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June 16, 2014

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

RE: Sprint PCS-Exempt Modification - Crown Site BU: 876329
Sprint PCS Site ID: CT03XC076
Located at: 28 Brewer Drive, Bloomfield, CT 06002

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. Philip K. Schenck, Jr., Manager for Town of Bloomfield.

Sprint plans to modify the existing wireless communications facility owned by Crown Castle and located at **28 Brewer Drive, Bloomfield, CT 06002**. 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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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. Philip K. Schenck, Jr., Town Manager
Town of Bloomfield
800 Bloomfield Avenue, 2nd Floor
Bloomfield, CT 06002

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:

THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF SPRINT AND MAY NOT BE REPRODUCED, DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF SPRINT.

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	6/04/14	MAP	0

SITE NAME:

MTN. VIEW CEM (FILLEY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

**28 BREWER DR
BLOOMFIELD, CT 06002**

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, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, 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 - ANTENNA ALIGNMENT TOOL (AAT)

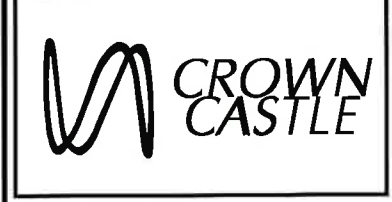
PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



DRAWING NOTICE:

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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	6/04/14	MAP	0

SITE NAME:

MTN. VIEW CEM (FILLEY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

**28 BREWER DR
BLOOMFIELD, CT 06002**

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 353-100X

MLA PARTNER:



ENGINEERING LICENSE:



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REVISIONS:	DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION		6/04/14	MAP	0

SITE NAME:

**MTN. VIEW CEM
(FILLETT PARK)**

SITE CASCADE:

CT03XC076

SITE ADDRESS:

**28 BREWER DR
BLOOMFIELD, CT 06002**

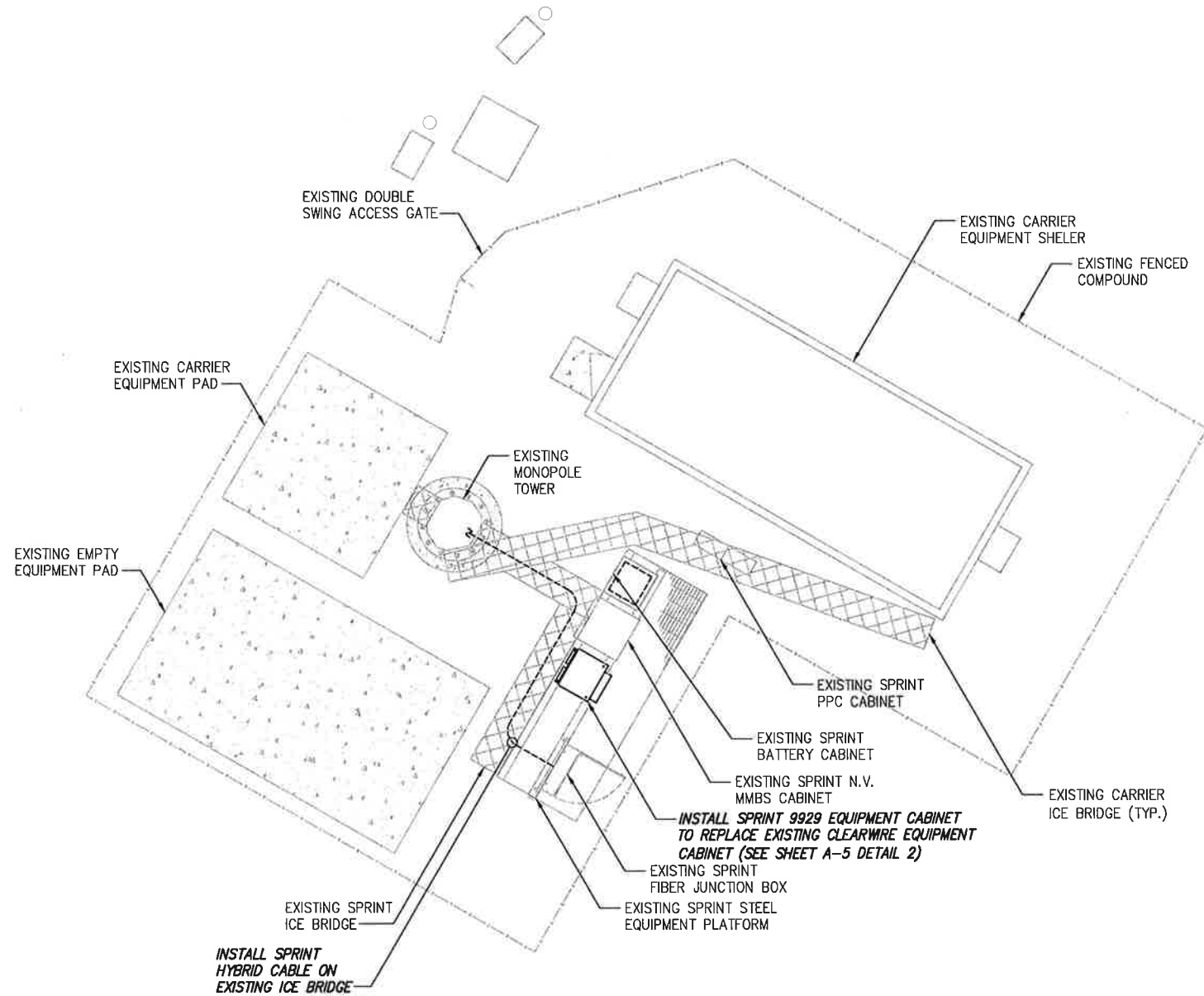
SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

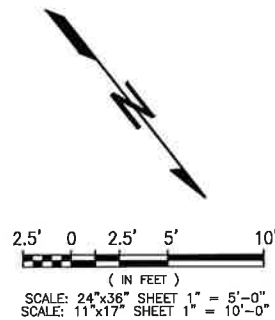
SP-3

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.



INSTALL SPRINT HYBRID CABLE ON EXISTING ICE BRIDGE

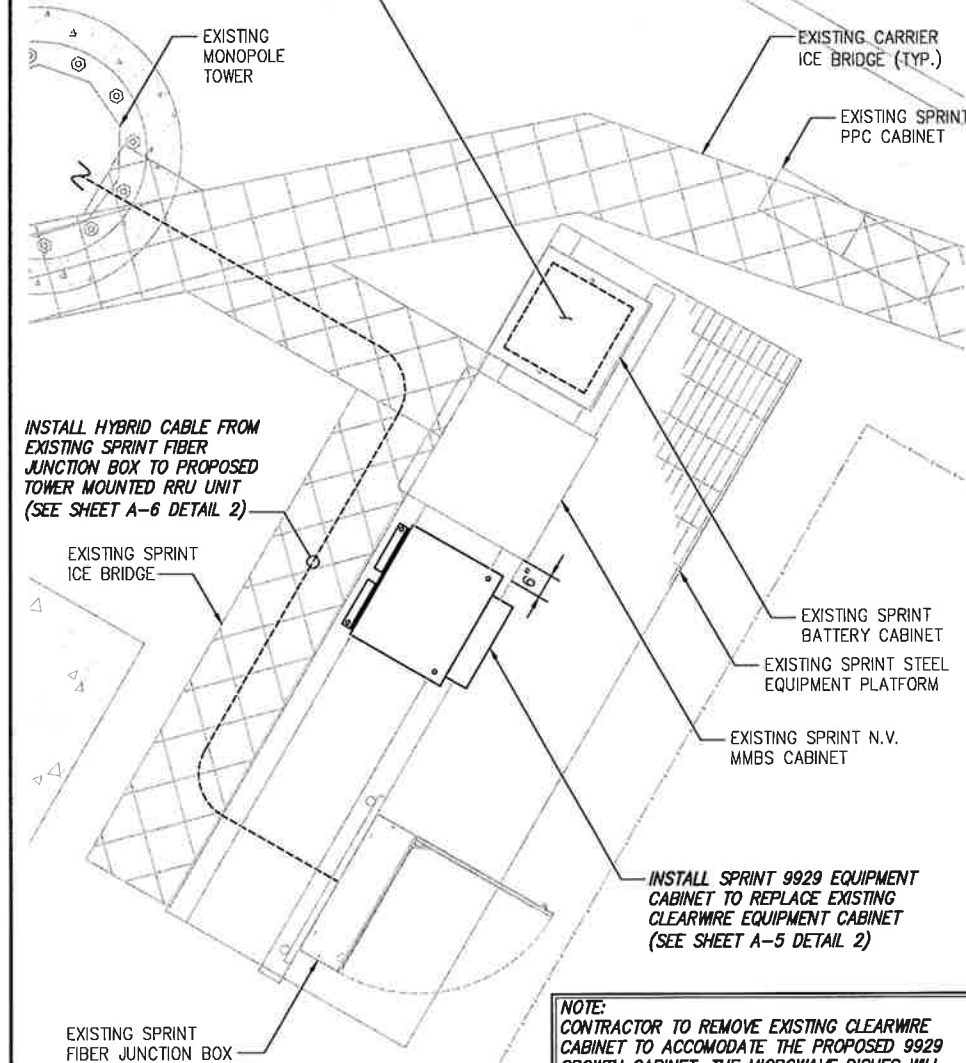
INSTALL SPRINT 9929 EQUIPMENT CABINET TO REPLACE EXISTING CLEARWIRE EQUIPMENT CABINET (SEE SHEET A-5 DETAIL 2)



OVERALL SITE PLAN

SCALE: AS NOTED 1

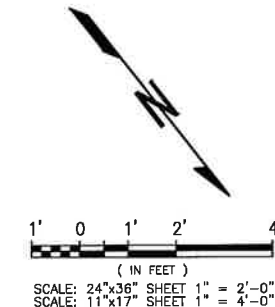
INSTALL (8) BATTERIES IN EXISTING BBU CABINET (FIELD DATA SUGGESTS THERE IS ROOM TO ACCOMMODATE (4) PROPOSED BATTERIES IN EXISTING BBU)



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

INSTALL SPRINT 9929 EQUIPMENT CABINET TO REPLACE EXISTING CLEARWIRE EQUIPMENT CABINET (SEE SHEET A-5 DETAIL 2)

NOTE: CONTRACTOR TO REMOVE EXISTING CLEARWIRE CABINET TO ACCOMMODATE THE PROPOSED 9929 GROWTH CABINET. THE MICROWAVE DISHES WILL REMAIN ON THE TOWER AND THE CLEARWIRE RADIOS WILL BE RELOCATED TO EXISTING MMBS CABINET OR 9929 GROWTH CABINET. THE CLEARWIRE MW RADIO VOLTAGE SHALL BE DETERMINED PRIOR TO THE RELOCATION IN ORDER TO POWER THE MW RADIOS.



SPRINT EQUIPMENT PLAN

SCALE: AS NOTED 2

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 353-100X

MLA PARTNER:

ENGINEERING LICENSE:

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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	6/04/14	MAP	0

SITE NAME:
MTN. VIEW CEM (FILLEY PARK)

SITE CASCADE:
CT03XC076

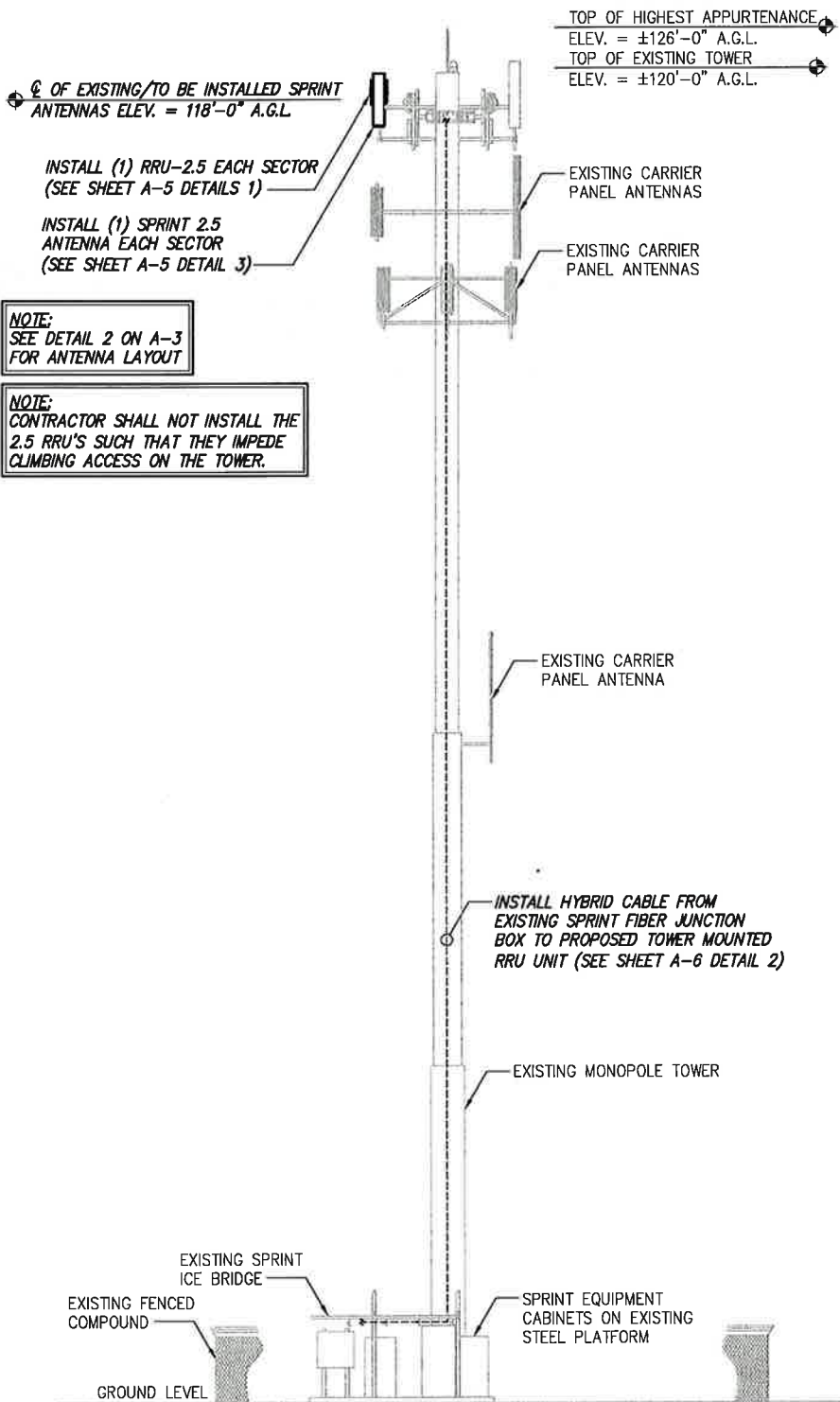
SITE ADDRESS:
28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:
SITE PLAN

SHEET NUMBER:
A-1

NOTE:
BASED ON THE ANALYSIS PROVIDED BY PAUL J FORD AND COMPANY, DATED 5/22/14. THE EXISTING STRUCTURE IS CAPABLE OF SUPPORTING THE PROPOSED EQUIPMENT CONFIGURATION. THE ANALYSIS INDICATES THE TOWER AND ITS FOUNDATION HAVE SUFFICIENT CAPACITY TO CARRY THE EXISTING, RESERVED, AND PROPOSED LOADS. NO MODIFICATIONS ARE REQUIRED AT THIS TIME.

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE EXISTING TOWER OR MOUNT FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY. REFER TO STRUCTURAL ANALYSIS BY OTHERS PRIOR TO ANY CONSTRUCTION.



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

NOTE:
CONTRACTOR SHALL NOT INSTALL THE 2.5 RRU'S SUCH THAT THEY IMPEDE CLIMBING ACCESS ON THE TOWER.

DETAIL NOT USED NO SCALE 2

DETAIL NOT USED

TOWER ELEVATION NO SCALE 1

DETAIL NOT USED NO SCALE 3

DETAIL NOT USED NO SCALE 4

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:

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SITE NAME:

MTN. VIEW CEM
(FILLELY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:

TOWER ELEVATION
& CABLE PLAN

SHEET NUMBER:

A-2

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



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SITE NAME:

MTN. VIEW CEM (FILLEY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:

ANTENNA LAYOUT & MOUNTING DETAILS

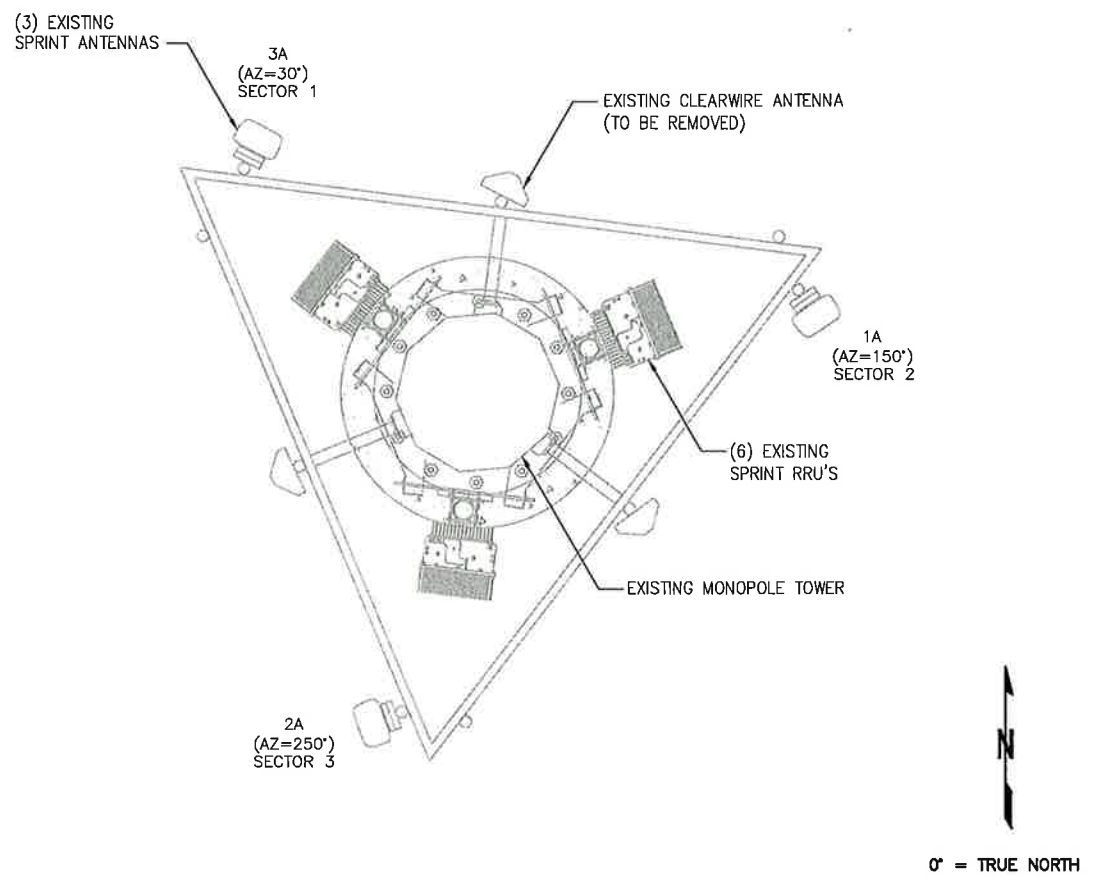
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A-3

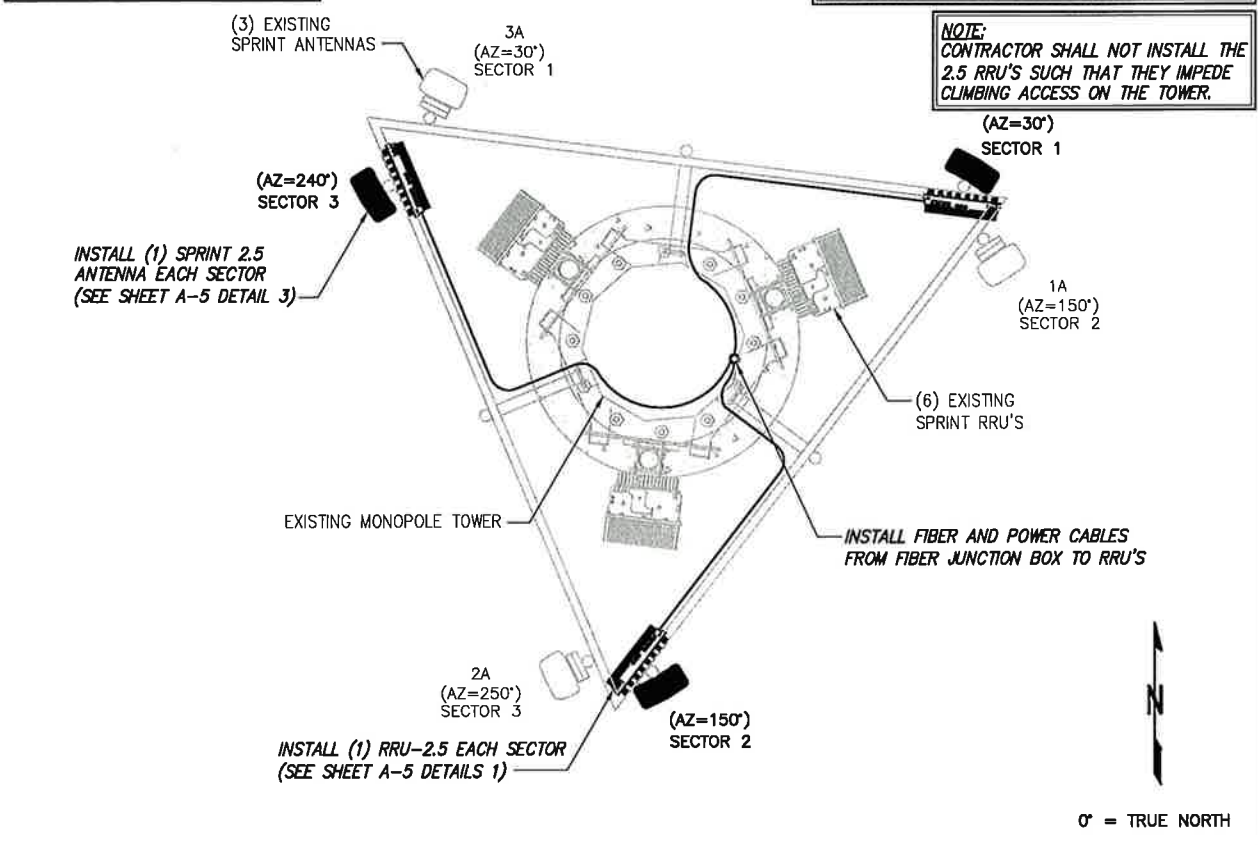
NOTE:
JUMPERS FROM 2.5 RRH TO THE 2.5 ANTENNA CANNOT EXCEED 15 FEET

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.

