

RESOLUTION NO. 2015-1

A RESOLUTION AUTHORIZING THE EXECUTION OF AMENDMENT NUMBER ONE TO SITE AGREEMENT BY AND BETWEEN SPRINT SPECTRUM REALTY COMPANY, L.P., FOR COMMUNICATIONS ANTENNA LOCATED AT THE BUTLER AVENUE WATER TOWER.

WHEREAS, the City Council of the City of Vineland adopted Ordinance No. 2001-2 authorizing the execution of a Site Agreement with Sprint Spectrum, L.P., now Sprint Spectrum Realty Company, L.P., (Sprint) for communications antenna located at Butler Avenue Water Tower (Site); and

WHEREAS, Sprint requests the City of Vineland (City) approve certain modifications to their use of the Site for the installation of RRH and one antenna per sector on the site more particularly described in drawings of McGowan Engineering, Riverside, New Jersey, Project PL54XC656, attached to the proposed Amendment Number One, attached hereto and made a part hereof; and

WHEREAS, as consideration for the aforementioned modification, Sprint shall pay monthly rental increase of Two Hundred (\$200.00) Dollars; and

WHEREAS, the Superintendent of the Water Utility has recommended the execution of this Amendment; and

WHEREAS, the City Council finds it to be in the best interest of the City to authorize the amendment.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Vineland that the Mayor and Clerk are authorized to execute Amendment Number One to Site Agreement with Spectrum Realty Company, L.P., for Communication Antenna located at Butler Avenue Water Tower in the form and substance attached hereto and made a part hereof.

Adopted:

\_\_\_\_\_  
President of Council

ATTEST:

\_\_\_\_\_  
City Clerk

AMENDMENT NO. 1 TO SITE AGREEMENT

This Amendment No. 1 to the Communications Antenna Site Lease Agreement (this "Amendment"), effective as of the date last signed below ("Effective Date"), amends a certain Communications Antenna Site Lease Agreement between Sprint Spectrum Realty Company, L.P., successor in interest to Sprint Spectrum L.P. ("Carrier"), and the City of Vineland (the "City"), dated June 6, 2001 (the "Agreement").

**BACKGROUND**

WHEREAS, Carrier desires to modify its installation on the Butler Avenue water tower facility located on Block 7002, Lot 42 (the "Site") by adding or swapping out antennas and other equipment to the Facilities, as more particularly described in Exhibit A-1 annexed hereto, and Carrier and City desire to modify the provisions of the Agreement as provided below.

**AGREEMENT**

For good and valuable consideration the receipt and sufficiency of which are acknowledged, City and Carrier agree as follows:

**1. Modification to the Facilities.** Exhibit A to the Agreement is hereby amended to include the modifications identified on Exhibit A-1, a copy of which is attached and made a part hereof. Exhibit A-1 supplements Exhibit A to the Agreement, and shall not be deemed to supersede or otherwise modify Exhibit A or any part thereof except to the extent specifically set forth in Exhibit A-1. Upon full execution of this Amendment, Carrier is permitted to do all work necessary to prepare, maintain and alter the Site to install or otherwise modify the Facilities, all as more fully described and contemplated in Exhibit A-1.

**2. Limitations of Work; Inspection of Work.** No changes other than those set forth on the Designs shall be permitted. The City shall be permitted to inspect all work to assure compliance with Designs and all costs incurred by the City to assure compliance, including engineering and construction inspections shall be borne by the Carrier.

**3. Modification to Rent.** As additional consideration for the modification and other rights set forth in this Amendment, starting on the date that is 30 days after the start of construction of the modifications to the Facilities, the monthly rent will be increased by \$200.00.

**4. General Terms and Conditions.**

- a. All capitalized terms used in this Amendment, unless otherwise defined herein, will have the same meaning as the terms contained in the Agreement.
- b. In case of any inconsistencies between the terms and conditions contained in the Agreement and the terms and conditions contained in this Amendment, the terms and conditions herein will control. Except as set forth below, all provisions of the Agreement are ratified and remain unchanged and in full force and effect.
- c. This Amendment may be executed in duplicate counterparts, each of which will be deemed an original.
- d. Each of the parties represents and warrants that it has the right, power, legal capacity and authority to enter into and perform its respective obligations under this Amendment.

The parties have executed this Amendment as of the Effective Date.

**City:**  
City of Vineland

**Carrier:**  
Sprint Spectrum Realty Company, L.P.

By: \_\_\_\_\_

By: \_\_\_\_\_ 

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_ 

Title: \_\_\_\_\_

Title: \_\_\_\_\_ 

Date: \_\_\_\_\_

Date: \_\_\_\_\_ 

Exhibit A-1

[see attached]

# Sprint

6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251  
PL54XC656  
382 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

**PROJECT INFORMATION**

**APPLICANT:**  
SPRINT  
6100 SPRINT PARKWAY  
OVERLAND PARK, KS 66251

**SITE ADDRESS:**  
382 BUTLER AVE.  
VINELAND, NJ 08360

**PROPERTY OWNER:**  
CITY OF VINELAND NEW JERSEY  
382 W. BUTLER AVE.  
VINELAND, NJ 08360

**ZONING JURISDICTION:**  
CITY OF VINELAND, CUMBERLAND COUNTY

**PARCEL:**  
LOT 3, BLOCK 1053

**ENGINEER:**  
MCGOWAN ENGINEERING  
645 WESTWOOD AVENUE  
RIVERVALE, NJ 07875  
CONTACT: ADAM JACOBS  
PHONE: 201-664-5700

