



Crown Castle
3530 Torington Way, Suite 300
Charlotte, NC 28277

June 26, 2014

Melanie A. Bachman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Sprint PCS-Exempt Modification - Crown Site BU: 876352
Sprint PCS Site ID: CT03XC335
Located at: 94 East High Street, East Hampton, CT 06424

Dear Ms. Bachman:

This letter and exhibits are submitted on behalf of Sprint PCS (Sprint). Sprint is making modifications to certain existing sites in its Connecticut system in order to implement their 2.5GHz LTE technology. Please accept this letter and exhibits as notification, pursuant to § 16-50j-73 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), of construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In compliance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mr. Michael Maniscalco, Manager for Town of East Hampton.

Sprint plans to modify the existing wireless communications facility owned by Crown Castle and located at **94 East High Street, East Hampton, CT 06424**. Attached are a compound plan and elevation depicting the planned changes (Exhibit-1), and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration (Exhibit-2). Also included is a power density table report reflecting the modification to Sprint’s operations at the site (Exhibit-3).

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes (“C.G.S.”) § 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in the R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of the existing tower. Sprint’s additional antennas will be located at the same elevation on the existing tower.
2. There will be no proposed modifications to the ground and no extension of boundaries.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more.

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June 26, 2014

Page 2

4. A Structural Modification Report confirming that the tower and foundation can support Sprint's proposed modifications is included as Exhibit-2.
5. The operation of the additional antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard. A cumulative General Power Density table report for Sprint's modified facility is included as Exhibit-3.

For the foregoing reasons, Sprint respectfully submits the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Donna Neal.

Sincerely,



Jeff Barbadora
Real Estate Specialist

Enclosures

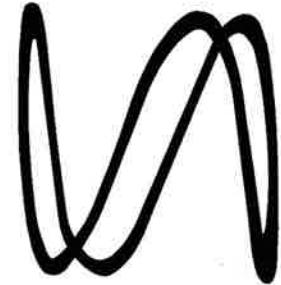
Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes

Tab 2: Exhibit-2: Structural Modification Report

Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: Mr. Michael Maniscalco, Town Manager
Town of East Hampton
20 East High Street
East Hampton, CT 06424

Sprint



CROWN CASTLE

PROJECT: 2.5 EQUIPMENT DEPLOYMENT
 SITE NAME: RICHARD WALL
 SITE CASCADE: CT03XC335
 SITE NUMBER: 876352
 SITE ADDRESS: 94 EAST HIGH STREET
 EAST HAMPTON, CT 06424
 SITE TYPE: MONOPOLE
 MARKET: NORTHERN CONNECTICUT

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 353-XXX

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:
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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:
RICHARD WALL

SITE CASCADE:
CT03XC335

SITE ADDRESS:
94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:
TITLE SHEET & PROJECT DATA

SHEET NUMBER:
T-1

SITE INFORMATION

TOWER OWNER:
 CROWN ATLANTIC COMPANY LLC
 2000 CORPORATE DRIVE
 CANONSBURG, PA 15317
 (704) 405-6555

LATITUDE (NAD83):
 41° 35' 14.2" N
 -72.4887278°

LONGITUDE (NAD83):
 -72° 29' 19.6" W
 -72.488778°

COUNTY:
 MIDDLESEX

ZONING JURISDICTION:
 CONNECTICUT SITING COUNCIL

ZONING DISTRICT:
 RESIDENTIAL

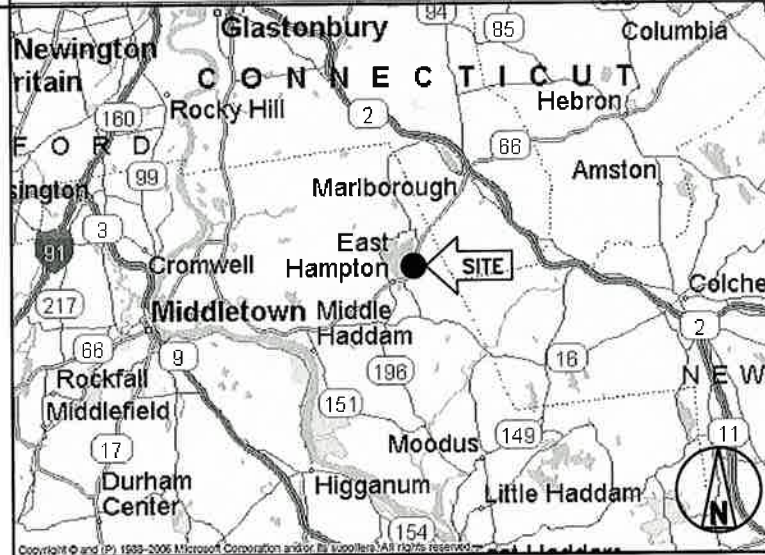
POWER COMPANY:
 CL&P
 (860) 947-2000

SPRINT PM:
 PETER GIARD
 (508) 801-0074
 peter.giard@sprint.com

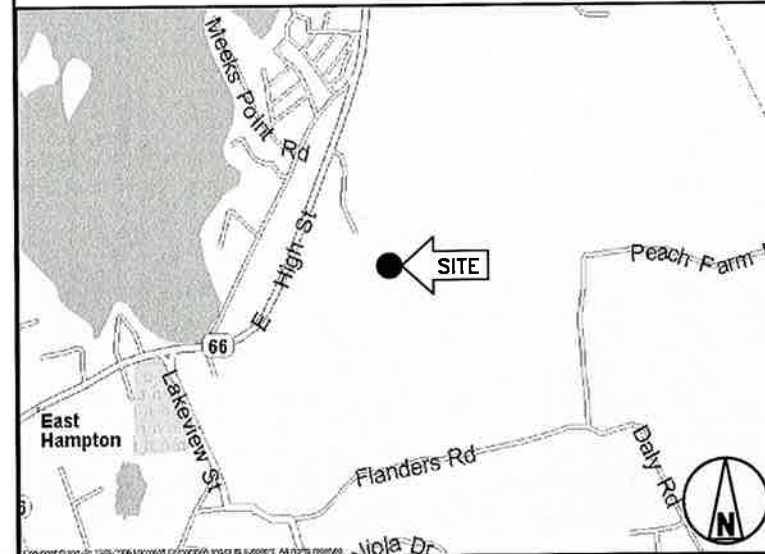
SPRINT CM:
 PETER CULBERT
 (603) 203-6446
 (603) 969-0686
 PETER.CULBERT@SPRTIN.COM

CROWN CM:
 JASON D'AMICO
 (860) 209-0104
 JASON.D'AMICO@CROWNCastle.COM

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

- SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.
- INSTALL 2.5 EQUIPMENT IN EXISTING N.V. MMBS CABINET
 - INSTALL (3) PANEL ANTENNAS
 - INSTALL (3) RRU'S TO TOWER
 - INSTALL (27) JUMPER CABLES
 - INSTALL (1) FIBER CABLE
 - INSTALL (4) BATTERIES IN EXISTING BBU CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

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

- INTERNATIONAL BUILDING CODE (2012 IBC)
- TIA-EIA-222-G OR LATEST EDITION
- NFPA 780 - LIGHTNING PROTECTION CODE
- 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
- ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
- CT BUILDING CODE
- LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES



Know what's below.
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DRAWING INDEX

SHEET NO:	SHEET TITLE	REV
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	SPRINT SPECIFICATIONS	0
SP-2	SPRINT SPECIFICATIONS	0
SP-3	SPRINT SPECIFICATIONS	0
A-1	SITE PLAN	0
A-2	TOWER ELEVATION & CABLE PLAN	0
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	0
A-4	COLOR CODING & NOTES	0
A-5	EQUIPMENT & MOUNTING DETAILS	0
A-6	CIVIL DETAILS	0
A-7	PLUMBING DIAGRAM	0
E-1	ELECTRICAL & GROUNDING PLAN	0
E-2	ELECTRICAL & GROUNDING DETAILS	0

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.
- 1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.
- 1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:
 - A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
 4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
 5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 7. AMERICAN CONCRETE INSTITUTE (ACI)
 8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
 9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
 10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 11. PORTLAND CEMENT ASSOCIATION (PCA)
 12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 13. BRICK INDUSTRY ASSOCIATION (BIA)
 14. AMERICAN WELDING SOCIETY (AWS)
 15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
 16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
 17. DOOR AND HARDWARE INSTITUTE (DHI)
 18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
 19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

- A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
- B. COMPANY: SPRINT CORPORATION
- C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
- D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
- E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
- G. CONSTRUCTION MANAGER - ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

- 1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.
- 1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.
- 1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
 - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.
 - B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
 - C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.
- 1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED.
- 1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.
- 1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.
- 3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
 - A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.
- 3.2 DELIVERABLES:
 - A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
 - B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
 - C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 - CELL SITE CONSTRUCTION CO.

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.
- 1.3 NOTICE TO PROCEED
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

TOWER OWNER NOTIFICATION
 ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 FUNCTIONAL REQUIREMENTS:
 - A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
 - B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
 - C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
 - D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNA AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

- A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
 2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION
- E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

- A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
- B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 2. PROJECT PROGRESS REPORTS.
 3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).

5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HERewith.
- 1.3 SUBMITTALS:
 - A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
 - B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.
 1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
 4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
 5. CHEMICAL GROUNDING DESIGN
 - D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
 2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
 2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 3. ALL AVAILABLE JURISDICTIONAL INFORMATION
 4. PDF SCAN OF REDLINES PRODUCED IN FIELD

5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNALIGN ALIGNMENT TOOL (AAT)

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-2

CONTINUE FROM SP-2

- 7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
 - 8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
 - 9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
 - 10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 - 11. ALL AVAILABLE JURISDICTIONAL INFORMATION
 - 12. PDF SCAN OF REDLINES PRODUCED IN FIELD
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.
- 3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.
- A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.
- 1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
 - 2. STRUCTURAL BACKFILL COMPACTION REPORTS.
 - 3. SITE RESISTANCE TO EARTH TEST.
 - 4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
 - 5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
 - 6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".
- B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING:
- 1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
 - 2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
 - 3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS - PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
 - 4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING - TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
 - 6. SITE LAYOUT - PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
 - 7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
 - 8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
 - 9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 WEEKLY REPORTS:
 - A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.
 - B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.
- 3.2 PROJECT CONFERENCE CALLS:
 - A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.
- 3.3 PROJECT TRACKING IN SMS:
 - A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.
- 3.4 ADDITIONAL REPORTING:
 - A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.
- 3.5 PROJECT PHOTOGRAPHS:
 - A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:
 - 1. SHELTER AND TOWER OVERVIEW.
 - 2. TOWER FOUNDATION(S) - FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
 - 3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
 - 4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
 - 5. PHOTOS OF TOWER SECTION STACKING.
 - 6. CONCRETE TESTING / SAMPLES.
 - 7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
 - 8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
 - 9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.
 - 10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
 - 11. COAX CABLE ENTRY INTO SHELTER.
 - 12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 - 13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
 - 14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
 - 15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
 - 16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
 - 17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
 - 18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
 - 19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
 - 21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 - 22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).

- 24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
 - 25. ALL BTS GROUND CONNECTIONS.
 - 26. ALL GROUND TEST WELLS.
 - 27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
 - 28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
 - 29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
 - 30. GPS ANTENNAS.
 - 31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
 - 32. DOGHOUSE/CABLE EXIT FROM ROOF.
 - 33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
 - 34. MASTER BUS BAR.
 - 35. TELCO BOARD AND NIU.
 - 36. ELECTRICAL DISTRIBUTION WALL.
 - 37. CABLE ENTRY WITH SURGE SUPPRESSION.
 - 38. ENTRANCE TO EQUIPMENT ROOM.
 - 39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.
 - 40. COAX GROUNDING --TOP AND BOTTOM OF TOWER.
 - 41. ANTENNA AND MAST GROUNDING.
 - 42. LANDSCAPING - WHERE APPLICABLE.
- 3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:




6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:



1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 353-XXX

MLA PARTNER:



ENGINEERING LICENSE:



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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

94 EAST HIGH STREET
EAST HAMPTON, CT 06424

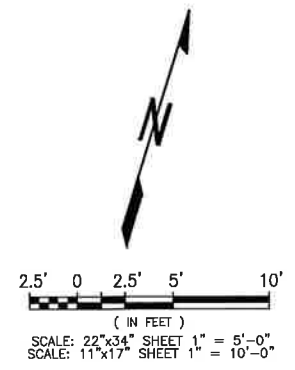
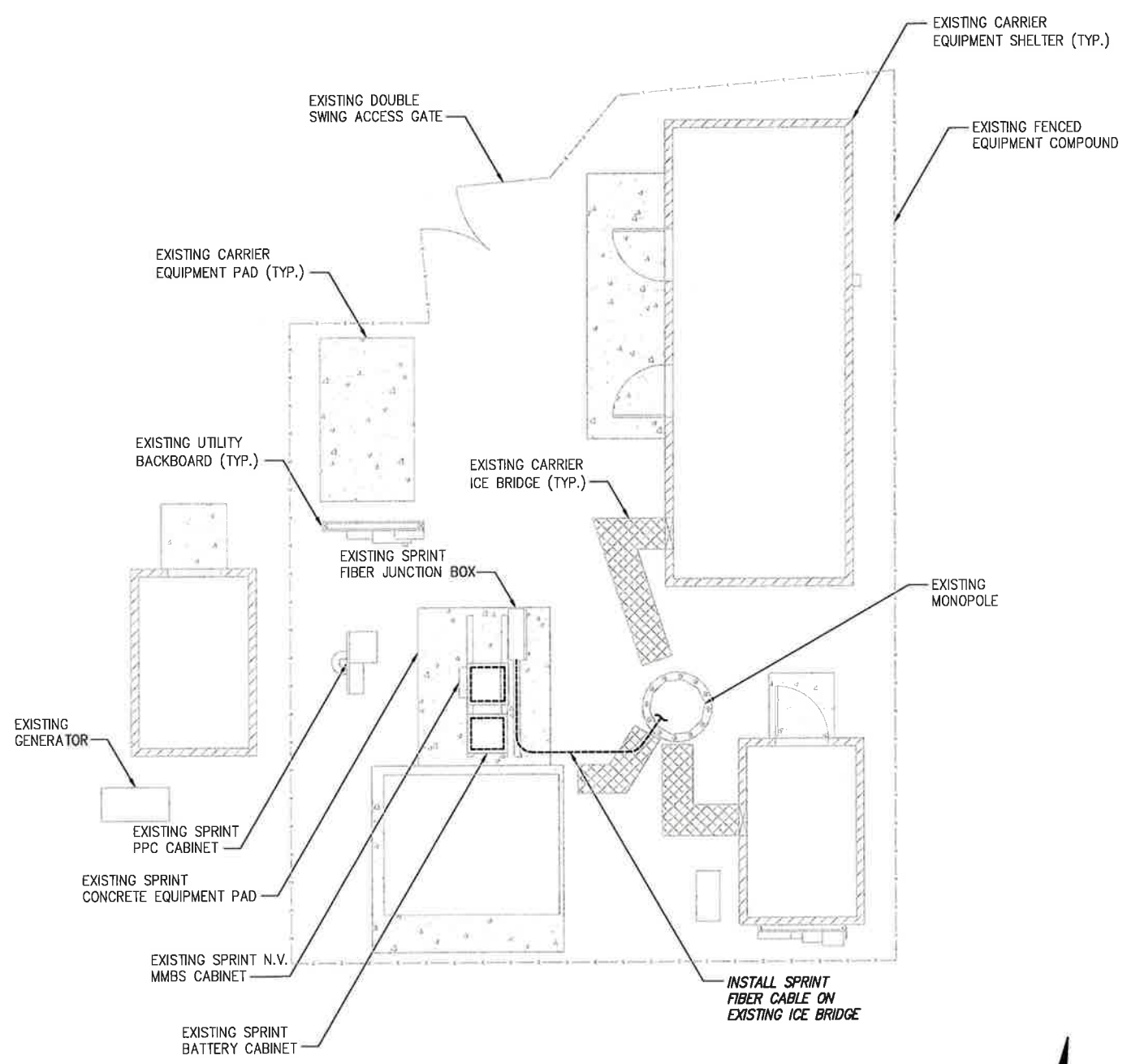
SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-3

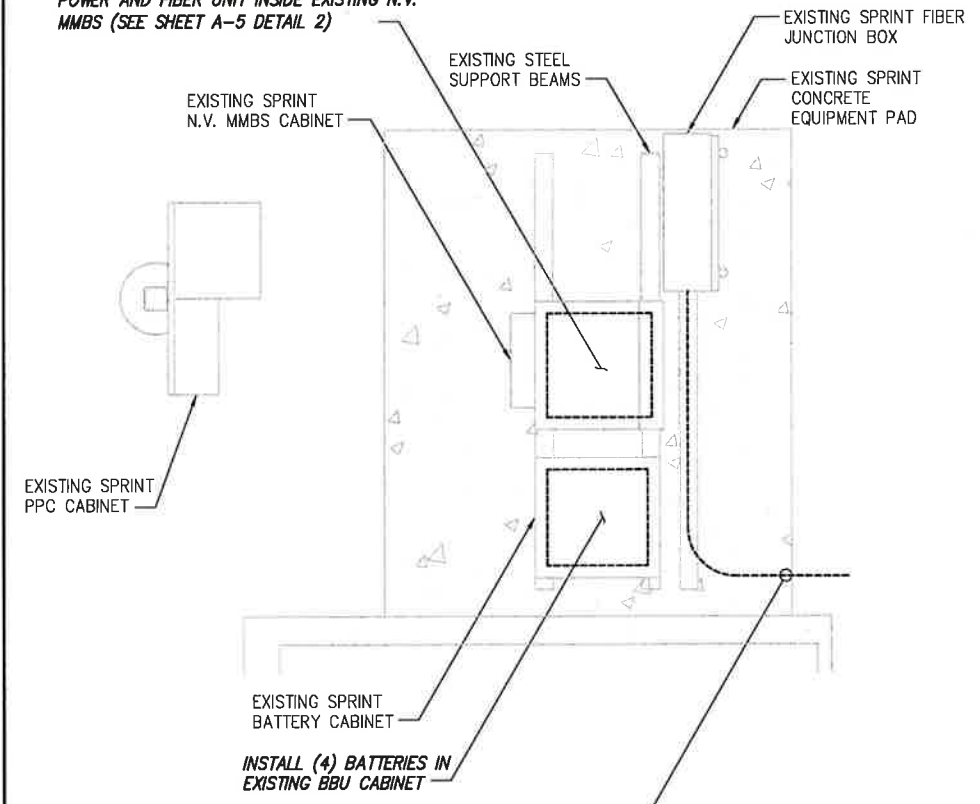
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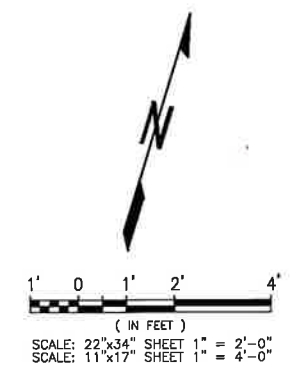
OVERALL SITE PLAN

SCALE: AS NOTED 1

INSTALL (3) NEW RECTIFIERS AND EQUIPMENT IN EXISTING CABINET INCLUDING BUT NOT LIMITED TO BASE BAND UNIT, CELL SITE ROUTER, SURGE ARRESTERS AND CONNECT POWER AND FIBER UNIT INSIDE EXISTING N.V. MMBS (SEE SHEET A-5 DETAIL 2)



INSTALL FIBER CABLE FROM EXISTING SPRINT FIBER JUNCTION BOX TO PROPOSED TOWER MOUNTED RRU UNIT (SEE SHEET A-6 DETAIL 2)



SPRINT EQUIPMENT PLAN

SCALE: AS NOTED 2

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 353-XXX

MLA PARTNER:

ENGINEERING LICENSE:

DRAWING NOTICE:
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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:
RICHARD WALL

