Thursday, September 20, 2018

Connecticut Siting Council
Executive Director / Staff Attorney
10 Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification — 168 Katoona Lane Stamford CT, 06902 — SITE ID: CT03XC337S18.2

To Whom It May Concern:

- SAC Wireless, on behalf of Sprint, is requesting the necessary approvals from Connecticut Siting Council (CSC) our scope of work for an existing Sprint facility located at – 168 Katoona Lane Stamford, CT 06902. Scope of work is as follows:
    - Sprint is proposing to remove three (3) radios and swap three (3) existing antennas with three (3) new antennas and associated cabling. Install an equipment cabinet within Sprints existing leased space. Please see construction drawings for in-depth scope of work.
    - Site is located at the coordinates (Lat/Long): 41.05272499, -73.56281388
    - The underlying property owner of the site is American Tower Corporation
- RF Engineers have determined this minor modification is required to help increase the network for the residents and the workforce within the local jurisdiction by offering faster data transfer speeds, fewer dropped calls and higher capacity.
- CSC, please e-mail me any receipts for application fees and/or fees due after plan review, prior to permit issuance (check number 77298 for $625). If any questions or concerns arise, please contact me at (312) 971-7583.
- We greatly appreciate your help with this proposed Sprint facility upgrade.

CC:

City of Stamford
Mayor –
David R. Martin
Stamford Government Center
888 Washington Boulevard
10th Floor
Stamford, CT 06901

City of Stamford Zoning Officer –
David W. Woods, PhD, AICP
Stamford Government Center
888 Washington Boulevard
7th Floor
Stamford, CT 06901

City of Stamford Chief Building Official –
Bharat Gami
Stamford Government Center
888 Washington Boulevard
7th Floor
Stamford, CT 06901

Underlying Property Owner –
Maeve Carroll
American Tower Corp.
10 Presidential Way
Woburn, MA 01801

Matthew Spaccapaniccia | Zoning & Permitting Sub-Lead | O: (312) 971-7583
SAC Wireless, 540 W Madison, 9th Floor, Chicago IL 60661
matthew.spaccapaniccia@sacw.com | www.sacw.com

Sprint®

TM

PROJECT: SPRINT MASSIVE MIMO

SITE CASCADE: CT03XC337

SITE NAME: ATC TOWER

AUGMENT ID: CT03XC337S18.2

SITE ADDRESS: 168 CATOONA LANE
STAMFORD, CT 06902

SITE TYPE: 300' SELF-SUPPORT TOWER

DRAWING DESCRIPTION: FINAL CDs

Sprint
201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684-4000
FAX: (201) 684-4223

SAC WIRELESS A NOKIA™ COMPANY
540 W. MADISON ST.
9TH FLOOR
CHICAGO, IL 60661
www.sacw.com
312.895.4977

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
AE@westchesterservices.com

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

SITE INFORMATION

PROPERTY OWNER:
AMERICAN TOWER
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MA 02116

SITE ADDRESS:
168 CATOONA LANE
STAMFORD, CT 06902

COUNTY:
FAIRFIELD

LATITUDE (NAD83):
41° 03' 9.8" N (41.052725°)

LONGITUDE (NAD83):
73° 33' 46.1" W (-73.562814°)

PARCEL ID:
MAP: 119 BLOCK: 283 LOT: A
PARCEL ID#: 000-0370

ZONING JURISDICTION:
CONNECTICUT SITING COUNCIL

CURRENT ZONING:
R-5

CONSTRUCTION TYPE:
2B

OCCUPANCY USE GROUP:
U

ZONING ADDRESS:
168 CATOONA LANE
STAMFORD, CT 06902

ELECTRIC PROVIDER:
CONNECTICUT LIGHT & POWER
(800) 246-2000

BACKHAUL PROVIDER:
AT&T (800) 246-2020

SPRINT CM:
AHMED BASHIR

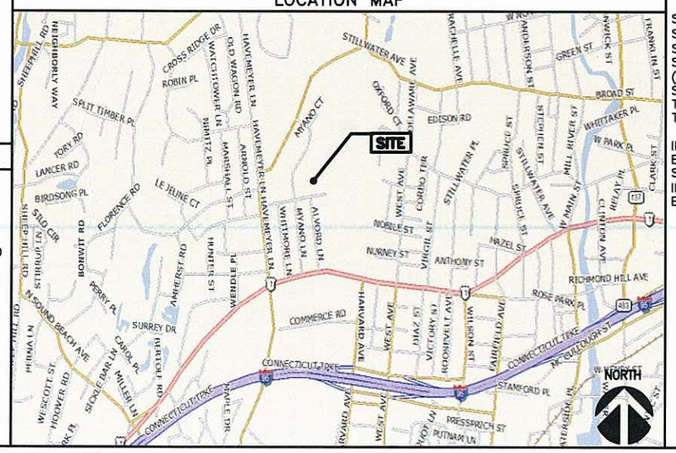
DIRECTIONS

FROM LAGUARDIA INTERNATIONAL AIRPORT, NY:

1. HEAD EAST. TAKE THE RAMP ONTO GRAND CENTRAL PKWY. TAKE EXIT 9E FOR NY-25A/NORTHERN BLVD/WHITESTONE EXPWY TOWARD INTERSTATE 678.
2. MERGE ONTO I-678 N. TAKE EXIT 15 TOWARD 20 AVE. MERGE ONTO WHITESTONE EXPY.
3. MERGE ONTO I-678 N VIA THE RAMP TO WHITESTONE BRIDGE/BRONX.
4. FOLLOW SIGNS FOR HUTCHINSON PKWY N/I-95 S/I-278 W/G WASHINGTON BRIDGE/MANHATTAN.
5. TAKE EXIT 6 FOR INTERSTATE 95 N TOWARD NEW HAVEN. EXIT 6 FOR HARVARD AVE.
6. TURN LEFT ON HARVARD AVE. TURN LEFT ON W MAIN ST. TURN RIGHT ONTO ALVORD LN.
7. CONTINUE STRAIGHT ONTO CATOONA LN.
8. DESTINATION WILL BE ON NORTH SIDE OF STREET.

AREA MAP

LOCATION MAP



PROJECT DESCRIPTION

EXISTING SPRINT EQUIPMENT TO BE REMOVED:

- REMOVE (3) EXISTING SPRINT 2.5 GHz ANTENNAS
- REMOVE (3) EXISTING SPRINT 2.5 GHz RADIOS
- REMOVE 1" CONDUIT W/(3) ETHERNET & FIBER CABLES

NEW SPRINT EQUIPMENT TO BE INSTALLED:

- INSTALL (3) NEW 2.5 GHz AIRSCALE MAA 64T64R 128AE B41 120W AAHC ANTENNAS
- INSTALL (3) NEW 0.82" HYBRID FIBER TRUNK CABLES, (9) NEW FIBER JUMPER CABLES AND (3) NEW SOOW POWER JUMPER CABLES (PER SPRINT GUIDELINES)
- INSTALL (1) NEW mMIMO JUNCTION BOX
- INSTALL (1) NEW SPRINT 9712U CABINET
- INSTALL (2) NEW mMIMO AIRSCALE BBU IN NEW 9712U CABINET
- INSTALL (1) NEW mMIMO AIRSCALE BBU IN EXISTING MMBTS CABINET

APPLICABLE CODES

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT OF THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

- 2015 INTERNATIONAL BUILDING CODE
- 2015 MECHANICAL CODE
- NFPA 780-LIGHTNING PROTECTION CODE
- 2015 UNIFORM BUILDING CODE
- 2014 NATIONAL ELECTRICAL CODE
- 2016 CONNECTICUT STATE BUILDING CODE
- 2016 CONNECTICUT STATE FIRE SAFETY CODE
- NFPA 70-2014 EDITION AS AMENDED BY THE STATE OF CONNECTICUT

SUBCONTRACTOR'S WORK SHALL COMPLY WITH LATEST EDITION OF THE FOLLOWING STANDARDS. AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81 GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

811
Know what's below.
Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR
www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

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ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

APPROVALS

SIGNER	SIGNATURE	DATE
SPRINT CONSTRUCTION MANAGER		
SPRINT OPERATIONS MANAGER		
SPRINT RF ENGINEER		
LANDLORD		

NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
0	07.27.18	PERMIT/CONSTRUCTION

DRAWN BY: JCS
CHECKED BY: JMB
JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF CONNECTICUT
JOHN M. BANKS
REGISTERED ARCHITECT
DATED: 09/04/18 NO SEAL EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID
CT03XC337S18.2

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

SECTION 01 100 – SCOPE OF WORK

THE WORK:

THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE CONSTRUCTION DRAWINGS AND ASSOCIATED OUTLINE SPECIFICATIONS AND THE SITE ACTION PLAN, DESCRIBE THE WORK TO BE PERFORMED BY THIS CONSTRUCTION CONTRACTOR (SUPPLIER).

