III. C

Memorandum
Planning & Development Services Division

To: **Planning and Public Works Committee**

From: John Boyer, Senior Planner

Date: November 6, 2014

RE: **T.S.P. 44-2014 Sprint (455 N. Woods Mill Rd):** A request to obtain approval to amend a Telecommunications Siting Permit to accommodate six (6) new panel antennas, nine (9) Remote Radio Units, two (2) new cabinets and extend existing fence within the lease area for an existing monopole tower within the "NU" Non-Urban District of land located interior to the Parkway Central School District lot west of N. Woods Mill Road north of the intersection of Ladue Road.

Summary

Audra Kohler on behalf of Sprint (applicant) has submitted a request for an amended Telecommunications Siting Permit (TSP) for the above referenced property. The proposed TSP amendment is to accommodate six (6) new panel antennas, nine (9) Remote Radio Units, two (2) new cabinets and extend existing fence within the lease area for an existing 115 foot tall monopole tower. The antennas are planned to be located on an existing antenna platform of the tower located 112 feet above the surrounding grade. Six (6) antennas are planned for removal with this application. The fenced area within the lease area is proposed to be expanded 128 square feet (4.2 feet x 30.5 feet). The two (2) new cabinets are planned for this expanded area.

Six previous TSP's have been issued for this site. Since a TSP has been issued and the proposed modification is considered minor, no public hearing is required and the proposed amendment can be approved by City Council after a recommendation from the Planning and Public Works Committee.

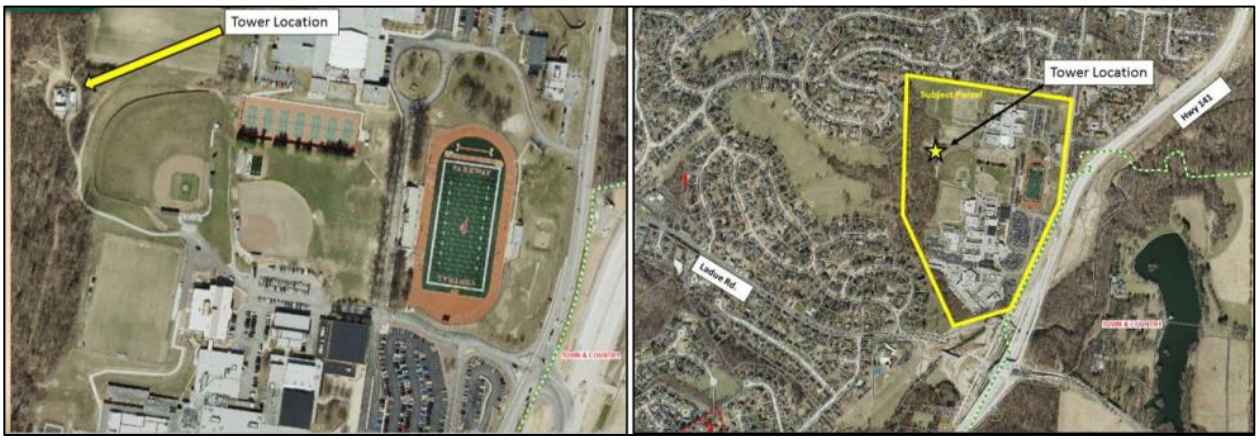


Figure 1: Aerial Photos

History

The tower was originally approved in August of 1997 as a 115 foot tall monopole tower. Subsequent amendments to this tower occurred with the following applications (along with descriptions of work);

- TSP 01-2008
  - Three (3) antennas added with new mount/antenna support and ground equipment.
- TSP 10-2009
  - Removed and replaced three (3) antennas to existing mount/antenna support.
- TSP 14-2009
  - Three (3) antennas added to existing mount/antenna support and ground equipment.
- TSP 22-2010
  - Added three (3) new antennas as well as ground equipment.
- TSP 28-2011
  - Added three (3) new antennas to an existing mount/antenna support.
- TSP 42-2013
  - Added nine (9) additional antennas as well as associated new ground equipment on existing mount/antenna support.

Discussion

The Unified Development Code (UDC) requires that ground equipment be fenced to mitigate unauthorized access. The existing ground equipment, along with the proposed expansion area of 128 square feet, will be fenced and additionally screened by existing heavy vegetation/landscaping surrounding the site as documented on the photos within the report as Figures 1 and 2.

Figure 2: Site Photo

The UDC permits applications for equipment upgrades to be submitted for sites that currently hold a Telecommunications Sitting Permit (TSP) without the need for a public hearing. Staff has reviewed the request by Sprint against the UDC and has determined that the proposal may amend the existing permit without the need for a public hearing. Staff recommends approval of this TSP amendment for Sprint as proposed.

After receiving a recommendation from the Planning and Public Works Committee, this request may be forwarded to the City Council for review. Attached please find a copy of the construction plans and supporting documents.

Respectfully submitted,

John Boyer
Senior Planner

cc. Aimee Nassif, Planning and Development Services Director

Sprint

AMERICAN TOWER CORPORATION

PROJECT:	OCEAN EQUIPMENT DEPLOYMENT
MARKET:	KANSAS
SITE NAME:	USC 852370 CHESTERFIELD
SITE CASCADE:	ST51XC077
SITE NUMBER:	305930
SITE ADDRESS:	347 N. WOODS MILL ROAD CHESTERFIELD, MO 63017
SITE TYPE:	115' MONOPOLE TOWER

RECEIVED
City of Chesterfield
OCT 0 1 2014
Department of Public Services

SITE INFORMATION

PROPERTY OWNER:
AMERICAN TOWER
116 HUNTINGTON AVE,
BOSTON, MA 02116
PHONE: 781-926-4938

LATITUDE (NAD83):
38.66726° N

LONGITUDE (NAD83):
-90.50688° W

COUNTY:
ST. LOUIS

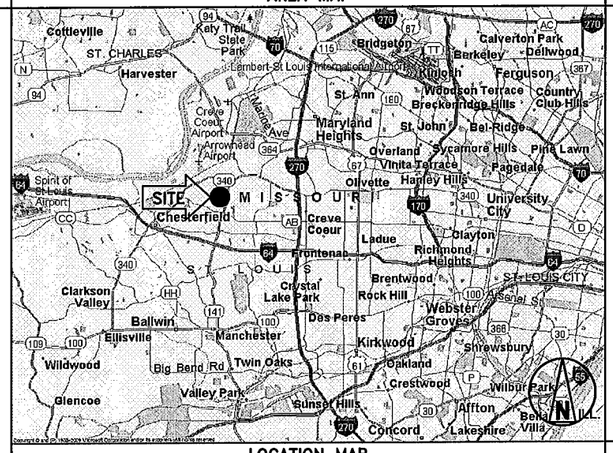
ZONING JURISDICTION:
ST. LOUIS COUNTY

POWER COMPANY:
AMEREN

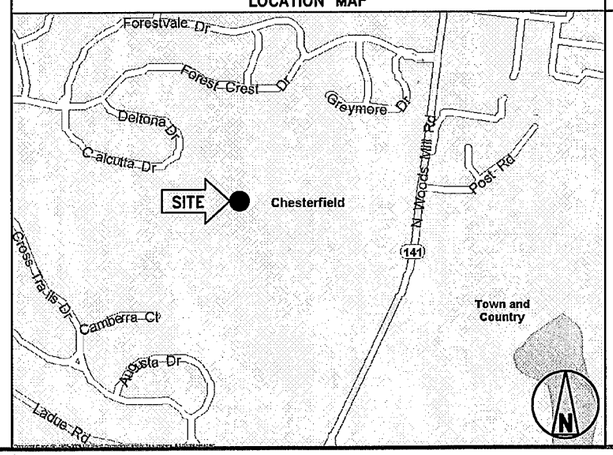
AAV PROVIDER:
TBD

SPRINT CM:
TBD

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

1. THE WIRELESS COMMUNICATIONS FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY.
2. THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
3. THE SCOPE OF WORK CONSISTS OF MODIFYING THE EXISTING WIRELESS INSTALLATION:

- INSTALL (2) EQUIPMENT CABINETS
- INSTALL (6) PANEL ANTENNAS
- INSTALL (9) RRU'S TO TOWER
- INSTALL (1) MW RADIO UNIT
- INSTALL (3) HYBRID CABLES
- INSTALL (3) FIBER CABLES
- INSTALL (1) COAX CABLE
- INSTALL (1) GPS ANTENNA

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

APPLICABLE CODES

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

1. 2009 INTERNATIONAL BUILDING CODE
2. TIA-EIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS

811 Know what's **below.** **Call** before you dig. www.call811.com

DRAWING INDEX

SHEET NO:	SHEET TITLE	REV
T-1	TITLE SHEET & PROJECT DATA	3
SP-1	SPRINT SPECIFICATIONS	3
SP-2	SPRINT SPECIFICATIONS	3
S-1	OVERALL SITE PLAN	3
A-1	SITE PLAN	3
A-2	EQUIPMENT LAYOUT & STAKING PLAN	3
A-3	TOWER ELEVATION & DETAILS	3
A-4	ANTENNA LAYOUT & MOUNTING DETAILS	3
A-5	RF DATA SHEET & EQUIPMENT INFORMATION	3
A-6	RF DATA SHEET & EQUIPMENT INFORMATION	3
A-7	COLOR CODING AND NOTES	3
A-8	EQUIPMENT & MOUNTING DETAILS	3
A-9	EQUIPMENT & MOUNTING DETAILS	3
A-10	DETAILS	3
A-11	DETAILS	3
E-1	ELECTRICAL PLAN & DETAILS	3
E-2	ELECTRICAL DETAILS	3
G-1	GROUNDING PLAN & DETAILS	3
G-2	GROUNDING DETAILS	3
G-3	GROUNDING DETAILS	3
G-4	GROUNDING DETAILS	3

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

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4483
Fax # (678) 444-4472
JOB NUMBER 370-011

MLA PARTNER:
AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:
STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:
USC 852370
CHESTERFIELD

SITE CASCADE:
ST51XC077

SITE ADDRESS:
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

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

THE WORK:
SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF. ALSO SEE SPRINT METHOD OF PROCEDURE (MOP) AND SPRINT STANDARDS AT THE TIME OF CONSTRUCTION START.

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 ALONG WITH SPRINT CONSTRUCTION MANAGER APPROVAL.

SITE FAMILIARITY:
CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

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.

DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE:
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

B. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

C. MARK THE FIELD SET OF DRAWINGS IN RED, DOCUMENTING ANY CHANGES FROM THE CONSTRUCTION DOCUMENTS.

METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION:
CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS. CONTRACTOR IS RESPONSIBLE TO USE LATEST MOP's.

A. BASE BAND UNIT IN EXISTING UNIT
B. INSTALLATION OF FIBER CABLE
C. INSTALLATION OF RRU'S
D. CABLING
E. TS–0200 REV 5 – ANTENNA LINE ACCEPTANCE STANDARDS
F. SPRINT CELL SITE ENGINEERING NOTICE – EN 2012–001, REV 1.
G. COMMISSIONING MOPS

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT TO ENSURE IT IS PROTECTED AND HANDLED PROPERLY THROUGHOUT THE CONSTRUCTION DURATION.

CONTRACTOR RESPONSIBLE FOR RECEIPT OF SPRINT FURNISHED EQUIPMENT AT CELL SITE OR CONTRACTORS LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE. CONTRACTOR MAY BE REQUIRED TO PICK UP MATERIAL AT LOCATION PRESCRIBED BY SPRINT.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

NOTICE TO PROCEED:
NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF WORK ORDER.

SITE CLEANLINESS:
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.

SECTION 01 400 – SUBMITTALS & TESTS

ALTERNATES:
AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINTS CONSTRUCTION MANAGER FOR APPROVAL. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED,

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 5 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT PROVIDE AN AUTOMATED REPORT UPLOADED TO SITERRA USING A COMMERCIAL MADE–FOR THE PURPOSE ELECTRONIC ANTENNA ALIGNMENT TOOL (AAT). INSTALLED AZIMUTH, CENTERLINE AND DOWNTILT MUST CONFORM WITH RF CONFIGURATION DATA
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.
4. ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL FROM SUNSIGHT INSTRUMENTS OR 3Z – ANTENNA ALIGN ALIGNMENT TOOL (AAT)
2. SWEEP AND FIBER TESTS
3. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
4. ALL AVAILABLE JURISDICTIONAL INFORMATION
5. PDF SCAN OF REDLINES PRODUCED IN FIELD
6. A PDF SCAN OF REDLINE MARK–UPS SUITABLE FOR USE IN ELECTRONIC AS–BUILT DRAWING PRODUCTION
7. LIEN WAIVERS
8. FINAL PAYMENT APPLICATION
9. REQUIRED FINAL CONSTRUCTION PHOTOS
10. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
11. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).
12. CLOSEOUT PHOTOGRAPHS:

D. PROVIDE PHOTOGRAPHS OF FINAL PROJECT PER THE FOLLOWING LIST. ADDITIONAL PHOTOGRAPHS MAY BE REQUIRED TO SUPPORT ACCEPTANCE PROCESSES

(i) BACK MAIN HYBRID CABLE ROUTE (MINIMUM TWO PHOTOS)
(ii) OF EACH ANTENNA AND RRU
(iii) MANUFACTURERS NAME TAG FOR ALL SERIALIZED EQUIPMENT
(iv) PULL AND DISTRIBUTION BOXES INTERMEDIATE BETWEEN RRU'S AND MMBS (DOOR OPEN)
(v) MMBS CABINET WITH DOOR OPEN SHOWING MODIFICATIONS
(vi) POWER CABINET, DOORS OPEN, BATTERIES INSTALLED
(vii) BREAK OUT CYLINDERS
(viii) ASR SIGNAGE FOR SPRINT OWNED TOWERS
(ix) RADIATION EXPOSURE WARNING SIGNS
(x) PHOTOGRAPH FROM EACH SECTOR FROM APPROXIMATELY RAD CENTER OF ANY NEW ANTENNA AT HORIZON.

E. LOAD PHOTOS TO SITERRA PROJECT LIBRARY I5. IN I5 CREATE NEW CATEGORY; 2.5 DEPLOYMENT, AND SECTION; PERMANENT CONSTRUCTION. LABEL PHOTOS WITH SITE CASCADE AND VIEW BEING DEPICTED. CAMERAS USED TO TAKE PHOTOGRAPHS SHALL GPS ENABLED SUCH THAT THE GPS COORDINATES ARE INCLUDED IN THE PHOTO MEDIA–FILE INFORMATION.