SITE CASCADE:
CT03XC335

SITE ADDRESS:
 94 EAST HIGH STREET
 EAST HAMPTON, CT 06424

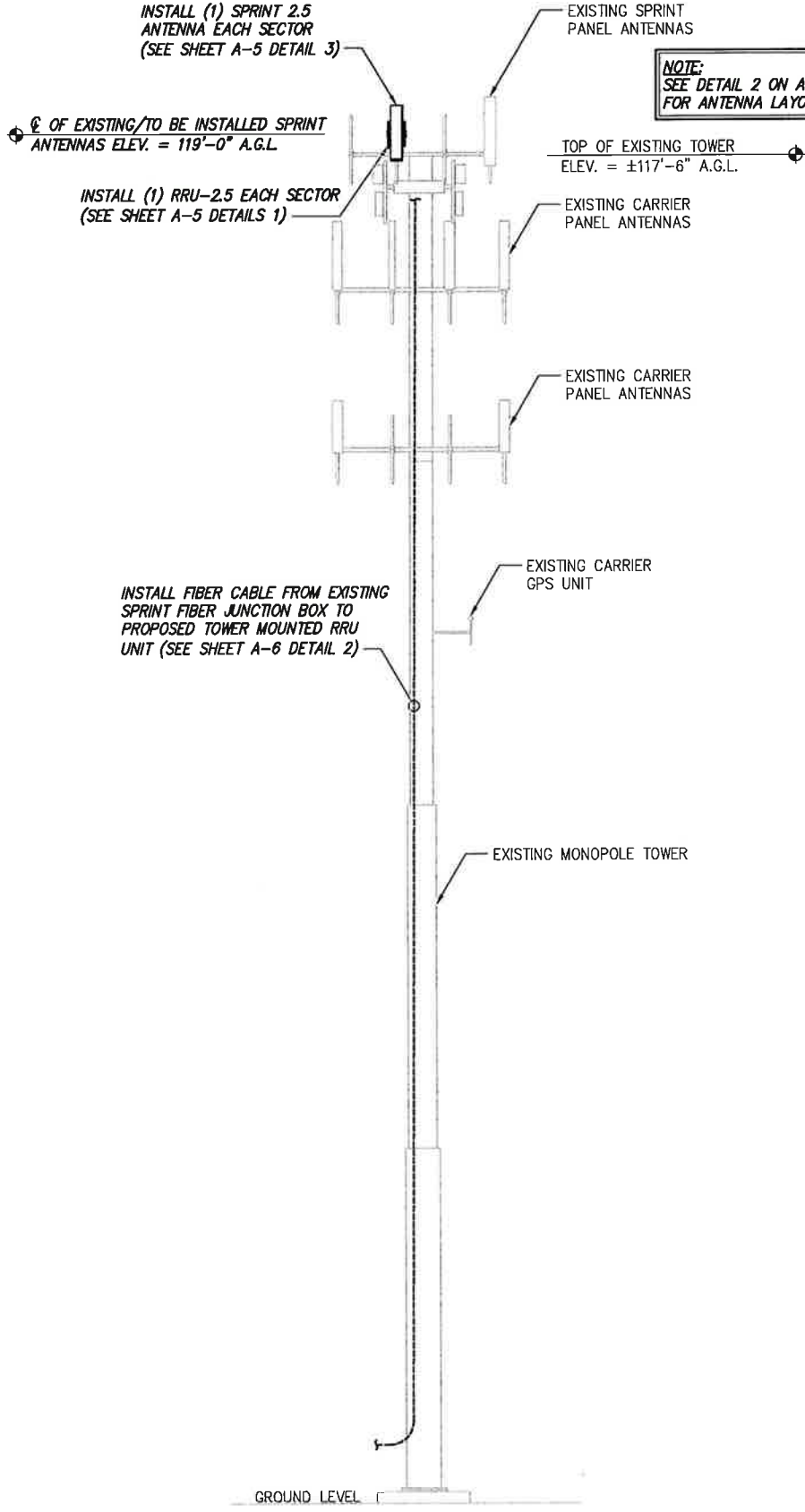
SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

FOR ADDITIONAL STRUCTURAL INFORMATION
SEE STRUCTURAL ANALYSIS COMPLETED BY
B+T GROUP DATED: 5/12/14

NOTE:
SPRINT TOWER TOP WORK CONTINGENT ON
FOLLOWING: COMPLETION OF STRUCTURAL
ANALYSIS PROVIDED BY CROWN CASTLE,
COMPLETION OF ANTENNA/RRU MOUNTING
ASSESSMENT (PROVIDED BY AE)

NOTE:
SEE DETAIL 2 ON A-3
FOR ANTENNA LAYOUT



DETAIL NOT USED	NO SCALE	2
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DETAIL NOT USED	NO SCALE	3
-----------------	----------	---

TOWER ELEVATION	NO SCALE	1
-----------------	----------	---

DETAIL NOT USED	NO SCALE	3
-----------------	----------	---

DETAIL NOT USED	NO SCALE	4
-----------------	----------	---

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
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JOB NUMBER 353-100X

MLA PARTNER:

CROWN CASTLE

ENGINEERING LICENSE:

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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

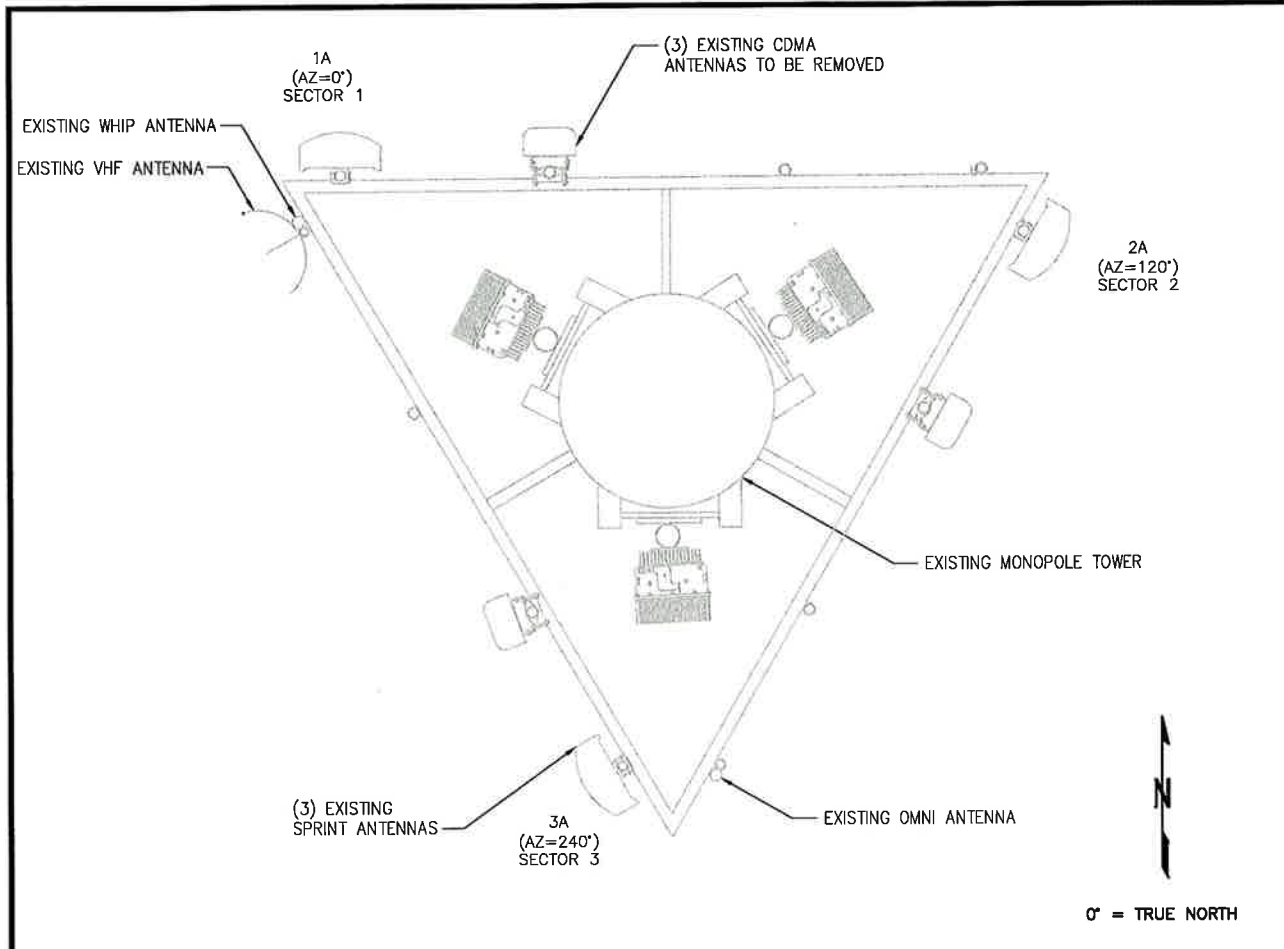
94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:

TOWER ELEVATION & CABLE PLAN

SHEET NUMBER:

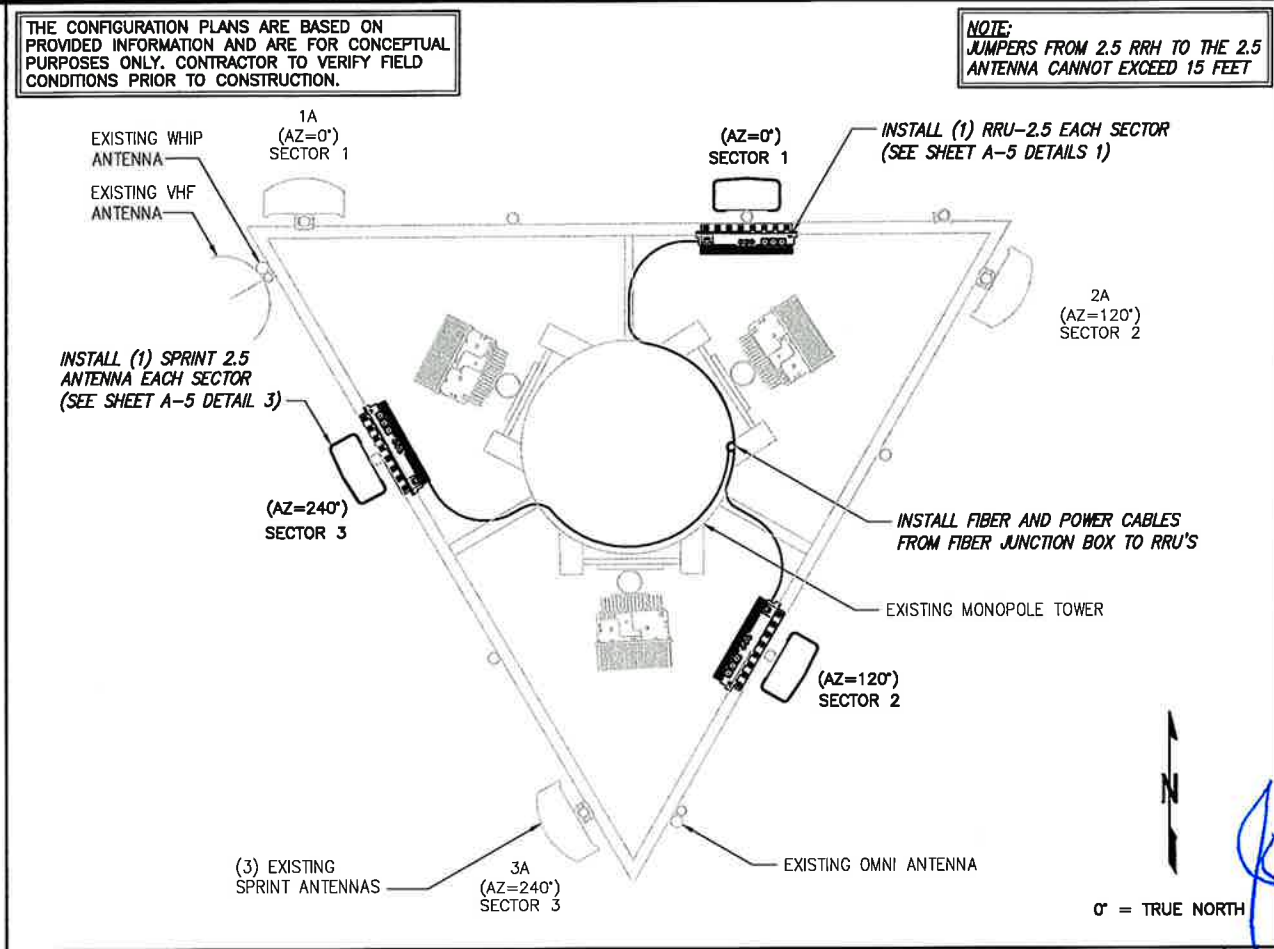
A-2



EXISTING ANTENNA & RRU LAYOUT

NO SCALE

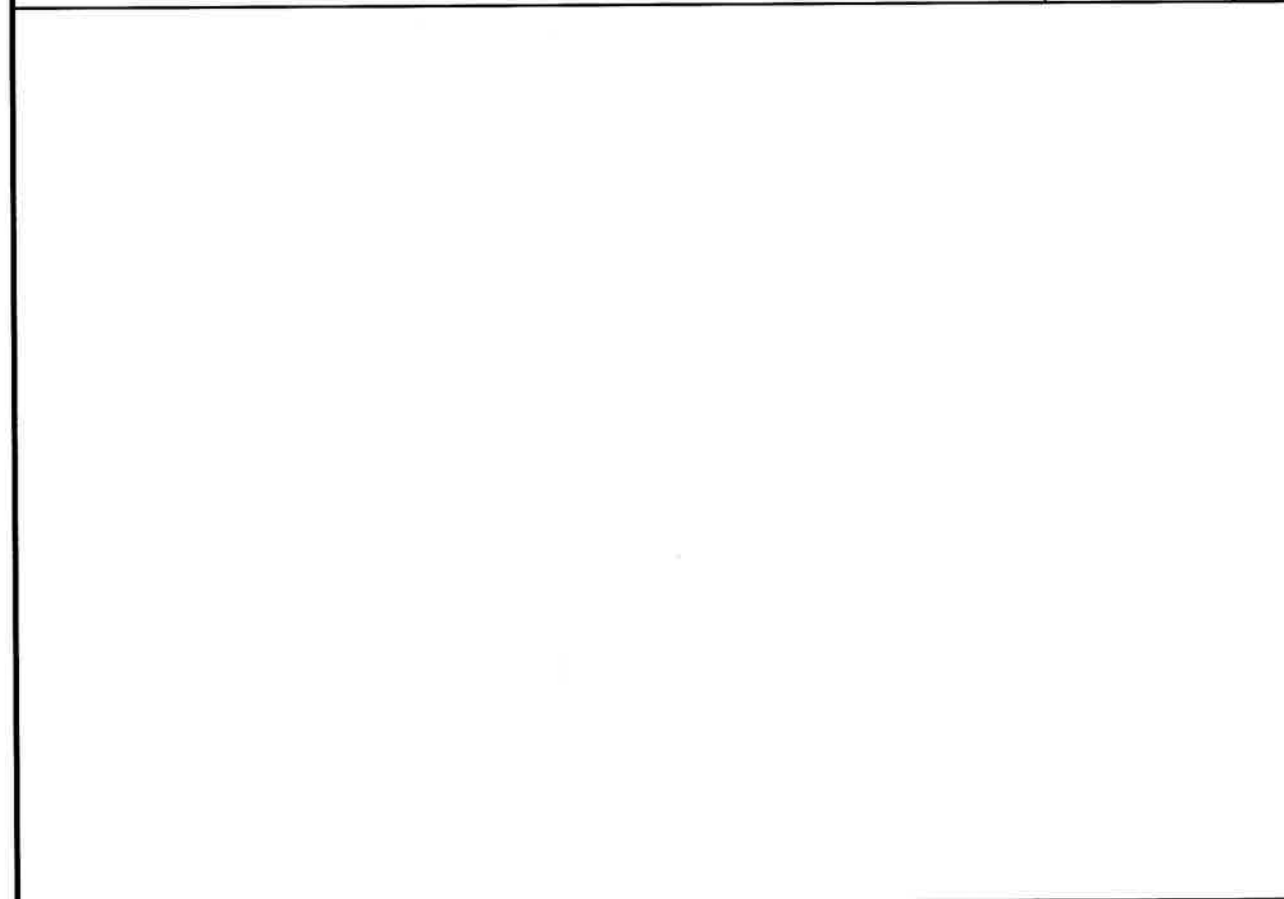
1



FINAL ANTENNA LAYOUT

NO SCALE

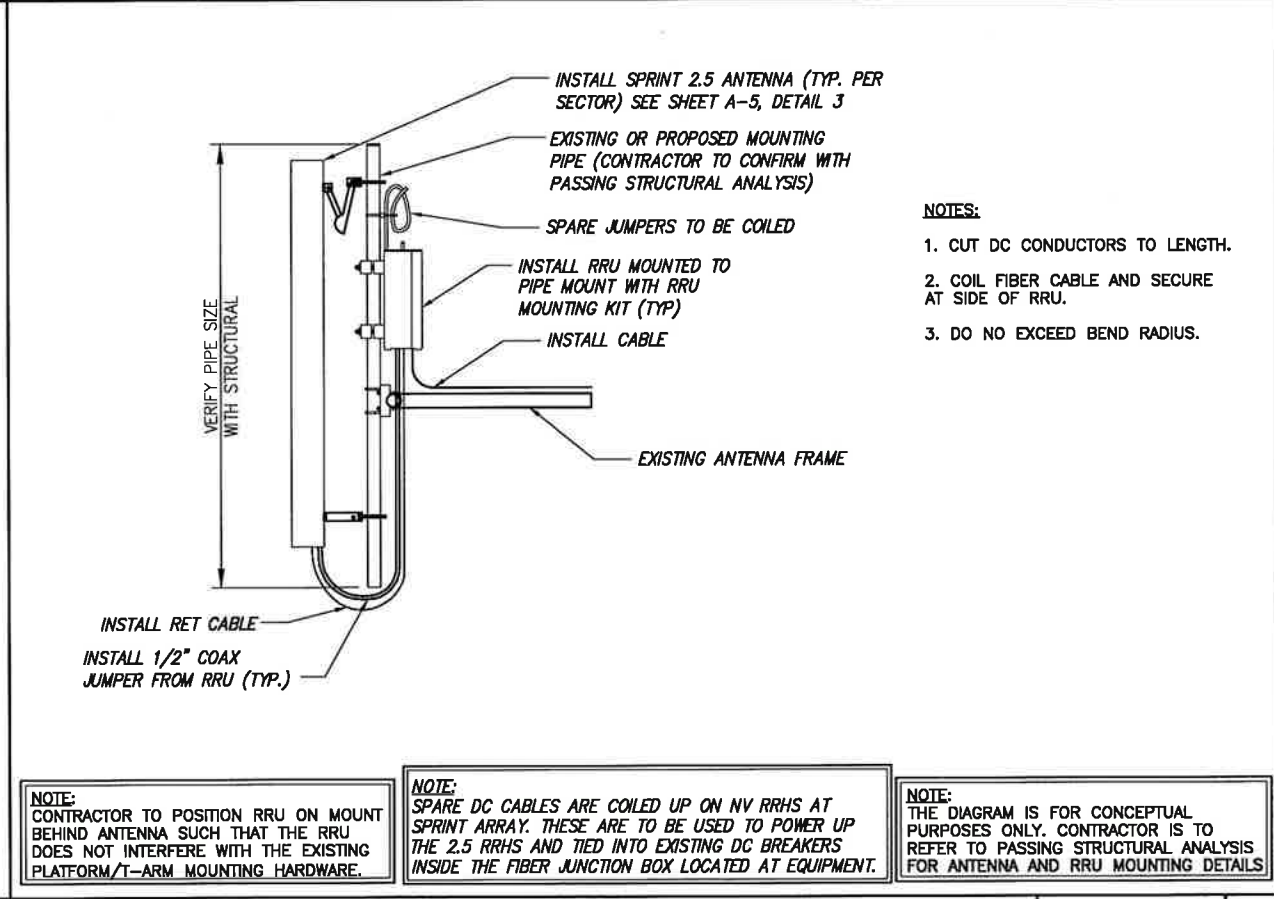
2



DETAIL NOT USED

NO SCALE

3



TYPICAL ANTENNA & RRU MOUNTING DETAILS

NO SCALE

4

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	5/22/14	SKB	0

SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

**94 EAST HIGH STREET
EAST HAMPTON, CT 06424**

SHEET DESCRIPTION:

**ANTENNA LAYOUT
& MOUNTING DETAILS**

SHEET NUMBER:

A-3



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RICHARD WALL

CT03XC335

94 EAST HIGH STREET
 EAST HAMPTON, CT 06424

COLOR CODING AND NOTES

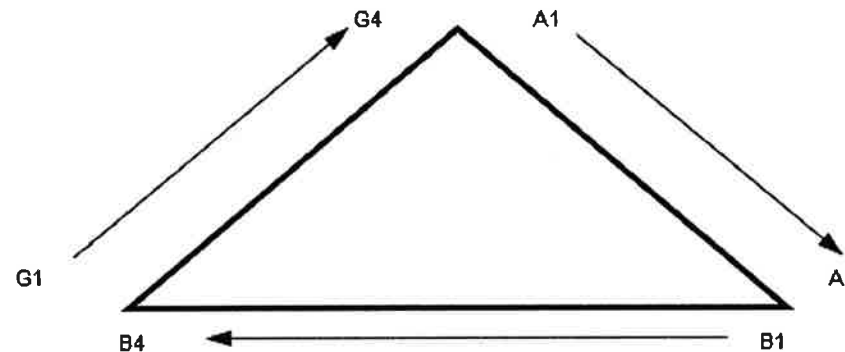
A-4

NV CABLES			
BAND	INDICATOR	PORT	COLOR
800-1	YEL GRN	NV-1	GRN
1900-1	YEL RED	NV-2	BLU
1900-2	YEL BRN	NV-3	BRN
1900-3	YEL BLU	NV-4	WHT
1900-4	YEL SLT	NV-5	RED
800-2	YEL ORG	NV-6	SLT
SPARE	YEL WHT	NV-7	PPL
2500	YEL PPL	NV-8	ORG

