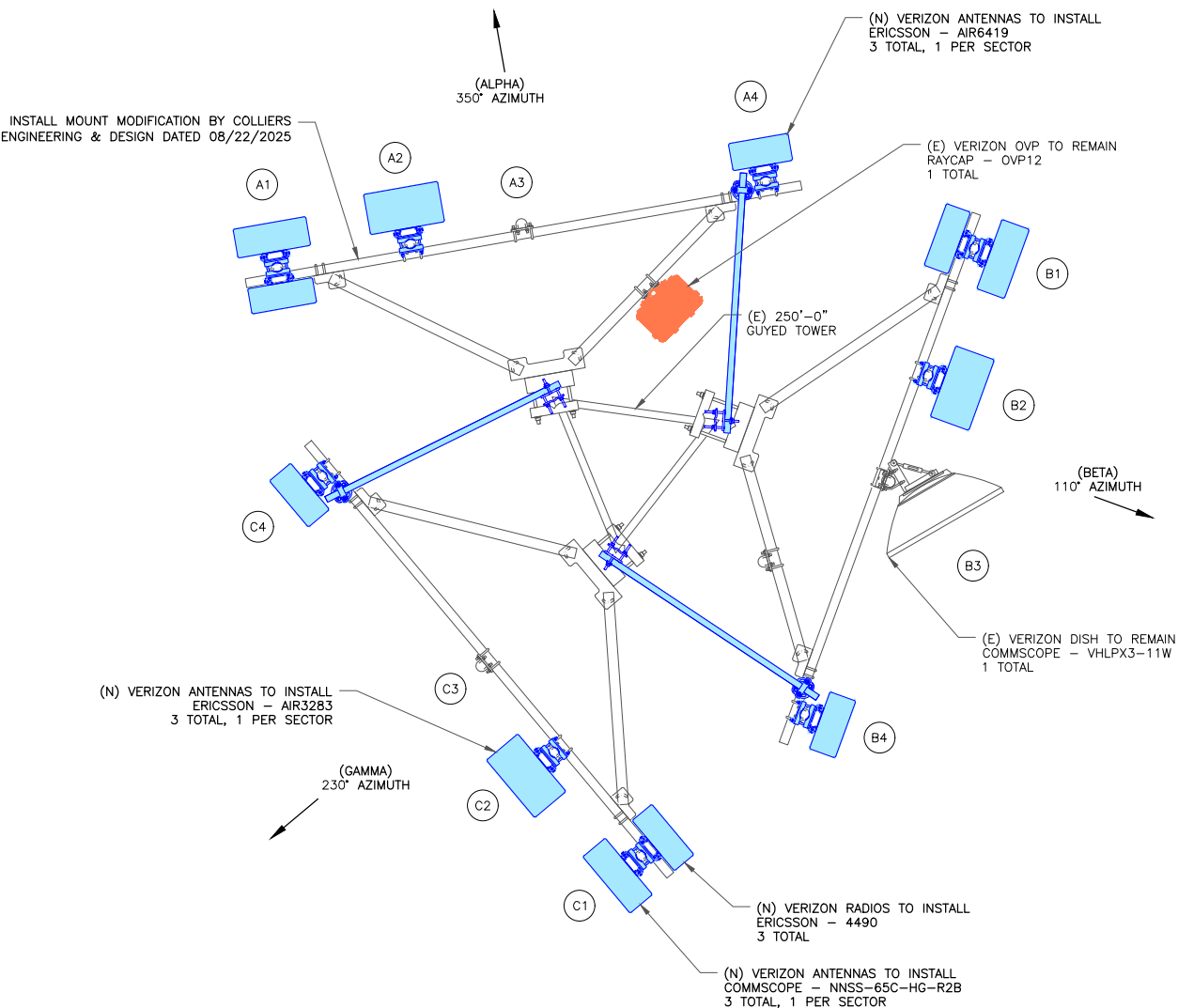
REVISION:

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1 EXISTING ANTENNA PLAN

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



2 FINAL ANTENNA PLAN

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



CC VERIZON NATIONAL ANTENNA AMENDMENT_2024-08-05

FINAL EQUIPMENT SCHEDULE (VERIFY WITH CURRENT RFDS)																		
POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
A1	700,850	(N) COMMSCOPE – NNSS–65C–HG–R2B	350°	238’–0”	1	(N) ERICSSON – 4490	TOWER	–	–	–	–	–	1	(E) RAYCAP – OVP12	1	(E) HYBRID CABLE	12x24	288’
A2	1900,AWS, AWS3	(N) ERICSSON – AIR3283	350°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
A3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
A4	L–SUB6	(N) ERICSSON – AIR6419	350°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B1	700,850	(N) COMMSCOPE – NNSS–65C–HG–R2B	110°	238’–0”	1	(N) ERICSSON – 4490	TOWER	–	–	–	–	–	–	–	–	–	–	–
B2	1900,AWS, AWS3	(N) ERICSSON – AIR3283	110°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B3	–	(E) COMMSCOPE – VHLPX3–11W	–	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B4	L–SUB6	(N) ERICSSON – AIR6419	110°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C1	700,850	(N) COMMSCOPE – NNSS–65C–HG–R2B	230°	238’–0”	1	(N) ERICSSON – 4490	TOWER	–	–	–	–	–	–	–	–	–	–	–
C2	1900,AWS, AWS3	(N) ERICSSON – AIR3283	230°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C3		–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C4	L–SUB6	(N) ERICSSON – AIR6419	230°	238’–0”	–	–	–	–	–	–	–	–	–	–	–	–	–	–

* REFER TO THE RFDS FOR MECHANICAL AND ELECTRICAL DOWNTILT INFORMATION

UNUSED FEEDLINES			
QTY.	STATUS/TYPE	SIZE	LENGTH
–	–	–	–

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE



VERIZON SITE NUMBER:
5000078299

BU #: 809329

CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

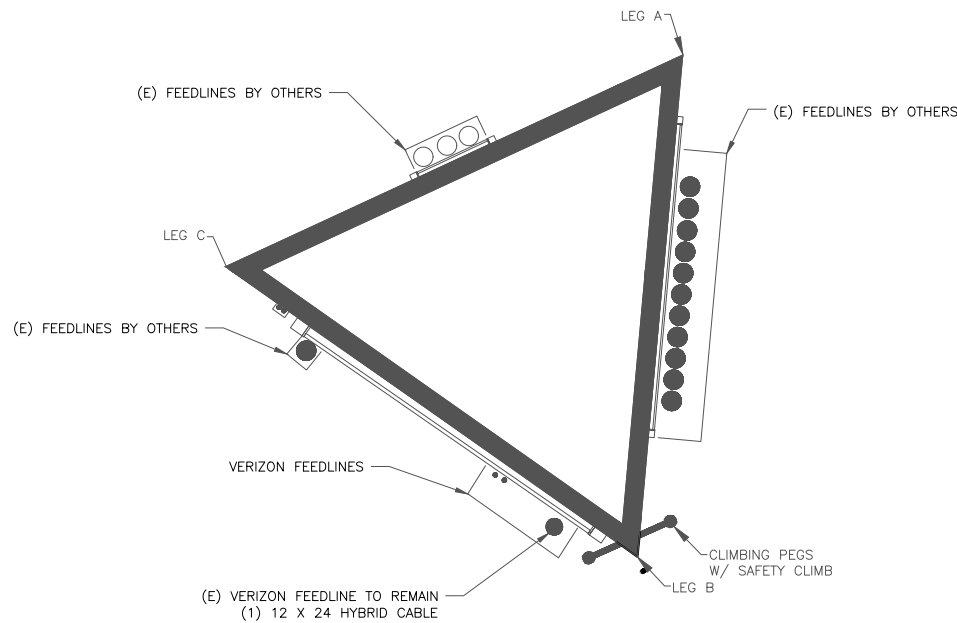
EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/15/25	MAT	CONSTRUCTION	MAT

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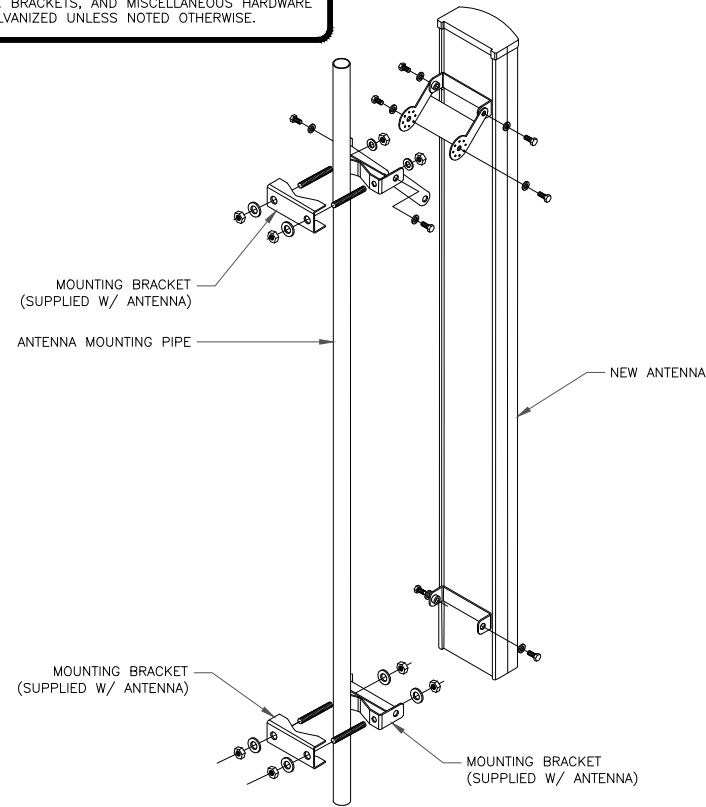
REVISION:
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1 BASE LEVEL DETAIL
SCALE: NOT TO SCALE

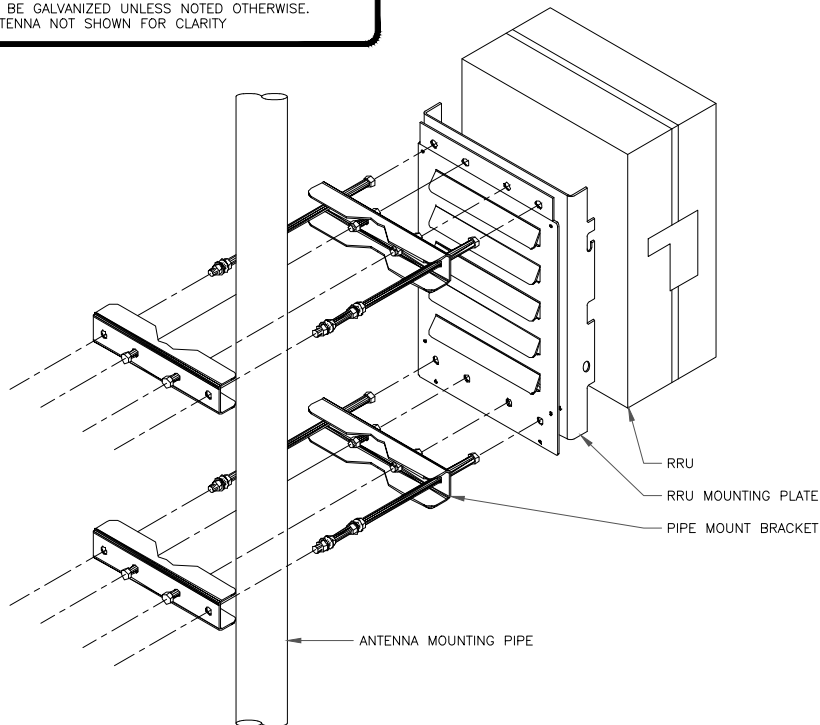


INSTALLER NOTE:
1. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.

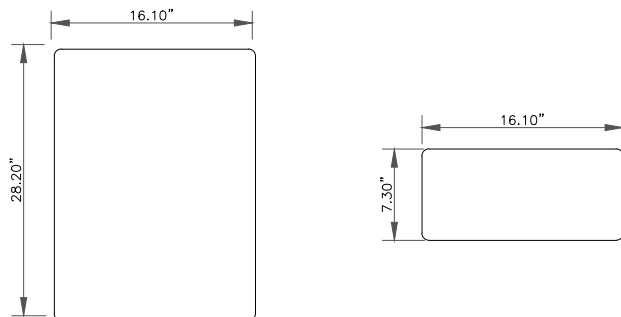


2 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE

INSTALLER NOTES:
1. COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU's RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
2. DO NOT OPEN RRU PACKAGES IN THE RAIN.
3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.
4. ANTENNA NOT SHOWN FOR CLARITY

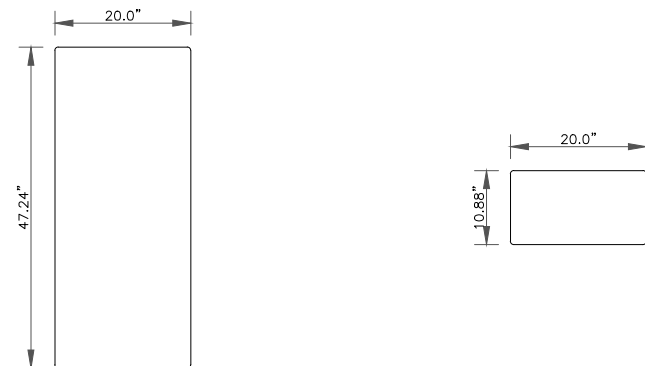


3 RRU MOUNTING DETAIL
SCALE: NOT TO SCALE



ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR6419
HxWxD	28.20" x 16.10" x 7.30"
WEIGHT	66.20 LBS

4 ERICSSON - AIR6419 DETAIL
SCALE: NOT TO SCALE



ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR 3283
HxWxD	47.24" x 20.0" x 10.88"
WEIGHT	103.64 LBS

5 ERICSSON - AIR 3283 DETAIL
SCALE: NOT TO SCALE



1355 WINDWARD CONCOURSE, SUITE 410
ALPHARETTA, GA 30005
TEL: 678-990-2338
FL COA #38599

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5000078299

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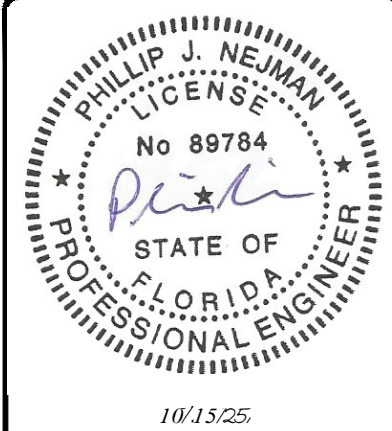
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COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

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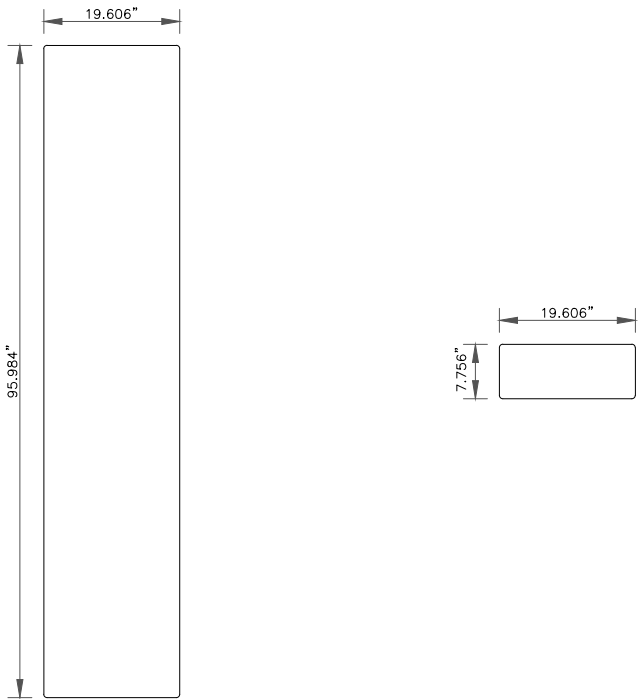
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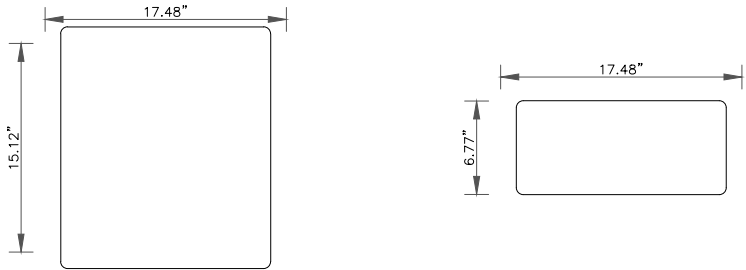
REVISION:

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ANTENNA SPECS	
MANUFACTURER	COMMSCOPE
MODEL #	NNSS-65C-HG-R2B
HxWxD	95.984" x 19.606" x 7.756"
WEIGHT	83.776 LBS

1 COMMSCOPE – NNSS-65C-HG-R2B DETAIL
SCALE: NOT TO SCALE



RADIO SPECS	
MANUFACTURER	ERICSSON
MODEL #	4490
HxWxD	15.12" x 17.48" x 6.77"
WEIGHT	20.83 LBS

2 ERICSSON – 4490 DETAIL
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE



VERIZON SITE NUMBER:
5000078299

BU #: 809329

CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
0	10/15/25	MAT	CONSTRUCTION	MAT

PHILLIP J. NEJMAN

LICENSE

No 89784

STATE OF

FLORIDA

PROFESSIONAL ENGINEER

10/15/25,

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SHEET NUMBER:	REVISION:
C-5.2	0

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

Azimuth (1) Alpha					
Cell (850 CDMA)	Red				
PCS2 (1900 LTE)	Pink	Red	Pink		
700 LTE	Lt. Green	Red	Lt. Green		
850 LTE	Purple	Red	Purple		
2100 LTE	Orange	Red	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Red	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Red	Lt. Green	Purple
5G 28GHz	Brown	Red	Brown		
5G 39GHz	Blue	Red	Blue		
LAA	Gray	Red	Gray		
CBRS	White	Red	White		
L-Sub6 (C-Band)	Red	Red	Red		

Azimuth (2) Beta					
Cell (850 CDMA)	Blue				
PCS2 (1900 LTE)	Pink	Blue	Pink		
700 LTE	Lt. Green	Blue	Lt. Green		
850 LTE	Purple	Blue	Purple		
2100 LTE	Orange	Blue	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Blue	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Blue	Lt. Green	Purple
5G 28GHz	Brown	Blue	Brown		
5G 39GHz	Blue	Blue	Blue		
LAA	Gray	Blue	Gray		
CBRS	White	Blue	White		
L-Sub6 (C-Band)	Red	Blue	Red		

Azimuth (3) Gamma					
Cell (850 CDMA)	Yellow				
PCS2 (1900 LTE)	Pink	Yellow	Pink		
700 LTE	Lt. Green	Yellow	Lt. Green		
850 LTE	Purple	Yellow	Purple		
2100 LTE	Orange	Yellow	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Yellow	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Yellow	Lt. Green	Purple
5G 28GHz	Brown	Yellow	Brown		
5G 39GHz	Blue	Yellow	Blue		
LAA	Gray	Yellow	Gray		
CBRS	White	Yellow	White		
L-Sub6 (C-Band)	Red	Yellow	Red		

Azimuth (4) Delta					
Cell (850 CDMA)	Orange				
PCS2 (1900 LTE)	Pink	Orange	Pink		
700 LTE	Lt. Green	Orange	Lt. Green		
850 LTE	Purple	Orange	Purple		
2100 LTE	Orange	Orange	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Orange	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Orange	Lt. Green	Purple
5G 28GHz	Brown	Orange	Brown		
5G 39GHz	Blue	Orange	Blue		
LAA	Gray	Orange	Gray		
CBRS	White	Orange	White		
L-Sub6 (C-Band)	Red	Orange	Red		

Azimuth (5) Epsilon					
Cell (850 CDMA)	White				
PCS2 (1900 LTE)	Pink	White	Pink		
700 LTE	Lt. Green	White	Lt. Green		
850 LTE	Purple	White	Purple		
2100 LTE	Orange	White	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	White	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	White	Lt. Green	Purple
5G 28GHz	Brown	White	Brown		
5G 39GHz	Blue	White	Blue		
LAA	Gray	White	Gray		
CBRS	White	White	White		
L-Sub6 (C-Band)	Red	White	Red		

Azimuth (6) Zeta					
Cell (850 CDMA)	Gray				
PCS2 (1900 LTE)	Pink	Gray	Pink		
700 LTE	Lt. Green	Gray	Lt. Green		
850 LTE	Purple	Gray	Purple		
2100 LTE	Orange	Gray	Orange		
High Band Dual Band (Shared Lines)	Orange	Pink	Gray	Pink	Orange
Low Band Dual Band (Shared Lines)	Purple	Lt. Green	Gray	Lt. Green	Purple
5G 28GHz	Brown	Gray	Brown		
5G 39GHz	Blue	Gray	Blue		
LAA	Gray	Gray	Gray		
CBRS	White	Gray	White		
L-Sub6 (C-Band)	Red	Gray	Red		



VERIZON SITE NUMBER:
5000078299

BU #: 809329

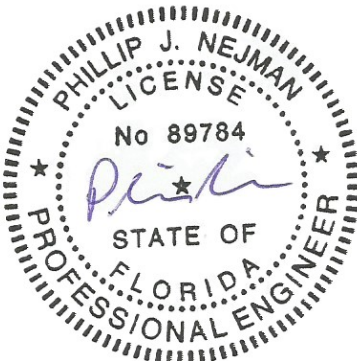
CROWN CASTLE SITE NAME
COLUMBIA J-FL-012-094

1307 SW ENGLISH ST
LAKE CITY, FL 32025

EXISTING 250'-0" GUYED
TOWER

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES/QA
0	10/15/25	MAT	CONSTRUCTION	MAT



10/15/25

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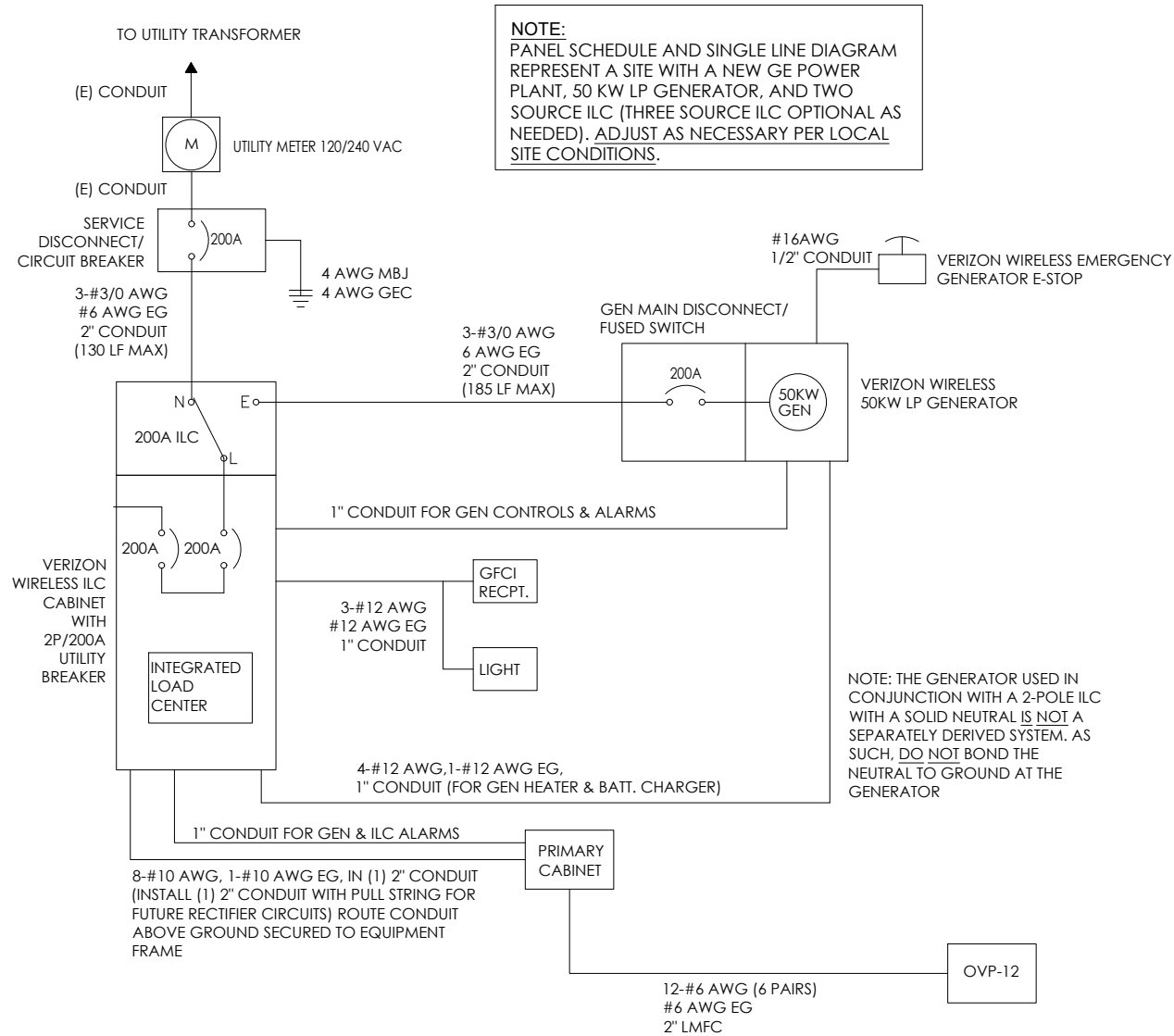
SHEET NUMBER:

C-6

REVISION:

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200A., 120/240V, 1Ø VOLTAGE DROP TABLE (<3% VOLTAGE DROP)				
≤175FT	175FT - 200FT	200FT - 255FT	255FT - 275FT	275FT - 320FT
(2) #3/0 AWG + (1) #6 AWG GND	(2) #3/0 AWG + (1) #6 AWG GND	(2) #250 KCMIL + (1) #2 AWG GND	(2) #250 KCMIL + (1) #2 AWG GND	(2) #250 KCMIL + (1) #2 AWG GND
320FT - 400FT	400FT - 440FT	440FT - 510FT	510FT - 635FT	
(2) #500 KCMIL + (1) #1/0 AWG GND	(2) #500 KCMIL + (1) #1/0 AWG GND	(2) #500 KCMIL + (1) #1/0 AWG GND	(2) #500 KCMIL + (1) #1/0 AWG GND	
VOLTAGE DROP TABLE NOTES 1. CONTRACTORS SHALL BE RESPONSIBLE FOR DE-RATING CONDUCTORS WHEN 4 OR MORE CURRENT CARRYING CONDUCTORS ARE CARRIED IN THE SAME CONDUIT PER THE NEC. 2. THE DISTANCES IN THIS TABLE ARE TOTAL DISTANCES, NOT HORIZONTAL DISTANCES. INCLUDE VERTICAL RUNS AND JUNCTIONS BOX COIL LENGTH IN THE TOTAL CONDUCTOR DISTANCE.				



UTILITY NOTES:

- CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH POWER COMPANY AND ENSURE ALL ELECTRICAL EQUIPMENT IS SUITABLE FOR AVAILABLE FAULT CURRENT.
- CONTRACTOR SHALL COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANIES. VERIFY ALL REQUIREMENTS WITH UTILITY COMPANY STANDARDS.
- ONE-LINE DIAGRAM IS FOR SCHEMATIC PURPOSES ONLY AND IS NOT INDICATIVE OF THE ACTUAL EQUIPMENT LAYOUT.
- ALL EQUIPMENT WILL HAVE A MINIMUM AIC OF 10 KA. CONTRACTOR TO DETERMINE AVAILABLE FAULT CURRENT BEFORE ENERGIZING EQUIPMENT. THE AMOUNT OF AVAILABLE FAULT CURRENT SHALL BE MARKED ON THE SERVICE EQUIPMENT PER NEC 110.24.
- CONTRACTOR SHALL NOTIFY UTILITY COMPANY OF CHANGES IN ELECTRICAL LOAD.
- CONTRACTOR TO VERIFY EXISTING CONDUIT(S) SIZE(S) PRIOR TO CONSTRUCTION AND MAY REUSE EXISTING CONDUIT(S) IF THEY MEET THE MINIMUM REQUIREMENTS PER NEC CODE.
- GROUNDING ELECTRODE CONDUCTOR IS SIZED FOR SINGLE 200A SERVICE ONLY. IF METER BANK SHARES A COMMON NEUTRAL/GROUND POINT, CONTRACTOR WILL INSTALL (1) 3/0 COPPER GEC INSTEAD.