PRECEDENCE:

SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

SITE FAMILIARITY:

CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

ON–SITE SUPERVISION:

THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

DRAWINGS REQUIRED AT JOBSITE:

THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

1. THE JOBSITE DRAWINGS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE UPLOADED TO SPRINTVISION UNDER THE HEADING OF "AS–BUILT" DRAWINGS.
2. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

FURNISHED MATERIALS:

COMPANY FURNISHED MATERIALS AND EQUIPMENT TO BE INSTALLED BY THE CONTRACTOR IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

RECEIPT OF MATERIAL AND EQUIPMENT:

1. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
   - A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
   - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
   - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
   - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY–FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
   - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
   - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF–LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

DELIVERABLES:

1. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
2. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

SECTION 01 300 – CELL SITE CONSTRUCTION

NOTICE TO PROCEED (NTP):

1. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S ISSUANCE OF THE WORK ORDER/PO.
2. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

GENERAL REQUIREMENTS FOR CONSTRUCTION:

1. 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.
2. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED AND "BROOM CLEANED" AND CLEAR OF DEBRIS.
3. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
   - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
   - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
4. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

SECTION 01 400 – TESTS, INSPECTIONS, SUBMITTALS, AND PROJECT CLOSEOUT

TESTS AND INSPECTIONS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
2. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - A. COAX SWEEPS AND FIBER TESTS.
   - B. POST CONSTRUCTION HEIGHT VERIFICATION, AZIMUTH AND DOWN TILT USING ELECTRONIC COMMERCIAL MADE–FOR–THE–PURPOSE ANTENNA ALIGNMENT TOOL SUCH AS SUNSIGHT INSTRUMENTS ANTENNA ALIGNMENT TOOL OR SPRINT APPROVED EQUAL.
   - C. CONCRETE BREAK TESTS.
   - D. SITE RESISTANCE TO EARTH TEST.
   - E. STRUCTURAL BACKFILL COMPACTION TESTS.
   - F. 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.
   - G. ADDITIONAL TESTING AS REQUIRED ELSEWHERE IN THIS SPECIFICATION.

SUBMITTALS:

1. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
2. UPLOAD THE FOLLOWING TO SPRINTVISION AS APPLICABLE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - A. CONCRETE MIX–DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
   - B. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
   - C. CHEMICAL GROUNDING SYSTEM.
   - D. REINFORCEMENT CERTIFICATIONS.
   - E. STRUCTURAL BACKFILL TEST RESULTS.
   - F. SWEEP AND FIBER TESTS.
   - G. ANTENNA AZIMUTH AND DOWN–TILT VERIFICATION.
   - H. POST CONSTRUCTION HEIGHT VERIFICATION.
   - I. ADDITIONAL SUBMITTALS MAY BE REQUIRED FOR SPECIAL CONSTRUCTION OR MINOR MATERIALS.
3. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

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 AND WAVEGUIDE. ALL COAXIAL CABLE AND ASSOCIATED HARDWARE SHALL BE INSTALLED BY OR UNDER THE DIRECT SUPERVISION OF MANUFACTURER TRAINED AND CERTIFIED PERSONNEL.

ANTENNAS AND REMOTE RADIO UNITS (RRU):

INSTALL EQUIPMENT FURNISHED BY COMPANY. REFER TO THE DRAWINGS FOR TYPES AND QUANTITIES OF PANEL AND MICROWAVE ANTENNAS AND RRUS TO BE INSTALLED.

MISCELLANEOUS RF EQUIPMENT:

INSTALL COMBINERS, FILTERS, COUPLERS, AND AMPLIFIERS, FURNISHED BY COMPANY, PER MANUFACTURERS' RECOMMENDATIONS.

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. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE. SUPER–FLEX CABLES AND JUMPERS MAY BE USED ON A LIMITED BASIS WHERE NEEDED AND ONLY IN ENCLOSED LOCATIONS. DO NOT USE SUPER–FLEX OUTDOORS.

HYBRID AND COAXIAL CABLE:

INSTALL HYBRID DC/FIBER CABLE AND COAXIAL CABLES, INCLUDING CONNECTORS, JUMPERS, AND CABLE TERMINATING DEVICES FURNISHED BY COMPANY. CABLE SHALL BE DELIVERED TO THE JOB SITE OR TO THE COMPANY'S DESIGNATED LOCATION. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

RF DATA SHEETS:

RF DATA INFORMATION ON THE DRAWINGS WILL PROVIDE A COMPLETE LIST OF EQUIPMENT FURNISHED BY COMPANY TO BE INSTALLED BY CONTRACTOR.

REMOTE ELECTRICAL TILT (RET) CABLES:

FURNISH INSTALL RET CABLE AND CONNECTORS BETWEEN RRU AND ANTENNAS. CABLE SHALL BE AS REQUIRED BY MANUFACTURER.

ANTENNA MOUNTS:

1. FURNISH AND INSTALL ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.
2. EXCEPT AS OTHERWISE REQUIRED, BALLAST MOUNTS FOR ROOFTOP APPLICATIONS SHALL BE VALMONT/MICROFLECT NO. 31–99540 (12 FOOT SEPARATION) OR SPRINT APPROVED EQUAL.
3. FACADE–MOUNTED ANTENNAS SHALL COMPLY WITH SITE–SPECIFIC MOUNTING REQUIREMENTS INDICATED ON THE DRAWINGS.

HYBRID AND COAXIAL CABLE INSTALLATION:

1. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL COAXIAL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. THE ROUTING OF THE CABLES SHALL BE CHECKED FOR INTERFERENCE WITH OTHER TOWER APPURTENANCES BEFORE INSTALLATION AND VERTICAL WAVEGUIDE/COAX HANGERS SHALL BE INSTALLED ON THE TOWER WAVEGUIDE LADDER.
3. CABLES SHALL BE HOISTED, CONNECTED TO THE RRU/ANTENNA FEED, SECURED TO THE HANGERS, AND ORIENTED TO PROVIDE THE CORRECT ENTRANCE PLANE TO THE EQUIPMENT CABINET. THE FIELD TERMINATED CABLES SHALL THEN BE CUT TO THE APPROPRIATE LENGTH TO REACH THE EQUIPMENT. FOR FACTORY TERMINATED CABLES, COIL ANY EXCESS IN A HORIZONTAL PLANE UNDER THE ICE BRIDGE OR GROUND PLATFORM AND SECURE TO MINIMIZE VANDALISM RISK.
4. CABLES SHALL BE GROUNDED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS AND MANUFACTURER'S REQUIREMENTS.
5. CABLES SHALL BE ROUTED IN ACCORDANCE WITH THE STRUCTURAL REQUIREMENTS. IF POSSIBLE, CABLES SHALL BE ROUTED ON THE INSIDE OF MONOPOLES OR DOWN THE WAVEGUIDE LADDER IN A MANNER THAT WILL PREVENT OBSTRUCTION OF THE CLIMBING LADDER. ADDITIONALLY, THE CABLES SHALL BE POSITIONED IN THE BEST POSSIBLE LOCATION TO PROTECT IT FROM DAMAGE. THE BENDING RADIUS OF THE CABLES HALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS.
6. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION. THE COMPANY WILL FURNISH TO THE CONTRACTOR PORT ASSIGNMENTS, IF APPLICABLE, PRIOR TO WAVEGUIDE INSTALLATION.
   - A. WAVEGUIDE LADDER (LATTICE TOWERS ONLY): WAVEGUIDE LADDERS SHALL BE USED TO SUPPORT ALL COAXIAL CABLE, MICROWAVE WAVEGUIDE CABLE AND ANY BASEBAND CABLE ON THE TOWER). ONE LADDER, 18 CABLES WIDE, SHALL BE MOUNTED ON THE TOWER PER THE TOWER STRUCTURAL REQUIREMENTS. THE RUNGS ON THE WAVEGUIDE LADDERS SHALL BE SPACED A MAXIMUM OF 4 FEET APART.
   - B. ICE BRIDGE: AS SHOWN ON THE DRAWINGS, PROVIDE AN ICE BRIDGE BETWEEN THE TOWER AND THE SHELTER OR GROUND CABINETS TO SUPPORT ALL CABLING. USE STAINLESS STEEL SNAP–IN TYPE HANGERS OR COAX BLOCKS WITH GROMMETS TO SUPPORT CABLES ON THE ICE BRIDGE. PROVIDE A DRIP LOOP IN ALL CABLING BETWEEN THE BASE OF THE TOWER AND THE ICE BRIDGE.
   - C. FASTENING CABLES: CABLES SHALL BE RAISED ON THE TOWER USING PROPERLY SIZED

SPLIT TYPE, LACE–UP HOISTING SOCKS ATTACHED TO EACH CABLE EVERY 200FT EXCEPT AS OTHERWISE REQUIRED BY MANUFACTURER. INSIDE MONOPOLES, ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE TOWER USING A HOISTING SOCK AT THE TOP OF THE TOWER. FOR MONOPOLE TOWERS WITH SUPPORTING MEANS AT MIDPOINT, PROVIDE ADDITIONAL HOISTING SOCK. ON LATTICE TOWERS OR FOR CABLES MOUNTED ON THE OUTSIDE OF MONOPOLES, USE STAINLESS STEEL (NON MAGNETIC) SNAP IN TYPE CABLE HANGERS OR COAX BLOCKS WITH GROMMETS AT EACH WAVE GUIDE LADDER RUNG. DO NOT DRILL HOLES IN TOWER MEMBERS, USE ANGLE MEMBER ADAPTERS AND STAINLESS STEEL BUTTERFLY CLIPS, TO ATTACH CABLING TO TOWER. MAKE SURE THAT THERE IS NO STRAIN ON ANY CABLE CONNECTOR DUE TO THE CABLE WEIGHT. CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN A NEAT AND ORDERLY MANNER. AVOID TWISTING AND CROSSOVERS IN THE BUILDING, ALONG THE TOWER FACE, AND WAVEGUIDE RACEWAYS. EXCEPT INSIDE MONOPOLES, SECURE CABLE AT MAXIMUM SPACING OF 36" ON CENTER HORIZONTALLY AND 48" ON CENTER VERTICALLY, EXCEPT AS OTHERWISE REQUIRED BY CABLE MANUFACTURER MAKING SURE THAT THE CABLE WEIGHT IS EQUALLY DISTRIBUTED AND NO STRAIN IS PLACED ON CONNECTORS OR ANTENNAS. HOIST CABLE USING PROPER HOISTING GRIPS. HOIST SLOWLY AND CAREFULLY. PREVENT KINKING AND SNAGS WHEN AROUND TOWER MEMBERS. BEND CABLE SLOWLY AT THE MAXIMUM PRACTICAL BEND RADIUS CONSISTENT WITH GOOD INSTALLATION PRACTICE. AVOID USING MINIMUM CABLE BENDS.

a. SUPPORT INDIVIDUAL FIBER AND DC POWER CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA) AT TOWER TOP, INSIDE MMBTS, AND AT ANY INTERMEDIATE FIBER/DC DISTRIBUTION BOXES.

b. SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH ON 18" CENTERS. VELCRO STRAPS SHALL BE OIL, UV AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR EQUAL.

c. SUPPORT DC BUNDLES ON 18" CENTERS WITH ZIP–TIES OF ADEQUATE LENGTH. ZIP–TIES SHALL BE UV STABILIZED, BLACK NYLON WITH A TENSILE STRENGTH OF 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.

D. BENDING RADIUS: CABLES SHALL NOT EXCEED THE MINIMUM BENDING RADIUS AS DETERMINED BY THE CABLE MANUFACTURER.

E. TERMINATION AT SHELTER AND ENTRY PLATE:

a. ALL CABLING SHALL ENTER THE BUILDING THROUGH THE WAVEGUIDE ENTRY PLATE AND BE PROPERLY WEATHER SEALED WITH A CABLE BOOT FABRICATED FOR THE SIZE OF THE CABLE OR WITH ROXTEC BLOCKS. CABLE BOOTS ARE NOT TO BE CUT TO FIT IN THE FIELD. COAXIAL CABLES SHALL BE TERMINATED WITHIN 18 INCHES INSIDE THE SHELTER AND FITTED WITH A SURGE SUPPRESSOR.

b. CABLE PORT ASSIGNMENTS FOR SHELTER SITES: CABLES SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND CONSISTENT WITH TS–0200.

F. GROUNDING OF CABLES: ALL CABLES SHALL BE GROUNDED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.

G. CABLE CONNECTIONS:

a. CLEAN FIBER CONNECTORS AS REQUIRED IN EL–0568.

b. FOR FIELD FABRICATIONS USE ONLY CABLE CONNECTORS RECOMMENDED BY THE CABLE MANUFACTURER AND REQUIRED BY THE EQUIPMENT BEING CONNECTED.

c. EXCEPT AS OTHERWISE REQUIRED, CONNECTORS FOR ALL MAIN STATION ANTENNA CABLES SHALL BE 7/16 DIN.

d. d.EXCEPT AS OTHERWISE REQUIRED, CONNECTORS FOR GPS ANTENNAS SHALL BE TYPE N.

e. CONNECTORS FOR MICROWAVE ANTENNAS, UNLESS OTHERWISE NOTED, SHALL BE TYPE N.

f. INSTALL AND TIGHTEN CONNECTORS PER MANUFACTURER'S INSTRUCTIONS.

H. COLOR CODING OF CABLES: COMPLY WITH TS–0200 AND THE RF DATA SHEETS ON THE DRAWINGS.

I. ALPHA–NUMERIC LABELING OF CABLES: COMPLY WITH EN–2012–001.

WEATHERPROOFING CONNECTORS AND GROUND KITS:

1. ALL COAX CONNECTORS, FIBER CONNECTORS AND INSTALLED CABLE GROUND KITS SHALL BE WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. SPRINTS PREFERENCE IS THE USE OF MATERIAL CALLED OUT IN ITEM 1 BELOW. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.
   - A. WEATHER PROOFING BOOTS FROM APPROVED VENDORS SUCH AS 3M, AMPHENOL, RFS, FCT MOLEX, JMA AND COMMSCOPE. SUBSTITUTIONS WILL NOT BE ALLOWED.
   - B. 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.
   - C. 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.
   - D. HEAT SHRINK TUBING REQUIRING OPEN FLAME ON THE SITE IS NOT ACCEPTABLE.