COMMISSIONING:
PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

INTEGRATION:
PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

SECTION 11 700 – ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION

SUMMARY:
THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

ANTENNAS AND RRU'S:
THE NUMBER AND TYPE OF ANTENNAS AND RRU'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

HYBRID CABLE:
HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

JUMPERS AND CONNECTORS:
FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12–50, CR 540, OR FXL 540. SUPER–FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE, MIN LENGTH FOR JUMPER SHALL BE SO AS TO ALLOW FOR THE PROPER BEND RADIUS PER MANUFACTURER OR SPRINT SPECIFICATIONS.

REMOTE ELECTRICAL TILT (RET) CABLES:

MISCELLANEOUS:
INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

ANTENNA INSTALLATION:
THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE A DESIGNATED ON THE CONSTRUCTION DRAWINGS.

A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.

B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLES INSTALLATION:

A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.

C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.

1. FASTENING MAIN FIBER CABLES:

a. LATTICE AND GUYED TOWERS:
ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'–0" OC USING NON–MAGNETIC STAINLESS STEEL CLIPS.

b. MONOPOLE:
ALL CABLES SHALL BE PERMANENTLY SUPPORTED WITH HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200 FEET (ONE HOISTING GRIP PER COAX). A HOISTING GRIP SHOULD BE INSTALLED AT MID–POINT IF CABLE RUN EXCEEDS 200' AS WELL AS TOP SIDE.

2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:

a. FIBER: SUPPORT FIBER BUNDLES USING ½" VELCRO STRAPS OF THE REQUIRED LENGTH @ 18" OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.

b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.

3. FASTENING JUMPERS: FASTENING OR SECURING JUMPERS SHOULD CONSIST OF STAINLESS STEEL CLIPS, 18" FROM REAR OF CONNECTOR AND 24" THEREAFTER AND AT NO TIME SHALL THEY CONTACT TOWER OR STRUCTURAL STEEL.

4. CABLE INSTALLATION:
a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.

b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.

c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES RECOMMENDED MAXIMUM BEND RADIUS.

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

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472
JOB NUMBER 370–011

MLA PARTNER:
AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:
STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:
USC 852370
CHESTERFIELD

SITE CASCADE:
ST51XC077

SITE ADDRESS:
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-1

CONTINUE FROM SP-1

5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED IN TS 0200 REV 5.
7. HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

B. WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.

1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS SERIES OR EQUAL.
2. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION. APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
4. JMA-WPS SERIES ENCLOSURE
5. BUTYL AND TAPE, 1 COMPLETE WRAP OF 3/4" PRE-TAPE, BUTYL WRAPPED IN HALF INCH LAP LAYERS, ENDED WITH SHINGLED DOWNWARD 3 WRAPS OF 2" TAPE, 3 WRAPS OF 3/4" TAPE SHINGLED DOWNWARD, FEE OF WRINKLES, BUCKLES AND FLAGGING.
6. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

SECTION 11 800 – INSTALLATION OF MULTIMODAL BASE STATIONS (MMBS) AND RELATED EQUIPMENT

SUMMARY:

A. THIS SECTION SPECIFIES MMBS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).

B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRE BY THE APPLICABLE INSTALLATION MOPS.

C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

DC CIRCUIT BREAKER LABELING

A. LABEL CIRCUIT BREAKERS ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.

SECTION 26 100 – BASIC ELECTRICAL REQUIREMENTS

SUMMARY:
THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

QUALITY ASSURANCE:

A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.

B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.

C. MATERIALS AND EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS

SUPPORTING DEVICES:

A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.

B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.

C. MATERIALS AND EQUIPMENT:
ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS

SUPPORTING DEVICES:

A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:

1. ALLIED TUBE AND CONDUIT
2. B-LINE SYSTEM
3. SUNISTRUT DIVERSIFIED PRODUCTS
4. THOMAS & BETTS

B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:

1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.
10. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
11. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
12. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
    1. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
    2. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:

A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.

B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELBOARD.

SECTION 26 200 – ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:

A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED – SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.

B. UNDERGROUND CONDUIT OR CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.

C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.

D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.

E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6-FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.

F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

HUBS AND BOXES:

A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

B. CABLE TERMINATION FITTINGS FOR CONDUIT

1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL.
2. CABLE TERMINATORS FOR LFMC SHALL BE ETCO – CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.

C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.

D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM 8 OR EQUAL.

E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS AS INDICATED.

B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER; AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.

C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

EXISTING STRUCTURE:

A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

CONDUIT AND CONDUCTOR INSTALLATION:

A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

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

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472
JOB NUMBER 370-011

MLA PARTNER:
AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:
STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

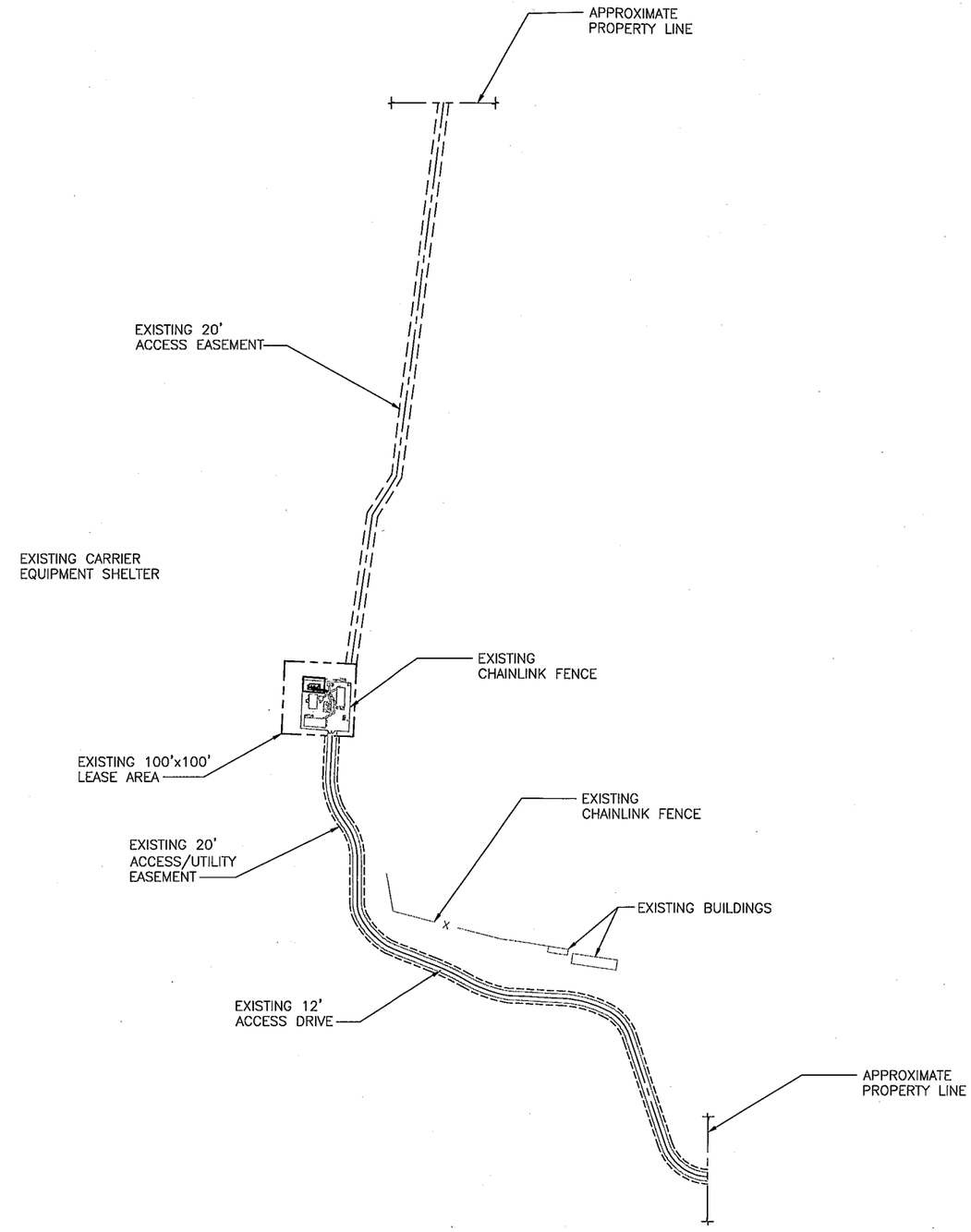
SITE NAME:
USC 852370
CHESTERFIELD

SITE CASCADE:
ST51XC077

SITE ADDRESS:
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-2



N

50' 0 50' 100' 200'

(IN FEET)

SCALE: 24"X 36" SHEET 1"= 100'
SCALE: 11"X 17" SHEET 1"= 200'

OVERALL SITE PLAN | A

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION

116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

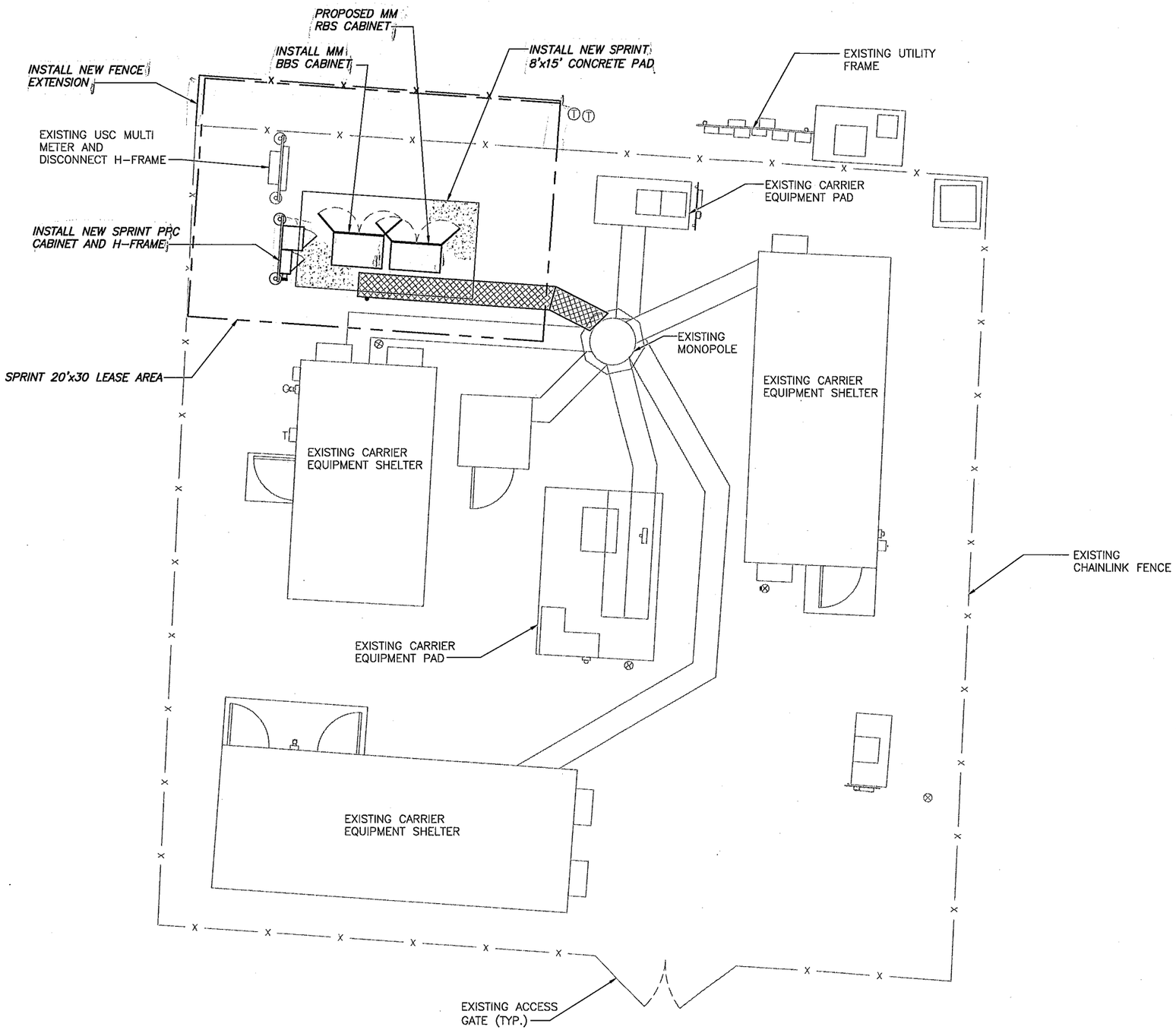
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

OVERALL SITE PLAN

SHEET NUMBER:

S-1



N

2.5' 0 2.5' 5' 10'

(IN FEET)

SCALE: 24"X 36" SHEET 1"= 5'
SCALE: 11"X 17" SHEET 1"= 10'

SITE PLAN | A

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION

116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JNB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