GENERAL NOTES:

- ALL NEW CONDUCTORS TO BE INSTALLED SHALL BE COPPER. ALL CONDUCTORS SHALL BE THW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 UNLESS NOTED OTHERWISE.
- CONTRACTOR IS TO FIELD VERIFY ALL EXISTING ITEMS SHOWN ON THE ELECTRICAL ONE-LINE DIAGRAM AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- ALL GROUNDING AND BONDING PER THE NEC.

UL NOTE:

- ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E.: LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY

CONDUIT NOTES:

- ALL CONDUIT TO BE SCH40 PVC OR LTC (WITH PRIOR FSA CONSTRUCTION MANAGER APPROVAL), AS NOTED. INSTALL WEATHERPROOF FITTINGS.
- ABOVE GRADE CONDUIT RUNS TO BE MARKED WITH HAZARD TAPE TO PREVENT TRIPPING HAZARD.
- ALL ABOVE GROUND CONDUIT MUST BE RIGID METALLIC. RIGID METALLIC CONDUIT MAY ONLY BE INSTALLED ACROSS PAD WITH PRIOR FSA CM APPROVAL.

ONE-LINE DIAGRAM NOTES:

- ELECTRICAL SERVICE SHALL BE 200A, 120/240V, 1Ø, 3W.
- FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT, REFER TO VENDOR PRINTS PROVIDED BY EQUIPMENT MANUFACTURER.

INSTALLER NOTE:

- THE GENERATOR SIZE HAS BEEN DETERMINED BY VERIZON BASED ON AN INTERNAL LOAD ANALYSIS OF THEIR EQUIPMENT. THE GENERATOR SIZE WAS PROVIDED AS PART OF THE SCOPING ANALYSIS. VERIZON SHALL BE RESPONSIBLE FOR ENSURING THAT THEIR SYSTEM CONFIGURATION DOES NOT EXCEED THE MANUFACTURER POWER RATING OF THE SPECIFIED GENERATOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A SPOT READING OF THE PANEL AT PEAK OPERATING HOURS TO VERIFY THE VERIZON PANEL SCHEDULE CALCULATIONS ARE NOT EXCEEDED. IN THE EVENT THE READING EXCEEDS THE CALCULATED PANEL SCHEDULE LOADS, RECORD THE READING AND CONSULT VERIZON ENGINEERING MANAGER PRIOR TO PROCEEDING WITH GENERATOR INSTALLATION.

PANELBOARD NAME:	VZW ILC	VOLTS:		240		INTERRUPTING RATING:		65kA					
MODEL NUMBER	INTERSECT AA-G-3S-3R-CL	PHASE:		1 PHASE		MOUNTING LOCATION:		WALL					
PANEL LOCATION:	INDOOR	WIRE:		3		FEED LOCATION:		BOTTOM					
SUPPLIED FROM:	SERVICE	AMP MAIN:		200		NEMA RATING:		3R					
	BREAKER			PHASE			PHASE				BREAKER		
LOAD DESCRIPTION	AMP	POLE	WIRE	A	B	POS.	POS.	A	B	WIRE	POLE	AMP	LOAD DESCRIPTION
HVAC #1	50	2	(E)	3.0		1	2	1.8		(E)	2	30	RECT 1 & 3
					3.0	3	4		1.8				
HVAC #2	50	2	(E)	3.0		5	6	1.8		(E)	2	30	RECT 2 & 4
					3.0	7	8		1.8				
LIGHTS	20	1	(E)	2.4		9	10	1.8		(2)#12 & (1) #8 GRD	2	30	75A. RECTIFIER #1
RECEPTACLES	20	1	(E)		2.4	11	12		1.8				
RECEPTACLES	20	1	(E)	2.4		13	14	1.8		(2)#12 & (1) #8 GRD	2	30	75A. RECTIFIER #2
GENERATOR HEATER	20	1	(E)		2.4	15	16		1.8				
RECEPTACLES	20	1	(E)	2.4		17	18	1.8		(2)#12 & (1) #8 GRD	2	30	75A. RECTIFIER #3
RECEPTACLES	20	1	(E)		2.4	19	20		1.8				
RECEPTACLES	20	1	(E)	2.4		21	22	1.8		(E)	2	30	BTS
LIGHTS	20	1	(E)		2.4	23	24		1.8				
CRKT 1	20	2	(E)	1.2		25	26	1.8		(E)	2	30	BTS
					1.2	27	28		1.8				
CRKT 2	20	2	(E)	1.2		29	30	2.4		(E)	1	20	SMOKE DETECTOR GEN BATTERY CHARGER
					1.2	31	32		2.4				
CRKT 3	20	2	(E)	1.2		33	34	1.8		(2)#12 & (1) #8 GRD	2	30	75A. RECTIFIER #4
					1.2	35	36		1.8				
CRKT 4	20	2	(E)	1.2		37	38			(E)	2	20	SURGE ARRESTOR
					1.2	39	40						
	TOTAL KVA PER PHASE			20.4	20.4			16.8	16.8	TOTAL KVA PER PHASE			
CONNECTED KVA (NEW)						74.4							CONNECTED KVA (NEW)
CONNECTED AMPS (NEW)						179.0							CONNECTED AMPS (NEW)
DEMAND KVA (NEW)						93.0							DEMAND KVA (NEW)
DEMAND AMPS (NEW)						223.7							DEMAND AMPS (NEW)

NOTES:

- ALL CONDUCTORS ARE TYPE THWN (75°) COPPER
- MAXIMUM LENGTH OF RUN FOR RECTIFIER CIRCUITS IS 50 FT.
- INTERSECT/GENERAC INTEGRATED LOAD CENTER INCLUDES 200A. MAIN DISCONNECT AND TRANSFER SWITCH FOR PORTABLE OR PERMANENT GENERATOR.
- RECTIFIER LOADS ARE CONSIDERED TO BE NON-CONTINUOUS.
- IF ADDITIONAL FUTURE LOADS ARE ADDED WHICH CAUSE TOTAL DEMAND TO EXCEED GENERATOR BREAKER SIZE, BACKUP POWER SYSTEM SHALL BE EVALUATED AND UPGRADED AS NECESSARY.

verizon

CROWN CASTLE

NextEdge

1355 WINDWARD CONCOURSE, SUITE 410 ALPHARETTA, GA 30005
TEL: 678-990-2338
FL COA #38599

VERIZON SITE NUMBER:
5000078299

BU #: 809329

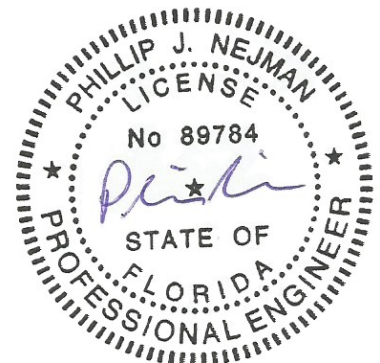
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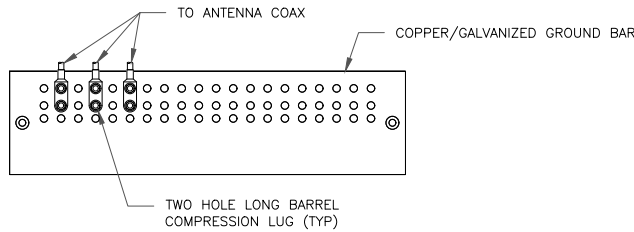
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REVISION:

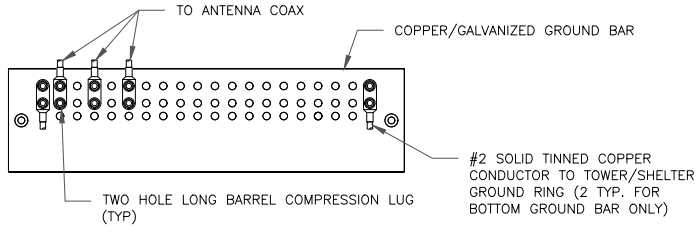
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1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

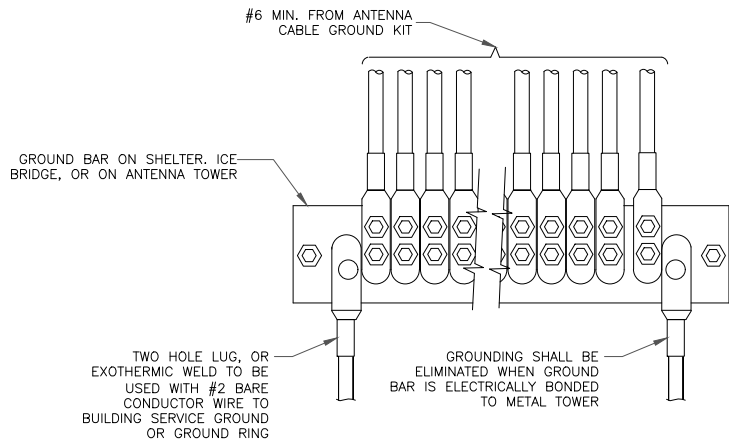
2 PROPOSED PANEL SCHEDULE
SCALE: NOT TO SCALE



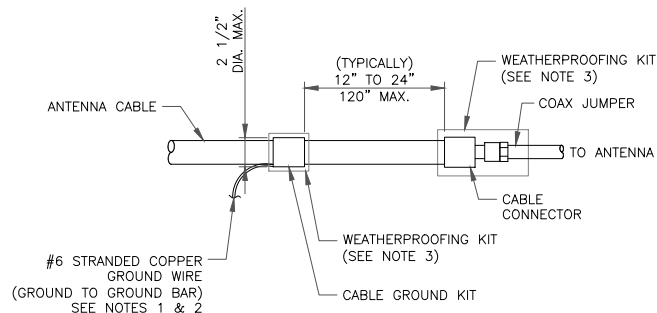
1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE



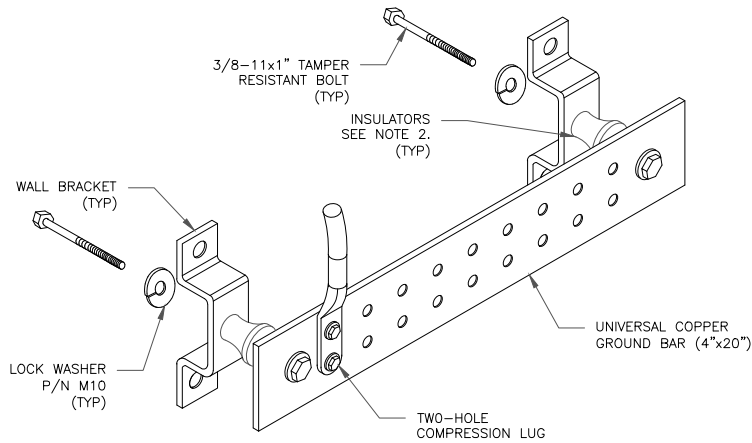
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



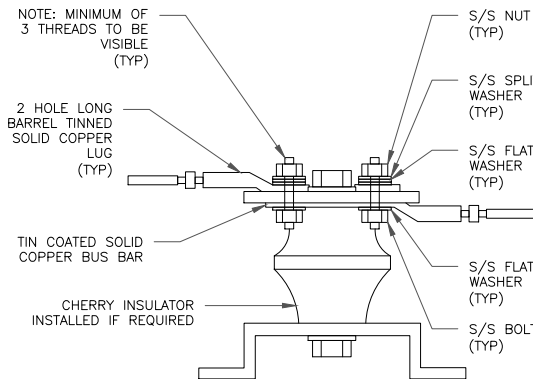
4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE

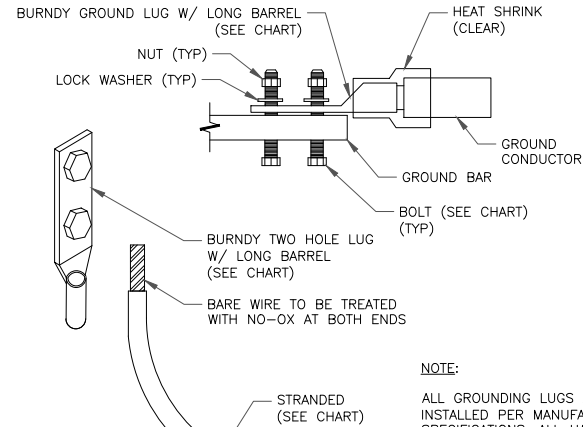


5 GROUND BAR DETAIL
SCALE: NOT TO SCALE

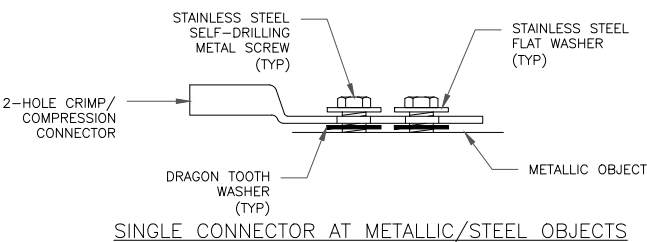
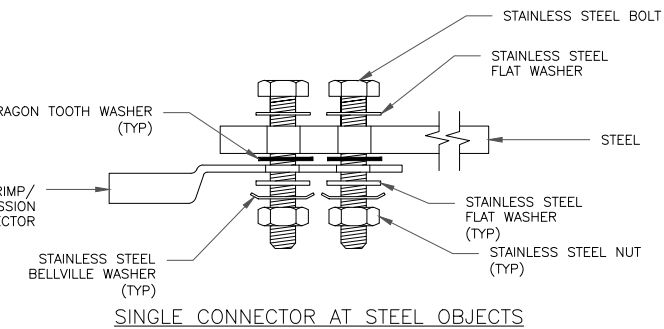
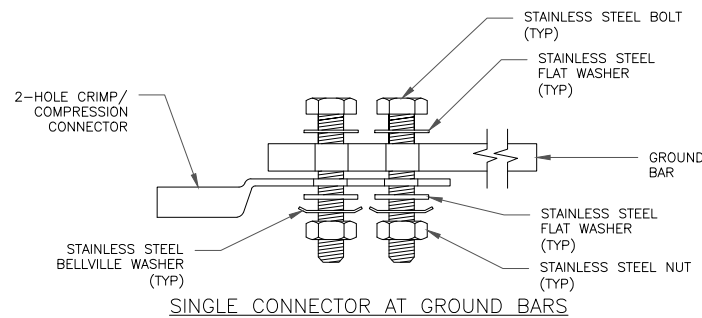


7 LUG DETAIL
SCALE: NOT TO SCALE

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



3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



VERIZON SITE NUMBER:
5000078299

BU #: 809329

CROWN CASTLE SITE NAME
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Colliers Engineering & Design
5141 Virginia Way, Suite 420
Brentwood, TN 37027
615.686.2527
elizabeth.myers@collierseng.com

Post-Modification Antenna Mount Analysis Report and PMI Requirements

Mount Fix

SMART Tool Project #: 10302955
Colliers Engineering & Design Project #: 21944495 (Rev. 3)

August 22, 2025

Site Information

Site ID: 5000078299-VZW / MYRTIS
Site Name: MYRTIS
Carrier Name: Verizon Wireless
Address: 1307 SW English Rd
Lake City, Florida 32025
Columbia County
Latitude: 30.049389°
Longitude: -82.620111°

Structure Information

Tower Type: 250-Ft Guyed
Mount Type: 12.00-Ft Sector Frame

FUZE ID # 16276230

Analysis Results

Sector Frame: 68.3% **Pass w/ Modifications***

***Antennas and equipment to be installed in compliance with PMI Requirements of this mount analysis.**

*****Contractor PMI Requirements:**

Included at the end of this MA report

Available & Submitted via portal at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to:

pmisupport@colliersengineering.com

Report Prepared By: Kenneth McCrary

This item has been digitally signed and sealed by Gilberto Martinez on the date adjacent to the seal.

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Executive Summary:

The objective of this report is to summarize the analysis results of the antenna support mount including the proposed modifications at the subject facility for the final wireless telecommunications configuration, per the applicable codes and standards.

This analysis is inclusive of the mount structure only and does not address the structural capacity of the supporting structure. This mounting frame was not analyzed as an anchor attachment point for fall protection. All climbing activities are required to have a fall protection plan completed by a competent person.

Sources of Information:

Document Type	Remarks
<i>Radio Frequency Data Sheet (RFDS)</i>	<i>Verizon RFDS, Site ID: 480601, dated August 4, 2025</i>
<i>Mount Mapping Report</i>	<i>Kimley-Horn (D&M), Site ID: 809329, dated March 2, 2021</i>
<i>Previous Mount Analysis</i>	<i>Colliers Engineering & Design, Project #: 21944495 (Rev 3), dated May 23, 2025</i>
<i>Mount Modification Drawings</i>	<i>Colliers Engineering & Design, Project #: 21944495 (Rev. 1), dated November 25, 2024</i>

Analysis Criteria:

Codes and Standards:	ANSI/TIA-222-H ASCE 7-22
Wind Parameters:	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} : 120 mph Ice Wind Speed (3-sec. Gust): N/A Design Ice Thickness: N/A Risk Category: II Exposure Category: C Topographic Category: 1 Topographic Feature Considered: N/A Topographic Method: N/A Ground Elevation Factor, K_e : 0.995
Seismic Parameters:	S_s : 0.120 g S_1 : 0.057 g
Maintenance Parameters:	Wind Speed (3-sec. Gust): 30 mph Maintenance Load, L_v : 250 lbs. Maintenance Load, L_m : 500 lbs.
Analysis Software:	RISA-3D (V22)

Final Loading Configuration:

The following equipment has been considered for the analysis of the mounts:

Mount Elevation (ft)	Equipment Elevation (ft)	Quantity	Manufacturer	Model	Status
236.25	238.00	1	Raycap	OVP 12	Retained
		1	Andrew Microwaves	3ft Dia. Dish	
		1	Allgon	TMA	
		3	Ericsson	4490	Added
		3	Ericsson	AIR3283	
		3	Commscope	NNSS-65C-HG-R2B	
		3	Ericsson	AIR 6419	

It is acceptable to install up to three (3) OVPs with dimensions not to exceed 30" x 17" x 13" and 40 lbs. at any location, other than the mount face, without affecting the structural capacity of the mount. If OVP units are installed on the mount face, a mount re-analysis may be required unless replacing an existing OVP.

Standard Conditions:

1. All engineering services are performed on the basis that the information provided to Colliers Engineering & Design and used in this analysis is current and correct. The existing equipment loading has been applied at locations determined from the supplied documentation. Any deviation from the loading locations specified in this report shall be communicated to Colliers Engineering & Design to verify deviation will not adversely impact the analysis.
2. Mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.

Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping and reported in the Mount Mapping Report are assumed to be corrected and documented as part of the PMI process and are not considered in the mount analysis.

The mount analysis and the mount mapping are not a condition assessment of the mount. Proper maintenance and condition assessments are still required post analysis.

3. For mount analyses completed from other data sources (including new replacement mounts) and not specifically mapped in accordance with the NSTD-446 Standard, the mounts are assumed to have been properly fabricated, installed and maintained in good condition, twist free and plumb in accordance with its original design and manufacturer's specifications.
4. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
5. The mount was checked up to, and including, the bolts that fasten it to the mount collar/attachment and threaded rod connections in collar members if applicable. Local deformation and interaction between the mount collar/attachment and the supporting tower structure are outside the scope of this analysis.
6. All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Colliers Engineering & Design is not responsible for the conclusion, opinions, and recommendations made by others based on the information supplied.

7. Structural Steel Grades have been assumed as follows, if applicable, unless otherwise noted in this analysis:
- Channel, Solid Round, Angle, Plate ASTM A36 (Gr. 36)
 - HSS (Rectangular) ASTM 500 (Gr. B-46)
 - Pipe ASTM A53 (Gr. B-35)
 - Threaded Rod F1554 (Gr. 36)
 - Bolts ASTM A325
8. Any mount modifications listed under Sources of Information are assumed to have been installed per the design specifications.

Discrepancies between in-field conditions and the assumptions listed above may render this analysis invalid unless explicitly approved by Colliers Engineering & Design.

Analysis Results:

Component	Utilization %	Pass/Fail
Connection Check	11.4 %	Pass
Standoff Bar	68.3 %	Pass
Face Horizontal	30.1 %	Pass
Standoff Horizontal	26.4 %	Pass
Standoff Diagonal	52.2 %	Pass
Standoff Vertical	1.9 %	Pass
Mount Pipe	49.6 %	Pass
Mod Tieback	26.9 %	Pass
Dish Tieback	5.8 %	Pass

Structure Rating – (Controlling Utilization of all Components)	68.3%
---	--------------

Mount Connection Envelope Reactions:

Connection Description	Elev. AGL (Ft)	Node Label	Envelope Wind Reactions				Envelope Wind + Ice Reactions			
			Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)	Axial (Lbs)	Lateral (Lbs)	Moment (K-Ft)	Torsion (K-Ft)
Top Mount Connection	238.0	N1	592	2798	0.035	0.000	483	1178	0.005	0.000
Bottom Mount Connection	234.5	N5	566	4432	0.040	0.000	452	1175	0.004	0.000

Notes:

- Axial loads act along the axis of the tower leg
- Lateral reactions act perpendicular to the tower leg
- Moment loads introduce bending moment to the tower leg
- Torsion loads introduce twisting moment to the tower leg
- Batch solutions by individual load cases are included at the end of this document

Mount Steel (EPA)a per ANSI/TIA-222-H Section 2.6.11.2:

Ice Thickness (In)	Mount Pipes Excluded		Mount Pipes Included	
	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)	Front (EPA)a (Sq. Ft.)	Side (EPA)a (Sq. Ft.)
0	19.4	14.5	28.3	23.4
0.5	28.7	22.2	41.3	34.8
1	37.4	29.2	53.8	45.6

Notes:

- (EPA)a values listed above may be used in the absence of more precise information
- (EPA)a values in the table above include 1 sector(s).
- Ka factors included in (EPA)a calculations

Requirements:

The existing mounts will be **SUFFICIENT** for the final loading configuration (attachment 2) **after the modifications detailed in attachment 3 are successfully completed.**

ANSI/ASSP rigging plan review services compliant with the requirements of ANSI/TIA 322 are available for a Construction Class IV site or other, if required. Separate review fees will apply.

Attachments:

1. **Contractor Required PMI Report Deliverables**
2. Antenna Placement Diagrams
3. Mount Modification Drawings
4. Mount Photos
5. Mount Mapping Report (for reference only)
6. Analysis Calculations

Mount Desktop – Post Modification Inspection (PMI) Report Requirements

Documents & Photos Required from Contractor – Mount Modification

Electronic pdf version of this can be downloaded at <https://pmi.vzwsmart.com>

For additional questions and support, please reach out to pmisupport@colliersengineering.com

MDG #: 5000078299

SMART Project #: 10302955

Fuze Project ID: 16276230

Purpose – to upload the proper documentation to the SMART Tool in order to allow the SMART Tool engineering vendor to complete the required Mount Desktop review of the Post Modification Inspection Report.

- Contractor is responsible for making certain the photos provided as noted below provide confirmation that the modification was completed in accordance with the modification drawings.
- Contractor shall relay any data that can impact the performance of the mount or the mount modification, this includes safety issues.

Base Requirements:

- If installation of the modification will cause damage to the structure, the climbing facility, or safety climb if present or any installed system, SMART Tool vendor to be notified prior to install. Any special photos outside of the standard requirements will be indicated on the drawings.
- Provide “as built drawings” showing contractor’s name, preparer’s signature, and date. Any deviations from the drawings (proposed modification) shall be shown. NOTE: If loading is different than what is conveyed in the post-modification passing mount analysis (MA) contact the SMART Tool vendor immediately.
- Each photo shall be time and date stamped.
- Photos should be high resolution.
- Contractor shall ensure that the safety climb wire rope is not adversely impacted by the install of the modification components. This may involve the install of wire rope guides, or other items to protect the wire rope. If there is conflict, contact the SMART Tool engineer for recommendations.
- The PMI can be accessed at the following portal: <https://pmi.vzwsmart.com>

Photo Requirements:

- *Photos taken at ground level*
 - Photo of Gate Signs showing the tower owner, site name, and number.
 - Overall tower structure after installation of the modifications.
 - Photos of the mount after installation of the modifications; if the mounts are at different rad elevations, pictures must be provided for all elevations that the modifications were installed
- *Photos taken at Mount Elevation*
 - Photos showing the safety climb wire rope above and below the mount prior to modification.
 - Photos showing the climbing facility and safety climb if present.

- Photos showing each individual sector after installation of modifications. Each entire sector must be in one photo to show the interconnection of members.
 - These photos shall also certify that the placement and geometry of the equipment on the mount is as depicted in the antenna placement diagram in this form.
- Photos that show the model number of each antenna and piece of equipment installed per sector.
- Photos of each installed modification per the modification drawings; pictures shall also include connection hardware (U-bolts, bolts, nuts, all-threaded rods, etc.)
- Photos showing the distances (relative distance between collars) of the installed modifications from the appropriate reference locations shown in the modification drawings.
- Photos showing the installed modifications onto the tower (i.e. ring/collar mounts, tie-backs, V-bracing kits, etc.); if the existing mount elevation needs to be changed according to the modification drawings, an elevation measurement shall be provided before the elevation change.

Material Certification:

- Materials utilized must be as per specification on the drawings or the equivalent as validated by the SMART Tool vendor.
 - If the materials are as specified on the drawings
 - The contractor shall provide the packing list, or the materials certifications for the materials utilized to perform the mount modification
 - Commscope, Metrosite, Perfect Vision, Sabre, and Site Pro have all agreed to support Verizon vendors with the necessary material certifications
 - If seeking permission to use an equivalent
 - It is required that the SMART Tool engineering vendor approval of such is included in the contractor submission package. There may be an additional charge for approval if the equivalent submission doesn't meet specifications as prescribed in the drawings.

☐ All hardware has been properly installed, and the existing hardware was inspected.

☐ The material utilized was as specified on the SMART Tool engineering vendor Mount Modification Drawings and included in the material certification folder is a packing list or invoice for these materials.

OR

☐ The material utilized was approved by a SMART Tool engineering vendor as an "equivalent" and this approval is included as part of the contractor submission.

Antenna & Equipment Placement and Geometry Confirmation:

☐ The contractor certifies that the photos support and the equipment on the mount is as depicted on the sketch and table included in this form and with the mount analysis provided.

OR

- ☐ The contractor notes that the equipment on the mount is not in accordance with the sketch and has noted the differences below and provided photo documentation of any alterations.

Comments:

Was the mount modification completed in conjunction with the equipment change / installation?

- ☐ Yes ☐ No

Special Instructions / Validation as required from the MA or Mod Drawings:

Issue:

N/A

Response:

Special Instruction Confirmation:

- ☐ The contractor has read and acknowledges the above special instructions.