WEATHERPROOFING CONNECTORS AND GROUND KITS:

SUMMARY:

1. THIS SECTION SPECIFIES MMBS AND RELATED EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR.
2. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND LABOR REQUIRED FOR INSTALLATION OF THE MMBS CABINET AND RELATED EQUIPMENT.
3. ALL WORK PROVIDED BY CONTRACTOR SHALL BE IN COMPLIANCE WITH THE CONSTRUCTION DRAWINGS AND DETAILS, SITE SPECIFIC CONTRACT DOCUMENTS, AND THESE SPECIFICATIONS.

Sprint
201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684–4000
FAX: (201) 684–4223

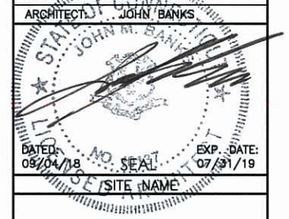
SAC WIRELESS
A NOKIA COMPANY
540 W. MADISON ST.
9TH FLOOR
CHICAGO, IL 60661
www.sacw.com
312.895.4977

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
AE@westchesterservices.com

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
JBANKS@WESTCHESTERSERVICES.COM

NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
0	07.27.18	PERMIT/CONSTRUCTION

DRAWN BY:	JCS
CHECKED BY:	JMB
JOB NUMBER:	CT03XC337
ARCHITECT:	JOHN BANKS



SITE NAME

ATC TOWER

SITE NUMBER

CT03XC337

SITE LOCATION

168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID

CT03XC337S18.2

SHEET TITLE

SPRINT CONSTRUCTION SPECIFICATIONS

SHEET NUMBER

T-2

SECTION 26 100 – BASIC ELECTRICAL REQUIREMENTS

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

QUALITY ASSURANCE:
1. ALL EQUIPMENT FURNISHED BY DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
2. 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.

SUPPORTING DEVICES:
1. FURNISH AND INSTALL STEEL SUPPORTS AND FRAMES CONNECTED WITH WELDS AND/OR MACHINE BOLTS WITH WOOD BACK PANELS FOR MOUNTING ALL ELECTRICAL EQUIPMENT INCLUDING PANEL BOARDS, SWITCHES, STARTERS, CONTACTORS, AND CONTROLS AS REQUIRED AND AS APPROVED BY THE ENGINEER.
2. FURNISH AND INSTALL ANGLE IRON FRAMES BOLTED TO FLOOR OR WALL FOR MOUNTING ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER DIVISIONS TO BE INSTALLED BY DIVISION 26 WHERE NECESSARY.
3. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
   a. ALLIED TUBE AND CONDUIT
   b. B–LINE SYSTEMS
   c. UNISTRUT DIVERSIFIED PRODUCTS
   d. THOMAS & BETTS
4. COATINGS: SUPPORTS, SUPPORT HARDWARE, AND FASTENERS SHALL BE PROTECTED WITH ZINC COATING OR WITH TREATMENT OF EQUIVALENT CORROSION RESISTANCE USING APPROVED ALTERNATIVE TREATMENT, FINISH, OR INHERENT MATERIAL CHARACTERISTICS. PRODUCTS FOR USE OUTDOORS SHALL BE HOT–DIP GALVANIZED.
5. RACEWAY SUPPORTS: CLEVIS HANGERS, RISER CLAMPS, CONDUIT STRAPS, THREADED C–CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, AND SPRING STEEL CLAMPS.
6. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
   a. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
   b. TOGGLE BOLTS: ALL STEEL SPRINGHEAD TYPE.
   c. POWER–DRIVEN THREADED STUDS: HEAT–TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
   d. FASTEN BY MEANS OF WOOD SCREWS ON WOOD,
   e. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
   f. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING–TENSION CLAMPS ON STEEL.
   g. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
   h. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
   i. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

SUPPORTING DEVICES:

1. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
2. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
3. RACEWAY SUPPORTS SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS FOR SELECTION AND INSTALLATION OF SUPPORTS.
4. THE STRENGTH OF EACH SUPPORT SHALL BE ADEQUATE TO CARRY THE PRESENT AND FUTURE LOAD MULTIPLIED BY A SAFETY FACTOR OF AT LEAST FOUR. WHERE THIS DETERMINATION RESULTS IN A SAFETY ALLOWANCE OF LESS THAN 200 POUNDS, PROVIDE ADDITIONAL STRENGTH UNTIL THERE IS A MINIMUM OF 200 POUNDS SAFETY ALLOWANCE IN THE STRENGTH OF EACH SUPPORT.
5. INSTALL INDIVIDUAL AND MULTIPLE (TRAPEZE) RACEWAY HANGERS AND RISER CLAMPS AS NECESSARY TO SUPPORT THE RACEWAYS. PROVIDE U–BOLTS, CLAMPS, ATTACHMENTS, AND OTHER HARDWARE NECESSARY FOR HANGER ASSEMBLY AND FOR SECURING HANGER RODS AND CONDUITS.
6. SUPPORT PARALLEL RUNS OF HORIZONTAL RACEWAYS TOGETHER ON TRAPEZE–TYPE HANGERS.
7. SUPPORT MISCELLANEOUS ELECTRICAL COMPONENTS AS REQUIRED TO PRODUCE THE SAME STRUCTURAL SAFETY FACTORS AS SPECIFIED FOR RACEWAY SUPPORTS. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANEL BOARDS, DISCONNECTS, CONTROL ENCLOSURES, PULL BOXES, JUNCTION BOXES, TRANSFORMERS AND OTHER DEVICES.
8. IN OPEN OVERHEAD SPACES, CAST BOXES THREADED TO RACEWAYS NEED NOT BE SUPPORTED SEPARATELY EXCEPT WHERE USED FOR FIXTURE SUPPORT. SUPPORT SHEET METAL BOXES DIRECTLY FROM THE BUILDING STRUCTURE OR BY BAR HANGERS. WHERE BAR HANGERS ARE USED, ATTACH THE BAR TO RACEWAYS ON OPPOSITE SIDES OF THE BOX AND SUPPORT THE RACEWAY WITH A LISTED TYPE OF FASTENER NOT MORE THAN 24" (600 MM) FROM THE BOX.
9. INSTALL CONDUIT SEALING FITTINGS FOR CONDUIT PENETRATIONS OF CONCRETE WALL EXTERIOR OR BELOW GRADE AS SPECIFIED OR REQUIRED BY CODE.
10. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
    a. FASTEN BY MEANS OF WOOD SCREWS ON WOOD,
    b. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
    c. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
    d. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING–TENSION CLAMPS ON STEEL.
    e. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
    f. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
    g. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.
11. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
12. USE VIBRATION AND SHOCK–RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

ELECTRICAL IDENTIFICATION:
1. DURING TRENCH BACKFILLING, FOR EXTERIOR UNDERGROUND POWER, CONTROLS, SIGNAL, AND COMMUNICATIONS LINES, INSTALL CONTINUOUS UNDERGROUND PLASTIC LINE MARKER, LOCATED DIRECTLY ABOVE THE LINE AT A BURIAL DEPTH OF 2 FEET BELOW FINISHED GRADE. INSTALL TWO LINE MARKERS 6" IN FROM THE EDGE OF EACH TRENCH WHERE THE TRENCH EXCEEDS 16" IN WIDTH. INSTALL LINE MARKERS FOR ALL UNDERGROUND ELECTRICAL TRENCHES REGARDLESS OF VOLTAGE OR MATERIAL.
2. PROVIDE TYPED CIRCUIT SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF PANEL BOARDS.
3. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANEL BOARD.