**SPRINT CONSTR. MANAGER:**  
CONTACT: DARLUS GARNETT  
PHONE: 873-814-1772

**SPRINT SITE ACQ. MANAGER:**  
CONTACT: JENNIFER GALLO  
PHONE: 201-584-4023

**SPRINT RF ENGINEER:**  
CONTACT: ROSARIO CONELLI  
PHONE: 908-660-4147

**LATITUDE:**  
39.440277

**LONGITUDE:**  
-75.03372



**AERIAL PHOTOGRAPH**  
NTS



**LOCATION MAP**  
NTS

- GENERAL NOTES**
- THIS SPRINT WIRELESS FACILITY IS AN UNMANNED AND SECURED EQUIPMENT INSTALLATION. THE FACILITY IS MONITORED FROM A REMOTE FACILITY AND IN CASE OF EMERGENCY, THE LOCAL FIRE AND POLICE DEPARTMENTS SHALL BE NOTIFIED.
  - THE FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY AND SHALL VISITED BY A TRAINED SPRINT TECHNICIAN EVERY FOUR TO SIX WEEKS. THEREFORE, THE FACILITY DOES NOT REQUIRE ANY WATER AND WILL NOT GENERATE ANY SEWAGE, EFFLUENT, OR OTHER WASTE.
  - EXISTING ACCESS AND ON-SITE PARKING SHALL BE UTILIZED.
  - CONNECTIONS FOR ELECTRICAL AND TELEPHONE UTILITIES ARE TO BE DETERMINED BY THE JURISDICTIONAL UTILITY COMPANIES.
  - THE PROPOSED FACILITY SHALL INCLUDE A SIGN IN ACCORDANCE WITH FCC RULES ON RADIO FREQUENCY DEVIATIONS 47 CFR 1.1307(b).
  - CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS ON THE SITE. CONTRACTOR SHALL NOTIFY SPRINT REPRESENTATIVE IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE PROJECT. FAILURE TO NOTIFY SPRINT REPRESENTATIVE PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR IS RESPONSIBLE FOR VISITING THE PROJECT SITE AND FAMILIARIZING THEMSELVES WITH THE PROJECT. CONTRACTOR'S SUBMISSION OF BID ASSUMES UNDERSTANDING OF THE ENTIRE PROJECT.
  - THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE LICENSED AND INSURED TO PERFORM THIS WORK IN THE PROJECT JURISDICTION.
  - THE INFORMATION ON THESE DRAWINGS HAVE BEEN PREPARED TO SHOW THE GENERAL CONSTRUCTION PROCEDURES, INTENT, AND INFORMATION TO COMPLETE THE JOB. MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE THE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK PERFORMED AND MATERIALS INSTALLED TO BE IN STRICT CONFORMANCE, AS A MINIMUM STANDARD, WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN CONFORMANCE WITH THE NATIONAL ELECTRIC CODE, AND ALL OTHER LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND WITH LOCAL UTILITY COMPANY SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
  - THE CONTRACTOR SHALL PROVIDE A FULL (LATEST REVISION) SET OF CONSTRUCTION DRAWINGS ON-SITE DURING CONSTRUCTION, AND MARK ANY REVISIONS DURING THE COURSE OF CONSTRUCTION.
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL INSPECTIONS (LOCAL, COUNTY, AND STATE) REQUIRED TO OBTAIN CERTIFICATE OF OCCUPANCY FROM THE LOCAL BUILDING DEPARTMENT.
  - THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION ALL CONSTRUCTION SCHEDULES BETWEEN THEMSELVES AND SUB-CONTRACTORS TO AVOID ANY POSSIBLE DELAYS IN CONSTRUCTION.
  - ALL CONTRACTORS SHALL COMPLY WITH ALL OSHA REQUIREMENTS APPLICABLE TO THIS PROJECT.
  - THE CONTRACTOR SHALL NOT SCHEDULE OR PERFORM ANY WORK WITHOUT APPROVAL FROM TOWER OWNER, LANDLORD, AND MUNICIPALITY.
  - CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DIRT, STUMPS, STONES, RUBBISH, OR DEBRIS IN ACCORDANCE WITH ALL LOCAL AND ENVIRONMENTAL LAWS. NO MATERIALS OR EQUIPMENT SHALL BE PLACED ANYWHERE ON THE PROPERTY WITHOUT MAKING PROVISIONS TO PROTECT EXISTING CONDITIONS. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
  - ALL UNDERGROUND UTILITIES SHOWN, EXISTING AND PROPOSED, HAVE BEEN DETERMINED BY SURFACE INVESTIGATIONS AND EXISTING PLANS OBTAINED FROM THE BUILDING DEPARTMENT. CONTRACTOR SHALL LOCATE ALL APPLICABLE UNDERGROUND UTILITIES BY CALLING THE LOCAL DIS-SAVE NUMBER PRIOR TO ANY SITE WORK.
  - NO COMMERCIAL SIGNS ARE PROPOSED.
  - THE PROPOSED FACILITY WILL NOT GENERATE ANY NOISE, DUST, FUMES, ODORS OR VIBRATIONS.

**INDEX OF DRAWINGS**

NO.	TITLE	DATE
T-1	TITLE SHEET	1 10/8/14
SP-1	SPECIFICATIONS	1 10/8/14
A-1	COMPOUND PLAN, ENLARGED PLATFORM PLAN	1 10/8/14
A-1A	CABINET DETAILS	1 10/8/14
A-2	ELEVATION, ENLARGED ANTENNA PLAN & MOUNTING DETAILS	1 10/8/14
A-3	ANTENNA, IRIS AND CABLE SPECS., ANTENNA CABLE CHART, BOM	1 10/8/14
A-4	FIBER CONNECTIVITY DETAILS	1 10/8/14
G-1	GROUNDING AND WATERPROOFING DETAILS	1 10/8/14
E-1	DC ELECTRIC DETAILS	1 10/8/14

**Sprint**

**Pinnacle Telecom Group**

14800 GALE AVE., B. 111.200  
CHANDLER, AZ 85227

THESE DRAWINGS ARE FORWARDED TO BE FULL SIZE AT 22"X34". IF DRAWINGS ARE 11"X17" THEY ARE TO BE CONSIDERED HALF SCALE AS INDICATED ON THE BAR SCALE BELOW EACH DRAWING COMPONENT.

**MICHAEL MCGOWAN**  
PROFESSIONAL ENGINEER  
LICENSE NO. 40997

**MCGOWAN ENGINEERING**  
645 WESTWOOD AVE.  
RIVERVALE, NJ 07875  
T: 201-664-5700 F: 201-664-5750

NO.	DATE	REVISION DESCRIPTION	BY
10/8/14	FINAL		AJ
10/14	FOR REVIEW		AJ

PROJECT NO. **PL54XC656**  
(2.5 EQUIPMENT DEPLOYMENT)

PROJECT LOCATION:  
382 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

DRAWING TITLE:  
**TITLE SHEET**

NO.	DATE	REVISION DESCRIPTION	BY
10/8/14	FINAL		AJ

DRAFTER: AJ SHEET #  
REVIEWER: MM T-1  
DATE: 10/14

**GENERAL REQUIREMENTS:**

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
3. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESCRIBE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF THE MATERIALS REQUIRED TO COMPLETE THE WORK.
4. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSIONS WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONSTRUCTION PROCEEDS WITH WORK IN THE AFFECTED AREAS.
6. THE BIDDOR, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING WHICH SUCH BIDDOR MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
7. NO PLAN OF AVOIDANCE OF CONDITIONS SHALL EXIST, OR OTHERWISE OF CONDITIONS THAT MAY BE ENCOUNTERED OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR DELAY ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.
8. CONTRACTOR SHALL AT THEIR OWN EXPENSE CARRY AND MAINTAIN FOR THE DURATION OF THE PROJECT ALL INSURANCE AS REQUIRED AND LISTED AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AND OBTAINED CERTIFICATE OF INSURANCES STATING ALL COVERAGE TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
9. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
10. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.
11. GENERAL CAPACITY, ELECTRICAL, AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
12. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
13. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.
14. REQUIRED STATE AND FEDERAL APPROVAL HAVE BEEN OBTAINED INCLUDING, BUT NOT LIMITED TO:
  - FINAL INSPECTION
  - CERTIFICATE OF OCCUPANCY
15. ANY OBSTRUCTIONS THAT OCCUR DURING THIS ONE (1) YEAR PERIOD SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
16. THE CONTRACTOR SHALL GUARANTEE ALL LABOR AND MATERIALS USED IN THIS PROJECT FOR A NINE-MONTH PERIOD ONE (1) YEAR COMMENCING FROM THE DATE OF FINAL ACCEPTANCE BY THE CLIENT.
17. FINAL DATE OF ACCEPTANCE IS DEEMED AS THE DATE THAT ALL

**CONSTRUCTION SAFETY:**

1. ATTENTION IS DIRECTED TO FEDERAL, STATE, AND LOCAL SAFETY RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH STANDARDS. THE CONSTRUCTION COMPANY AWARDING THIS PROJECT SHALL INSURE ALL WORKING SURROUNDINGS AND CONDITIONS ARE SANITARY, AND NOT HAZARDOUS OR DANGEROUS TO THE HEALTH OR SAFETY OF THE WORK CREW AND BUILDING OCCUPANTS. PRECAUTION SHALL BE EXERCISED AT ALL TIMES FOR THE PROTECTION OF PERSONS AND PROPERTY. IT IS MANDATORY THAT THE SAFETY PROVISIONS OF APPLICABLE LOCAL, STATE, FEDERAL, AND BUILDING AND CONSTRUCTION CODES, BE OBSERVED FOR ALL CONTRACTORS AND ANTENNA ROOFERS.
2. THE GENERAL CONTRACTOR MUST COORDINATE ALL ROOF RELATED WITH THE LABORERS FINE APPROVED ROOFER. THE GENERAL CONTRACTOR MUST CONFIRM THE COMPATIBILITY OF ALL PROPOSED AND EXISTING MATERIALS AND ENSURE THAT ALL EXISTING ROOF WARRANTIES, IF ANY, REMAIN IN EFFECT.
3. ALL PRECAUTIONS AND MEASURES WILL BE TAKEN TO INSURE THE SAFETY OF THE OCCUPANTS OF THE BUILDING AS WELL AS THE SAFETY OF THE PEDESTRIANS BELOW.
4. BARRICADES WILL BE ERRECTED SEPARATING WORK AREAS FROM ALL PUBLIC SPACES AS NEEDED.
5. ALL FIRE AND OTHER REQUIRED ENITS, WAY OF APPROACH THERE TO AND WAY OF TRAVEL FROM THE LOT TO THE STREET SHALL BE CONTINUOUSLY MAINTAINED FREE FOR UNOBTSTRUCTED EGRESS.
6. PROVIDE A PORTABLE FIRE EXTINGUISHERS) WITH A RATING NOT LESS THAN 2-A OR 2-A100C WITHIN 75 FT OF ALL PORTIONS OF THE WORK AREA.