HYBRID	
HYBRID	COLOR
1	GRN
2	BLU
3	BRN
4	WHT
5	RED
6	SLT
7	PPL
8	ORG

2.5 Band		
2500 Radio 1	COLOR	
YEL	WHT	GRN
YEL	WHT	BLU
YEL	WHT	BRN
YEL	WHT	WHT
YEL	WHT	RED
YEL	WHT	SLT
YEL	WHT	PPL
YEL	WHT	ORG

Figure 1: Antenna Orientation



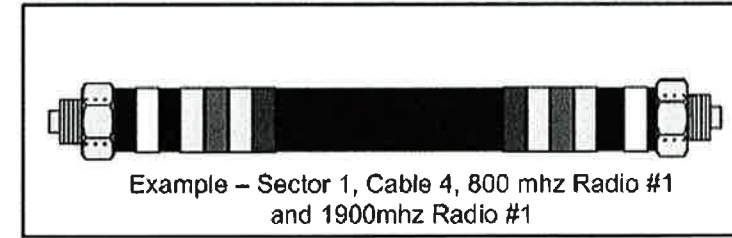
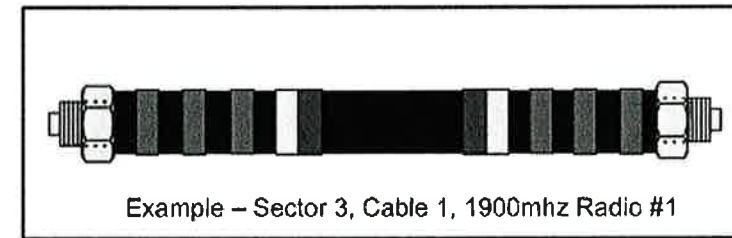
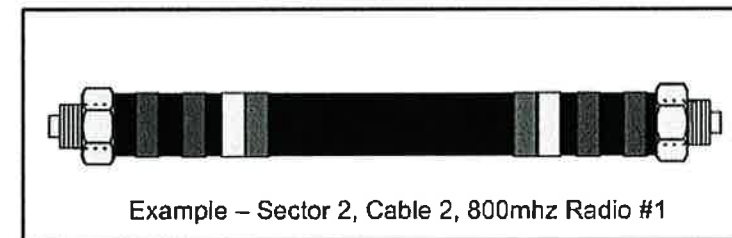
NOTES:

- ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.
- THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAK-OUT CYLINDER. THERE SHALL BE A 1" SPACE BETWEEN EACH RING FOR THE CABLE IDENTIFIER, AND NO SPACES BETWEEN THE FREQUENCY BANDS.
- A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
- THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
- SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE NEXT COLOR IN THE SEQUENCE FOR ADDITIONAL CABLES IN EACH SECTOR.
- HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.
- HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.
- INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Green	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Grey	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Green	Green	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Grey	Grey	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2	Green	Green	Green
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Grey	Grey	Grey
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

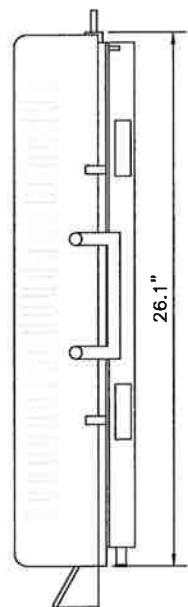
NV FREQUENCY	INDICATOR	ID
800-1	YEL GRN	GRN
1900-1	YEL RED	RED
1900-2	YEL BRN	BRN
1900-3	YEL BLU	BLU
1900-4	YEL SLT	SLT
800-1	YEL ORG	ORG
RESERVED	YEL WHT	WHT
RESERVED	YEL PPL	PPL

2.5 FREQUENCY	INDICATOR		ID
2500 -1	YEL	WHT	GRN
2500 -2	YEL	WHT	RED
2500 -3	YEL	WHT	BRN
2500 -4	YEL	WHT	BLU
2500 -5	YEL	WHT	SLT
2500 -6	YEL	WHT	ORG
2500 -7	YEL	WHT	WHT
2500 -8	YEL	WHT	PPL

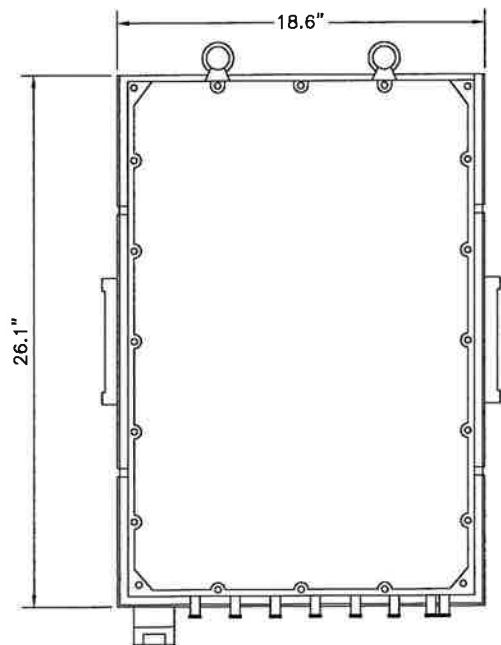


RRU: ALCATEL LUCENT TD-RRH8X20

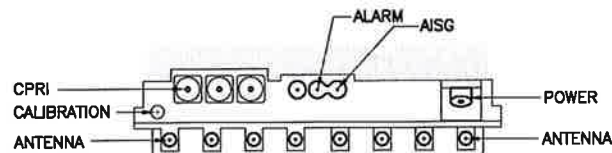
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



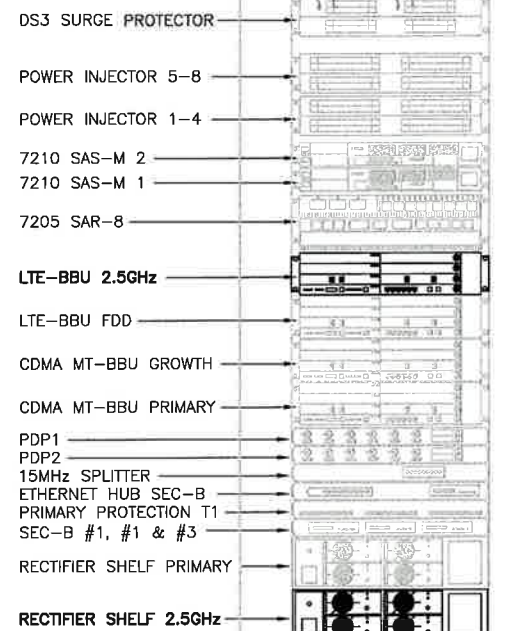
FRONT VIEW



PLAN VIEW

NOTES

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN



FRONT VIEW

2.5 RRU

NO SCALE

1

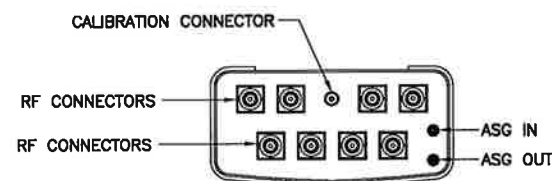
NEW EQUIPMENT IN EXISTING CABINET

NO SCALE

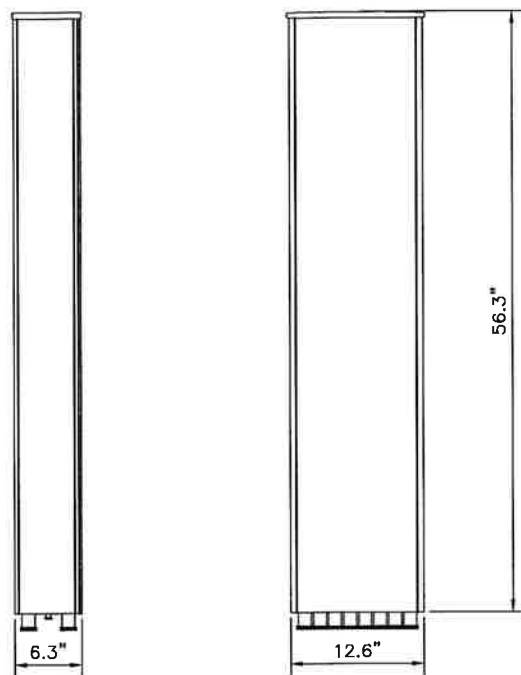
2

ANTENNA: RFS APXVTM14-C-I20

RADOME MATERIAL: ASA
RADOME COLOR: LIGHT GRAY
DIMENSIONS, HxWxD.in(mim): 56.3"x12.6"x6.3" (1430x320x160mm)
WEIGHT: 52.9 lbs
CONNECTORS: (8) 4.1/9.5 DIN FEMALE
(1) NF - CALIBRATION CONNECTOR



PLAN VIEW



2.5 ANTENNA

NO SCALE

3

DETAIL NOT USED

NO SCALE

4

PLANS PREPARED FOR:



PLANS PREPARED BY:



1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

JOB NUMBER 353-XXX

MLA PARTNER:



ENGINEERING LICENSE:



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REVISIONS:

DESCRIPTION	DATE	BY	REV
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SITE NAME:

RICHARD WALL

SITE CASCADE:

CT03XC335

SITE ADDRESS:

94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:

EQUIPMENT &
MOUNTING DETAILS

SHEET NUMBER:

A-5

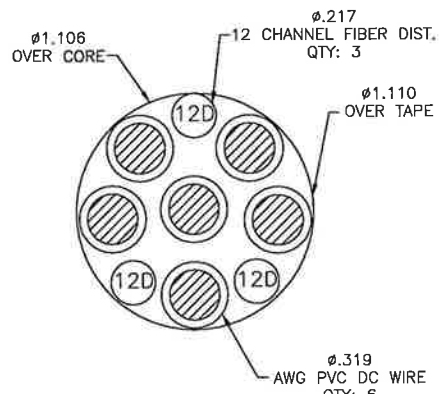
RFS HYBRIFLEX RISER CABLE SCHEDULE

Fiber Only (Existing DC Power)	Hybrid cable MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F MN: HB058-M12-200F	175 ft 200 ft
8 AWG Power	Hybrid cable MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F MN: HB114-08U3M12-200F	175 ft 200 ft
6 AWG Power	Hybrid cable MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	Hybrid cable MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

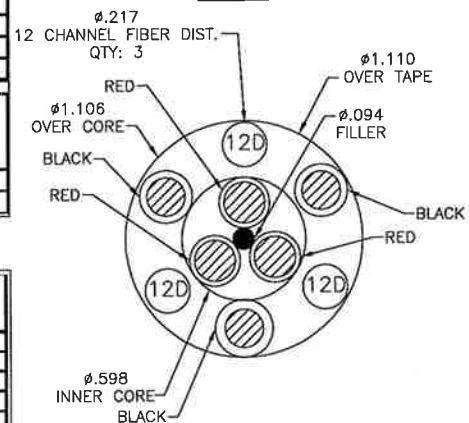
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	Hybrid Jumper cable MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	Hybrid Jumper cable MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	Hybrid Jumper cable MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	Hybrid Jumper cable MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

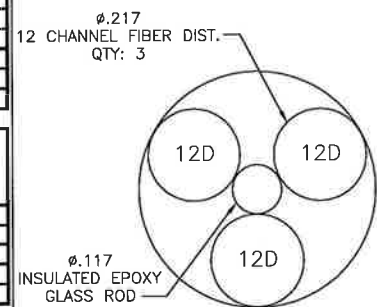
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



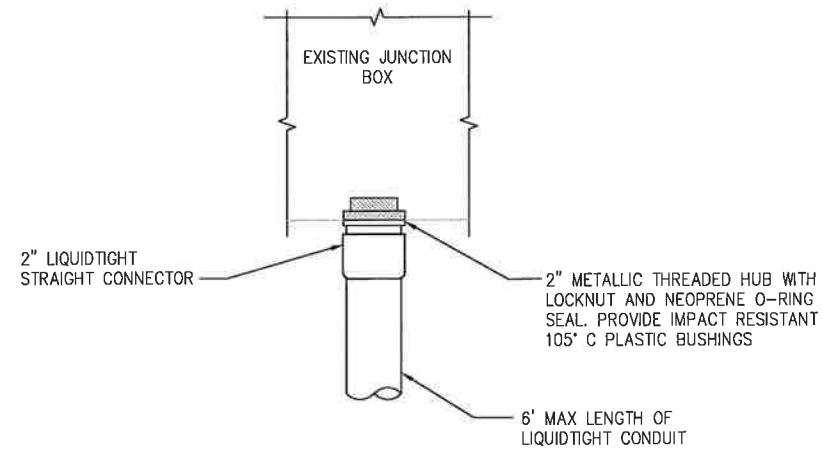
4 AWG



8 & 6 AWG



FIBER ONLY



FIBER JUNCTION BOX PENETRATION

NO SCALE 2

2.5 CABLE CROSS SECTION DATA

NO SCALE

1

DETAIL NOT USED

NO SCALE

3

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793
JOB NUMBER 353-XXX

MLA PARTNER:

ENGINEERING LICENSE:

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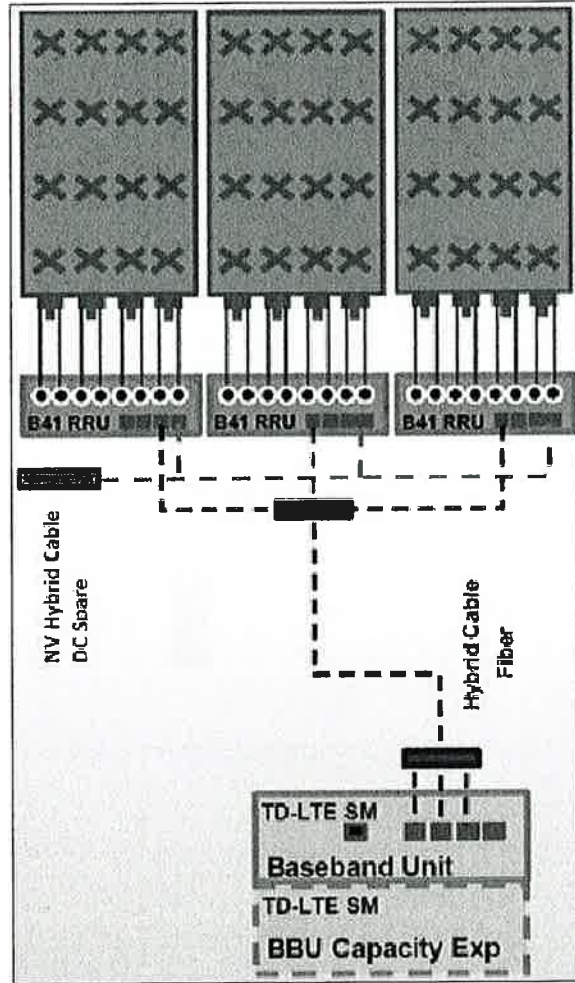
SITE NAME:
RICHARD WALL

SITE CASCADE:
CT03XC335

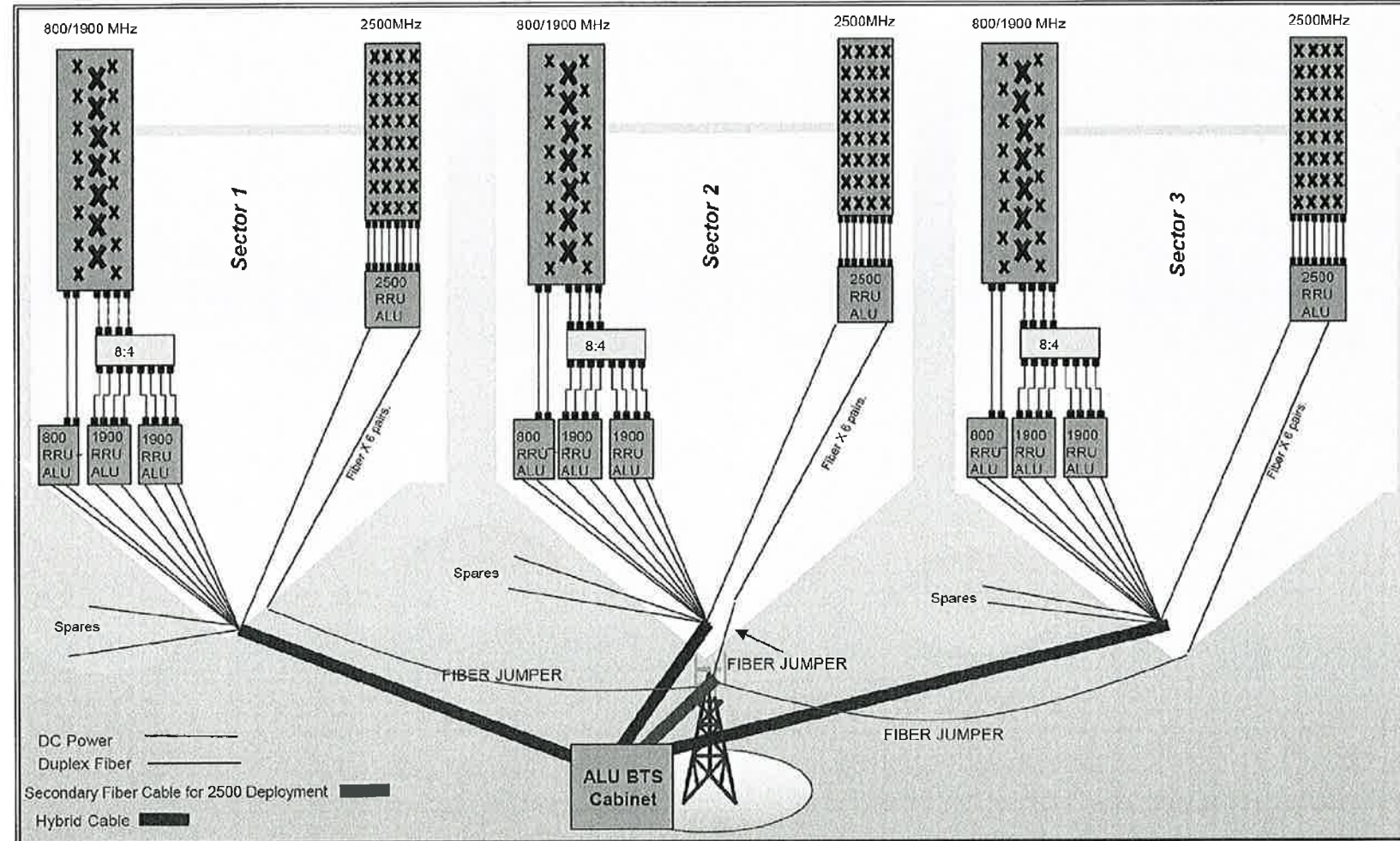
SITE ADDRESS:
94 EAST HIGH STREET
EAST HAMPTON, CT 06424

SHEET DESCRIPTION:
CIVIL DETAILS

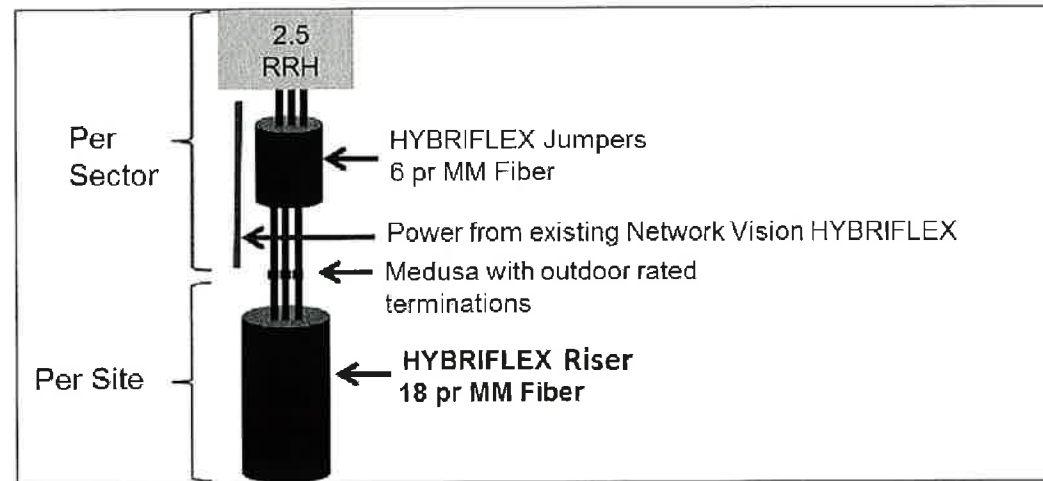
SHEET NUMBER:
A-6



ALU 2.5 ALU SCENARIO 1



RAN WIRING DIAGRAM



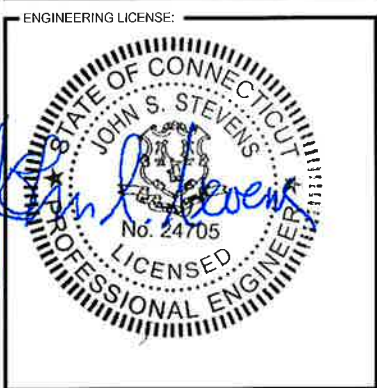
RF 2.5 ALU SCENARIO 1

PLUMBING DIAGRAM

PLANS PREPARED FOR:
Sprint
 6580 Sprint Parkway
 Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 353-1004