SECTION 26 200 – ELECTRICAL MATERIALS AND EQUIPMENT

CONDUIT:
1. 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 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. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND AND SHALL BE GROUNDED PER CURRENT NEC SPECIFICATIONS. CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER, WHO SHALL HAVE A MINIMUM OF FIVE YEARS' EXPERIENCE PRODUCING THE MATERIAL.
2. EXTERIOR UNDERGROUND CONDUIT SHALL BE POLYVINYLCHLORIDE (PVC) SCHEDULE 80 OR DIRECT BURIAL RATED. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR EQUAL. CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER, WHO SHALL HAVE A MINIMUM OF FIVE YEARS' EXPERIENCE PRODUCING THE MATERIAL.
3. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN CONCEALED SPACES ABOVE CEILINGS OR WITHIN WALLS AND EXPOSED IN SPRINT SHELTERS. 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 EQUAL.
4. FLEXIBLE CONDUIT IS NOT INTENDED TO FULLY REPLACE RIGID CONDUIT IN A CIRCUIT. LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT (LFMC) IS ONLY PERMISSIBLE FOR MAKING FINAL CONNECTIONS TO CABINETS AND ENCLOSURES. MAXIMUM LENGTH OF FLEXIBLE CONDUIT SHALL NOT EXCEED 6 FEET IN LENGTH. THE LENGTH OF THE FLEXIBLE CONDUIT CAN BE BROKEN UP INTO TWO 3 FOOT LENGTHS WITH 3 FEET AT EITHER END. LIQUIDTIGHT FLEXIBLE NON–METALLIC CONDUIT (LFNC) IS PERMISSIBLE ONLY FOR DEDICATED GROUNDING CONDUITS SUCH AS GROUNDING CONNECTIONS TO TOWERS, STEEL STRUCTURES, GROUND BARS, CABINET GROUND POINTS, ETC. FLEXIBLE CONDUITS SHALL NOT BE USED WHERE SUBJECT TO MECHANICAL DAMAGE AND SHALL BE SUPPORTED AS REQUIRED BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE (HYSPAN) OR UNIVERSAL METAL HOSE, SOUTHWIRE, OR EQUAL. LIQUIDTIGHT FLEXIBLE CONDUIT (LMFC) SHALL BE UL LISTED, OIL RESISTANT, SUNLIGHT RESISTANT, WATERPROOF, AND TEMPERATURE RATED –30C TO +80C.
5. CONDUITS MUST BE SUPPORTED WITHIN 12" OF THE CONNECTION TO CABINETS AND ENCLOSURES TO REDUCE THE STRAIN ON FITTINGS. CONDUITS MUST BE ADEQUATELY SUPPORTED AT 24" CENTERS FOR HORIZONTAL RUNS AND 36" CENTERS FOR VERTICAL RUNS AND MUST BE PROTECTED FROM PHYSICAL DAMAGE. CONDUITS MUST NOT BE ROUTED OVER PLATFORMS AND SLABS AS THIS CREATES A WORKER TRIP HAZARD AND HAS RESULTED IN OSHA REPORTABLE ACCIDENTS, WORKER INJURIES, AND EXCESSIVE LIABILITY FOR SPRINT. CONDUITS MUST ALSO NOT BE IS INSTALLED WITHIN EQUIPMENT AND PERSONNEL INGRESS OR EGRESS PATHWAYS AND IS NOT PERMISSIBLE WITHIN THE OSHA REQUIRED WORKING SPACES IN FRONT OF OR BEHIND CABINETS AND ENCLOSURES.
6. ALL FITTINGS USED FOR CONNECTION TO CABINETS AND ENCLOSURES MUST BE METALLIC AND INCLUDE PLASTIC BUSHINGS TO PREVENT CABLE JACKET ABRASION.
7. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH.

BOXES AND COVERS:
1. PULL AND JUNCTION BOXES SHALL BE SIZED IN ACCORDANCE WITH NEC REQUIREMENTS AND SHALL BE INSTALLED SO THAT THE CONDUCTORS IN THEM ARE ACCESSIBLE WITHOUT REMOVING ANY PART OF THE STRUCTURE.
2. INTERIOR SWITCH AND OUTLET BOXES FLUSH MOUNTED IN FINISHED AREAS SHALL BE CODE GAUGE PRESSED PLATED STEEL, MIDLAND ROSS OR APPROVED EQUAL, SUITABLE FOR THE DEVICE TO BE INSTALLED. COVERS SHALL BE AS HEREINAFTER SPECIFIED IN PARAGRAPH "DEVICE PLATES IN FINISHED AREAS."
3. DEVICE AND PULL BOXES SURFACE–MOUNTED ABOVE ACCESSIBLE CEILINGS AND WITHIN UNFINISHED ENCLOSED MECHANICAL ROOMS SHALL BE AS SPECIFIED ABOVE SIZED FOR THE CONDUCTORS WITHIN AND SHALL HAVE PRESSED PLATED STEEL SCREW ATTACHED COVERS.
4. INTERIOR SWITCH, AND OUTLET BOXES SURFACE MOUNTED IN UNFINISHED INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, THREADED, SUITABLE FOR THE DEVICE TO BE INSTALLED, CROUSE–HINDS FS/FD SERIES OR APPROVED EQUAL. COVERS SHALL BE SCREW ATTACHED PLATED IRON ALLOY SUITABLE FOR THE BOX AND DEVICE. SWITCH PLATE COVERS SHALL BE "GUARDED" STYLE.
5. PULL AND JUNCTION BOXES, ABOVE GRADE, EXTERIOR TO THE BUILDING AND IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, THREADED, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE–HINDS WAB SERIES OR EQUAL.
6. PULL BOXES IN EARTH SHALL BE FIBERGLASS OR COMPOSITE, OPEN BOTTOM COFFINS, INSTALLED IN EARTH ON GRAVEL BEDS AS INDICATED ON THE DRAWINGS AND RATED FOR PEDESTRIAN OR VEHICULAR TRAFFIC AS REQUIRED.
7. CONDUIT OUTLET BODIES AND CONDULETS SHALL BE PLATED, THREADED, 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.
8. EXTERIOR SWITCH AND OUTLET BOXES SHALL BE RECESSED MOUNTED EXCEPT AS NOTED, CAST ALUMINUM OR PLATED CAST ALLOY WITH WET LOCATION, CROUSE–HINDS SERIES WLRD COVERS, OR EQUAL. MASONRY BOXES MOUNTED RECESSED IN EXTERIOR WALL SHALL BE FURNISHED WITH WEATHERPROOF COVERS.
9. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE–HINDS, COOPER, ADALET, APPLETON, O–Z GEDNEY, OR RACO.

GROUNDING:
1. ELECTRICAL SERVICES, CIRCUITS AND SYSTEMS, ENCLOSURES AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. GROUNDING SHALL BE PROVIDED AS INDICATED FOR FEEDER, BRANCH CIRCUIT, CONTROL, AND INSTRUMENT CIRCUITS.
3. EQUIPMENT GROUNDING CONDUCTOR: FURNISH AND INSTALL A SEPARATE INSULATED GREEN WIRE GROUNDING CONDUCTOR IN CONDUIT WITH CIRCUIT CONDUCTORS FOR ALL FEEDERS AND BRANCH CIRCUITS.
4. SEPARATELY DERIVED AC SYSTEMS THAT ARE REQUIRED TO BE GROUNDED BY THE NEC SHALL BE GROUNDED IN ACCORDANCE WITH PARAGRAPH 250–26 OF THE NEC.
5. FURNISH AND INSTALL INSULATED COPPER GROUND CONDUCTORS IN CONDUIT FROM MAIN ELECTRICAL SERVICE EQUIPMENT OR ELECTRICAL ROOM GROUND BUS AND CONNECT TO MAIN METALLIC WATER SERVICE ENTRANCE (IF AVAILABLE) WITH GROUND CLAMPS. CONNECT GROUND CONDUCTOR TO THE STREET SIDE OF WATER MAIN WHERE A DIELECTRIC MAIN WATER FITTING IS INSTALLED.
6. FURNISH AND INSTALL GROUND FAULT PROTECTION WHERE REQUIRED BY CODE AND AS REQUIRED BY THE SPECIFICATIONS AND DRAWINGS. INSTALLATION OF GROUND FAULT PROTECTION SHALL BE IN ACCORDANCE WITH NEC.
7. FURNISH AND INSTALL SUPPLEMENTAL CELL SITE GROUNDING SYSTEMS AS INDICATED ON THE DRAWINGS.