**SPRINT METHOD OF PROCEDURE:**

1. CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN:
  - A. COAX COLOR CODING SHEETS AND FIBER TESTING TS-0200 AND EI-C06A, LATEST REVISIONS.
  - B. CABLE LADDING EA-3012-00.
  - C. ALL APPLICABLE INSTALLATION METHOD OF PROCEDURES IDENTIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS.
2. COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE SPRINT RF DATE SHEET. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE FINAL RFDS FROM SPRINT.
3. CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT TO DISURE IT IS PROTECTED AND HANDLED PROPERLY THROUGHOUT THE CONSTRUCTION DURATION.
4. CONTRACTOR IS RESPONSIBLE FOR RECEIPT OF SPRINT FURNISHED EQUIPMENT AT CELL SITE ON CONTRACTORS LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

**SUBMITTALS & TESTS:**

1. AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
3. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - A. COAX SHEETS AND FIBER TESTS PER CURRENT VERSION TS-0200 ANTENNA LINE ACCEPTANCE STANDARDS.
  - B. AGL, ADMN, AND DOWN-TILT PROVIDE AN AUTOMATED REPORT UPLOADED TO OTEIRA USING A COMMERCIAL MADE FOR THE PURPOSE. ELECTRONIC ANTENNA ALIGNMENT TOOL. INSTALLED ADMN, CENTERLINE AND DOWN-TILT MUST CONFORM WITH THE RF CONFIGURATION DATA.
  - C. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK EQUIPSED AS UNACCEPTABLE IN SITE INSPECTION ACTIVIES AND/OR AS A RESULT OF TESTING.
  - D. ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.
4. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
  - A. ADMN, DOWN-TILT, AGL FROM SIGHTSHOT INSTRUMENTS - ANTENNAALIGN ALIGNMENT TOOL.
  - B. SWEAP AND FIBER TESTS.
  - C. SHIELDING BARCODE PHOTOGRAPHS OF TOWER TOP AND SUCCESSIBLE SERIALIZED EQUIPMENT.
  - D. ALL AVAILABLE JURISDICTIONAL PERMIT AND OCCUPANCY INFORMATION.
  - E. PDF SCAN OF REDLINE MARK-UPS SUITABLE FOR USE IN ELECTRONIC AS-BUILT DRAWING PRODUCTION.
  - F. LEN WAIVERS.
  - H. FINAL PAYMENT APPLICATION.
5. REQUIRED FINAL CONSTRUCTION PHOTOS.
6. J. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS.
7. K. APPLICABLE POST MIP TACKS INCLUDING DOCUMENT UPLOADED COMPLETED IN SITERA.
8. L. CLOSEOUT PHOTOGRAPHS AND CLOSEOUT CHECKLIST. SPRINT WILL PROVIDE SEPARATE GUIDANCE.

**ANTENNA, RRU, HYBRID/'FIBER ONLY' CABLE:**

1. CONTRACTOR IS RESPONSIBLE TO INSURE THEY HAVE THE LATEST VERSION OF THE SPRINT RADIO FREQUENCY DATA SHEET IF THERE ARE ANY DISCREPANCIES BETWEEN THE RFDS AND THE CONSTRUCTION DRAWINGS. CONTRACTOR MUST IMMEDIATELY NOTIFY SPRINT CONSTRUCTION MANAGER.
2. ANTENNAS AND RRUS SHALL BE INSTALLED AS PER CONSTRUCTION DRAWINGS.
3. CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ON SITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, ADMN, AND TEEZ ORIENTATION INFORMATION SHALL BE AS DESIGNATED ON THE CONSTRUCTION DRAWINGS. SPRINT RFDS SHALL SURPASS CONSTRUCTION DRAWINGS.
4. CONTRACTOR SHALL PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE CONSTRUCTION DRAWINGS.

**SPECIAL CONSTRUCTION REQUIREMENTS:**

- A. GENERAL CONTRACTOR TO FIELD VERIFY ADMN AND CENTER LINE HEIGHT AND MECHANICAL DOWN-TILT IF DIFFERENT THAN CALLED OUT FOR OR CONSTRUCTION DRAWINGS. CONTRACTOR SHALL HALT ANTENNA WORK FOR ONE HOUR, CALL SPRINT BY ENGINEER (OR MANAGER IF BY ENGINEER DOES NOT ANSWER, BUT STILL LEAVE A MESSAGE TO BY DOCUMENT) FOR FURTHER INSTRUCTION. IF SPRINT DOES NOT RESPOND WITHIN ONE HOUR, PLACE 3.5GVZ ANTENNA AT SAME CENTERLINE HEIGHT AS EXISTING NETWORK NODON. ANTENNA AND FRAME CORRECT CENTERLINE HEIGHT AND ADMN TO SPRINT BY ENGINEER. UPDATE AS-BUILT DRAWING WITH CORRECT CENTERLINE HEIGHT. ALSO LEAVE CORRECT NETWORK VESION CENTERLINE HEIGHT, ADMN, AND MECHANICAL DOWN-TILT TO BY ENGINEER.
- B. AGL TESTS TO VERIFY OPERATION IS TO BE PERFORMED AFTER FINAL INSTALLATION OF ANTENNAS AND AGL CABLES HAVE BEEN CONNECTED. VERIFY OPERATION OF ALL EXISTING SPRINT AGL EQUIPMENT INCLUDING NETWORK VESION AND 3.5GVZ. TESTS WILL BE COMPLETE DOWN-TILT, ADMN (IF APPLICABLE) AND BEAMTHRU SWINGS (IF APPLICABLE). DOCUMENT AGL TEST RESULTS IN COAX SHEET TEST SPREADSHEET.
- C. GENERAL CONTRACTOR MUST INSURE THAT NO OBJECT IS LOCATED IN FRONT OF ANTENNA. THIS MEANS NO OBJECT IS TO BE LOCATED AS EXCESSIVE LEFT AND RIGHT OF FRONT OF ANTENNA OR 7 DEGREES UP AND DOWN FROM CENTER OF ANTENNA. IF THIS IS NOT POSSIBLE CONTACT BY ENGINEER FOR FURTHER INSTRUCTION. IN ADDITION, 3.5GVZ ANTENNA IS NOT TO BE PLACED IN FRONT OF ANY OTHER ANTENNA USING THE SAME AS EXISTING RISE. THESE INCLUDES SPRINT AND NON-SPRINT ANTENNAS.
- D. GENERAL CONTRACTOR IS REQUIRED TO USE A DIGITAL ALIGNMENT TOOL TO SET ADMN, HULL, AND DOWN-TILT. ADMN ACCURACY IS TO BE WITHIN 1 DEGREE. DOWN-TILT AND HULL MUST BE WITHIN 0.1 INCH TO BE WITHIN 0.1 DEGREES. IF FOR SOME REASON THIS ACCURACY CANNOT BE ACHIEVED, UPDATE AS-BUILT DRAWINGS AND CALL SPRINT BY ENGINEER WITH AS-BUILT SETTINGS. USE 3/2 INCH ALIGNMENT TOOL OR APPROVED EQUAL.