MLA PARTNER:
CROWN CASTLE



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SITE CASCADE:
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SITE ADDRESS:
 94 EAST HIGH STREET
 EAST HAMPTON, CT 06424

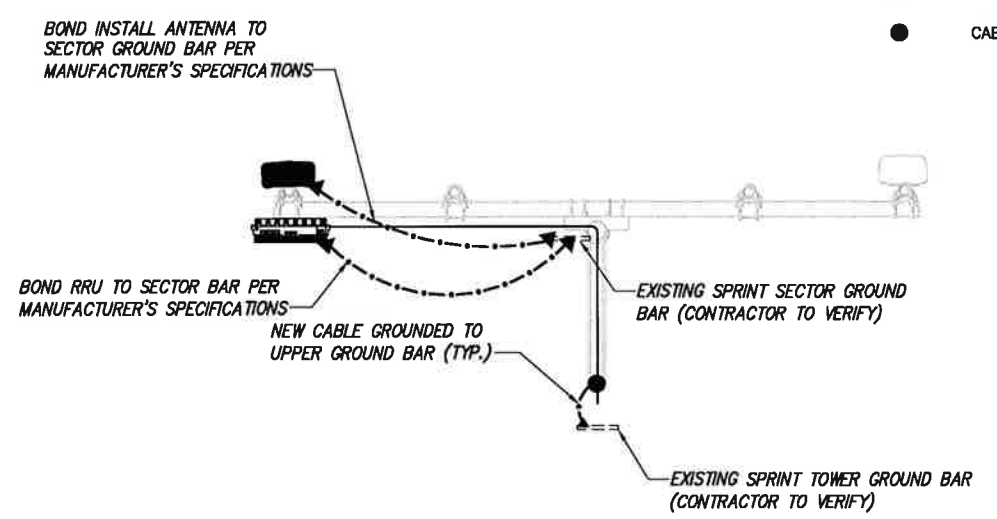
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CIVIL DETAILS

SHEET NUMBER:
A-7

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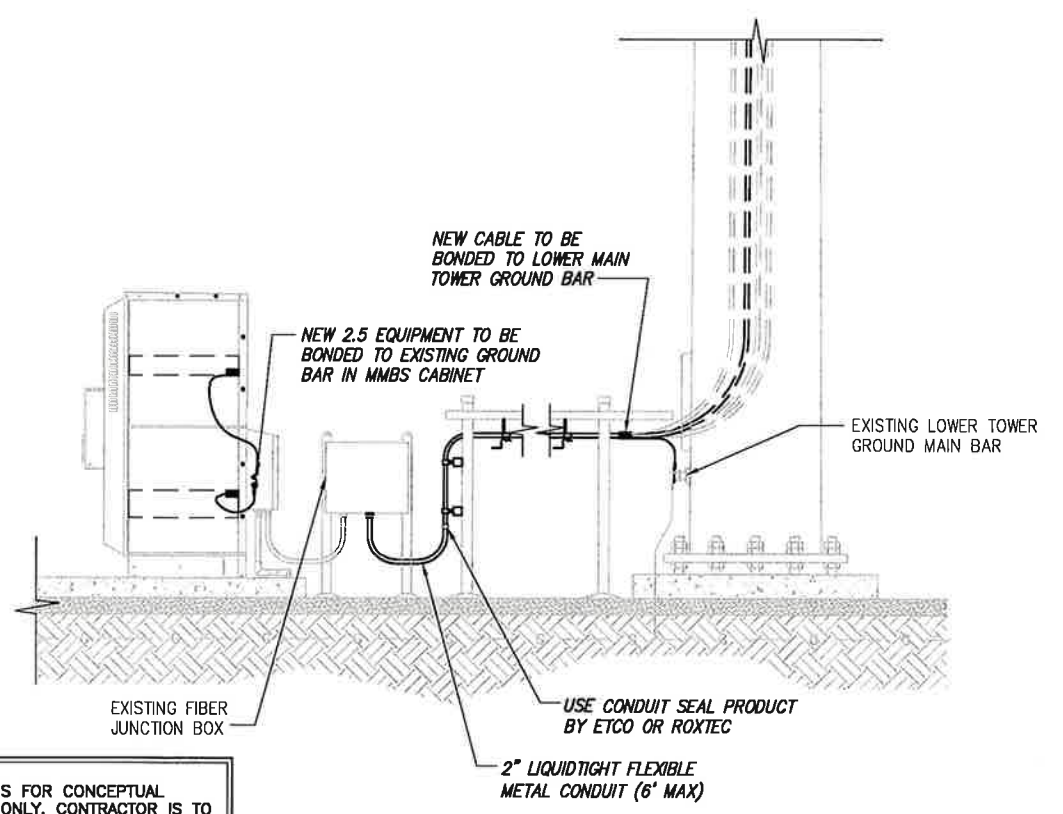
NO SCALE 1

- LEGEND:**
- EXISTING GROUND RING
 - CADWELD CONNECTION (EXOTHERMIC WELD)
 - ▲ MECHANICAL CONNECTION
 - ⊗ GROUND ROD
 - CABLE GROUND KIT



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



NOTE:
DEPICTION IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO FIELD VERIFY PRIOR TO CONSTRUCTION

TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION)

NO SCALE 3

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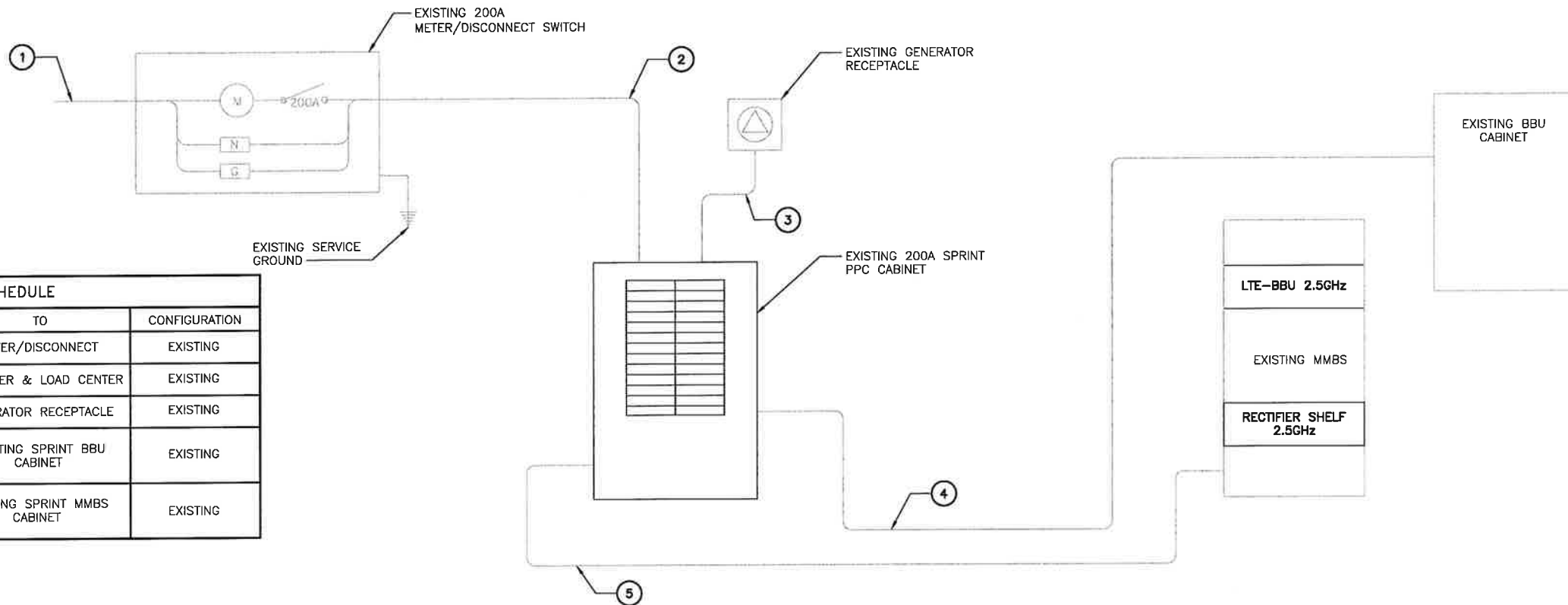
SHEET DESCRIPTION:

ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:

E-1

NOTES
 CG SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

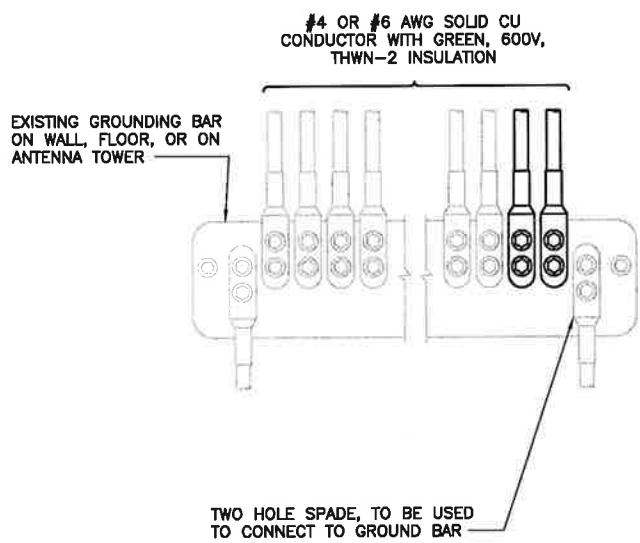


CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
①	UTILITY SOURCE	METER/DISCONNECT	EXISTING
②	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
③	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
④	TRANSFER & LOAD CENTER	EXISTING SPRINT BBU CABINET	EXISTING
⑤	TRANSFER & LOAD CENTER	EXISTING SPRINT MMBS CABINET	EXISTING

ELECTRICAL ONE-LINE DIAGRAM

NO SCALE

1

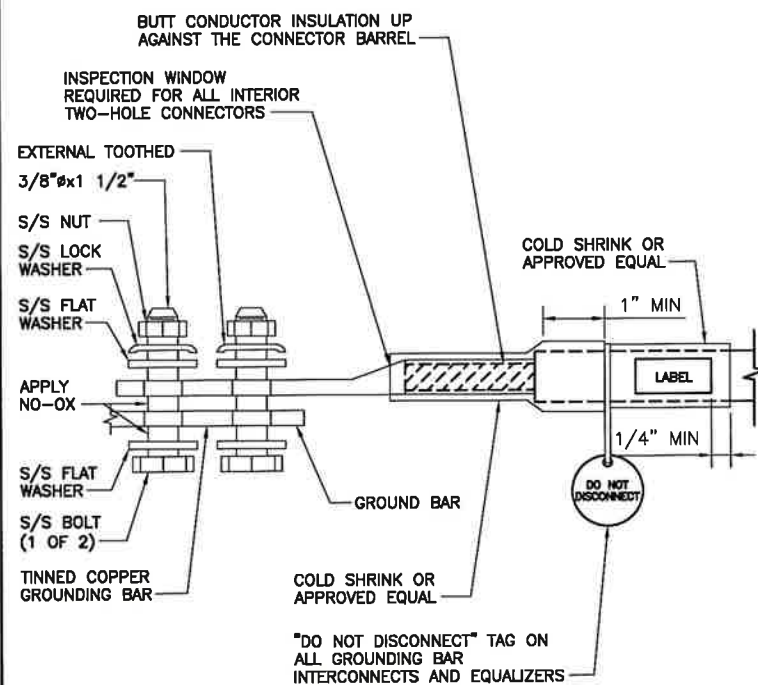


NOTES
 1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
 2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

NO SCALE

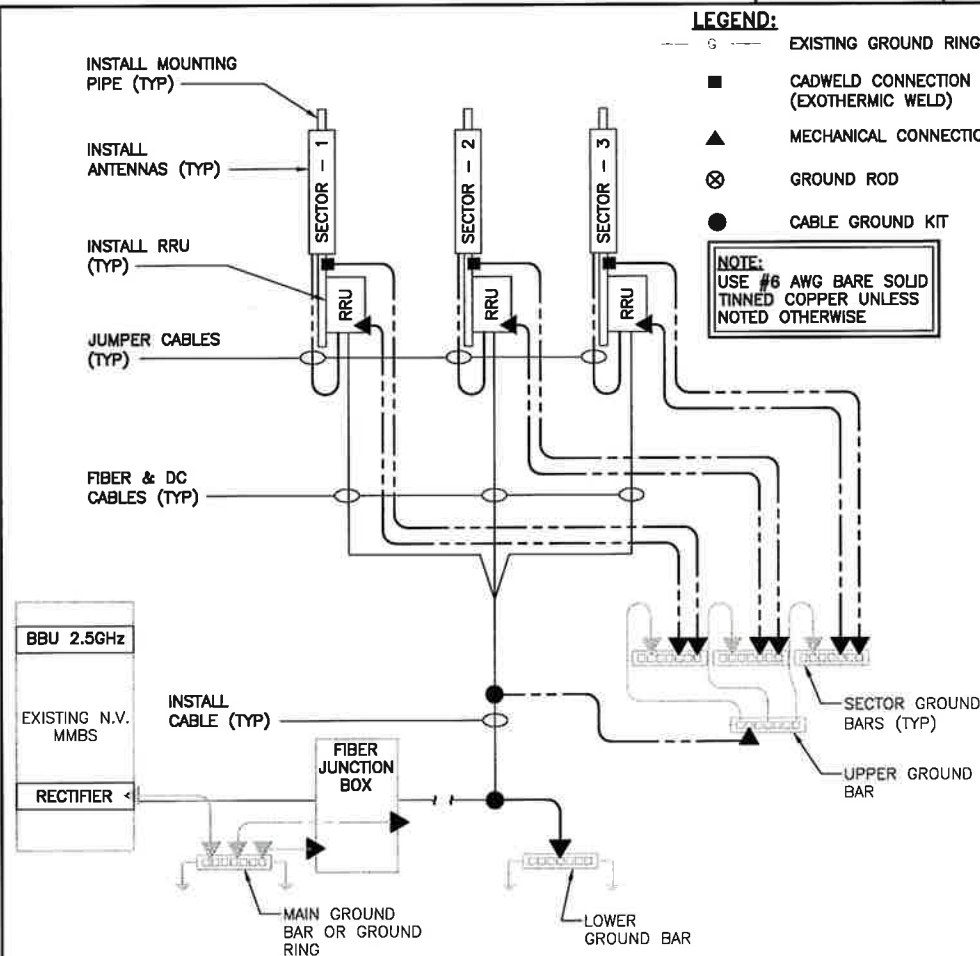
2



TWO HOLE LUG

NO SCALE

3



GROUNDING RISER DIAGRAM

NO SCALE

4

PLANS PREPARED FOR:
Sprint
 6580 Sprint Parkway
 Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 690-0790
 Fax # (518) 690-0793
 JOB NUMBER 353-XXX

MLA PARTNER:
CROWN CASTLE

ENGINEERING LICENSE:

 JOHN S. STEVENS
 No. 24703
 LICENSED PROFESSIONAL ENGINEER

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CT03XC335

SITE ADDRESS:
 94 EAST HIGH STREET
 EAST HAMPTON, CT 06424

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER:
E-2



May 12, 2014

Charles Trask
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277
(980) 209-8228

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject: **Structural Analysis Report**

Carrier Designation: **Sprint PCS Co-Locate – Scenario B**
Carrier Site Number: CT03XC335
Carrier Site Name: N/A

Crown Castle Designation: **Crown Castle BU Number:** 876352
Crown Castle Site Name: RICHARD WALL
Crown Castle JDE Job Number: 286437
Crown Castle Work Order Number: 758642
Crown Castle Application Number: 245668 Rev. 1

Engineering Firm Designation: **B+T Group Project Number:** 92595.001.01

Site Data: **94 East Hight Street, East Hampton, Middlesex County, CT**
Latitude 41° 35' 14.2", Longitude -72° 29' 19.6"
117.5 Foot - Monopole Tower

Dear Charles Trask,

B+T Group is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural ‘Statement of Work’ and the terms of Crown Castle Purchase Order Number 645286, in accordance with application 245668, revision 1.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Existing + Proposed Equipment **Sufficient Capacity**
Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code with 2009 amendment based upon a wind speed of 85 mph fastest mile.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:
B+T Engineering, Inc.

Brandon Sevier
Project Engineer

Chad E. Tuttle, P.E.
President

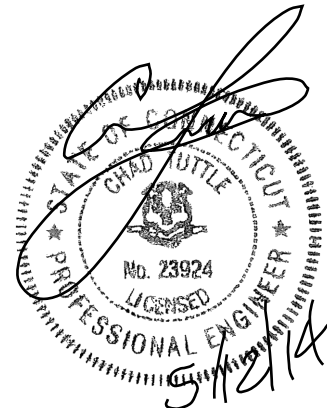


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Antenna and Cable Information

Table 2 - Existing Antenna and Cable Information

Table 3 - Design Antenna and Cable Information

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Table 6 – Tower Components vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 117.5 ft Monopole tower designed by Engineered Endeavors, Inc. in May of 1999. The tower was originally designed for a wind speed of 89.25 mph per TIA/EIA-222-F. This tower has been modified by B+T Group in September 2012, and those modifications are incorporated in this analysis.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 85 mph with no ice, 37.6 mph with 0.75 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
117.0	119.0	3	Alcatel Lucent	TD-RRH8x20-25	1	1 1/4	--
		3	RFS Celwave	APXVTM14-C-120			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
117.0	130.0	1	Decibel	DB264-A	2 1	7/8 1/2	3
		1	Decibel	DB420-A			
	126.0	1	Decibel	ASP-2011			
	119.0	1	Gabriel Electronics	GHF3W-23			
		3	RFS Celwave	APXVSP18-C-A20			
117.0	1	--	Platform Mount [LP 712-1]	3	1 1/4	1	
115.0	120.0	3	Alcatel Lucent	800MHz 2X50W RRH W/Filter	--	--	1
		3	Alcatel Lucent	PCS 1900MHz 4x45W-65MHz			
	115.0	1	--	Side Arm Mount [SO 102-3]			
105.0	108.0	2	Antel	BXA-171063-12BF	12	1 1/4	1
		1	Antel	BXA-171063-8BF-2			
		1	Antel	BXA-70063/6CF-2			
		2	Antel	BXA-70063/6CFx4			
		4	Decibel	DB846F65ZAXY			
		2	RFS Celwave	APL866513-42T0			
	6	RFS Celwave	FD9R6004/2C-3L				
105.0	1	--	Platform Mount [LP 1201-1]				
91.0	93.0	3	Ericsson	RRUS-11	12 3 2 1	1 5/8 1 1/4 3/4 3/8	1
		3	KMW Comm.	AM-X-CD-16-65-00T-RET			
		6	Powerwave	7770.00			
		6	Powerwave	LGP 17201			
		6	Powerwave	LGP21903			
	1	Raycap	DC6-48-60-18-8F				
91.0	1	--	Platform Mount [LP 1201-1]				

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
75.0	76.0	1	Lucent	KS24019-L112A	1	1/2	1
	75.0	1	--	Side Arm Mount [SO 701-1]			

Notes:

- 1) Existing Equipment
- 2) Equipment to be removed

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
117.5	117.5	12	Decibel	DB 980	--	--
105	105	12	Swedcom	ALP 9212	--	--
95	95	12	Swedcom	ALP 9212	--	--

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	Sprint Co Locate, Rev: 1	245668	CCI Sites
Tower Manufacturer Drawing	Engineering Endeavors, Inc. Job No: 5069	2122777	CCI Sites
Tower Modification Drawing	B+T Group/Aero solutions, Project No: 84788.001	Date: 09/18/2012	CCI Sites
Post Modification inspection	B+T Group, Project No: 84788.002	Date: 11/02/2012	CCI Sites
Tower Foundation Drawings	Engineering Endeavors, Inc. Job No: 5069	2122776	CCI Sites
Geo Tech Report	Clough, Harbour, & Associates LLP, Project: 7472.07.03	1532964	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 05/05/2014	CCI Sites