EXISTING STRUCTURE:
1. 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.
2. EXISTING EQUIPMENT THAT IS NOT TO BE REUSED SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE COMPANY IF COMPANY WISHES TO RETAIN OWNERSHIP OF SAME. IF NOT, EQUIPMENT SHALL BECOME THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
3. WHEN EXISTING CONDUIT, WIRING OR ANY OUTLET, RECEPTACLE, SWITCH, ETC., THAT IS TO BE UTILIZED IN THE COMPLETED PROJECT CONFLICTS WITH CONSTRUCTION, IT SHALL BE RELOCATED AND RECONNECTED TO MAINTAIN THE DESIRED SERVICE.
4. THIS CONTRACTOR SHALL GIVE FULL COOPERATION IN THE SCHEDULING AND PROCEDURE OF WORK. SERVICE SHALL NOT BE INTERRUPTED WITHOUT APPROVAL OF THE COMPANY.

CONDUIT AND CONDUCTOR INSTALLATION:
1. CONDUIT SHALL BE SIZED AS REQUIRED BY NEC AND SHALL BE INSTALLED CONTINUOUS AND COMPLETE FROM OUTLET TO OUTLET, PANELS AND JUNCTION BOXES.
   a. IN ORDER TO 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 IN EXPOSED LOCATIONS EXCEPT AS OTHERWISE INDICATED, AND IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE.
   b. OTHER CHANGES IN DIRECTION SHALL BE MADE WITH TRADE ELBOWS, KEEPING CONDUITS

GROUPED IN TIGHT ENVELOPES FOLLOWING THE LINES OF THE STRUCTURE AND MAINTAINING CLOSE PROXIMITY TO THE STRUCTURE EXCEPT AS OTHERWISE INDICATED, AND IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE.
   c. ROUTE CONDUITS ACCORDING TO THE ENVELOPES, AREAS, DETAILS AND SECTIONS, IF

ANY, IDENTIFIED ON THE DRAWINGS.
2. 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. CONDUITS SHALL BE CONCEALED IN FINISHED AREAS. CONDUIT SHALL BE EXPOSED IN UNFINISHED AREAS.
3. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. CONDUIT SHALL BE INSTALLED AS REQUIRED BY THE DESIGN OF THE STRUCTURE AND PLACED IN CONCRETE FORMS SO AS NOT TO INTERFERE WITH REINFORCING OR STRENGTH OF SLABS, JOISTS OR BEAMS. CONDUIT SHALL CLEAR ALL PIPES AND DUCTS AND DEPRESSIONS IN FLOORS. PERMISSION OF ENGINEER SHALL BE OBTAINED AS TO LOCATION OF CONDUIT IN REINFORCED CONCRETE SLABS, JOISTS AND BEAMS.
4. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING.
5. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
6. EMT CONDUITS (IF ALLOWED) SHALL HAVE APPROVED EMT THREADED TYPE BOX CONNECTORS AND COUPLINGS. SET SCREW CONNECTORS AND COUPLINGS SHALL NOT BE ACCEPTABLE.
7. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE. WHERE MORE THAN ONE CONDUCTOR IS INSTALLED IN THE SAME CONDUIT ALL CONDUCTORS WITHIN THE CONDUIT SHALL BE PULLED SIMULTANEOUSLY. PULL SHALL NOT DEFORM CONDUCTORS. APPROVED TYPE LUBRICANT MAY BE USED IN PULLING CONDUCTORS WHERE REQUIRED.
8. SPLICES AND TAPS SHALL BE KEPT TO A MINIMUM AND MADE IN ACCORDANCE WITH THE NEC.
9. WHERE CONDUIT CROSSES AN EXPANSION JOINT, AN EXPANSION AND DEFLECTION FITTING SHALL BE INSTALLED IN THE CONDUIT.
10. PROVIDE "MULE TAPE" PULL STRING IN ALL EMPTY CONDUITS.
11. PVC CONDUITS SHALL BE INSTALLED USING FITTINGS, SOLVENTS, GLUES, AND METHODOLOGY AS RECOMMENDED BY THE MANUFACTURER.
12. PROVIDE ADEQUATE LENGTH OF CONDUCTORS WITHIN ELECTRICAL ENCLOSURES AND TRAIN THE CONDUCTORS TO TERMINAL POINTS WITH NO EXCESS. DO NOT BEND CONDUCTORS SHARPER THAN EIGHT TIMES THE CABLE OUTSIDE DIAMETER. MAKE TERMINATIONS SO THERE IS NO BARE CONDUCTOR AT THE TERMINAL. BUNDLE MULTIPLE CONDUCTORS, WITH CONDUCTORS LARGER THAN NO. 10 AWG IN INDIVIDUAL CIRCUIT BUNDLES.
13. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS TO COMPLY WITH TIGHTENING TORQUES SPECIFIED IN UL 486A AND 486B.

Sprint
201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684–4000
FAX: (201) 684–4223

SAC WIRELESS A NOKIA™ COMPANY
540 W. MADISON ST.
9TH FLOOR
CHICAGO, IL 60661
www.sacw.com
312.895.4977

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
AE@westchesterservices.com

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847–277–0070
FAX : 847–277–0080
JBANKS@WESTCHESTERSERVICES.COM

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CHECKED BY:	JMB
JOB NUMBER:	CT03XC337
ARCHITECT:	JOHN BANKS

STATE OF ILLINOIS JOHN M. BANKS REGISTERED ARCHITECT SEAL

DATED: 09/04/18 EXP. DATE: 07/31/19

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SPRINT CONSTRUCTION SPECIFICATIONS

SHEET NUMBER
T-3

OVERALL SITE PLAN

0 3" 6"

SCALE: 3/16"=1'-0" (11x17)
(OR) 3/8"=1'-0" (22x34)

2

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201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684-4000
FAX: (201) 684-4223

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BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
AE@westchesterservices.com

JOHN M. BANKS ARCHITECT

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
0	07.27.18	PERMIT/CONSTRUCTION

DRAWN BY: JCS
CHECKED BY: JMB
JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF CONNECTICUT
JOHN M. BANKS
LICENSED ARCHITECT