**HYBRID / FIBER ONLY CABLES:**

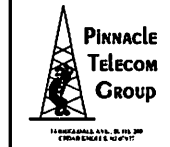
1. CONTRACTOR SHALL PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE CONSTRUCTION DRAWINGS.
2. CONTRACTOR SHALL TEST, IDENTIFY, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADI.
4. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.
5. FASTENING MAIN CABLES: ALL CABLES SHALL BE INSTALLED WITH CABLE SUPPORT CRIPS AS REQUIRED BY THE MANUFACTURER.
6. FIBER BUNDLES ABOVE BREAKOUT SHALL BE SUPPORTED USING 3/8" VELCRO STRAPS OF THE REQUIRED LENGTH AT 18" OC. STRAPS SHALL BE UV, OIL, AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS.
7. DC BRACKETS ABOVE BREAKOUT SHALL BE SUPPORTED WITH ZP TIES OF THE APPROPRIATE LENGTH. ZP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH OF 12,000 PSI.
8. CABLE JAMPERS SHALL BE SUPPORTED TO DUE ARMS OR HEAD FRAMES USING STAINLESS STEEL TIE WRAPS OR STAINLESS STEEL DUTTERLY CUPS.
9. MAIN CABLE INSTALLATION:
  - A. CONTRACTOR SHALL INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, AND NOTIFY SPRINT CONSTRUCTION MANAGER IF ANY DAMAGE IS OBSERVED.
  - B. CABLE ROUTING/INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOPE AS INDICATED ON THE DRAWINGS, AND SHALL AVOID TWISTING AND CROSSOVERS.
  - C. MOST CABLE USING PROPER HOISTING CRIPS. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM BEND RADII.
  - D. TRANSMISSION LINES SHALL BE ORGAINED AS INDICATED ON THE DRAWINGS.
  - E. ALL MAIN CABLE, DC BRACKETS, FIBER BRACKETS, AND JAMPER CABLES SHALL BE COOL COATED AS REQUIRED BY TS 0200 LATEST REVISION.
10. WEATHERPROOFING AND GROUND ITS.
  - A. ALL HYBRID, FIBER CABLES, CONNECTORS, AND GROUND ITS SHALL BE WEATHER PROOFED.
  - B. CONTRACTOR MAY USE EITHER OF THE TWO STANDARD INDUSTRY PRACTICES: WEATHERPROOFING METHODS BUT MUST BE CONSISTENT WITH ONE METHOD THROUGHOUT THE ENTIRE PROJECT.
  - C. GOLD STRIPS: DIACROSS COMPACTOR IN GOLD SPRINT TUBING AND PROVIDE A DOUBLE WRAP OF 3" ELECTRICAL TAPE OVERTOP OF 2" BONDING TUBING. PROVIDE 3/4 COLD STRIP CTS SCRES ON SPRINT APPROVED EQUAL.
  - D. 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 3" NOC ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF AMALGAMATING TAPE.
  - E. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE.

**GROUNDING:**

1. WHEN DESIGNING A GROUNDING SYSTEM FOR A MOBILE RADIO FACILITY THERE ARE FOUR INTERRELATED AREAS OF CONCERN: THE BASIC OBJECTIVE FOR EACH IS:
  - A. LIGHTNING PROTECTION-TO MAINTAIN ALL EQUIPMENT AT THE SAME POTENTIAL DURING A LIGHTNING PULSE.
  - B. RFI FOR NOISE REDUCTION CONTROL-TO ESTABLISH THE LOWEST POSSIBLE IMPEDANCE AMONG ALL EQUIPMENT.
  - C. ELECTROSTATIC CONTROL-TO REDUCE ELECTROSTATIC DISCHARGE PROBLEMS.
  - D. PERSONNEL SAFETY-TO MAINTAIN A MINIMUM VOLTAGE DIFFERENCE BETWEEN ANY TWO METALLIC OBJECTS WHICH PERSONNEL MIGHT CONTACT SIMULTANEOUSLY.
2. IT IS IMPORTANT THAT THE GROUNDING CONDUCTORS BE AS STRAIGHT AS POSSIBLE, WITH NO TURN OR BEND SHORTER THAN ONE FOOT RADIIUS WITH A THREE FOOT RADIIUS PREFERRED. NO 90° ANGLE OR SHARP BENDS SHALL BE ALLOWED.
3. ALL SURFACES REQUIRE PREPARATION PRIOR TO BONDING OF EITHER DAD WELD OR FASTENERS. GALVANIZED SURFACES SHALL BE GROUND OR SEALED TO THE POINT OF EXPOSING THE STEEL SURFACE BELOW. PRIOR TO BONDING THE GROUND CONDUCTOR, FOR OTHER SURFACES INCLUDING COPPER BUS BARS ALL POINT MUST TURNISH AND OXIDE SHALL BE REMOVED PRIOR TO BONDING THE GROUND CONDUCTOR. CAD WELD TYPE BONDS SHALL BE FINISHED WITH THE APPLICATION OF GOLD GALVANIZATION AND WHEN APPLICABLE, FINISH POINTED WITH AN APPROPRIATE COLOR AS REQUIRED. MECHANICAL TYPE BONDS ON BUS BARS SHALL BE FINISHED WITH THE APPLICATION OF MOLDERS OR OTHER APPROVED CONDUCTIVE MEDIUM MATERIAL BETWEEN CONNECTOR AND BUS BAR. MECHANICAL TYPE BONDS ON ALL OTHER SURFACES SHALL BE FINISHED WITH THE APPLICATION OF GOLD GALVANIZATION AND OR THE APPROPRIATE PAINT TO MATCH AS REQUIRED.
4. GROUNDING SHALL COMPLY WITH NEC.
5. CONNECTIONS TO GROUND BARS EXCEPT WHERE NOTED ON THE DRAWINGS SHALL BE TWO HOLE LUG.
6. IF NOT EXISTING, HOME RUN GROUND SHALL BE 60 CALD TINED BARE COPPER WIRE, AND CABLED CONNECTION TO ALL GROUND BARS.
7. 60 CAL, INSULATED STRANDED COPPER CABLE IS ACCEPTABLE FOR INTERIOR GROUND BAR CONNECTIONS TO ALL GROUNDING SYSTEMS.
8. ALL GROUNDING CONDUCTORS SHALL BE ALONG THE SHORTEST AND HIGHEST PATH POSSIBLE AS NOT TO INTERFERE WITH ANY EXISTING EQUIPMENT.
9. DO NOT USE ALUM BAR COPPER WIRE IN CONTACT WITH GALVANIZED STEEL.
10. OXIDE REMOVING COMPOUND SHALL BE APPLIED TO ALL COMPRESSION TYPE AND TWO HOLE LUG GROUNDING CONNECTIONS.
11. ALL GROUND WIRLS FROM EQUIPMENT LOCATED AT THE SPRINT CONCRETE PAD SHALL BE ENCASED WITH 1/2 PVC CONDUIT BEFORE ENTERING GRADE LEVEL, AND SEALED WITH SILICON.
12. ALL CABLE BOND SECTIONS SHALL BE GROUND VIA TWO HOLE LUG TYPE CONNECTION WITH AN COPPER STRANDED WIRE WITH GREEN ISOLATION.
13. ALL CONNECTIONS AT GROUND BARS SHALL BE IN A NEAT AND CONSISTIVE ORDER.
14. GROUNDING CONNECTIONS SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS UNLESS PROPERLY SEILED WITH PVC CONDUIT.
15. METAL NUT CLIPS ARE PROHIBITED. USE PLASTIC NUT CLIPS ONLY.
16. GROUNDING CONNECTION TO THE EQUIPMENT CABINETS SHALL BE MADE BY CONNECTING THE GROUND WIRE FROM THE BUS BAR TO THE CABINETS TO THE GROUND RING.
17. IF APPLICABLE, CONTRACTOR SHALL PHOTOGRAPH GROUND RING AND ALL CABLES PRIOR TO BACKFILL AND PROVIDE PHOTOS TO SPRINT PROJECT MANAGER.
18. ANY CHANGES TO GROUNDING SPECIFICATIONS MUST BE RELATED TO AND APPROVED BY ENGINEER.
19. GROUNDING SYSTEM SHALL HAVE A RESISTANCE RATING OF 5 OHMS OR LESS. CONTRACTOR SHALL SUBMIT FINAL TESTING RESULTS TO SPRINT PROJECT MANAGER.
20. THE GROUNDING SYSTEM HAS BEEN DESIGNED TO GENERAL WIRELESS TELECOM SPECIFICATIONS. ANY ADDITIONAL CLIENT SPECIFIC REQUIREMENTS SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND SPRINT PROJECT MANAGER.