3.1) Analysis Method

tnxTower (version 6.1.4.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
- 5) Mount areas and weights are assumed based on photographs provided.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	117.5 - 86.29	Pole	TP22.9x15x0.188	1	-8.597	675.914	90.8	Pass
L2	86.29 - 42.63	Pole	TP33.46x21.659x0.313	2	-14.661	1647.841	95.5	Pass
L3	42.63 - 28.167	Pole	TP36.452x31.644x0.397	3	-19.156	1939.488	96.6	Pass
L4	28.167 - 0	Pole	TP43.5x36.452x0.411	4	-23.647	2320.326	92.6	Pass
							Summary	
						Pole (L3)	96.6	Pass
						RATING =	96.6	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	78.2	Pass
1	Base Plate	Base	89.8	Pass
1	Base Foundation	Base	94.0	Pass

Structure Rating (max from all components) =	96.6%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

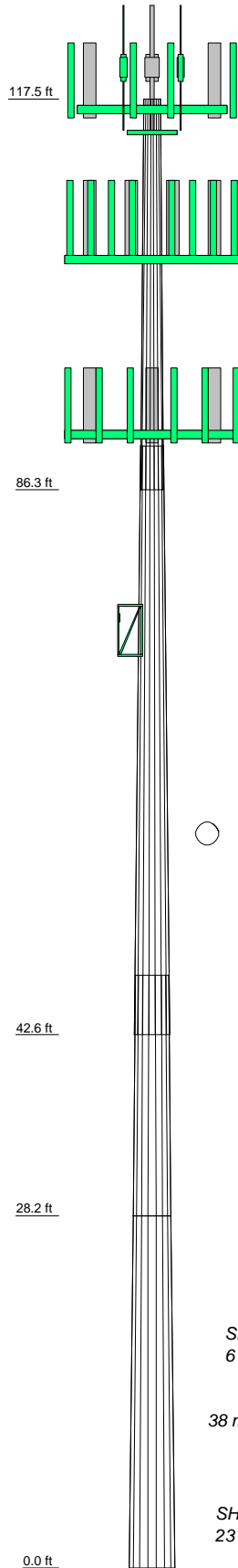
4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the existing and proposed loads. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4
Length (ft)	31.210	47.080	19.213	28.167
Number of Sides	18	18	18	18
Thickness (in)	0.188	0.313	0.397	0.411
Socket Length (ft)	3.420	4.750	31.644	36.452
Top Dia (in)	15.000	21.659	31.644	43.500
Bot Dia (in)	22.900	33.460	36.452	43.500
Grade		A572-65		53.318676ksi
Weight (K)	1.2	4.3	2.7	4.9



DESIGNED APPURTENANCE LOADING

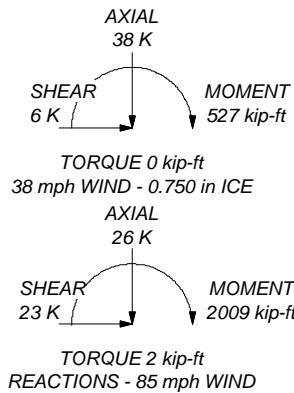
TYPE	ELEVATION	TYPE	ELEVATION
APXVSPP18-C-A20 w/ Mount Pipe (E)	117	BXA-70063/6CFx4 w/ Mount Pipe (E)	105
APXVSPP18-C-A20 w/ Mount Pipe (E)	117	BXA-70063/6CFx4 w/ Mount Pipe (E)	105
APXVSPP18-C-A20 w/ Mount Pipe (E)	117	BXA-70063/6CF-2 w/ Mount Pipe (E)	105
APXVTM14-C-120 w/ Mount Pipe (P)	117	BXA-171063-12BF w/ Mount Pipe (E)	105
APXVTM14-C-120 w/ Mount Pipe (P)	117	BXA-171063-8BF-2 w/ Mount Pipe (E)	105
APXVTM14-C-120 w/ Mount Pipe (P)	117	BXA-171063-12BF w/ Mount Pipe (E)	105
TD-RRH8x20-25 (P)	117	(2) FD9R6004/2C-3L (E)	105
TD-RRH8x20-25 (P)	117	(2) FD9R6004/2C-3L (E)	105
TD-RRH8x20-25 (P)	117	(2) FD9R6004/2C-3L (E)	105
(2) 8' x 2" Pipe Mount (E)	117	Platform Mount [LP 1201-1] (E)	105
(2) 8' x 2" Pipe Mount (E)	117	(2) 7770.00 w/ Mount Pipe (E)	91
(2) 8' x 2" Pipe Mount (E)	117	(2) 7770.00 w/ Mount Pipe (E)	91
Platform Mount [LP 712-1] (E)	117	(2) 7770.00 w/ Mount Pipe (E)	91
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	115	AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	91
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	115	AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	91
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	115	AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	91
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	115	(2) LGP21903 (E)	91
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	115	(2) LGP21903 (E)	91
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	115	RRUS-11 (E)	91
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	115	RRUS-11 (E)	91
10' x 3" Pipe Mount (AS PER PHOTO)	115	RRUS-11 (E)	91
10' x 3" Pipe Mount (AS PER PHOTO)	115	(2) LGP 17201 (E)	91
10' x 3" Pipe Mount (AS PER PHOTO)	115	(2) LGP 17201 (E)	91
10' x 3" Pipe Mount (AS PER PHOTO)	115	DC6-48-60-18-8F (E)	91
Side Arm Mount [SO 102-3] (E)	115	8' x 2" Pipe Mount (E)	91
(2) DB846F65ZAXY w/ Mount Pipe (E)	105	8' x 2" Pipe Mount (E)	91
(2) APL866513-42T0 w/ Mount Pipe (E)	105	Platform Mount [LP 1201-1] (E)	91
(2) DB846F65ZAXY w/ Mount Pipe (E)	105	KS24019-L112A (E)	75
		Side Arm Mount [SO 701-1] (E)	75

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi	54.683873ksi	55 ksi	70 ksi
53.318676ksi	53 ksi	68 ksi			

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 96.6%

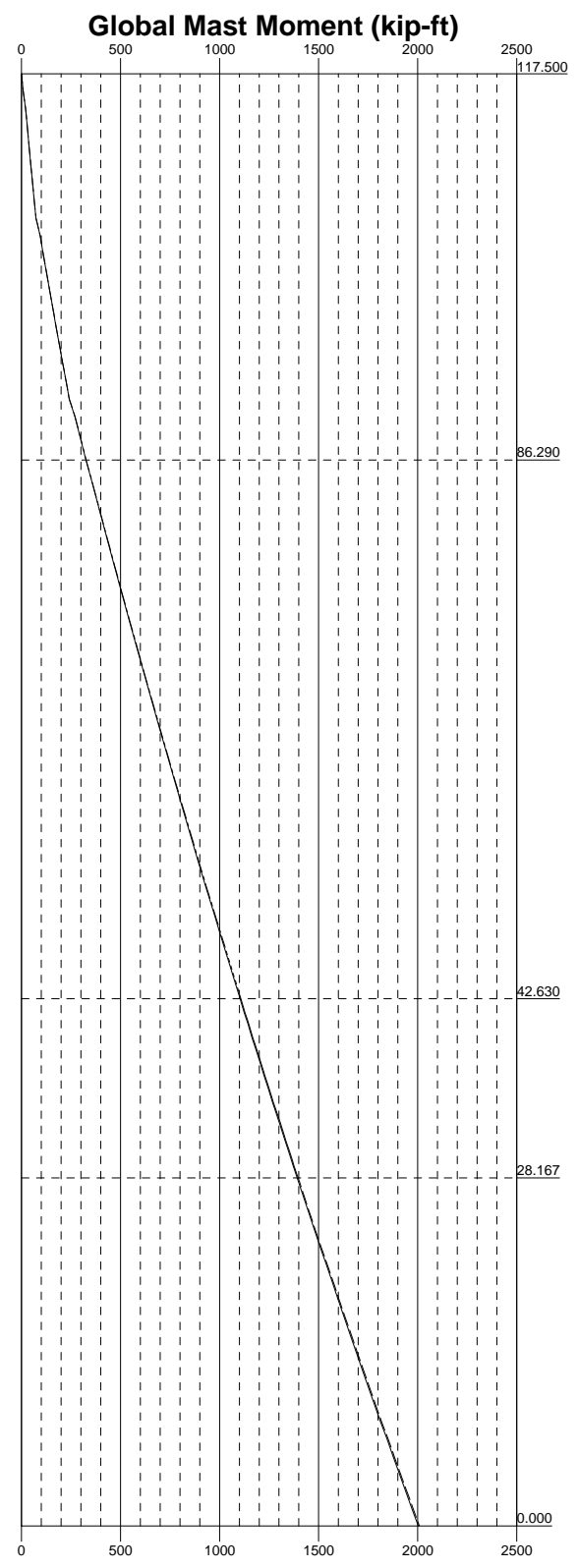
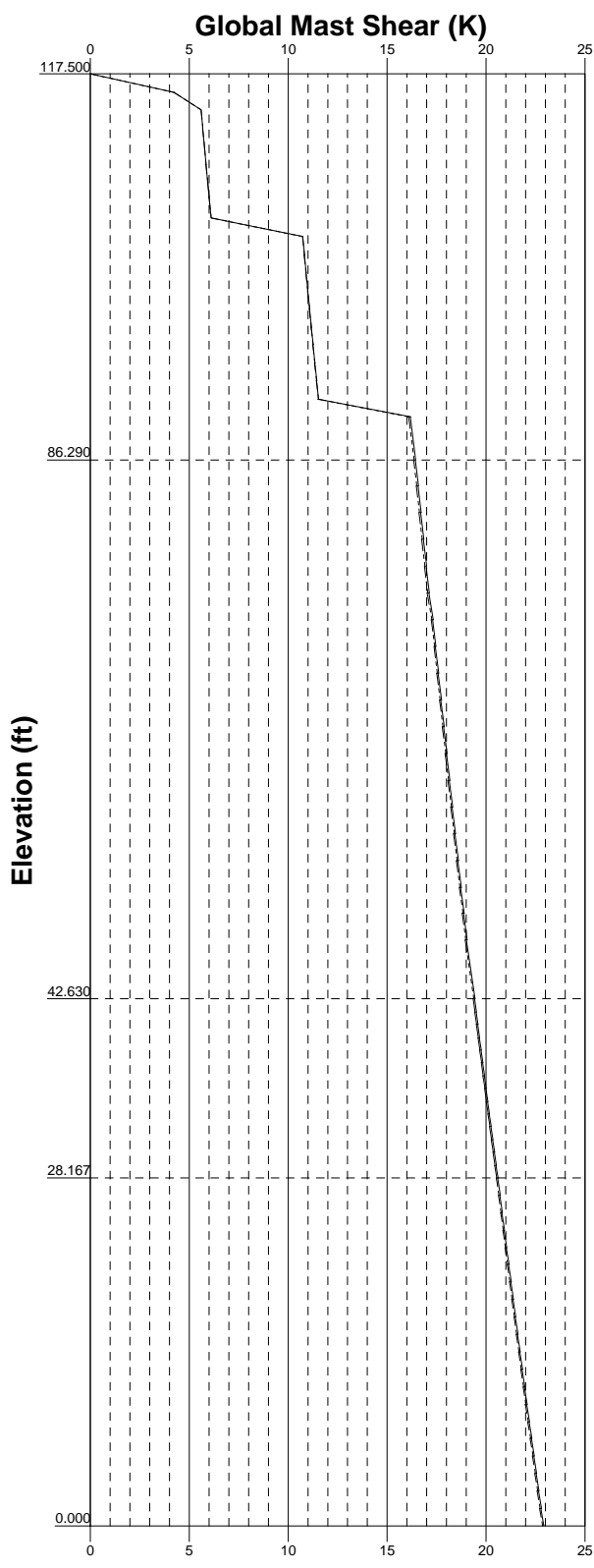


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 FAX: (918) 295-0265

Job: **92595.001.01-Richard Wall, CT (BU #876352)**
 Project:
 Client: Crown Castle
 Code: TIA/EIA-222-F
 Path:
 Drawn by: B. Sevier
 Date: 05/12/14
 App'd:
 Scale: NTS
 Dwg No. E-1

—— Vx - - - - Vz

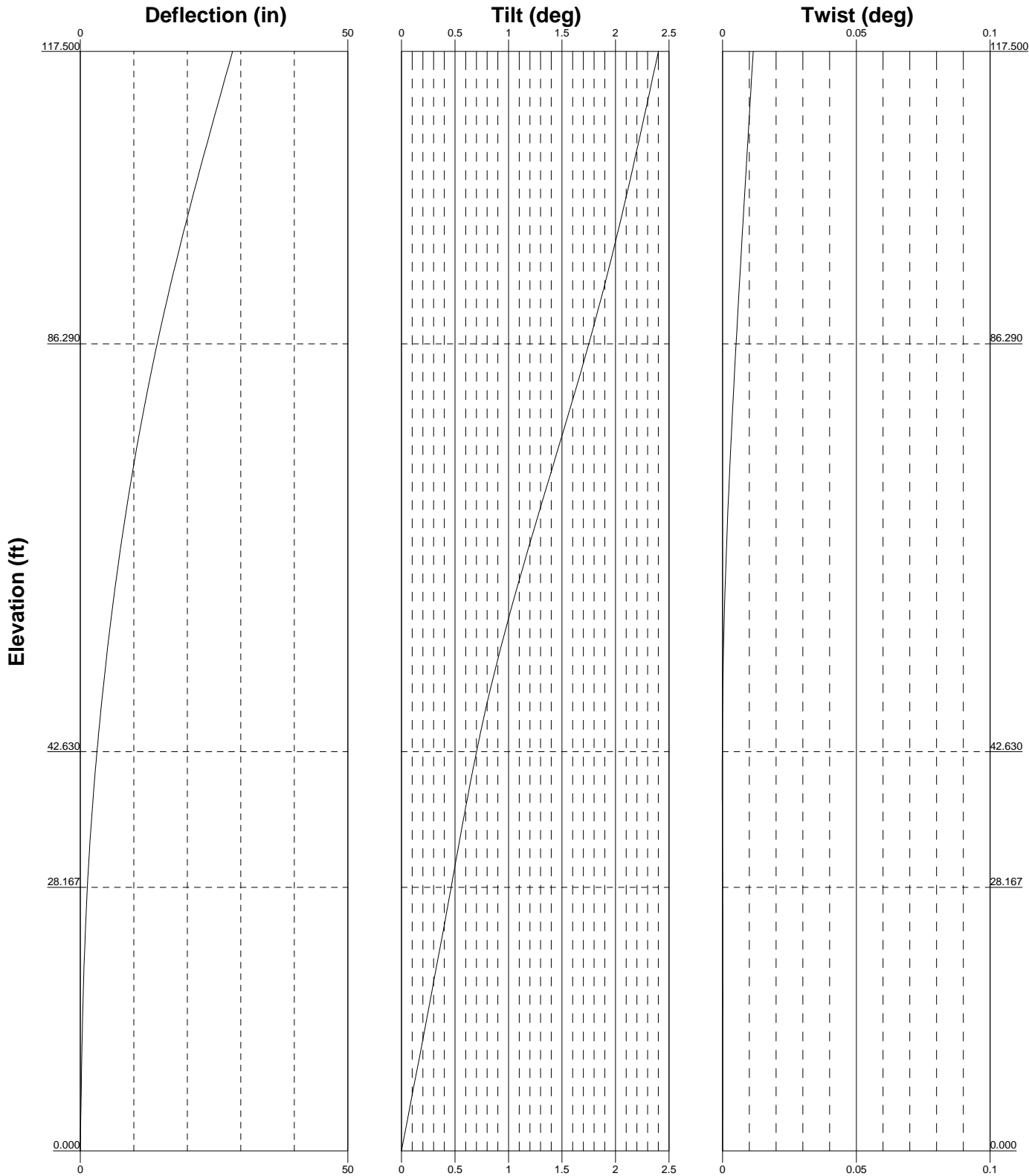
—— Mx - - - - Mz



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Job: 92595.001.01-Richard Wall, CT (BU #876352)		
Project:		
Client: Crown Castle	Drawn by: B. Sevier	App'd:
Code: TIA/EIA-222-F	Date: 05/12/14	Scale: NTS
Path:		Dwg No. E-4

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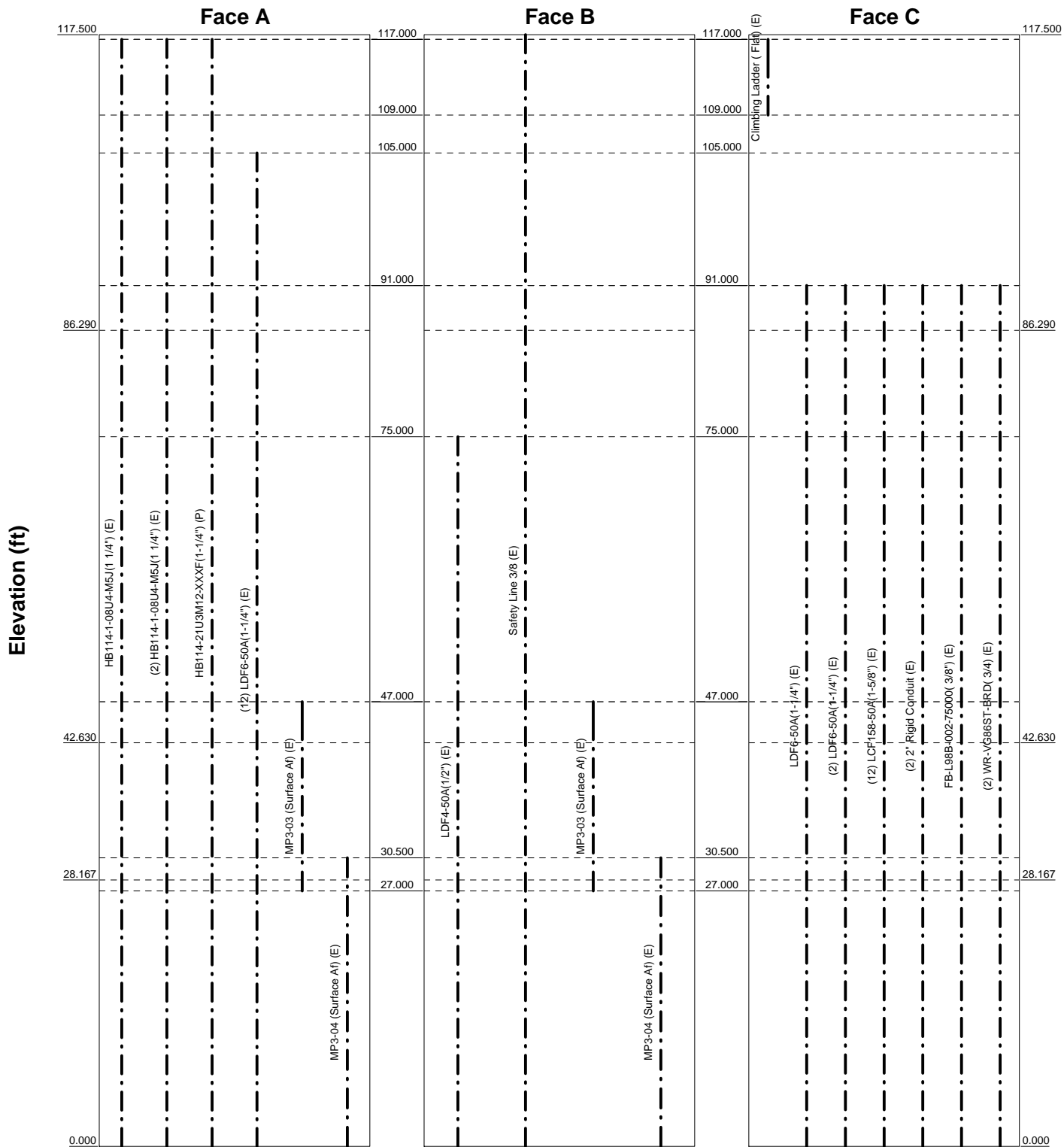
Job: 92595.001.01-Richard Wall, CT (BU #876352)		
Project:		
Client: Crown Castle	Drawn by: B. Sevier	App'd:
Code: TIA/EIA-222-F	Date: 05/12/14	Scale: NTS
Path:		Dwg No. E-5

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Feed Line Distribution Chart

0' - 117'6"

Round
Flat
App In Face
App Out Face
Truss Leg



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Job: 92595.001.01-Richard Wall, CT (BU #876352)		
Project:		
Client: Crown Castle	Drawn by: B. Sevier	App'd:
Code: TIA/EIA-222-F	Date: 05/12/14	Scale: NTS
Path:		Dwg No. E-7

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tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92595.001.01-Richard Wall, CT (BU #876352)	Page 1 of 17
	Project	Date 14:49:13 05/12/14
	Client Crown Castle	Designed by B. Sevier

Tower Input Data

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Middlesex County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.750 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 38 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 50 mph.