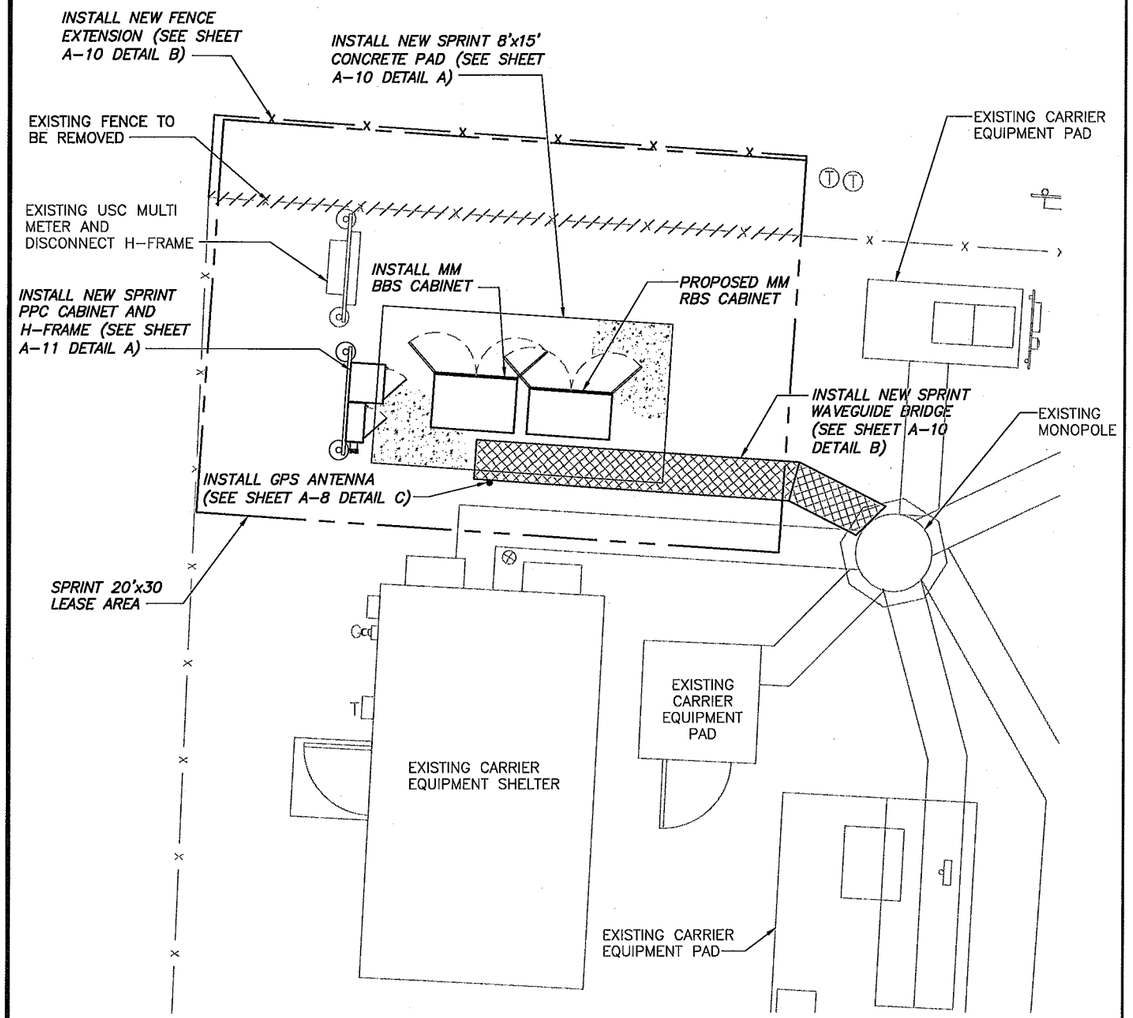
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

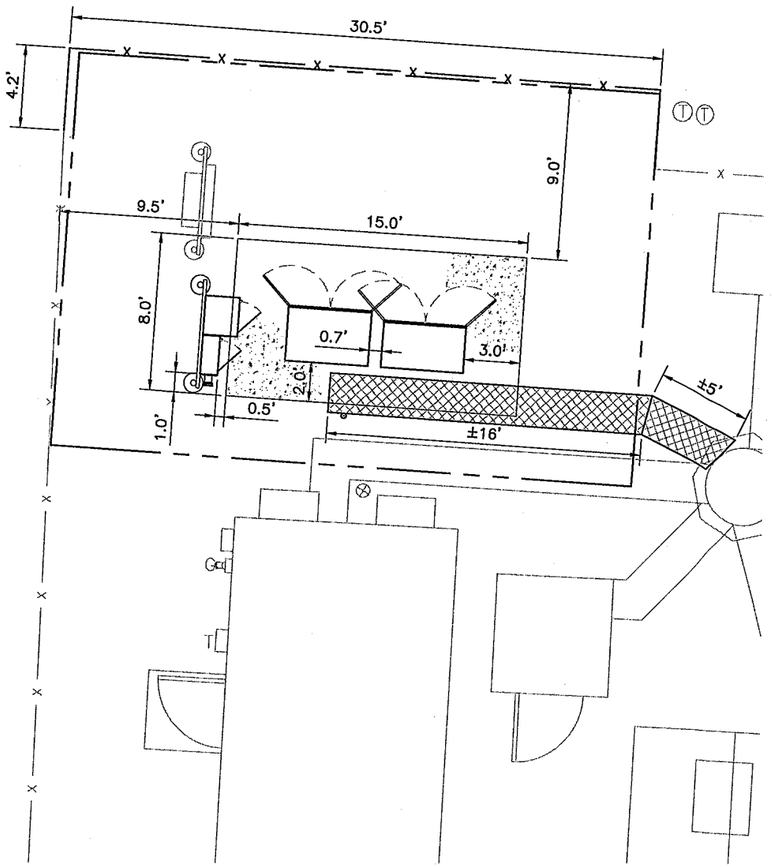
SITE PLAN

SHEET NUMBER:

A-1



SPRINT SITE LAYOUT | **A**



SPRINT STAKING PLAN | **B**

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

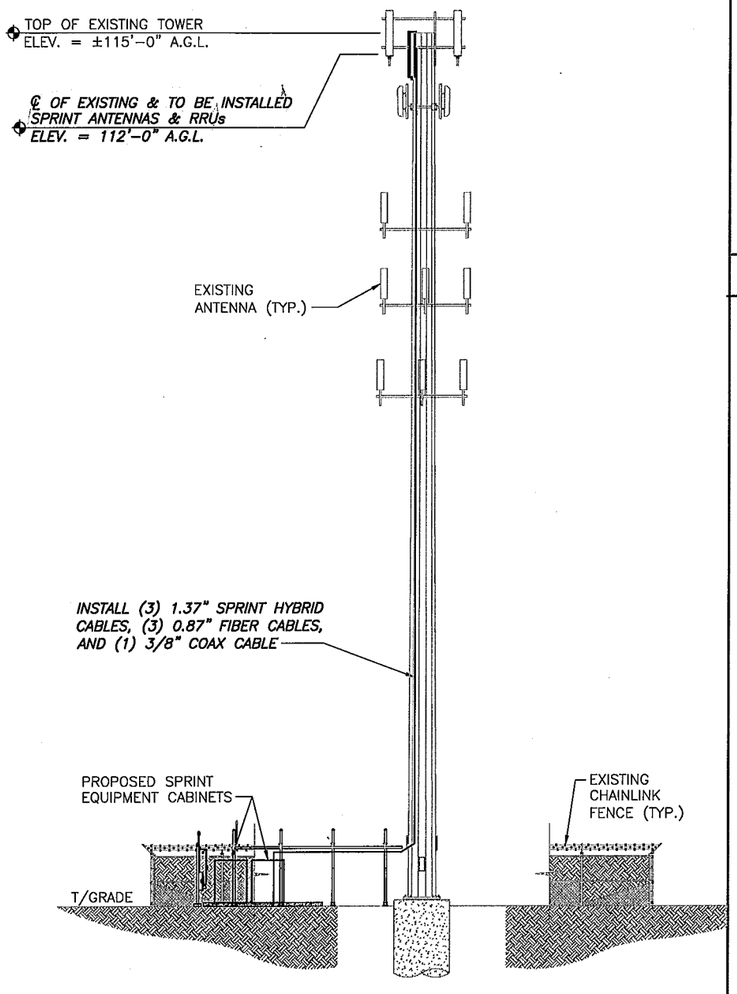
SHEET DESCRIPTION:

SITE LAYOUT AND STAKING PLAN

SHEET NUMBER:

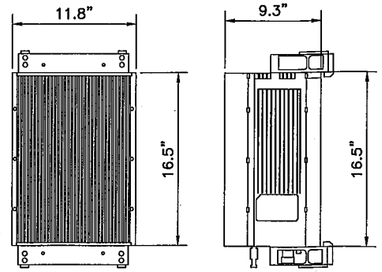
A-2

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

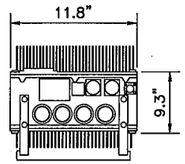


TOWER ELEVATION

NO SCALE | A



FRONT VIEW SIDE VIEW

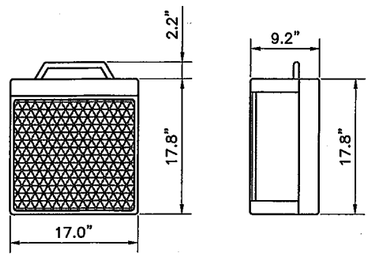


PLAN VIEW

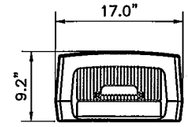
NSN (ERICSSON)
RRUS 31 B25 – KRC 118 159/1
WEIGHT: 59.5 LBS
DIMENSIONS: 11.8" x 9.3" x 16.5"

65 MHz RRUS 31 B25

NO SCALE | B



FRONT VIEW SIDE VIEW

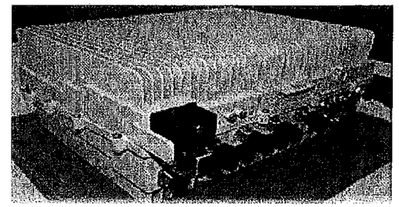


PLAN VIEW

NSN (ERICSSON)
RRUS-11
WEIGHT: 54 LBS
DIMENSIONS: 17" x 17.8" x 9.2"

800 MHz RRUS-11

NO SCALE | C



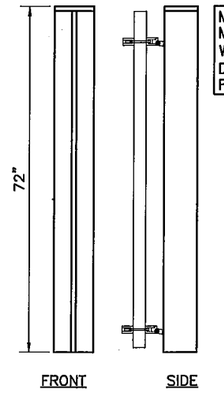
NSN (ERICSSON)
FZHJ-RRU
WEIGHT: 55.2 LBS
DIMENSIONS: 8.7" x 17.4" x 14"

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

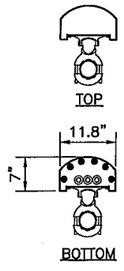
2.5 RRUS

NO SCALE | D



FRONT SIDE

MANUFACTURER: RFS
MODEL: APXVSPP18-C
WEIGHT W/O MOUNTING HARDWARE: 57lb
DIMENSIONS: HxWxD: 72" x 11.8" x 7.0"
FREQUENCY: REFER TO RF DATA SHEET

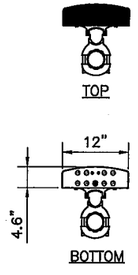


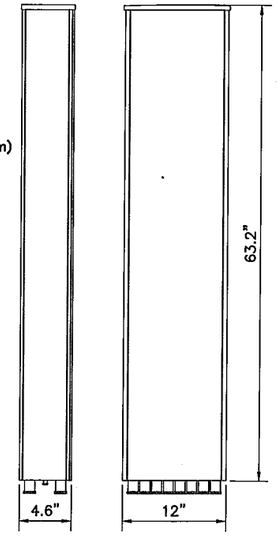
NV ANTENNA DETAIL

NO SCALE | E

COMMSCOPE TTTT65AP-1XR

RADOME MATERIAL:	XXX
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD.in(mim):	63.2"x12"x4.6" (1620x330x150mm)
WEIGHT:	33 lbs
CONNECTORS:	(9) 7/16 FEMALE





SIDE VIEW FRONT VIEW

2.5 ANTENNA DETAIL

NO SCALE | F

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

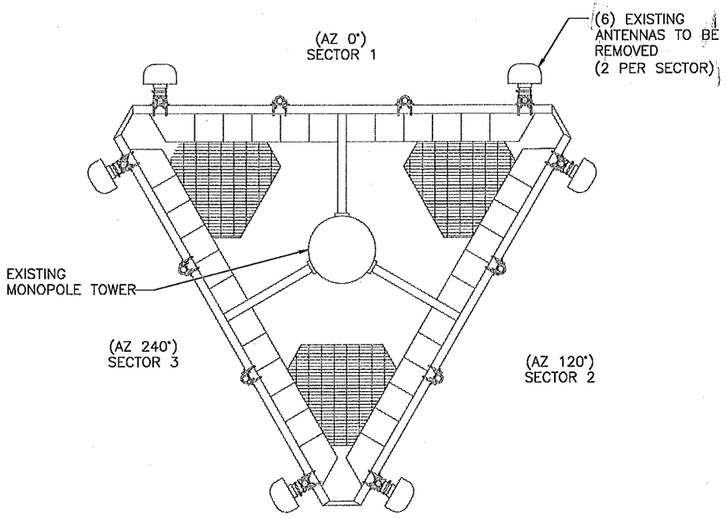
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

TOWER ELEVATION & DETAILS

SHEET NUMBER:

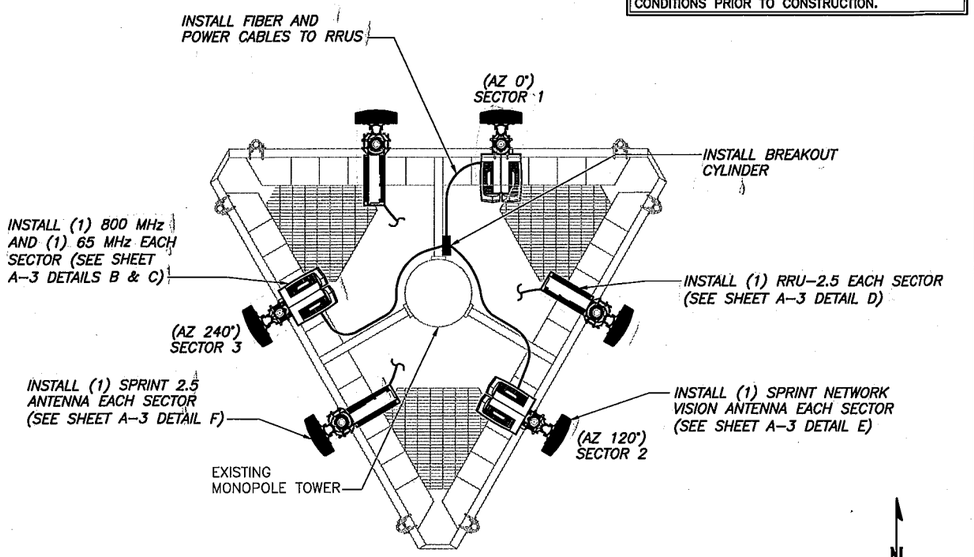
A-3



0° = TRUE NORTH

EXISTING ANTENNA & RRU LAYOUT | NO SCALE | A

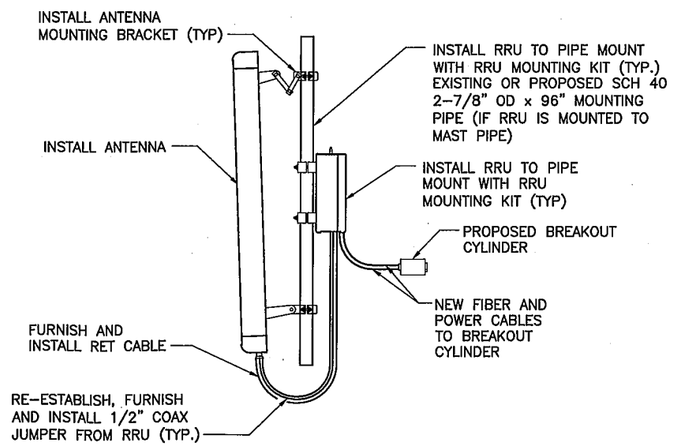
THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.