**ELECTRICAL:**

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC, AND ALL APPLICABLE CODES.
2. REMOVAL RESULTS ARE SOLELY THE CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EXISTING AND PROPOSED EQUIPMENT IS NOT HINDERED.
3. EACH END OF EVERY POWER, GROUNDING, AND TI CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR CODED INSULATION OR ELECTRICAL TAPE (BY BRAND), IF PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL. THE IDENTIFICATION METHOD SHALL CONFORM WITH THE NEC AND OSHA REQUIREMENTS.
4. POWER PHASE CONDUCTORS SHALL BE LABELED WITH COLOR CODED INSULATION OR ELECTRICAL TAPE. PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA REQUIREMENTS.
5. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS.
6. PANEL BOARDS AND INTERNAL CIRCUIT BREAKERS SHALL BE CLEARLY LABELED.
7. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
8. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NON METALLIC TUBING (ENMT), OR RIGID NON METALLIC CONDUIT SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
9. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
10. RIGID NON METALLIC CONDUIT SHALL BE USED UNDERGROUND, DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
11. LIQUID-TITE FIBERGLASS METALLIC CONDUIT SHALL BE USED INDOORS AND OUTDOORS WHERE VIBRATION OCCURS AND FLEXIBILITY IS NEEDED.
12. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION TYPE AND APPROVED FOR THE LOCATION USED.
13. WIREWAYS SHALL BE EPOXY COATED AND INCLUDE A Hinged COVER, DESIGNED TO SWING OPEN DOWNWARD, SHALL BE RAINWATER TYPE E (OR EQUAL), AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3B (OR BETTER) OUTDOORS.
14. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3B (OR BETTER) OUTDOORS.
15. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY COATED, OR NON-CORRODING, SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
16. NON METALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2, AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
17. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY AUTHORIZATIONS AND PERMITS BEFORE COMMENCING ELECTRICAL WORK.
18. CONTRACTOR SHALL PROVIDE NECESSARY TAGGING OF THE BREAKERS, CABLES, DISTRIBUTION PANELS, IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



1000 W. BROADWAY AVE., SUITE 300  
DENVER, CO 80202



MICHAEL MCGOWAN  
PROFESSIONAL ENGINEER  
LICENSE NO. 10099

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10/14/14	FINAL	AJ
10/14/14	FOR REVIEW	AJ
REV. DATE	REVISION DESCRIPTION	BY

PROJECT ID: **PL154XC656**  
(1.5 EQUIPMENT DEPLOYMENT)

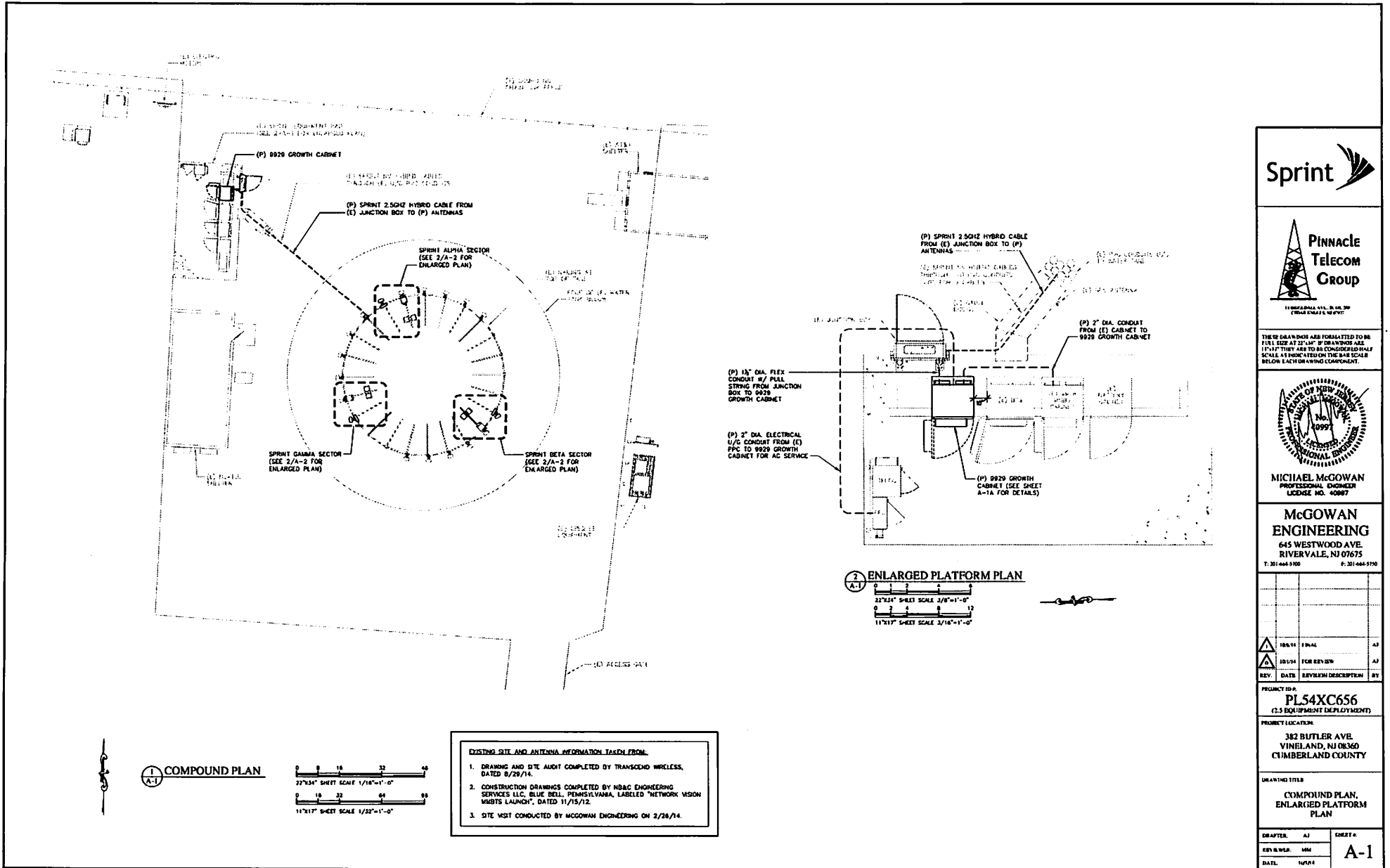
PROJECT LOCATION:  
382 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

DRAWING TITLE:

**SPECIFICATIONS**

ISSUED BY:	AJ	DESIGN:	
REVISED BY:	MM		
DATE:	10/14/14		

**SP-1**



**Sprint**

**Pinnacle Telecom Group**

11000 DALLAS AVE., R. 10, BOX 300  
CHESAPEAKE, VA 23041

THESE DRAWINGS ARE FORWARDED TO BE FULLY USED AT 25% OF ORIGINAL SIZE. IF THEY ARE TO BE CONSIDERED HALF SCALE, AS INDICATED ON THE DRAWING SCALE BELOW EACH DRAWING COMPONENT.