TOWER RATING: 96.6%.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.333.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys √ Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) Add IBC .6D+W Combination 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas SR Members Have Cut Ends Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Use TIA-222-G Tension Splice Capacity Exemption 	<ul style="list-style-type: none"> Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feedline Torque Include Angle Block Shear Check <li style="text-align: center;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
--	--	---

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	117.500-86.290	31.210	3.420	18	15.000	22.900	0.188	0.750	A572-65 (65 ksi)
L2	86.290-42.630	47.080	4.750	18	21.659	33.460	0.313	1.250	A572-65 (65 ksi)
L3	42.630-28.167	19.213	0.000	18	31.644	36.452	0.397	1.590	53.318676ksi (53 ksi)
L4	28.167-0.000	28.167		18	36.452	43.500	0.411	1.646	54.683873ksi (55 ksi)

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92595.001.01-Richard Wall, CT (BU #876352)	Page 2 of 17
	Project	Date 14:49:13 05/12/14
	Client Crown Castle	Designed by B. Sevier

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	15.231	8.815	244.360	5.258	7.620	32.068	489.042	4.408	2.310	12.32
	23.253	13.517	880.928	8.063	11.633	75.725	1763.015	6.760	3.700	19.735
L2	22.864	21.173	1218.972	7.578	11.003	110.786	2439.548	10.589	3.262	10.439
	33.976	32.878	4564.012	11.767	16.998	268.508	9134.028	16.442	5.339	17.085
L3	33.339	39.416	4862.156	11.093	16.075	302.460	9730.710	19.712	4.870	12.254
	37.014	45.481	7469.374	12.799	18.518	403.366	14948.577	22.745	5.716	14.383
L4	37.014	47.070	7724.323	12.794	18.518	417.134	15458.809	23.539	5.691	13.832
	44.171	56.275	13199.994	15.296	22.098	597.339	26417.357	28.143	6.932	16.846

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
ft	ft ²	in						
L1 117.500-86.29 0				1	1	1		
L2 86.290-42.630				1	1	1		
L3 42.630-28.167				1	1	0.981348		
L4 28.167-0.000				1	1	0.98208		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
+										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	C _A A _A ft ² /ft	Weight klf	
HB114-1-08U 4-M5J(1 1/4") (E)	A	No	CaAa (Out Of Face)	117.000 - 0.000	0.000	0	1	No Ice	0.154	0.001
								1/2" Ice	0.254	0.002
								1" Ice	0.354	0.004
								2" Ice	0.554	0.010
HB114-1-08U 4-M5J(1 1/4") (E)	A	No	CaAa (Out Of Face)	117.000 - 0.000	0.000	0	2	No Ice	0.000	0.001
								1/2" Ice	0.000	0.002
								1" Ice	0.000	0.004
								2" Ice	0.000	0.010
HB114-21U3 M12-XXXXF(1 -1/4") (P)	A	No	CaAa (Out Of Face)	117.000 - 0.000	0.000	0	1	No Ice	0.000	0.001
								1/2" Ice	0.000	0.002
								1" Ice	0.000	0.004
								2" Ice	0.000	0.010
								4" Ice	0.000	0.028

tnxTower

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Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	3 of 17
Project		Date	14:49:13 05/12/14
Client	Crown Castle	Designed by	B. Sevier

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C _A A _A ft ² /ft	Weight klf
Climbing Ladder (Flat) (E)	C	No	CaAa (Out Of Face)	117.000 - 109.000	36.000	0	1	No Ice	0.584	0.005
								1/2" Ice	1.030	0.007
								1" Ice	1.476	0.010
								2" Ice	2.368	0.020
								4" Ice	4.151	0.049

LDF6-50A(1-1/4") (E)	A	No	Inside Pole	105.000 - 0.000	0.000	0	12	No Ice	0.000	0.001
								1/2" Ice	0.000	0.001
								1" Ice	0.000	0.001
								2" Ice	0.000	0.001
								4" Ice	0.000	0.001

LDF6-50A(1-1/4") (E)	C	No	CaAa (Out Of Face)	91.000 - 0.000	0.000	0	1	No Ice	0.155	0.001
								1/2" Ice	0.255	0.002
								1" Ice	0.355	0.004
								2" Ice	0.555	0.009
								4" Ice	0.955	0.028
LDF6-50A(1-1/4") (E)	C	No	CaAa (Out Of Face)	91.000 - 0.000	0.000	0	2	No Ice	0.000	0.001
								1/2" Ice	0.000	0.002
								1" Ice	0.000	0.004
								2" Ice	0.000	0.009
								4" Ice	0.000	0.028
LCF158-50A(1-5/8") (E)	C	No	Inside Pole	91.000 - 0.000	0.000	0	12	No Ice	0.000	0.001
								1/2" Ice	0.000	0.001
								1" Ice	0.000	0.001
								2" Ice	0.000	0.001
								4" Ice	0.000	0.001
2" Rigid Conduit (E)	C	No	Inside Pole	91.000 - 0.000	0.000	0	2	No Ice	0.000	0.003
								1/2" Ice	0.000	0.003
								1" Ice	0.000	0.003
								2" Ice	0.000	0.003
								4" Ice	0.000	0.003
FB-L98B-002-75000(3/8") (E)	C	No	Inside Pole	91.000 - 0.000	0.000	0	1	No Ice	0.000	0.000
								1/2" Ice	0.000	0.000
								1" Ice	0.000	0.000
								2" Ice	0.000	0.000
								4" Ice	0.000	0.000
WR-VG86ST-BRD(3/4) (E)	C	No	Inside Pole	91.000 - 0.000	0.000	0	2	No Ice	0.000	0.001
								1/2" Ice	0.000	0.001
								1" Ice	0.000	0.001
								2" Ice	0.000	0.001
								4" Ice	0.000	0.001

LDF4-50A(1/2") (E)	B	No	CaAa (Out Of Face)	75.000 - 0.000	0.000	0	1	No Ice	0.063	0.000
								1/2" Ice	0.163	0.001
								1" Ice	0.263	0.002
								2" Ice	0.463	0.007
								4" Ice	0.863	0.023

Safety Line 3/8 (E)	B	No	CaAa (Out Of Face)	117.500 - 0.000	0.000	0	1	No Ice	0.037	0.000
								1/2" Ice	0.137	0.001
								1" Ice	0.238	0.001
								2" Ice	0.437	0.002
								4" Ice	0.838	0.004

MP3-03 (Surface Af)	A	No	CaAa (Out Of Face)	47.000 - 27.000	0.000	0	1	No Ice	0.262	0.010
								1/2" Ice	0.345	0.015

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92595.001.01-Richard Wall, CT (BU #876352)	Page 4 of 17
	Project	Date 14:49:13 05/12/14
	Client Crown Castle	Designed by B. Sevier

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	C _A A _A ft ² /ft	Weight klf
(E)							1" Ice	0.428	0.020
							2" Ice	0.595	0.040
							4" Ice	0.928	0.080
MP3-03 (Surface Af) (E)	B	No	CaAa (Out Of Face)	47.000 - 27.000	0.000	0	No Ice	0.262	0.010
							1/2" Ice	0.345	0.015
							1" Ice	0.428	0.020
							2" Ice	0.595	0.040
							4" Ice	0.928	0.080
* MP3-04 (Surface Af) (E)	B	No	CaAa (Out Of Face)	30.500 - 0.000	0.000	0	No Ice	0.268	0.014
							1/2" Ice	0.352	0.016
							1" Ice	0.435	0.018
							2" Ice	0.602	0.022
							4" Ice	0.935	0.036
MP3-04 (Surface Af) (E)	A	No	CaAa (Out Of Face)	30.500 - 0.000	0.000	0	No Ice	0.268	0.014
							1/2" Ice	0.352	0.016
							1" Ice	0.435	0.018
							2" Ice	0.602	0.022
							4" Ice	0.935	0.036

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	117.500-86.290	A	0.000	0.000	0.000	4.729	0.285
		B	0.000	0.000	0.000	1.170	0.007
		C	0.000	0.000	0.000	5.405	0.125
L2	86.290-42.630	A	0.000	0.000	0.000	7.867	0.584
		B	0.000	0.000	0.000	4.820	0.058
		C	0.000	0.000	0.000	6.767	0.804
L3	42.630-28.167	A	0.000	0.000	0.000	6.638	0.355
		B	0.000	0.000	0.000	5.864	0.181
		C	0.000	0.000	0.000	2.242	0.266
L4	28.167-0.000	A	0.000	0.000	0.000	12.201	0.757
		B	0.000	0.000	0.000	10.694	0.419
		C	0.000	0.000	0.000	4.366	0.519

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	117.500-86.290	A	0.858	0.000	0.000	0.000	9.997	0.601
		B		0.000	0.000	0.000	6.524	0.035
		C		0.000	0.000	0.000	12.331	0.199
L2	86.290-42.630	A	0.811	0.000	0.000	0.000	15.981	1.071
		B		0.000	0.000	0.000	18.487	0.188
		C		0.000	0.000	0.000	14.257	1.143
L3	42.630-28.167	A	0.756	0.000	0.000	0.000	11.256	0.619
		B		0.000	0.000	0.000	12.829	0.341
		C		0.000	0.000	0.000	4.589	0.371
L4	28.167-0.000	A	0.750	0.000	0.000	0.000	20.093	1.083
		B		0.000	0.000	0.000	22.811	0.559
		C		0.000	0.000	0.000	8.591	0.703

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	5 of 17
	Project		Date	14:49:13 05/12/14
	Client	Crown Castle	Designed by	B. Sevier

Feed Line Center of Pressure

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L1	117.500-86.290	-0.124	-0.068	-0.111	-0.036
L2	86.290-42.630	-0.041	-0.061	0.095	0.010
L3	42.630-28.167	0.242	-0.199	0.429	-0.154
L4	28.167-0.000	0.225	-0.192	0.412	-0.147

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						°
APXVSPP18-C-A20 w/ Mount Pipe (E)	A	From Leg	4.000	0.000	0.000	117.000	No Ice	8.498	6.946	0.083
			0.000	2.000			1/2" Ice	9.149	8.127	0.151
							1" Ice	9.767	9.021	0.227
							2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
APXVSPP18-C-A20 w/ Mount Pipe (E)	B	From Leg	4.000	0.000	0.000	117.000	No Ice	8.498	6.946	0.083
			0.000	2.000			1/2" Ice	9.149	8.127	0.151
							1" Ice	9.767	9.021	0.227
							2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
APXVSPP18-C-A20 w/ Mount Pipe (E)	C	From Leg	4.000	0.000	0.000	117.000	No Ice	8.498	6.946	0.083
			0.000	2.000			1/2" Ice	9.149	8.127	0.151
							1" Ice	9.767	9.021	0.227
							2" Ice	11.031	10.844	0.406
							4" Ice	13.679	14.851	0.909
APXVTM14-C-120 w/ Mount Pipe (P)	A	From Leg	4.000	0.000	0.000	117.000	No Ice	7.134	4.959	0.077
			0.000	2.000			1/2" Ice	7.662	5.754	0.131
							1" Ice	8.183	6.472	0.193
							2" Ice	9.256	8.010	0.338
							4" Ice	11.526	11.412	0.752
APXVTM14-C-120 w/ Mount Pipe (P)	B	From Leg	4.000	0.000	0.000	117.000	No Ice	7.134	4.959	0.077
			0.000	2.000			1/2" Ice	7.662	5.754	0.131
							1" Ice	8.183	6.472	0.193
							2" Ice	9.256	8.010	0.338
							4" Ice	11.526	11.412	0.752
APXVTM14-C-120 w/ Mount Pipe (P)	C	From Leg	4.000	0.000	0.000	117.000	No Ice	7.134	4.959	0.077
			0.000	2.000			1/2" Ice	7.662	5.754	0.131
							1" Ice	8.183	6.472	0.193
							2" Ice	9.256	8.010	0.338
							4" Ice	11.526	11.412	0.752
TD-RRH8x20-25 (P)	A	From Leg	4.000	0.000	0.000	117.000	No Ice	4.720	1.703	0.070
			0.000	2.000			1/2" Ice	5.014	1.920	0.097
							1" Ice	5.316	2.145	0.128
							2" Ice	5.948	2.622	0.201
							4" Ice	7.314	3.680	0.397
TD-RRH8x20-25 (P)	B	From Leg	4.000	0.000	0.000	117.000	No Ice	4.720	1.703	0.070
			0.000	2.000			1/2" Ice	5.014	1.920	0.097
							1" Ice	5.316	2.145	0.128
							2" Ice	5.948	2.622	0.201
							4" Ice	7.314	3.680	0.397
TD-RRH8x20-25	C	From Leg	4.000	0.000	0.000	117.000	No Ice	4.720	1.703	0.070

Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	6 of 17
Project		Date	14:49:13 05/12/14
Client	Crown Castle	Designed by	B. Sevier

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(P)			0.000 2.000			1/2" Ice 5.014 1" Ice 5.316 2" Ice 5.948 4" Ice 7.314	1.920 2.145 2.622 3.680	0.097 0.128 0.201 0.397
(2) 8' x 2" Pipe Mount (E)	A	From Leg	4.000 0.000 2.000	0.000	117.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396 4" Ice 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
(2) 8' x 2" Pipe Mount (E)	B	From Leg	4.000 0.000 2.000	0.000	117.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396 4" Ice 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
(2) 8' x 2" Pipe Mount (E)	C	From Leg	4.000 0.000 2.000	0.000	117.000	No Ice 1.900 1/2" Ice 2.728 1" Ice 3.401 2" Ice 4.396 4" Ice 6.498	1.900 2.728 3.401 4.396 6.498	0.029 0.044 0.063 0.119 0.300
Platform Mount [LP 712-1] (E)	C	None		0.000	117.000	No Ice 24.530 1/2" Ice 29.940 1" Ice 35.350 2" Ice 46.170 4" Ice 67.810	24.530 29.940 35.350 46.170 67.810	1.335 1.646 1.956 2.577 3.820
**								
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	A	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.709 1/2" Ice 2.948 1" Ice 3.195 2" Ice 3.716 4" Ice 4.862	2.611 2.847 3.092 3.608 4.744	0.060 0.083 0.110 0.173 0.347
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	B	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.709 1/2" Ice 2.948 1" Ice 3.195 2" Ice 3.716 4" Ice 4.862	2.611 2.847 3.092 3.608 4.744	0.060 0.083 0.110 0.173 0.347
PCS 1900MHz 4x45W-65MHz (AS PER PHOTO)	C	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.709 1/2" Ice 2.948 1" Ice 3.195 2" Ice 3.716 4" Ice 4.862	2.611 2.847 3.092 3.608 4.744	0.060 0.083 0.110 0.173 0.347
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	A	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.401 1/2" Ice 2.613 1" Ice 2.833 2" Ice 3.300 4" Ice 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	B	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.401 1/2" Ice 2.613 1" Ice 2.833 2" Ice 3.300 4" Ice 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
800MHz 2X50W RRH W/FILTER (AS PER PHOTO)	C	From Leg	2.000 0.000 5.000	0.000	115.000	No Ice 2.401 1/2" Ice 2.613 1" Ice 2.833 2" Ice 3.300 4" Ice 4.337	2.254 2.460 2.675 3.132 4.148	0.064 0.086 0.111 0.172 0.338
10' x 3" Pipe Mount (AS PER PHOTO)	A	From Leg	2.000 0.000	0.000	115.000	No Ice 3.000 1/2" Ice 4.033	3.000 4.033	0.080 0.102

Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	7 of 17
Project		Date	14:49:13 05/12/14
Client	Crown Castle	Designed by	B. Sevier

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight
			ft ft ft	°	ft	ft ²	ft ²	K
			5.000			1" Ice 5.027	5.027	0.130
						2" Ice 6.257	6.257	0.207
						4" Ice 8.830	8.830	0.447
10' x 3" Pipe Mount (AS PER PHOTO)	B	From Leg	2.000	0.000	115.000	No Ice 3.000	3.000	0.080
			0.000			1/2" Ice 4.033	4.033	0.102
			5.000			1" Ice 5.027	5.027	0.130
						2" Ice 6.257	6.257	0.207
						4" Ice 8.830	8.830	0.447
10' x 3" Pipe Mount (AS PER PHOTO)	C	From Leg	2.000	0.000	115.000	No Ice 3.000	3.000	0.080
			0.000			1/2" Ice 4.033	4.033	0.102
			5.000			1" Ice 5.027	5.027	0.130
						2" Ice 6.257	6.257	0.207
						4" Ice 8.830	8.830	0.447
Side Arm Mount [SO 102-3] (E)	C	None		0.000	115.000	No Ice 3.000	3.000	0.081
						1/2" Ice 3.480	3.480	0.111
						1" Ice 3.960	3.960	0.141
						2" Ice 4.920	4.920	0.201
						4" Ice 6.840	6.840	0.321
**								
(2) DB846F65ZAXY w/ Mount Pipe (E)	A	From Leg	4.000	0.000	105.000	No Ice 7.271	7.821	0.047
			0.000			1/2" Ice 7.877	9.010	0.114
			3.000			1" Ice 8.484	9.912	0.189
						2" Ice 9.724	11.812	0.367
						4" Ice 12.325	15.978	0.867
(2) APL866513-42T0 w/ Mount Pipe (E)	B	From Leg	4.000	0.000	105.000	No Ice 4.531	4.921	0.034
			0.000			1/2" Ice 4.968	5.596	0.079
			3.000			1" Ice 5.414	6.284	0.129
						2" Ice 6.337	7.712	0.251
						4" Ice 8.320	10.833	0.603
(2) DB846F65ZAXY w/ Mount Pipe (E)	C	From Leg	4.000	0.000	105.000	No Ice 7.271	7.821	0.047
			0.000			1/2" Ice 7.877	9.010	0.114
			3.000			1" Ice 8.484	9.912	0.189
						2" Ice 9.724	11.812	0.367
						4" Ice 12.325	15.978	0.867
BXA-70063/6CFx4 w/ Mount Pipe (E)	A	From Leg	4.000	0.000	105.000	No Ice 7.969	5.398	0.042
			0.000			1/2" Ice 8.609	6.546	0.101
			3.000			1" Ice 9.216	7.409	0.168
						2" Ice 10.459	9.184	0.327
						4" Ice 13.066	12.933	0.787
BXA-70063/6CFx4 w/ Mount Pipe (E)	B	From Leg	4.000	0.000	105.000	No Ice 7.969	5.398	0.042
			0.000			1/2" Ice 8.609	6.546	0.101
			3.000			1" Ice 9.216	7.409	0.168
						2" Ice 10.459	9.184	0.327
						4" Ice 13.066	12.933	0.787
BXA-70063/6CF-2 w/ Mount Pipe (E)	C	From Leg	4.000	0.000	105.000	No Ice 7.969	5.398	0.042
			0.000			1/2" Ice 8.609	6.546	0.101
			3.000			1" Ice 9.216	7.409	0.168
						2" Ice 10.459	9.184	0.327
						4" Ice 13.066	12.933	0.787
BXA-171063-12BF w/ Mount Pipe (E)	A	From Leg	4.000	0.000	105.000	No Ice 4.971	5.228	0.040
			0.000			1/2" Ice 5.521	6.389	0.086
			3.000			1" Ice 6.036	7.261	0.139
						2" Ice 7.091	9.046	0.271
						4" Ice 9.359	12.817	0.671
BXA-171063-8BF-2 w/ Mount Pipe (E)	B	From Leg	4.000	0.000	105.000	No Ice 3.179	3.353	0.029
			0.000			1/2" Ice 3.555	3.971	0.061
			3.000			1" Ice 3.964	4.595	0.099