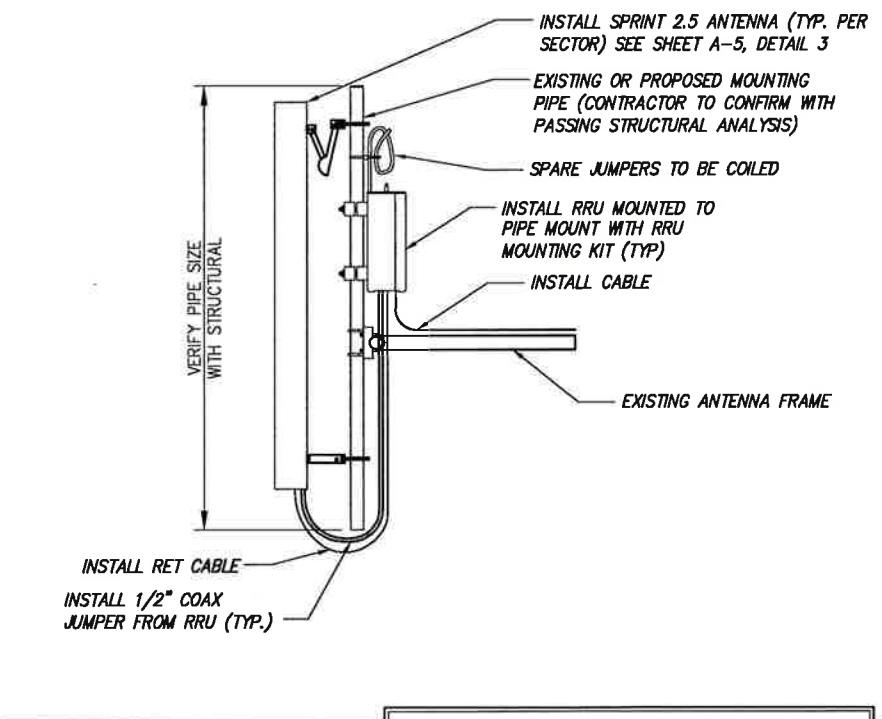
NOTE:
CONTRACTOR SHALL NOT INSTALL THE 2.5 RRU'S SUCH THAT THEY IMPEDE CLIMBING ACCESS ON THE TOWER.



EXISTING ANTENNA & RRU LAYOUT NO SCALE 1



FINAL ANTENNA LAYOUT NO SCALE 2



- NOTES:
- CUT DC CONDUCTORS TO LENGTH.
 - COIL FIBER CABLE AND SECURE AT SIDE OF RRU.
 - DO NOT EXCEED BEND RADIUS.

NOTE:
CONTRACTOR TO POSITION RRU ON MOUNT BEHIND ANTENNA SUCH THAT THE RRU DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

NOTE:
SPARE DC CABLES ARE COILED UP ON NV RRHS AT SPRINT ARRAY. THESE ARE TO BE USED TO POWER UP THE 2.5 RRHS AND TIED INTO EXISTING DC BREAKERS INSIDE THE FIBER JUNCTION BOX LOCATED AT EQUIPMENT.

NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRU MOUNTING DETAILS

DETAIL NOT USED NO SCALE 3

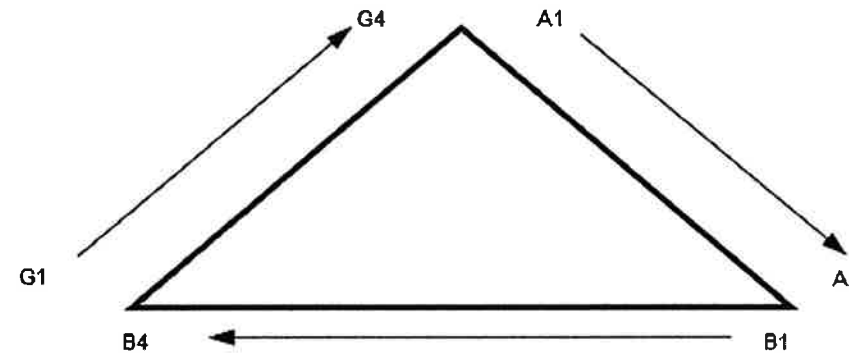
TYPICAL ANTENNA & RRU MOUNTING DETAILS NO SCALE 4

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



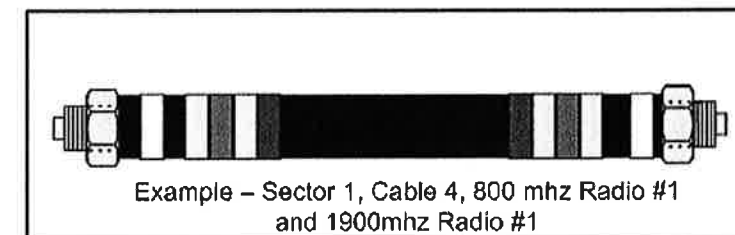
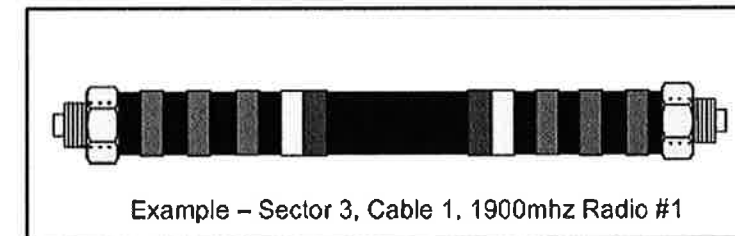
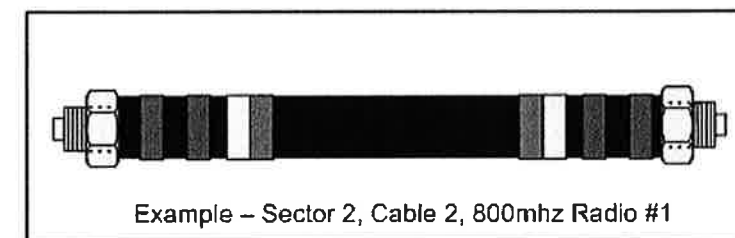
NOTES:

- 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
	2		No Tape	No Tape
	3	Brown	No Tape	No Tape
	4	White	No Tape	No Tape
	5	Red	No Tape	No Tape
	6	Grey	No Tape	No Tape
	7	Purple	No Tape	No Tape
	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
	2			No Tape
	3	Brown	Brown	No Tape
	4	White	White	No Tape
	5	Red	Red	No Tape
	6	Grey	Grey	No Tape
	7	Purple	Purple	No Tape
	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
	2			
	3	Brown	Brown	Brown
	4	White	White	White
	5	Red	Red	Red
	6	Grey	Grey	Grey
	7	Purple	Purple	Purple
	8	Orange	Orange	Orange

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



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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ISSUED FOR CONSTRUCTION		6/04/14	MAP	0

SITE NAME:

MTN. VIEW CEM (FILLEY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:

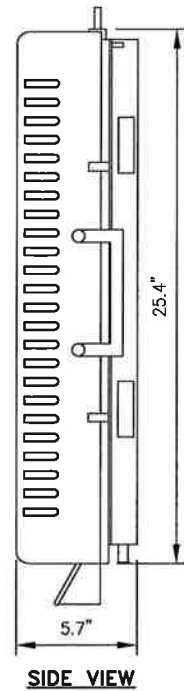
COLOR CODING AND NOTES

SHEET NUMBER:

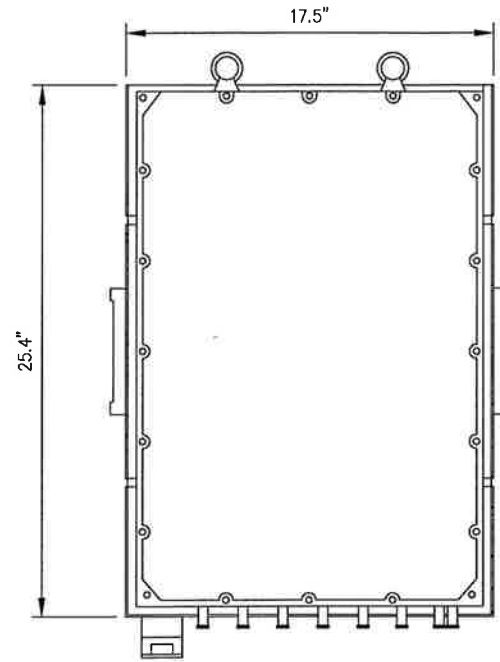
A-4

RRU: ALCATEL LUCENT TD-RRH8X20

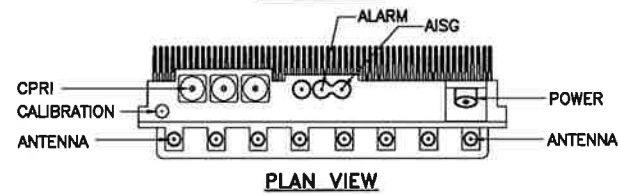
COLOR: LIGHT GREY
WEIGHT: 70 LBS.



SIDE VIEW



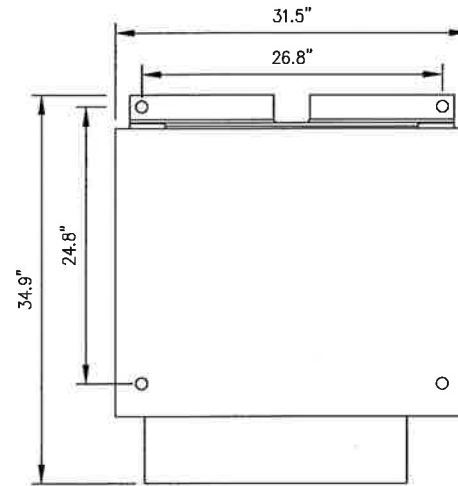
FRONT VIEW



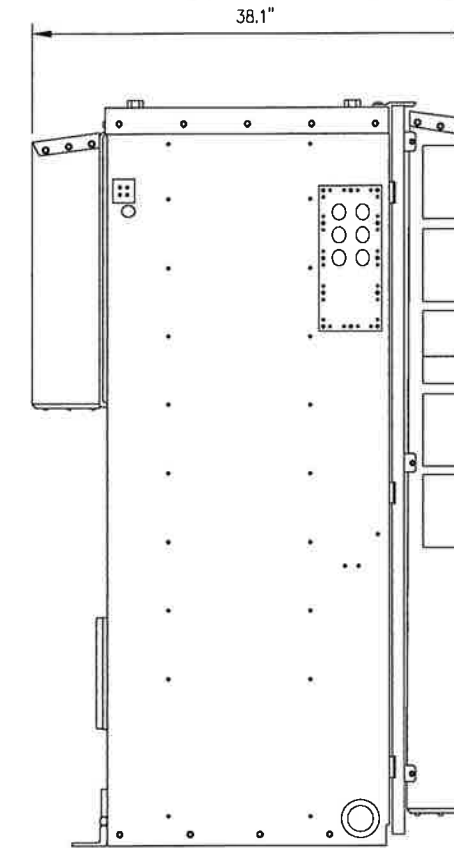
PLAN VIEW

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.



BOTTOM VIEW



SIDE VIEW

2.5 RRU'S

NO SCALE

1

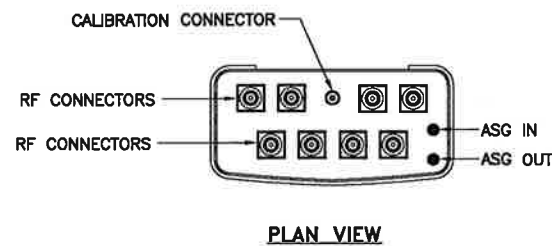
2.5 9929 GROWTH CABINET

NO SCALE

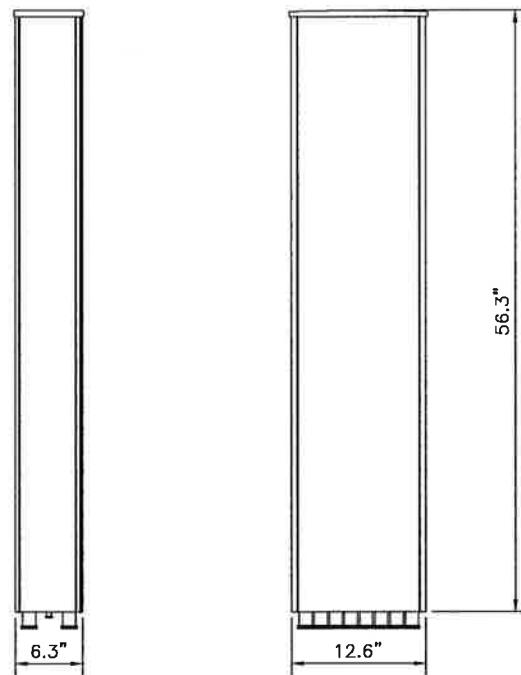
2

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



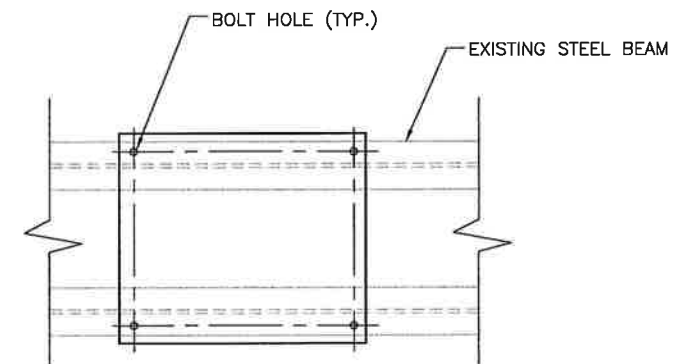
PLAN VIEW



2.5 ANTENNA

NO SCALE

3



1. VERIFY BOLT HOLE SPACING WITH EQUIPMENT CUT SHEETS.
2. NEW EQUIPMENT CABINET TO BE MOUNTED TO EXISTING SUPPORT SURFACE WITH BOLT-DOWN SYSTEM PER MANUFACTURER'S SPECIFICATION AND FIELD DRILL HOLES THROUGH EXISTING STEEL BEAMS AS REQUIRED.
3. MAINTAIN A MINIMUM OF 1" DISTANCE FROM CENTER OF BOLT HOLE TO EDGE OF FLANGE.

EQUIPMENT MOUNT DETAIL

NO SCALE

4

PLANS PREPARED FOR:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



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ISSUED FOR CONSTRUCTION	6/04/14	MAP	0

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MTN. VIEW CEM
(FILLEY PARK)

SITE CASCADE:

CT03XC076

SITE ADDRESS:

28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:

EQUIPMENT &
MOUNTING DETAILS

SHEET NUMBER:

A-5

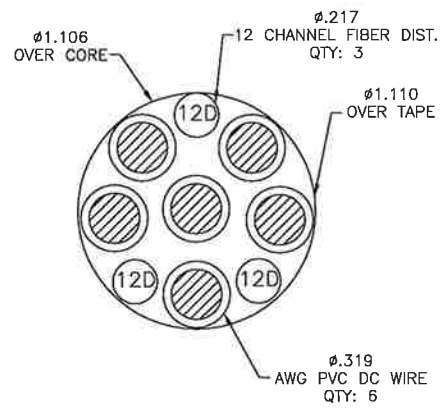
RFS HYBRIFLEX RISER CABLE SCHEDULE

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	175 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	175 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

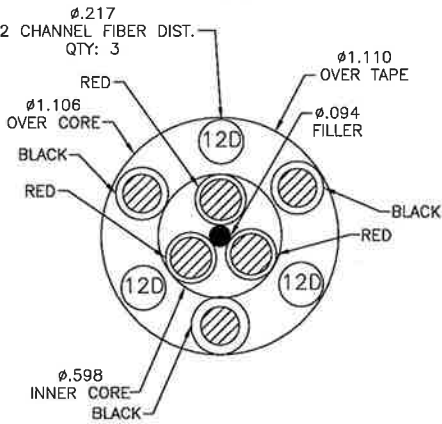
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

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

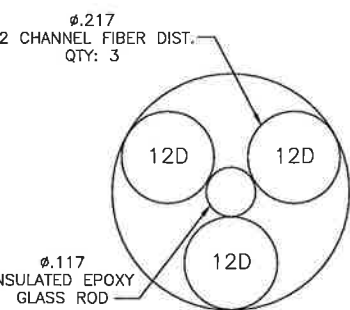
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



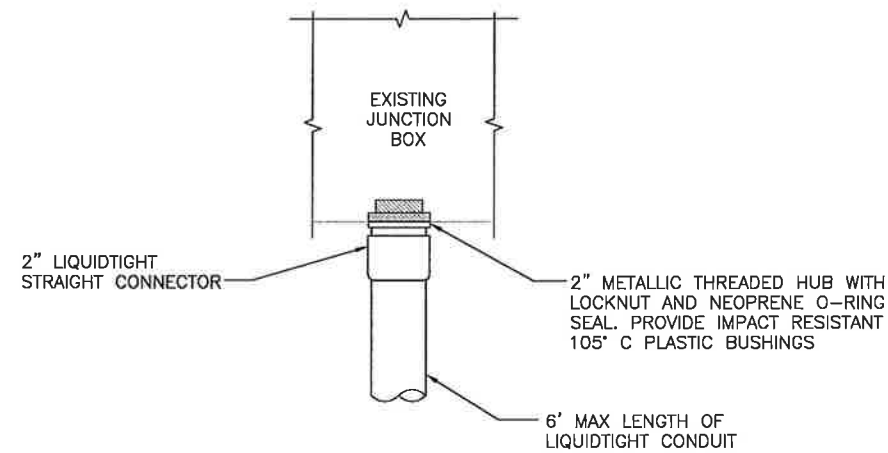
4 AWG



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:



PLANS PREPARED BY:



MLA PARTNER:



ENGINEERING LICENSE:



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SITE NAME:

MTN. VIEW CEM
(FILLEY PARK)

SITE CASCADE:

CT03XC076

SHEET ADDRESS:

28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:

CIVIL DETAILS

SHEET NUMBER:

A-6

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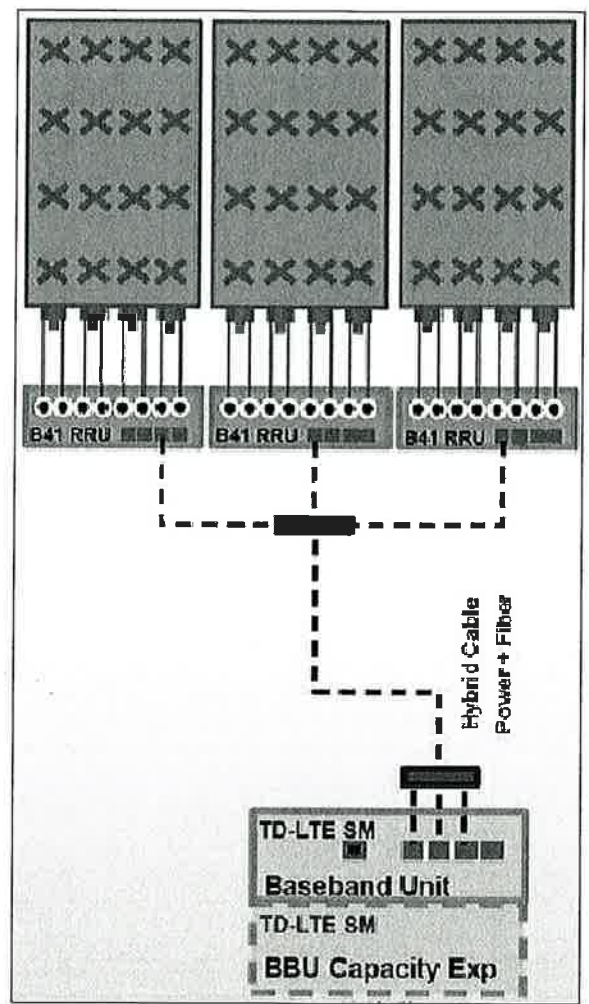
SITE NAME:
MTN. VIEW CEM (FILLELY PARK)

SITE CASCADE:
CT03XC076

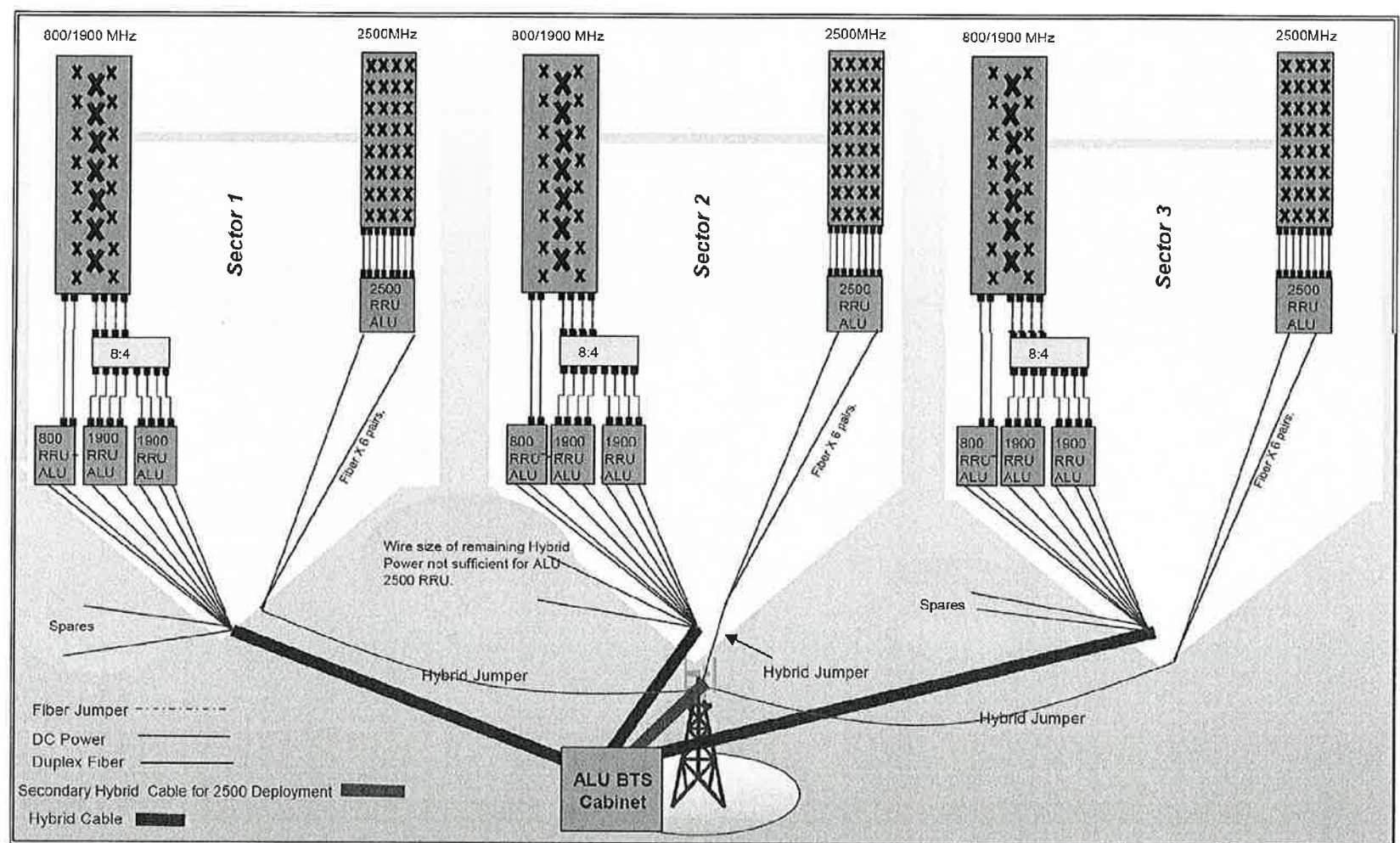
SITE ADDRESS:
 28 BREWER DR
 BLOOMFIELD, CT 06002

SHEET DESCRIPTION:
PLUMBING DIAGRAM

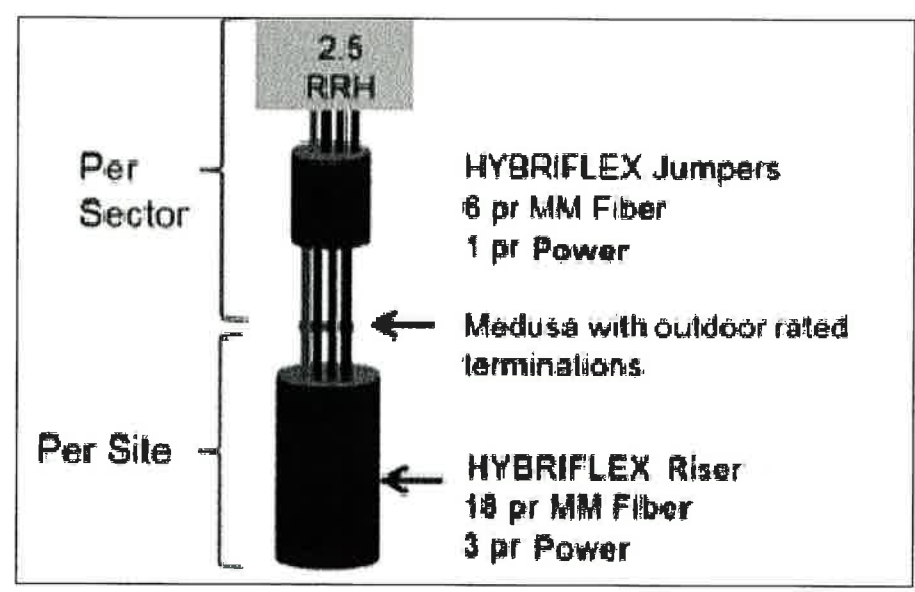
SHEET NUMBER:
A-7



ALU 2.5 ALU SCENARIO 1



RAN WIRING DIAGRAM



RF 2.5 ALU SCENARIO 1

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SITE NAME:
MTN. VIEW CEM (FILLELY PARK)

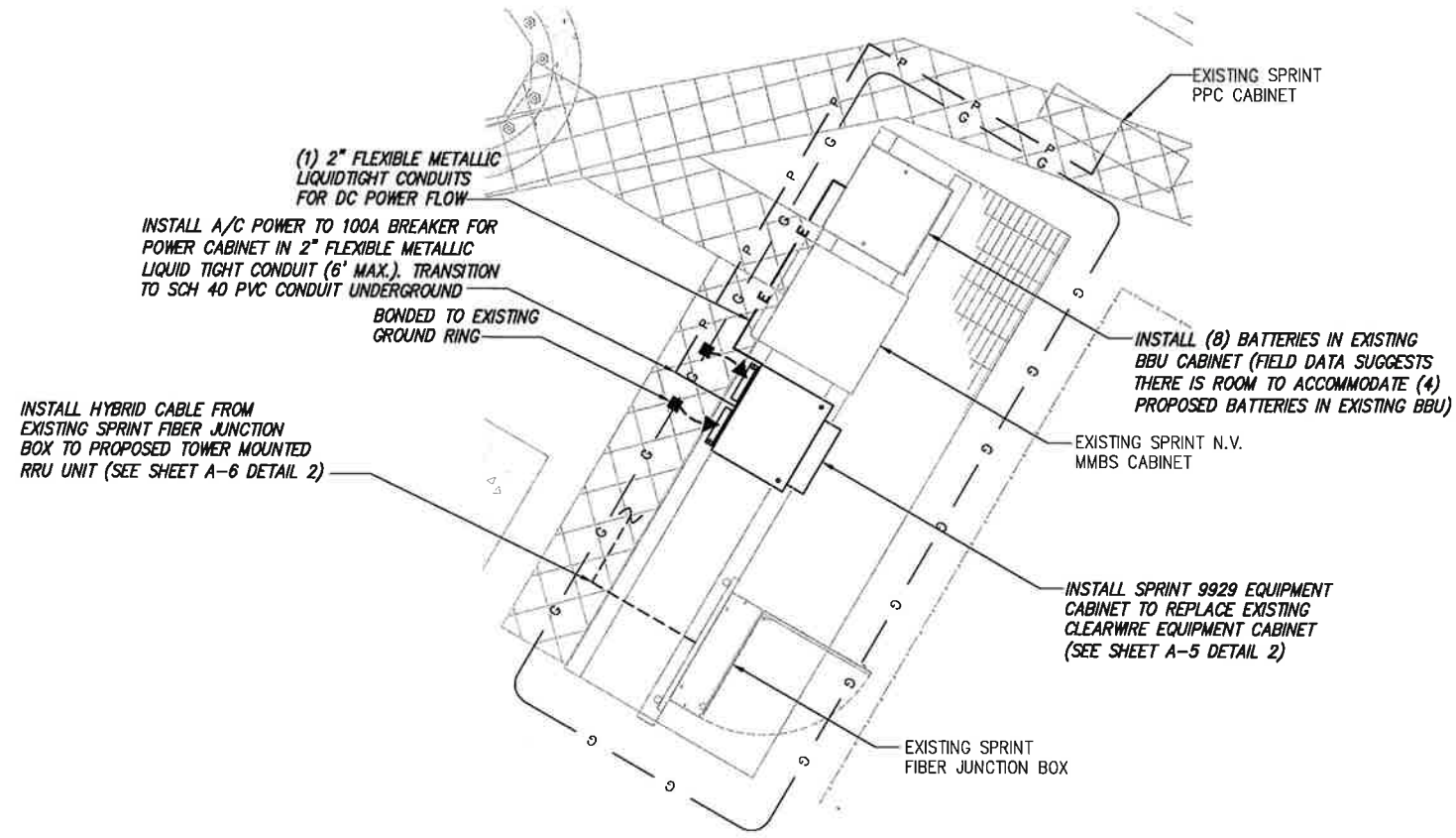
SITE CASCADE:
CT03XC076

SITE ADDRESS:
28 BREWER DR
BLOOMFIELD, CT 06002

SHEET DESCRIPTION:
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:
E-1

NOTE:
CONTRACTOR IS TO ENSURE THE INSTALLATION INSTRUCTIONS FOR EACH CABINET ARE FOLLOWED AND THAT THE MANUFACTURER'S REQUIREMENTS ARE MET.

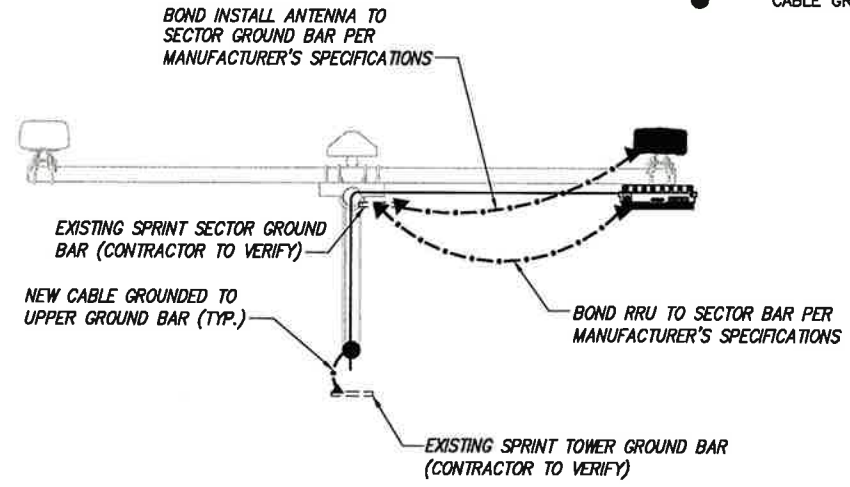


- LEGEND:**
- G — EXISTING GROUND RING
 - CADWELD CONNECTION (EXOTHERMIC WELD)
 - ▲ MECHANICAL CONNECTION
 - ⊗ GROUND ROD
 - CABLE GROUND KIT

ELECTRICAL AND GROUNDING PLAN

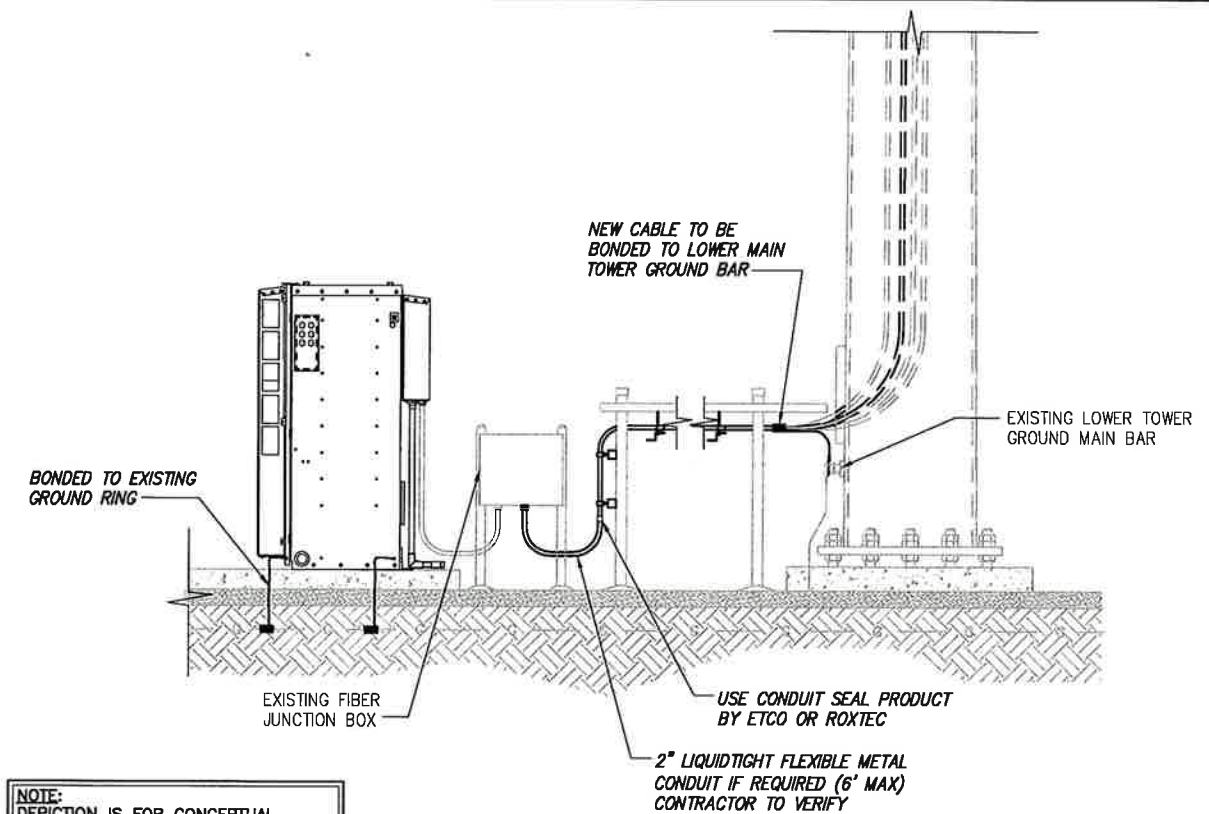
NO SCALE 1

- LEGEND:**
- G — 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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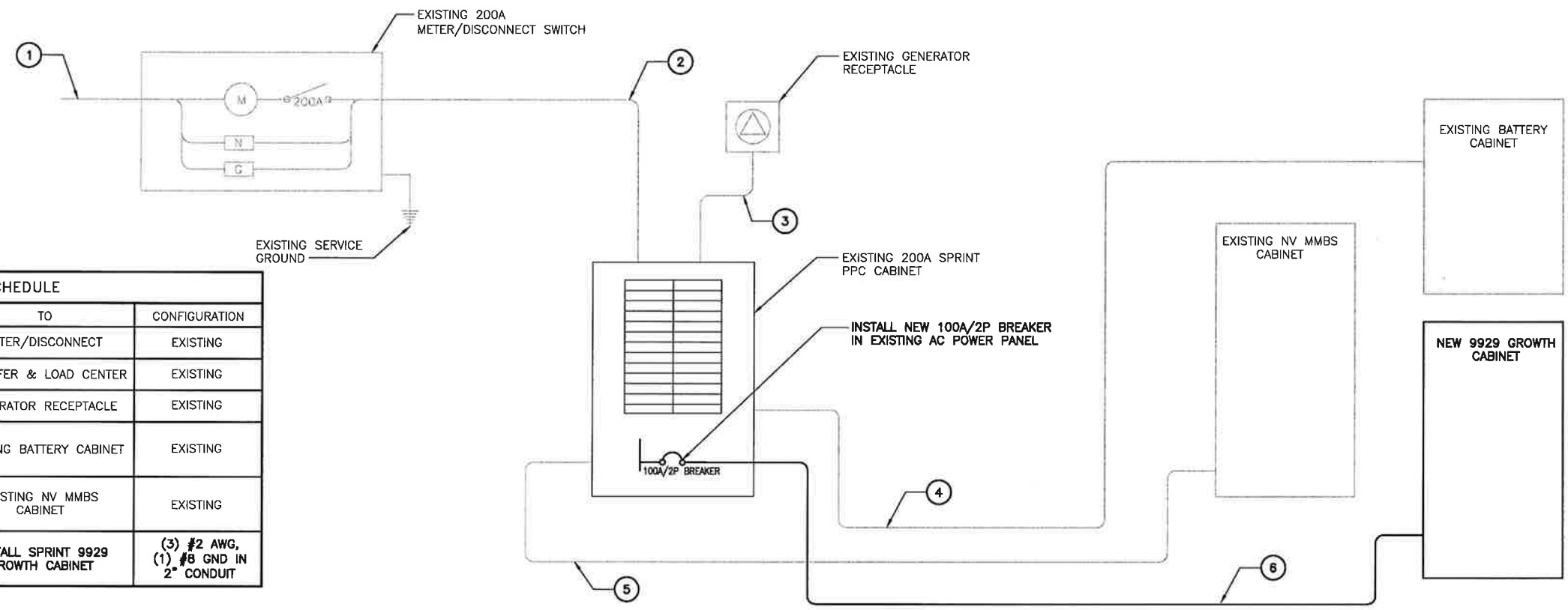
CT03XC076