DATED: 09/04/18 SEAL EXP. DATE: 07/31/19

SITE NAME

ATC TOWER

SITE NUMBER

CT03XC337

SITE LOCATION

168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID

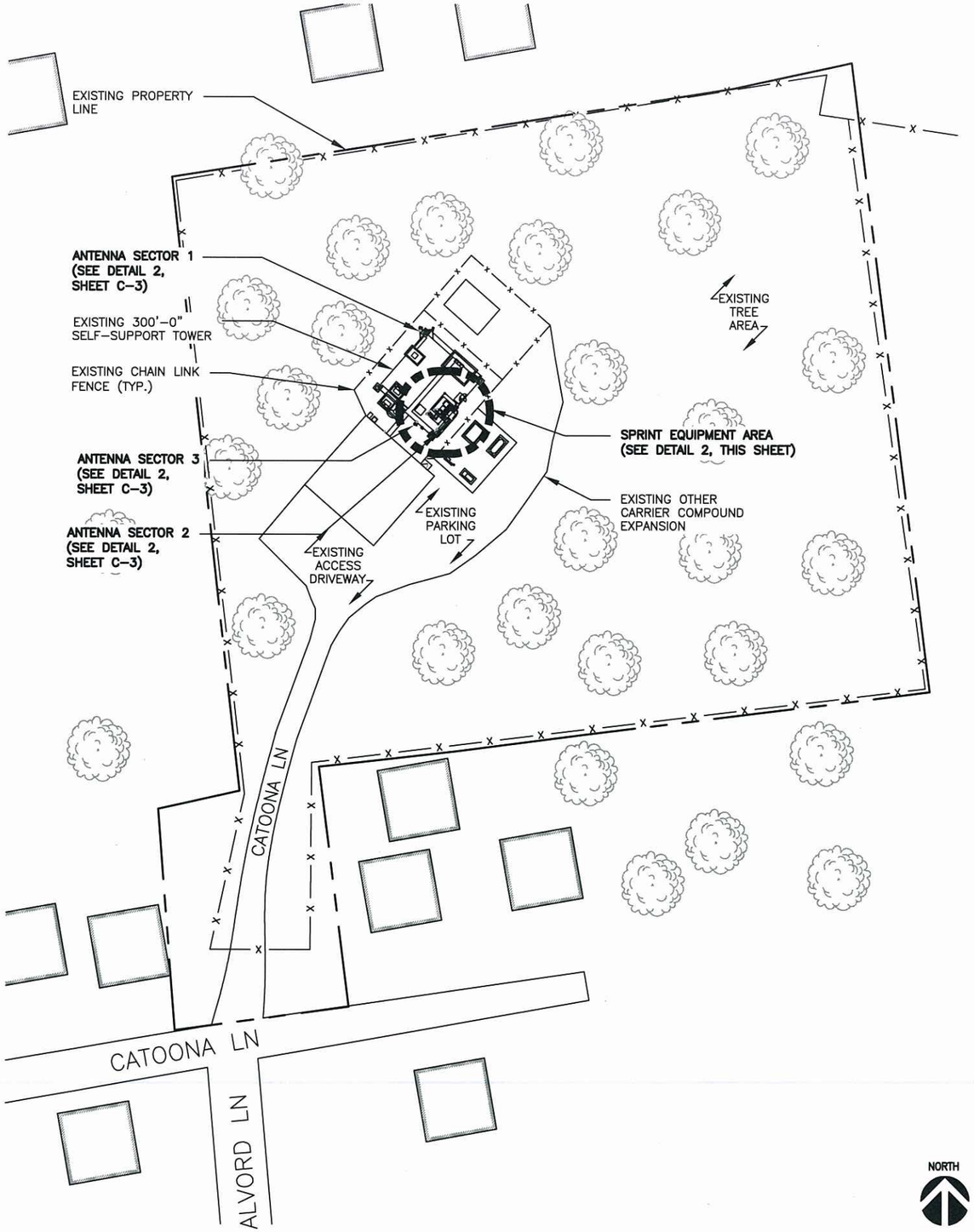
CT03XC337S18.2

SHEET TITLE

PARCEL MAP

SHEET NUMBER

C-1

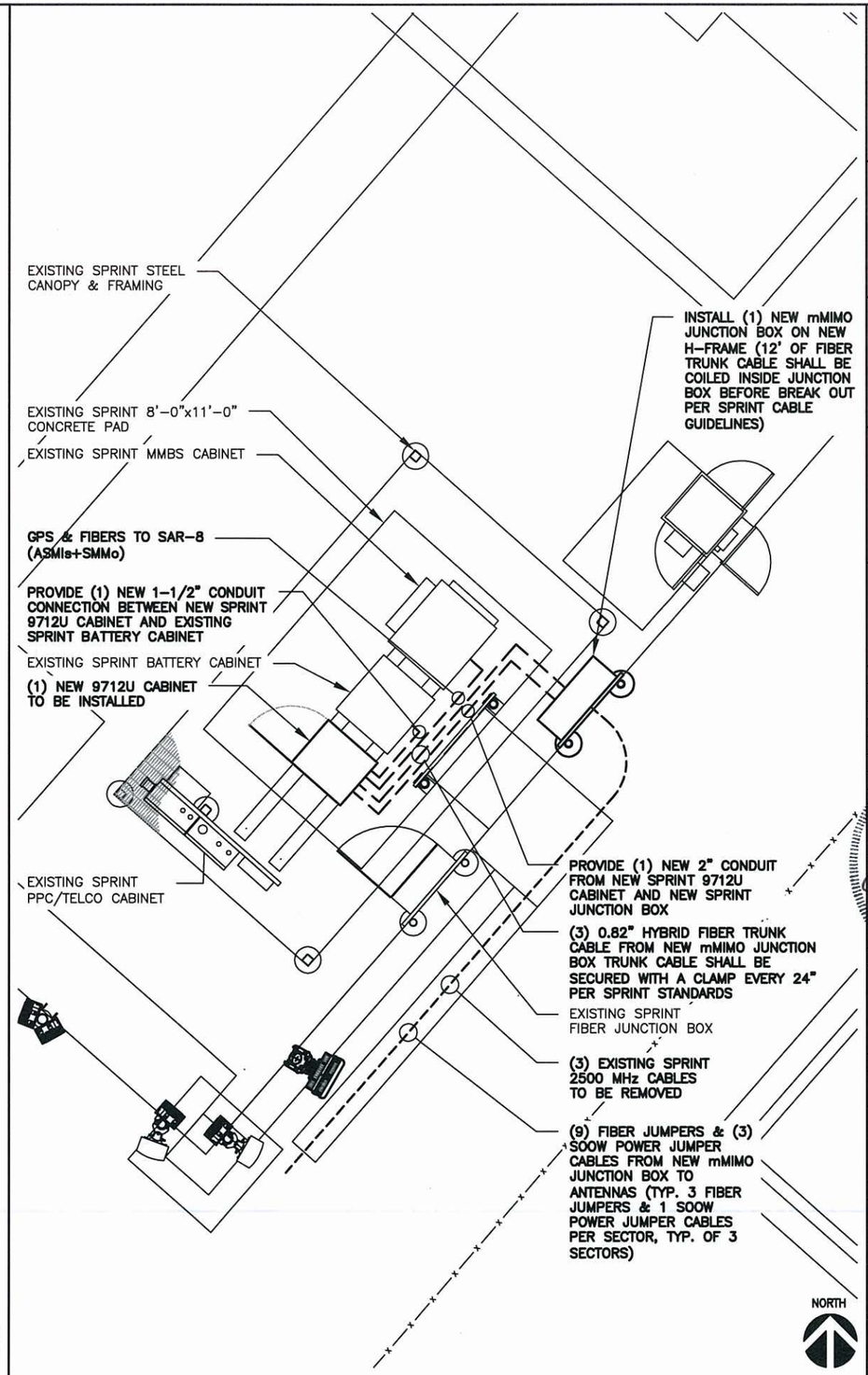


OVERALL SITE PLAN

0 5' 15' 30'

SCALE: 1"=30'-0" (11x17)
(OR) 2"=30'-0" (22x34)

1



NEW EQUIPMENT PLAN

0 3' 6'

SCALE: 3/16"=1'-0" (11x17)
(OR) 3/8"=1'-0" (22x34)

2

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201 STATE ROUTE 17 NORTH
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9TH FLOOR
CHICAGO, IL 60661
www.sacw.com
312.895.4977

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BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
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NO.	DATE	DESCRIPTION
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DRAWN BY: JCS
CHECKED BY: JMB
JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF ILLINOIS JOHN M. BANKS LICENSED ARCHITECT NO. 10137