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						ft
					°	ft	ft ²	ft ²	K	
							2" Ice	4.853	5.893	0.193
							4" Ice	6.767	8.885	0.488
BXA-171063-12BF w/ Mount Pipe (E)	C	From Leg	4.000	0.000	0.000	105.000	No Ice	4.971	5.228	0.040
			0.000				1/2" Ice	5.521	6.389	0.086
			3.000				1" Ice	6.036	7.261	0.139
							2" Ice	7.091	9.046	0.271
							4" Ice	9.359	12.817	0.671
(2) FD9R6004/2C-3L (E)	A	From Leg	4.000	0.000	0.000	105.000	No Ice	0.367	0.085	0.003
			0.000				1/2" Ice	0.451	0.136	0.005
			3.000				1" Ice	0.543	0.196	0.009
							2" Ice	0.755	0.343	0.020
							4" Ice	1.281	0.740	0.063
(2) FD9R6004/2C-3L (E)	B	From Leg	4.000	0.000	0.000	105.000	No Ice	0.367	0.085	0.003
			0.000				1/2" Ice	0.451	0.136	0.005
			3.000				1" Ice	0.543	0.196	0.009
							2" Ice	0.755	0.343	0.020
							4" Ice	1.281	0.740	0.063
(2) FD9R6004/2C-3L (E)	C	From Leg	4.000	0.000	0.000	105.000	No Ice	0.367	0.085	0.003
			0.000				1/2" Ice	0.451	0.136	0.005
			3.000				1" Ice	0.543	0.196	0.009
							2" Ice	0.755	0.343	0.020
							4" Ice	1.281	0.740	0.063
Platform Mount [LP 1201-1] (E)	C	None		0.000	0.000	105.000	No Ice	23.100	23.100	2.100
							1/2" Ice	26.800	26.800	2.500
							1" Ice	30.500	30.500	2.900
							2" Ice	37.900	37.900	3.700
							4" Ice	52.700	52.700	5.300
**+*										
(2) 7770.00 w/ Mount Pipe (E)	A	From Leg	4.000	0.000	0.000	91.000	No Ice	6.119	4.254	0.055
			0.000				1/2" Ice	6.626	5.014	0.103
			2.000				1" Ice	7.128	5.711	0.157
							2" Ice	8.164	7.155	0.287
							4" Ice	10.360	10.412	0.665
(2) 7770.00 w/ Mount Pipe (E)	B	From Leg	4.000	0.000	0.000	91.000	No Ice	6.119	4.254	0.055
			0.000				1/2" Ice	6.626	5.014	0.103
			2.000				1" Ice	7.128	5.711	0.157
							2" Ice	8.164	7.155	0.287
							4" Ice	10.360	10.412	0.665
(2) 7770.00 w/ Mount Pipe (E)	C	From Leg	4.000	0.000	0.000	91.000	No Ice	6.119	4.254	0.055
			0.000				1/2" Ice	6.626	5.014	0.103
			2.000				1" Ice	7.128	5.711	0.157
							2" Ice	8.164	7.155	0.287
							4" Ice	10.360	10.412	0.665
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	A	From Leg	4.000	0.000	0.000	91.000	No Ice	8.498	6.304	0.074
			0.000				1/2" Ice	9.149	7.479	0.139
			2.000				1" Ice	9.767	8.368	0.212
							2" Ice	11.031	10.179	0.385
							4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	B	From Leg	4.000	0.000	0.000	91.000	No Ice	8.498	6.304	0.074
			0.000				1/2" Ice	9.149	7.479	0.139
			2.000				1" Ice	9.767	8.368	0.212
							2" Ice	11.031	10.179	0.385
							4" Ice	13.679	14.024	0.874
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	C	From Leg	4.000	0.000	0.000	91.000	No Ice	8.498	6.304	0.074
			0.000				1/2" Ice	9.149	7.479	0.139
			2.000				1" Ice	9.767	8.368	0.212
							2" Ice	11.031	10.179	0.385

Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	9 of 17
Project		Date	14:49:13 05/12/14
Client	Crown Castle	Designed by	B. Sevier

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						ft
			ft	ft	°	ft	ft ²	ft ²	K	
(2) LGP21903 (E)	A	From Leg	4.000	0.000	0.000	91.000	4" Ice	13.679	14.024	0.874
			0.000				No Ice	0.270	0.184	0.011
			2.000				1/2" Ice	0.343	0.248	0.013
							1" Ice	0.425	0.322	0.017
							2" Ice	0.616	0.494	0.028
(2) LGP21903 (E)	B	From Leg	4.000	0.000	0.000	91.000	4" Ice	1.101	0.943	0.072
			0.000				No Ice	0.270	0.184	0.011
			2.000				1/2" Ice	0.343	0.248	0.013
							1" Ice	0.425	0.322	0.017
							2" Ice	0.616	0.494	0.028
(2) LGP21903 (E)	C	From Leg	4.000	0.000	0.000	91.000	4" Ice	1.101	0.943	0.072
			0.000				No Ice	0.270	0.184	0.011
			2.000				1/2" Ice	0.343	0.248	0.013
							1" Ice	0.425	0.322	0.017
							2" Ice	0.616	0.494	0.028
RRUS-11 (E)	A	From Leg	4.000	0.000	0.000	91.000	4" Ice	1.101	0.943	0.072
			0.000				No Ice	3.247	1.372	0.051
			2.000				1/2" Ice	3.489	1.550	0.071
							1" Ice	3.739	1.737	0.095
							2" Ice	4.266	2.137	0.153
RRUS-11 (E)	B	From Leg	4.000	0.000	0.000	91.000	4" Ice	5.424	3.041	0.313
			0.000				No Ice	3.247	1.372	0.051
			2.000				1/2" Ice	3.489	1.550	0.071
							1" Ice	3.739	1.737	0.095
							2" Ice	4.266	2.137	0.153
RRUS-11 (E)	C	From Leg	4.000	0.000	0.000	91.000	4" Ice	5.424	3.041	0.313
			0.000				No Ice	3.247	1.372	0.051
			2.000				1/2" Ice	3.489	1.550	0.071
							1" Ice	3.739	1.737	0.095
							2" Ice	4.266	2.137	0.153
(2) LGP 17201 (E)	A	From Leg	4.000	0.000	0.000	91.000	4" Ice	5.424	3.041	0.313
			0.000				No Ice	1.946	0.518	0.031
			2.000				1/2" Ice	2.134	0.640	0.042
							1" Ice	2.330	0.770	0.055
							2" Ice	2.749	1.056	0.089
(2) LGP 17201 (E)	B	From Leg	4.000	0.000	0.000	91.000	4" Ice	3.690	1.733	0.193
			0.000				No Ice	1.946	0.518	0.031
			2.000				1/2" Ice	2.134	0.640	0.042
							1" Ice	2.330	0.770	0.055
							2" Ice	2.749	1.056	0.089
(2) LGP 17201 (E)	C	From Leg	4.000	0.000	0.000	91.000	4" Ice	3.690	1.733	0.193
			0.000				No Ice	1.946	0.518	0.031
			2.000				1/2" Ice	2.134	0.640	0.042
							1" Ice	2.330	0.770	0.055
							2" Ice	2.749	1.056	0.089
DC6-48-60-18-8F (E)	A	From Leg	4.000	0.000	0.000	91.000	4" Ice	3.690	1.733	0.193
			0.000				No Ice	2.567	4.317	0.019
			2.000				1/2" Ice	2.798	4.596	0.050
							1" Ice	3.038	4.885	0.085
							2" Ice	3.543	5.488	0.167
8' x 2" Pipe Mount (E)	A	From Leg	4.000	0.000	0.000	91.000	4" Ice	4.658	6.797	0.383
			0.000				No Ice	1.900	1.900	0.029
			0.000				1/2" Ice	2.728	2.728	0.044
							1" Ice	3.401	3.401	0.063
							2" Ice	4.396	4.396	0.119
8' x 2" Pipe Mount	B	From Leg	4.000	0.000	0.000	91.000	4" Ice	6.498	6.498	0.300
							No Ice	1.900	1.900	0.029

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job 92595.001.01-Richard Wall, CT (BU #876352)	Page 10 of 17
	Project	Date 14:49:13 05/12/14
	Client Crown Castle	Designed by B. Sevier

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(E)			0.000			1/2" Ice 2.728	2.728	0.044
			0.000			1" Ice 3.401	3.401	0.063
						2" Ice 4.396	4.396	0.119
						4" Ice 6.498	6.498	0.300
8' x 2" Pipe Mount (E)	C	From Leg	4.000	0.000	91.000	No Ice 1.900	1.900	0.029
			0.000			1/2" Ice 2.728	2.728	0.044
			0.000			1" Ice 3.401	3.401	0.063
						2" Ice 4.396	4.396	0.119
						4" Ice 6.498	6.498	0.300
Platform Mount [LP 1201-1] (E)	C	None		0.000	91.000	No Ice 23.100	23.100	2.100
						1/2" Ice 26.800	26.800	2.500
						1" Ice 30.500	30.500	2.900
						2" Ice 37.900	37.900	3.700
						4" Ice 52.700	52.700	5.300
*** KS24019-L112A (E)	C	From Leg	2.000	0.000	75.000	No Ice 0.156	0.156	0.005
			0.000			1/2" Ice 0.225	0.225	0.007
			1.000			1" Ice 0.302	0.302	0.009
						2" Ice 0.484	0.484	0.018
						4" Ice 0.951	0.951	0.056
Side Arm Mount [SO 701-1] (E)	C	From Leg	1.000	0.000	75.000	No Ice 0.850	1.670	0.065
			0.000			1/2" Ice 1.140	2.340	0.079
			0.000			1" Ice 1.430	3.010	0.093
						2" Ice 2.010	4.350	0.121
						4" Ice 3.170	7.030	0.177

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp

<i>Comb. No.</i>	<i>Description</i>
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Force K</i>	<i>Major Axis Moment kip-ft</i>	<i>Minor Axis Moment kip-ft</i>
L1	117.5 - 86.29	Pole	Max Tension	14	0.000	-0.000	-0.000
			Max. Compression	14	-16.847	0.675	1.021
			Max. Mx	11	-8.596	270.447	0.324
			Max. My	2	-8.608	0.256	270.097
			Max. Vy	11	-16.189	270.447	0.324
			Max. Vx	2	-16.104	0.256	270.097
			Max. Torque	10			-2.153
			Max Tension	1	0.000	0.000	0.000
L2	86.29 - 42.63	Pole	Max. Compression	14	-24.431	1.095	1.451
			Max. Mx	11	-14.661	1016.035	1.266
			Max. My	2	-14.666	1.207	1012.513
			Max. Vy	11	-19.045	1016.035	1.266
			Max. Vx	2	-18.977	1.207	1012.513
			Max. Torque	10			-2.160
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-30.040	0.857	1.892
L3	42.63 - 28.167	Pole	Max. Mx	11	-19.156	1396.471	1.924
			Max. My	2	-19.159	1.451	1392.055
			Max. Vy	5	20.607	-1396.184	-0.712
			Max. Vx	2	-20.539	1.451	1392.055
			Max. Torque	10			-2.166
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	14	-38.311	0.399	2.656
			Max. Mx	5	-26.186	-2008.745	-0.836
L4	28.167 - 0	Pole	Max. My	2	-26.186	1.543	2002.703
			Max. Vy	5	22.920	-2008.745	-0.836
			Max. Vx	2	-22.853	1.543	2002.703
			Max. Torque	10			-2.176

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	15	38.311	0.011	5.854
	Max. H _x	11	26.198	22.906	0.022
	Max. H _z	2	26.198	0.022	22.839
	Max. M _x	2	2002.703	0.022	22.839
	Max. M _z	5	2008.745	-22.906	-0.022
	Max. Torsion	4	2.173	-19.826	11.401
	Min. Vert	1	26.198	0.000	0.000
	Min. H _x	5	26.198	-22.906	-0.022
	Min. H _z	8	26.198	-0.022	-22.839
	Min. M _x	8	-2000.481	-0.022	-22.839
	Min. M _z	11	-2007.985	22.906	0.022
	Min. Torsion	10	-2.176	19.826	-11.401

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	26.198	0.000	0.000	-1.083	-0.388	0.000
Dead+Wind 0 deg - No Ice	26.198	-0.022	-22.839	-2002.703	1.542	-1.438
Dead+Wind 30 deg - No Ice	26.198	11.434	-19.769	-1733.563	-1002.913	-2.084
Dead+Wind 60 deg - No Ice	26.198	19.826	-11.401	-1000.210	-1738.725	-2.173
Dead+Wind 90 deg - No Ice	26.198	22.906	0.022	0.836	-2008.745	-1.681
Dead+Wind 120 deg - No Ice	26.198	19.848	11.438	1001.353	-1740.642	-0.739
Dead+Wind 150 deg - No Ice	26.198	11.472	19.790	1733.274	-1006.250	0.404
Dead+Wind 180 deg - No Ice	26.198	0.022	22.839	2000.481	-2.329	1.440
Dead+Wind 210 deg - No Ice	26.198	-11.434	19.769	1731.359	1002.123	2.089
Dead+Wind 240 deg - No Ice	26.198	-19.826	11.401	998.017	1737.948	2.176
Dead+Wind 270 deg - No Ice	26.198	-22.906	-0.022	-3.035	2007.985	1.679
Dead+Wind 300 deg - No Ice	26.198	-19.848	-11.438	-1003.569	1739.885	0.733
Dead+Wind 330 deg - No Ice	26.198	-11.472	-19.790	-1735.501	1005.480	-0.408
Dead+Ice+Temp	38.311	-0.000	-0.000	-2.656	0.399	0.000
Dead+Wind 0 deg+Ice+Temp	38.311	-0.011	-5.854	-525.441	1.504	-0.340
Dead+Wind 30 deg+Ice+Temp	38.311	2.926	-5.064	-454.869	-260.924	-0.484
Dead+Wind 60 deg+Ice+Temp	38.311	5.078	-2.917	-263.145	-453.323	-0.499
Dead+Wind 90 deg+Ice+Temp	38.311	5.870	0.011	-1.642	-524.141	-0.380
Dead+Wind 120 deg+Ice+Temp	38.311	5.089	2.936	259.572	-454.402	-0.158
Dead+Wind 150 deg+Ice+Temp	38.311	2.945	5.075	450.505	-262.794	0.105
Dead+Wind 180 deg+Ice+Temp	38.311	0.011	5.854	519.996	-0.656	0.341
Dead+Wind 210 deg+Ice+Temp	38.311	-2.926	5.064	449.426	261.772	0.485
Dead+Wind 240 deg+Ice+Temp	38.311	-5.078	2.917	257.703	454.173	0.499
Dead+Wind 270 deg+Ice+Temp	38.311	-5.870	-0.011	-3.801	524.991	0.379
Dead+Wind 300 deg+Ice+Temp	38.311	-5.089	-2.936	-265.016	455.253	0.158
Dead+Wind 330 deg+Ice+Temp	38.311	-2.945	-5.075	-455.950	263.643	-0.105
Dead+Wind 0 deg - Service	26.198	-0.008	-7.903	-694.821	0.293	-0.505
Dead+Wind 30 deg - Service	26.198	3.956	-6.840	-601.546	-347.828	-0.732
Dead+Wind 60 deg - Service	26.198	6.860	-3.945	-347.387	-602.849	-0.763
Dead+Wind 90 deg - Service	26.198	7.926	0.008	-0.444	-696.436	-0.589
Dead+Wind 120 deg - Service	26.198	6.868	3.958	346.317	-603.517	-0.258
Dead+Wind 150 deg - Service	26.198	3.969	6.848	599.985	-348.988	0.143

Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	13 of 17
Project		Date	14:49:13 05/12/14
Client	Crown Castle	Designed by	B. Sevier

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead+Wind 180 deg - Service	26.198	0.008	7.903	692.589	-1.049	0.506
Dead+Wind 210 deg - Service	26.198	-3.956	6.840	599.318	347.072	0.733
Dead+Wind 240 deg - Service	26.198	-6.860	3.945	345.157	602.093	0.763
Dead+Wind 270 deg - Service	26.198	-7.926	-0.008	-1.785	695.683	0.589
Dead+Wind 300 deg - Service	26.198	-6.868	-3.958	-348.549	602.764	0.257
Dead+Wind 330 deg - Service	26.198	-3.969	-6.848	-602.218	348.234	-0.143

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-26.198	0.000	0.000	26.198	0.000	0.000%
2	-0.022	-26.198	-22.839	0.022	26.198	22.839	0.000%
3	11.434	-26.198	-19.769	-11.434	26.198	19.769	0.000%
4	19.826	-26.198	-11.401	-19.826	26.198	11.401	0.000%
5	22.906	-26.198	0.022	-22.906	26.198	-0.022	0.000%
6	19.848	-26.198	11.438	-19.848	26.198	-11.438	0.000%
7	11.472	-26.198	19.790	-11.472	26.198	-19.790	0.000%
8	0.022	-26.198	22.839	-0.022	26.198	-22.839	0.000%
9	-11.434	-26.198	19.769	11.434	26.198	-19.769	0.000%
10	-19.826	-26.198	11.401	19.826	26.198	-11.401	0.000%
11	-22.906	-26.198	-0.022	22.906	26.198	0.022	0.000%
12	-19.848	-26.198	-11.438	19.848	26.198	11.438	0.000%
13	-11.472	-26.198	-19.790	11.472	26.198	19.790	0.000%
14	0.000	-38.311	0.000	0.000	38.311	0.000	0.000%
15	-0.011	-38.311	-5.854	0.011	38.311	5.854	0.000%
16	2.926	-38.311	-5.064	-2.926	38.311	5.064	0.000%
17	5.078	-38.311	-2.917	-5.078	38.311	2.917	0.000%
18	5.870	-38.311	0.011	-5.870	38.311	-0.011	0.000%
19	5.089	-38.311	2.936	-5.089	38.311	-2.936	0.000%
20	2.945	-38.311	5.075	-2.945	38.311	-5.075	0.000%
21	0.011	-38.311	5.854	-0.011	38.311	-5.854	0.000%
22	-2.926	-38.311	5.064	2.926	38.311	-5.064	0.000%
23	-5.078	-38.311	2.917	5.078	38.311	-2.917	0.000%
24	-5.870	-38.311	-0.011	5.870	38.311	0.011	0.000%
25	-5.089	-38.311	-2.936	5.089	38.311	2.936	0.000%
26	-2.945	-38.311	-5.075	2.945	38.311	5.075	0.000%
27	-0.008	-26.198	-7.903	0.008	26.198	7.903	0.000%
28	3.956	-26.198	-6.840	-3.956	26.198	6.840	0.000%
29	6.860	-26.198	-3.945	-6.860	26.198	3.945	0.000%
30	7.926	-26.198	0.008	-7.926	26.198	-0.008	0.000%
31	6.868	-26.198	3.958	-6.868	26.198	-3.958	0.000%
32	3.969	-26.198	6.848	-3.969	26.198	-6.848	0.000%
33	0.008	-26.198	7.903	-0.008	26.198	-7.903	0.000%
34	-3.956	-26.198	6.840	3.956	26.198	-6.840	0.000%
35	-6.860	-26.198	3.945	6.860	26.198	-3.945	0.000%
36	-7.926	-26.198	-0.008	7.926	26.198	0.008	0.000%
37	-6.868	-26.198	-3.958	6.868	26.198	3.958	0.000%
38	-3.969	-26.198	-6.848	3.969	26.198	6.848	0.000%

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	14 of 17
	Project		Date	14:49:13 05/12/14
	Client	Crown Castle		Designed by

Non-Linear Convergence Results

<i>Load Combination</i>	<i>Converged?</i>	<i>Number of Cycles</i>	<i>Displacement Tolerance</i>	<i>Force Tolerance</i>
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00004260
3	Yes	5	0.00000001	0.00044727
4	Yes	5	0.00000001	0.00051270
5	Yes	5	0.00000001	0.00004063
6	Yes	5	0.00000001	0.00046885
7	Yes	5	0.00000001	0.00046876
8	Yes	5	0.00000001	0.00004045
9	Yes	5	0.00000001	0.00051214
10	Yes	5	0.00000001	0.00044657
11	Yes	5	0.00000001	0.00004277
12	Yes	5	0.00000001	0.00048719
13	Yes	5	0.00000001	0.00048741
14	Yes	4	0.00000001	0.00002241
15	Yes	5	0.00000001	0.00024413
16	Yes	5	0.00000001	0.00027070
17	Yes	5	0.00000001	0.00027432
18	Yes	5	0.00000001	0.00024238
19	Yes	5	0.00000001	0.00026990
20	Yes	5	0.00000001	0.00026933
21	Yes	5	0.00000001	0.00024099
22	Yes	5	0.00000001	0.00027277
23	Yes	5	0.00000001	0.00026992
24	Yes	5	0.00000001	0.00024437
25	Yes	5	0.00000001	0.00027568
26	Yes	5	0.00000001	0.00027553
27	Yes	4	0.00000001	0.00022041
28	Yes	4	0.00000001	0.00084874
29	Yes	5	0.00000001	0.00005070
30	Yes	4	0.00000001	0.00021731
31	Yes	4	0.00000001	0.00091080
32	Yes	4	0.00000001	0.00090936
33	Yes	4	0.00000001	0.00021655
34	Yes	5	0.00000001	0.00005050
35	Yes	4	0.00000001	0.00084573
36	Yes	4	0.00000001	0.00022088
37	Yes	4	0.00000001	0.00098772
38	Yes	4	0.00000001	0.00098787

Maximum Tower Deflections - Service Wind

<i>Section No.</i>	<i>Elevation</i>	<i>Horz. Deflection</i>	<i>Gov. Load Comb.</i>	<i>Tilt</i>	<i>Twist</i>
	<i>ft</i>	<i>in</i>		<i>°</i>	<i>°</i>
L1	117.5 - 86.29	28.461	37	2.401	0.012
L2	89.71 - 42.63	15.708	37	1.833	0.007
L3	47.38 - 28.167	3.899	37	0.793	0.002
L4	28.167 - 0	1.322	37	0.461	0.001

tnxTower B+T Group 1717 S. Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job	92595.001.01-Richard Wall, CT (BU #876352)	Page	15 of 17
	Project		Date	14:49:13 05/12/14
	Client	Crown Castle		Designed by

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.000	APXVSPP18-C-A20 w/ Mount Pipe	37	28.216	2.391	0.012	10351
115.000	PCS 1900MHz 4x45W-65MHz	37	27.239	2.353	0.011	10351
105.000	(2) DB846F65ZAXY w/ Mount Pipe	37	22.426	2.160	0.009	4140
91.000	(2) 7770.00 w/ Mount Pipe	37	16.228	1.863	0.007	1983
75.000	KS24019-L112A	37	10.507	1.464	0.004	2129