Comments:

Contractor certifies that the climbing facility / safety climb was not damaged prior to starting work:

- ☐ Yes ☐ No

Contractor certifies no new damage created during the current installation:

- ☐ Yes ☐ No

Contractor to certify the condition of the safety climb and verify no damage when leaving the site:

- ☐ Safety Climb in Good Condition ☐ Safety Climb Damaged

Comments:

Contractor to provide measurement from top of the highest equipment/steel to the bottom of the lowest equipment/steel by documenting it using the most appropriate illustration below along with supporting photos (highest and lowest measurement across all sectors):

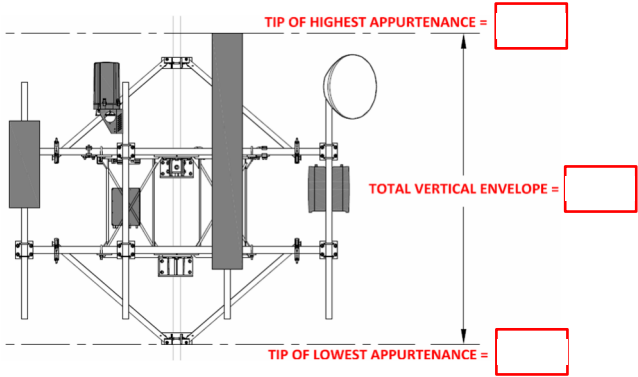


Illustration #1

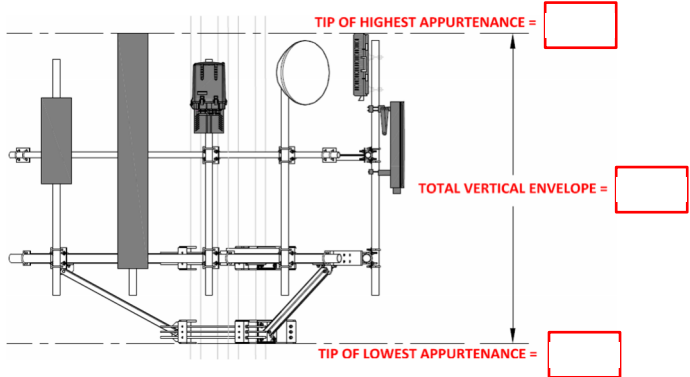


Illustration #2

Certifying Individual:

Company:	
Employee Name:	
Contact Phone:	
Email:	
Date:	

S r: A
S r r T :G d
M E : 236.25

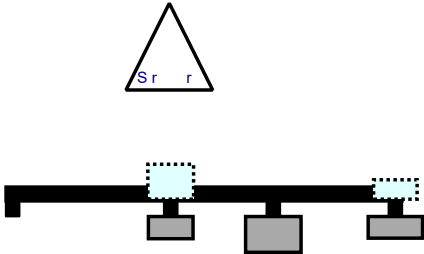
10302 55

/22/2025

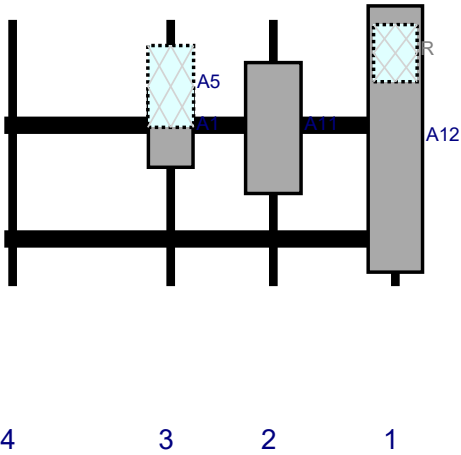


P : 1

Plan View



Front View - L S r r



R #	M d	H ()	W d ()	H D Fr L.	P #	P P V	A P	C. A Fr T.	A H O	S	V d
A12	NNSS-65C-HG-R2B	6	1.6	141	1		Fr	42.6	0	Add d	
R	44 0	20.6	15.7	141	1		B d	12	0	Add d	
A11	AIR32 3	47.2	20	7	2		Fr	3	0	Add d	
A1	AIR 641	2.3	16.1	60	3		Fr	3	0	Add d	
A5	OVP 12	2.5	16.5	60	3		B d	24	0	R d	03/04/2021

S r: B
S r r T :G d
M E : 236.25

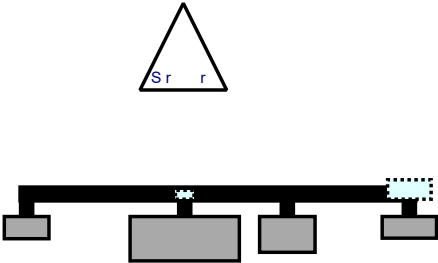
10302 55

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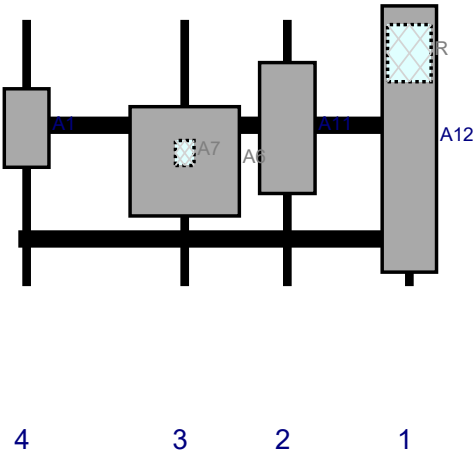


P : 2

Plan View



Front View - L S r r



R #	M d	H ()	Wd ()	HD Fr L.	P #	P P V	A P	C.A Fr T.	A H O	S	V d
A12	NNSS-65C-HG-R2B	6	1.6	141	1		Fr	42.6	0	Add d	
R	44 0	20.6	15.7	141	1		B d	12	0	Add d	
A11	AIR32 3	47.2	20	7	2		Fr	3	0	Add d	
A6	3 D .D	3.4	3.4	60	3		Fr	51	0	R d	03/04/2021
A7	TMA		6.7	60	3		B d	4	0	R d	03/04/2021
A1	AIR 641	2.3	16.1	3	4		Fr	3	0	Add d	

S r: C
S r r T :G d
M E : 236.25

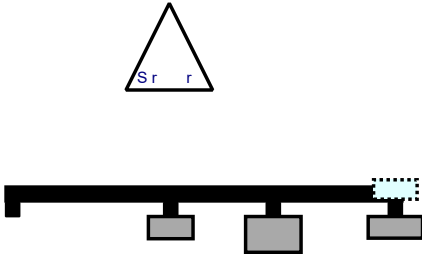
10302 55

/22/2025

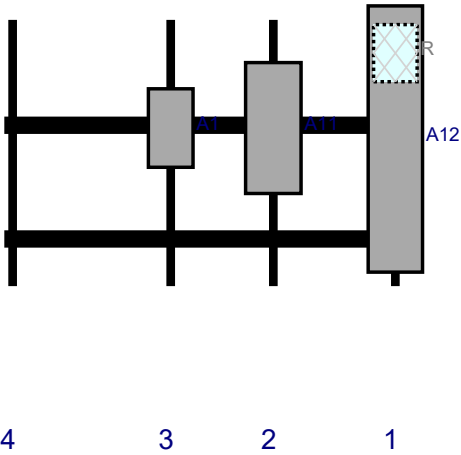


P : 3

Plan View



Front View - L S r r



R #	M d	H ()	Wd ()	HD Fr L.	P #	P P V	A P	C.A Fr T.	A HO	S	V d
A12	NNSS-65C-HG-R2B	6	1.6	141	1		Fr	42.6	0	Add d	
R	44 0	20.6	15.7	141	1		B d	12	0	Add d	
A11	AIR32 3	47.2	20	7	2		Fr	3	0	Add d	
A1	AIR 641	2.3	16.1	60	3		Fr	3	0	Add d	

BILL OF MATERIALS						
SECTION 1 - VZWSMART KITS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
3	VZWSMART	VZWSMART-SFK I	TIE BACK ASSEMBLY	CONTRACTOR TO VERIFY THE LENGTH REQUIRED AND TRIM AS NECESSARY IN ACCORDANCE WITH THE 'STRUCTURAL STEEL' NOTES ON SHEET SGN-1.	84	252
SECTION 2 - OTHER REQUIRED PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
SECTION 3 - REQUIRED SAFETY CLIMB PARTS						
QUANTITY	MANUFACTURER	PART NUMBER	DESCRIPTION	NOTES	UNIT WEIGHT (LBS.)	WEIGHT (LBS.)
TOTAL:						252

NOTES:

1. THE MANUFACTURERS LISTED ARE THE APPROVED VENDORS FOR THE VZW MOUNT KITS. EACH MANUFACTURER WILL BE AWARE OF WHICH KITS HAVE BEEN THROUGH THE VZW APPROVAL PROCESS AND THEY ARE IN TURN APPROVED TO SELL. PLEASE NOTE THAT THE MATERIAL UTILIZED ON THE MOUNT MODIFICATIONS WILL BE REVIEWED AS A PART OF THE DESKTOP PMI COMPLETED BY THE SMART TOOL VENDOR. IT WILL BE REQUIRED THAT THE VZW KITS SPECIFIED ARE UTILIZED IN THE MODIFICATIONS.
2. ALL MATERIALS REQUIRED FOR THE DESIGNED MODIFICATIONS BUT NOT LISTED IN THIS SHEET ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

VZWSMART KITS - APPROVED VENDORS

COMMSCOPE	
CONTACT	SALVADOR ANGUIANO
PHONE	(817) 304-7492
EMAIL	SALVADOR.ANGUIANO@COMMSCOPE.COM
WEBSITE	WWW.COMMSCOPE.COM
METROSITE FABRICATORS, LLC	
CONTACT	KENT RAMEY
PHONE	(706) 335-7045 (O), (706) 982-9788 (M)
EMAIL	KENT@METROSITELLC.COM
WEBSITE	METROSITEFABRICATORS.COM

PERFECTVISION	
CONTACT	WIRELESS SALES
PHONE	(844) 887-6723
EMAIL	WWW.PERFECT-VISION.COM
WEBSITE	WIRELESSSALES@PERFECT-VISION.COM
SABRE INDUSTRIES, INC.	
CONTACT	ANGIE WELCH
PHONE	(866) 428-6937
EMAIL	AKWELCH@SABREINDUSTRIES.COM
WEBSITE	WWW.SABRESITESOLUTIONS.COM

SITE PRO 1	
CONTACT	PAULA BOSWELL
PHONE	(972) 236-9843
EMAIL	PAULA.BOSWELL@VALMONT.COM
WEBSITE	WWW.SITEPRO1.COM



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5000078299

1307 SW ENGLISH RD
LAKE CITY, FL 32025
COLUMBIA COUNTY



Engineering & Design

NASHVILLE
5141 Virginia Way,
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER:
SBOM-I

GENERAL NOTES

- THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE TELECOMMUNICATIONS INDUSTRY STANDARD TIA-222-H. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES.
- CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THE CONTRACTOR'S WORK OR FROM DAMAGE DUE TO OTHER CAUSES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE BEGINNING WORK, ORDERING MATERIAL, AND PREPARING OF SHOP DRAWINGS. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. IF THE CONTRACTOR DISCOVERS ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS, OR ANY CONDITIONS THAT WOULD INTERFERE WITH THE INSTALLATION OF THE MODIFICATIONS, NOTIFY THE ENGINEER IMMEDIATELY.
- IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
- 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/TIA-322 (LATEST EDITION), OSHA, AND GENERAL INDUSTRY STANDARDS. ALL RIGGING PLANS SHALL ADHERE TO ANSI/TIA-322 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS IN ACCORDANCE WITH APPLICABLE SAFETY CODES.
- WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 30-MPH). THE STRUCTURE SHOWN ON THE DRAWINGS IS STRUCTURALLY SOUND ONLY IN THE COMPLETED FORM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRENGTH AND STABILITY OF THE STRUCTURE DURING ERECTION. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT, SHORING, BRACING AND ANY OTHER STRUCTURAL SYSTEMS AS REQUIRED TO RESIST ALL FORCES THAT MAY OCCUR DURING HANDLING AND ERECTION UNTIL THE STRUCTURE IS FULLY COMPLETED. TEMPORARY SUPPORTS, BRACING AND OTHER STRUCTURAL SYSTEMS REQUIRED DURING CONSTRUCTION SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THEIR USE.
- ALL INSTALLATIONS PERFORMED ON THIS STRUCTURE SHALL BE COMPLETED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF THE STANDARD FOR INSTALLATION, ALTERATION AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS, ANSI/TIA-322.
- CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
- CONNECTIONS BETWEEN ITEMS SUPPORTED BY THE STRUCTURE AND THE STRUCTURE NOT SPECIFICALLY DETAILED IN THE CONTRACT DOCUMENTS ARE THE RESPONSIBILITY OF THE CONTRACTOR. SUCH CONNECTIONS SHALL BE DESIGNED, COORDINATED AND INSPECTED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. SUBMIT SIGNED AND SEALED CALCULATIONS DURING SHOP DRAWING REVIEW.
- DO NOT SCALE DRAWINGS.
- DO NOT USE THESE DRAWINGS FOR ANY OTHER SITE.
- ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZE AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.
- THE MOUNT UNDER NO CIRCUMSTANCES SHOULD BE USED AS A TIE OFF POINT.

STRUCTURAL STEEL

- DESIGN, DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING PUBLICATIONS EXCEPT AS SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS.
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION (15TH EDITION)
 - SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS
 - AISC CODE OF STANDARD PRACTICE
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE SHOWN:

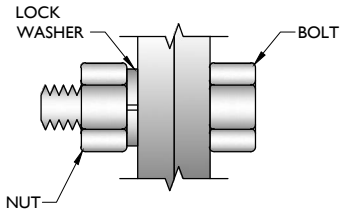
CHANNELS, ANGLES, PLATES, ETC.	ASTM A36 (GR 36)
STEEL PIPE	ASTM A53 (GR 35)
BOLTS	ASTM A325
NUTS	ASTM A563
LOCK WASHERS	LOCKING STRUCTURAL GRADE
- ALL SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR VERIFYING THE SUBSTITUTE IS SUITABLE FOR USE AND MEETS ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER. CONTRACTOR SHALL PROVIDE ADDITIONAL DOCUMENTATION AND/OR SPECIFICATIONS TO THE ENGINEER AS REQUESTED.
- PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
 - SUBMIT SHOP DRAWINGS TO
ELIZABETH.MYERS@COLLIERSENG.COM
 - PROVIDE COLLIERS ENGINEERING & DESIGN PROJECT # AND COLLIERS ENGINEERING & DESIGN PROJECT ENGINEER CONTACT IN THE BODY OF THE EMAIL.
- DRILL NO HOLES IN ANY NEW OR EXISTING STRUCTURAL STEEL MEMBERS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH TIA-222-H SECTION 4.9.2 REQUIREMENTS.
- WHERE CONNECTIONS ARE NOT FULLY DETAILED ON THESE DRAWINGS, FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST LOADS AND FORCES WHERE SHOWN ON DRAWINGS AND AS OUTLINED IN SPECIFICATIONS.
- FOR MEMBERS BEING REPLACED, PROVIDE NEW BOLTS AND MATCH EXISTING SIZE AND GRADE. MAINTAIN AISC REQUIREMENTS FOR MINIMUM BOLT DISTANCE AND SPACING.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT IS AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- ALL NEW STEEL SHALL BE HOT BE DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
- ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING (ZINC COTE, OR EOR APPROVED EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
- ALL HOLES IN STEEL MEMBERS SHALL BE SIZED 1/16" LARGER THAN THE BOLT DIAMETER. STANDARD HOLES SHALL BE USED UNLESS NOTED OTHERWISE.

BOLT SCHEDULE (IN.)

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16 x 1 1/16	7/8	1 1/2
5/8	1 1/16	1 1/16 x 7/8	1 1/8	1 7/8
3/4	1 3/16	1 3/16 x 1	1 1/4	2 1/4
7/8	1 5/16	1 5/16 x 1 1/8	1 1/2	2 5/8
1	1 1/16	1 1/16 x 1 5/16	1 3/4	3

WORKABLE GAGES (IN.)

LEG	GAGE
4	2 1/2
3 1/2	2
3	1 3/4
2 1/2	1 3/8
2	1 1/8

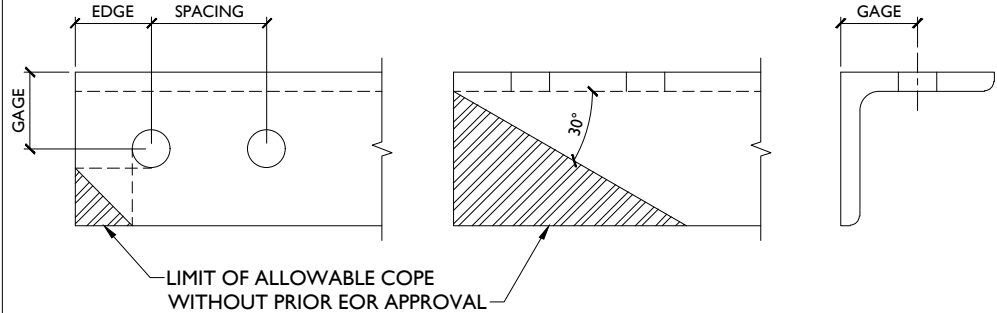


TYP. BOLT ASSEMBLY

NOTES:

- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED IN THE DRAWINGS
- MATCH EXISTING GAGES WHEN APPLICABLE, UNLESS MINIMUM EDGE DISTANCES ARE COMPROMISED.

ALLOWABLE COPING

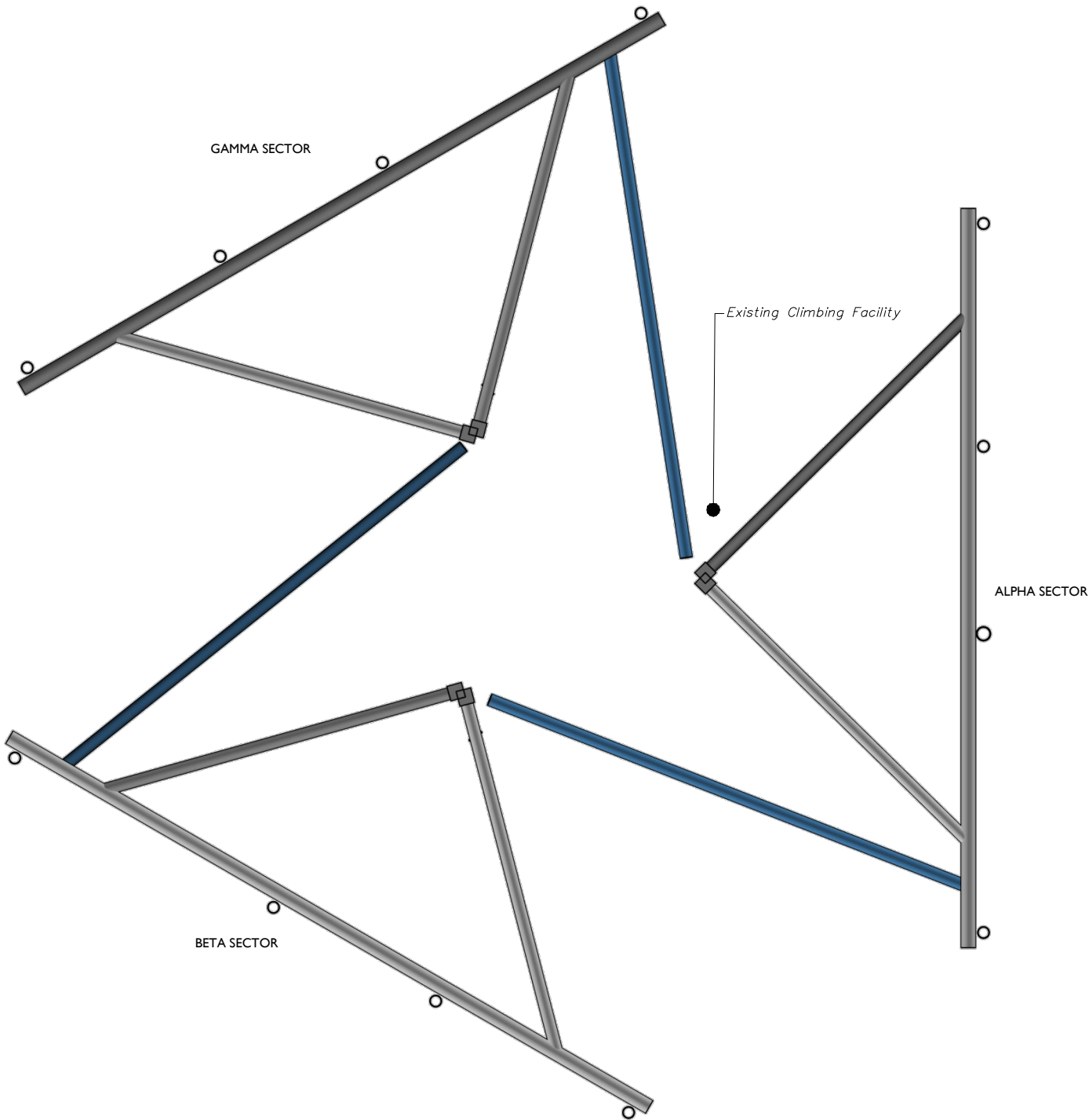


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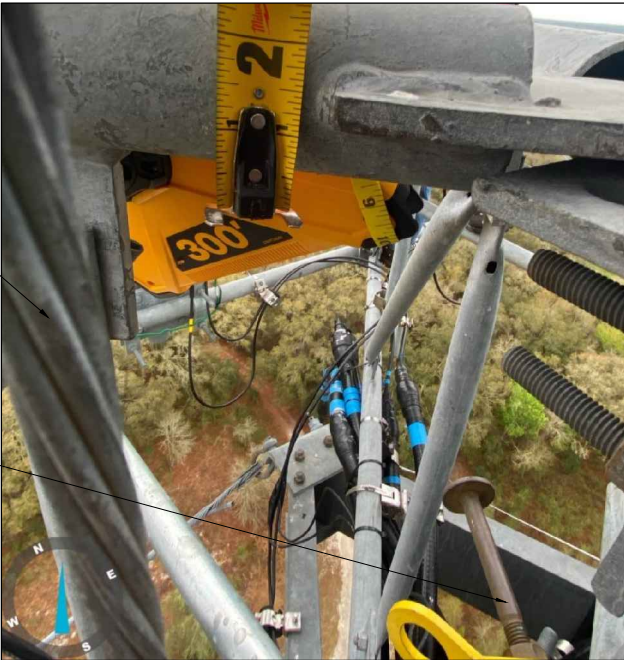


1 CLIMBING FACILITY LOCATION
SCALE : N.T.S.

STRUCTURAL NOTES:

- PER THE MOUNT MAPPING COMPLETED BY KIMLEY-HORN (D&M) ON 3/2/2021, THE SAFETY CLIMB AND CLIMBING FACILITIES UP TO THE VERIZON MOUNT ELEVATION (236'-3") ARE IN GOOD CONDITION. COLLIERS ENGINEERING & DESIGN DOES NOT WARRANT THIS INFORMATION.
- INSTALL SHALL NOT CAUSE HARM TO THE STRUCTURE, CLIMBING FACILITY, SAFETY CLIMB, OR ANY SYSTEM INSTALLED ON THE STRUCTURE. TIMELY NOTICE AND DOCUMENTATION SHALL BE PROVIDED BY CONTRACTORS TO THE EOR (OF STRUCTURAL DESIGN) IF AN OBSTRUCTION WAS REQUIRED TO MEET THE RF SYSTEM DESIGN REQUIREMENTS AND PERFORMANCES.

Existing Safety Climb
Existing Climbing Facility



CLIMBING FACILITY PHOTO

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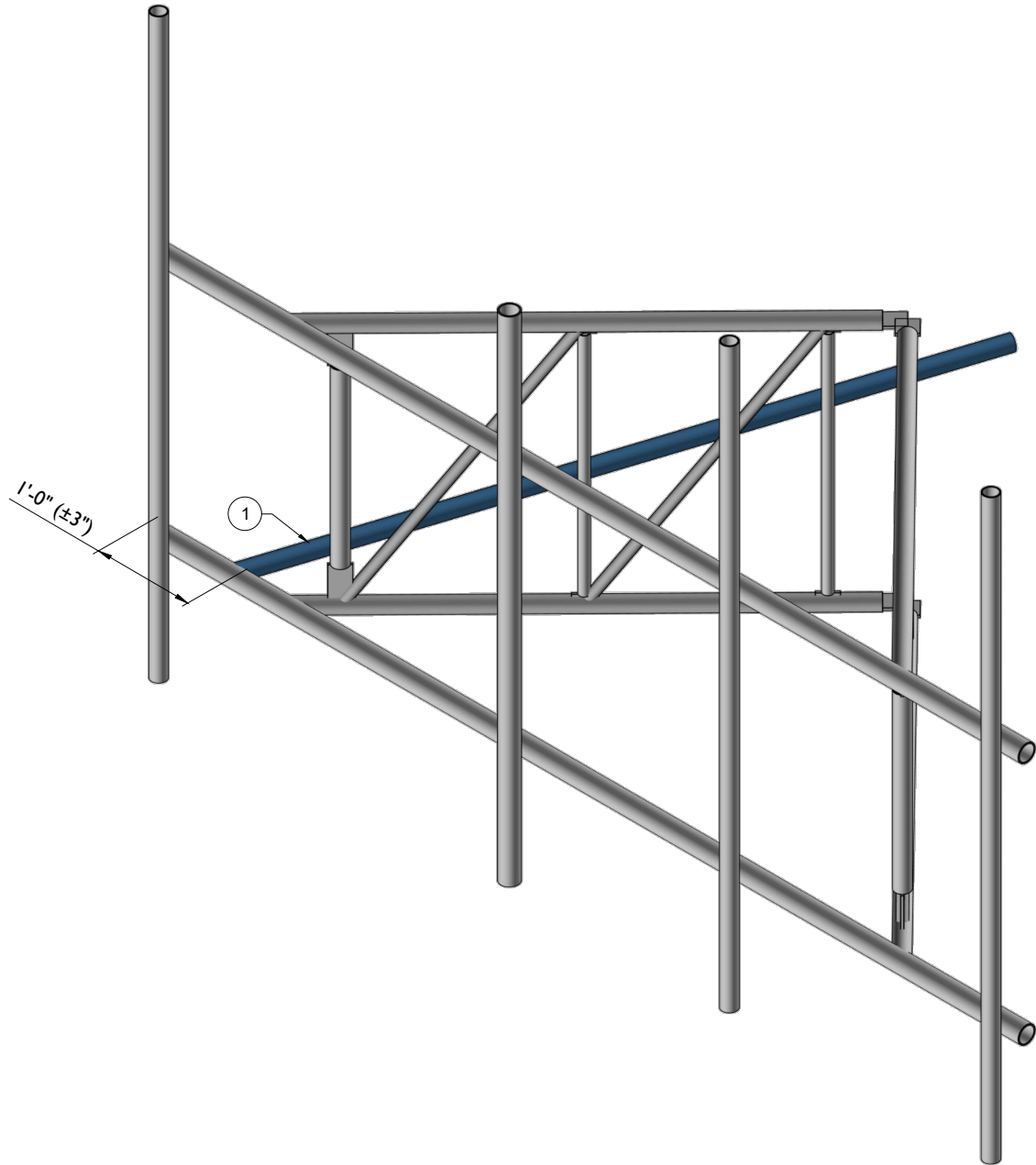
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COLUMBIA COUNTY

LEGEND:

- PROPOSED
- RELOCATED
- EXISTING

TOTAL VERTICAL ENVELOPE:

CONTRACTOR SHALL VERIFY AND CONFIRM IN FIELD THAT VERIZON'S OVERALL TIP TO TIP VERTICAL SPACE CONFIGURATION (EQUIPMENT AND STEEL COMBINED) DOES NOT EXCEED THE VERTICAL ENVELOPE LISTED IN THESE DRAWINGS. IF THE SITE'S EXISTING OR PROPOSED CONFIGURATION EXCEEDS THE ALLOWED VERTICAL ENVELOPE LISTED IN THESE DRAWINGS, CONTRACTOR SHALL CONTACT EOR IMMEDIATELY FOR A SOLUTION ON HOW TO CORRECT THE ISSUE PRIOR TO LEAVING THE SITE.