**28 BREWER DR
 BLOOMFIELD, CT 06002**

ELECTRICAL & GROUNDING DETAILS

E-2

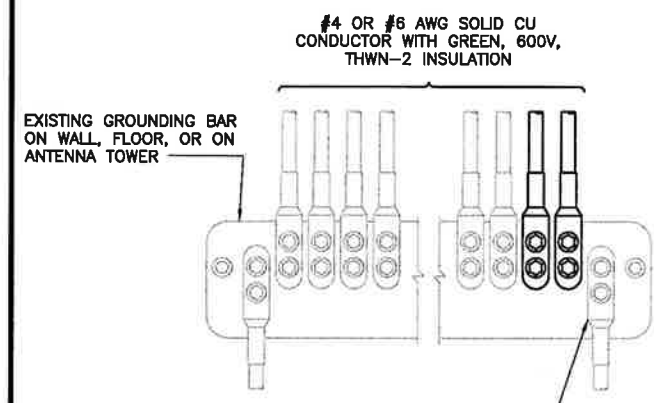
NOTES
 GC SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



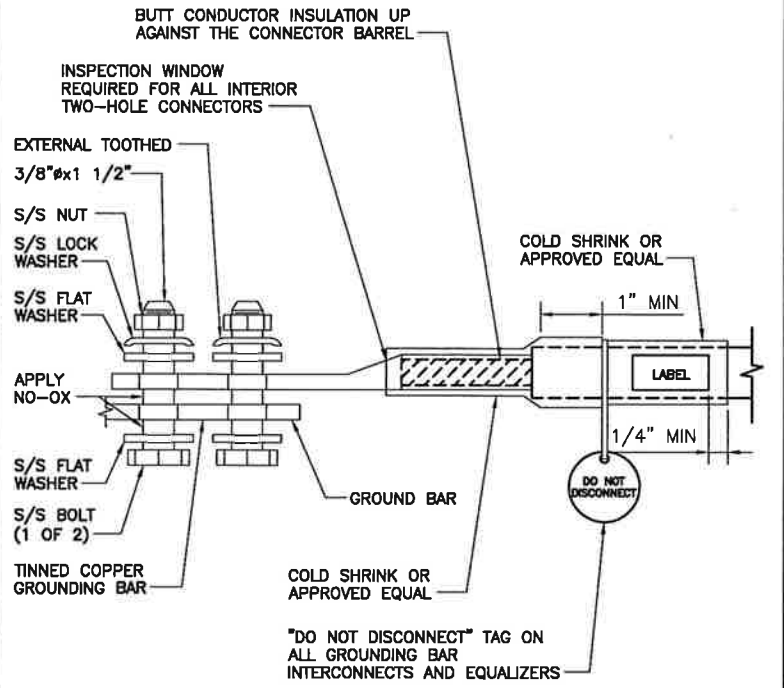
CIRCUIT SCHEDULE			
NO	FROM	TO	CONFIGURATION
①	UTILITY SOURCE	METER/DISCONNECT	EXISTING
②	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
③	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
④	TRANSFER & LOAD CENTER	EXISTING BATTERY CABINET	EXISTING
⑤	TRANSFER & LOAD CENTER	EXISTING NV MMBS CABINET	EXISTING
⑥	TRANSFER & LOAD CENTER	INSTALL SPRINT 9929 GROWTH CABINET	(3) #2 AWG, (1) #8 GND IN 2" CONDUIT

ELECTRICAL ONE-LINE DIAGRAM

NO SCALE 1



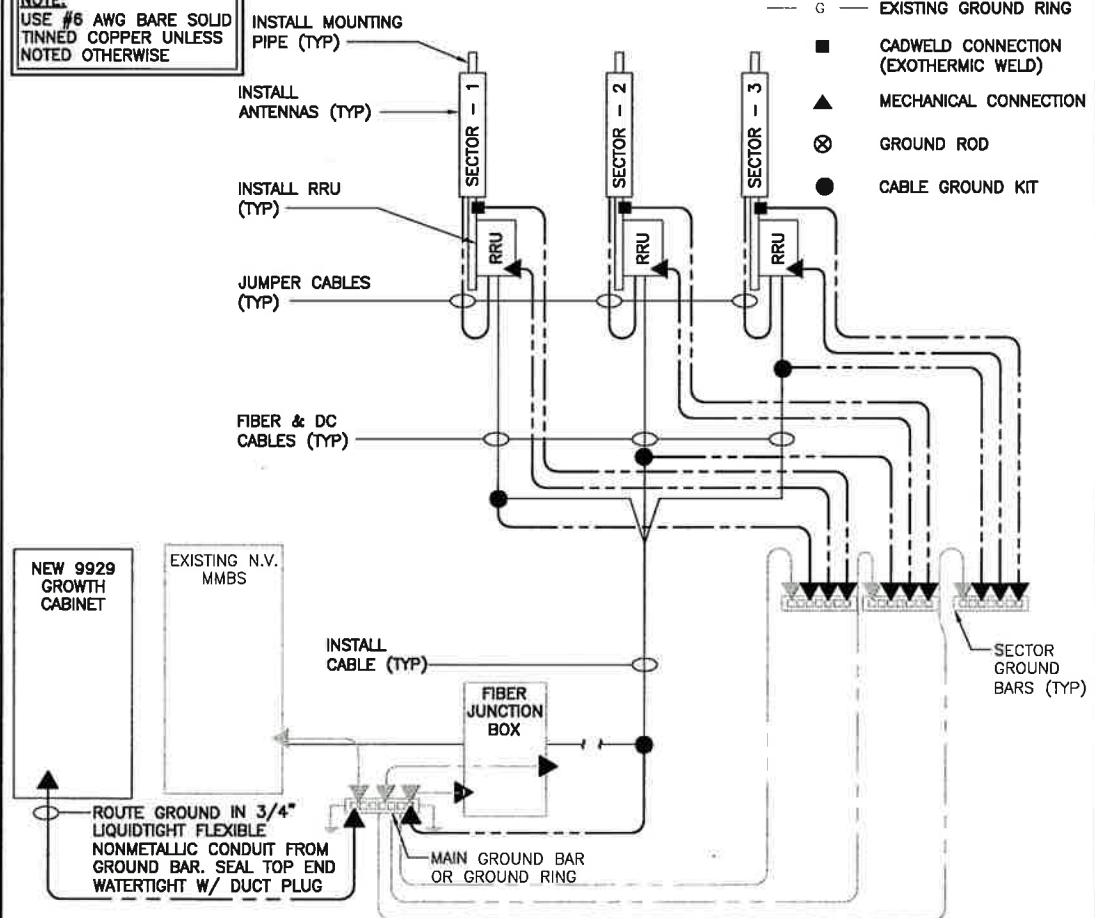
NOTES
 1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
 2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.



TWO HOLE LUG

NO SCALE 2

NOTE:
 USE #6 AWG BARE SOLID TINNED COPPER UNLESS NOTED OTHERWISE



GROUNDING RISER DIAGRAM

NO SCALE 4

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

NO SCALE 2

TWO HOLE LUG

NO SCALE 3

GROUNDING RISER DIAGRAM

NO SCALE 4



PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street • Suite 600 • Columbus, Ohio 43215-3708

Date: **May 22, 2014**

Steve Tuttle
Crown Castle
8 Parkmeadow Drive
Pittsford, NY 14534

Paul J Ford and Company
250 E. Broad Street Suite 600
Columbus, OH 43215
mscroggy@pjfweb.com

Subject: Structural Analysis Report

Carrier Designation:	Sprint PCS Co-Locate	Scenario 2.5B
	Carrier Site Number:	CT03XC076
	Carrier Site Name:	MTN. VIEW CEM. (FILLEY PARK)
Crown Castle Designation:	Crown Castle BU Number:	876329
	Crown Castle Site Name:	MTN. VIEW CEM. (FILLEY PARK)
	Crown Castle JDE Job Number:	253010
	Crown Castle Work Order Number:	764594
	Crown Castle Application Number:	208258 Rev. 6
Engineering Firm Designation:	Paul J Ford and Company Project Number:	37513-2485-R6
Site Data:	28 Brewer Dr., BLOOMFIELD, Hartford County, CT Latitude 41° 50' 6.57", Longitude -72° 44' 28.2" 120 Foot - Monopole Tower	

Dear Steve Tuttle,

Paul J Ford and Company 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 646735, in accordance with application 208258, revision 6.

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:

LC7: Existing + Reserved + Proposed Equipment

Sufficient Capacity

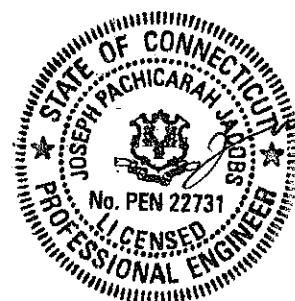
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1.0 inch ice thickness and 50 mph under service loads.

We at Paul J Ford and Company 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:

Morgan Scroggy, E.I.
Structural Designer



MAY 22 2014



PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street • Suite 600 • Columbus, Ohio 43215-3708

Date: **May 22, 2014**

Steve Tuttle
Crown Castle
8 Parkmeadow Drive
Pittsford, NY 14534

Paul J Ford and Company
250 E. Broad Street Suite 600
Columbus, OH 43215
mscroggy@pjfweb.com

Subject: Structural Analysis Report

Carrier Designation: **Sprint PCS Co-Locate** Scenario 2.5B
Carrier Site Number: CT03XC076
Carrier Site Name: MTN. VIEW CEM.
(FILLELY PARK)

Crown Castle Designation: **Crown Castle BU Number:** 876329
Crown Castle Site Name: MTN. VIEW CEM.
(FILLELY PARK)
Crown Castle JDE Job Number: 253010
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Crown Castle Application Number: 208258 Rev. 6

Engineering Firm Designation: **Paul J Ford and Company Project Number:** 37513-2485-R6

Site Data: **28 Brewer Dr., BLOOMFIELD, Hartford County, CT**
Latitude 41° 50' 6.57", Longitude -72° 44' 28.2"
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Respectfully submitted by:

Morgan Scroggy, E.I.
Structural Designer

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Table 4 – Section Capacity (Summary)

Table 5 - Tower Component Stresses vs. Capacity

5) APPENDIX A

TNX Tower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 120 ft Monopole tower designed by ROHN in January of 1998. The tower was originally designed for a wind speed of 70 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of the 2005 Connecticut Building Code and the TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 37.6 mph with 1.0 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
118.0	120.0	3	alcatel lucent	TD-RRH8x20-25	1	5/8	-
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe			

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
118.0	120.0	3	kathrein	840 10054 w/ Mount Pipe	-	-	3
		3	samsung telecom	WIMAX DAP HEAD			
		1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe	6 2 3	5/16 1/2 1-1/4	1
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
	118.0	1	tower mounts	Platform Mount [LP 501-1]			
	116.0	1	dragonwave	A-ANT-18G-1-C			
		1	dragonwave	A-ANT-18G-2-C			
		2	dragonwave	HORIZON COMPACT			
		3	rfs celwave	IBC1900BB-1			
	114.0	115.0	3	alcatel lucent	PCS 1900MHz 4x45W-65MHz	-	-
1			tower mounts	Pipe Mount [PM 601-3]			
3			alcatel lucent	800MHz 2X50W RRH W/FILTER			
107.0	108.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	1	1-5/8	2
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe			
		3	ericsson	KRY 112 144/1			
	107.0	1	tower mounts	Platform Mount [LP 712-1]	18	1-5/8	1
99.0	100.0	2	kmw communications	AM-X-CD-14-65-00T-RET w/ Mount Pipe	12 1 2	7/8 3/8 3/4	1
		2		AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770.00 w/ Mount Pipe			
		2	powerwave technologies	P65-17-XLH-RR w/ Mount Pipe			
		3	communication components inc.	DTMABP7819VG12A			
		6	ericsson	RRUS-11			
		6	powerwave technologies	LGP13519			
		1	raycap	DC6-48-60-18-8F			
	99.0	1	tower mounts	Platform Mount [LP 501-1]			
59.0	63.0	1	decibel	DB536	1	7/8	1
	59.0	1	tower mounts	Side Arm Mount [SO 702-1]			
48.0	50.0	1	lucent	KS24019-L112A	2	1/2	1
		1	unknown	GPS			
	48.0	1	tower mounts	Pipe Mount [PM 601-1]			

- Notes:
 1) Existing Equipment
 2) Reserved Equipment
 3) Equipment To Be Removed, Not Included in this SA

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti, 08/09/96	1529722	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Rohn, 34738SW, 10/11/96	1616549	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Rohn, 34738SW, 10/17/96	2158527	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Semaan, CT03XC076, 08/25/03	3386189	Semaan
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Vertical Solutions, 080063.01, 01/18/08	2205450	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B&T, 79582, 11/03/08	2343687	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	GPD, 2011111.27, 05/31/11	2917489	CCISITES

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) Monopole was reinforced in conformance with the referenced modification drawings.
- 5) The bridge stiffeners carry the entire load through the flange connection at 30'.
- 6) The existing "cut down" TS14x10 at 60' act as bridge stiffeners and carry the entire load through the flange connection.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	120 - 90	Pole	P24x1/4	1	-8.03	589.19	88.4	Pass
L2	90 - 80	Pole	P24x3/8	2	-9.33	934.94	79.2	Pass
L3	80 - 68.5	Pole	RPS 24" x 0.62517"	3	-11.52	1212.06	89.0	Pass
L4	68.5 - 68	Pole	RPS 24" x 0.88003"	4	-11.65	1685.53	66.2	Pass
L5	68 - 63.5	Pole	RPS 24" x 0.61306"	5	-12.50	1362.11	89.8	Pass
L6	63.5 - 60	Pole	RPS 24" x 1.13718"	6	-13.59	2216.54	62.5	Pass
L7	60 - 56.5	Pole	RPS 30" x 0.90733"	7	-14.72	2335.32	49.8	Pass
L8	56.5 - 45.417	Pole	RPS 30" x 0.55714"	8	-17.13	1565.42	90.6	Pass
L9	45.417 - 36.417	Pole	RPS 30" x 0.70733"	9	-19.47	1975.72	84.7	Pass
L10	36.417 - 33.5	Pole	RPS 30" x 0.86188"	10	-20.36	2395.96	74.0	Pass
L11	33.5 - 30	Pole	RPS 30" x 1.23648"	11	-21.81	3145.60	61.0	Pass
L12	30 - 26.5	Pole	RPS 36" x 0.7835"	12	-22.97	2484.77	65.4	Pass
L13	26.5 - 20.583	Pole	RPS 36" x 0.62423"	13	-24.58	1990.28	88.1	Pass
L14	20.583 - 2	Pole	RPS 36" x 0.8638"	14	-31.30	2733.17	82.4	Pass
L15	2 - 0	Pole	RPS 36" x 0.94668"	15	-32.09	2932.48	79.0	Pass
							Summary	
						Pole (L8)	90.6	Pass
						RATING =	90.6	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1, 2	Anchor Rods	0	78.9	Pass
1	Base Plate	0	68.3	Pass
1	Base Foundation – Steel	0	73.6	Pass
1, 3	Base Foundation Soil Interaction	0	34.0	Pass
1	Flange Connection	30	96.8	Pass
1	Flange Connection	60	62.4	Pass
1	Flange Connection	90	59.6	Pass

Structure Rating (max from all components) =	96.8%
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Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Worst case scenario between existing and post installed anchors.
- 3) Foundation Analysis Notes: According to the procedures prescribed and agreed to by the Crown Castle Engineering Foundation Committee, held in January 2010, the existing caisson foundation was analyzed using the methodology in the software 'PLS-Caisson' (Version 8.10, or newer, by Power Line Systems, Inc.). Per the methods in PLS-Caisson, the soil reactions of cohesive soils are calculated using 8CD independent of the depth of the soil layer. The depth of soil to be ignored at the top of the caisson is the greater of the geotechnical report's recommendation, the frost depth of the site or half of the caisson diameter.

APPENDIX A
TNXTOWER OUTPUT

Tower Input Data

There is a pole section.

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

The following design criteria apply:

- 1) Tower is located in Hartford County, Connecticut.
- 2) Basic wind speed of 80 mph.
- 3) Nominal ice thickness of 1.0000 in.
- 4) Ice thickness is considered to increase with height.
- 5) Ice density of 56 pcf.
- 6) A wind speed of 38 mph is used in combination with ice.
- 7) Temperature drop of 50 °F.
- 8) Deflections calculated using a wind speed of 50 mph.
- 9) A non-linear (P-delta) analysis was used.
- 10) Pressures are calculated at each section.
- 11) Stress ratio used in pole design is 1.333.
- 12) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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	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	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 <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
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Pole Section Geometry

Section	Elevation <i>ft</i>	Section Length <i>ft</i>	Pole Size	Pole Grade	Socket Length <i>ft</i>
L1	120.00-90.00	30.00	P24x1/4	A36M-42 (42 ksi)	
L2	90.00-80.00	10.00	P24x3/8	A36M-42 (42 ksi)	
L3	80.00-68.50	11.50	RPS 24" x 0.62517"	Reinf 33.01 ksi (33 ksi)	
L4	68.50-68.00	0.50	RPS 24" x 0.88003"	Reinf 32.97 ksi (33 ksi)	
L5	68.00-63.50	4.50	RPS 24" x 0.61306"	Reinf 37.81 ksi (38 ksi)	
L6	63.50-60.00	3.50	RPS 24" x 1.13718"	Reinf 33.93 ksi (34 ksi)	
L7	60.00-56.50	3.50	RPS 30" x 0.90733"	Reinf 35.21 ksi (35 ksi)	
L8	56.50-45.42	11.08	RPS 30" x 0.55714"	Reinf 37.98 ksi (38 ksi)	
L9	45.42-36.42	9.00	RPS 30" x 0.70733"	Reinf 37.95 ksi (38 ksi)	
L10	36.42-33.50	2.92	RPS 30" x 0.86188"	Reinf 37.97 ksi (38 ksi)	
L11	33.50-30.00	3.50	RPS 30" x 1.23648"	Reinf 35.20 ksi	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L12	30.00-26.50	3.50	RPS 36" x 0.7835"	(35 ksi) Reinf 35.84 ksi (36 ksi)	
L13	26.50-20.58	5.92	RPS 36" x 0.62423"	Reinf 35.87 ksi (36 ksi)	
L14	20.58-2.00	18.58	RPS 36" x 0.8638"	Reinf 35.84 ksi (36 ksi)	
L15	2.00-0.00	2.00	RPS 36" x 0.94668"	Reinf 35.17 ksi (35 ksi)	

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf

HB058-M12-XXXF(5/8")	C	No	CaAa (Out Of Face)	118.00 - 0.00	1	No Ice	0.08	0.24
						1/2" Ice	0.18	1.06
						1" Ice	0.28	2.49
						2" Ice	0.48	7.18
						4" Ice	0.88	23.89
HB114-1-08U4-M5J(1 1/4")	C	No	Inside Pole	118.00 - 0.00	3	No Ice	0.00	1.08
						1/2" Ice	0.00	1.08
						1" Ice	0.00	1.08
						2" Ice	0.00	1.08
						4" Ice	0.00	1.08

ATCB-B01-001(5/16)	C	No	Inside Pole	118.00 - 0.00	6	No Ice	0.00	0.07
						1/2" Ice	0.00	0.07
						1" Ice	0.00	0.07
						2" Ice	0.00	0.07
						4" Ice	0.00	0.07
FSJ4-50B(1/2")	C	No	Inside Pole	118.00 - 0.00	2	No Ice	0.00	0.14
						1/2" Ice	0.00	0.14
						1" Ice	0.00	0.14
						2" Ice	0.00	0.14
						4" Ice	0.00	0.14
2" Conduit	C	No	Inside Pole	118.00 - 0.00	2	No Ice	0.00	0.95
						1/2" Ice	0.00	0.95
						1" Ice	0.00	0.95
						2" Ice	0.00	0.95
						4" Ice	0.00	0.95