**MICHAEL MCGOWAN**  
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REV.	DATE	REVISION DESCRIPTION	BY
15/1/14	15/1/14	FOR REVIEW	AJ
15/1/14	15/1/14	FOR REVIEW	AJ

PROJECT ID #  
**PL54XC656**  
(2.5 EQUIPMENT DEPLOYMENT)

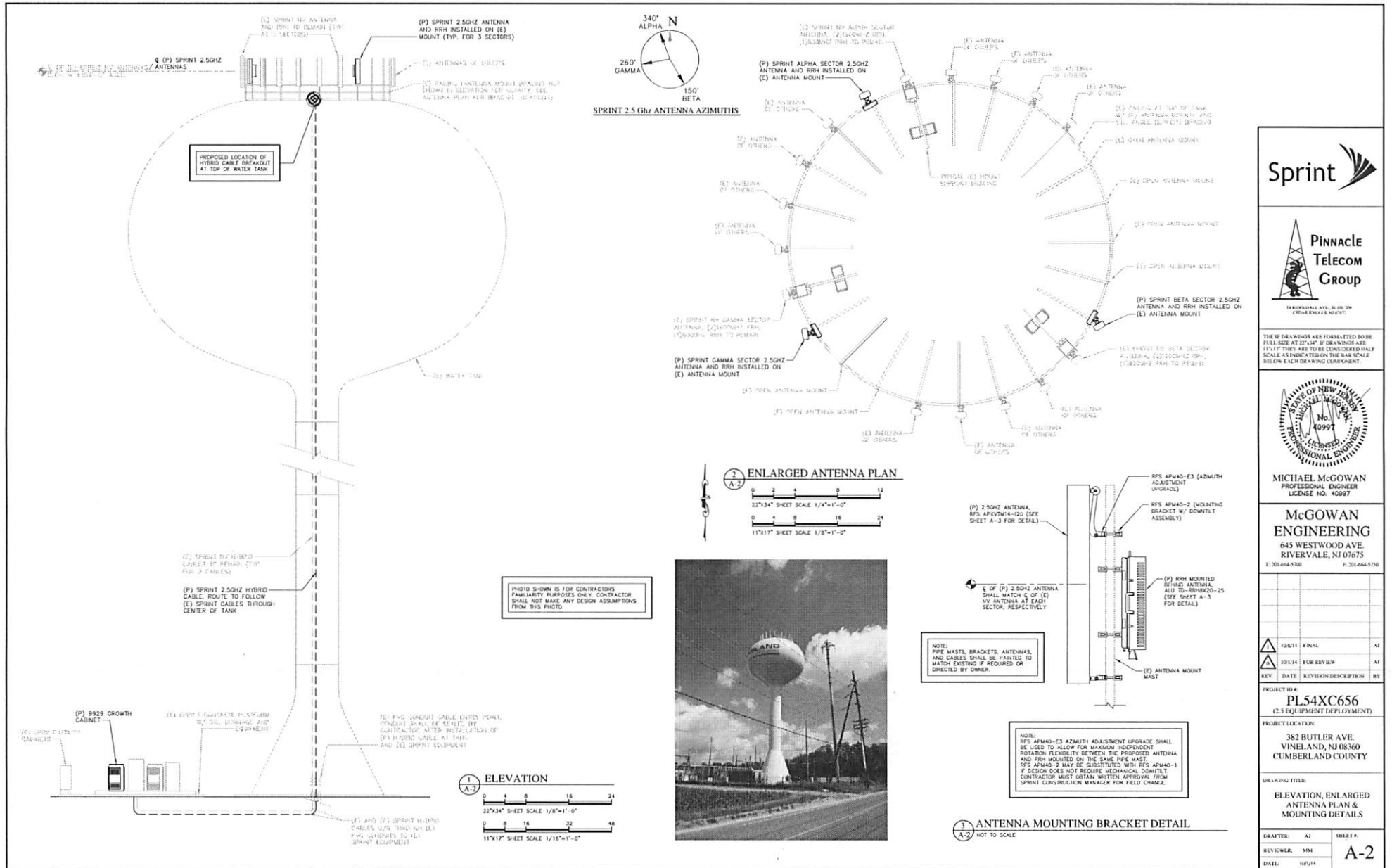
PROJECT LOCATION:  
383 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

DRAWING TITLE  
**COMPOUND PLAN,  
ENLARGED PLATFORM  
PLAN**

DRAPTER	AJ	SHEET #	
KEY NUMBER	MM		<b>A-1</b>
DATE	10/16/14		

- EXISTING SITE AND ANTENNA INFORMATION TAKEN FROM:**
1. DRAWING AND SITE AUDIT COMPLETED BY TRANSCENDO WIRELESS, DATED 8/29/14.
  2. CONSTRUCTION DRAWINGS COMPLETED BY HD&C ENGINEERING SERVICES LLC, BLUE BELL, PENNSYLVANIA, LABELED "NETWORK VISION WISITE LAUNCH", DATED 11/15/12.
  3. SITE VISIT CONDUCTED BY MCGOWAN ENGINEERING ON 2/26/14.





THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34" IF DIMENSIONS ARE 1/4" OR LARGER. THEY ARE TO BE CONSIDERED HALF SCALE AS INDICATED ON THE SCALE BELOW EACH DRAWING COMPONENT.



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REV	DATE	REVISION DESCRIPTION	BY
10/1/14		FINAL	AJ
10/1/14		FOR REVIEW	AJ

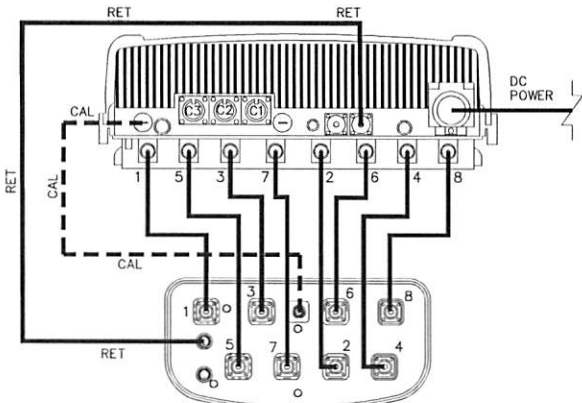
PROJECT ID # **PL54XC656**  
 (2.5 EQUIPMENT DEPLOYMENT)