PROPOSED ISOMETRIC VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.

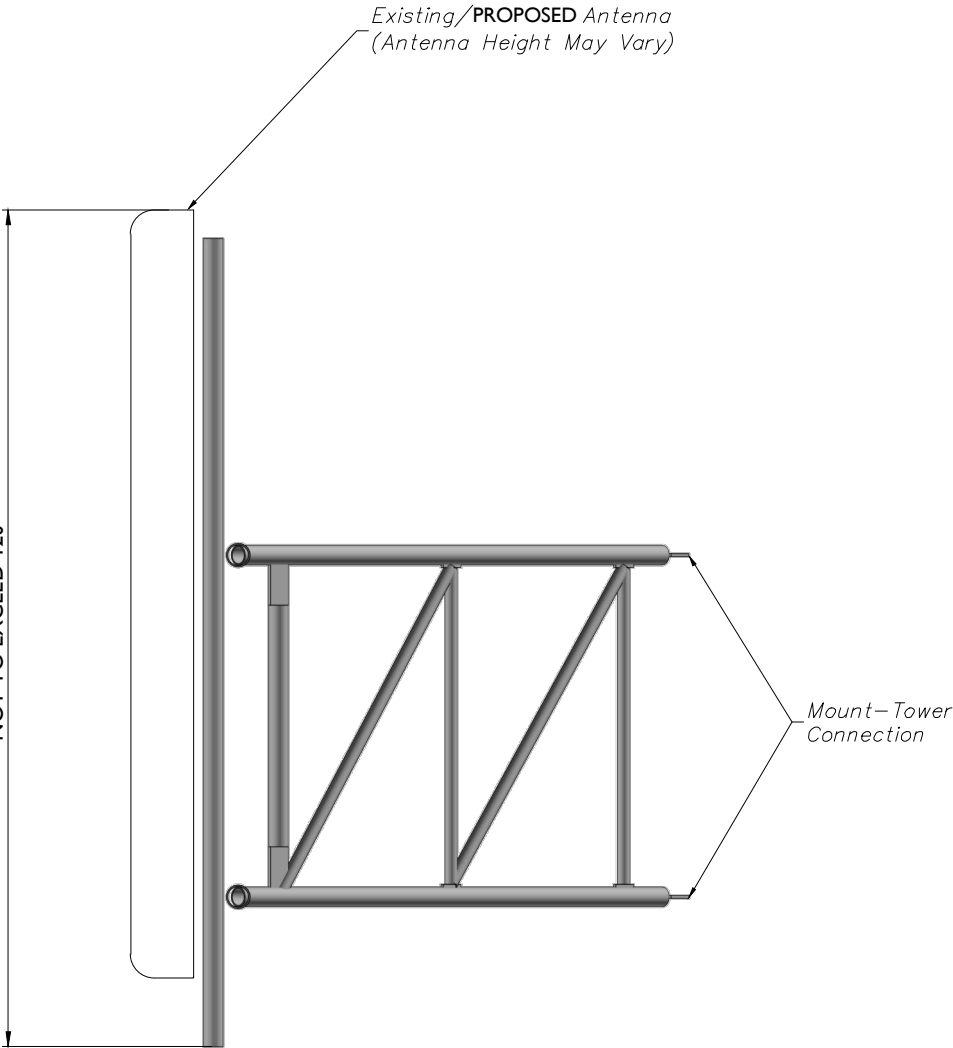
MOUNT MODIFICATION SCHEDULE

NO.	ELEVATION	QUANTITY	DESCRIPTION	NOTES
1	236'-3"	3	PROPOSED TIEBACK ASSEMBLY (PART #: VZWSMART-SFK1)	CONTRACTOR SHALL REMOVE EXISTING TIE-BACK AND ASSOCIATED HARDWARE. CONNECT OTHER END OF NEW TIE-BACK TO ADJACENT TOWER LEG. PROPOSED TIE-BACK SHALL EXTEND NO MORE THAN 12" BEYOND THE TOWER LEG. CONTRACTOR SHALL TRIM AS REQUIRED AND PROTECT CUT END WITH TWO COATS OF ZINC KOTE, OR EOR APPROVED EQUAL. SEE GENERAL NOTE B.

GENERAL NOTES:

- A. CONTRACTOR SHALL VERIFY THAT NEW & EXISTING STEEL IS FREE OF CORROSION. VISIBLE MINOR CORROSION SHALL BE WIRE BRUSHED CLEAN AND TREATED WITH COLD GALVANIZATION. REPORT ANY SIGNIFICANT CORROSION TO EOR.
- B. THREADED ROD FROM PROPOSED KITS SHALL BE TRIMMED TO EXTEND NO MORE THAN 3" BEYOND THE LOCK NUT. TREAT ALL CUT ENDS WITH (2) COATS OF COLD GALVANIZATION (ZINC KOTE, OR EOR APPROVED EQUAL).
- C. MOUNT MEMBERS NOT SHOWN FOR CLARITY U.N.O.

TOTAL VERTICAL ENVELOPE
ALL EQUIPMENT AND STEEL INCLUDED
NOT TO EXCEED 120"



PROPOSED SIDE ELEVATION VIEW (TYP. ALL SECTORS)

SCALE : N.T.S.



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SCALE : AS SHOWN JOB NUMBER: 21944495

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
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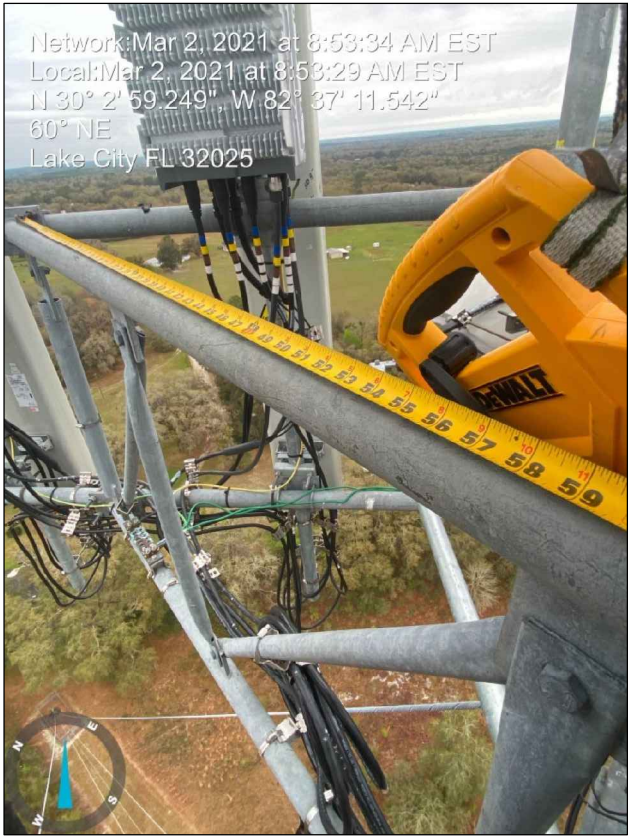
NASHVILLE
5141 Virginia Way,
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:

MODIFICATION DETAILS

SHEET NUMBER:

SS-1



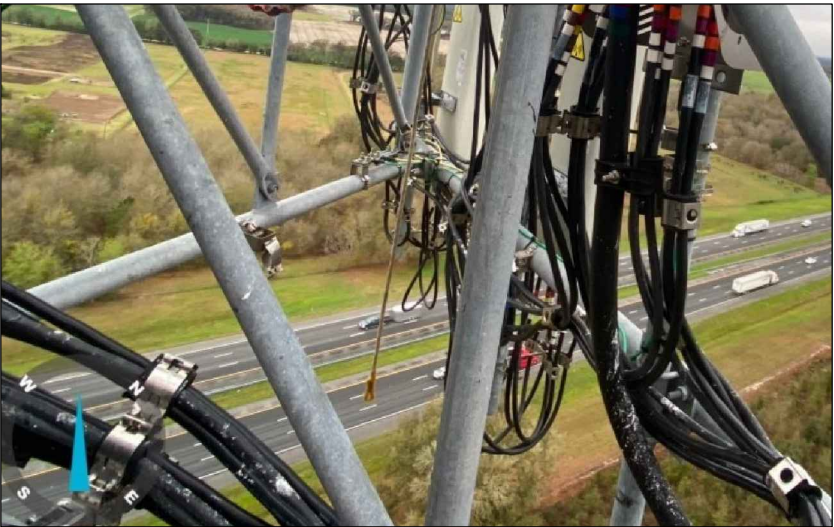
MOUNT PHOTO 1



MOUNT PHOTO 2



MOUNT PHOTO 3



MOUNT PHOTO 4

Engineering & Design

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Doing Business as

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SCALE: AS SHOWNJOB NUMBER: 21944495

1	11/25/24	ISSUED FOR CONSTRUCTION	PD	GM	
0	07/02/24	ISSUED FOR CONSTRUCTION	NL	GM	
REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	

COLLIERS ENGINEERING & DESIGN, INC.
F.L. License #: LB7388

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SITE NAME:

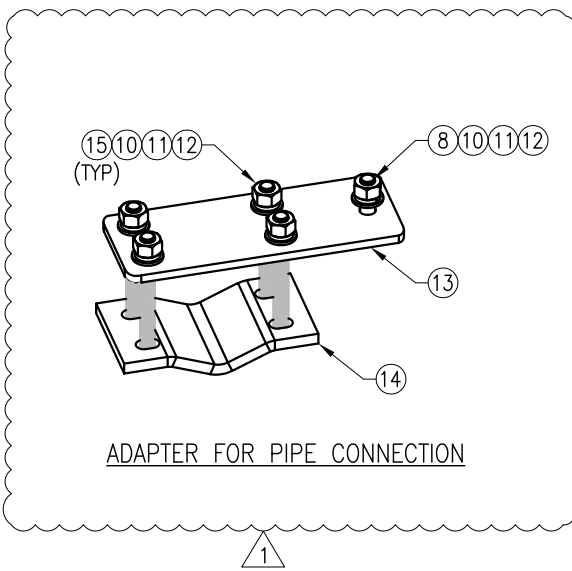
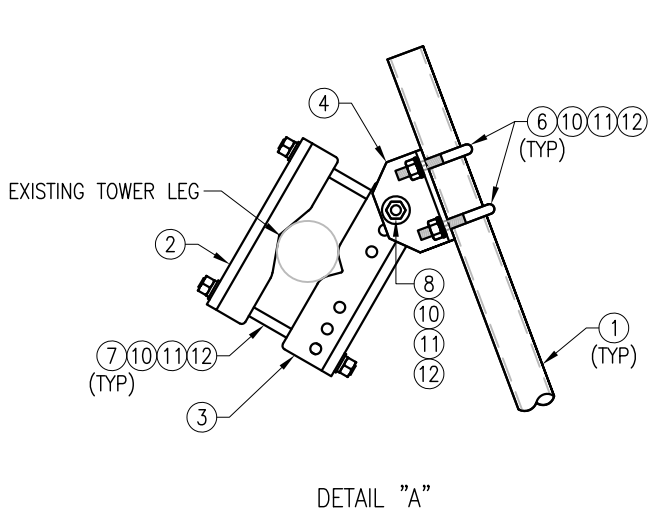
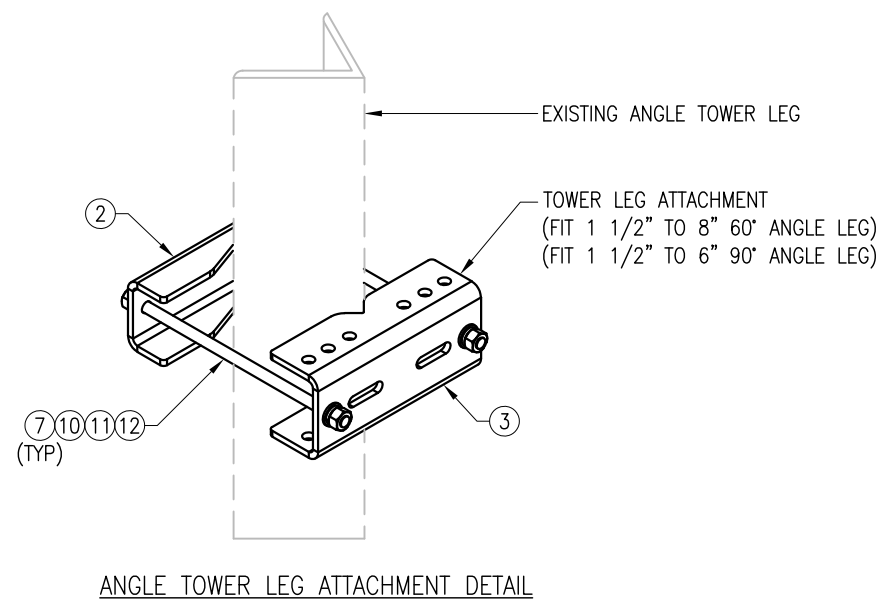
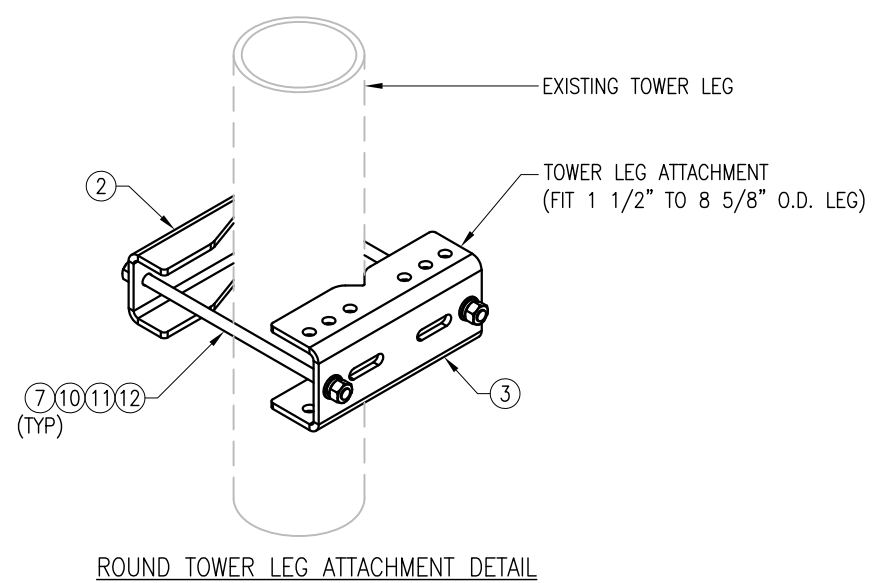
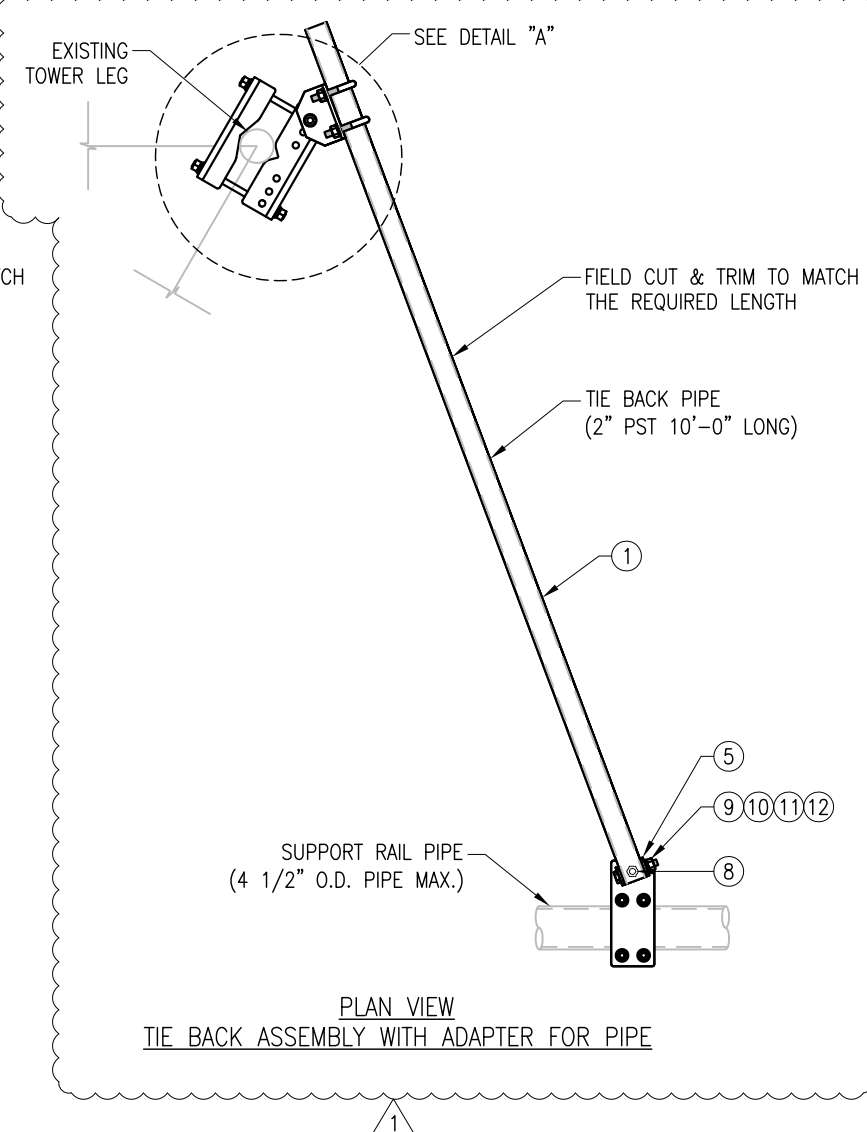
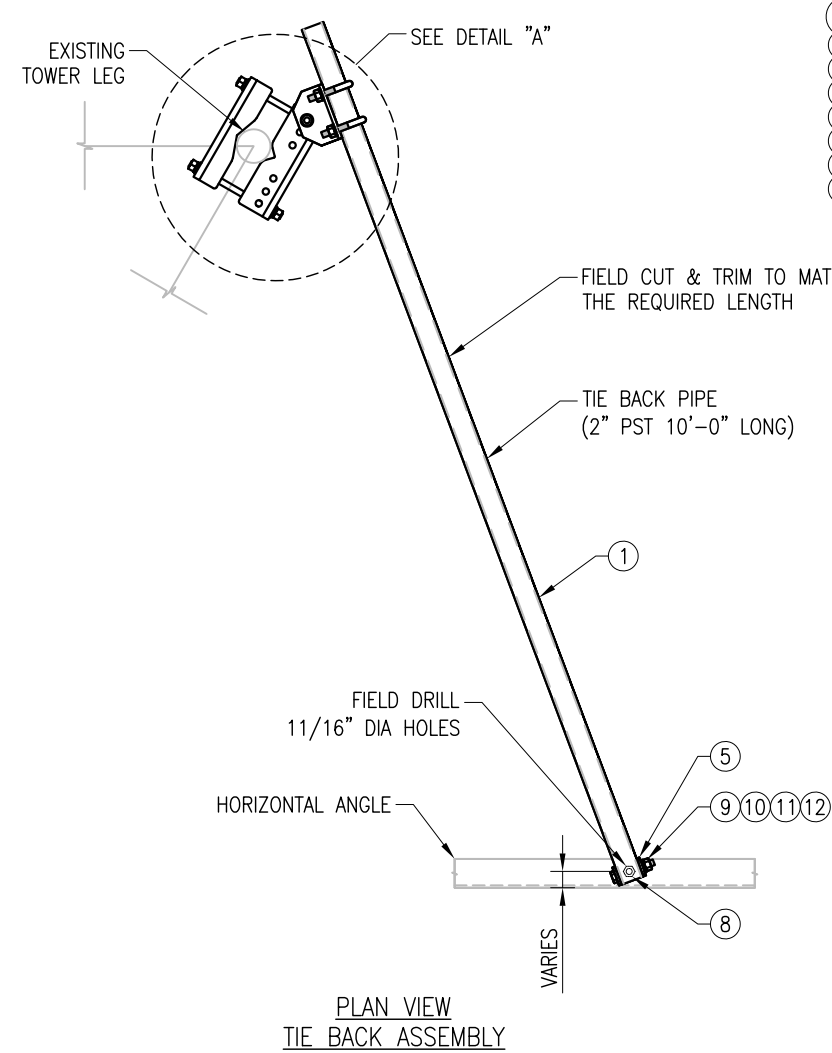
MYRTIS
5000078299

1307 SW ENGLISH RD
LAKE CITY, FL 32025
COLUMBIA COUNTY

NASHVILLE
5141 Virginia Way,
Suite 420
Brentwood, TN 37027
Phone: 615.686.2575
COLLIERS ENGINEERING & DESIGN, INC.
DOING BUSINESS AS MASER CONSULTING

SHEET TITLE:
MOUNT PHOTOS

SHEET NUMBER:
SS-2



VZWSMART-SFK1 (TIE BACK ASSEMBLY)					
ITEM NO.	QTY.	PART NO.	DESCRIPTION	SHEET #	WT
1	1	PST2375-10	2" PST (2.375" O.D. X 0.154" THK) X 10'-0" A53 GR-B 35KSI	SFK1-F1	38
2	1	BP825-12	PL 3/8" X 8 1/4" X 1'-0" A36 BENT PLATE	SFK1-F2	11
3	1	BP11125-12	PL 3/8" X 11 1/8" X 1'-0" A36 BENT PLATE	SFK1-F3	14
4	1	BP6-9375	PL 3/8" X 6" X 9 3/8" A36 BENT PLATE	SFK1-F4	6
5	1	BP2-875	PL 1/4" X 2" X 8 3/4" A36 BENT PLATE	SFK1-F4	1
6	2	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	RBC-1	2
7	2	---	THREADED ROD 5/8" DIA. X 1'-6" F1554-36 HDG	---	0
8	2	---	BOLT 5/8" X 2" A325	---	0
9	1	---	BOLT 5/8" X 4 1/4" A325	---	0
10	15	FW-625	5/8" HDG USS FLAT WASHER	---	1
11	15	LW-625	5/8" HDG LOCK WASHER	---	0
12	15	NUT-625	5/8" HDG HEX NUT	---	2
13	1	PL375-4511	PL 3/8" X 4 1/2" X 11" A36	SFK1-F1	4
14	1	V-CLAMP	PL 1/2" X 4 1/4" X 8 5/8" A36 BEND PLATE	SFK1-F5	5
15	4	---	BOLT 5/8" X 6" FULL THREAD SAE GR 5	---	0
GALVANIZED WT					84

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.

VzW
SMART Tool[®]
Vendor

verizon

FOR REFERENCE
ONLY

DRAWN BY: BT CHECKED BY: HMA/KW

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	BT	05/08/20
2	REVISED	BT	04/10/21
3			
4			

SHEET TITLE:

VZWSMART-SFK1
TIE BACK ASSEMBLY

SHEET NUMBER: VZWSMART-SFK1 REV #: 1



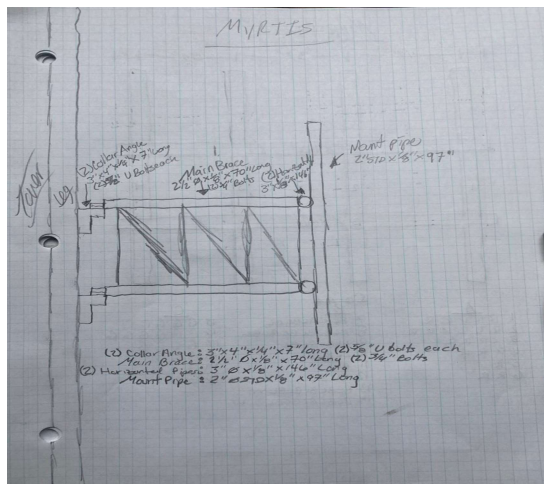


Antenna Mount Mapping Form (PATENT PENDING)

FCC #
1001544

Tower Owner:	Crown Castle	Mapping Date:	3/2/2021
Site Name:	Myrtis	Tower Type:	Guyed Tower
Site Number or ID:	809329	Tower Height (Ft.):	250
Mapping Contractor:	Kimley-Horn (D&M)	Mount Elevation (Ft.):	238

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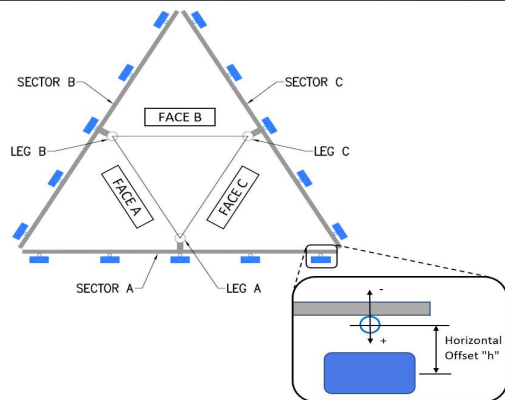


Mount Pipe Configuration and Geometries [Unit = Inches]							
Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."	Sector / Position	Mount Pipe Size & Length	Vertical Offset Dimension "U"	Horizontal Offset "C1, C2, C3, etc."
A1	P2.0 STD x 97 x 1/8	79.00	3.00	C1	P2.0 STD x 97 x 1/8	79.00	3.00
A2	P2.0 STD x 97 x 1/8	79.00	47.00	C2	P2.0 STD x 97 x 1/8	79.00	47.00
A3	P2.0 STD x 97 x 1/8	79.00	84.00	C3	P2.0 STD x 97 x 1/8	79.00	84.00
A4	P2.0 STD x 97 x 1/8	79.00	143.00	C4	P2.0 STD x 97 x 1/8	79.00	143.00
A5				C5			
A6				C6			
B1	P2.0 STD x 97 x 1/8	79.00	3.00	D1			
B2	P2.0 STD x 97 x 1/8	79.00	47.00	D2			
B3	P2.0 STD x 97 x 1/8	79.00	84.00	D3			
B4	P2.0 STD x 97 x 1/8	79.00	143.00	D4			
B5				D5			
B6				D6			

Distance between bottom rail and mount CL elevation (dim d). Unit is inches. See 'Mount Elev Ref' tab for details. :	22.00
Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.) :	72
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.) :	

Please enter additional information or comments below.