0° = TRUE NORTH

FINAL ANTENNA LAYOUT | NO SCALE | B

DETAIL NOT USED | NO SCALE | C



NOTES:

1. INSTALL PROPER DC POWER ACCORDING TO MOP
2. COIL FIBER CABLE AND SECURE AT SIDE OF RRU.
3. 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:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRU MOUNTING DETAILS.

ANTENNA & ACCESSORY MOUNTING DETAILS | NO SCALE | D

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
8/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

ANTENNA LAYOUT & MOUNTING DETAILS

SHEET NUMBER:

A-4

Revision:	1.0000			RFDS Phase		
Date:	6/10/2014			PB Rev		
				Site Handler Suffix		
Cascade	ST51XC077			GM Solution ID		
Market	Missouri					
MTX/BSC	KSCYMOEC-MSCE-2/MRHGMOCJ-BSC-3				RBS1	RBS2
Lat	38.6674			Existing BTS #		
Lon	-90.5068			New BTS #	55977.0000	
Structure Type	MONOPOLE			Existing Cell ID		
				New Cell ID	5977.0000	
Number of Sectors:	3.0000			RBS Cabinet Type	Outdoor	
ANTENNA #1 (800 MHz & 1900 MHz Dual Band)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor	RFS	RFS	RFS			
Model	APXVSPP18-C	APXVSPP18-C	APXVSPP18-C			
Antenna Band Type	Dual	Dual	Dual			
Antenna Count	1.0000	1.0000	1.0000			
Gain (dBi)	18.0000	18.0000	18.0000			
Beamwidth	65.0000	65.0000	65.0000			
Azimuth	0.0000	120.0000	240.0000			
Height (ft)	112.0000	112.0000	112.0000			
Mech. Downtilt	0.0000	0.0000	0.0000			
Elect. Downtilt 1900	2.0000	2.0000	2.0000			
Elect. Downtilt 800	2.0000	2.0000	2.0000			
EIRP (W)	250.0000	250.0000	250.0000			
RET Count	3.0000	3.0000	3.0000			
RET Manufacturer	RFS	RFS	RFS			
RET Model	ACU-A20-N	ACU-A20-N	ACU-A20-N			
Existing Antenna (For GM No Touch Sites Only)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor						
Model						
Antenna Band Type						
Antenna Count						
Gain (dBi)						
Beamwidth						
Azimuth						
Height						
Mech. Downtilt						
Elect. Downtilt						
EIRP (W)						
RET Count						
RET Manufacturer						
RET Model						
ANTENNA #3 (800 MHz)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor						
Model						
Antenna Band Type						
Antenna Count						
Gain (dBi)						
Beamwidth						
Azimuth						
Height						
Mech. Downtilt						
Elect. Downtilt						
EIRP (W)						
RET Count						
RET Manufacturer						
RET Model						
ANTENNA #4 (2500 MHz)						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Vendor	Commscope	Commscope	Commscope			
Model	TTTT65AP-1XR	TTTT65AP-1XR	TTTT65AP-1XR			
Antenna Band Type	Single	Single	Single			
Antenna Count	1.0000	1.0000	1.0000			
Gain (dBi)	18.0000	18.0000	18.0000			
Beamwidth	65.0000	65.0000	65.0000			
Azimuth	0.0000	120.0000	240.0000			
Height	112.0000	112.0000	112.0000			
Mech. Downtilt	0.0000	0.0000	0.0000			
Elect. Downtilt	0.0000	0.0000	0.0000			
EIRP (W)	250.0000	250.0000	250.0000			
RET Count	INTERNAL	INTERNAL	INTERNAL			
RET Manufacturer						
RET Model						
Antenna Count Per Sector	####	####	####	####	####	####

RF DATA SHEET & EQUIPMENT INFORMATION | NO SCALE | A

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

RF DATA SHEET & EQUIPMENT INFORMATION

SHEET NUMBER:

A-5

CABLING						
	Sector1	Sector2	Sector3	Sector 4	Sector5	Sector6
Est. Cable Length (feet)	145.0000	145.0000	145.0000			
Number of Cables	1.0000	1.0000	1.0000			
Cable1 Diameter	39mm	39mm	39mm			
Cable1 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable1 Manufacturer	H+S	H+S	H+S			
Cable1 Model	TSZ 999 067/xxxM	TSZ 999 067/xxxM	TSZ 999 067/xxxM			
Number of Cables	0.0000	0.0000	0.0000			
Cable2 Diameter	39mm	39mm	39mm			
Cable2 Type	Hybrid Cable	Hybrid Cable	Hybrid Cable			
Cable2 Manufacturer	H+S	H+S	H+S			
Cable2 Model	TSZ 999 066/xxxM	TSZ 999 066/xxxM	TSZ 999 066/xxxM			
Top Jumper Length	3 m	3 m	3 m			
Top Jumper Type	TSR 951 70/3	TSR 951 70/3	TSR 951 70/3			
Cable Type						
Cable Manufacturer						
Cable Model						
Total Power Cables						
Cable Type	Fiber OPTO	Fiber OPTO	Fiber OPTO			
Cable Manufacturer	Ericsson	Ericsson	Ericsson			
Cable Model	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx	RPM 253 469 2/xxxx			
Total Opto Cables	6.0000	6.0000	6.0000			
Coax Cable - Main - Type						
Coax Cable - Main - Length						
Coax Cable - Main - Count						
Coax Cable - Main - Manufacturer						
Coax Cable - Main - Model						
Coax Cable - Top Jumper - Type						
Coax Cable - Top Jumper - Length						
Coax Cable - Top Jumper - Count						
Coax Cable - Top Jumper - Manufacturer						
Coax Cable - Top Jumper - Model						
Coax Cable - Bottom Jumper - Type						
Coax Cable - Bottom Jumper - Length						
Coax Cable - Bottom Jumper - Count						
Coax Cable - Bottom Jumper - Manufacturer						
Coax Cable - Bottom Jumper - Model						
2500.0000	Tower Mount RRU					

CABLING						
	Sector1	Sector2	Sector3	Sector 4	Sector5	Sector6
Est. Cable Length (feet)	145.0000	145.0000	145.0000			
Number of Cables	1.0000	1.0000	1.0000			
Cable1 Diameter	Unknown	Unknown	Unknown			
Cable1 Type	Fiber Only Cable	Fiber Only Cable	Fiber Only Cable			
Cable1 Manufacturer	NSN	NSN	NSN			
Cable1 Model	CS86008	CS86008	CS86008			

RRU Count						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
RRUS 11 Single	1.0000	1.0000	1.0000			
RRUS 12 Single						
RRUS 12 Dual						
RRUS 13 Single						
RRUS 13 Dual						
RRU31 Single	1.0000	1.0000	1.0000	####	####	####
NSN 2.5 Single	1.0000	1.0000	1.0000	####	####	####

RRU Count - Detailed Breakdown						
RRUS 11	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA - 800	1.0000	1.0000	1.0000			
CDMA - 1900						
LTE - 800	0.0000	0.0000	0.0000			
LTE - 1600						
LTE - 1900						
LTE - 2500						
RRUS12	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA/LTE - 800						
CDMA/LTE - 1900						
LTE - 1600						
LTE - 2500						
RRUS31	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
CDMA/LTE - 800						
CDMA/LTE - 1900	1.0000	1.0000	1.0000			
LTE - 1600						
LTE - 2500						
NSN 2.5	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
LTE - 2500	1.0000	1.0000	1.0000			

Combiners						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Count						
Manufacturer						
Model						
Gain (dB)						

800 MHz FILTER						
	Sector1	Sector2	Sector3	Sector4	Sector5	Sector6
Count	1.0000	1.0000	1.0000			
Manufacturer	Ericsson	Ericsson	Ericsson			
Model	800ESMR	800ESMR	800ESMR			

RF DATA SHEET & EQUIPMENT INFORMATION | NO SCALE | A

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

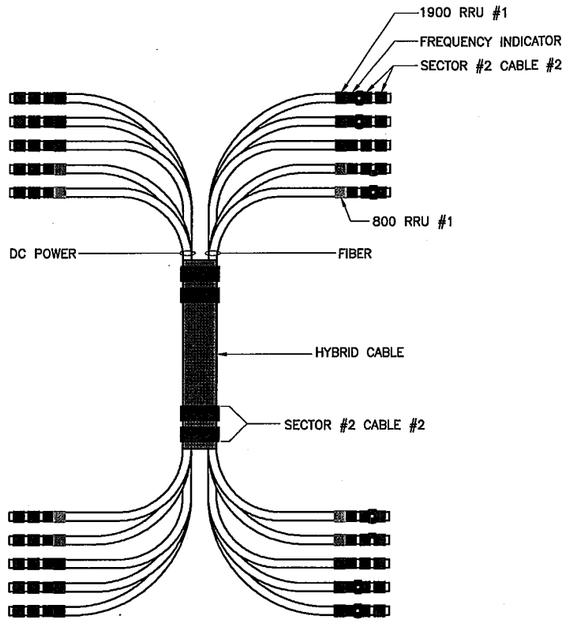
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

RF DATA SHEET & EQUIPMENT INFORMATION

SHEET NUMBER:

A-6



RRH CABLE MARKING LOCATIONS DIAGRAM

NOTES:

1. ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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.

7. HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.

8. INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

SPRINT CABLE COLOR CODE

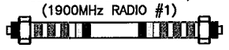
SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING
1 ALPHA	1	GREEN	NO TAPE	NO TAPE
	2	BLUE	NO TAPE	NO TAPE
	3	BROWN	NO TAPE	NO TAPE
	4	WHITE	NO TAPE	NO TAPE
	5	RED	NO TAPE	NO TAPE
	6	GREY	NO TAPE	NO TAPE
	7	PURPLE	NO TAPE	NO TAPE
	8	ORANGE	NO TAPE	NO TAPE
2 BETA	1	GREEN	GREEN	NO TAPE
	2	BLUE	BLUE	NO TAPE
	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	BLUE	BLUE	BLUE
	3	BROWN	BROWN	BROWN
	4	WHITE	WHITE	WHITE
	5	RED	RED	RED
	6	GREY	GREY	GREY
	7	PURPLE	PURPLE	PURPLE
	8	ORANGE	ORANGE	ORANGE

FREQUENCY COLOR CODE

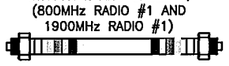
TECHNOLOGY COLOR CODE	FIRST RING	SECOND RING
800 #1	YELLOW	GREEN
1900 #1	YELLOW	RED
1900 #2	YELLOW	BROWN
1900 #3	YELLOW	BLUE
1900 #4	YELLOW	GREY
800 #2	YELLOW	ORANGE
2500 #1	YELLOW	WHITE
2500 #2	YELLOW	PURPLE

EXAMPLE
SECTOR 2 AND CABLE 2,
(800MHz RADIO #1)

EXAMPLE
SECTOR 3 AND CABLE 1,
(1900MHz RADIO #1)



EXAMPLE
SECTOR 2 AND CABLE 4,
(800MHz RADIO #1 AND
1900MHz RADIO #1)



RRH CABLE MARKING LOCATIONS DIAGRAM

CABLE MARKING LOCATION TABLE		
TAPE	TAG	LOCATION
X		EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIND BANDS.
X		EACH MAIN CABLE SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
	X	MARKING TAGS SHALL BE ATTACHED AT CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
X		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF BOTTOM JUMPER.

2500MHz RADIO CALIBRATION CABLE COLOR CODE

2500 MHz #1 CAL CABLE - SECTOR	CABLES	FIRST RING	SECOND RING	THIRD RING	FOURTH RING	FIFTH RING	SIXTH RING
1 ALPHA	1	YELLOW		YELLOW	WHITE		
2 BETA	2	YELLOW	YELLOW		YELLOW	WHITE	
3 GAMMA	3	YELLOW	YELLOW	YELLOW		YELLOW	WHITE
2500 MHz #2 CAL CABLE - SECTOR	CABLES	FIRST RING	SECOND RING	THIRD RING	FOURTH RING	FIFTH RING	SIXTH RING
1 ALPHA	1	YELLOW		YELLOW	PURPLE		
2 BETA	2	YELLOW	YELLOW		YELLOW	PURPLE	
3 GAMMA	3	YELLOW	YELLOW	YELLOW		YELLOW	PURPLE

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

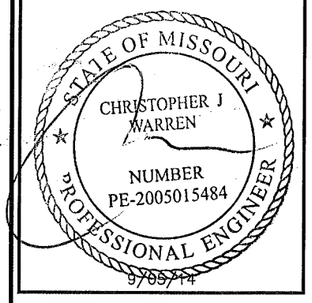
INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

M\A PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:



REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

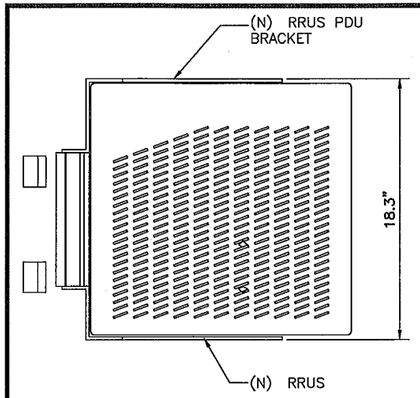
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

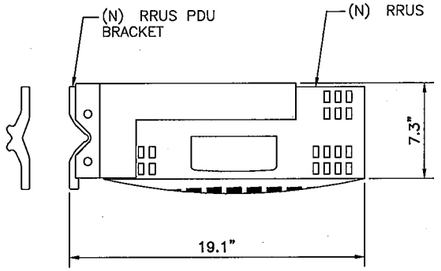
COLOR CODING
AND NOTES

SHEET NUMBER:

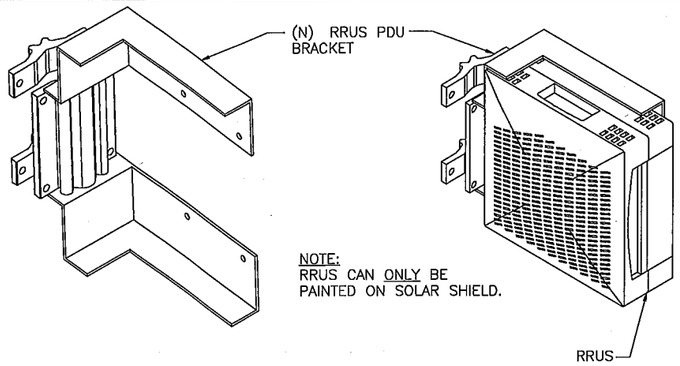
A-7



SIDE VIEW

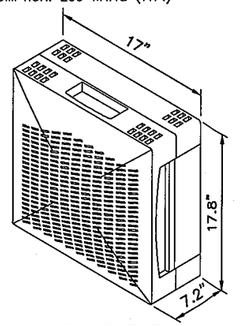


TOP VIEW



ISO – BRACKET

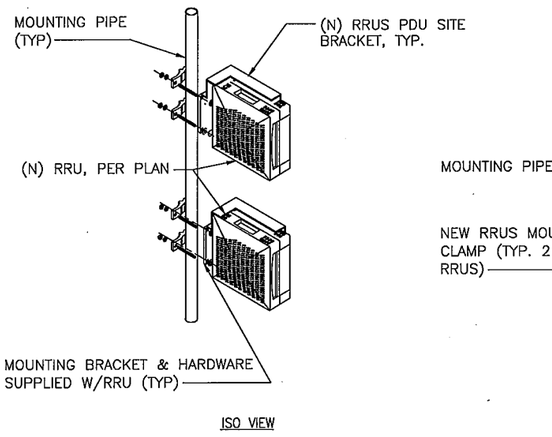
ERICSSON RRUS
–DIMENSIONS (H x W x D):
17.8" x 17.0" x 7.2" (INCLUDES SUNSHIELD)
–WEIGHT: 55 LBS
–CLIMATE: –40°C TO +55°C
(SELF CONVECTION SILENT, NO FANS, IP55)
–POWER CONSUMPTION: 200 WATTS (TYP.)