AL7-50(1 5/8)	C	No	CaAa (Out Of Face)	107.00 - 0.00	2	No Ice	0.20	0.52
						1/2" Ice	0.30	2.02
						1" Ice	0.40	4.14
						2" Ice	0.60	10.20
						4" Ice	1.00	29.65
AL7-50(1 5/8)	C	No	CaAa (Out Of Face)	107.00 - 0.00	4	No Ice	0.00	0.52
						1/2" Ice	0.00	2.02
						1" Ice	0.00	4.14
						2" Ice	0.00	10.20
						4" Ice	0.00	29.65
FLC 158-50J(1-5/8")	C	No	Inside Pole	107.00 - 0.00	12	No Ice	0.00	0.92
						1/2" Ice	0.00	0.92
						1" Ice	0.00	0.92
						2" Ice	0.00	0.92
						4" Ice	0.00	0.92
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	CaAa (Out Of Face)	107.00 - 0.00	1	No Ice	0.00	1.07
						1/2" Ice	0.00	2.37
						1" Ice	0.00	4.28
						2" Ice	0.00	9.93
						4" Ice	0.00	28.56

LDF5-50A(7/8")	C	No	Inside Pole	99.00 - 0.00	6	No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	C _A A _A		Weight
						ft ² /ft	plf	
FB-L98B-002-75000(3/8")	C	No	Inside Pole	99.00 - 0.00	1	2" Ice	0.00	0.33
						4" Ice	0.00	0.33
						No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	C	No	Inside Pole	99.00 - 0.00	2	2" Ice	0.00	0.06
						4" Ice	0.00	0.06
						No Ice	0.00	0.59
						1/2" Ice	0.00	0.59
						1" Ice	0.00	0.59
LDF5-50A(7/8")	C	No	Inside Pole	99.00 - 0.00	6	2" Ice	0.00	0.59
						4" Ice	0.00	0.59
						No Ice	0.00	0.33
						1/2" Ice	0.00	0.33
						1" Ice	0.00	0.33
***	***					2" Ice	0.00	0.33
LDF5-50A(7/8")	C	No	CaAa (Out Of Face)	59.00 - 0.00	1	4" Ice	0.00	0.33
						No Ice	0.11	0.33
						1/2" Ice	0.21	1.30
						1" Ice	0.31	2.88
						2" Ice	0.51	7.88
***	***					4" Ice	0.91	25.20
LDF4-50A(1/2")	C	No	CaAa (Out Of Face)	48.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.84
						1" Ice	0.00	2.14
						2" Ice	0.00	6.58
						4" Ice	0.00	22.78
LDF4-50A(1/2")	C	No	CaAa (Out Of Face)	48.00 - 0.00	1	No Ice	0.00	0.15
						1/2" Ice	0.00	0.84
						1" Ice	0.00	2.14
						2" Ice	0.00	6.58
						4" Ice	0.00	22.78
***	***							
C8x18.75	C	No	CaAa (Out Of Face)	33.50 - 0.00	2	No Ice	0.42	0.00
						1/2" Ice	0.53	0.00
						1" Ice	0.64	0.00
						2" Ice	0.87	0.00
						4" Ice	1.31	0.00
C8x11.5 brace	C	No	CaAa (Out Of Face)	70.00 - 33.50	2	No Ice	0.42	0.00
						1/2" Ice	0.53	0.00
						1" Ice	0.64	0.00
						2" Ice	0.87	0.00
						4" Ice	1.31	0.00
***	***							

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Placement ft	C _A A _A		Weight K	
			Horz Lateral ft ft ft	Azimuth Adjustmen t °		Front ft ²	Side ft ²		

APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	118.00	No Ice	7.13	4.96	0.08
						1/2" Ice	7.66	5.75	0.13
						Ice	8.18	6.47	0.19
						1" Ice	9.26	8.01	0.34
						2" Ice	11.53	11.41	0.75
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	118.00	4" Ice	7.13	4.96	0.08
						No Ice	7.13	4.96	0.08
						1/2" Ice	7.66	5.75	0.13
						Ice	8.18	6.47	0.19

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	118.00	1" Ice	9.26	8.01	0.34	
						2" Ice	11.53	11.41	0.75	
						4" Ice				
						No Ice	7.13	4.96	0.08	
						1/2" Ice	7.66	5.75	0.13	
						1" Ice	8.18	6.47	0.19	
						2" Ice	9.26	8.01	0.34	
TD-RRH8x20-25	A	From Leg	4.00 0.00 2.00	0.0000	118.00	2" Ice	11.53	11.41	0.75	
						4" Ice				
						No Ice	4.72	1.70	0.07	
						1/2" Ice	5.01	1.92	0.10	
						Ice	5.32	2.15	0.13	
						1" Ice	5.95	2.62	0.20	
						2" Ice	7.31	3.68	0.40	
TD-RRH8x20-25	B	From Leg	4.00 0.00 2.00	0.0000	118.00	4" Ice				
						No Ice	4.72	1.70	0.07	
						1/2" Ice	5.01	1.92	0.10	
						Ice	5.32	2.15	0.13	
						1" Ice	5.95	2.62	0.20	
						2" Ice	7.31	3.68	0.40	
						4" Ice				
TD-RRH8x20-25	C	From Leg	4.00 0.00 2.00	0.0000	118.00	No Ice	4.72	1.70	0.07	
						1/2" Ice	5.01	1.92	0.10	
						Ice	5.32	2.15	0.13	
						1" Ice	5.95	2.62	0.20	
						2" Ice	7.31	3.68	0.40	
						4" Ice				
						No Ice	4.72	1.70	0.07	
APXV9ERR18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 2.00	0.0000	118.00	1/2" Ice	9.15	8.66	0.16	
						Ice	9.77	9.56	0.24	
						1" Ice	11.03	11.39	0.42	
						2" Ice	13.68	15.53	0.94	
						4" Ice				
						No Ice	8.50	7.47	0.09	
						1/2" Ice	9.15	8.66	0.16	
APXVSP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 2.00	0.0000	118.00	Ice	9.77	9.56	0.24	
						1" Ice	11.03	11.39	0.42	
						2" Ice	13.68	15.53	0.94	
						4" Ice				
						No Ice	8.50	6.95	0.08	
						1/2" Ice	9.15	8.13	0.15	
						Ice	9.77	9.02	0.23	
APXVSP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 0.00 2.00	0.0000	118.00	1" Ice	11.03	10.84	0.41	
						2" Ice	13.68	14.85	0.91	
						4" Ice				
						No Ice	8.50	6.95	0.08	
						1/2" Ice	9.15	8.13	0.15	
						Ice	9.77	9.02	0.23	
						1" Ice	11.03	10.84	0.41	
IBC1900HG-2A	A	From Leg	4.00 0.00 -2.00	0.0000	118.00	2" Ice	13.68	14.85	0.91	
						4" Ice				
						No Ice	1.13	0.53	0.02	
						1/2" Ice	1.27	0.65	0.03	
						Ice	1.43	0.77	0.04	
						1" Ice	1.76	1.04	0.06	
						2" Ice	2.53	1.69	0.15	
IBC1900HG-2A	B	From Leg	4.00 0.00 -2.00	0.0000	118.00	4" Ice				
						No Ice	1.13	0.53	0.02	
						1/2" Ice	1.27	0.65	0.03	
						Ice	1.43	0.77	0.04	
						1" Ice	1.76	1.04	0.06	
						2" Ice	2.53	1.69	0.15	
						4" Ice				
IBC1900HG-2A	C	From Leg	4.00 0.00 -2.00	0.0000	118.00	No Ice	1.13	0.53	0.02	
						1/2" Ice	1.27	0.65	0.03	
						Ice	1.43	0.77	0.04	
						1" Ice	1.76	1.04	0.06	
						2" Ice	2.53	1.69	0.15	
						4" Ice				
						No Ice	1.13	0.53	0.02	
IBC1900BB-1	A	From Leg	4.00 0.00	0.0000	118.00	1" Ice	1.13	0.53	0.02	
						2" Ice	2.53	1.69	0.15	
						1/2" Ice	1.27	0.65	0.03	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			Horz ft	Lateral ft					
				-2.00					
IBC1900BB-1	B	From Leg	4.00	0.0000	118.00	Ice	1.43	0.77	0.04
						1" Ice	1.76	1.04	0.06
						2" Ice	2.53	1.69	0.15
						4" Ice			
						No Ice	1.13	0.53	0.02
						1/2"	1.27	0.65	0.03
						Ice	1.43	0.77	0.04
IBC1900BB-1	C	From Leg	4.00	0.0000	118.00	1" Ice	1.76	1.04	0.06
						2" Ice	2.53	1.69	0.15
						4" Ice			
						No Ice	1.13	0.53	0.02
						1/2"	1.27	0.65	0.03
						Ice	1.43	0.77	0.04
						1" Ice	1.76	1.04	0.06
* (2) HORIZON COMPACT	B	From Leg	4.00	0.0000	118.00	2" Ice	2.53	1.69	0.15
						4" Ice			
						No Ice	0.84	0.43	0.01
						1/2"	0.97	0.52	0.02
						Ice	1.10	0.63	0.03
						1" Ice	1.39	0.86	0.05
						2" Ice	2.08	1.43	0.12
Platform Mount [LP 501-1]	C	None	0.0000	118.00	4" Ice				
					No Ice	32.04	32.04	0.98	
					1/2"	45.28	45.28	1.28	
					Ice	58.51	58.51	1.57	
					1" Ice	84.98	84.98	2.16	
					2" Ice	137.92	137.92	3.33	
					4" Ice				
*** Pipe Mount [PM 601-3]	C	None	0.0000	114.00	4" Ice				
					No Ice	4.39	4.39	0.20	
					1/2"	5.48	5.48	0.24	
					Ice	6.57	6.57	0.28	
					1" Ice	8.75	8.75	0.36	
					2" Ice	13.11	13.11	0.53	
					4" Ice				
*** PCS 1900MHz 4x45W-65MHz	A	From Leg	2.00	0.0000	114.00	4" Ice			
						No Ice	2.71	2.61	0.06
						1/2"	2.95	2.85	0.08
						Ice	3.20	3.09	0.11
						1" Ice	3.72	3.61	0.17
						2" Ice	4.86	4.74	0.35
						4" Ice			
PCS 1900MHz 4x45W-65MHz	B	From Leg	2.00	0.0000	114.00	4" Ice			
						No Ice	2.71	2.61	0.06
						1/2"	2.95	2.85	0.08
						Ice	3.20	3.09	0.11
						1" Ice	3.72	3.61	0.17
						2" Ice	4.86	4.74	0.35
						4" Ice			
PCS 1900MHz 4x45W-65MHz	C	From Leg	2.00	0.0000	114.00	4" Ice			
						No Ice	2.71	2.61	0.06
						1/2"	2.95	2.85	0.08
						Ice	3.20	3.09	0.11
						1" Ice	3.72	3.61	0.17
						2" Ice	4.86	4.74	0.35
						4" Ice			
800MHz 2X50W RRH W/FILTER	A	From Leg	2.00	0.0000	114.00	4" Ice			
						No Ice	2.40	2.25	0.06
						1/2"	2.61	2.46	0.09
						Ice	2.83	2.68	0.11
						1" Ice	3.30	3.13	0.17
						2" Ice	4.34	4.15	0.34
						4" Ice			
800MHz 2X50W RRH W/FILTER	B	From Leg	2.00	0.0000	114.00	4" Ice			
						No Ice	2.40	2.25	0.06
						1/2"	2.61	2.46	0.09
						Ice	2.83	2.68	0.11
						1" Ice	3.30	3.13	0.17
						2" Ice	4.34	4.15	0.34
						4" Ice			

Description	Face or Leg	Offset Type	Offsets:			Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight
			Horz	Lateral	Vert					
			ft	ft	ft	°	ft	ft ²	ft ²	K
800MHz 2X50W RRH W/FILTER	C	From Leg	2.00 0.00 -1.00	0.0000	114.00	2" Ice	4.34	4.15	0.34	
						4" Ice				
						No Ice	2.40	2.25	0.06	
						1/2" Ice	2.61	2.46	0.09	
						1" Ice	2.83	2.68	0.11	
						2" Ice	3.30	3.13	0.17	
*** Platform Mount [LP 712-1]	C	None		0.0000	107.00	2" Ice	4.34	4.15	0.34	
						4" Ice				
						No Ice	24.53	24.53	1.34	
						1/2" Ice	29.94	29.94	1.65	
						1" Ice	35.35	35.35	1.96	
						2" Ice	46.17	46.17	2.58	
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	67.81	67.81	3.82	
						4" Ice				
						No Ice	6.83	5.64	0.11	
						1/2" Ice	7.35	6.48	0.17	
						1" Ice	7.86	7.26	0.23	
						2" Ice	8.93	8.86	0.38	
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	11.18	12.29	0.81	
						4" Ice				
						No Ice	6.83	5.64	0.11	
						1/2" Ice	7.35	6.48	0.17	
						1" Ice	7.86	7.26	0.23	
						2" Ice	8.93	8.86	0.38	
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	11.18	12.29	0.81	
						4" Ice				
						No Ice	6.83	5.64	0.11	
						1/2" Ice	7.35	6.48	0.17	
						1" Ice	7.86	7.26	0.23	
						2" Ice	8.93	8.86	0.38	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	11.17	12.28	0.81	
						4" Ice				
						No Ice	6.82	5.63	0.11	
						1/2" Ice	7.34	6.47	0.17	
						1" Ice	7.85	7.25	0.23	
						2" Ice	8.92	8.85	0.38	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	11.17	12.28	0.81	
						4" Ice				
						No Ice	6.82	5.63	0.11	
						1/2" Ice	7.34	6.47	0.17	
						1" Ice	7.85	7.25	0.23	
						2" Ice	8.92	8.85	0.38	
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	11.17	12.28	0.81	
						4" Ice				
						No Ice	6.82	5.63	0.11	
						1/2" Ice	7.34	6.47	0.17	
						1" Ice	7.85	7.25	0.23	
						2" Ice	8.92	8.85	0.38	
KRY 112 144/1	A	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	1.36	1.00	0.08	
						4" Ice				
						No Ice	0.41	0.20	0.01	
						1/2" Ice	0.50	0.27	0.01	
						1" Ice	0.59	0.35	0.02	
						2" Ice	0.81	0.53	0.03	
KRY 112 144/1	B	From Leg	4.00 0.00 1.00	0.0000	107.00	2" Ice	1.36	1.00	0.08	
						4" Ice				
						No Ice	0.41	0.20	0.01	
						1/2" Ice	0.50	0.27	0.01	
						1" Ice	0.59	0.35	0.02	
						2" Ice	0.81	0.53	0.03	
KRY 112 144/1	C	From Leg	4.00 0.00	0.0000	107.00	2" Ice	1.36	1.00	0.08	
						4" Ice				
KRY 112 144/1						No Ice	0.41	0.20	0.01	
						1/2" Ice	0.50	0.27	0.01	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			1.00			Ice	0.59	0.35	0.02
						1" Ice	0.81	0.53	0.03
						2" Ice	1.36	1.00	0.08
						4" Ice			

(2) P65-17-XLH-RR w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.82 12.59 13.38 14.94 18.33	9.06 10.62 12.21 14.70 19.64	0.09 0.18 0.28 0.51 1.14
(2) AM-X-CD-16-65-00T- RET w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.50 9.15 9.77 11.03 13.68	6.30 7.48 8.37 10.18 14.02	0.07 0.14 0.21 0.38 0.87
AM-X-CD-14-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.74 6.20 6.66 7.62 9.67	4.02 4.63 5.28 6.68 9.74	0.05 0.10 0.15 0.27 0.63
AM-X-CD-14-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.74 6.20 6.66 7.62 9.67	4.02 4.63 5.28 6.68 9.74	0.05 0.10 0.15 0.27 0.63
7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.12 6.63 7.13 8.16 10.36	4.25 5.01 5.71 7.16 10.41	0.06 0.10 0.16 0.29 0.66
(2) RRUS-11	A	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.25 3.49 3.74 4.27 5.43	1.37 1.55 1.74 2.14 3.04	0.05 0.07 0.09 0.15 0.31
(2) RRUS-11	B	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.25 3.49 3.74 4.27 5.43	1.37 1.55 1.74 2.14 3.04	0.05 0.07 0.09 0.15 0.31
(2) RRUS-11	C	From Leg	4.00 0.00 1.00	0.0000	99.00	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.25 3.49 3.74 4.27 5.43	1.37 1.55 1.74 2.14 3.04	0.05 0.07 0.09 0.15 0.31

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
DTMABP7819VG12A	A	From Leg	4.00		0.0000	99.00	No Ice	1.14	0.39	0.02
			0.00				1/2"	1.28	0.49	0.03
			1.00				Ice	1.44	0.59	0.04
							1" Ice	1.77	0.83	0.06
							2" Ice	2.54	1.41	0.14
							4" Ice			
DTMABP7819VG12A	B	From Leg	4.00		0.0000	99.00	No Ice	1.14	0.39	0.02
			0.00				1/2"	1.28	0.49	0.03
			1.00				Ice	1.44	0.59	0.04
							1" Ice	1.77	0.83	0.06
							2" Ice	2.54	1.41	0.14
							4" Ice			
DTMABP7819VG12A	C	From Leg	4.00		0.0000	99.00	No Ice	1.14	0.39	0.02
			0.00				1/2"	1.28	0.49	0.03
			1.00				Ice	1.44	0.59	0.04
							1" Ice	1.77	0.83	0.06
							2" Ice	2.54	1.41	0.14
							4" Ice			
(2) LGP13519	A	From Leg	4.00		0.0000	99.00	No Ice	0.34	0.21	0.01
			0.00				1/2"	0.42	0.28	0.01
			1.00				Ice	0.51	0.36	0.01
							1" Ice	0.73	0.55	0.02
							2" Ice	1.25	1.03	0.07
							4" Ice			
(2) LGP13519	B	From Leg	4.00		0.0000	99.00	No Ice	0.34	0.21	0.01
			0.00				1/2"	0.42	0.28	0.01
			1.00				Ice	0.51	0.36	0.01
							1" Ice	0.73	0.55	0.02
							2" Ice	1.25	1.03	0.07
							4" Ice			
(2) LGP13519	C	From Leg	4.00		0.0000	99.00	No Ice	0.34	0.21	0.01
			0.00				1/2"	0.42	0.28	0.01
			1.00				Ice	0.51	0.36	0.01
							1" Ice	0.73	0.55	0.02
							2" Ice	1.25	1.03	0.07
							4" Ice			
DC6-48-60-18-8F	A	From Leg	4.00		0.0000	99.00	No Ice	2.57	2.57	0.02
			0.00				1/2"	2.80	2.80	0.04
			1.00				Ice	3.04	3.04	0.07
							1" Ice	3.54	3.54	0.13
							2" Ice	4.66	4.66	0.30
							4" Ice			
Platform Mount [LP 501-1]	C	None			0.0000	99.00	No Ice	32.04	32.04	0.98
							1/2"	45.28	45.28	1.28
							Ice	58.51	58.51	1.57
							1" Ice	84.98	84.98	2.16
							2" Ice	137.92	137.92	3.33
							4" Ice			
*** DB536	A	From Leg	4.00		0.0000	59.00	No Ice	2.83	2.83	0.02
			0.00				1/2"	3.99	3.99	0.04
			4.00				Ice	5.16	5.16	0.06
							1" Ice	7.08	7.08	0.14
							2" Ice	9.94	9.94	0.40
							4" Ice			
Side Arm Mount [SO 702-1]	A	None			0.0000	59.00	No Ice	1.00	1.43	0.03
							1/2"	1.00	2.05	0.04
							Ice	1.00	2.67	0.05
							1" Ice	1.00	3.91	0.07
							2" Ice	1.00	6.39	0.12
							4" Ice			
*** GPS	A	From Leg	4.00		0.0000	48.00	No Ice	0.17	0.17	0.00
			0.00				1/2"	0.24	0.24	0.00
			2.00				Ice	0.31	0.31	0.00