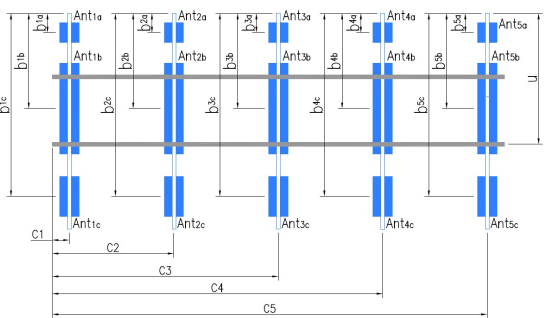
Tower Face Width at Mount Elev. (ft.):	4	Tower Leg Size or Pole Shaft Diameter at Mount Elev. (in.):	3
--	---	---	---



Enter antenna model. If not labeled, enter "Unknown".							Mounting Locations [Units are inches and degrees]			Photos of antennas
Ants. Items	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Antenna Center-line (Ft.)	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ..." (Inches)	Horiz. Offset "h" (Use "-" if Ant. is behind)	Antenna Azimuth (Degrees)	Photo Numbers

Sector A

Ant _{1a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	13.00	
Ant _{1b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00		
Ant _{1c}										
Ant _{2a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	13.00	
Ant _{2b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00		
Ant _{2c}										
Ant _{3a}										
Ant _{3b}	Raycap	14.50	10.00	19.00		240.75	24.00	-7.00		
Ant _{3c}										
Ant _{4a}	X7CAP86542IP	12.50	6.00	96.00	(2) 1/2	239.167	43.00	10.00	13.00	
Ant _{4b}										
Ant _{4c}										
Ant _{5a}										
Ant _{5b}										
Ant _{5c}										
Ant on Standoff										
Ant on Standoff										
Ant on Tower										
Ant on Tower										



Antenna Layout (Looking Out From Tower)

Mount Azimuth (Degree) for Each Sector				Tower Leg Azimuth (Degree) for Each Sector				Sector B											
Sector A:	13.00	Deg	Leg A:		Deg			Ant _{1a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	123.00		
Sector B:	123.00	Deg	Leg B:		Deg			Ant _{1b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00			
Sector C:	256.00	Deg	Leg C:		Deg			Ant _{1c}											
Sector D:		Deg	Leg D:		Deg			Ant _{2a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	123.00		
Climbing Facility Information								Ant _{2b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00			
Location:	4.00	Deg						Ant _{2c}											
Climbing Facility	Corrosion Type:			Good condition.				Ant _{3a}											
	Access:			Climbing path was unobstructed.				Ant _{3b}	Myrtis 106350	38.50	16.00	38.50	(2) 1/2	238.75	48.00	16.00	155.00		
	Condition:			Good condition.				Ant _{3c}											
								Ant _{4a}	X7CAP86542IP	12.50	6.00	96.00	(2) 1/2	239.167	43.00	10.00	123.00		
								Ant _{4b}											
								Ant _{4c}											
								Ant _{5a}											
								Ant _{5b}											
								Ant _{5c}											
								Ant on Standoff											
								Ant on Standoff											
								Ant on Tower											
								Ant on Tower											
								Sector C											
								Ant _{1a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	256.00		
								Ant _{1b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00			
								Ant _{1c}											
								Ant _{2a}	NHH65CR2B	12.00	7.50	96.00	(2) 1/2	239.167	43.00	10.00	256.00		
								Ant _{2b}	Radio	13.00	9.00	15.00		241.25	18.00	-10.00			
								Ant _{2c}											
								Ant _{3a}	X7CAP86542IP	12.50	6.00	96.00	(2) 1/2	239.167	43.00	10.00	256.00		
								Ant _{3b}											
								Ant _{3c}											
								Ant _{4a}											
								Ant _{4b}											
								Ant _{4c}											
								Ant _{5a}											
								Ant _{5b}											
								Ant _{5c}											
								Ant on Standoff											
								Ant on Standoff											
								Ant on Tower											
								Ant on Tower											
								Sector D											
								Ant _{1a}											
								Ant _{1b}											
								Ant _{1c}											
								Ant _{2a}											
								Ant _{2b}											
								Ant _{2c}											
								Ant _{3a}											
								Ant _{3b}											
								Ant _{3c}											
								Ant _{4a}											
								Ant _{4b}											
								Ant _{4c}											
								Ant _{5a}											
								Ant _{5b}											
								Ant _{5c}											
								Ant on Standoff											
								Ant on Standoff											
								Ant on Tower											
								Ant on Tower											

Observed Safety and Structural Issues During the Mount Mapping		
Issue #	Description of Issue	Photo #

1		
2		
3		
4		
5		
6		
7		
8		

Mapping Notes
1. Please report any visible structural or safety issues observed on the antenna mounts (Damaged members, loose connections, tilting mounts, safety climb issues, etc.) 2. If the thickness of the existing pipes or tubing can't be obtained from a general tool (such as Caliper), please use an ultrasonic measurement tool (thickness gauge) to measure the thickness. 3. Please create all required detail sketches of the mounts and insert them into the "Sketches" tab. 4. Please measure and enter the bolt sizes and types under the Members Box in the spreadsheet of the mount type. 5. Take and label the photos of the tower, mounts, connections, antennas and all measurements. Minimum 50 photos are required. 6. Please measure and report the size and length of all existing antenna mounting pipes. 7. Please measure and report the antenna information for all sectors. 8. Don't delete or rearrange any sheet or contents of any sheet from this mapping form.
Standard Conditions
1. Obvious safety and structural issues/deficiencies noticed at the time of the mount mapping are to be reported in this mapping. However, this mount mapping is not a condition assessment of the mount.



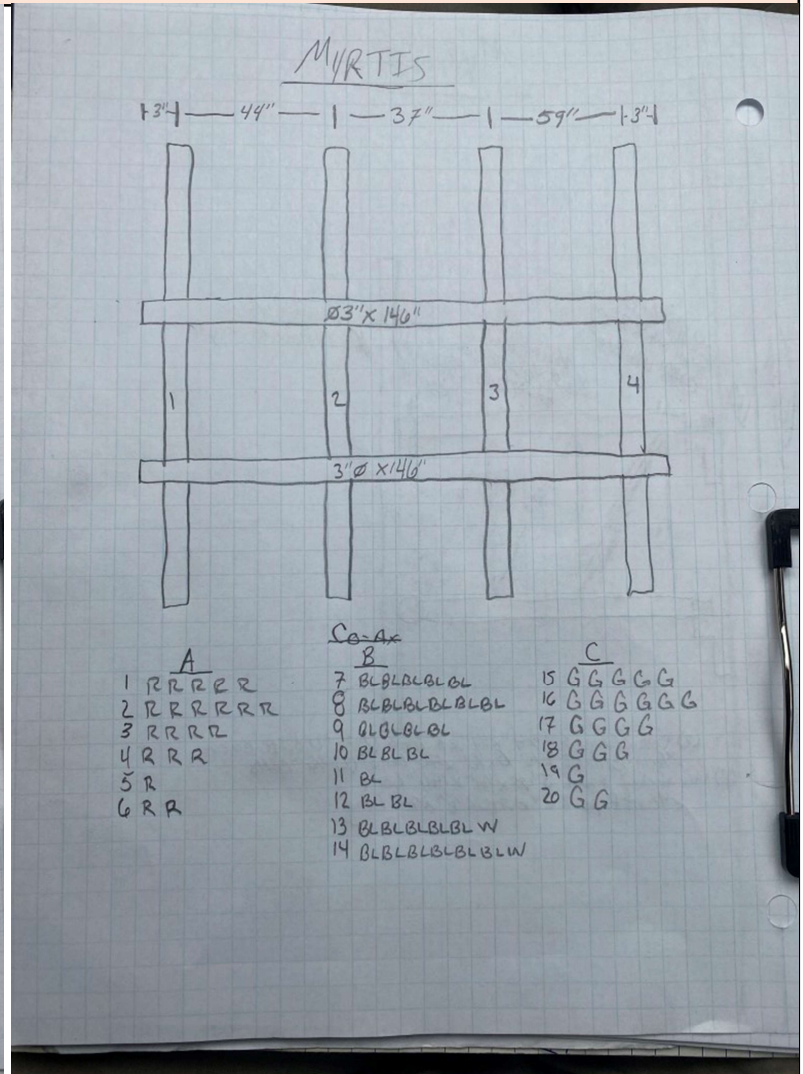
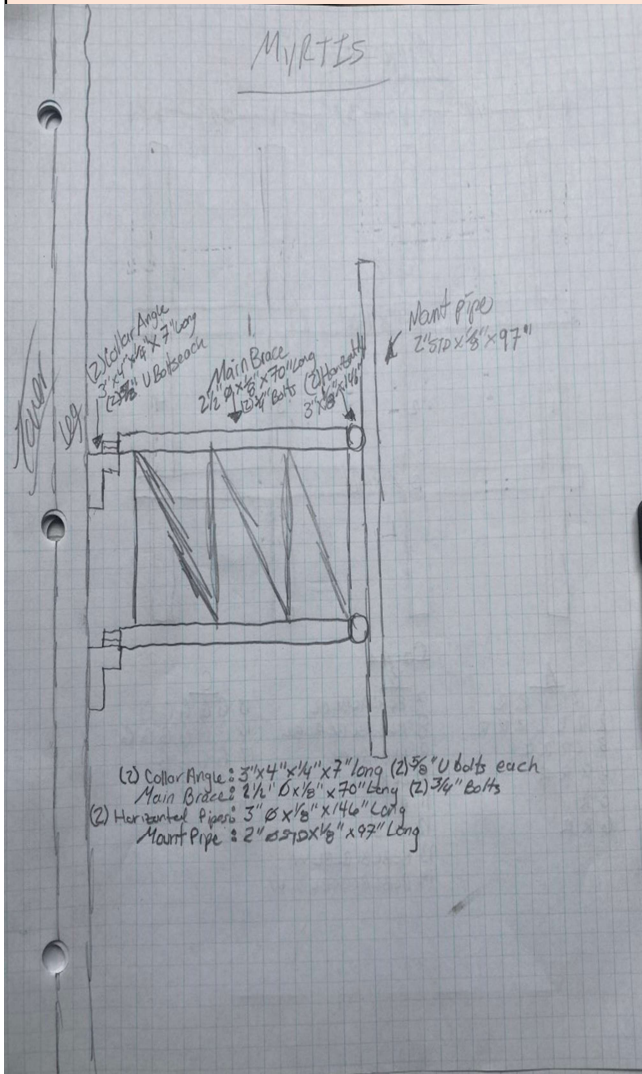
Antenna Mount Mapping Form (PATENT PENDING)

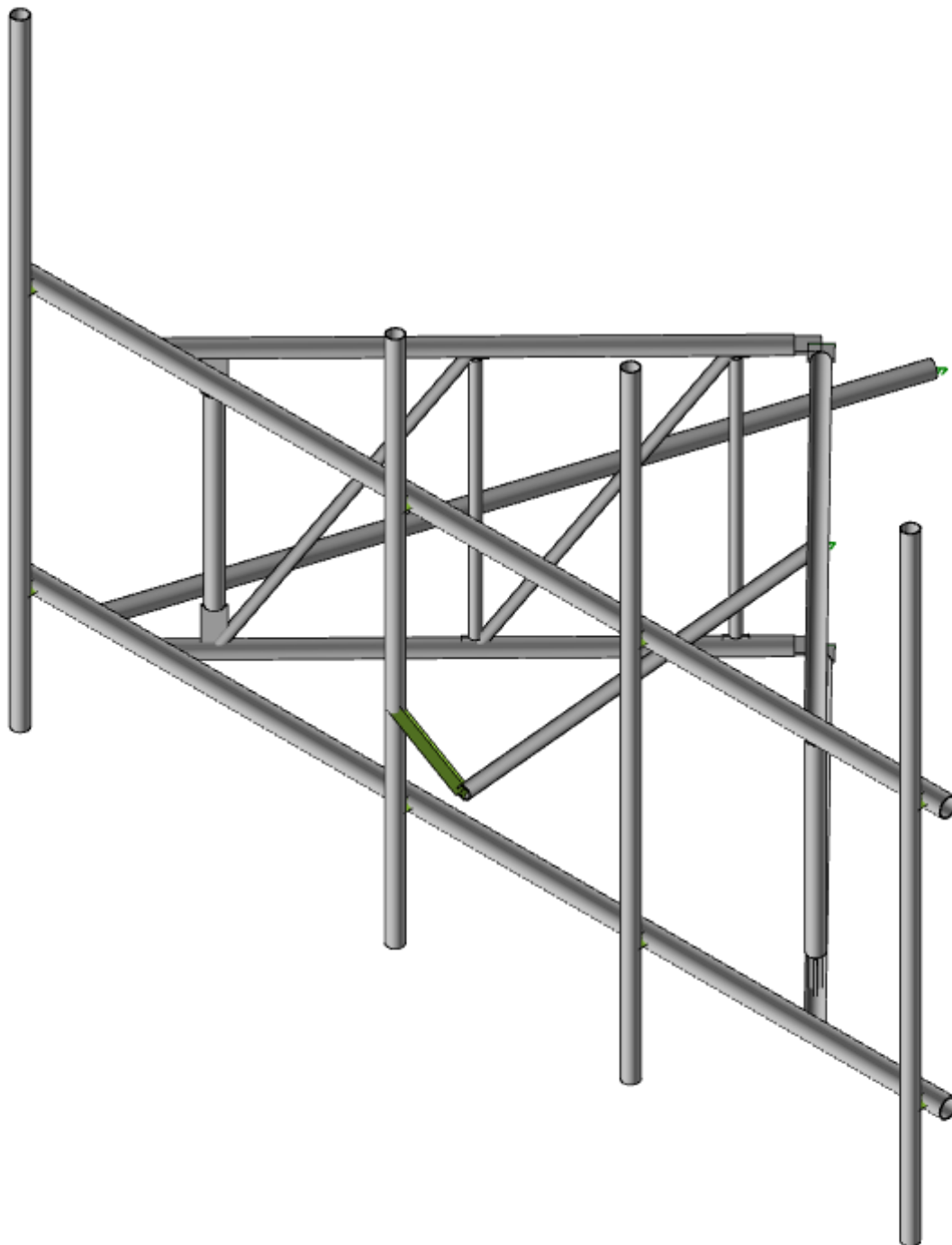
 FCC #
1001544

Tower Owner:	Crown Castle	Mapping Date:	3/2/2021
Site Name:	Myrtis	Tower Type:	Guyed Tower
Site Number or ID:	809329	Tower Height (Ft.):	250
Mapping Contractor:	Kimley-Horn (D&M)	Mount Elevation (Ft.):	238

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Please Insert Sketches of the Antenna Mount



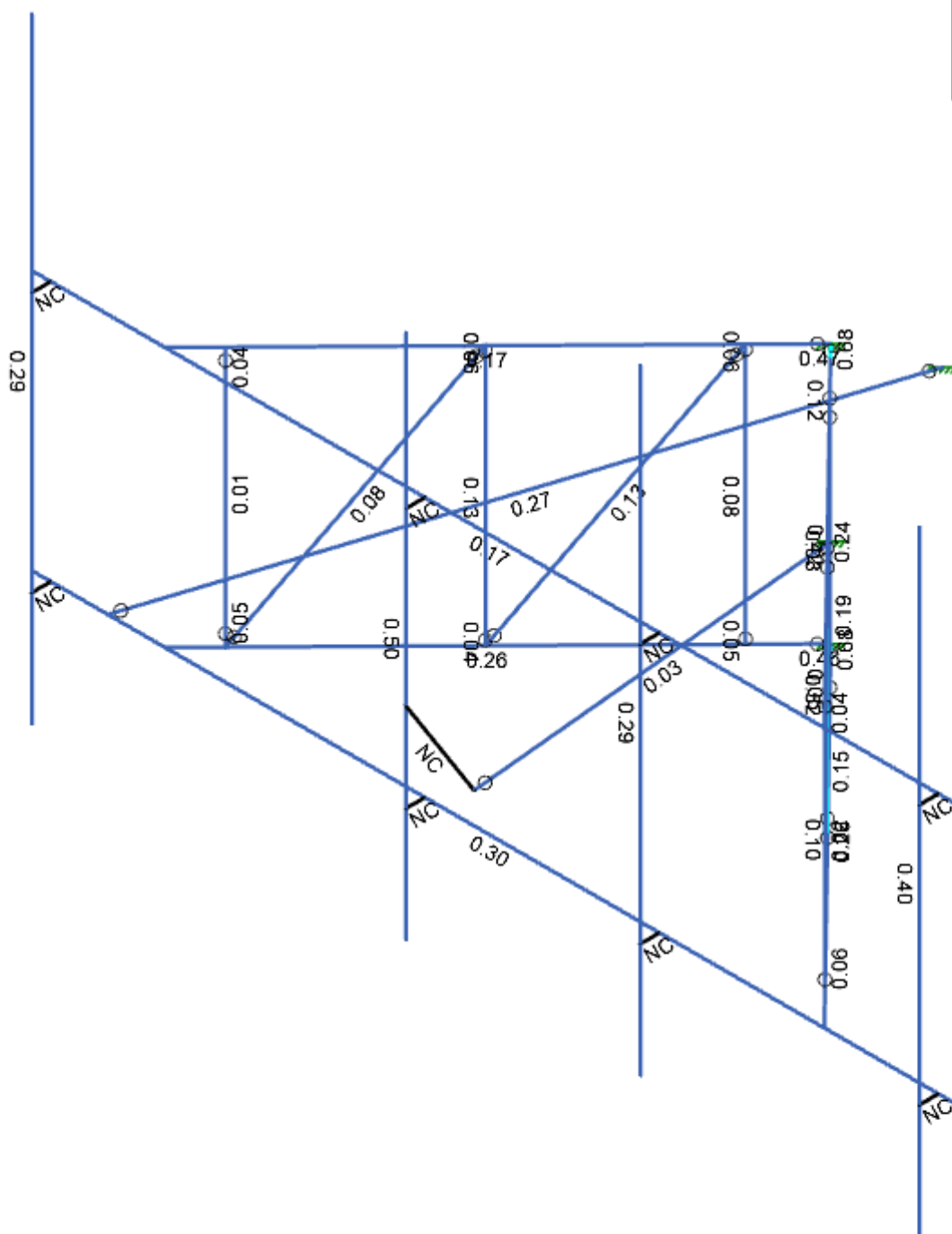
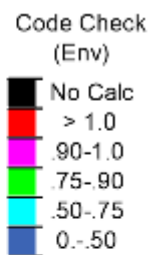


Colliers Engineering & D...

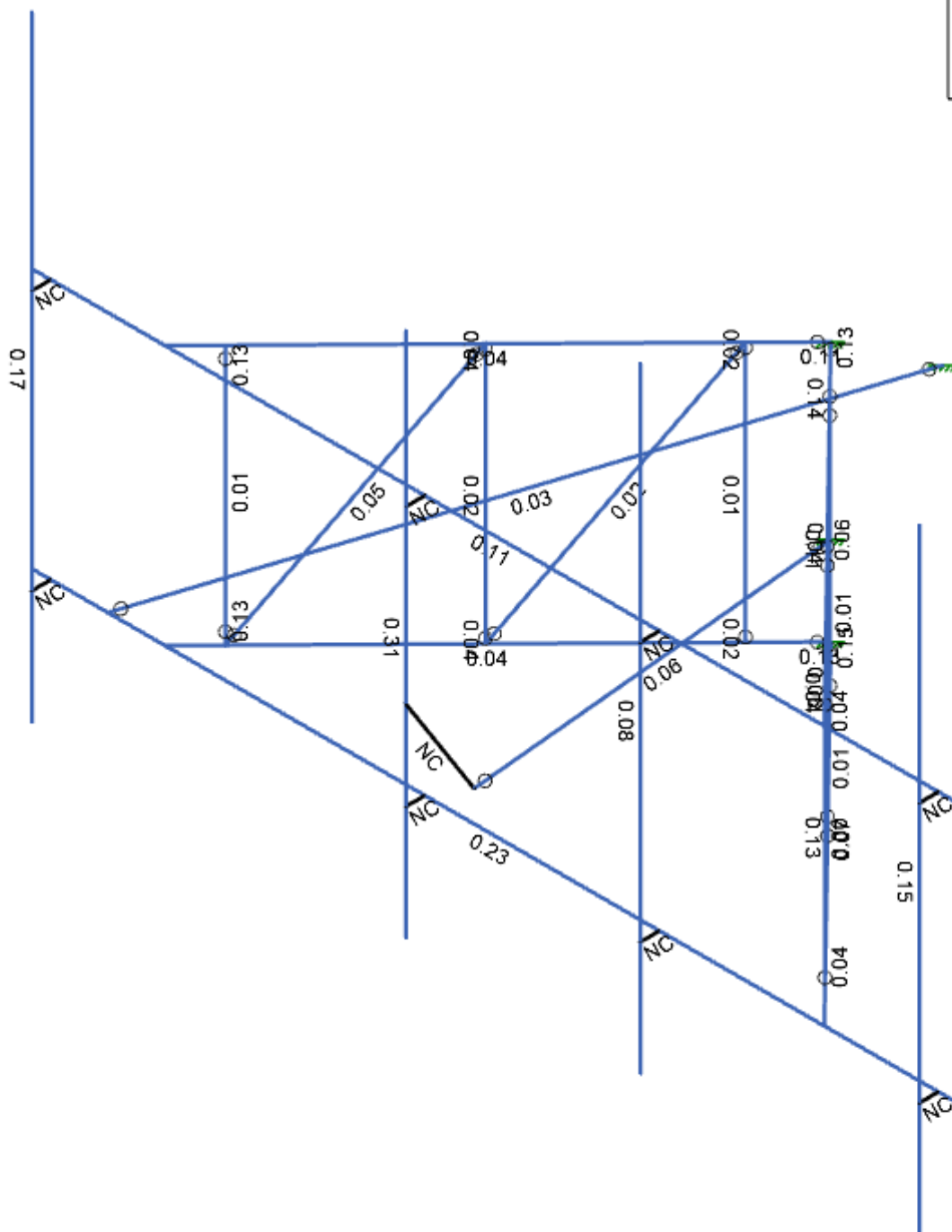
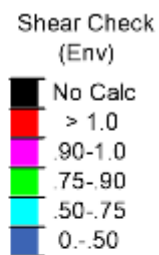
SK-1

Aug 22, 2025 at 03:23 PM

5000078299-VZW_MT_LO...



5000078299-VZW_MT_LO...



5000078299-VZW_MT_LO...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed
1	Antenna D	None				27	
2	Antenna Di	None				27	
3	Antenna Wo (0 Deg)	None				27	
4	Antenna Wo (30 Deg)	None				27	
5	Antenna Wo (60 Deg)	None				27	
6	Antenna Wo (90 Deg)	None				27	
7	Antenna Wo (120 Deg)	None				27	
8	Antenna Wo (150 Deg)	None				27	
9	Antenna Wo (180 Deg)	None				27	
10	Antenna Wo (210 Deg)	None				27	
11	Antenna Wo (240 Deg)	None				27	
12	Antenna Wo (270 Deg)	None				27	
13	Antenna Wo (300 Deg)	None				27	
14	Antenna Wo (330 Deg)	None				27	
15	Antenna Wi (0 Deg)	None				27	
16	Antenna Wi (30 Deg)	None				27	
17	Antenna Wi (60 Deg)	None				27	
18	Antenna Wi (90 Deg)	None				27	
19	Antenna Wi (120 Deg)	None				27	
20	Antenna Wi (150 Deg)	None				27	
21	Antenna Wi (180 Deg)	None				27	
22	Antenna Wi (210 Deg)	None				27	
23	Antenna Wi (240 Deg)	None				27	
24	Antenna Wi (270 Deg)	None				27	
25	Antenna Wi (300 Deg)	None				27	
26	Antenna Wi (330 Deg)	None				27	
27	Antenna Wm (0 Deg)	None				27	
28	Antenna Wm (30 Deg)	None				27	
29	Antenna Wm (60 Deg)	None				27	
30	Antenna Wm (90 Deg)	None				27	
31	Antenna Wm (120 Deg)	None				27	
32	Antenna Wm (150 Deg)	None				27	
33	Antenna Wm (180 Deg)	None				27	
34	Antenna Wm (210 Deg)	None				27	
35	Antenna Wm (240 Deg)	None				27	
36	Antenna Wm (270 Deg)	None				27	
37	Antenna Wm (300 Deg)	None				27	
38	Antenna Wm (330 Deg)	None				27	
39	Structure D	None		-1			
40	Structure Di	None					38
41	Structure Wo (0 Deg)	None					76
42	Structure Wo (30 Deg)	None					76
43	Structure Wo (60 Deg)	None					76
44	Structure Wo (90 Deg)	None					76
45	Structure Wo (120 Deg)	None					76
46	Structure Wo (150 Deg)	None					76
47	Structure Wo (180 Deg)	None					76
48	Structure Wo (210 Deg)	None					76
49	Structure Wo (240 Deg)	None					76
50	Structure Wo (270 Deg)	None					76
51	Structure Wo (300 Deg)	None					76
52	Structure Wo (330 Deg)	None					76
53	Structure Wi (0 Deg)	None					76
54	Structure Wi (30 Deg)	None					76
55	Structure Wi (60 Deg)	None					76

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Point	Distributed
56	Structure Wi (90 Deg)	None					76
57	Structure Wi (120 Deg)	None					76
58	Structure Wi (150 Deg)	None					76
59	Structure Wi (180 Deg)	None					76
60	Structure Wi (210 Deg)	None					76
61	Structure Wi (240 Deg)	None					76
62	Structure Wi (270 Deg)	None					76
63	Structure Wi (300 Deg)	None					76
64	Structure Wi (330 Deg)	None					76
65	Structure Wm (0 Deg)	None					76
66	Structure Wm (30 Deg)	None					76
67	Structure Wm (60 Deg)	None					76
68	Structure Wm (90 Deg)	None					76
69	Structure Wm (120 Deg)	None					76
70	Structure Wm (150 Deg)	None					76
71	Structure Wm (180 Deg)	None					76
72	Structure Wm (210 Deg)	None					76
73	Structure Wm (240 Deg)	None					76
74	Structure Wm (270 Deg)	None					76
75	Structure Wm (300 Deg)	None					76
76	Structure Wm (330 Deg)	None					76
77	Lm1	None				1	
78	Lm2	None				1	
79	Lv1	None				1	
80	Lv2	None				1	
81	Antenna Ev	None				27	
82	Antenna Eh (0 Deg)	None				18	
83	Antenna Eh (90 Deg)	None				18	
84	Structure Ev	ELY		-0.026			
85	Structure Eh (0 Deg)	ELZ			-0.064		
86	Structure Eh (90 Deg)	ELX	0.064				

Load Combinations

	Description	Solve P-Delta	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor	BLC Factor
1	1.2D+1.0Wo (0 Deg)	Yes	Y	1	1.2	39	1.2	3	1	41	1								
2	1.2D+1.0Wo (30 Deg)	Yes	Y	1	1.2	39	1.2	4	1	42	1								
3	1.2D+1.0Wo (60 Deg)	Yes	Y	1	1.2	39	1.2	5	1	43	1								
4	1.2D+1.0Wo (90 Deg)	Yes	Y	1	1.2	39	1.2	6	1	44	1								
5	1.2D+1.0Wo (120 Deg)	Yes	Y	1	1.2	39	1.2	7	1	45	1								
6	1.2D+1.0Wo (150 Deg)	Yes	Y	1	1.2	39	1.2	8	1	46	1								
7	1.2D+1.0Wo (180 Deg)	Yes	Y	1	1.2	39	1.2	9	1	47	1								
8	1.2D+1.0Wo (210 Deg)	Yes	Y	1	1.2	39	1.2	10	1	48	1								
9	1.2D+1.0Wo (240 Deg)	Yes	Y	1	1.2	39	1.2	11	1	49	1								
10	1.2D+1.0Wo (270 Deg)	Yes	Y	1	1.2	39	1.2	12	1	50	1								
11	1.2D+1.0Wo (300 Deg)	Yes	Y	1	1.2	39	1.2	13	1	51	1								
12	1.2D+1.0Wo (330 Deg)	Yes	Y	1	1.2	39	1.2	14	1	52	1								
13	1.2D + 1.0Di + 1.0Wi (0 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	15	1	53	1				
14	1.2D + 1.0Di + 1.0Wi (30 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	16	1	54	1				
15	1.2D + 1.0Di + 1.0Wi (60 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	17	1	55	1				
16	1.2D + 1.0Di + 1.0Wi (90 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	18	1	56	1				
17	1.2D + 1.0Di + 1.0Wi (120 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	19	1	57	1				
18	1.2D + 1.0Di + 1.0Wi (150 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	20	1	58	1				
19	1.2D + 1.0Di + 1.0Wi (180 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	21	1	59	1				
20	1.2D + 1.0Di + 1.0Wi (210 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	22	1	60	1				
21	1.2D + 1.0Di + 1.0Wi (240 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	23	1	61	1				

Load Combinations (Continued)