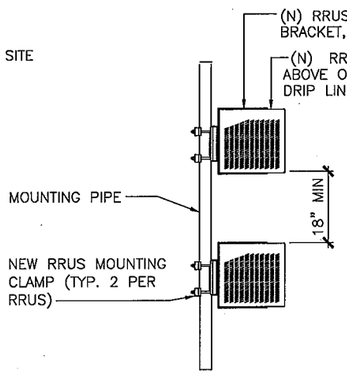
ISO – EQUIPMENT

RRUS EQUIPMENT DETAIL

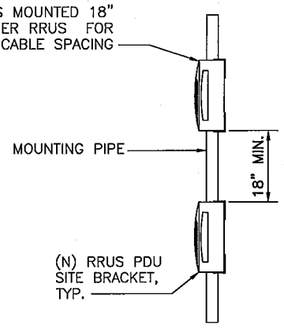
NO SCALE | A



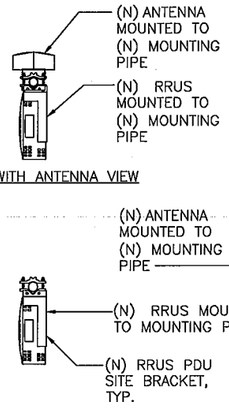
ISO VIEW



SIDE VIEW

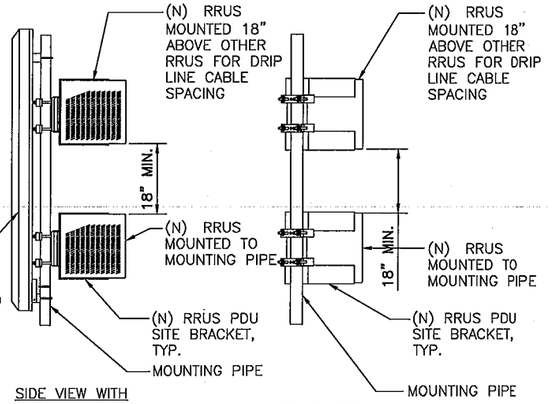


FRONT VIEW



TOP WITH ANTENNA VIEW

TOP VIEW



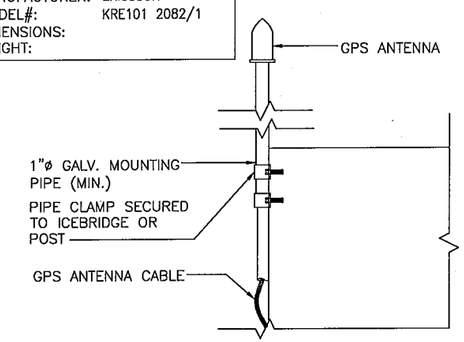
SIDE VIEW WITH ANTENNA

REAR VIEW

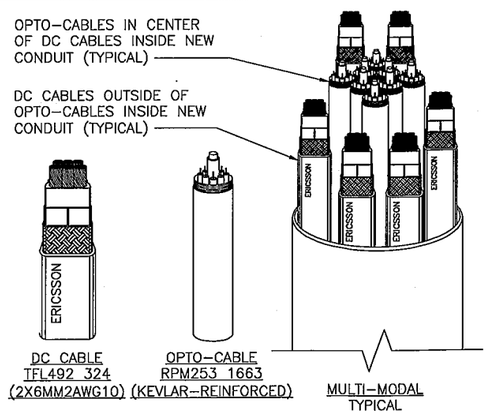
RRUS PIPE MOUNT SPACING

NO SCALE | B

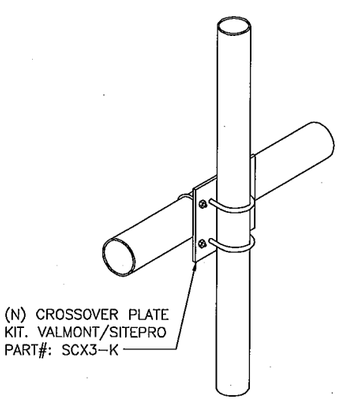
MANUFACTURER: ERICSSON
MODEL#: KRE101 2082/1
DIMENSIONS:
WEIGHT:



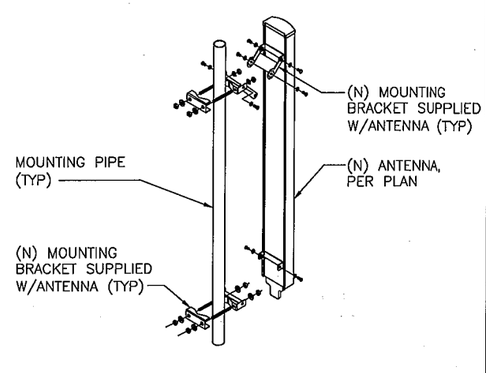
GPS ANTENNA DETAIL | NO SCALE | C



(N) CABLES INSIDE (N) CONDUIT | NO SCALE | D



CROSSOVER PLATE KIT | NO SCALE | E



ANTENNA MOUNTING DETAIL | NO SCALE | F

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.

2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370–011

MLA PARTNER:

AMERICAN TOWER CORPORATION

116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

EQUIPMENT & MOUNTING DETAILS

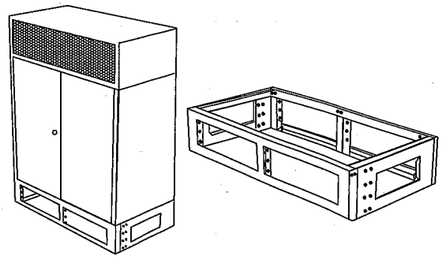
SHEET NUMBER:

A-8

ERICSSON RBS 6102	
DIMENSIONS	51.18"W x 27.56"D x *66.93"H
WEIGHT	**771.62 LBS.
MINIMUM CLEARANCES	
FRONT	27.56"
SIDES	1.97"
REAR	7.87"

*HEIGHT SHOWN ON THE TABLE INCLUDES GLOBAL BASE FRAME, PROVIDED BY ERICSSON.

**WEIGHT SHOWN ON THE TABLE INCLUDES GLOBAL BASE FRAME, PROVIDED BY ERICSSON

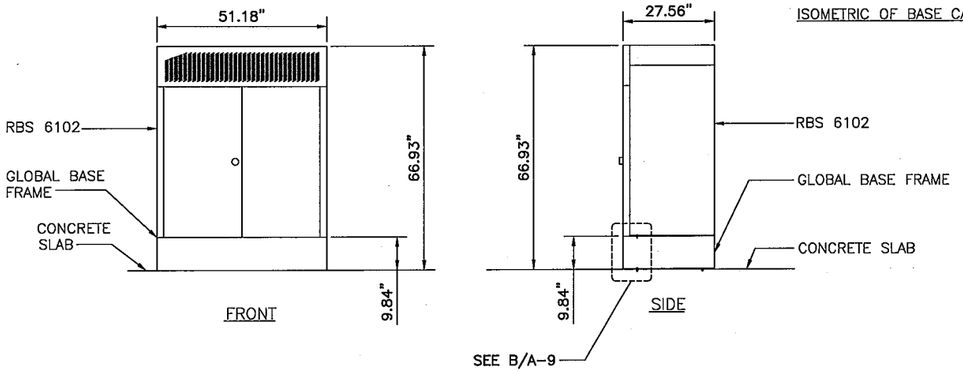


ISOMETRIC OF BASE CABINET AND 6102 CABINET

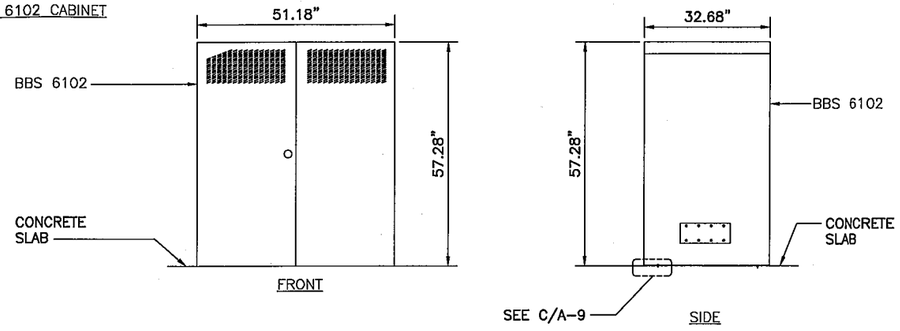
ERICSSON BBS 6102	
DIMENSIONS	51.18"W x 32.68"D x 57.28"H
WEIGHTS	*449.74 – 568.79 LBS.
	**491.63 – 654.77 LBS.
MINIMUM CLEARANCES	
FRONT	31.00"
SIDES	6.00"
REAR	6.00"

*WEIGHT SHOWN ON THE TABLE INCLUDES AGM BATTERIES

**WEIGHT SHOWN ON THE TABLE INCLUDES OPzV BATTERIES

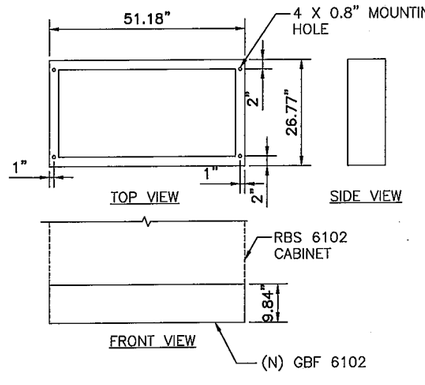


RBS 6102 DETAIL



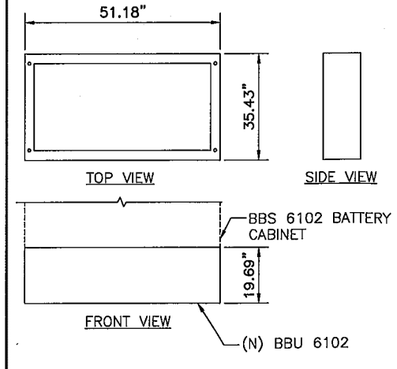
BBS 6102 DETAIL

EQUIPMENT CABINET DETAILS — NO SCALE — A



MANUFACTURER: ERICSSON
MODEL: GLOBAL BASE FRAME (GBF) 6102
WEIGHT: <44.0 LBS.

EQUIPMENT BOLTING PATTERN FOR RBS — NO SCALE — B

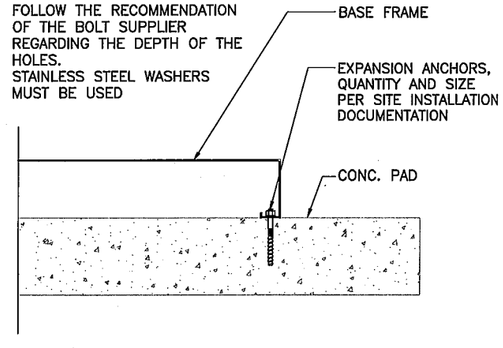


MANUFACTURER: ERICSSON
BATTERY BASE UNIT 6102 (BBU) SYSTEM WEIGHT (EXCL. BATTERIES): <265.0 LBS. BATTERY WEIGHT: 365 LBS –1049.5 LBS

EQUIPMENT BOLTING PATTERN FOR BBS — NO SCALE — C

NOTE:

1. FOLLOW THE RECOMMENDATION OF THE BOLT SUPPLIER REGARDING THE DEPTH OF THE HOLES.
2. STAINLESS STEEL WASHERS MUST BE USED



CABINET MOUNTING DETAIL — NO SCALE — D

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

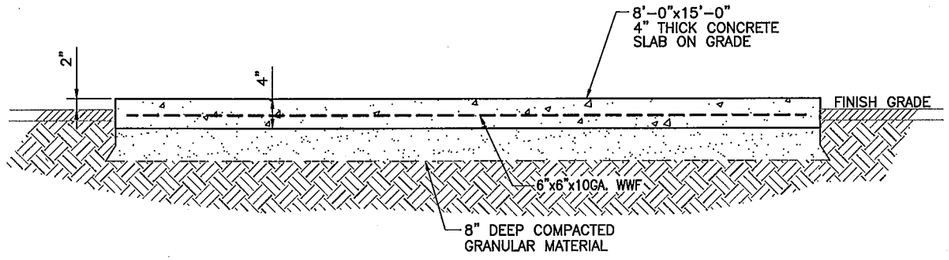
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