PROJECT LOCATION:  
 382 BUTLER AVE.  
 VINELAND, NJ 08360  
 CUMBERLAND COUNTY

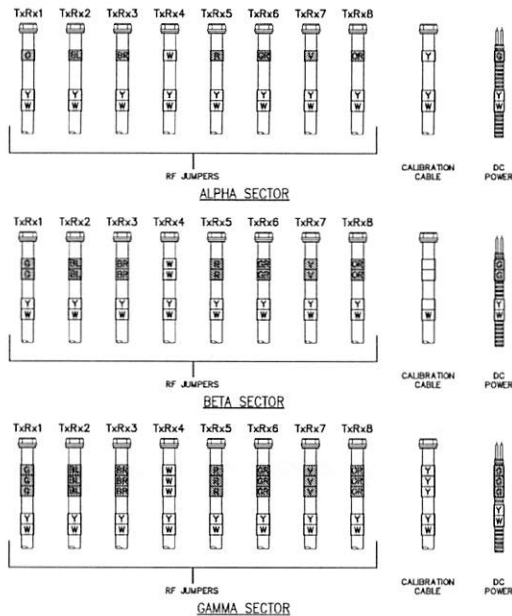
DRAWING TITLE:  
**ELEVATION, ENLARGED ANTENNA PLAN & MOUNTING DETAILS**

DRAWER: AJ	SHEET #
REVIEWER: MM	<b>A-2</b>
DATE: 10/1/14	





JUMPER CABLE CONNECTIVITY DETAIL (RRH TO ANTENNA)  
NOT TO SCALE



**RF/POWER COLOR CODE LEGEND**

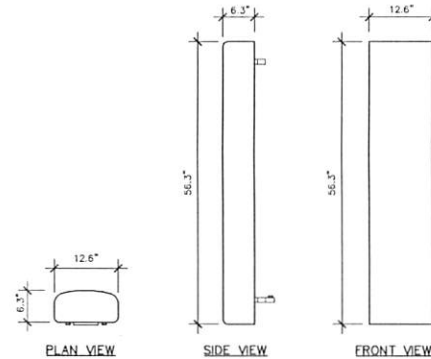
GREEN	G
BLUE	BL
BROWN	BR
WHITE	W
RED	R
GREY	GR
VIOLET	V
ORANGE	OR
YELLOW	Y

NOTE: RF JUMPER CABLES SHALL BE COLOR CODED AT BOTH ENDS BETWEEN RRH AND ANTENNA

JUMPER CABLE COLOR CODE  
NOT TO SCALE

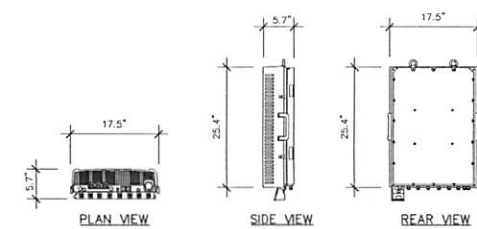
SECTORS	AZIMUTH	RRH	ANTENNA	MECHANICAL DT	ELECTRICAL DT	CABLE	COLOR CODE	CABLE LENGTH
ALPHA (ALTA/DC VDC/DC)	340°	PROPOSED 2.5GHz RRH TD-RRH8X20-25	PROPOSED 2.5GHz ANTENNA RFS APXVTM14-C-100	0'	-2'	EXISTING HYBRID CABLE TO RRH/RR	1 (GREEN)	200FT±
BETA (BETA/DC VDC/DC)	150°	PROPOSED 2.5GHz RRH TD-RRH8X20-25	PROPOSED 2.5GHz ANTENNA RFS APXVTM14-C-100	0'	-2'	EXISTING HYBRID CABLE TO RRH/RR	2 (GREEN)	200FT±
GAMMA (GAMA/DC VDC/DC)	280°	PROPOSED 2.5GHz RRH TD-RRH8X20-25	PROPOSED 2.5GHz ANTENNA RFS APXVTM14-C-100	0'	-2'	EXISTING HYBRID CABLE TO RRH/RR	3 (GREEN)	200FT±

NOTE 1: PROPOSED CABLE LENGTH REPRESENTS THE APPROXIMATE DISTANCE BETWEEN THE JUNCTION BOX AT THE SPRINT PLATFORM AND THE RRH AT THE FURTHEST SECTOR. IT IS RECOMMENDED FOR THE CONTRACTOR TO CONFIRM EXISTING CABLE LENGTHS FOR ALL SECTORS FROM PREVIOUSLY COMPLETED ANTENNA SHEEPS, IN ORDER TO REDUCE CABLE WASTE.



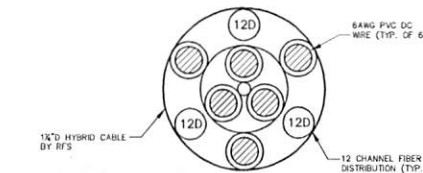
FREQUENCY RANGE: 2490GHZ-2600GHZ  
WEIGHT: 56.2 LBS

ANTENNA DETAIL (RFS APXVTM14-C-100)  
NOT TO SCALE



WEIGHT: 66 LBS

RRH DETAIL (TD-RRH8X20-25)  
NOT TO SCALE



WEIGHT: 0.992 LBS/FT  
MIN. BENDING RADIUS: 10"  
CLAMP SPACING: 4FT OC

ASSEMBLY LENGTH	MODEL NUMBER	DESCRIPTION
200 FT	H8114-13U3M12-200F	3PR 6AWG DC, 18PR MULTI-MODE FIBER, TOP: 3 WPO CONNECTORS, BOTTOM: 18 LC CONNECTORS
100 FT	H8114-13U3M12-100F	3PR 6AWG DC, 18PR MULTI-MODE FIBER, TOP: 3 WPO CONNECTORS, BOTTOM: 18 LC CONNECTORS
50 FT	H8114-13U3M12-50F	3PR 6AWG DC, 18PR MULTI-MODE FIBER, TOP: 3 WPO CONNECTORS, BOTTOM: 18 LC CONNECTORS
25 FT	H8114-13U3M12-25F	3PR 6AWG DC, 18PR MULTI-MODE FIBER, TOP: 3 WPO CONNECTORS, BOTTOM: 18 LC CONNECTORS
10 FT	H8114-13U3M12-10F	3PR 6AWG DC, 18PR MULTI-MODE FIBER, TOP: 3 WPO CONNECTORS, BOTTOM: 18 LC CONNECTORS

HYBRID CABLE DETAIL  
NOT TO SCALE

ITEM	DESCRIPTION/ MODEL #	QUANTITY/LENGTH
ANTENNA	RFS APXVTM14-C-100	3
RRH	ALCATEL LUCENT TD-RRH8X20-25	3
HYBRID CABLE	RFS H8114-13U3M12-200F	1 / 200FT
JUMPER CABLE	RFS LC12-50 (CONNECTORS PRE-INSTALLED BY MANUFACTURER)	27 / BFT
RET CABLE	CONNOSCOPE ATCB-801-008 (CONNECTORS PRE-INSTALLED BY MANUFACTURER)	3 / BFT



THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22" X 34". IF DIMENSIONS ARE 1/4" OR SMALLER THEY ARE TO BE CONSIDERED HALF SCALE. A VERIFICATION FROM THE WORKSHEET BELIEVE EACH DRAWING EQUIPMENT.