Description	Solve	P-Delta	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor	BLCFactor
22 1.2D + 1.0Di + 1.0Wi (270 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	24	1	62	1				
23 1.2D + 1.0Di + 1.0Wi (300 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	25	1	63	1				
24 1.2D + 1.0Di + 1.0Wi (330 Deg)	Yes	Y	1	1.2	39	1.2	2	1	40	1	26	1	64	1				
25 1.2D + 1.5Lm1 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	27	1	65	1						
26 1.2D + 1.5Lm1 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	28	1	66	1						
27 1.2D + 1.5Lm1 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	29	1	67	1						
28 1.2D + 1.5Lm1 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	30	1	68	1						
29 1.2D + 1.5Lm1 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	31	1	69	1						
30 1.2D + 1.5Lm1 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	32	1	70	1						
31 1.2D + 1.5Lm1 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	33	1	71	1						
32 1.2D + 1.5Lm1 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	34	1	72	1						
33 1.2D + 1.5Lm1 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	35	1	73	1						
34 1.2D + 1.5Lm1 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	36	1	74	1						
35 1.2D + 1.5Lm1 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	37	1	75	1						
36 1.2D + 1.5Lm1 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	77	1.5	38	1	76	1						
37 1.2D + 1.5Lm2 + 1.0Wm (0 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	27	1	65	1						
38 1.2D + 1.5Lm2 + 1.0Wm (30 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	28	1	66	1						
39 1.2D + 1.5Lm2 + 1.0Wm (60 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	29	1	67	1						
40 1.2D + 1.5Lm2 + 1.0Wm (90 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	30	1	68	1						
41 1.2D + 1.5Lm2 + 1.0Wm (120 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	31	1	69	1						
42 1.2D + 1.5Lm2 + 1.0Wm (150 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	32	1	70	1						
43 1.2D + 1.5Lm2 + 1.0Wm (180 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	33	1	71	1						
44 1.2D + 1.5Lm2 + 1.0Wm (210 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	34	1	72	1						
45 1.2D + 1.5Lm2 + 1.0Wm (240 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	35	1	73	1						
46 1.2D + 1.5Lm2 + 1.0Wm (270 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	36	1	74	1						
47 1.2D + 1.5Lm2 + 1.0Wm (300 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	37	1	75	1						
48 1.2D + 1.5Lm2 + 1.0Wm (330 Deg)	Yes	Y	1	1.2	39	1.2	78	1.5	38	1	76	1						
49 1.2D + 1.5Lv1	Yes	Y	1	1.2	39	1.2	79	1.5										
50 1.2D + 1.5Lv2	Yes	Y	1	1.2	39	1.2	80	1.5										
51 1.4D	Yes	Y	1	1.4	39	1.4												
52 1.2D + 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX	
53 1.2D + 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
54 1.2D + 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
55 1.2D + 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1
56 1.2D + 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
57 1.2D + 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
58 1.2D + 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX	
59 1.2D + 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
60 1.2D + 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
61 1.2D + 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1
62 1.2D + 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
63 1.2D + 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	1.2	39	1.2	81	1	ELY	1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5
64 0.9D - 1.0Ev + 1.0Eh (0 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX	
65 0.9D - 1.0Ev + 1.0Eh (30 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	0.5	ELZ	0.866	ELX	0.5
66 0.9D - 1.0Ev + 1.0Eh (60 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	0.866	ELZ	0.5	ELX	0.866
67 0.9D - 1.0Ev + 1.0Eh (90 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1
68 0.9D - 1.0Ev + 1.0Eh (120 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	0.866	ELZ	-0.5	ELX	0.866
69 0.9D - 1.0Ev + 1.0Eh (150 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	0.5	ELZ	-0.866	ELX	0.5
70 0.9D - 1.0Ev + 1.0Eh (180 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX	
71 0.9D - 1.0Ev + 1.0Eh (210 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.866	83	-0.5	ELZ	-0.866	ELX	-0.5
72 0.9D - 1.0Ev + 1.0Eh (240 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	-0.5	83	-0.866	ELZ	-0.5	ELX	-0.866
73 0.9D - 1.0Ev + 1.0Eh (270 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1
74 0.9D - 1.0Ev + 1.0Eh (300 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.5	83	-0.866	ELZ	0.5	ELX	-0.866
75 0.9D - 1.0Ev + 1.0Eh (330 Deg)	Yes	Y	1	0.9	39	0.9	81	-1	ELY	-1	82	0.866	83	-0.5	ELZ	0.866	ELX	-0.5

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	I _{yy} [in ⁴]	I _{zz} [in ⁴]	J [in ⁴]
1	Mount Pipe	PIPE 2.0	Column	Pipe	A53 Gr. B	Typical	1.02	0.627	0.627	1.25
2	Standoff Horizontal	PIPE 2.0	Beam	Pipe	A500 Gr. C 50	Typical	1.02	0.627	0.627	1.25
3	Standoff Vertical	PIPE 2.0	Beam	Pipe	A500 Gr. C 50	Typical	1.02	0.627	0.627	1.25
4	TES Standoff Diagonal	PIPE 1.0	Beam	HSS Pipe	A53 Gr. B	Typical	0.469	0.083	0.083	0.166
5	Face Horizontal	PIPE 2.5	Beam	HSS Pipe	A500 Gr. C 50	Typical	1.61	1.45	1.45	2.89
6	Mod Tieback	PIPE 2.0	Beam	Pipe	A53 Gr. B	Typical	1.02	0.627	0.627	1.25
7	Standoff Bar	PL3/8X3	Column	RECT	A36 Gr.36	Typical	1.125	0.013	0.844	0.049
8	Standoff Diagonal	HSS1.500X.06	Column	HSS Pipe	A500 Gr. C 50	Typical	0.282	0.073	0.073	0.146
9	Dish Tieback	PIPE 1.5	Beam	HSS Pipe	A53 Gr. B	Typical	0.749	0.293	0.293	0.586

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	N1	-0.166667	0	0.166667	
2	N5	-0.166667	-3.416667	0.166667	
3	N10	-4.5	0	4.583333	
4	N11	4.166667	0	4.583333	
5	N11A	-6.25	0	4.583333	
6	N12	5.916667	0	4.583333	
7	N14	-4.5	-3.416667	4.583333	
8	N15	4.166667	-3.416667	4.583333	
9	N16	-6.25	-3.416667	4.583333	
10	N17	5.916667	-3.416667	4.583333	
11	N17A	-0.341752	0	0.345119	
12	N18	0.008419	0	0.345119	
13	N19	-0.341752	-3.416667	0.345119	
14	N20	0.008419	-3.416667	0.345119	
15	N21	0.38777	0	0.731765	
16	N22	0.38777	-3.416667	0.731765	
17	N23	2.08026	0	2.456803	
18	N24	2.08026	-3.416667	2.456803	
19	N25	3.77275	0	4.181841	
20	N26	3.77275	-3.416667	4.181841	
21	N27	0.38777	-3.291667	0.731765	
22	N28	2.08026	-3.291667	2.456803	
23	N29	0.38777	-0.125	0.731765	
24	N30	2.08026	-0.125	2.456803	
25	N31	3.77275	-2.916667	4.181841	
26	N32	3.77275	-0.5	4.181841	
27	N33	-0.721103	0	0.731765	
28	N34	-0.721103	-3.416667	0.731765	
29	N35	-2.413593	0	2.456803	
30	N36	-2.413593	-3.416667	2.456803	
31	N37	-4.106083	0	4.181841	
32	N38	-4.106083	-3.416667	4.181841	
33	N39	-0.721103	-3.291667	0.731765	
34	N40	-2.413593	-3.291667	2.456803	
35	N41	-0.721103	-0.125	0.731765	
36	N42	-2.413593	-0.125	2.456803	
37	N43	-4.106083	-2.916667	4.181841	
38	N44	-4.106083	-0.5	4.181841	
39	N62	5.666667	0	4.583333	
40	N63	5.666667	-3.416667	4.583333	
41	N64	5.666667	0	4.833333	
42	N65A	5.666667	-3.416667	4.833333	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
43	N68	5.666667	3.166667	4.833333	
44	N71	5.666667	-4.916667	4.833333	
45	N45	2	0	4.583333	
46	N46	2	-3.416667	4.583333	
47	N47	2	0	4.833333	
48	N48	2	-3.416667	4.833333	
49	N49	2	3.166667	4.833333	
50	N50	2	-4.916667	4.833333	
51	N51	-1.083333	0	4.583333	
52	N52	-1.083333	-3.416667	4.583333	
53	N53	-1.083333	0	4.833333	
54	N54	-1.083333	-3.416667	4.833333	
55	N55	-1.083333	2	4.833333	
56	N56	-1.083333	-4.916667	4.833333	
57	N57	-6	0	4.583333	
58	N58	-6	-3.416667	4.583333	
59	N59	-6	0	4.833333	
60	N60	-6	-3.416667	4.833333	
61	N61	-6	3.166667	4.833333	
62	N65	-6	-4.916667	4.833333	
63	N66	-5.25	-3.416667	4.583333	
64	N69	-2.166667	-3	-3.297435	
65	N67	-1.083333	-2.25	4.833333	
66	N70	0.326206	-2.25	5.346364	
67	N72	-0.166667	-2.25	0.166667	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N5	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N69	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N72	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [$10^{-6}/^{\circ}\text{F}$]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2
2	A53 Gr. B	29000	11154	0.3	0.65	0.49	35	1.5	60	1.2
3	A572 Gr. 50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
5	A500 Gr. B 42	29000	11154	0.3	0.65	0.49	42	1.4	58	1.3
6	A500 Gr. B 46	29000	11154	0.3	0.65	0.49	46	1.4	58	1.3
7	A500 Gr. C 50	29000	11154	0.3	0.65	0.49	50	1.5	62	1.1

Member Primary Data

	Label	I Node	J Node	K Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	M5	N1	N17A		90	Standoff Bar	Column	RECT	A36 Gr.36	Typical
2	M6	N1	N18		90	Standoff Bar	Column	RECT	A36 Gr.36	Typical
3	M7	N11A	N12			Face Horizontal	Beam	HSS Pipe	A500 Gr. C 50	Typical
4	M8	N5	N19		90	Standoff Bar	Column	RECT	A36 Gr.36	Typical
5	M9	N5	N20		90	Standoff Bar	Column	RECT	A36 Gr.36	Typical
6	M10	N16	N17			Face Horizontal	Beam	HSS Pipe	A500 Gr. C 50	Typical
7	M11	N17A	N10			Standoff Horizontal	Beam	Pipe	A500 Gr. C 50	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	K Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
8	M12	N18	N11			Standoff Horizontal	Beam	Pipe	A500 Gr. C 50	Typical
9	M13	N19	N14			Standoff Horizontal	Beam	Pipe	A500 Gr. C 50	Typical
10	M14	N20	N15			Standoff Horizontal	Beam	Pipe	A500 Gr. C 50	Typical
11	M15	N21	N29	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
12	M16	N29	N28		90	Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
13	M17	N23	N30	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
14	M18	N30	N26		90	Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
15	M19	N26	N31	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
16	M20	N27	N22	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
17	M21	N28	N24	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
18	M22	N29	N27	N1		Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
19	M23	N30	N28	N1		Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
20	M24	N31	N32	N1		Standoff Vertical	Beam	Pipe	A500 Gr. C 50	Typical
21	M25	N32	N25	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
22	M26	N33	N41	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
23	M27	N33	N36		90	Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
24	M28	N35	N42	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
25	M29	N35	N38		90	Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
26	M30	N38	N43	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
27	M31	N39	N34	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
28	M32	N40	N36	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
29	M33	N41	N39	N1		Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
30	M34	N42	N40	N1		Standoff Diagonal	Column	HSS Pipe	A500 Gr. C 50	Typical
31	M35	N43	N44	N1		Standoff Vertical	Beam	Pipe	A500 Gr. C 50	Typical
32	M36	N44	N37	N1		Standoff Bar	Column	RECT	A36 Gr.36	Typical
33	M45	N62	N64			RIGID	None	None	RIGID	Typical
34	M46	N63	N65A			RIGID	None	None	RIGID	Typical
35	MP1A	N68	N71			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
36	M37	N45	N47			RIGID	None	None	RIGID	Typical
37	M38	N46	N48			RIGID	None	None	RIGID	Typical
38	MP2A	N49	N50			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
39	M40	N51	N53			RIGID	None	None	RIGID	Typical
40	M41	N52	N54			RIGID	None	None	RIGID	Typical
41	MP3A	N55	N56			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
42	M43	N57	N59			RIGID	None	None	RIGID	Typical
43	M44	N58	N60			RIGID	None	None	RIGID	Typical
44	MP4A	N61	N65			Mount Pipe	Column	Pipe	A53 Gr. B	Typical
45	M47	N66	N69			Mod Tieback	Beam	Pipe	A53 Gr. B	Typical
46	M48	N67	N70			RIGID	None	None	RIGID	Typical
47	M49	N70	N72			Dish Tieback	Beam	HSS Pipe	A53 Gr. B	Typical

Member Advanced Data

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
1	M5	BenPIN			Yes	** NA **	None
2	M6	BenPIN			Yes	** NA **	None
3	M7				Yes	N/A	None
4	M8	BenPIN			Yes	** NA **	None
5	M9	BenPIN			Yes	** NA **	None
6	M10				Yes	N/A	None
7	M11				Yes	N/A	None
8	M12				Yes	N/A	None
9	M13				Yes	N/A	None
10	M14				Yes	N/A	None
11	M15	OOOOOX			Yes	** NA **	None
12	M16	BenPIN	BenPIN		Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	Physical	Deflection Ratio Options	Seismic DR
13	M17	OOOOOX			Yes	** NA **	None
14	M18	BenPIN	BenPIN		Yes	** NA **	None
15	M19	OOOOOX			Yes	** NA **	None
16	M20		OOOOOX		Yes	** NA **	None
17	M21		OOOOOX		Yes	** NA **	None
18	M22				Yes	** NA **	None
19	M23				Yes	** NA **	None
20	M24				Yes	N/A	None
21	M25		OOOOOX		Yes	** NA **	None
22	M26	OOOOOX			Yes	** NA **	None
23	M27	BenPIN	BenPIN		Yes	** NA **	None
24	M28	OOOOOX			Yes	** NA **	None
25	M29	BenPIN	BenPIN		Yes	** NA **	None
26	M30	OOOOOX			Yes	** NA **	None
27	M31		OOOOOX		Yes	** NA **	None
28	M32		OOOOOX		Yes	** NA **	None
29	M33				Yes	** NA **	None
30	M34				Yes	** NA **	None
31	M35				Yes	N/A	None
32	M36		OOOOOX		Yes	** NA **	None
33	M45				Yes	** NA **	None
34	M46				Yes	** NA **	None
35	MP1A				Yes	** NA **	None
36	M37				Yes	** NA **	None
37	M38				Yes	** NA **	None
38	MP2A				Yes	** NA **	None
39	M40				Yes	** NA **	None
40	M41				Yes	** NA **	None
41	MP3A				Yes	** NA **	None
42	M43				Yes	** NA **	None
43	M44				Yes	** NA **	None
44	MP4A				Yes	** NA **	None
45	M47	BenPIN	BenPIN		Yes	Default	None
46	M48				Yes	** NA **	None
47	M49	BenPIN	BenPIN		Yes	Default	None

Member Point Loads (BLC 1 : Antenna D)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	Y	-35.5	2.25
2	MP4A	My	-0.035	2.25
3	MP4A	Mz	0	2.25
4	MP4A	Y	-35.5	4.25
5	MP4A	My	-0.035	4.25
6	MP4A	Mz	0	4.25
7	MP3A	Y	-53	4.25
8	MP3A	My	-0.05	4.25
9	MP3A	Mz	-0.05	4.25
10	MP3A	Y	-10.4	4
11	MP3A	My	-0.002	4
12	MP3A	Mz	-0.002	4
13	MP1A	Y	-68.4	1
14	MP1A	My	0.034	1
15	MP1A	Mz	0	1
16	MP2A	Y	-55	2.25
17	MP2A	My	0.009	2.25

Member Point Loads (BLC 1 : Antenna D) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
18	MP2A	Mz	0.026	2.25
19	MP2A	Y	-55	4.25
20	MP2A	My	0.009	4.25
21	MP2A	Mz	0.026	4.25
22	MP1A	Y	-56.2	1.66
23	MP1A	My	0.023	1.66
24	MP1A	Mz	-0.041	1.66
25	MP1A	Y	-56.2	5.5
26	MP1A	My	0.023	5.5
27	MP1A	Mz	-0.041	5.5

Member Point Loads (BLC 2 : Antenna Di)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	Y	-0.032	2.25
2	MP4A	My	-3.2e-5	2.25
3	MP4A	Mz	0	2.25
4	MP4A	Y	-0.032	4.25
5	MP4A	My	-3.2e-5	4.25
6	MP4A	Mz	0	4.25
7	MP3A	Y	62.148	4.25
8	MP3A	My	0.059	4.25
9	MP3A	Mz	0.059	4.25
10	MP3A	Y	-0.009	4
11	MP3A	My	-2e-6	4
12	MP3A	Mz	-2e-6	4
13	MP1A	Y	-0.046	1
14	MP1A	My	2.3e-5	1
15	MP1A	Mz	0	1
16	MP2A	Y	-0.071	2.25
17	MP2A	My	1.2e-5	2.25
18	MP2A	Mz	3.4e-5	2.25
19	MP2A	Y	-0.071	4.25
20	MP2A	My	1.2e-5	4.25
21	MP2A	Mz	3.4e-5	4.25
22	MP1A	Y	-0.11	1.66
23	MP1A	My	4.6e-5	1.66
24	MP1A	Mz	-7.9e-5	1.66
25	MP1A	Y	-0.11	5.5
26	MP1A	My	4.6e-5	5.5
27	MP1A	Mz	-7.9e-5	5.5

Member Point Loads (BLC 3 : Antenna Wo (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	-83.752	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	-83.752	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	-378.977	4.25
9	MP3A	Mx	0.357	4.25
10	MP3A	X	0	4

Member Point Loads (BLC 3 : Antenna Wo (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP3A	Z	-19.812	4
12	MP3A	Mx	0.004	4
13	MP1A	X	0	1
14	MP1A	Z	-113.63	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	-94.788	2.25
18	MP2A	Mx	-0.045	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	-94.788	4.25
21	MP2A	Mx	-0.045	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	-218.227	1.66
24	MP1A	Mx	0.157	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	-218.227	5.5
27	MP1A	Mx	0.157	5.5

Member Point Loads (BLC 4 : Antenna Wo (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	36.642	2.25
2	MP4A	Z	-63.465	2.25
3	MP4A	Mx	-0.037	2.25
4	MP4A	X	36.642	4.25
5	MP4A	Z	-63.465	4.25
6	MP4A	Mx	-0.037	4.25
7	MP3A	X	245.379	4.25
8	MP3A	Z	-425.009	4.25
9	MP3A	Mx	0.169	4.25
10	MP3A	X	13.483	4
11	MP3A	Z	-23.353	4
12	MP3A	Mx	0.002	4
13	MP1A	X	49.089	1
14	MP1A	Z	-85.025	1
15	MP1A	Mx	0.025	1
16	MP2A	X	69.23	2.25
17	MP2A	Z	-119.91	2.25
18	MP2A	Mx	-0.044	2.25
19	MP2A	X	69.23	4.25
20	MP2A	Z	-119.91	4.25
21	MP2A	Mx	-0.044	4.25
22	MP1A	X	39.818	1.66
23	MP1A	Z	-68.967	1.66
24	MP1A	Mx	0.066	1.66
25	MP1A	X	39.818	5.5
26	MP1A	Z	-68.967	5.5
27	MP1A	Mx	0.066	5.5

Member Point Loads (BLC 5 : Antenna Wo (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	45.332	2.25
2	MP4A	Z	-26.173	2.25
3	MP4A	Mx	-0.045	2.25

Member Point Loads (BLC 5 : Antenna Wo (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
4	MP4A	X	45.332	4.25
5	MP4A	Z	-26.173	4.25
6	MP4A	Mx	-0.045	4.25
7	MP3A	X	425.009	4.25
8	MP3A	Z	-245.379	4.25
9	MP3A	Mx	-0.169	4.25
10	MP3A	X	23.353	4
11	MP3A	Z	-13.483	4
12	MP3A	Mx	-0.002	4
13	MP1A	X	58.262	1
14	MP1A	Z	-33.637	1
15	MP1A	Mx	0.029	1
16	MP2A	X	150.742	2.25
17	MP2A	Z	-87.031	2.25
18	MP2A	Mx	-0.015	2.25
19	MP2A	X	150.742	4.25
20	MP2A	Z	-87.031	4.25
21	MP2A	Mx	-0.015	4.25
22	MP1A	X	150.287	1.66
23	MP1A	Z	-86.768	1.66
24	MP1A	Mx	0.125	1.66
25	MP1A	X	150.287	5.5
26	MP1A	Z	-86.768	5.5
27	MP1A	Mx	0.125	5.5

Member Point Loads (BLC 6 : Antenna Wo (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	41.876	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	-0.042	2.25
4	MP4A	X	41.876	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	-0.042	4.25
7	MP3A	X	378.977	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	-0.357	4.25
10	MP3A	X	19.812	4
11	MP3A	Z	0	4
12	MP3A	Mx	-0.004	4
13	MP1A	X	51.823	1
14	MP1A	Z	0	1
15	MP1A	Mx	0.026	1
16	MP2A	X	165.991	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0.028	2.25
19	MP2A	X	165.991	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0.028	4.25
22	MP1A	X	280.748	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0.117	1.66
25	MP1A	X	280.748	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0.117	5.5

Member Point Loads (BLC 7 : Antenna Wo (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	45.332	2.25
2	MP4A	Z	26.173	2.25
3	MP4A	Mx	-0.045	2.25
4	MP4A	X	45.332	4.25
5	MP4A	Z	26.173	4.25
6	MP4A	Mx	-0.045	4.25
7	MP3A	X	231.398	4.25
8	MP3A	Z	133.598	4.25
9	MP3A	Mx	-0.344	4.25
10	MP3A	X	10.962	4
11	MP3A	Z	6.329	4
12	MP3A	Mx	-0.003	4
13	MP1A	X	58.262	1
14	MP1A	Z	33.637	1
15	MP1A	Mx	0.029	1
16	MP2A	X	105.932	2.25
17	MP2A	Z	61.16	2.25
18	MP2A	Mx	0.047	2.25
19	MP2A	X	105.932	4.25
20	MP2A	Z	61.16	4.25
21	MP2A	Mx	0.047	4.25
22	MP1A	X	198.666	1.66
23	MP1A	Z	114.7	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	198.666	5.5
26	MP1A	Z	114.7	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 8 : Antenna Wo (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	36.642	2.25
2	MP4A	Z	63.465	2.25
3	MP4A	Mx	-0.037	2.25
4	MP4A	X	36.642	4.25
5	MP4A	Z	63.465	4.25
6	MP4A	Mx	-0.037	4.25
7	MP3A	X	133.598	4.25
8	MP3A	Z	231.398	4.25
9	MP3A	Mx	-0.344	4.25
10	MP3A	X	6.329	4
11	MP3A	Z	10.962	4
12	MP3A	Mx	-0.003	4
13	MP1A	X	49.089	1
14	MP1A	Z	85.025	1
15	MP1A	Mx	0.025	1
16	MP2A	X	43.359	2.25
17	MP2A	Z	75.1	2.25
18	MP2A	Mx	0.043	2.25
19	MP2A	X	43.359	4.25
20	MP2A	Z	75.1	4.25
21	MP2A	Mx	0.043	4.25
22	MP1A	X	140.374	1.66
23	MP1A	Z	243.135	1.66
24	MP1A	Mx	-0.117	1.66

Member Point Loads (BLC 8 : Antenna Wo (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
25	MP1A	X	140.374	5.5
26	MP1A	Z	243.135	5.5
27	MP1A	Mx	-0.117	5.5

Member Point Loads (BLC 9 : Antenna Wo (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	83.752	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	83.752	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	378.977	4.25
9	MP3A	Mx	-0.357	4.25
10	MP3A	X	0	4
11	MP3A	Z	19.812	4
12	MP3A	Mx	-0.004	4
13	MP1A	X	0	1
14	MP1A	Z	113.63	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	94.788	2.25
18	MP2A	Mx	0.045	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	94.788	4.25
21	MP2A	Mx	0.045	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	173.536	1.66
24	MP1A	Mx	-0.125	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	173.536	5.5
27	MP1A	Mx	-0.125	5.5

Member Point Loads (BLC 10 : Antenna Wo (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-36.642	2.25
2	MP4A	Z	63.465	2.25
3	MP4A	Mx	0.037	2.25
4	MP4A	X	-36.642	4.25
5	MP4A	Z	63.465	4.25
6	MP4A	Mx	0.037	4.25
7	MP3A	X	-245.379	4.25
8	MP3A	Z	425.009	4.25
9	MP3A	Mx	-0.169	4.25
10	MP3A	X	-13.483	4
11	MP3A	Z	23.353	4
12	MP3A	Mx	-0.002	4
13	MP1A	X	-49.089	1
14	MP1A	Z	85.025	1
15	MP1A	Mx	-0.025	1
16	MP2A	X	-69.23	2.25
17	MP2A	Z	119.91	2.25

Member Point Loads (BLC 10 : Antenna Wo (210 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
18	MP2A	Mx	0.044	2.25
19	MP2A	X	-69.23	4.25
20	MP2A	Z	119.91	4.25
21	MP2A	Mx	0.044	4.25
22	MP1A	X	-39.818	1.66
23	MP1A	Z	68.967	1.66
24	MP1A	Mx	-0.066	1.66
25	MP1A	X	-39.818	5.5
26	MP1A	Z	68.967	5.5
27	MP1A	Mx	-0.066	5.5

Member Point Loads (BLC 11 : Antenna Wo (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-45.332	2.25
2	MP4A	Z	26.173	2.25
3	MP4A	Mx	0.045	2.25
4	MP4A	X	-45.332	4.25
5	MP4A	Z	26.173	4.25
6	MP4A	Mx	0.045	4.25
7	MP3A	X	-425.009	4.25
8	MP3A	Z	245.379	4.25
9	MP3A	Mx	0.169	4.25
10	MP3A	X	-23.353	4
11	MP3A	Z	13.483	4
12	MP3A	Mx	0.002	4
13	MP1A	X	-58.262	1
14	MP1A	Z	33.637	1
15	MP1A	Mx	-0.029	1
16	MP2A	X	-150.742	2.25
17	MP2A	Z	87.031	2.25
18	MP2A	Mx	0.015	2.25
19	MP2A	X	-150.742	4.25
20	MP2A	Z	87.031	4.25
21	MP2A	Mx	0.015	4.25
22	MP1A	X	-188.99	1.66
23	MP1A	Z	109.114	1.66
24	MP1A	Mx	-0.157	1.66
25	MP1A	X	-188.99	5.5
26	MP1A	Z	109.114	5.5
27	MP1A	Mx	-0.157	5.5

Member Point Loads (BLC 12 : Antenna Wo (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-41.876	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0.042	2.25
4	MP4A	X	-41.876	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0.042	4.25
7	MP3A	X	-378.977	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0.357	4.25
10	MP3A	X	-19.812	4

Member Point Loads (BLC 12 : Antenna Wo (270 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP3A	Z	0	4
12	MP3A	Mx	0.004	4
13	MP1A	X	-51.823	1
14	MP1A	Z	0	1
15	MP1A	Mx	-0.026	1
16	MP2A	X	-165.991	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	-0.028	2.25
19	MP2A	X	-165.991	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	-0.028	4.25
22	MP1A	X	-272.428	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	-0.114	1.66
25	MP1A	X	-272.428	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	-0.114	5.5

Member Point Loads (BLC 13 : Antenna Wo (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-45.332	2.25
2	MP4A	Z	-26.173	2.25
3	MP4A	Mx	0.045	2.25
4	MP4A	X	-45.332	4.25
5	MP4A	Z	-26.173	4.25
6	MP4A	Mx	0.045	4.25
7	MP3A	X	-231.398	4.25
8	MP3A	Z	-133.598	4.25
9	MP3A	Mx	0.344	4.25
10	MP3A	X	-10.962	4
11	MP3A	Z	-6.329	4
12	MP3A	Mx	0.003	4
13	MP1A	X	-58.262	1
14	MP1A	Z	-33.637	1
15	MP1A	Mx	-0.029	1
16	MP2A	X	-105.932	2.25
17	MP2A	Z	-61.16	2.25
18	MP2A	Mx	-0.047	2.25
19	MP2A	X	-105.932	4.25
20	MP2A	Z	-61.16	4.25
21	MP2A	Mx	-0.047	4.25
22	MP1A	X	-163.462	1.66
23	MP1A	Z	-94.375	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	-163.462	5.5
26	MP1A	Z	-94.375	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 14 : Antenna Wo (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-36.642	2.25
2	MP4A	Z	-63.465	2.25
3	MP4A	Mx	0.037	2.25