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} _{Front}	C _{AA} _{Side}	Weight	
			Horz	Lateral						ft
					°	ft	ft ²	ft ²	K	
						1" Ice	0.48	0.48	0.01	
						2" Ice	0.92	0.92	0.05	
						4" Ice				
KS24019-L112A	A	From Leg	4.00		0.0000	48.00	No Ice	0.16	0.16	0.01
			0.00				1/2"	0.22	0.22	0.01
			2.00				Ice	0.30	0.30	0.01
							1" Ice	0.48	0.48	0.02
							2" Ice	0.95	0.95	0.06
							4" Ice			
Pipe Mount [PM 601-1]	A	None			0.0000	48.00	No Ice	3.00	0.90	0.07
							1/2"	3.74	1.12	0.08
							Ice	4.48	1.34	0.09
							1" Ice	5.96	1.78	0.12
							2" Ice	8.92	2.66	0.18
							4" Ice			

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets:		Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter	Aperture Area	Weight	
				Horz	Lateral							ft
						°	°	ft	ft	ft ²	K	
A-ANT-18G-1-C	B	Paraboloid w/o Radome	From Leg	4.00		-6.0000		118.00	1.27	No Ice	1.28	0.02
				0.00						1/2" Ice	4.01	0.04
				-2.00						1" Ice	4.30	0.05
										2" Ice	4.88	0.07
										4" Ice	6.04	0.11
A-ANT-18G-2-C	B	Paraboloid w/o Radome	From Leg	4.00		20.0000		118.00	2.17	No Ice	3.72	0.03
				0.00						1/2" Ice	4.01	0.04
				-2.00						1" Ice	4.30	0.05
										2" Ice	4.88	0.07
										4" Ice	6.04	0.11

Tower Pressures - No Ice

$$G_H = 1.690$$

Section Elevation	z	K _Z	q _Z	A _G	F _a	A _F	A _R	A _{leg}	Leg %	C _{AA} _{In}	C _{AA} _{Out}
ft	ft		psf	ft ²	face	ft ²	ft ²	ft ²	%	Face ft ²	Face ft ²
L1 120.00-90.00	105.00	1.392	23	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	9.016
L2 90.00-80.00	85.00	1.31	21	20.000	A	0.000	20.000	20.000	100.00	0.000	0.000
					B	0.000	20.000		100.00	0.000	0.000
					C	0.000	20.000		100.00	0.000	4.760
L3 80.00-68.50	74.25	1.261	21	23.000	A	0.000	23.000	23.000	100.00	0.000	0.000
					B	0.000	23.000		100.00	0.000	0.000
					C	0.000	23.000		100.00	0.000	6.737
L4 68.50-68.00	68.25	1.231	20	1.000	A	0.000	1.000	1.000	100.00	0.000	0.000
					B	0.000	1.000		100.00	0.000	0.000
					C	0.000	1.000		100.00	0.000	0.659
L5 68.00-63.50	65.75	1.218	20	9.000	A	0.000	9.000	9.000	100.00	0.000	0.000
					B	0.000	9.000		100.00	0.000	0.000
					C	0.000	9.000		100.00	0.000	5.932
L6 63.50-60.00	61.75	1.196	20	7.000	A	0.000	7.000	7.000	100.00	0.000	0.000
					B	0.000	7.000		100.00	0.000	0.000

Section Elevation ft	z ft	K _z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L7 60.00-56.50	58.25	1.176	19	8.750	C	0.000	7.000	8.750	100.00	0.000	4.614
					A	0.000	8.750		100.00	0.000	0.000
					B	0.000	8.750		100.00	0.000	0.000
L8 56.50-45.42	50.96	1.132	19	27.708	C	0.000	8.750	27.708	100.00	0.000	4.887
					A	0.000	27.708		100.00	0.000	0.000
					B	0.000	27.708		100.00	0.000	0.000
L9 45.42-36.42	40.92	1.063	17	22.500	C	0.000	27.708	22.500	100.00	0.000	15.819
					A	0.000	22.500		100.00	0.000	0.000
					B	0.000	22.500		100.00	0.000	0.000
L10 36.42-33.50	34.96	1.017	17	7.293	C	0.000	22.500	7.293	100.00	0.000	12.846
					A	0.000	7.293		100.00	0.000	0.000
					B	0.000	7.293		100.00	0.000	0.000
L11 33.50-30.00	31.75	1	16	8.750	C	0.000	7.293	8.750	100.00	0.000	4.163
					A	0.000	8.750		100.00	0.000	0.000
					B	0.000	8.750		100.00	0.000	0.000
L12 30.00-26.50	28.25	1	16	10.500	C	0.000	8.750	10.500	100.00	0.000	4.996
					A	0.000	10.500		100.00	0.000	0.000
					B	0.000	10.500		100.00	0.000	0.000
L13 26.50-20.58	23.54	1	16	17.751	C	0.000	10.500	17.751	100.00	0.000	4.996
					A	0.000	17.751		100.00	0.000	0.000
					B	0.000	17.751		100.00	0.000	0.000
L14 20.58-2.00	11.29	1	16	55.749	C	0.000	17.751	55.749	100.00	0.000	8.445
					A	0.000	55.749		100.00	0.000	0.000
					B	0.000	55.749		100.00	0.000	0.000
L15 2.00-0.00	1.00	1	16	6.000	C	0.000	55.749	6.000	100.00	0.000	26.524
					A	0.000	6.000		100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	2.855

Tower Pressure - With Ice

$G_H = 1.690$

Section Elevation ft	z ft	K _z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 120.00-90.00	105.00	1.392	5	1.1490	65.745	A	0.000	65.745	65.745	100.00	0.000	0.000
						B	0.000	65.745		100.00	0.000	0.000
						C	0.000	65.745		100.00	0.000	23.264
L2 90.00-80.00	85.00	1.31	5	1.1202	21.867	A	0.000	21.867	21.867	100.00	0.000	0.000
						B	0.000	21.867		100.00	0.000	0.000
						C	0.000	21.867		100.00	0.000	11.481
L3 80.00-68.50	74.25	1.261	5	1.1022	25.113	A	0.000	25.113	25.113	100.00	0.000	0.000
						B	0.000	25.113		100.00	0.000	0.000
						C	0.000	25.113		100.00	0.000	15.078
L4 68.50-68.00	68.25	1.231	4	1.0911	1.091	A	0.000	1.091	1.091	100.00	0.000	0.000
						B	0.000	1.091		100.00	0.000	0.000
						C	0.000	1.091		100.00	0.000	1.229
L5 68.00-63.50	65.75	1.218	4	1.0862	9.815	A	0.000	9.815	9.815	100.00	0.000	0.000
						B	0.000	9.815		100.00	0.000	0.000
						C	0.000	9.815		100.00	0.000	11.038
L6 63.50-60.00	61.75	1.196	4	1.0781	7.629	A	0.000	7.629	7.629	100.00	0.000	0.000
						B	0.000	7.629		100.00	0.000	0.000
						C	0.000	7.629		100.00	0.000	8.555
L7 60.00-56.50	58.25	1.176	4	1.0706	9.374	A	0.000	9.374	9.374	100.00	0.000	0.000
						B	0.000	9.374		100.00	0.000	0.000
						C	0.000	9.374		100.00	0.000	9.336
L8 56.50-45.42	50.96	1.132	4	1.0535	29.654	A	0.000	29.654	29.654	100.00	0.000	0.000
						B	0.000	29.654		100.00	0.000	0.000
						C	0.000	29.654		100.00	0.000	30.350
L9 45.42-36.42	40.92	1.063	4	1.0261	24.039	A	0.000	24.039	24.039	100.00	0.000	0.000
						B	0.000	24.039		100.00	0.000	0.000
						C	0.000	24.039		100.00	0.000	24.339
L10 36.42-33.50	34.96	1.017	4	1.0069	7.782	A	0.000	7.782	7.782	100.00	0.000	0.000
						B	0.000	7.782		100.00	0.000	0.000
						C	0.000	7.782		100.00	0.000	0.000

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L11 33.50-30.00	31.75	1	4	1.0000	9.333	C	0.000	7.782	9.333	100.00	0.000	7.819
						A	0.000	9.333		100.00	0.000	0.000
						B	0.000	9.333		100.00	0.000	0.000
L12 30.00-26.50	28.25	1	4	1.0000	11.083	C	0.000	9.333	11.083	100.00	0.000	9.351
						A	0.000	11.083		100.00	0.000	0.000
						B	0.000	11.083		100.00	0.000	0.000
L13 26.50-20.58	23.54	1	4	1.0000	18.737	C	0.000	18.737	18.737	100.00	0.000	15.809
						A	0.000	18.737		100.00	0.000	0.000
						B	0.000	18.737		100.00	0.000	0.000
L14 20.58-2.00	11.29	1	4	1.0000	58.846	C	0.000	58.846	58.846	100.00	0.000	49.650
						A	0.000	58.846		100.00	0.000	0.000
						B	0.000	58.846		100.00	0.000	0.000
L15 2.00-0.00	1.00	1	4	1.0000	6.333	C	0.000	6.333	6.333	100.00	0.000	5.344
						A	0.000	6.333		100.00	0.000	0.000
						B	0.000	6.333		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.690

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 120.00-90.00	105.00	1.392	9	60.000	A	0.000	60.000	60.000	100.00	0.000	0.000
					B	0.000	60.000		100.00	0.000	0.000
					C	0.000	60.000		100.00	0.000	9.016
L2 90.00-80.00	85.00	1.31	8	20.000	A	0.000	20.000	20.000	100.00	0.000	0.000
					B	0.000	20.000		100.00	0.000	0.000
					C	0.000	20.000		100.00	0.000	4.760
L3 80.00-68.50	74.25	1.261	8	23.000	A	0.000	23.000	23.000	100.00	0.000	0.000
					B	0.000	23.000		100.00	0.000	0.000
					C	0.000	23.000		100.00	0.000	6.737
L4 68.50-68.00	68.25	1.231	8	1.000	A	0.000	1.000	1.000	100.00	0.000	0.000
					B	0.000	1.000		100.00	0.000	0.000
					C	0.000	1.000		100.00	0.000	0.659
L5 68.00-63.50	65.75	1.218	8	9.000	A	0.000	9.000	9.000	100.00	0.000	0.000
					B	0.000	9.000		100.00	0.000	0.000
					C	0.000	9.000		100.00	0.000	5.932
L6 63.50-60.00	61.75	1.196	8	7.000	A	0.000	7.000	7.000	100.00	0.000	0.000
					B	0.000	7.000		100.00	0.000	0.000
					C	0.000	7.000		100.00	0.000	4.614
L7 60.00-56.50	58.25	1.176	8	8.750	A	0.000	8.750	8.750	100.00	0.000	0.000
					B	0.000	8.750		100.00	0.000	0.000
					C	0.000	8.750		100.00	0.000	4.887
L8 56.50-45.42	50.96	1.132	7	27.708	A	0.000	27.708	27.708	100.00	0.000	0.000
					B	0.000	27.708		100.00	0.000	0.000
					C	0.000	27.708		100.00	0.000	15.819
L9 45.42-36.42	40.92	1.063	7	22.500	A	0.000	22.500	22.500	100.00	0.000	0.000
					B	0.000	22.500		100.00	0.000	0.000
					C	0.000	22.500		100.00	0.000	12.846
L10 36.42-33.50	34.96	1.017	7	7.293	A	0.000	7.293	7.293	100.00	0.000	0.000
					B	0.000	7.293		100.00	0.000	0.000
					C	0.000	7.293		100.00	0.000	4.163
L11 33.50-30.00	31.75	1	6	8.750	A	0.000	8.750	8.750	100.00	0.000	0.000
					B	0.000	8.750		100.00	0.000	0.000
					C	0.000	8.750		100.00	0.000	4.996
L12 30.00-26.50	28.25	1	6	10.500	A	0.000	10.500	10.500	100.00	0.000	0.000
					B	0.000	10.500		100.00	0.000	0.000
					C	0.000	10.500		100.00	0.000	4.996
L13 26.50-20.58	23.54	1	6	17.751	A	0.000	17.751	17.751	100.00	0.000	0.000
					B	0.000	17.751		100.00	0.000	0.000
					C	0.000	17.751		100.00	0.000	8.445
L14 20.58-2.00	11.29	1	6	55.749	A	0.000	55.749	55.749	100.00	0.000	0.000
					B	0.000	55.749		100.00	0.000	0.000

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L15 2.00-0.00	1.00	1	6	6.000	C	0.000	55.749				
					A	0.000	6.000	6.000	100.00	0.000	0.000
					B	0.000	6.000		100.00	0.000	0.000
					C	0.000	6.000		100.00	0.000	2.855

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
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

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 90	Pole	Max Tension	27	0.00	0.00	-0.00
			Max. Compression	14	-17.14	-0.71	0.75
			Max. Mx	11	-8.04	247.25	6.43
			Max. My	2	-8.04	5.83	247.18
			Max. Vy	11	-13.52	247.25	6.43
			Max. Vx	2	-13.54	5.83	247.18
			Max. Torque	12			-2.55
L2	90 - 80	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-19.03	-0.39	0.56
			Max. Mx	11	-9.33	385.48	8.96
			Max. My	2	-9.33	8.36	385.48
			Max. Vy	11	-14.12	385.48	8.96

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L3	80 - 68.5	Pole	Max. Vx	2	-14.13	8.36	385.48
			Max. Torque	12			-2.53
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-21.88	-0.03	0.35
			Max. Mx	11	-11.52	552.02	11.86
			Max. My	2	-11.52	11.27	552.10
			Max. Vy	11	-14.84	552.02	11.86
L4	68.5 - 68	Pole	Max. Vx	2	-14.85	11.27	552.10
			Max. Torque	12			-2.51
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-22.04	-0.01	0.35
			Max. Mx	11	-11.65	559.45	11.99
			Max. My	2	-11.65	11.39	559.53
			Max. Vy	11	-14.88	559.45	11.99
L5	68 - 63.5	Pole	Max. Vx	2	-14.89	11.39	559.53
			Max. Torque	12			-2.47
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-23.14	0.13	0.27
			Max. Mx	11	-12.51	627.21	13.12
			Max. My	2	-12.50	12.53	627.33
			Max. Vy	11	-15.24	627.21	13.12
L6	63.5 - 60	Pole	Max. Vx	2	-15.25	12.53	627.33
			Max. Torque	12			-2.47
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-24.43	0.24	0.20
			Max. Mx	11	-13.59	681.07	14.00
			Max. My	2	-13.59	13.41	681.21
			Max. Vy	11	-15.54	681.07	14.00
L7	60 - 56.5	Pole	Max. Vx	2	-15.55	13.41	681.21
			Max. Torque	12			-2.43
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-25.88	0.38	0.49
			Max. Mx	11	-14.73	736.79	14.97
			Max. My	2	-14.73	14.30	737.05
			Max. Vy	11	-16.02	736.79	14.97
L8	56.5 - 45.417	Pole	Max. Vx	2	-16.04	14.30	737.05
			Max. Torque	12			-2.83
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-29.05	0.84	0.30
			Max. Mx	11	-17.14	920.00	17.76
			Max. My	2	-17.14	17.12	920.34
			Max. Vy	11	-17.08	920.00	17.76
L9	45.417 - 36.417	Pole	Max. Vx	2	-17.09	17.12	920.34
			Max. Torque	12			-2.81
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-31.96	1.23	0.08
			Max. Mx	11	-19.47	1076.89	19.99
			Max. My	2	-19.47	19.39	1077.27
			Max. Vy	11	-17.78	1076.89	19.99
L10	36.417 - 33.5	Pole	Max. Vx	2	-17.79	19.39	1077.27
			Max. Torque	12			-2.75
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-33.03	1.35	0.00
			Max. Mx	11	-20.36	1129.07	20.70
			Max. My	2	-20.36	20.13	1129.46
			Max. Vy	11	-18.00	1129.07	20.70
L11	33.5 - 30	Pole	Max. Vx	2	-18.01	20.13	1129.46
			Max. Torque	11			-2.69
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-34.70	1.50	-0.08
			Max. Mx	11	-21.82	1192.53	21.57
			Max. My	2	-21.82	21.01	1192.94
			Max. Vy	11	-18.27	1192.53	21.57
L12	30 - 26.5	Pole	Max. Vx	2	-18.28	21.01	1192.94
			Max. Torque	11			-2.68
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L13	26.5 - 20.583	Pole	Max. Compression	14	-36.11	1.68	-0.18
			Max. Mx	11	-22.97	1256.97	22.42
			Max. My	2	-22.97	21.89	1257.39
			Max. Vy	11	-18.56	1256.97	22.42
			Max. Vx	2	-18.57	21.89	1257.39
			Max. Torque	11			-2.66
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.13	1.97	-0.35
			Max. Mx	11	-24.58	1368.14	23.87
			Max. My	2	-24.58	23.39	1368.57
L14	20.583 - 2	Pole	Max. Vy	11	-19.02	1368.14	23.87
			Max. Vx	2	-19.03	23.39	1368.57
			Max. Torque	11			-2.64
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-46.13	2.91	-0.89
			Max. Mx	11	-31.30	1734.93	28.36
			Max. My	2	-31.30	28.03	1735.41
			Max. Vy	11	-20.43	1734.93	28.36
			Max. Vx	2	-20.44	28.03	1735.41
			Max. Torque	11			-2.61
L15	2 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.05	3.01	-0.95
			Max. Mx	11	-32.09	1775.93	28.84
			Max. My	2	-32.09	28.52	1776.42
			Max. Vy	11	-20.57	1775.93	28.84
			Max. Vx	2	-20.59	28.52	1776.42
			Max. Torque	11			-2.51

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 90	20.900	38	1.5599	0.0098
L2	90 - 80	11.499	38	1.3277	0.0064
L3	80 - 68.5	8.896	38	1.1453	0.0046
L4	68.5 - 68	6.356	38	0.9530	0.0033
L5	68 - 63.5	6.256	38	0.9458	0.0032
L6	63.5 - 60	5.410	38	0.8487	0.0027
L7	60 - 56.5	4.805	38	0.8008	0.0025
L8	56.5 - 45.417	4.230	38	0.7691	0.0023
L9	45.417 - 36.417	2.650	38	0.5852	0.0016
L10	36.417 - 33.5	1.679	38	0.4413	0.0011
L11	33.5 - 30	1.423	38	0.3983	0.0009
L12	30 - 26.5	1.145	38	0.3590	0.0008
L13	26.5 - 20.583	0.895	38	0.3233	0.0007
L14	20.583 - 2	0.543	38	0.2433	0.0005
L15	2 - 0	0.005	38	0.0245	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
118.00	APXVTM14-C-120 w/ Mount Pipe	38	20.238	1.5526	0.0096	20510
116.00	A-ANT-18G-1-C	38	19.578	1.5450	0.0095	20510
114.00	Pipe Mount [PM 601-3]	38	18.919	1.5370	0.0093	17091
107.00	Platform Mount [LP 712-1]	38	16.641	1.5025	0.0087	7888
99.00	(2) P65-17-XLH-RR w/ Mount Pipe	38	14.131	1.4412	0.0078	4883
59.00	DB536	38	4.638	0.7918	0.0025	4763
48.00	GPS	38	2.982	0.6327	0.0018	3477

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 90	53.407	13	3.9896	0.0249
L2	90 - 80	29.396	13	3.3946	0.0164
L3	80 - 68.5	22.745	13	2.9286	0.0117
L4	68.5 - 68	16.252	13	2.4371	0.0083
L5	68 - 63.5	15.998	13	2.4185	0.0082
L6	63.5 - 60	13.834	13	2.1704	0.0069
L7	60 - 56.5	12.288	13	2.0478	0.0063
L8	56.5 - 45.417	10.817	13	1.9669	0.0060
L9	45.417 - 36.417	6.778	13	1.4968	0.0040
L10	36.417 - 33.5	4.295	13	1.1286	0.0027
L11	33.5 - 30	3.639	13	1.0187	0.0024
L12	30 - 26.5	2.929	13	0.9183	0.0021
L13	26.5 - 20.583	2.289	13	0.8270	0.0018
L14	20.583 - 2	1.389	13	0.6223	0.0013
L15	2 - 0	0.013	13	0.0627	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
118.00	APXVTM14-C-120 w/ Mount Pipe	13	51.717	3.9707	0.0245	8084
116.00	A-ANT-18G-1-C	13	50.030	3.9513	0.0241	8084
114.00	Pipe Mount [PM 601-3]	13	48.347	3.9308	0.0237	6736
107.00	Platform Mount [LP 712-1]	13	42.529	3.8421	0.0222	3108
99.00	(2) P65-17-XLH-RR w/ Mount Pipe	13	36.119	3.6850	0.0199	1923
59.00	DB536	13	11.861	2.0249	0.0062	1868
48.00	GPS	13	7.626	1.6181	0.0045	1362