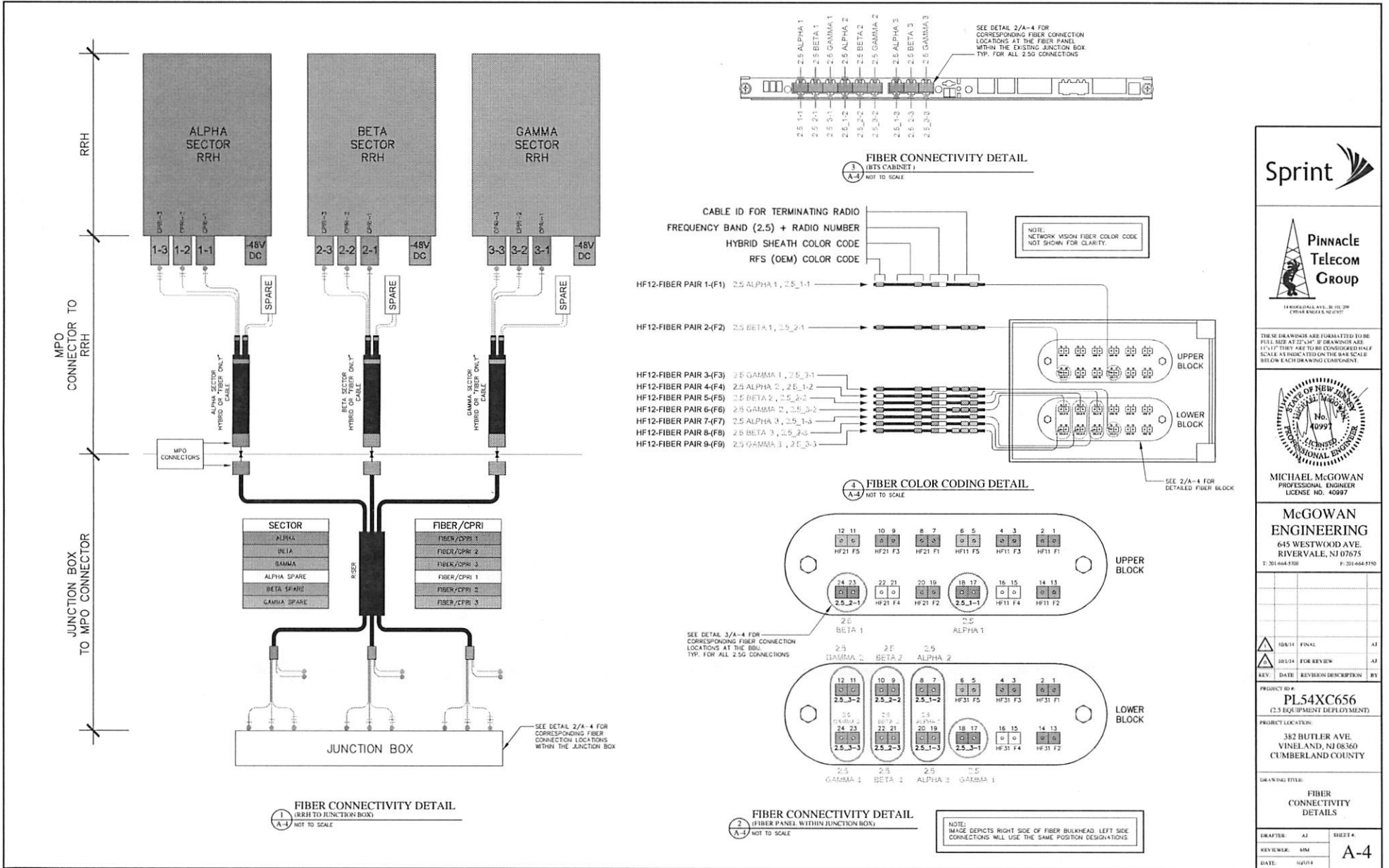


**McGOWAN ENGINEERING**  
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REV.	DATE	REVISION DESCRIPTION	BY
1	10/14	FINAL	AJ
2	10/14	FOR REVIEW	AJ

PROJECT ID: **PL54XC656**  
(2.5 EQUIPMENT DEPLOYMENT)  
PROJECT LOCATION:  
382 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

DRAWING TITLE:  
**ANTENNA, CABLE & RRH SPECS, ANTENNA CABLE CHART, DETAILS**  
DRAFTER: AJ SHEET #  
REVIEWER: SMI  
DATE: 10/14 **A-3**



**Sprint**

**Pinnacle Telecom Group**

14000 GALLAVILLE BL. FLD 200  
CHERRY HILL, NJ 08037

THESE DRAWINGS ARE FORMATTED TO BE PLOTTED AT 22"X34" BY DRAWING AREA 11"X17" THEY ARE TO BE CONSIDERED HALF SCALE. AS INDICATED ON THE BAR SCALE BELOW EACH DRAWING COMPONENT.

**STATE OF NEW JERSEY**  
Professional Engineer  
No. 10997

**MICHAEL MCGOWAN**  
PROFESSIONAL ENGINEER  
LICENSE NO. 40997

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10/1/14	FINAL	AJ	
10/1/14	FOR REVIEW	AJ	
REV.	DATE	REVISION DESCRIPTION	BY

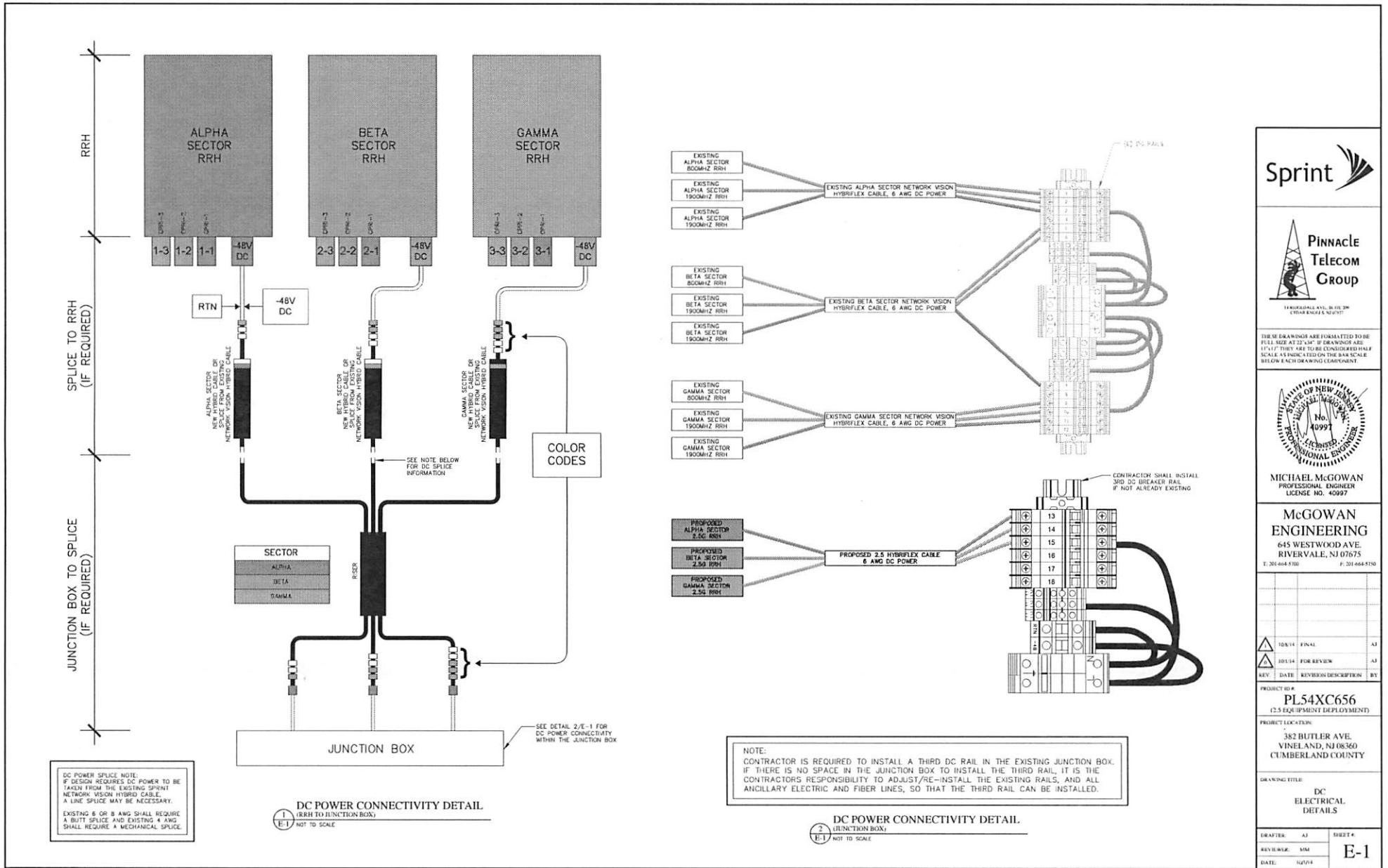
PROJECT ID: **PL154XC656**  
(2.5 EQUIPMENT DEPLOYMENT)

PROJECT LOCATION:  
382 BUTLER AVE.  
VINELAND, NJ 08360  
CUMBERLAND COUNTY

DRAWING TITLE:  
**FIBER CONNECTIVITY DETAILS**

DRAWER: **AJ** SHEET #:  
REVIEWER: **MM**  
DATE: **10/1/14** **A-4**





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**Pinnacle Telecom Group**  
 1400 KINGSLEY AVE., SUITE 200  
 CHESAPEAKE, VA 23041

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"X34" IF DRAWINGS ARE 17"X17" THEY ARE TO BE CONSIDERED HALF SCALE UNLESS NOTED ON THE DRAWING BELOW EACH DRAWING COMPONENT.

**STATE OF NEW JERSEY**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 40997

**MICHAEL MCGOWAN**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 40997

**MCGOWAN ENGINEERING**  
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KEY	DATE	REVISION DESCRIPTION	BY
△	10/14	FINAL	AJ
△	10/14	FOR REVIEW	AJ

PROJECT NO: **PL54XC656**  
 (2.5 EQUIPMENT DEPLOYMENT)

PROJECT LOCATION:  
 382 BUTLER AVE.  
 VINELAND, NJ 08360  
 CUMBERLAND COUNTY

DRAWING TITLE:  
**DC ELECTRICAL DETAILS**

DRFTER: **AJ** SHEET #  
 REVIEWER: **MM**  
 DATE: **10/14** **E-1**