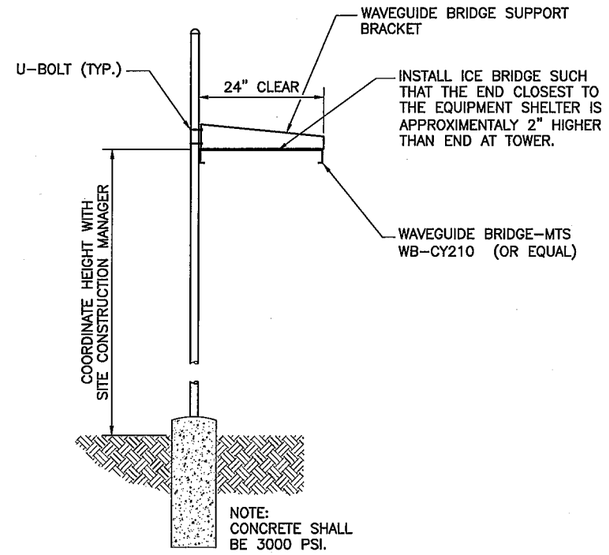
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:

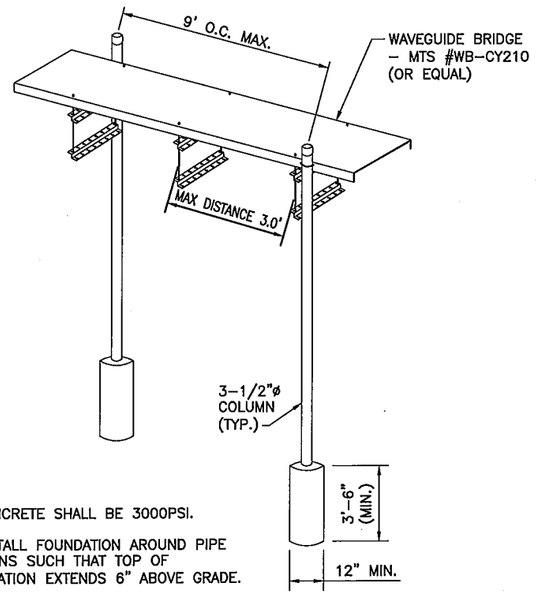
A-9



EQUIPMENT FOUNDATION SECTION | NO SCALE | A



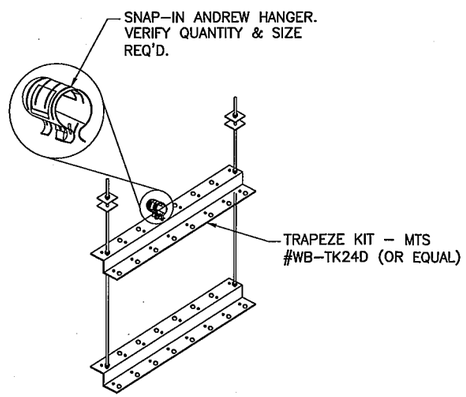
ICE BRIDGE ELEVATION (FRONT) | NO SCALE | B



NOTE:

1. CONCRETE SHALL BE 3000PSI.
2. INSTALL FOUNDATION AROUND PIPE COLUMNS SUCH THAT TOP OF FOUNDATION EXTENDS 6" ABOVE GRADE.

ICE BRIDGE DETAIL | NO SCALE | C



PARTS LIST (PER 10' SECTION)

ITEM	PART NO.	DESCRIPTION
1	WB-TK24D	TRAPEZE KIT (NOTE 3)
2	MF-130	3-1/2" OD X 160" GALV PLAIN
3	PC-034	3-1/2" GALV PIPE CAP
4	SA-MB	3-1/2" STIFF ARM MOUNT W/ BOLT ASSY.
5	WB-CY210	SAFETY GRATED WAVEGUIDE BRIDGE 24" x 10'

TRAPEZE KIT DETAIL | NO SCALE | D

NOTES:

1. WHEN USING COMPONENTS AS SHOWN IN STANDARD DETAILS, MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 9 FEET FOR 10 FEET BRIDGE CHANNEL.
2. WHEN USING COMPONENTS FOR SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
3. WHEN USING COMPONENTS, SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF ICE BRIDGES, WITH A MAXIMUM CANTILIVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE ICE BRIDGE.
4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES TREATED WITH A MATERIAL TO RESTORE THESE EDGES TO THE ORIGINAL CHANNEL, OR EQUIVALENT, FINISH.
5. ICE BRIDGES MAY BE CONSTRUCTED WITH COMPONENTS FROM OTHER MANUFACTURERS, PROVIDED THE MANUFACTURER'S INSTALLATION GUIDELINES ARE FOLLOWED.
6. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
7. DEVIATIONS FROM ICE BRIDGE FOUNDATIONS REQUIRE ENGINEERING APPROVAL.
8. THE DESIGN IS BASED ON ASCE 7-05, 3 SECOND GUST WIND SPEED OF 110 MPH, EXPOSURE C, ELEVATION AT GRADE.

WAVEGUIDE BRIDGE NOTES | NO SCALE | E

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

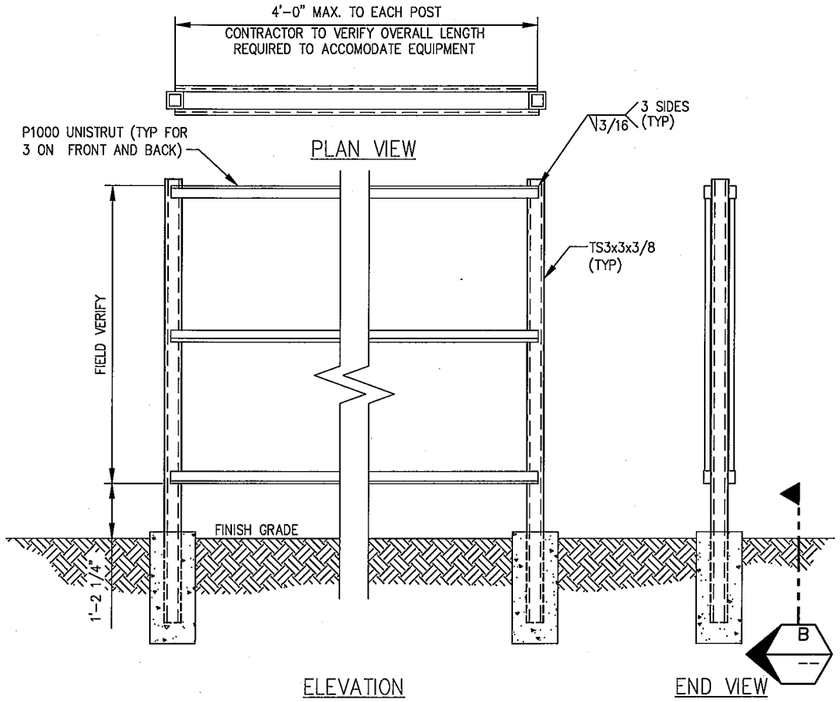
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

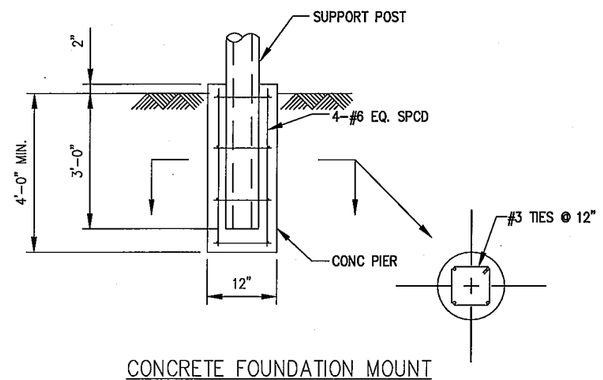
DETAILS

SHEET NUMBER:

A-10



H-FRAME FABRICATION DETAIL | NO SCALE | A



CONCRETE FOUNDATION MOUNT

SUPPORT POST FOOTING | NO SCALE | B

DETAIL NOT USED | NO SCALE | C

DETAIL NOT USED | NO SCALE | D

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472
JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

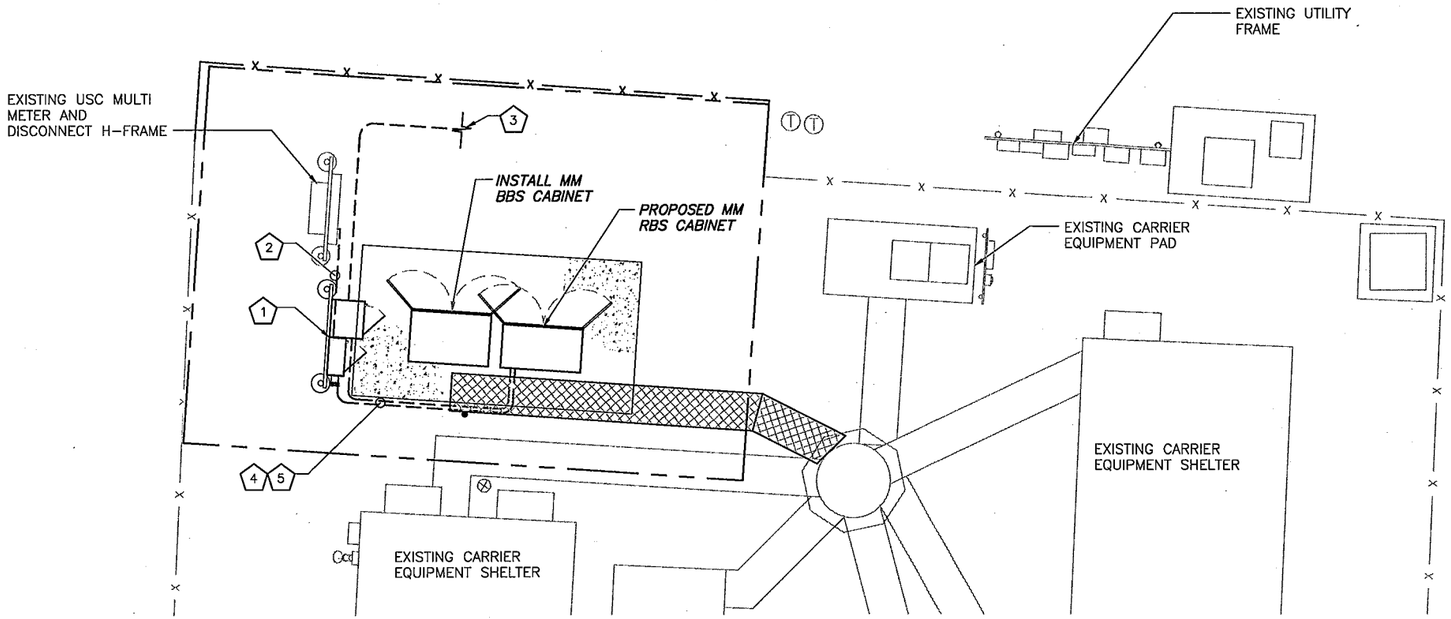
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

DETAILS

SHEET NUMBER:

A-11



CODED NOTES:

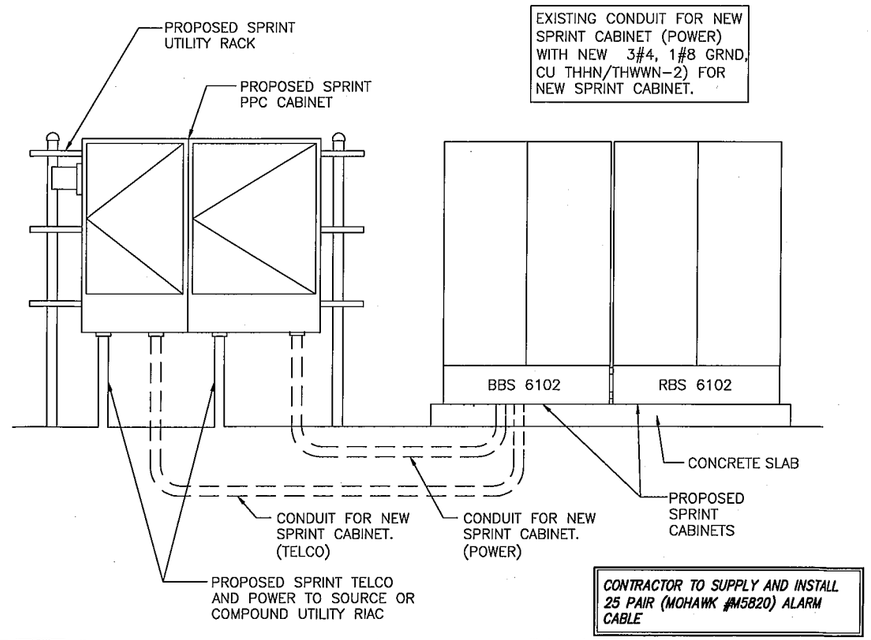
1. *INSTALL 200A 120/240-1ø-3W PPC CABINET WITH PANEL "PP1". PROVIDE EMERSON CAT.#BS2S2W000 OR EQUIVALENT W/24 POSITION LOAD CENTER AND 200A-2P MAIN CIRCUIT BREAKER.*
2. *INSTALL (3) #3/0 AWG CU AND (1) #6 AWG CU GND IN 2" SCH 40 PVC CONDUIT.*
3. *INSTALL (1) 4" SCH 40 PVC CONDUIT FOR FIBER FROM DEMARC TO PROPOSED TELCO EQUIPMENT CABINET*
4. *INSTALL (1) 2" SCH 40 PVC CONDUIT FOR FIBER FROM TELCO EQUIPMENT CABINET TO RBS CABINET.*
5. *INSTALL (1) 2" SCH 40 PVC CONDUIT FOR POWER FROM PPC EQUIPMENT CABINET TO RBS CABINET.*

ELECTRICAL SITE PLAN | NO SCALE | A

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (N.E.C.), AND APPLICABLE LOCAL CODES
2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE.
3. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
4. ALL WIRES SHALL BE AWG MIN #12 THHN COPPER UNLESS NOTED.
5. CONDUCTORS SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT UNLESS NOTED OTHERWISE.
6. LABEL SPRINT SERVICE DISCONNECT SWITCH AND PPC CABINET WITH ENGRAVED LAMACOID LABELS, LETTERS 1" IN HEIGHT.
7. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
8. ENGAGE AN INDEPENDENT TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE DOES NOT EXCEED 5 OHMS TO GROUND. TEST GROUND RING RESISTANCE PRIOR TO MAKING FINAL GROUND CONNECTIONS TO INFRASTRUCTURE AND EQUIPMENT. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY SPRINTS REPRESENTATIVE.
9. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE REQUIRED SO THAT CONDUIT BENDS DO NOT EXCEED 360°.
10. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO SPRINT REPRESENTATIVE.
11. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
12. REDLINED AS-BUILTS ARE TO BE DELIVERED TO SPRINT REPRESENTATIVE.
13. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
14. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, TELCO CONDUIT, AND THE COMPLETE GROUNDING SYSTEM.
15. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY SPRINT REPRESENTATIVE.
16. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
17. PROJECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
18. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY.
19. UPON COMPLETION OF WORK, THE SITE SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.
20. PRIOR TO ANY TRENCHING, CONTACT LOCAL UTILITY TO VERIFY LOCATION OF ANY EXISTING BURIED SERVICE CONDUITS.
21. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS TO IT WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO SPRINT'S REPRESENTATIVE.