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
L1	120 - 90 (1)	P24x1/4	30.00	0.00	0.0	23.696	18.6532	-8.03	442.00	0.018
L2	90 - 80 (2)	P24x3/8	10.00	0.00	0.0	25.200	27.8325	-9.33	701.38	0.013
L3	80 - 68.5 (3)	RPS 24" x 0.62517"	11.50	0.00	0.0	19.806	45.9089	-11.52	909.27	0.013
L4	68.5 - 68 (4)	RPS 24" x 0.88003"	0.50	0.00	0.0	19.782	63.9197	-11.65	1264.46	0.009
L5	68 - 63.5 (5)	RPS 24" x 0.61306"	4.50	0.00	0.0	22.686	45.0429	-12.50	1021.84	0.012
L6	63.5 - 60 (6)	RPS 24" x 1.13718"	3.50	0.00	0.0	20.358	81.6787	-13.59	1662.82	0.008
L7	60 - 56.5 (7)	RPS 30" x 0.90733"	3.50	0.00	0.0	21.126	82.9275	-14.72	1751.93	0.008
L8	56.5 - 45.417 (8)	RPS 30" x 0.55714"	11.08	0.00	0.0	22.788	51.5340	-17.13	1174.36	0.015
L9	45.417 - 36.417 (9)	RPS 30" x 0.70733"	9.00	0.00	0.0	22.770	65.0925	-19.47	1482.16	0.013
L10	36.417 - 33.5 (10)	RPS 30" x 0.86188"	2.92	0.00	0.0	22.782	78.8966	-20.36	1797.42	0.011
L11	33.5 - 30 (11)	RPS 30" x 1.23648"	3.50	0.00	0.0	21.120	111.732	-21.81	2359.79	0.009
L12	30 - 26.5 (12)	RPS 36" x 0.7835"	3.50	0.00	0.0	21.504	86.6832	-22.97	1864.04	0.012
L13	26.5 - 20.583 (13)	RPS 36" x 0.62423"	5.92	0.00	0.0	21.522	69.3746	-24.58	1493.08	0.016
L14	20.583 - 2 (14)	RPS 36" x 0.8638"	18.58	0.00	0.0	21.504	95.3494	-31.30	2050.39	0.015
L15	2 - 0 (15)	RPS 36" x 0.94668"	2.00	0.00	0.0	21.102	104.251	-32.09	2199.91	0.015

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
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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	120 - 90 (1)	P24x1/4	249.15	27.276	23.696	1.151	0.00	0.000	23.696	0.000
L2	90 - 80 (2)	P24x3/8	388.22	28.782	27.720	1.038	0.00	0.000	27.720	0.000
L3	80 - 68.5 (3)	RPS 24" x 0.62517"	555.83	25.509	21.787	1.171	0.00	0.000	21.787	0.000
L4	68.5 - 68 (4)	RPS 24" x 0.88003"	563.30	18.965	21.760	0.872	0.00	0.000	21.760	0.000
L5	68 - 63.5 (5)	RPS 24" x 0.61306"	631.47	29.508	24.955	1.182	0.00	0.000	24.955	0.000
L6	63.5 - 60 (6)	RPS 24" x 1.13718"	685.65	18.455	22.394	0.824	0.00	0.000	22.394	0.000
L7	60 - 56.5 (7)	RPS 30" x 0.90733"	741.78	15.204	23.239	0.654	0.00	0.000	23.239	0.000
L8	56.5 - 45.417 (8)	RPS 30" x 0.55714"	926.01	29.838	25.067	1.190	0.00	0.000	25.067	0.000
L9	45.417 - 36.417 (9)	RPS 30" x 0.70733"	1083.7	27.923	25.047	1.115	0.00	0.000	25.047	0.000
L10	36.417 - 33.5 (10)	RPS 30" x 0.86188"	1136.1	24.402	25.060	0.974	0.00	0.000	25.060	0.000
L11	33.5 - 30 (11)	RPS 30" x 1.23648"	1199.9	18.657	23.232	0.803	0.00	0.000	23.232	0.000
L12	30 - 26.5 (12)	RPS 36" x 0.7835"	1264.6	20.318	23.654	0.859	0.00	0.000	23.654	0.000
L13	26.5 - 20.583 (13)	RPS 36" x 0.62423"	1376.3	27.386	23.674	1.157	0.00	0.000	23.674	0.000
L14	20.583 - 2 (14)	RPS 36" x 0.8638"	1744.7	25.597	23.654	1.082	0.00	0.000	23.654	0.000
L15	2 - 0 (15)	RPS 36" x 0.94668"	1785.9	24.074	23.212	1.037	0.00	0.000	23.212	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	120 - 90 (1)	P24x1/4	13.61	1.459	16.800	0.087	2.54	0.139	11.901	0.012
L2	90 - 80 (2)	P24x3/8	14.20	1.021	16.800	0.061	2.51	0.093	16.800	0.006
L3	80 - 68.5 (3)	RPS 24" x 0.62517"	14.93	0.650	13.204	0.049	1.96	0.045	13.204	0.003
L4	68.5 - 68 (4)	RPS 24" x 0.88003"	14.98	0.469	13.188	0.036	1.96	0.033	13.188	0.003
L5	68 - 63.5 (5)	RPS 24" x 0.61306"	15.34	0.681	15.124	0.045	1.93	0.045	15.124	0.003
L6	63.5 - 60 (6)	RPS 24" x 1.13718"	15.63	0.383	13.572	0.028	1.90	0.026	13.572	0.002
L7	60 - 56.5 (7)	RPS 30" x 0.90733"	16.12	0.389	14.084	0.028	2.11	0.022	14.084	0.002
L8	56.5 - 45.417 (8)	RPS 30" x 0.55714"	17.17	0.666	15.192	0.044	2.02	0.033	15.192	0.002
L9	45.417 - 36.417 (9)	RPS 30" x 0.70733"	17.88	0.549	15.180	0.036	1.93	0.025	15.180	0.002
L10	36.417 - 33.5 (10)	RPS 30" x 0.86188"	18.09	0.459	15.188	0.030	1.91	0.021	15.188	0.001
L11	33.5 - 30 (11)	RPS 30" x 1.23648"	18.36	0.329	14.080	0.023	1.87	0.015	14.080	0.001
L12	30 - 26.5 (12)	RPS 36" x 0.7835"	18.65	0.430	14.336	0.030	1.84	0.015	14.336	0.001
L13	26.5 - 20.583 (13)	RPS 36" x 0.62423"	19.11	0.551	14.348	0.038	1.78	0.018	14.348	0.001
L14	20.583 - 2 (14)	RPS 36" x 0.8638"	20.52	0.430	14.336	0.030	1.57	0.012	14.336	0.001
L15	2 - 0 (15)	RPS 36" x 0.94668"	20.67	0.396	14.068	0.028	1.55	0.010	14.068	0.001

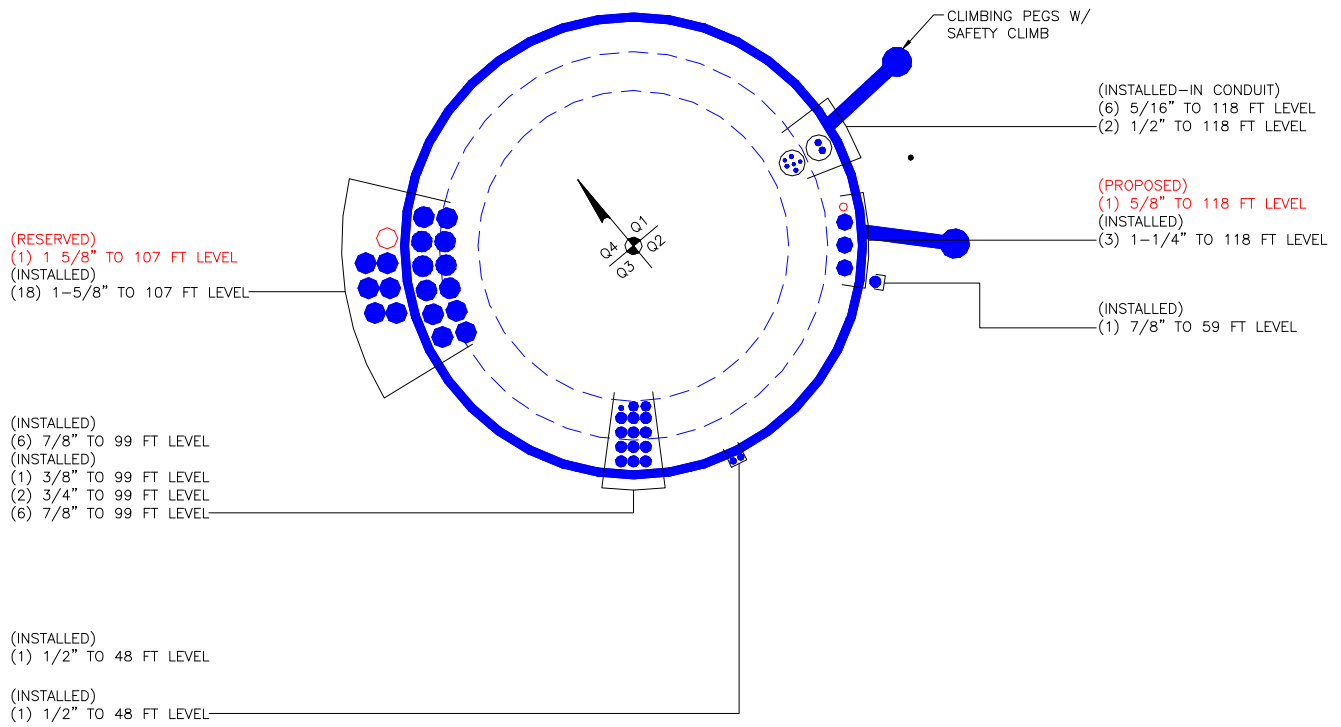
Pole Interaction Design Data

Section No.	Elevation ft	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Ratio f_v F_v	Ratio f_{vt} F_{vt}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	120 - 90 (1)	0.018	1.151	0.000	0.087	0.012	1.179	1.333	H1-3+VT ✓
L2	90 - 80 (2)	0.013	1.038	0.000	0.061	0.006	1.056	1.333	H1-3+VT ✓
L3	80 - 68.5 (3)	0.013	1.171	0.000	0.049	0.003	1.186	1.333	H1-3+VT ✓
L4	68.5 - 68 (4)	0.009	0.872	0.000	0.036	0.003	0.882	1.333	H1-3+VT ✓
L5	68 - 63.5 (5)	0.012	1.182	0.000	0.045	0.003	1.197	1.333	H1-3+VT ✓
L6	63.5 - 60 (6)	0.008	0.824	0.000	0.028	0.002	0.833	1.333	H1-3+VT ✓
L7	60 - 56.5 (7)	0.008	0.654	0.000	0.028	0.002	0.663	1.333	H1-3+VT ✓
L8	56.5 - 45.417 (8)	0.015	1.190	0.000	0.044	0.002	1.207	1.333	H1-3+VT ✓
L9	45.417 - 36.417 (9)	0.013	1.115	0.000	0.036	0.002	1.129	1.333	H1-3+VT ✓
L10	36.417 - 33.5 (10)	0.011	0.974	0.000	0.030	0.001	0.986	1.333	H1-3+VT ✓
L11	33.5 - 30 (11)	0.009	0.803	0.000	0.023	0.001	0.813	1.333	H1-3+VT ✓
L12	30 - 26.5 (12)	0.012	0.859	0.000	0.030	0.001	0.872	1.333	H1-3+VT ✓
L13	26.5 - 20.583 (13)	0.016	1.157	0.000	0.038	0.001	1.175	1.333	H1-3+VT ✓
L14	20.583 - 2 (14)	0.015	1.082	0.000	0.030	0.001	1.098	1.333	H1-3+VT ✓
L15	2 - 0 (15)	0.015	1.037	0.000	0.028	0.001	1.053	1.333	H1-3+VT ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail	
L1	120 - 90	Pole	P24x1/4	1	-8.03	589.19	88.4	Pass	
L2	90 - 80	Pole	P24x3/8	2	-9.33	934.94	79.2	Pass	
L3	80 - 68.5	Pole	RPS 24" x 0.62517"	3	-11.52	1212.06	89.0	Pass	
L4	68.5 - 68	Pole	RPS 24" x 0.88003"	4	-11.65	1685.53	66.2	Pass	
L5	68 - 63.5	Pole	RPS 24" x 0.61306"	5	-12.50	1362.11	89.8	Pass	
L6	63.5 - 60	Pole	RPS 24" x 1.13718"	6	-13.59	2216.54	62.5	Pass	
L7	60 - 56.5	Pole	RPS 30" x 0.90733"	7	-14.72	2335.32	49.8	Pass	
L8	56.5 - 45.417	Pole	RPS 30" x 0.55714"	8	-17.13	1565.42	90.6	Pass	
L9	45.417 - 36.417	Pole	RPS 30" x 0.70733"	9	-19.47	1975.72	84.7	Pass	
L10	36.417 - 33.5	Pole	RPS 30" x 0.86188"	10	-20.36	2395.96	74.0	Pass	
L11	33.5 - 30	Pole	RPS 30" x 1.23648"	11	-21.81	3145.60	61.0	Pass	
L12	30 - 26.5	Pole	RPS 36" x 0.7835"	12	-22.97	2484.77	65.4	Pass	
L13	26.5 - 20.583	Pole	RPS 36" x 0.62423"	13	-24.58	1990.28	88.1	Pass	
L14	20.583 - 2	Pole	RPS 36" x 0.8638"	14	-31.30	2733.17	82.4	Pass	
L15	2 - 0	Pole	RPS 36" x 0.94668"	15	-32.09	2932.48	79.0	Pass	
							Summary		
							Pole (L8)	90.6	Pass
							RATING =	90.6	Pass

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C

ADDITIONAL CALCULATIONS

Program Version 6.1.4.1 - 12/17/2013 File:G:/TOWER/375_Crown_Castle/2013/37513-2485 BU 876329/WO 764594 BU 876329 (Phase 7811)/37513-2485-R6.eri

DESIGNED APPURTENANCE LOADING

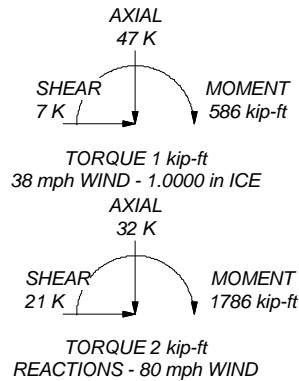
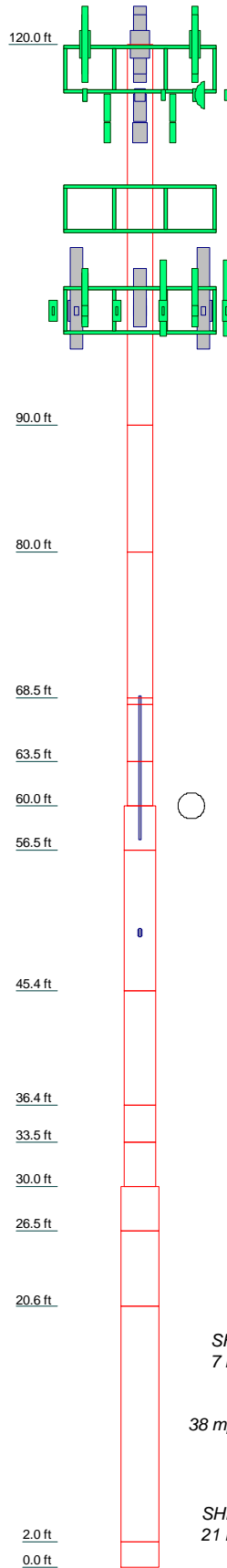
TYPE	ELEVATION	TYPE	ELEVATION
APXVTM14-C-120 w/ Mount Pipe	118	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	107
APXVTM14-C-120 w/ Mount Pipe	118	KRY 112 144/1	107
APXVTM14-C-120 w/ Mount Pipe	118	KRY 112 144/1	107
TD-RRH8x20-25	118	KRY 112 144/1	107
TD-RRH8x20-25	118	Platform Mount [LP 712-1]	107
TD-RRH8x20-25	118	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	107
APXV9ERR18-C-A20 w/ Mount Pipe	118	AM-X-CD-14-65-00T-RET w/ Mount Pipe	99
APXVSP18-C-A20 w/ Mount Pipe	118	AM-X-CD-14-65-00T-RET w/ Mount Pipe	99
APXVSP18-C-A20 w/ Mount Pipe	118	7770.00 w/ Mount Pipe	99
IBC1900HG-2A	118	7770.00 w/ Mount Pipe	99
IBC1900HG-2A	118	7770.00 w/ Mount Pipe	99
IBC1900HG-2A	118	(2) RRUS-11	99
IBC1900BB-1	118	(2) RRUS-11	99
IBC1900BB-1	118	(2) RRUS-11	99
IBC1900BB-1	118	(2) RRUS-11	99
(2) HORIZON COMPACT	118	DTMABP7819VG12A	99
Platform Mount [LP 501-1]	118	DTMABP7819VG12A	99
A-ANT-18G-1-C	118	DTMABP7819VG12A	99
A-ANT-18G-2-C	118	DTMABP7819VG12A	99
PCS 1900MHz 4x45W-65MHz	114	(2) LGP13519	99
PCS 1900MHz 4x45W-65MHz	114	(2) LGP13519	99
800MHz 2X50W RRH W/FILTER	114	(2) LGP13519	99
800MHz 2X50W RRH W/FILTER	114	DC6-48-60-18-8F	99
800MHz 2X50W RRH W/FILTER	114	Platform Mount [LP 501-1]	99
Pipe Mount [PM 601-3]	114	(2) P65-17-XLH-RR w/ Mount Pipe	99
PCS 1900MHz 4x45W-65MHz	114	(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	99
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	107	DB536	59
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	107	Side Arm Mount [SO 702-1]	59
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	107	Pipe Mount [PM 601-1]	48
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	107	GPS	48
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	107	KS24019-L112A	48

MATERIAL STRENGTH


GRADE	Fy	Fu	GRADE	Fy	Fu
A36M-42	42 ksi	60 ksi	Reinf 37.95 ksi	38 ksi	48 ksi
Reinf 33.01 ksi	33 ksi	42 ksi	Reinf 37.97 ksi	38 ksi	48 ksi
Reinf 32.97 ksi	33 ksi	42 ksi	Reinf 35.20 ksi	35 ksi	44 ksi
Reinf 37.81 ksi	38 ksi	48 ksi	Reinf 35.84 ksi	36 ksi	45 ksi
Reinf 33.93 ksi	34 ksi	43 ksi	Reinf 35.87 ksi	36 ksi	45 ksi
Reinf 35.21 ksi	35 ksi	45 ksi	Reinf 35.17 ksi	35 ksi	44 ksi
Reinf 37.98 ksi	38 ksi	48 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 90.6%



Section	Size	Length (ft)	Grade	Weight (K)
1	P24x1/4	30.00	A36M-42	1.9
2	P24x3/8	10.00		0.9
3	RPS 30" x 0.557RHS	11.50	Reinf 33.01 ksi	1.8
4		4.50		0.1
5		3.50		1.0
6		3.50		1.0
7		3.50		1.0
8	RPS 30" x 0.557RHS	11.08	Reinf 37.98 ksi	1.9
9	RPS 36" x 0.70733	9.00	Reinf 37.95 ksi	2.0
10		2.92		0.8
11		3.50		1.3
12		3.50		1.0
13	RPS 36" x 0.94668	5.92	Reinf 35.87 ksi	1.4
14	RPS 36" x 0.8638	18.58	Reinf 35.84 ksi	6.0
15		2.00	Reinf 35.17 ksi	22.6
				0.7

 Paul J Ford and Company 250 E. Broad Street Suite 600 Columbus, OH 43215 Phone: 614.221.6679 FAX: 614.448.4105	Job: Existing 120 ft. Monopole / Mtn. View Cem. (Filley Park)
	Project: PJF: 37513-2485-R6 / BU876329
	Client: Crown Castle USA Drawn by: Morgan Scroggy App'd:
	Code: TIA/EIA-222-F Date: 05/22/14 Scale: NTS
	Path: D:\TOWER\375_Crown_Castle\2013\7513-2485-R6\BU876329\76404-BU-EN029 Phone: 7811137513-2485-R6.dwg