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	117.5 - 86.29	81.832	11	6.903	0.034
L2	89.71 - 42.63	45.218	11	5.276	0.019
L3	47.38 - 28.167	11.240	12	2.285	0.004
L4	28.167 - 0	3.812	12	1.331	0.002

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.000	APXVSPP18-C-A20 w/ Mount Pipe	11	81.131	6.876	0.034	3687
115.000	PCS 1900MHz 4x45W-65MHz	11	78.326	6.767	0.033	3687
105.000	(2) DB846F65ZAXY w/ Mount Pipe	11	64.511	6.214	0.027	1473
91.000	(2) 7770.00 w/ Mount Pipe	11	46.712	5.362	0.020	703
75.000	KS24019-L112A	11	30.265	4.217	0.013	749

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _a ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P/P _a
L1	117.5 - 86.29 (1)	TP22.9x15x0.188	31.210	0.000	0.0	39.000	13.002	-8.597	507.062	0.017
L2	86.29 - 42.63 (2)	TP33.46x21.659x0.313	47.080	0.000	0.0	39.000	31.697	-14.661	1236.190	0.012
L3	42.63 - 28.167 (3)	TP36.452x31.644x0.397	19.213	0.000	0.0	31.991	45.481	-19.156	1454.980	0.013
L4	28.167 - 0 (4)	TP43.5x36.452x0.411	28.167	0.000	0.0	32.810	53.053	-23.647	1740.680	0.014

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	Project	Date 14:49:13 05/12/14
	Client Crown Castle	Designed by B. Sevier

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	117.5 - 86.29 (1)	TP22.9x15x0.188	270.575	46.358	39.000	1.189	0.000	0.000	39.000	0.000
L2	86.29 - 42.63 (2)	TP33.46x21.659x0.313	1016.03 3	48.872	39.000	1.253	0.000	0.000	39.000	0.000
L3	42.63 - 28.167 (3)	TP36.452x31.644x0.397	1396.67 5	41.551	31.991	1.299	0.000	0.000	31.991	0.000
L4	28.167 - 0 (4)	TP43.5x36.452x0.411	1786.96 7	40.414	32.810	1.232	0.000	0.000	32.810	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	117.5 - 86.29 (1)	TP22.9x15x0.188	16.176	1.244	26.000	0.096	0.766	0.064	26.000	0.002
L2	86.29 - 42.63 (2)	TP33.46x21.659x0.313	19.046	0.601	26.000	0.046	1.614	0.038	26.000	0.001
L3	42.63 - 28.167 (3)	TP36.452x31.644x0.397	20.609	0.453	21.328	0.042	0.669	0.010	21.328	0.000
L4	28.167 - 0 (4)	TP43.5x36.452x0.411	22.200	0.418	21.874	0.038	0.713	0.008	21.874	0.000

Pole Interaction Design Data

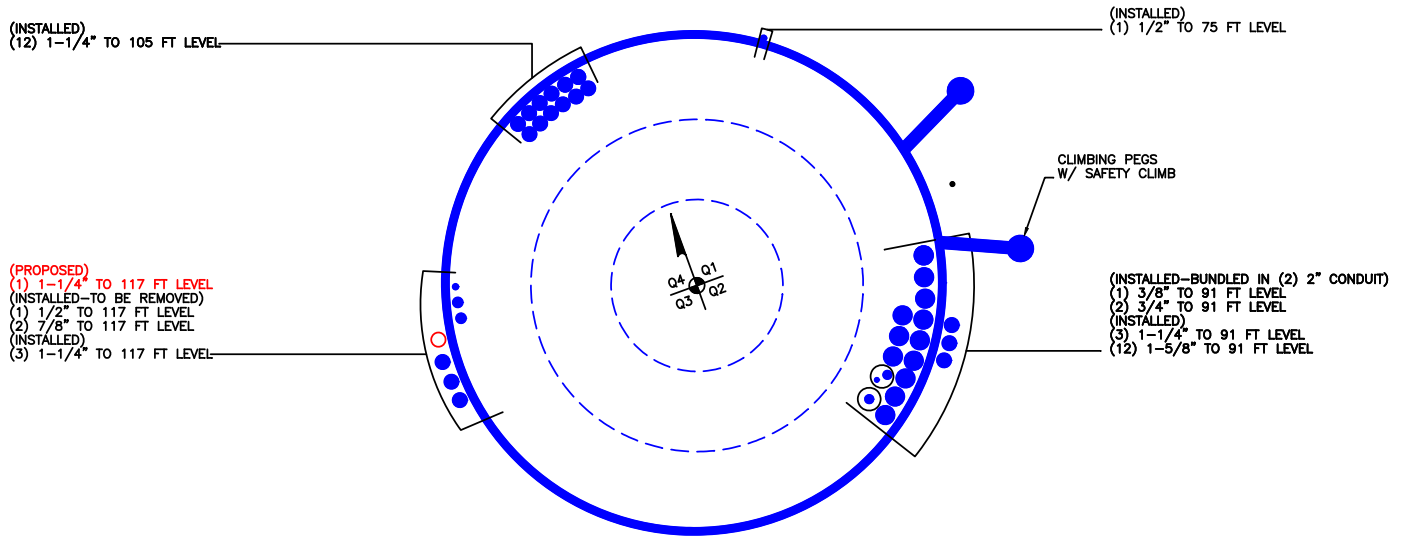
Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	117.5 - 86.29 (1)	0.017	1.189	0.000	0.096	0.002	1.208	1.333	H1-3+VT ✓
L2	86.29 - 42.63 (2)	0.012	1.253	0.000	0.046	0.001	1.266	1.333	H1-3+VT ✓
L3	42.63 - 28.167 (3)	0.013	1.299	0.000	0.042	0.000	1.312	1.333	H1-3+VT ✓
L4	28.167 - 0 (4)	0.014	1.232	0.000	0.038	0.000	1.246	1.333	H1-3+VT ✓

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	Project	Date 14:49:13 05/12/14
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Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail	
L1	117.5 - 86.29	Pole	TP22.9x15x0.188	1	-8.597	675.914	90.8	Pass	
L2	86.29 - 42.63	Pole	TP33.46x21.659x0.313	2	-14.661	1647.841	95.5	Pass	
L3	42.63 - 28.167	Pole	TP36.452x31.644x0.397	3	-19.156	1939.488	96.6	Pass	
L4	28.167 - 0	Pole	TP43.5x36.452x0.411	4	-23.647	2320.326	92.6	Pass	
							Summary		
							Pole (L3)	96.6	Pass
							RATING =	96.6	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 876352 TOWER ID: C_BASELEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Reinforcement Capacity



5500 Flatirons Parkway, Suite 100
Boulder, CO 80301
720-304-6882

Dimensions and Properties														Compression				Axial				
Model	Weight (lb/ft)	Area (in ²)	Moment of Inertia (in ⁴)	Moment of Inertia (in ⁴)	Centroid from Mating Edge (in)	Centroid from Bolt Hole Center (in)	Web Thickness (in)	Width (in)	Flange Width (in)	Flange Thickness (in)	Hole Diameter (in)	Yield Stress (ksi)	Ultimate Stress (ksi)	Slender. Ratio Coefficient	Unbraced Length (in)	Slender. Ratio Coefficient	Unbraced Length (in)	ASD-9			LRFD	
																		Allowable Axial (kip)	Allowable Axial w/ increase (kip)	Governing Axial	Design Axial Strength (kip)	Governing Axial
MP303	9.9	2.92	0.66	6.57	0.59	0	0.30	4.06	1.57	0.64	1.21875	65	80	0.80	18	1.00	18	96.4	128.6	Rupture	144.7	Rupture
MP304	14.1	4.13	0.91	11.86	0.61	0	0.43	4.78	1.61	0.84	1.21875	65	80	0.80	18	1.00	18	137.3	183.1	Rupture	206.0	Rupture

Section					Loads										Pole													Unreinforced Pole - Rev. F											Reinforced Pole					Rev. F					Reinforcement 1					Composite									
Section	Elevation (ft)	Moment (ft-kg)	Compression (kg)	Shear (kip)	Torsion (kip-ft)	Number of Sides	OD (in)	Thickness (in)	Yield Strength (ksi)	Flat Width (in)	Area (in ²)	Moment of Inertia (in ⁴)	Percent of Composite Moment of Inertia	Angle Offset to Pole Flat	Distance to Extreme Fiber (in)	Section Modulus (in ³)	Torsion Constant (in ⁴)	Polygonal Compact Criterion	Allowable Bending Stress (ksi)	Allowable Bending Strength (ft-kg)	Allowable Axial Stress (ksi)	Allowable Shear Stress (ksi)	Bending Stress (ksi)	Axial Stress (ksi)	Shear Stress (ksi)	Torsion Stress (ksi)	Stress Ratio	Moment in Pole when Reinforced	Bending Stress (ksi)	Axial Stress (ksi)	Shear Stress (ksi)	Torsion Stress (ksi)	Reinforced Pole Stress Ratio	City	Model	Position (F Flat, C Corner)	Gap Between Pole and Back of Rein. (in)	Tension or Compression (in)	Total Moment of Inertia (in ⁴)	Axial Force (kip)	Stress Ratio	Control Offset (in)	Area (in ²)	Moment of Inertia (in ⁴)	Controlling Stress Ratio	Thickness (in)	Weight Multiplier	Derated Heat Stress (ksi)	% Error in Derated Yield Stress														
1	1175.5	0.0	0.0	0.0	0.0	18	15.0000	0.1875	65	2.31	8.8	244	100%	TRUE	7.60	32	484	100	52.0	139.1	52.0	34.7	0.0	0.00	0.00	0.00	0.000	0.0	0.0	0.00	0.00	0.000											0.000	8.8	244	0.000	0.1875	1.00	65.0	84.0%													
2	89.71	271.9	8.4	16.3	0.8	18	22.0443	0.1875	65	3.55	13.0	783	100%	TRUE	11.17	70	1552	153	52.0	303.6	52.0	34.7	46.5	0.65	0.00	0.07	0.908	271.9	46.5	0.65	0.00	0.01	0.908											0.000	13.0	783	0.908	0.1875	1.00	65.0	0.3%												
3	66.29	327.9	8.9	16.5	0.8	18	22.9005	0.5000	65	3.16	15.5	2348	100%	TRUE	11.50	194	4465	51	52.0	840.5	52.0	34.7	20.3	0.35	0.00	0.02	0.395	327.9	20.3	0.35	0.00	0.00	0.395											0.000	15.5	2348	0.395	0.5000	1.00	65.0	0.1%												
4	47.38	1023.0	14.4	19.2	0.6	18	32.2694	0.3125	65	5.14	31.7	4084	100%	TRUE	16.36	350	8008	133	52.0	1081.6	52.0	34.7	49.2	0.46	0.00	0.02	0.955	1023.0	49.2	0.46	0.00	0.00	0.955											0.000	31.7	4084	0.955	0.3125	1.00	65.0	0.0%												
5	45.831	1052.8	14.8	19.3	0.6	18	32.6372	0.6250	65	4.66	63.4	8220	100%	0	16.93	509	18138	60	52.0	2180.8	52.0	34.7	25.1	0.23	0.00	0.01	0.487	1052.8	25.1	0.23	0.00	0.00	0.487	3	MP303	F	0	T&C	1325	66.5	0.518	0.000	63.4	8220	0.487	0.6250	1.00	65.0	1.1%														
6	45.43	1116.1	15.7	19.6	0.6	18	33.4600	0.6250	65	4.80	65.0	8854	87%	0	16.73	520	17576	62	52.0	2202.7	52.0	34.7	25.3	0.24	0.00	0.01	0.491	1116.1	25.0	0.24	0.00	0.00	0.491	3	MP303	F	0	T&C	1325	66.5	0.518	0.000	71.8	10178	0.518	0.750	0.98	53.2	2.3%														
7	28.167	1405.9	18.5	20.6	0.7	18	36.4500	0.3125	65	5.88	35.8	5908	79%	0	18.23	324	11732	152	52.0	1404.3	52.0	34.7	52.0	0.52	0.00	0.01	1.611	1405.9	41.2	0.52	0.00	0.00	0.802	3	MP303	F	0	T&C	1562	124.2	0.966	0.000	44.6	7469	0.966	0.3974	0.98	53.3	2.4%														
8	0	2038.2	24.4	22.9	1.7	18	43.5000	0.3125	65	7.12	42.8	10084	76%	0	21.75	464	19985	184	52.0	2008.5	52.0	34.7	52.2	0.57	0.00	0.02	1.616	2038.2	39.9	0.57	0.00	0.00	1.616	3	MP304	F	0	T&C	3116	169.5	0.966	0.000	55.2	13200	0.966	0.4115	0.98	53.9	2.5%														

Stiffened or Unstiffened, Ungrouted, Circular Base Plate - Any Rod Material

TIA Rev F

Site Data

BU#: 876352
Site Name: RICHARD WALL, CT
App #: 245668, Rev: 1
Pole Manufacturer: Other

Reactions		
Moment:	2009	ft-kips
Axial:	26	kips
Shear:	23	kips

Anchor Rod Data

Qty:	12	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	52	in

If No stiffeners, Criteria: **AISC ASD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Maximum Rod Tension: 152.4 Kips
 Allowable Tension: 195.0 Kips
 Anchor Rod Stress Ratio: 78.2% **Pass**

Stiffened
Service, ASD
Ft*ASIF

Plate Data

Diam:	58	in
Thick:	1.75	in
Grade:	60	ksi
Single-Rod B-eff:	11.51	in

Base Plate Results

Base Plate Stress: 46.4 ksi
 Allowable Plate Stress: 60.0 ksi
 Base Plate Stress Ratio: 77.3% **Pass**

Flexural Check

Stiffened
Service, ASD
0.75*Fy*ASIF
Y.L. Length:
N/A, Roark

Stiffener Data (Welding at both sides)

Config:	1	*
Weld Type:	Fillet	
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:	0.625	in
Fillet V. Weld:	0.375	in
Width:	7	in
Height:	20	in
Thick:	0.75	in
Notch:	0.5	in
Grade:	36	ksi
Weld str.:	70	ksi

Stiffener Results

Horizontal Weld : 67.1% **Pass**
 Vertical Weld: 40.9% **Pass**
 Plate Flex+Shear, fb/Fb+(fv/Fv)^2: 27.2% **Pass**
 Plate Tension+Shear, ft/Ft+(fv/Fv)^2: 83.7% **Pass**
 Plate Comp. (AISC Bracket): 89.8% **Pass**

Pole Results

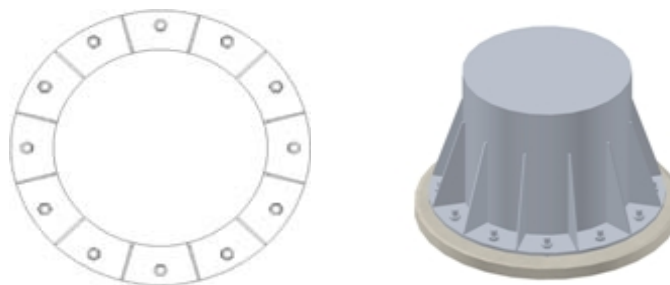
Pole Punching Shear Check: 13.5% **Pass**

Pole Data

Diam:	43.5	in
Thick:	0.3125	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor

ASIF:	1.333
-------	-------



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

BU: 876352
 Site Name: RICHARD WALL, CT
 App Number: 245668, Rev.1
 Work Order: 758642



Monopole Drilled Pier

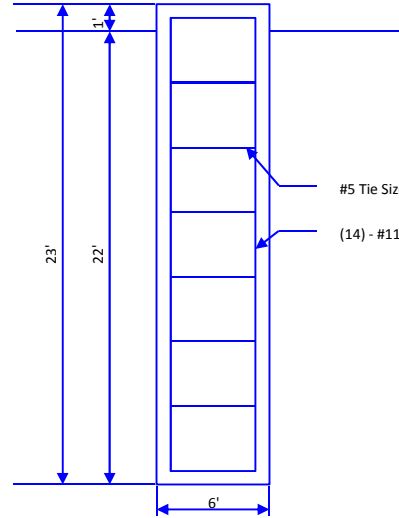
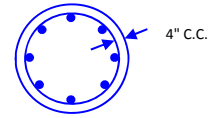
Input

Criteria
 TIA Revision: F
 ACI 318 Revision: 2002
 Seismic Category: B

Forces
 Compression: 33.8 kips
 Shear: 29.9 kips
 Moment: 2611.7 k-ft
 Swelling Force: 0 kips

Foundation Dimensions
 Pier Diameter: 6 ft
 Ext. above grade: 1 ft
 Depth below grade: 22 ft

Material Properties
 Number of Rebar: 14
 Rebar Size: 11
 Tie Size: 5
 Rebar tensile strength: 60 ksi
 Concrete Strength: 3000 psi
 Ultimate Concrete Strain: 0.003 in/in
 Clear Cover to Ties: 4 in



Soil Profile: Soil

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	3.3	0	3.3	120	0	0	0	0	0	
2	3.2	3.3	6.5	120		33			0	
3	4.5	6.5	11	120		33			0	
4	11	11	22	120		33			12	

Analysis Results

Soil Lateral Capacity
 Depth to Zero Shear: 5.23 ft
 Max Moment, Mu: 2131.52 k-ft
 Soil Safety Factor: 2.97
 Safety Factor Req'd: 2
RATING: 67.4%

Soil Axial Capacity
 Skin Friction (k): 121.62 kips
 End Bearing (k): 169.65 kips
 Comp. Capacity (k), φCn: 291.26 kips
 Comp. (k), Cu: 33.80 kips
RATING: 11.6%

Concrete/Steel Check

Mu (from soil analysis) 2770.98 k-ft
 φMn 2946.87 k-ft
RATING: 94.0%

rho provided 0.54
 rho required 0.33 OK

Rebar Spacing 12.35
 Spacing required 22.56 OK

Dev. Length required 16.43
 Dev. Length provided 61.78 OK

Overall Foundation Rating: 94.0%

RADIO FREQUENCY FCC REGULATORY COMPLIANCE
MAXIMUM PERMISSIBLE EXPOSURE (MPE) ASSESSMENT

Sprint Existing Facility

Site ID: CT03XC335

Richard Wall

94 East High Street
East Hampton, CT 06424

June 15, 2014

EBI Project Number: 62143380

June 15, 2014

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT03XC335 - Richard Wall

Site Total: 68.40% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 94 East High Street, East Hampton, CT, for the purpose of determining whether the radio frequency (RF) exposure levels from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band (850 MHz Band) is approximately $567 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz and 2500 MHz bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 94 East High Street, East Hampton, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all emissions were calculated using the following assumptions:

- 1) 3 channels in the 1900 MHz Band were considered for each sector of the proposed installation.
- 2) 1 channel in the 800 MHz Band was considered for each sector of the proposed installation
- 3) 2 channels in the 2500 MHz Band were considered for each sector of the proposed installation.
- 4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 6) The antennas used in this modeling are the RFS APXVSPP18-C-A20 and the RFS APXVTM14-C-I20. This is based on feedback from the carrier with regards to anticipated antenna selection. The RFS APXVSPP18-C-A20 has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. The RFS APXVTM14-C-I20 has a 15.9 dBd gain value at its main lobe at 2500 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antenna mounting height centerline for the proposed antennas is **119 feet** above ground level (AGL).
- 8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT03XC335 - Richard Wall
Site Address	94 East High Street, East Hampton, CT, 06424
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
1a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	5.9	119	113	1/2 "	0.5	0	208.04	0.59%
1a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	119	113	1/2 "	0.5	0	39.00	0.19%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	119	113	1/2 "	0.5	0	138.69	0.69%
Sector total Power Density Value:																1.47%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
2a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	5.9	119	113	1/2 "	0.5	0	208.04	0.59%
2a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	119	113	1/2 "	0.5	0	39.00	0.19%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	119	113	1/2 "	0.5	0	138.69	0.69%
Sector total Power Density Value:																1.47%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain (10 db reduction)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
3a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	5.9	119	113	1/2 "	0.5	0	208.04	0.59%
3a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	119	113	1/2 "	0.5	0	39.00	0.19%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	119	113	1/2 "	0.5	0	138.69	0.69%
Sector total Power Density Value:																1.47%

Site Composite MPE %	
Carrier	MPE %
Sprint	4.40%
Town	13.29%
Verizon Wireless	41.05%
AT&T	3.70%
Nextel	5.96%
Total Site MPE %	68.40%

Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public Maximum Permissible Exposure (MPE) to radio frequency energy.

The anticipated Maximum Composite contributions from the Sprint facility are **4.40%** (**1.47% from sector 1, 1.47% from sector 2 and 1.47% from sector 3**) of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **68.40%** of the allowable FCC established general public limit sampled at 6 feet above ground level. This total composite site value is based upon MPE values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.



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