ELECTRICAL NOTES | NO SCALE | B



CONTRACTOR TO SUPPLY AND INSTALL 25 PAIR (MOHAWK #M5820) ALARM CABLE

POWER RISER DIAGRAM | NO SCALE | C

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4453
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

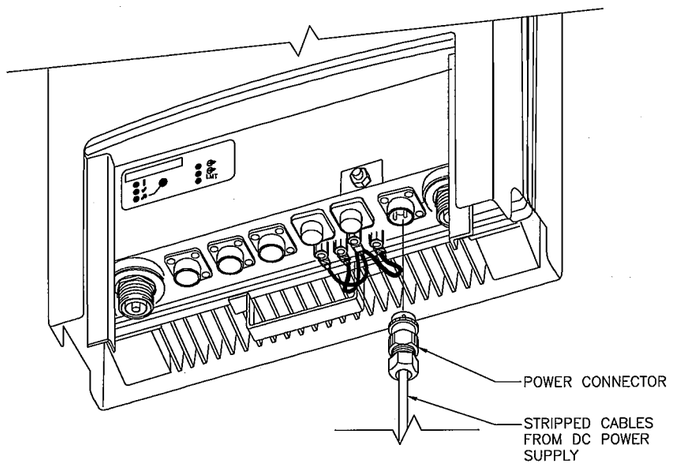
ELECTRICAL PLAN & DETAILS

SHEET NUMBER:

E-1

NOTE:

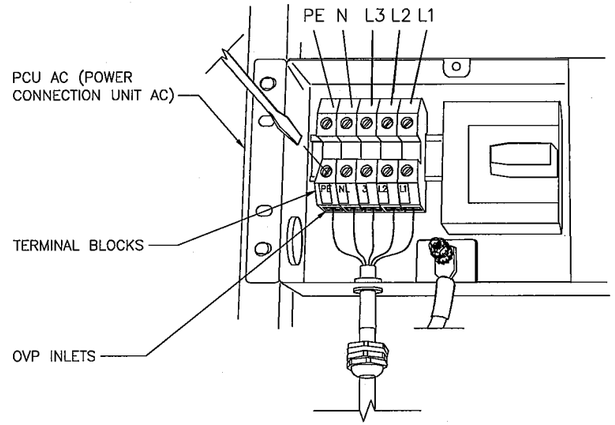
CG SHALL REFERENCE SECTION 8.4 "CONNECTING THE –48V DC POWER SUPPLY" OF THE ERICSSON RRUS INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



DC POWER CONNECTION AT RBS | NO SCALE | A

NOTE:

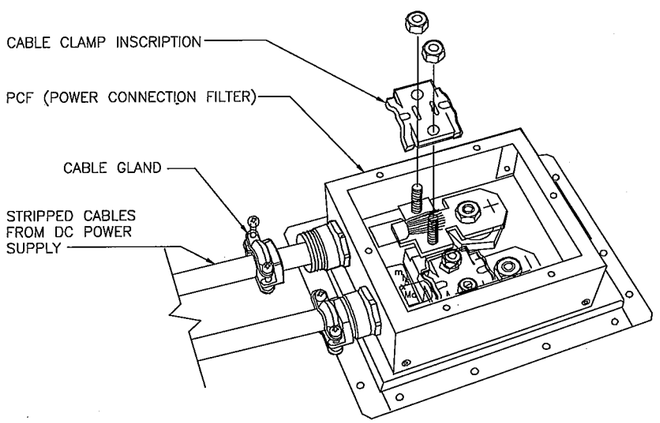
CG SHALL REFERENCE SECTION 10 "CONNECTING THE POWER SUPPLY" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



AC POWER CONNECTION AT RBS | NO SCALE | B

NOTE:

CG SHALL REFERENCE SECTION 10 "CONNECTING THE POWER SUPPLY" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



POWER CONNECTION AT RRUS | NO SCALE | C

DETAIL NOT USED | NO SCALE | D

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

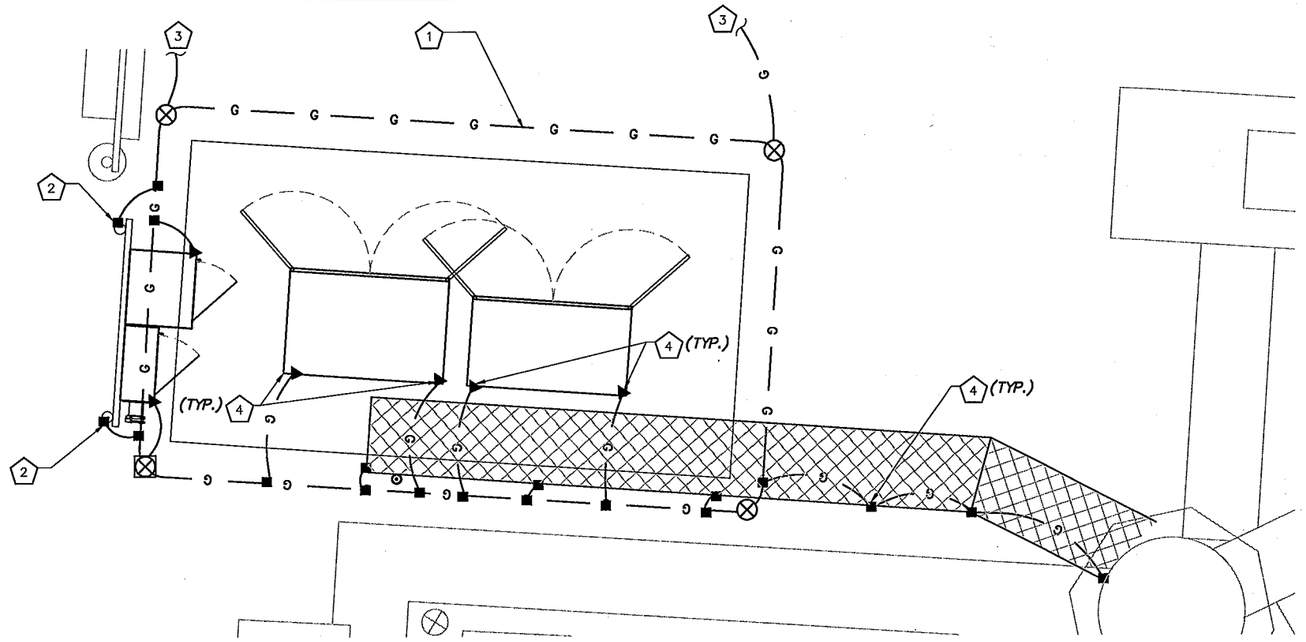
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

ELECTRICAL DETAILS

SHEET NUMBER:

E-2



CODED NOTES:

1. PROVIDE #2 COPPER GROUND RING (MIN. 1'-6" FROM OUTSIDE EDGE OF SLAB) BURIED AT MINIMUM 36" BELOW GRADE.
2. CONNECT PPC POWER AND TELCO FRAME TO PROPOSED COMPOUND GROUND RING.
3. BOND PROPOSED FENCE EXTENSION CORNERS TO GROUND RING.
4. BOND PROPOSED SPRINT EQUIPMENT TO PROPOSED EQUIPMENT GROUND RING.
5. BOND PROPOSED WAVEGUIDE BRIDGE TO PROPOSED GROUND RING.

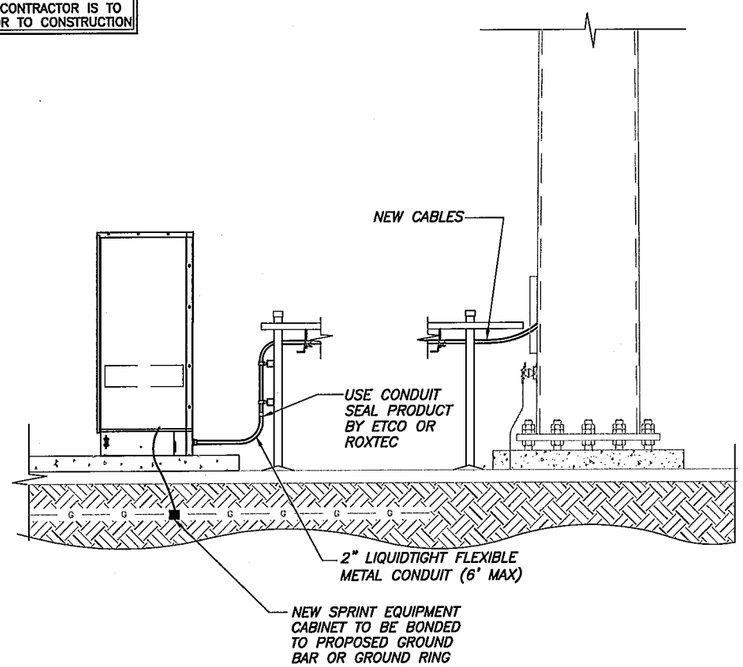
LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- INSPECTION GROUND ROD

GROUNDING SITE PLAN

NO SCALE | A

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



EQUIPMENT GROUNDING PLAN (ELEVATION)

NO SCALE | B

GROUNDING NOTES:

1. ALL DOWN CONDUCTORS AND GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNO. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE A MINIMUM DEPTH BELOW GRADE OF 30 INCHES OR TO THE LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNO.
2. WHERE MECHANICAL CONDUCTOR CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
3. GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6 INCHES ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND.
4. GROUND CONDUCTORS ON EXTERIOR WALL OF SHELTER SHALL BE ENCASED IN 3/4" PVC CONDUIT TO GRADE. MOUNT PVC WITH GALVANIZED "C" CLAMPS. SEAL TOP ENDS.
5. FOLLOWING COMPLETION OF WORK, CONDUCT GROUND TEST. SUBMIT WRITTEN TEST TO CONSTRUCTION MANAGER AND PROJECT MANAGER.
6. ALL GROUNDING WORK SHALL COMPLY WITH CARRIER(S) STANDARDS.
7. GROUNDING REQUIREMENTS SHOWN ON THIS PLAN ARE FOR ITEMS THAT ARE LOCATED NEAR GRADE LEVEL AND THAT NEED TO BE TIED TO THE BELOW GRADE GROUND RING.
8. UNLESS NOTED OTHERWISE, ALL GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT'S SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES", AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING". ALL GROUNDING SHALL ALSO COMPLY WITH ALL STATE AND LOCAL CODES, AND THE NATIONAL ELECTRICAL CODE (NEC).
9. UNLESS NOTED OTHERWISE, ALL GROUNDING CONNECTIONS SHALL BE MADE BY AN EXOTHERMIC WELD.
10. RESISTANCE TO EARTH TESTING IS REQUIRED PER SPRINT STANDARDS ON ALL NEW SITES.

GROUNDING NOTES

NO SCALE | C

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

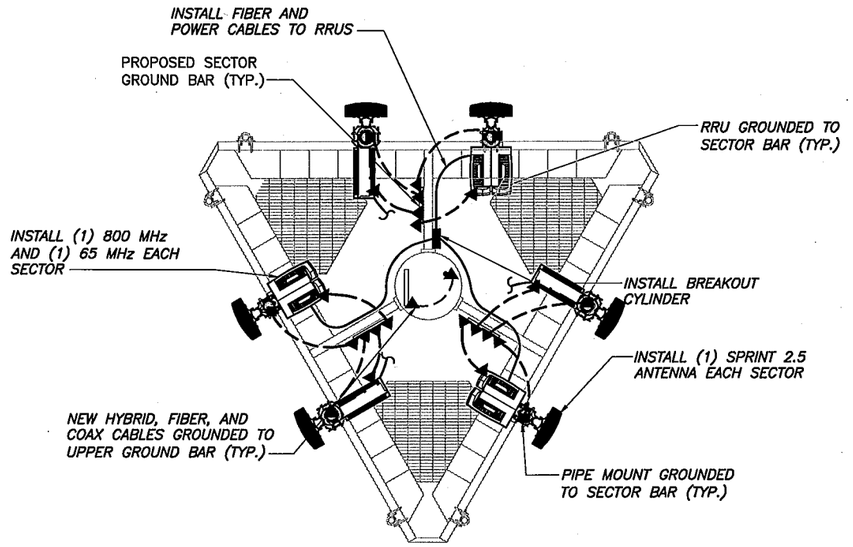
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

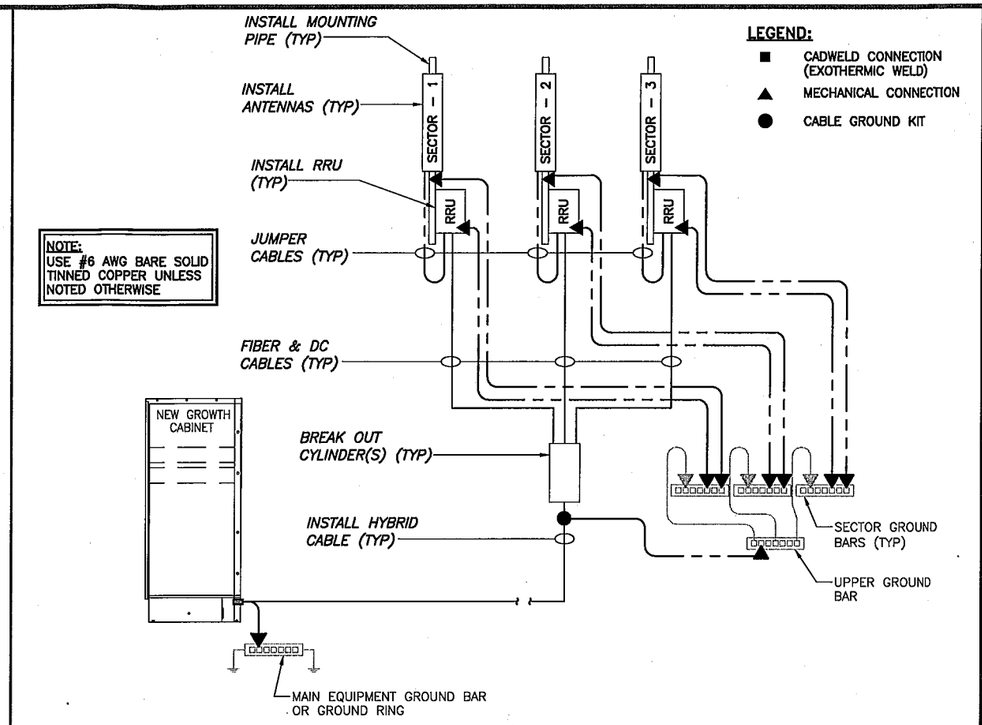
GROUNDING PLAN & DETAILS

SHEET NUMBER:

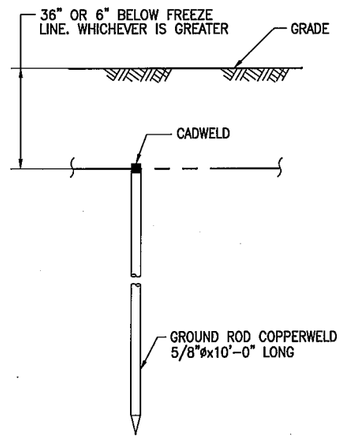
G-1



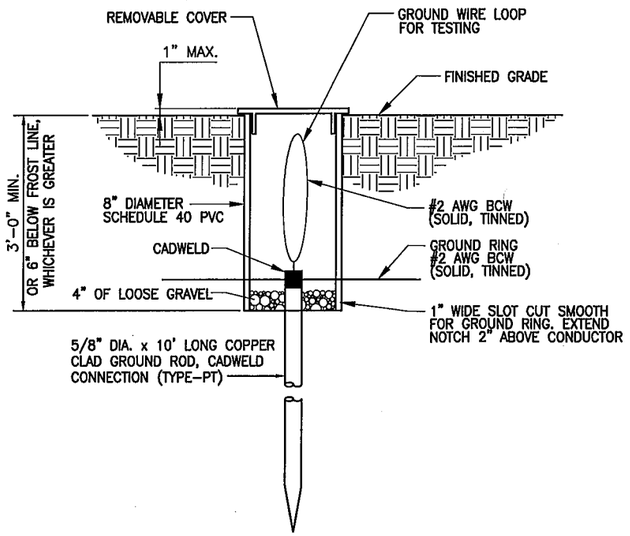
ANTENNA GROUNDING PLAN | NO SCALE | A



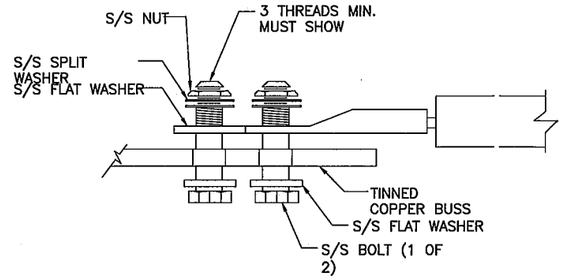
GROUNDING RISER DIAGRAM | NO SCALE | B



COPPER-CLAD STEEL GROUND ROD | NO SCALE | C



INSPECTION SLEEVE DETAIL | NO SCALE | D



1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH ANTI OXIDATION COMPOUND BEFORE MATING.
2. ALL EXPOSED, EASILY ACCESSIBLE GROUND BARS SHALL BE TAGGED "DO NOT DISCONNECT"
3. COAT ALL BARRELS WITH ANTI-OXIDATION COMPOUND BEFORE CRIMPING.

LUG DETAIL | NO SCALE | E

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

PLANS PREPARED BY:
INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472
JOB NUMBER 370-011

MLA PARTNER:
AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSES:
STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

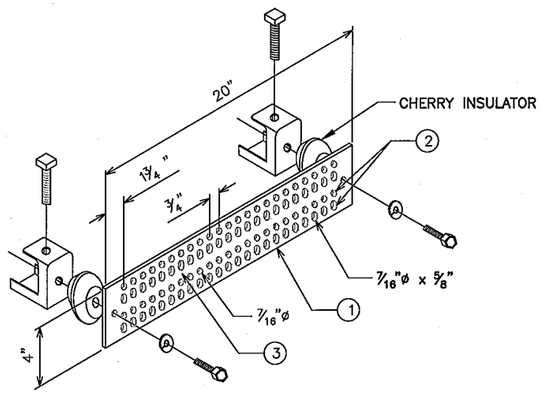
SITE NAME:
USC 852370
CHESTERFIELD

SITE CASCADE:
ST51XC077

SITE ADDRESS:
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:
GROUNDING DETAILS

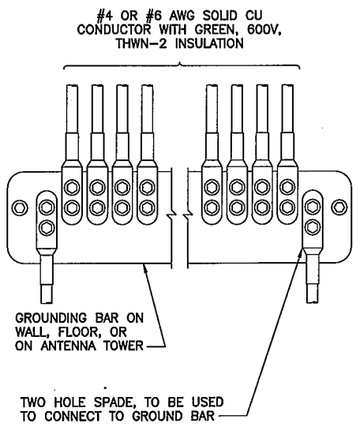
SHEET NUMBER:
G-2



LEGEND:

1. TINNED COPPER GROUND BUSS BAR, 1/4"X 4"X 20", WITH NON-INSULATED MOUNTING KIT, OR EQUIVALENT.
2. GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY.
3. APPLY CONDUCTIVE LUBRICANT (NO-OX COMPOUND OR APPROVED EQUIVALENT) TO EXPOSED AREA OF GROUND BAR.

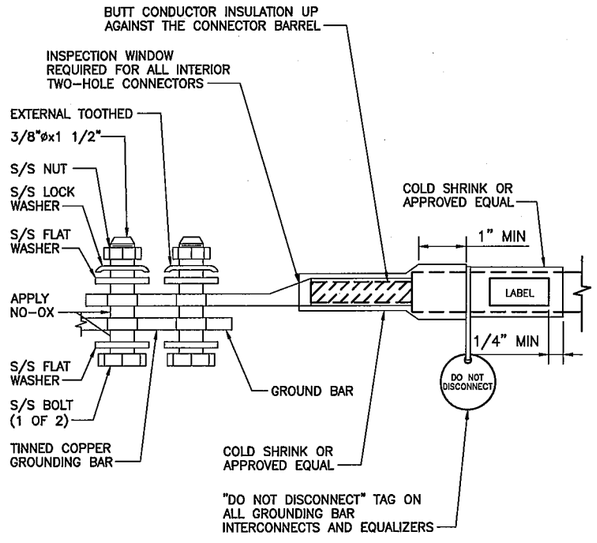
STANDARD GROUND BAR | NO SCALE | A



NOTES

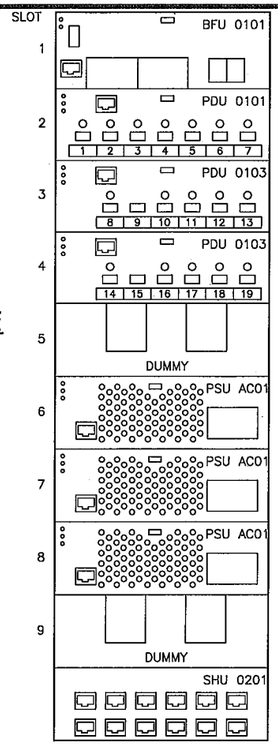
1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR | NO SCALE | B

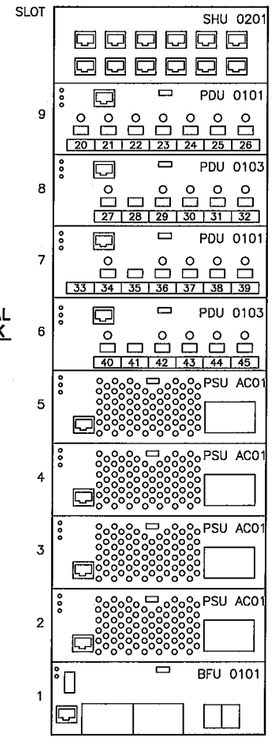


TWO HOLE LUG | NO SCALE | C

VERTICAL SUBRACK



CB1
CB2
CB3
CB4
CB5
CB6
CB7
CB8
CB9
CB10
CB11
CB12
CB13
CB14
CB15
CB16
CB17
CB18
CB19



HORIZONTAL SUB-RACK

CB20
CB21
CB22
CB23
CB24
CB25
CB26
CB27
CB28
CB29
CB30
CB31
CB32
CB33
CB34
CB35
CB36
CB37
CB38
CB39
CB40
CB41
CB42
CB43
CB44
CB45

SUB RACK DETAIL | NO SCALE | D

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.
2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472
JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION
116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER
9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

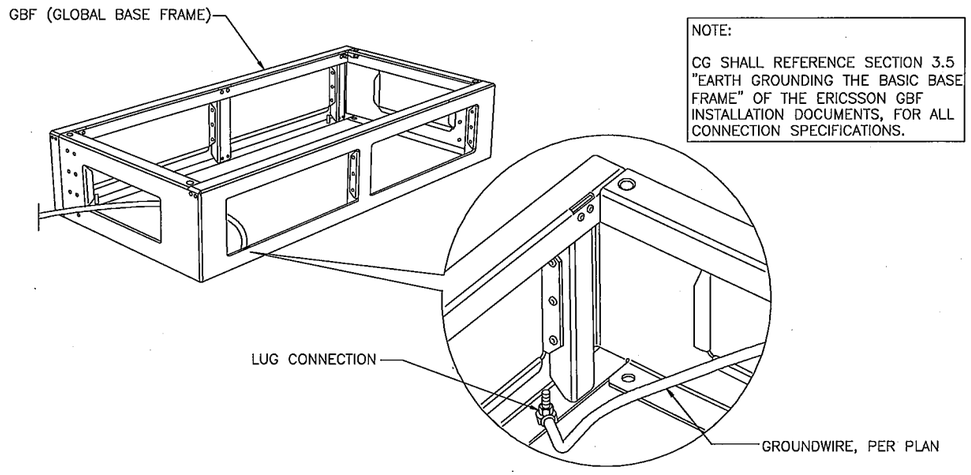
SITE NAME:
USC 852370
CHESTERFIELD

SITE CASCADE:
ST51XC077

SITE ADDRESS:
347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:
GROUNDING DETAILS

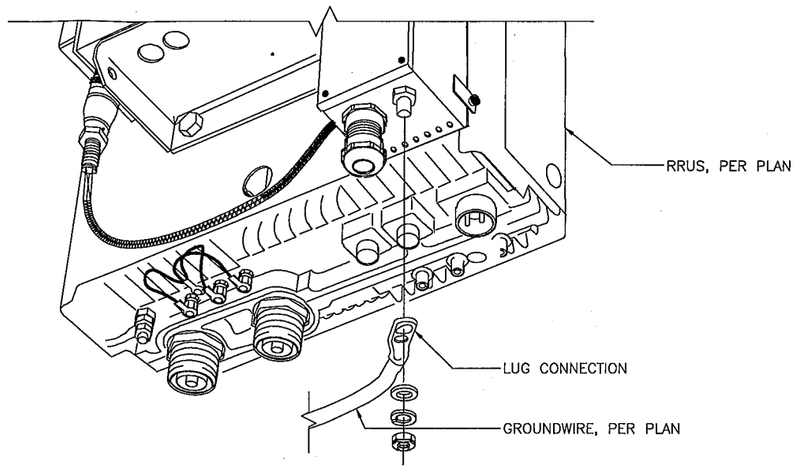
SHEET NUMBER:
G-3



NOTE:

CG SHALL REFERENCE SECTION 3.5 "EARTH GROUNDING THE BASIC BASE FRAME" OF THE ERICSSON GBF INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

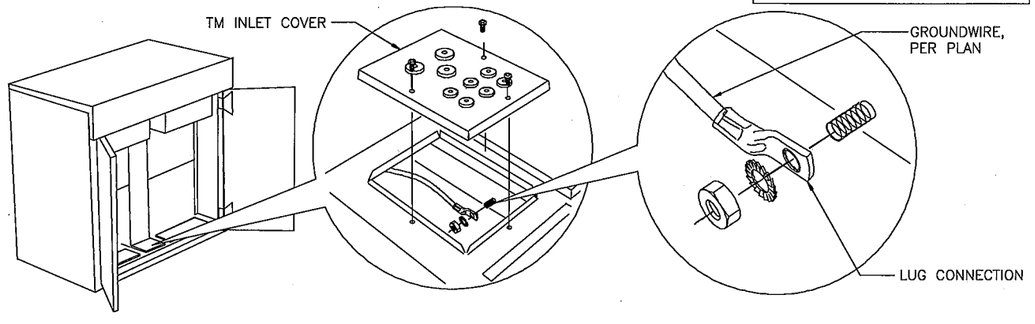
GBR GROUNDING DETAIL | NO SCALE | A



NOTE:

CG SHALL REFERENCE SECTION 8.3.2 "EARTH GROUNDING THE RRUS 11" OF THE ERICSSON RRUS INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

GBR GROUNDING DETAIL | NO SCALE | B



NOTE:

CG SHALL REFERENCE SECTION 8 "GROUNDING THE CABINET" OF THE ERICSSON RBS 6102 INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.

GBR GROUNDING DETAIL | NO SCALE | C

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY Design. Build. Deliver.

2255 SEWELL MILL ROAD
SUITE 130, MARIETTA, GA 30062
Office # (678) 444-4463
Fax # (678) 444-4472

JOB NUMBER 370-011

MLA PARTNER:

AMERICAN TOWER CORPORATION

116 HUNTINGTON AVENUE, 11TH FLOOR
BOSTON, MA 02116

ENGINEERING LICENSE:

STATE OF MISSOURI
CHRISTOPHER J WARREN
NUMBER PE-2005015484
PROFESSIONAL ENGINEER

9/05/14

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR CONSTRUCTION	08/26/14	JMB	3
ISSUED FOR CONSTRUCTION	08/18/14	PHR	2
ISSUED FOR CONSTRUCTION	08/08/14	PHR	1
ISSUED FOR CONSTRUCTION	07/25/14	PHR	0
ISSUED FOR REVIEW	07/24/13	PHR	B
ISSUED FOR REVIEW	07/21/13	PHR	A

SITE NAME:

USC 852370
CHESTERFIELD

SITE CASCADE:

ST51XC077

SITE ADDRESS:

347 N. WOODS MILL ROAD
CHESTERFIELD, MO 63017

SHEET DESCRIPTION:

GROUNDING DETAILS

SHEET NUMBER:

G-4