Member Point Loads (BLC 14 : Antenna Wo (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
4	MP4A	X	-36.642	4.25
5	MP4A	Z	-63.465	4.25
6	MP4A	Mx	0.037	4.25
7	MP3A	X	-133.598	4.25
8	MP3A	Z	-231.398	4.25
9	MP3A	Mx	0.344	4.25
10	MP3A	X	-6.329	4
11	MP3A	Z	-10.962	4
12	MP3A	Mx	0.003	4
13	MP1A	X	-49.089	1
14	MP1A	Z	-85.025	1
15	MP1A	Mx	-0.025	1
16	MP2A	X	-43.359	2.25
17	MP2A	Z	-75.1	2.25
18	MP2A	Mx	-0.043	2.25
19	MP2A	X	-43.359	4.25
20	MP2A	Z	-75.1	4.25
21	MP2A	Mx	-0.043	4.25
22	MP1A	X	-136.214	1.66
23	MP1A	Z	-235.929	1.66
24	MP1A	Mx	0.114	1.66
25	MP1A	X	-136.214	5.5
26	MP1A	Z	-235.929	5.5
27	MP1A	Mx	0.114	5.5

Member Point Loads (BLC 15 : Antenna Wi (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 16 : Antenna Wi (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 17 : Antenna Wi (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66

Member Point Loads (BLC 17 : Antenna Wi (60 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 18 : Antenna Wi (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 19 : Antenna Wi (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25

Member Point Loads (BLC 19 : Antenna Wi (120 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 20 : Antenna Wi (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 21 : Antenna Wi (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4

Member Point Loads (BLC 21 : Antenna Wi (180 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 22 : Antenna Wi (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 23 : Antenna Wi (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25

Member Point Loads (BLC 23 : Antenna Wi (240 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 24 : Antenna Wi (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 25 : Antenna Wi (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 26 : Antenna Wi (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0	4.25
10	MP3A	X	0	4
11	MP3A	Z	0	4
12	MP3A	Mx	0	4
13	MP1A	X	0	1
14	MP1A	Z	0	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0	1.66

Member Point Loads (BLC 26 : Antenna Wi (330 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
25	MP1A	X	0	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 27 : Antenna Wm (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	-5.235	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	-5.235	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	-23.686	4.25
9	MP3A	Mx	0.022	4.25
10	MP3A	X	0	4
11	MP3A	Z	-1.238	4
12	MP3A	Mx	0.000219	4
13	MP1A	X	0	1
14	MP1A	Z	-7.102	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	-5.924	2.25
18	MP2A	Mx	-0.003	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	-5.924	4.25
21	MP2A	Mx	-0.003	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	-7.317	1.66
24	MP1A	Mx	0.005	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	-7.317	5.5
27	MP1A	Mx	0.005	5.5

Member Point Loads (BLC 28 : Antenna Wm (30 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.29	2.25
2	MP4A	Z	-3.967	2.25
3	MP4A	Mx	-0.002	2.25
4	MP4A	X	2.29	4.25
5	MP4A	Z	-3.967	4.25
6	MP4A	Mx	-0.002	4.25
7	MP3A	X	15.336	4.25
8	MP3A	Z	-26.563	4.25
9	MP3A	Mx	0.011	4.25
10	MP3A	X	0.843	4
11	MP3A	Z	-1.46	4
12	MP3A	Mx	0.000109	4
13	MP1A	X	3.068	1
14	MP1A	Z	-5.314	1
15	MP1A	Mx	0.002	1
16	MP2A	X	4.327	2.25
17	MP2A	Z	-7.494	2.25

Member Point Loads (BLC 28 : Antenna Wm (30 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
18	MP2A	Mx	-0.003	2.25
19	MP2A	X	4.327	4.25
20	MP2A	Z	-7.494	4.25
21	MP2A	Mx	-0.003	4.25
22	MP1A	X	2.489	1.66
23	MP1A	Z	-4.31	1.66
24	MP1A	Mx	0.004	1.66
25	MP1A	X	2.489	5.5
26	MP1A	Z	-4.31	5.5
27	MP1A	Mx	0.004	5.5

Member Point Loads (BLC 29 : Antenna Wm (60 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.833	2.25
2	MP4A	Z	-1.636	2.25
3	MP4A	Mx	-0.003	2.25
4	MP4A	X	2.833	4.25
5	MP4A	Z	-1.636	4.25
6	MP4A	Mx	-0.003	4.25
7	MP3A	X	26.563	4.25
8	MP3A	Z	-15.336	4.25
9	MP3A	Mx	-0.011	4.25
10	MP3A	X	1.46	4
11	MP3A	Z	-0.843	4
12	MP3A	Mx	-0.000109	4
13	MP1A	X	3.641	1
14	MP1A	Z	-2.102	1
15	MP1A	Mx	0.002	1
16	MP2A	X	9.421	2.25
17	MP2A	Z	-5.439	2.25
18	MP2A	Mx	-0.000944	2.25
19	MP2A	X	9.421	4.25
20	MP2A	Z	-5.439	4.25
21	MP2A	Mx	-0.000944	4.25
22	MP1A	X	6.337	1.66
23	MP1A	Z	-3.659	1.66
24	MP1A	Mx	0.005	1.66
25	MP1A	X	6.337	5.5
26	MP1A	Z	-3.659	5.5
27	MP1A	Mx	0.005	5.5

Member Point Loads (BLC 30 : Antenna Wm (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.617	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	-0.003	2.25
4	MP4A	X	2.617	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	-0.003	4.25
7	MP3A	X	23.686	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	-0.022	4.25
10	MP3A	X	1.238	4

Member Point Loads (BLC 30 : Antenna Wm (90 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
11	MP3A	Z	0	4
12	MP3A	Mx	-0.000219	4
13	MP1A	X	3.239	1
14	MP1A	Z	0	1
15	MP1A	Mx	0.002	1
16	MP2A	X	10.374	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	0.002	2.25
19	MP2A	X	10.374	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	0.002	4.25
22	MP1A	X	11.997	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	0.005	1.66
25	MP1A	X	11.997	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	0.005	5.5

Member Point Loads (BLC 31 : Antenna Wm (120 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.833	2.25
2	MP4A	Z	1.636	2.25
3	MP4A	Mx	-0.003	2.25
4	MP4A	X	2.833	4.25
5	MP4A	Z	1.636	4.25
6	MP4A	Mx	-0.003	4.25
7	MP3A	X	14.462	4.25
8	MP3A	Z	8.35	4.25
9	MP3A	Mx	-0.022	4.25
10	MP3A	X	0.685	4
11	MP3A	Z	0.396	4
12	MP3A	Mx	-0.000191	4
13	MP1A	X	3.641	1
14	MP1A	Z	2.102	1
15	MP1A	Mx	0.002	1
16	MP2A	X	6.621	2.25
17	MP2A	Z	3.822	2.25
18	MP2A	Mx	0.003	2.25
19	MP2A	X	6.621	4.25
20	MP2A	Z	3.822	4.25
21	MP2A	Mx	0.003	4.25
22	MP1A	X	12.417	1.66
23	MP1A	Z	7.169	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	12.417	5.5
26	MP1A	Z	7.169	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 32 : Antenna Wm (150 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.29	2.25
2	MP4A	Z	3.967	2.25
3	MP4A	Mx	-0.002	2.25

Member Point Loads (BLC 32 : Antenna Wm (150 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
4	MP4A	X	2.29	4.25
5	MP4A	Z	3.967	4.25
6	MP4A	Mx	-0.002	4.25
7	MP3A	X	8.35	4.25
8	MP3A	Z	14.462	4.25
9	MP3A	Mx	-0.022	4.25
10	MP3A	X	0.396	4
11	MP3A	Z	0.685	4
12	MP3A	Mx	-0.000191	4
13	MP1A	X	3.068	1
14	MP1A	Z	5.314	1
15	MP1A	Mx	0.002	1
16	MP2A	X	2.71	2.25
17	MP2A	Z	4.694	2.25
18	MP2A	Mx	0.003	2.25
19	MP2A	X	2.71	4.25
20	MP2A	Z	4.694	4.25
21	MP2A	Mx	0.003	4.25
22	MP1A	X	5.999	1.66
23	MP1A	Z	10.39	1.66
24	MP1A	Mx	-0.005	1.66
25	MP1A	X	5.999	5.5
26	MP1A	Z	10.39	5.5
27	MP1A	Mx	-0.005	5.5

Member Point Loads (BLC 33 : Antenna Wm (180 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	0	2.25
2	MP4A	Z	5.235	2.25
3	MP4A	Mx	0	2.25
4	MP4A	X	0	4.25
5	MP4A	Z	5.235	4.25
6	MP4A	Mx	0	4.25
7	MP3A	X	0	4.25
8	MP3A	Z	23.686	4.25
9	MP3A	Mx	-0.022	4.25
10	MP3A	X	0	4
11	MP3A	Z	1.238	4
12	MP3A	Mx	-0.000219	4
13	MP1A	X	0	1
14	MP1A	Z	7.102	1
15	MP1A	Mx	0	1
16	MP2A	X	0	2.25
17	MP2A	Z	5.924	2.25
18	MP2A	Mx	0.003	2.25
19	MP2A	X	0	4.25
20	MP2A	Z	5.924	4.25
21	MP2A	Mx	0.003	4.25
22	MP1A	X	0	1.66
23	MP1A	Z	7.317	1.66
24	MP1A	Mx	-0.005	1.66
25	MP1A	X	0	5.5
26	MP1A	Z	7.317	5.5
27	MP1A	Mx	-0.005	5.5

Member Point Loads (BLC 34 : Antenna Wm (210 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-2.29	2.25
2	MP4A	Z	3.967	2.25
3	MP4A	Mx	0.002	2.25
4	MP4A	X	-2.29	4.25
5	MP4A	Z	3.967	4.25
6	MP4A	Mx	0.002	4.25
7	MP3A	X	-15.336	4.25
8	MP3A	Z	26.563	4.25
9	MP3A	Mx	-0.011	4.25
10	MP3A	X	-0.843	4
11	MP3A	Z	1.46	4
12	MP3A	Mx	-0.000109	4
13	MP1A	X	-3.068	1
14	MP1A	Z	5.314	1
15	MP1A	Mx	-0.002	1
16	MP2A	X	-4.327	2.25
17	MP2A	Z	7.494	2.25
18	MP2A	Mx	0.003	2.25
19	MP2A	X	-4.327	4.25
20	MP2A	Z	7.494	4.25
21	MP2A	Mx	0.003	4.25
22	MP1A	X	-2.489	1.66
23	MP1A	Z	4.31	1.66
24	MP1A	Mx	-0.004	1.66
25	MP1A	X	-2.489	5.5
26	MP1A	Z	4.31	5.5
27	MP1A	Mx	-0.004	5.5

Member Point Loads (BLC 35 : Antenna Wm (240 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-2.833	2.25
2	MP4A	Z	1.636	2.25
3	MP4A	Mx	0.003	2.25
4	MP4A	X	-2.833	4.25
5	MP4A	Z	1.636	4.25
6	MP4A	Mx	0.003	4.25
7	MP3A	X	-26.563	4.25
8	MP3A	Z	15.336	4.25
9	MP3A	Mx	0.011	4.25
10	MP3A	X	-1.46	4
11	MP3A	Z	0.843	4
12	MP3A	Mx	0.000109	4
13	MP1A	X	-3.641	1
14	MP1A	Z	2.102	1
15	MP1A	Mx	-0.002	1
16	MP2A	X	-9.421	2.25
17	MP2A	Z	5.439	2.25
18	MP2A	Mx	0.000944	2.25
19	MP2A	X	-9.421	4.25
20	MP2A	Z	5.439	4.25
21	MP2A	Mx	0.000944	4.25
22	MP1A	X	-6.337	1.66
23	MP1A	Z	3.659	1.66
24	MP1A	Mx	-0.005	1.66

Member Point Loads (BLC 35 : Antenna Wm (240 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
25	MP1A	X	-6.337	5.5
26	MP1A	Z	3.659	5.5
27	MP1A	Mx	-0.005	5.5

Member Point Loads (BLC 36 : Antenna Wm (270 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-2.617	2.25
2	MP4A	Z	0	2.25
3	MP4A	Mx	0.003	2.25
4	MP4A	X	-2.617	4.25
5	MP4A	Z	0	4.25
6	MP4A	Mx	0.003	4.25
7	MP3A	X	-23.686	4.25
8	MP3A	Z	0	4.25
9	MP3A	Mx	0.022	4.25
10	MP3A	X	-1.238	4
11	MP3A	Z	0	4
12	MP3A	Mx	0.000219	4
13	MP1A	X	-3.239	1
14	MP1A	Z	0	1
15	MP1A	Mx	-0.002	1
16	MP2A	X	-10.374	2.25
17	MP2A	Z	0	2.25
18	MP2A	Mx	-0.002	2.25
19	MP2A	X	-10.374	4.25
20	MP2A	Z	0	4.25
21	MP2A	Mx	-0.002	4.25
22	MP1A	X	-11.997	1.66
23	MP1A	Z	0	1.66
24	MP1A	Mx	-0.005	1.66
25	MP1A	X	-11.997	5.5
26	MP1A	Z	0	5.5
27	MP1A	Mx	-0.005	5.5

Member Point Loads (BLC 37 : Antenna Wm (300 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-2.833	2.25
2	MP4A	Z	-1.636	2.25
3	MP4A	Mx	0.003	2.25
4	MP4A	X	-2.833	4.25
5	MP4A	Z	-1.636	4.25
6	MP4A	Mx	0.003	4.25
7	MP3A	X	-14.462	4.25
8	MP3A	Z	-8.35	4.25
9	MP3A	Mx	0.022	4.25
10	MP3A	X	-0.685	4
11	MP3A	Z	-0.396	4
12	MP3A	Mx	0.000191	4
13	MP1A	X	-3.641	1
14	MP1A	Z	-2.102	1
15	MP1A	Mx	-0.002	1
16	MP2A	X	-6.621	2.25
17	MP2A	Z	-3.822	2.25

Member Point Loads (BLC 37 : Antenna Wm (300 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
18	MP2A	Mx	-0.003	2.25
19	MP2A	X	-6.621	4.25
20	MP2A	Z	-3.822	4.25
21	MP2A	Mx	-0.003	4.25
22	MP1A	X	-12.417	1.66
23	MP1A	Z	-7.169	1.66
24	MP1A	Mx	0	1.66
25	MP1A	X	-12.417	5.5
26	MP1A	Z	-7.169	5.5
27	MP1A	Mx	0	5.5

Member Point Loads (BLC 38 : Antenna Wm (330 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	-2.29	2.25
2	MP4A	Z	-3.967	2.25
3	MP4A	Mx	0.002	2.25
4	MP4A	X	-2.29	4.25
5	MP4A	Z	-3.967	4.25
6	MP4A	Mx	0.002	4.25
7	MP3A	X	-8.35	4.25
8	MP3A	Z	-14.462	4.25
9	MP3A	Mx	0.022	4.25
10	MP3A	X	-0.396	4
11	MP3A	Z	-0.685	4
12	MP3A	Mx	0.000191	4
13	MP1A	X	-3.068	1
14	MP1A	Z	-5.314	1
15	MP1A	Mx	-0.002	1
16	MP2A	X	-2.71	2.25
17	MP2A	Z	-4.694	2.25
18	MP2A	Mx	-0.003	2.25
19	MP2A	X	-2.71	4.25
20	MP2A	Z	-4.694	4.25
21	MP2A	Mx	-0.003	4.25
22	MP1A	X	-5.999	1.66
23	MP1A	Z	-10.39	1.66
24	MP1A	Mx	0.005	1.66
25	MP1A	X	-5.999	5.5
26	MP1A	Z	-10.39	5.5
27	MP1A	Mx	0.005	5.5

Member Point Loads (BLC 77 : Lm1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M46	Y	-500	0

Member Point Loads (BLC 78 : Lm2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M38	Y	-500	0

Member Point Loads (BLC 79 : Lv1)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M10	Y	-250	0

Member Point Loads (BLC 80 : Lv2)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	M10	Y	-250	%50

Member Point Loads (BLC 81 : Antenna Ev)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	Y	-0.909	2.25
2	MP4A	My	-0.000909	2.25
3	MP4A	Mz	0	2.25
4	MP4A	Y	-0.909	4.25
5	MP4A	My	-0.000909	4.25
6	MP4A	Mz	0	4.25
7	MP3A	Y	-1.357	4.25
8	MP3A	My	-0.001	4.25
9	MP3A	Mz	-0.001	4.25
10	MP3A	Y	-0.266	4
11	MP3A	My	-4.7e-5	4
12	MP3A	Mz	-4.7e-5	4
13	MP1A	Y	-1.751	1
14	MP1A	My	0.000876	1
15	MP1A	Mz	0	1
16	MP2A	Y	-1.408	2.25
17	MP2A	My	0.000241	2.25
18	MP2A	Mz	0.000662	2.25
19	MP2A	Y	-1.408	4.25
20	MP2A	My	0.000241	4.25
21	MP2A	Mz	0.000662	4.25
22	MP1A	Y	-1.439	1.66
23	MP1A	My	0.000599	1.66
24	MP1A	Mz	-0.001	1.66
25	MP1A	Y	-1.439	5.5
26	MP1A	My	0.000599	5.5
27	MP1A	Mz	-0.001	5.5

Member Point Loads (BLC 82 : Antenna Eh (0 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	Z	-2.272	2.25
2	MP4A	Mx	0	2.25
3	MP4A	Z	-2.272	4.25
4	MP4A	Mx	0	4.25
5	MP3A	Z	-3.392	4.25
6	MP3A	Mx	0.003	4.25
7	MP3A	Z	-0.666	4
8	MP3A	Mx	0.000118	4
9	MP1A	Z	-4.378	1
10	MP1A	Mx	0	1
11	MP2A	Z	-3.52	2.25
12	MP2A	Mx	-0.002	2.25
13	MP2A	Z	-3.52	4.25

Member Point Loads (BLC 82 : Antenna Eh (0 Deg)) (Continued)

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
14	MP2A	Mx	-0.002	4.25
15	MP1A	Z	-3.597	1.66
16	MP1A	Mx	0.003	1.66
17	MP1A	Z	-3.597	5.5
18	MP1A	Mx	0.003	5.5

Member Point Loads (BLC 83 : Antenna Eh (90 Deg))

	Member Label	Direction	Magnitude [lb, k-ft]	Location [(ft, %)]
1	MP4A	X	2.272	2.25
2	MP4A	Mx	-0.002	2.25
3	MP4A	X	2.272	4.25
4	MP4A	Mx	-0.002	4.25
5	MP3A	X	3.392	4.25
6	MP3A	Mx	-0.003	4.25
7	MP3A	X	0.666	4
8	MP3A	Mx	-0.000118	4
9	MP1A	X	4.378	1
10	MP1A	Mx	0.002	1
11	MP2A	X	3.52	2.25
12	MP2A	Mx	0.000602	2.25
13	MP2A	X	3.52	4.25
14	MP2A	Mx	0.000602	4.25
15	MP1A	X	3.597	1.66
16	MP1A	Mx	0.001	1.66
17	MP1A	X	3.597	5.5
18	MP1A	Mx	0.001	5.5

Member Area Loads

No Data to Print...				
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Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	1496.23	10	924.61	33	396.072	1	0.003	3	0	4	0.035	3
2		min	-1993.655	4	372.504	67	-2789.514	7	-0.013	45	0	9	-0.028	9
3	N5	max	1851.841	9	837.024	46	4236.586	3	0.004	26	0	4	0.04	3
4		min	-1345.168	4	350.082	67	-1910.312	9	-0.011	44	0	10	-0.036	9
5	N69	max	1088.391	3	169.134	4	2973.452	9	0.014	9	0.002	9	0.042	3
6		min	-1157.248	9	-143.611	9	-2880.005	4	-0.016	3	-0.002	3	-0.036	9
7	N72	max	34.117	10	9.275	51	168.17	11	0.005	3	0	75	0.052	3
8		min	-35.711	4	5.791	74	-161.415	5	-0.005	9	0	1	-0.054	9
9	Totals:	max	2279.227	10	1772.187	27	2348.649	1						
10		min	-2295.868	4	744.833	72	-2259.266	7						

Node Reactions

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
1	1	N1	-275.727	500.967	396.072	0.002	0	0.02
2	1	N5	57.437	467.457	2378.539	0.002	0	0.014
3	1	N69	208.654	45.969	-527.085	-0.005	-0.001	0.014
4	1	N72	9.633	7.795	101.122	0.002	0	0.017
5	1	Totals:	-0.003	1022.188	2348.649			
6	1	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
7	2	N1	-1073.168	473.8	70.627	0.001	0	0.026
8	2	N5	-661.878	436.51	3301.635	0.004	0	0.026
9	2	N69	638.471	104.202	-1636.599	-0.01	-0.001	0.027
10	2	N72	9.687	7.678	146.889	0.003	0	0.034
11	2	Totals:	-1086.888	1022.188	1882.552			
12	2	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
13	3	N1	-1739.898	444.304	-288.75	0.003	0	0.035
14	3	N5	-1300.639	403.038	4236.586	0.004	0	0.04
15	3	N69	1088.391	166.909	-2829.181	-0.016	-0.002	0.042
16	3	N72	-16.036	7.937	17.714	0.005	0	0.052
17	3	Totals:	-1968.182	1022.189	1136.368			
18	3	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
19	4	N1	-1993.655	444.692	-997.973	0.003	0	0.032
20	4	N5	-1345.168	400.108	4001.572	0.002	0	0.04
21	4	N69	1078.665	169.134	-2880.005	-0.016	-0.002	0.042
22	4	N72	-35.711	8.255	-123.544	0.005	0	0.049
23	4	Totals:	-2295.868	1022.189	0.049			
24	4	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
25	5	N1	-1608.888	467.852	-1768.526	0	0	0.019
26	5	N5	-895.278	424.939	2865.326	-0.002	0	0.027
27	5	N69	722.139	121.133	-1980.785	-0.011	-0.002	0.029
28	5	N72	-28.721	8.264	-161.415	0.003	0	0.03
29	5	Totals:	-1810.748	1022.188	-1045.4			
30	5	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
31	6	N1	-1109.223	495.126	-2540.241	-0.005	0	0.004
32	6	N5	-344.037	455.103	1569.294	-0.005	0	0.011
33	6	N69	324.561	63.836	-894.038	-0.005	-0.001	0.013
34	6	N72	-12.543	8.122	-111.683	0.001	0	0.009
35	6	Totals:	-1141.241	1022.187	-1976.668			
36	6	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
37	7	N1	-221.397	526.222	-2789.514	-0.007	0	-0.008
38	7	N5	385.926	491.224	260.468	-0.008	0	-0.005
39	7	N69	-153.491	-3.336	385.8	0.001	0	-0.003
40	7	N72	-11.037	8.076	-116.02	-0.001	0	-0.013
41	7	Totals:	0.001	1022.186	-2259.266			
42	7	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
43	8	N1	584.539	557.285	-2554.565	-0.007	0	-0.016
44	8	N5	1146.997	526.438	-805.805	-0.009	0	-0.019
45	8	N69	-635.838	-69.573	1621.568	0.007	0.001	-0.018
46	8	N72	-8.81	8.036	-143.752	-0.003	0	-0.032
47	8	Totals:	1086.887	1022.186	-1882.554			
48	8	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
49	9	N1	1333.557	591.556	-2241.143	-0.009	0	-0.028
50	9	N5	1851.841	566.284	-1910.312	-0.01	0	-0.036
51	9	N69	-1157.248	-143.611	2973.452	0.014	0.002	-0.036
52	9	N72	17.437	7.956	-3.061	-0.005	0	-0.054
53	9	Totals:	2045.588	1022.185	-1181.064			
54	9	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
55	10	N1	1496.23	587.545	-1474.299	-0.008	0	-0.023
56	10	N5	1830.905	563.25	-1501.288	-0.007	0	-0.033
57	10	N69	-1082.026	-136.55	2855.4	0.013	0.002	-0.034
58	10	N72	34.117	7.94	120.137	-0.005	0	-0.048
59	10	Totals:	2279.227	1022.185	-0.05			
60	10	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
61	11	N1	1059.97	563.523	-749.602	-0.005	0	-0.009

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
62	11	N5	1372.339	537.206	-373.527	-0.003	0	-0.02
63	11	N69	-720.168	-86.41	1959.708	0.008	0.001	-0.02
64	11	N72	28.198	7.867	168.17	-0.003	0	-0.028
65	11	Totals:	1740.339	1022.186	1004.748			
66	11	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
67	12	N1	614.613	536.336	37.291	-0.001	0	0.005
68	12	N5	838.297	507.768	891.318	0	0	-0.005
69	12	N69	-333.039	-29.753	912.045	0.002	0	-0.006
70	12	N72	13.049	7.835	121.599	-0.001	0	-0.008
71	12	Totals:	1132.921	1022.187	1962.253			
72	12	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
73	13	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
74	13	N5	277.817	452.14	1141.214	-0.001	0	0.004
75	13	N69	-0.041	17.654	0.104	-0.001	0	0.003
76	13	N72	0.323	7.96	3.391	0	0	0.003
77	13	Totals:	-0.001	960.955	0			
78	13	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
79	14	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
80	14	N5	277.817	452.14	1141.214	-0.001	0	0.004
81	14	N69	-0.041	17.654	0.104	-0.001	0	0.003
82	14	N72	0.323	7.96	3.391	0	0	0.003
83	14	Totals:	-0.001	960.955	0			
84	14	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
85	15	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
86	15	N5	277.817	452.14	1141.214	-0.001	0	0.004
87	15	N69	-0.041	17.654	0.104	-0.001	0	0.003
88	15	N72	0.323	7.96	3.391	0	0	0.003
89	15	Totals:	-0.001	960.955	0			
90	15	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
91	16	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
92	16	N5	277.817	452.14	1141.214	-0.001	0	0.004
93	16	N69	-0.041	17.654	0.104	-0.001	0	0.003
94	16	N72	0.323	7.96	3.391	0	0	0.003
95	16	Totals:	-0.001	960.955	0			
96	16	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
97	17	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
98	17	N5	277.817	452.14	1141.214	-0.001	0	0.004
99	17	N69	-0.041	17.654	0.104	-0.001	0	0.003
100	17	N72	0.323	7.96	3.391	0	0	0.003
101	17	Totals:	-0.001	960.955	0			
102	17	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
103	18	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
104	18	N5	277.817	452.14	1141.214	-0.001	0	0.004
105	18	N69	-0.041	17.654	0.104	-0.001	0	0.003
106	18	N72	0.323	7.96	3.391	0	0	0.003
107	18	Totals:	-0.001	960.955	0			
108	18	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
109	19	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
110	19	N5	277.817	452.14	1141.214	-0.001	0	0.004
111	19	N69	-0.041	17.654	0.104	-0.001	0	0.003
112	19	N72	0.323	7.96	3.391	0	0	0.003
113	19	Totals:	-0.001	960.955	0			
114	19	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
115	20	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
116	20	N5	277.817	452.14	1141.214	-0.001	0	0.004