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev F

Site Data

BU#: 876329
Site Name:
App #:

Pole Manufacturer:	Other
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Bolt Data	
Qty:	20
Diameter (in.):	1
Bolt Material:	A325
N/A:	<-- Disregard
N/A:	<-- Disregard
Circle (in.):	29

Plate Data	
Diam:	32 in
Thick, t:	1.5 in
Grade (Fy):	36 ksi
Strength, Fu:	58 ksi
Single-Rod B-eff:	3.77 in

Stiffener Data (Welding at Both Sides)	
Config:	0 *
Weld Type:	
Groove Depth:	in **
Groove Angle:	degrees
Fillet H. Weld:	<-- Disregard
Fillet V. Weld:	in
Width:	in
Height:	in
Thick:	in
Notch:	in
Grade:	ksi
Weld str.:	ksi

Pole Data	
Diam:	24 in
Thick:	0.25 in
Grade:	42 ksi
# of Sides:	0 "0" IF Round
Fu:	60 ksi
Reinf. Fillet Weld:	0 "0" if None

Stress Increase Factor	
ASIF:	1.333

Reactions	
Moment:	249.15 ft-kips
Axial:	8.02 kips
Shear:	13.61 kips
Elevation:	90 feet

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

Flange Bolt Results

Bolt Tension Capacity, B :	46.07 kips
Max Bolt <u>directly</u> applied T:	20.22 Kips
Min. PL "tc" for B cap. w/o Pry:	2.018 in
Min PL "treq" for actual T w/ Pry:	1.020 in
Min PL "t1" for actual T w/o Pry:	1.337 in
T allowable with Prying:	35.75 kips
Prying Force, Q:	0.00 kips
Total Bolt Tension=T+Q:	20.22 kips
Prying Bolt Stress Ratio=(T+Q)/(B):	43.9% Pass

Exterior Flange Plate Results

Compression Side Plate Stress:	21.5 ksi
Allowable Plate Stress:	36.0 ksi
Compression Plate Stress Ratio:	59.6% Pass
No Prying	
Tension Side Stress Ratio, (treq/t)^2:	46.3% Pass

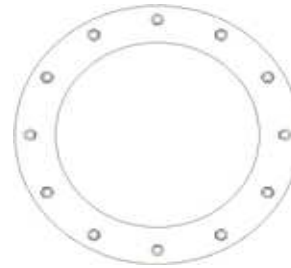
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check:	n/a
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* 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

v4.1 - Effective 7-3-12

Asymmetric Bolt Analysis

Moment = 685.65 k-ft	TIA Ref. = F	Location = Flange Plate
Axial = 13.59 kips	ASIF = 1.3333	η = N/A for BP, Rev. G Sect. 4.9.9
Shear = 15.63 kips	Max Ratio = 100.0%	Threads = N/A for FP, Rev. G
Anchor Qty = 16		

**** For Flange Plates: Prying action is not considered in the bolt loads. ****

Item	Nominal Bolt Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Bolt Circle, in	Area Override, in ²	Area, in ²	Max Net Compression, kips	Max Net Tension, kips	Load for Capacity Calc, kips	Capacity Override, kips	Capacity, kips	Capacity Ratio
1	0.000				0.0	46.19	8.00	8.00	181.54	174.74	181.54	290.77	290.77	62.4%
2	0.000				90.0	46.19	8.00	8.00	181.54	174.74	181.54	290.77	290.77	62.4%
3	0.000				180.0	46.19	8.00	8.00	181.54	174.74	181.54	290.77	290.77	62.4%
4	0.000				270.0	46.19	8.00	8.00	181.54	174.74	181.54	290.77	290.77	62.4%
5	0.000	A325	0	0	0.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
6	0.000	A325	0	0	30.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
7	0.000	A325	0	0	60.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
8	0.000	A325	0	0	90.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
9	0.000	A325	0	0	120.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
10	0.000	A325	0	0	150.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
11	0.000	A325	0	0	180.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
12	0.000	A325	0	0	210.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
13	0.000	A325	0	0	240.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
14	0.000	A325	0	0	270.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
15	0.000	A325	0	0	300.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
16	0.000	A325	0	0	330.0	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
32.00														

Asymmetric Bolt Analysis

Moment =	1199.91	k-ft	TIA Ref.	F	Location =	Flange Plate
Axial =	21.81	kips	ASIF =	1.3333	η =	N/A
Shear =	18.36	kips	Max Ratio =	100.0%	Threads =	N/A
Anchor Qty =	20					

for BP, Rev. G Sect. 4.9.9
for FP, Rev. G

**** For Flange Plates: Prying action is not considered in the bolt loads. ****

Item	Nominal Bolt Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Bolt Circle, in	Area Override, in ²	Area, in ²	Max Net Compression, kips	Max Net Tension, kips	Load for Capacity Calc, kips	Capacity Override, kips	Capacity, kips	Capacity Ratio
1	0.000				0.0	52.19	8.00	8.00	281.36	270.45	281.36	290.77	290.77	96.8%
2	0.000				90.0	52.19	8.00	8.00	281.36	270.45	281.36	290.77	290.77	96.8%
3	0.000				180.0	52.19	8.00	8.00	281.36	270.45	281.36	290.77	290.77	96.8%
4	0.000				270.0	52.19	8.00	8.00	281.36	270.45	281.36	290.77	290.77	96.8%
5	0.000	A325	0	0	0.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
6	0.000	A325	0	0	22.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
7	0.000	A325	0	0	45.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
8	0.000	A325	0	0	67.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
9	0.000	A325	0	0	90.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
10	0.000	A325	0	0	112.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
11	0.000	A325	0	0	135.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
12	0.000	A325	0	0	157.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
13	0.000	A325	0	0	180.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
14	0.000	A325	0	0	202.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
15	0.000	A325	0	0	225.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
16	0.000	A325	0	0	247.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
17	0.000	A325	0	0	270.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
18	0.000	A325	0	0	292.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
19	0.000	A325	0	0	315.0	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%
20	0.000	A325	0	0	337.5	41.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0%

32.00



v4.1 - Effective 7-3-12

Asymmetric Anchor Rod Analysis

Moment = 1786 k-ft
 Axial = 32.0 kips
 Shear = 21.0 kips
 Anchor Qty = 24

TIA Ref. = F
 ASIF = 1.3333
 Max Ratio = 100.0%

Location = Base Plate
 η = N/A for BP, Rev. G Sect. 4.9.9
 Threads = N/A for FP, Rev. G

**** For Post Installed Anchors: Check anchors for embedment, epoxy/grout bond, and capacity based on proof load. ****

Item	Nominal Anchor Dia, in	Spec	Fy, ksi	Fu, ksi	Location, degrees	Anchor Circle, in	Area Override, in ²	Area, in ²	Max Net Compression, kips	Max Net Tension, kips	Load for Capacity Calc, kips	Capacity Override, kips	Capacity, kips	Capacity Ratio
1	1.500	A354 Gr BC	109	125	0.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
2	1.500	A354 Gr BC	109	125	22.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
3	1.500	A354 Gr BC	109	125	45.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
4	1.500	A354 Gr BC	109	125	67.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
5	1.500	A354 Gr BC	109	125	90.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
6	1.500	A354 Gr BC	109	125	112.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
7	1.500	A354 Gr BC	109	125	135.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
8	1.500	A354 Gr BC	109	125	157.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
9	1.500	A354 Gr BC	109	125	180.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
10	1.500	A354 Gr BC	109	125	202.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
11	1.500	A354 Gr BC	109	125	225.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
12	1.500	A354 Gr BC	109	125	247.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
13	1.500	A354 Gr BC	109	125	270.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
14	1.500	A354 Gr BC	109	125	292.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
15	1.500	A354 Gr BC	109	125	315.0	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
16	1.500	A354 Gr BC	109	125	337.5	41.00	0.00	1.77	78.11	75.40	75.40	0.00	97.19	77.6%
17	1.375	Williams R71	127.7	150	33.8	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
18	1.375	Williams R71	127.7	150	56.3	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
19	1.375	Williams R71	127.7	150	123.8	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
20	1.375	Williams R71	127.7	150	146.3	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
21	1.375	Williams R71	127.7	150	213.8	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
22	1.375	Williams R71	127.7	150	236.3	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
23	1.375	Williams R71	127.7	150	303.8	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%
24	1.375	Williams R71	127.7	150	326.3	49.88	0.00	1.68	89.95	87.37	87.37	0.00	110.75	78.9%

41.70

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

TIA Rev F

Site Data

BU#: 876329
Site Name: MTN View CEM (Filley Parl
App #:
Pole Manufacturer: <i>Other</i>

Reactions			Moment adjusted to account for post installed anchor rods.
Moment:	1049	ft-kips	
Axial:	21.7	kips	
Shear:	14.2	kips	

Anchor Rod Data

Qty:	16	
Diam:	1.5	in
Rod Material:	Other	
Strength (Fu):	125	ksi
Yield (Fy):	109	ksi
Bolt Circle:	41	in

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

Anchor Rod Results

Maximum Rod Tension:	75.4 Kips
Allowable Tension:	97.2 Kips
Anchor Rod Stress Ratio:	77.6% Pass

Stiffened
Service, ASD
Fty*ASIF

Plate Data

Diam:	47	in
Thick:	2	in
Grade:	36	ksi
Single-Rod B-eff:	7.07	in

Base Plate Results

Base Plate Stress:	24.6 ksi	Flexural Check
Allowable Plate Stress:	36.0 ksi	
Base Plate Stress Ratio:	68.3% Pass	

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:	0.5	<-- Disregard
Groove Angle:	45	<-- Disregard
Fillet H. Weld:	0.75	in
Fillet V. Weld:	0.375	in
Width:	5.5	in
Height:	20.5	in
Thick:	0.75	in
Notch:	0.75	in
Grade:	50	ksi
Weld str.:	70	ksi

Stiffener Results

Horizontal Weld :	36.0% Pass
Vertical Weld:	18.5% Pass
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	5.3% Pass
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	36.2% Pass
Plate Comp. (AISC Bracket):	33.9% Pass

Pole Results

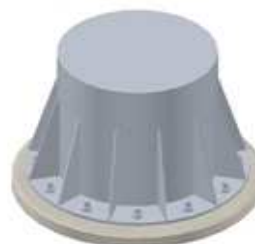
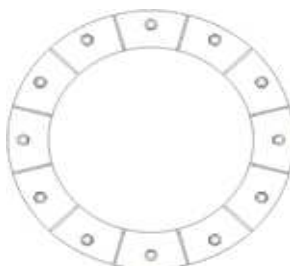
Pole Punching Shear Check:	6.6% Pass
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Pole Data

Diam:	36	in
Thick:	0.375	in
Grade:	42	ksi
# of Sides:	0	"0" IF Round
Fu	60	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



DRILLED PIER SOIL AND STEEL ANALYSIS - TIA/EIA-222-F

Unfactored Base Reactions from RISA

	Comp. (+)	Tension (-)	
Moment, M =	1786.0		k-ft
Shear, V =	21.0		kips
Axial Load, P =	32.0		kips
OTM =	1796.5	0.0	k-ft @ Ground

Safety Factors / Load Factors / Φ Factors

Tower Type =	Monopole DP
ACI Code =	ACI 318-02
Seismic Design Category =	D
Reference Standard =	TIA/EIA-222-F
Use 1.3 Load Factor?	Yes
Load Factor =	1.30

Drilled Pier Parameters

Diameter =	6	ft
Height Above Grade =	0.5	ft
Depth Below Grade =	25	ft
fc' =	3	ksi
εc =	0.003	in/in
Mat Ftdn. Cap Width =		ft
Mat Ftdn. Cap Length =		ft
Depth Below Grade =		ft

	Safety Factor	Φ Factor
Soil Lateral Resistance =	2.00	0.75
Skin Friction =	2.00	0.75
End Bearing =	2.00	0.75
Concrete Wt. Resist Uplift =	1.25	

Load Combinations Checked per TIA/EIA-222-F

- Ult. Skin Friction/2.00 + Ult. End Bearing/2.00 + Effective Soil Wt. - Buoyant Conc. Wt. ≥ Comp.
- Ult. Skin Friction/2.00 + Buoyant Conc. Wt./1.25 ≥ Uplift
- Ult. Skin Friction/1.50 + Buoyant Conc. Wt./1.50 ≥ Uplift

Steel Parameters

Number of Bars =	24	
Rebar Size =	#9	
Rebar Fy =	60	ksi
Rebar MOE =	29000	ksi
Tie Size =	#5	
Side Clear Cover to Ties =	3	in

Soil Parameters

Water Table Depth =	15.00	ft
Depth to Ignore Soil =	3.00	ft
Depth to Full Cohesion =	0	ft
Full Cohesion Starts at?	Ground	
Above Full Cohesion Lateral Resistance = 4(Cohesion)(Dia)(H)		
Below Full Cohesion Lateral Resistance = 8(Cohesion)(Dia)(H)		

Direct Embed Pole Shaft Parameters

Dia @ Grade =		in
Dia @ Depth Below Grade =		in
Number of Sides =		
Thickness =		in
Fy =		ksi
Backfill Condition =		

Maximum Capacity Ratios

Maximum Soil Ratio =	100.0%
Maximum Steel Ratio =	100.0%

Define Soil Layers

Note: Cohesion = Undrained Shear Strength = Unconfined Compressive Strength / 2

Layer	Thickness ft	Unit Weight pcf	Cohesion psf	Friction Angle degrees	Soil Type	Ultimate End Bearing psf	Comp. Ult. Skin Friction psf	Tension Ult. Skin Friction psf	Depth ft
1	15	135		36	Sand	8000			15
2	15	137.4		36	Sand	8000			30
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

Soil Results: Overturning

Depth to COR =	17.64	ft, from Grade
Bending Moment, M =	2166.89	k-ft, from COR
Resisting Moment, Ma =	6378.30	k-ft, from COR

MOMENT RATIO = 34.0% OK

Shear, V =	21.00	kips
Resisting Shear, Va =	61.81	kips

SHEAR RATIO = 34.0% OK

Soil Results: Uplift

Uplift, T =	0.00	kips
Allowable Uplift Cap., Ta =	72.40	kips

UPLIFT RATIO = 0.0% OK

Soil Results: Compression

Compression, C =	32.00	kips
Allowable Comp. Cap., Ca =	101.05	kips

COMPRESSION RATIO = 31.7% OK

Steel Results (ACI 318-02):

Minimum Steel Area =	13.57	sq in
Actual Steel Area =	24.00	sq in
Allowable Min Axial, Pa =	-996.92	kips, Where Ma = 0 k-ft
Allowable Max Axial, Pa =	4704.45	kips, Where Ma = 0 k-ft

Axial Load, P =	56.39	kips @ 5.25 ft Below Grade
Moment, M =	1891.66	k-ft @ 5.25 ft Below Grade
Allowable Moment, Ma =	2568.68	k-ft

MOMENT RATIO = 73.6% OK

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

BU#: 876329
 Site Name: MTN. View CEM. (Filley Park)
 App #:

Enter Load Factors Below:		
For M (WL)	1.3	<---- Enter Factor
For P (DL)	1.3	<---- Enter Factor

Pier Properties	
Concrete:	
Pier Diameter =	6.0 ft
Concrete Area =	4071.5 in ²
Reinforcement:	
Clear Cover to Tie=	3.00 in
Horiz. Tie Bar Size=	5
Vert. Cage Diameter =	5.30 ft
Vert. Cage Diameter =	63.62 in
Vertical Bar Size =	9
Bar Diameter =	1.13 in
Bar Area =	1 in ²
Number of Bars =	24
As Total=	24 in ²
A s/ Aconc, Rho:	0.0059 0.59%

ACI 10.5 , ACI 21.10.4, and IBC 1810.
 Min As for Flexural, Tension Controlled, Shafts:
 (3)*(Sqrt(f'c)/Fy: 0.0027
 200 / Fy: 0.0033

Minimum Rho Check:

Actual Req'd Min. Rho: 0.33% Flexural
 Provided Rho: 0.59% **OK**

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = ($\phi=0.65$) Pn.		
Pn per ACI 318 (10-2)	6115.79	kips
at Mu=($\phi=0.65$)Mn=	3187.43	ft-kips
Max Tu, ($\phi=0.9$) Tn =	1296	kips
at Mu= $\phi=(0.90)$ Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces		
TIA Revision:	F	
Max. Service Shaft M:	1891.66	ft-kips (* Note)
Max. Service Shaft P:	56.39	kips
Max Axial Force Type:	Comp.	

(* Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

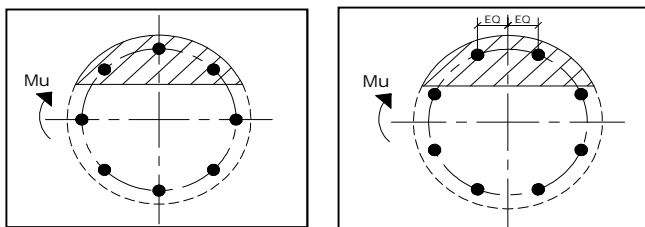
Load Factor	Shaft Factored Loads	
1.30	Mu:	2459.158 ft-kips
1.30	Pu:	73.307 kips

Material Properties		
Concrete Comp. strength, f'c =	3000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	
ACI 318 Code		
Select Analysis ACI Code=	2002	
Seismic Properties		
Seismic Design Category =	D	
Seismic Risk =	High	

Solve (Run) <-- Press Upon Completing All Input

Results:

Governing Orientation Case: 2



Case 1

Case 2

Dist. From Edge to Neutral Axis: 12.09 in
 Extreme Steel Strain, ϵ_t : 0.0138

$\epsilon_t > 0.0050$, Tension Controlled

Reduction Factor, ϕ : 0.900

Output Note: Negative Pu=Tension
 For Axial Compression, ϕ Pn = Pu: 73.31 kips
 Drilled Shaft Moment Capacity, ϕ Mn: 3339.29 ft-kips
 Drilled Shaft Superimposed Mu: 2459.16 ft-kips

(Mu/ ϕ Mn, Drilled Shaft Flexure CSR: 73.6%

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

Sprint Existing Facility

Site ID: CT03XC076

Mtn. View Cem. (Filley Park)

28 Brewer Drive
Bloomfield, CT 06002

June 10, 2014

EBI Project Number: 62143354

June 10, 2014

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

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT03XC076 - Mtn. View Cem. (Filley Park)

Site Total: 77.37% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 28 Brewer Drive, Bloomfield, 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 28 Brewer Drive, Bloomfield, 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) 6 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, The RFS APXV9ERR18-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 APXV9ERR18-C-A20 has a 14.9 dBd gain value at its main lobe at 1900 MHz and 11.9 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 **120 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	CT03XC076 - Mtn. View Cem. (Filley Park)
Site Address	28 Brewer Drive, Bloomfield, CT, 06002
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	APXV9ERR18-C-A20	RRH	1900 MHz	CDMA / LTE	20	6	120	4.9	120	114	1/2 "	0.5	3	165.65	0.46%
1a	RFS	APXV9ERR18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	1.9	120	114	1/2 "	0.5	3	13.84	0.07%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	120	114	1/2 "	0.5	3	69.51	0.34%
Sector total Power Density Value:															0.86%	

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	6	120	5.9	120	114	1/2 "	0.5	3	208.54	0.58%
2a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	120	114	1/2 "	0.5	3	19.54	0.10%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	120	114	1/2 "	0.5	3	69.51	0.34%
Sector total Power Density Value:															1.01%	

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	6	120	5.9	120	114	1/2 "	0.5	3	208.54	0.58%
3a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	120	114	1/2 "	0.5	3	19.54	0.10%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	120	114	1/2 "	0.5	3	69.51	0.34%
Sector total Power Density Value:															1.01%	

Site Composite MPE %	
Carrier	MPE %
Sprint	2.89%
T-Mobile	0.30%
Verizon Wireless	28.70%
AT&T	40.74%
Clearwire	1.33%
Town of Bloomfield	3.41%
Total Site MPE %	77.37%

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 **2.89% (0.86% from sector 1, 1.01% from sector 2 and 1.01% 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 **77.37%** 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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