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
117	20	N69	-0.041	17.654	0.104	-0.001	0	0.003
118	20	N72	0.323	7.96	3.391	0	0	0.003
119	20	Totals:	-0.001	960.955	0			
120	20	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
121	21	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
122	21	N5	277.817	452.14	1141.214	-0.001	0	0.004
123	21	N69	-0.041	17.654	0.104	-0.001	0	0.003
124	21	N72	0.323	7.96	3.391	0	0	0.003
125	21	Totals:	-0.001	960.955	0			
126	21	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
127	22	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
128	22	N5	277.817	452.14	1141.214	-0.001	0	0.004
129	22	N69	-0.041	17.654	0.104	-0.001	0	0.003
130	22	N72	0.323	7.96	3.391	0	0	0.003
131	22	Totals:	-0.001	960.955	0			
132	22	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
133	23	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
134	23	N5	277.817	452.14	1141.214	-0.001	0	0.004
135	23	N69	-0.041	17.654	0.104	-0.001	0	0.003
136	23	N72	0.323	7.96	3.391	0	0	0.003
137	23	Totals:	-0.001	960.955	0			
138	23	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
139	24	N1	-278.1	483.201	-1144.71	-0.002	0	0.005
140	24	N5	277.817	452.14	1141.214	-0.001	0	0.004
141	24	N69	-0.041	17.654	0.104	-0.001	0	0.003
142	24	N72	0.323	7.96	3.391	0	0	0.003
143	24	Totals:	-0.001	960.955	0			
144	24	COG (ft):	X: 0.841	Y: -0.801	Z: 4.206			
145	25	N1	-1509.188	920.698	-2129.682	0.002	0	0.022
146	25	N5	1502.358	825.244	2257.483	0.004	0	0.023
147	25	N69	5.033	18.328	-12.46	-0.007	-0.001	0.017
148	25	N72	1.795	7.917	18.805	0.001	0	0.015
149	25	Totals:	-0.002	1772.187	134.146			
150	25	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
151	26	N1	-1560.14	918.852	-2136.518	0.003	0	0.022
152	26	N5	1451.308	822.42	2336.262	0.004	0	0.024
153	26	N69	39.402	22.998	-100.745	-0.007	-0.001	0.018
154	26	N72	1.497	7.918	18.66	0.002	0	0.016
155	26	Totals:	-67.933	1772.187	117.659			
156	26	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
157	27	N1	-1595.794	917.586	-2163.588	0.003	0	0.023
158	27	N5	1416.279	820.398	2380.73	0.004	0	0.024
159	27	N69	62.55	26.271	-161.911	-0.007	-0.001	0.019
160	27	N72	0.064	7.932	12.262	0.002	0	0.017
161	27	Totals:	-116.9	1772.187	67.494			
162	27	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
163	28	N1	-1607.267	917.651	-2204.627	0.003	0	0.022
164	28	N5	1414.242	820.202	2366.227	0.004	0	0.024
165	28	N69	61.799	26.385	-164.621	-0.007	-0.001	0.019
166	28	N72	-1.166	7.95	3.022	0.002	0	0.017
167	28	Totals:	-132.392	1772.187	0.002			
168	28	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
169	29	N1	-1593.662	918.661	-2251.134	0.002	0	0.022
170	29	N5	1436.43	821.484	2309.172	0.004	0	0.024
171	29	N69	44.916	24.085	-122.751	-0.007	-0.001	0.018

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
172	29	N72	-0.858	7.957	-0.626	0.001	0	0.016
173	29	Totals:	-113.173	1772.187	-65.338			
174	29	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
175	30	N1	-1557.951	919.934	-2289.668	0.002	0	0.021
176	30	N5	1469.315	823.42	2237.586	0.004	0	0.023
177	30	N69	22.902	20.878	-62.456	-0.007	-0.001	0.017
178	30	N72	-0.048	7.955	0.607	0.001	0	0.015
179	30	Totals:	-65.781	1772.187	-113.931			
180	30	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
181	31	N1	-1507.53	921.499	-2307.397	0.002	0	0.02
182	31	N5	1513.387	825.889	2158.151	0.004	0	0.022
183	31	N69	-5.9	16.843	14.677	-0.006	-0.001	0.016
184	31	N72	0.042	7.956	0.423	0.001	0	0.013
185	31	Totals:	-0.002	1772.187	-134.147			
186	31	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
187	32	N1	-1456.575	923.346	-2300.539	0.002	0	0.02
188	32	N5	1564.426	828.716	2079.419	0.004	0	0.021
189	32	N69	-40.262	12.17	102.91	-0.006	-0.001	0.015
190	32	N72	0.34	7.955	0.55	0.001	0	0.012
191	32	Totals:	67.929	1772.187	-117.66			
192	32	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
193	33	N1	-1420.911	924.61	-2273.439	0.002	0	0.019
194	33	N5	1599.467	830.745	2034.96	0.004	0	0.02
195	33	N69	-63.43	8.89	164.058	-0.006	-0.001	0.014
196	33	N72	1.77	7.941	6.926	0.001	0	0.011
197	33	Totals:	116.896	1772.187	-67.495			
198	33	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
199	34	N1	-1409.429	924.547	-2232.402	0.002	0	0.019
200	34	N5	1601.526	830.942	2049.404	0.004	0	0.02
201	34	N69	-62.704	8.774	166.822	-0.006	-0.001	0.015
202	34	N72	2.996	7.924	16.172	0.001	0	0.011
203	34	Totals:	132.389	1772.187	-0.003			
204	34	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
205	35	N1	-1423.04	923.536	-2185.921	0.002	0	0.02
206	35	N5	1579.342	829.656	2106.418	0.004	0	0.021
207	35	N69	-45.821	11.077	125	-0.006	-0.001	0.015
208	35	N72	2.689	7.917	19.84	0.001	0	0.012
209	35	Totals:	113.17	1772.187	65.337			
210	35	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
211	36	N1	-1458.762	922.262	-2147.408	0.002	0	0.021
212	36	N5	1546.446	827.716	2178.013	0.004	0	0.022
213	36	N69	-23.789	14.29	64.705	-0.006	-0.001	0.016
214	36	N72	1.882	7.919	18.62	0.001	0	0.013
215	36	Totals:	65.777	1772.187	113.93			
216	36	COG (ft):	X: 2.815	Y: -1.959	Z: 4.388			
217	37	N1	-718.643	914.299	-2120.91	-0.012	0	0.005
218	37	N5	711.498	831.599	2249.854	-0.011	0	0.004
219	37	N69	5.377	18.378	-13.341	-0.006	-0.001	0.015
220	37	N72	1.767	7.908	18.543	0	0	0
221	37	Totals:	-0.001	1772.184	134.145			
222	37	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
223	38	N1	-769.596	912.32	-2127.895	-0.012	0	0.006
224	38	N5	660.425	828.88	2328.829	-0.01	0	0.005
225	38	N69	39.767	23.075	-101.693	-0.006	-0.001	0.016
226	38	N72	1.471	7.909	18.417	0	0	0.001

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
227	38	Totals:	-67.932	1772.184	117.658			
228	38	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
229	39	N1	-805.257	910.962	-2155.08	-0.012	0	0.006
230	39	N5	625.377	826.927	2373.471	-0.011	0	0.006
231	39	N69	62.94	26.368	-162.931	-0.006	-0.001	0.016
232	39	N72	0.041	7.926	12.033	0	0	0.002
233	39	Totals:	-116.899	1772.184	67.493			
234	39	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
235	40	N1	-816.765	911.016	-2196.146	-0.012	0	0.006
236	40	N5	623.355	826.735	2359.051	-0.011	0	0.006
237	40	N69	62.208	26.485	-165.691	-0.006	-0.001	0.016
238	40	N72	-1.189	7.949	2.788	0	0	0.002
239	40	Totals:	-132.391	1772.184	0.002			
240	40	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
241	41	N1	-803.174	912.095	-2242.617	-0.012	0	0.006
242	41	N5	645.554	827.958	2301.977	-0.011	0	0.005
243	41	N69	45.329	24.174	-123.825	-0.006	-0.001	0.016
244	41	N72	-0.881	7.958	-0.874	0	0	0.001
245	41	Totals:	-113.172	1772.184	-65.339			
246	41	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
247	42	N1	-767.43	913.484	-2281.083	-0.012	0	0.005
248	42	N5	678.415	829.795	2230.302	-0.011	0	0.004
249	42	N69	23.307	20.95	-63.5	-0.006	-0.001	0.015
250	42	N72	-0.073	7.955	0.35	0	0	0
251	42	Totals:	-65.78	1772.184	-113.932			
252	42	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
253	43	N1	-716.977	915.183	-2298.7	-0.013	0	0.004
254	43	N5	722.471	832.152	2150.716	-0.011	0	0.003
255	43	N69	-5.511	16.892	13.682	-0.005	-0.001	0.014
256	43	N72	0.016	7.956	0.154	0	0	-0.001
257	43	Totals:	-0.001	1772.184	-134.147			
258	43	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
259	44	N1	-666.022	917.163	-2291.694	-0.013	0	0.003
260	44	N5	773.533	834.873	2071.789	-0.011	0	0.002
261	44	N69	-39.893	12.193	101.982	-0.005	-0.001	0.013
262	44	N72	0.313	7.955	0.263	0	0	-0.003
263	44	Totals:	67.931	1772.184	-117.66			
264	44	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
265	45	N1	-630.35	918.522	-2264.479	-0.013	0	0.003
266	45	N5	808.593	836.831	2027.156	-0.011	0	0.002
267	45	N69	-63.085	8.893	163.203	-0.005	-0.001	0.012
268	45	N72	1.74	7.938	6.625	0	0	-0.004
269	45	Totals:	116.897	1772.184	-67.495			
270	45	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
271	46	N1	-618.833	918.47	-2223.414	-0.013	0	0.003
272	46	N5	810.637	837.024	2041.518	-0.011	0	0.002
273	46	N69	-62.379	8.774	166.016	-0.005	-0.001	0.012
274	46	N72	2.965	7.916	15.875	0	0	-0.004
275	46	Totals:	132.39	1772.184	-0.004			
276	46	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
277	47	N1	-632.43	917.391	-2176.969	-0.013	0	0.004
278	47	N5	788.443	835.797	2098.55	-0.011	0	0.002
279	47	N69	-45.501	11.088	124.2	-0.005	-0.001	0.013
280	47	N72	2.659	7.908	19.557	0	0	-0.003
281	47	Totals:	113.171	1772.184	65.336			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
282	47	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
283	48	N1	-668.185	915.999	-2138.524	-0.012	0	0.005
284	48	N5	755.57	833.958	2170.233	-0.011	0	0.003
285	48	N69	-23.46	14.318	63.874	-0.005	-0.001	0.014
286	48	N72	1.853	7.91	18.346	0	0	-0.001
287	48	Totals:	65.779	1772.184	113.929			
288	48	COG (ft):	X: 1.264	Y: -1.959	Z: 4.388			
289	49	N1	410.667	711.751	-1734.797	-0.001	0	-0.002
290	49	N5	-411.456	659.823	1728.274	0.001	0	-0.005
291	49	N69	0.136	17.663	-0.348	0.007	0.001	-0.018
292	49	N72	0.653	7.948	6.869	0	0	-0.005
293	49	Totals:	0	1397.185	-0.002			
294	49	COG (ft):	X: -1.148	Y: -1.568	Z: 4.335			
295	50	N1	-243.509	712.515	-1727.63	-0.009	0	0.005
296	50	N5	242.669	659.098	1718.058	-0.007	0	0.003
297	50	N69	-0.058	17.636	0.149	-0.004	-0.001	0.01
298	50	N72	0.898	7.936	9.421	0	0	-0.001
299	50	Totals:	0	1397.186	-0.001			
300	50	COG (ft):	X: 0.484	Y: -1.568	Z: 4.335			
301	51	N1	-285.454	602.761	-1452.593	-0.003	0	0.006
302	51	N5	285.033	559.938	1447.437	-0.003	0	0.004
303	51	N69	-0.057	20.577	0.145	-0.002	0	0.005
304	51	N72	0.477	9.275	5.01	0	0	0.001
305	51	Totals:	0	1192.551	-0.001			
306	51	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
307	52	N1	-250.617	526.267	-1231.439	-0.003	0	0.005
308	52	N5	244.792	490.875	1291.661	-0.003	0	0.004
309	52	N69	5.225	18.733	-12.415	-0.002	0	0.004
310	52	N72	0.599	8.118	6.708	0	0	0.001
311	52	Totals:	0	1043.994	54.516			
312	52	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
313	53	N1	-272.616	525.491	-1233.757	-0.002	0	0.006
314	53	N5	227.927	489.942	1321.308	-0.003	0	0.004
315	53	N69	17.276	20.439	-44.548	-0.002	0	0.005
316	53	N72	0.154	8.121	4.207	0	0	0.002
317	53	Totals:	-27.259	1043.994	47.211			
318	53	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
319	54	N1	-288.516	525.018	-1246.228	-0.002	0	0.006
320	54	N5	216.841	489.356	1336.441	-0.003	0	0.004
321	54	N69	24.683	21.495	-64.708	-0.002	0	0.005
322	54	N72	-0.22	8.124	1.754	0	0	0.002
323	54	Totals:	-47.212	1043.994	27.258			
324	54	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
325	55	N1	-294.061	524.974	-1265.514	-0.003	0	0.006
326	55	N5	214.503	489.274	1333.007	-0.003	0	0.004
327	55	N69	25.465	21.619	-67.499	-0.002	0	0.005
328	55	N72	-0.424	8.126	0.006	0	0	0.002
329	55	Totals:	-54.517	1043.994	0			
330	55	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
331	56	N1	-287.762	525.371	-1286.447	-0.003	0	0.005
332	56	N5	221.54	489.719	1311.925	-0.003	0	0.004
333	56	N69	19.41	20.777	-52.17	-0.002	0	0.005
334	56	N72	-0.401	8.127	-0.567	0	0	0.001
335	56	Totals:	-47.212	1043.994	-27.259			
336	56	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
337	57	N1	-271.308	526.103	-1303.414	-0.003	0	0.005
338	57	N5	236.064	490.57	1278.853	-0.003	0	0.004
339	57	N69	8.145	19.195	-22.837	-0.002	0	0.004
340	57	N72	-0.159	8.126	0.186	0	0	0.001
341	57	Totals:	-27.259	1043.994	-47.213			
342	57	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
343	58	N1	-249.107	526.973	-1311.872	-0.003	0	0.004
344	58	N5	254.186	491.601	1242.645	-0.003	0	0.003
345	58	N69	-5.316	17.296	12.646	-0.001	0	0.004
346	58	N72	0.237	8.123	2.062	0	0	0
347	58	Totals:	0	1043.994	-54.518			
348	58	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
349	59	N1	-227.107	527.75	-1309.549	-0.003	0	0.004
350	59	N5	271.05	492.534	1213.004	-0.003	0	0.003
351	59	N69	-17.366	15.59	44.771	-0.001	0	0.003
352	59	N72	0.681	8.12	4.561	0	0	0
353	59	Totals:	27.258	1043.994	-47.214			
354	59	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
355	60	N1	-211.204	528.224	-1297.074	-0.003	0	0.004
356	60	N5	282.138	493.12	1197.868	-0.003	0	0.003
357	60	N69	-24.777	14.532	64.933	-0.001	0	0.003
358	60	N72	1.055	8.117	7.012	0	0	-0.001
359	60	Totals:	47.211	1043.994	-27.261			
360	60	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
361	61	N1	-205.658	528.268	-1277.788	-0.003	0	0.004
362	61	N5	284.479	493.202	1201.293	-0.003	0	0.003
363	61	N69	-25.563	14.408	67.733	-0.001	0	0.003
364	61	N72	1.258	8.115	8.76	0	0	-0.001
365	61	Totals:	54.517	1043.994	-0.002			
366	61	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
367	62	N1	-211.959	527.871	-1256.86	-0.003	0	0.004
368	62	N5	277.443	492.757	1222.369	-0.003	0	0.003
369	62	N69	-19.509	15.251	52.411	-0.001	0	0.003
370	62	N72	1.236	8.115	9.336	0	0	0
371	62	Totals:	47.211	1043.994	27.256			
372	62	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
373	63	N1	-228.414	527.138	-1239.896	-0.003	0	0.005
374	63	N5	262.917	491.906	1255.444	-0.003	0	0.003
375	63	N69	-8.24	16.834	23.077	-0.001	0	0.004
376	63	N72	0.995	8.116	8.586	0	0	0
377	63	Totals:	27.258	1043.994	47.21			
378	63	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
379	64	N1	-178.956	373.858	-867.046	-0.002	0	0.004
380	64	N5	173.234	351.613	928.57	-0.002	0	0.003
381	64	N69	5.243	13.57	-12.46	-0.001	0	0.003
382	64	N72	0.479	5.793	5.451	0	0	0.001
383	64	Totals:	0	744.834	54.516			
384	64	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
385	65	N1	-200.943	373.055	-869.368	-0.002	0	0.004
386	65	N5	156.354	350.711	958.224	-0.002	0	0.003
387	65	N69	17.295	15.272	-44.597	-0.001	0	0.004
388	65	N72	0.034	5.795	2.952	0	0	0.001
389	65	Totals:	-27.259	744.834	47.211			
390	65	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
391	66	N1	-216.837	372.56	-881.846	-0.002	0	0.004

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
392	66	N5	145.262	350.151	973.366	-0.002	0	0.003
393	66	N69	24.704	16.325	-64.761	-0.002	0	0.004
394	66	N72	-0.34	5.797	0.5	0	0	0.002
395	66	Totals:	-47.212	744.834	27.259			
396	66	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
397	67	N1	-222.385	372.504	-901.141	-0.002	0	0.004
398	67	N5	142.925	350.082	969.942	-0.002	0	0.003
399	67	N69	25.486	16.449	-67.554	-0.002	0	0.004
400	67	N72	-0.543	5.799	-1.247	0	0	0.002
401	67	Totals:	-54.517	744.834	0			
402	67	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
403	68	N1	-216.095	372.902	-922.081	-0.002	0	0.004
404	68	N5	149.973	350.523	948.868	-0.002	0	0.003
405	68	N69	19.431	15.609	-52.224	-0.001	0	0.004
406	68	N72	-0.521	5.799	-1.822	0	0	0.001
407	68	Totals:	-47.212	744.834	-27.259			
408	68	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
409	69	N1	-199.657	373.649	-939.053	-0.002	0	0.004
410	69	N5	164.512	351.355	915.799	-0.002	0	0.003
411	69	N69	8.165	14.031	-22.888	-0.001	0	0.003
412	69	N72	-0.279	5.798	-1.07	0	0	0.001
413	69	Totals:	-27.259	744.834	-47.212			
414	69	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
415	70	N1	-177.472	374.544	-947.51	-0.002	0	0.003
416	70	N5	182.652	352.357	879.589	-0.002	0	0.002
417	70	N69	-5.297	12.137	12.598	-0.001	0	0.003
418	70	N72	0.117	5.797	0.805	0	0	0
419	70	Totals:	0	744.834	-54.518			
420	70	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
421	71	N1	-155.484	375.347	-945.183	-0.002	0	0.003
422	71	N5	199.531	353.258	849.941	-0.002	0	0.002
423	71	N69	-17.349	10.434	44.727	-0.001	0	0.002
424	71	N72	0.561	5.794	3.302	0	0	-0.001
425	71	Totals:	27.258	744.834	-47.213			
426	71	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
427	72	N1	-139.588	375.844	-932.7	-0.002	0	0.003
428	72	N5	210.626	353.818	834.796	-0.002	0	0.002
429	72	N69	-24.761	9.379	64.893	-0.001	0	0.002
430	72	N72	0.935	5.792	5.752	0	0	-0.001
431	72	Totals:	47.211	744.833	-27.26			
432	72	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
433	73	N1	-134.039	375.9	-913.406	-0.002	0	0.003
434	73	N5	212.966	353.887	838.211	-0.002	0	0.002
435	73	N69	-25.548	9.255	67.694	-0.001	0	0.002
436	73	N72	1.138	5.791	7.5	0	0	-0.001
437	73	Totals:	54.517	744.833	-0.002			
438	73	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
439	74	N1	-140.33	375.501	-892.471	-0.002	0	0.003
440	74	N5	205.919	353.446	859.279	-0.002	0	0.002
441	74	N69	-19.493	10.096	52.372	-0.001	0	0.002
442	74	N72	1.116	5.791	8.076	0	0	0
443	74	Totals:	47.211	744.834	27.257			
444	74	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			
445	75	N1	-156.77	374.754	-875.503	-0.002	0	0.003
446	75	N5	191.377	352.614	892.351	-0.002	0	0.002

Node Reactions (Continued)

	LC	Node Label	X [lb]	Y [lb]	Z [lb]	MX [k-ft]	MY [k-ft]	MZ [k-ft]
447	75	N69	-8.224	11.675	23.035	-0.001	0	0.003
448	75	N72	0.875	5.791	7.327	0	0	0
449	75	Totals:	27.258	744.834	47.21			
450	75	COG (ft):	X: 0.723	Y: -0.889	Z: 4.244			

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

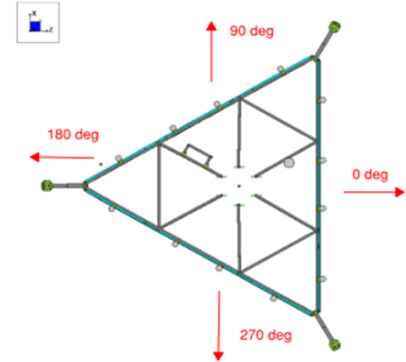
Member	Shape	Code Check	Loc [ft]	LC Shear	Check Loc [ft]	Dir LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	M6	PL3/8X3	0.683	0.25	27	0	y	3 34985.705	36450	0.284	2.279	1.666 H1-1b
2	M9	PL3/8X3	0.681	0.25	27	0	y	9 34985.705	36450	0.284	2.279	1.667 H1-1b
3	M23	HSS1.500X.06	0.522	3.167	27	0.04	3.167	4 8446.286	12701.34	0.485	0.485	1 H1-1a
4	MP3A	PIPE 2.0	0.496	5.404	10	0.311	5.404	4 18105.092	32130	1.872	1.872	1 H3-6
5	M5	PL3/8X3	0.474	0.25	9	0.108	0.003	y 3 34985.705	36450	0.284	2.279	1.667 H1-1b
6	M8	PL3/8X3	0.456	0.25	9	0.134	0	y 4 34985.705	36450	0.284	2.279	1.667 H1-1b
7	M22	HSS1.500X.06	0.419	0	27	0.037	3.167	4 8446.286	12701.34	0.485	0.485	1 H1-1b
8	MP1A	PIPE 2.0	0.404	3.115	12	0.146	3.115	9 14678.314	32130	1.872	1.872	1 H1-1b
9	M10	PIPE 2.5	0.301	1.648	3	0.231	1.648	9 15367.462	72450	5.138	5.138	1 H1-1b
10	MP2A	PIPE 2.0	0.29	6.568	3	0.078	6.568	3 14678.314	32130	1.872	1.872	1 H1-1b
11	MP4A	PIPE 2.0	0.289	6.568	9	0.174	6.568	4 14678.314	32130	1.872	1.872	1 H1-1b
12	M47	PIPE 2.0	0.269	4.148	10	0.032	8.473	4 13586.482	32130	1.872	1.872	1 H1-1a
13	M14	PIPE 2.0	0.264	0.557	27	0.069	5.381	28 25094.071	45900	2.674	2.674	1 H1-1b
14	M13	PIPE 2.0	0.26	5.937	9	0.043	0	9 25094.071	45900	2.674	2.674	1 H1-1b
15	M12	PIPE 2.0	0.237	0.495	28	0.065	5.381	26 25094.071	45900	2.674	2.674	1 H1-1b
16	M16	HSS1.500X.06	0.192	0	27	0.012	3.983	2 6659.968	12701.34	0.485	0.485	1 H1-1b*
17	M7	PIPE 2.5	0.171	1.774	9	0.111	10.519	1 15367.462	72450	5.138	5.138	1 H1-1b
18	M11	PIPE 2.0	0.167	0.495	9	0.043	5.381	10 25094.071	45900	2.674	2.674	1 H1-1b
19	M18	HSS1.500X.06	0.152	0	28	0.015	4.084	2 6444.777	12701.34	0.485	0.485	1 H1-1b*
20	M34	HSS1.500X.06	0.134	3.167	9	0.023	0	3 8446.286	12701.34	0.485	0.485	1 H1-1b*
21	M27	HSS1.500X.06	0.134	0	9	0.024	4.185	4 6228.614	12701.34	0.485	0.485	1 H1-1b*
22	M15	PL3/8X3	0.125	0.125	27	0.137	0	y 3 36078.278	36450	0.284	2.279	1.667 H1-1b
23	M21	PL3/8X3	0.102	0	36	0.126	0	y 3 36078.278	36450	0.284	2.279	1.667 H1-1b
24	M29	HSS1.500X.06	0.084	0	9	0.054	4.185	4 6228.614	12701.34	0.485	0.485	1 H1-1b*
25	M17	PL3/8X3	0.082	0.125	25	0.106	0	y 3 36078.278	36450	0.284	2.279	1.667 H1-1b
26	M33	HSS1.500X.06	0.08	3.167	9	0.013	3.167	1 8446.286	12701.34	0.485	0.485	1 H1-1b*
27	M26	PL3/8X3	0.064	0	4	0.023	0	y 26 36078.278	36450	0.284	2.279	1.628 H1-1b
28	M28	PL3/8X3	0.061	0	4	0.041	0	y 3 36078.278	36450	0.284	2.279	1.628 H1-1b
29	M19	PL3/8X3	0.06	0	3	0.04	0	y 3 30936.41	36450	0.284	2.279	1.572 H1-1b
30	M31	PL3/8X3	0.052	0.125	3	0.023	0.125	y 26 36078.278	36450	0.284	2.279	1.636 H1-1b
31	M20	PL3/8X3	0.051	0	28	0.057	0.125	y 3 36078.278	36450	0.284	2.279	1.666 H1-1b
32	M30	PL3/8X3	0.048	0	9	0.129	0	y 4 30936.41	36450	0.284	2.279	1.572 H1-1b
33	M32	PL3/8X3	0.044	0.046	4	0.041	0.125	y 3 36078.278	36450	0.284	2.279	1.628 H1-1b
34	M25	PL3/8X3	0.043	0	4	0.04	0.5	y 3 30936.41	36450	0.284	2.279	1.555 H1-1b
35	M36	PL3/8X3	0.04	0.5	7	0.129	0.5	y 4 30936.41	36450	0.284	2.279	1.64 H1-1b
36	M49	PIPE 1.5	0.033	2.602	10	0.058	5.203	9 14166.997	23593.5	1.105	1.105	1 H1-1b
37	M24	PIPE 2.0	0.019	0	27	0.005	0	3 41530.616	45900	2.674	2.674	1 H1-1b*
38	M35	PIPE 2.0	0.01	0	49	0.012	0	4 41530.616	45900	2.674	2.674	1 H1-1b*

I. Mount-to-Tower Connection Check

Custom Orientation Required

Yes

Nodes (labeled per Risa)	Orientation (per graphic of typical platform)
N1	0
N5	0



Tower Connection Bolt Checks

Yes

Bolt Orientation

Parallel

Bolt Quantity per Reaction:

d_x (in) (Delta X of typ. bolt config. sketch) :

d_y (in) (Delta Y of typ. bolt config. sketch) :

Bolt Type:

Bolt Diameter (in):

Required Tensile Strength / bolt (kips):

Required Shear Strength / bolt (kips):

Tensile Capacity / bolt (kips):

Shear Capacity / bolt (kips):

Bolt Overall Utilization:

4

3

1.75

A36

0.625

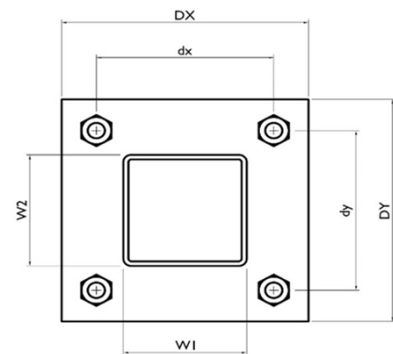
0.6

0.7

10.0

6.0

11.4%



Tower Connection Baseplate Checks

No