DATED: 09/04/18 EXP. DATE: 07/31/19

SITE NAME

ATC TOWER

SITE NUMBER

CT03XC337

SITE LOCATION

168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID

CT03XC337S18.2

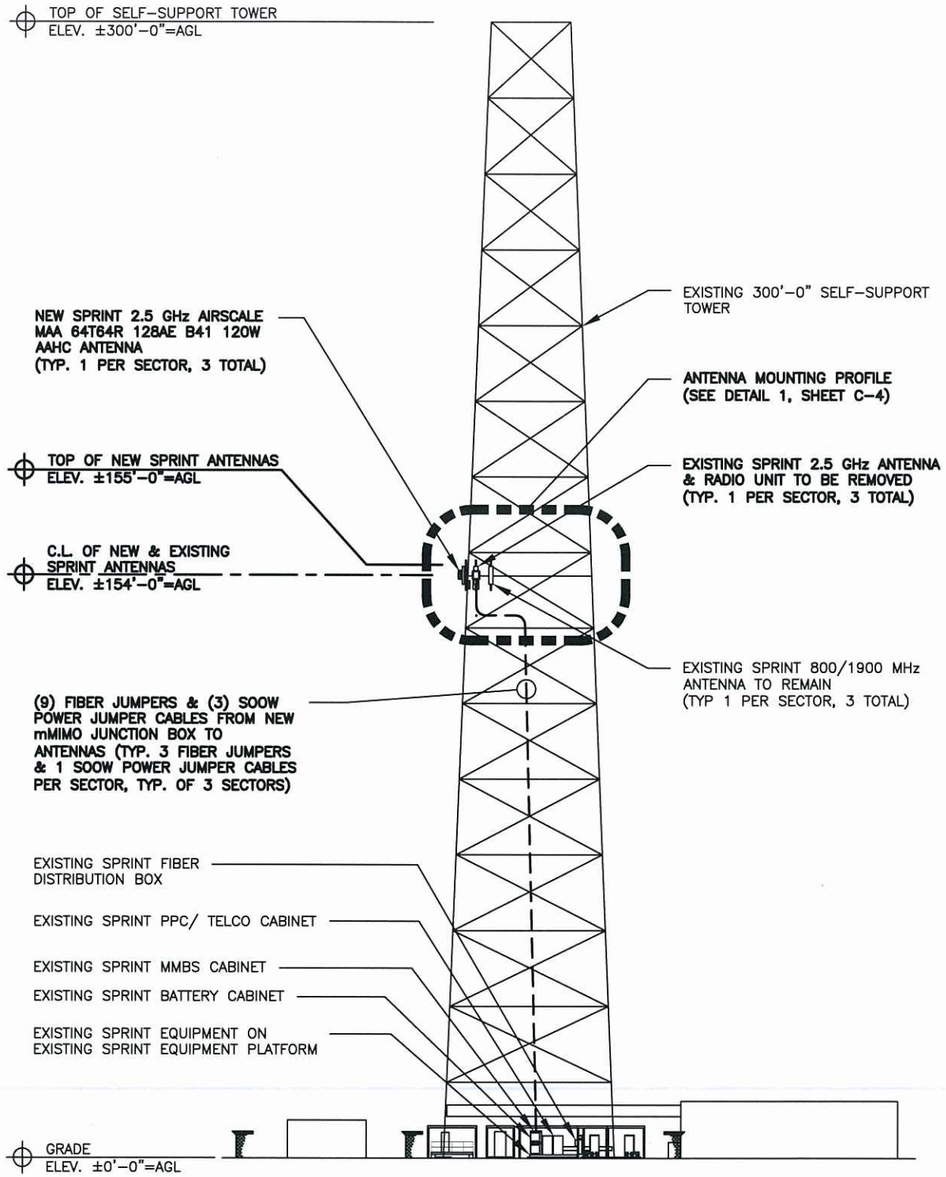
SHEET TITLE

SITE PLANS

SHEET NUMBER

C-1.1

- TOWER STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO VERIFY WITH PROJECT MANAGER TO OBTAIN A COPY
- CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.



TOWER ELEVATION – SOUTHEAST

0 10' 20' 40'

SCALE: 1"=40'-0" (11x17)
(OR) 2"=40'-0" (22x34)

1

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RUTHERFORD, NJ 07070
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312.895.4977

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FAX : 847-277-0080
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NO.	DATE	DESCRIPTION
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CHECKED BY:	JMB
JOB NUMBER:	CT03XC337
ARCHITECT:	JOHN M. BANKS

STATE OF CONNECTICUT JOHN M. BANKS LICENSED ARCHITECT
DATED: 09/04/18 SEAL EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

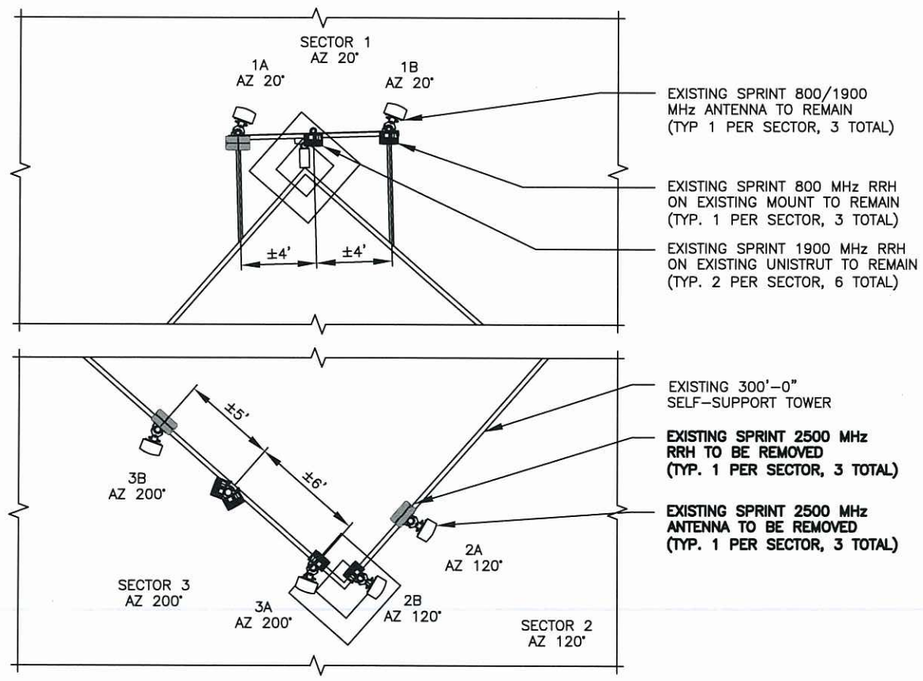
AUGMENT ID
CT03XC337S18.2

SHEET TITLE
TOWER ELEVATION - SOUTHEAST

SHEET NUMBER
C-2

EXISTING ANTENNA AND CABLE SCHEDULE

LOCATION		AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL #	# OF RRH	CABLE SIZE	CABLE LENGTH
SECTOR 1	1A	20°	154'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APXVTM14-C-I20	2500 MHz-1	1" CONDUIT W/(3) ETHERNET & FIBER CABLES TO BE REMOVED	±300'
	1B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	1C	20°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±300'
SECTOR 2	2A	120°	154'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APXVTM14-C-I20	2500 MHz-1	1" CONDUIT W/(3) ETHERNET & FIBER CABLES TO BE REMOVED	±240'
	2B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	2C	120°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±240'
SECTOR 3	3A	200°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±210'
	3B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	3C	200°	154'-0"	EXISTING-TO BE REMOVED	2500 MHz	RFS APXVTM14-C-I20	2500 MHz-1	1" CONDUIT W/(3) ETHERNET & FIBER CABLES TO BE REMOVED	±210'



NORTH

NOTE:
ALL ANTENNA AZIMUTHS BASED ON TRUE NORTH AS SPECIFIED BY RFDS, LATEST REVISION

EXISTING ANTENNA PLAN

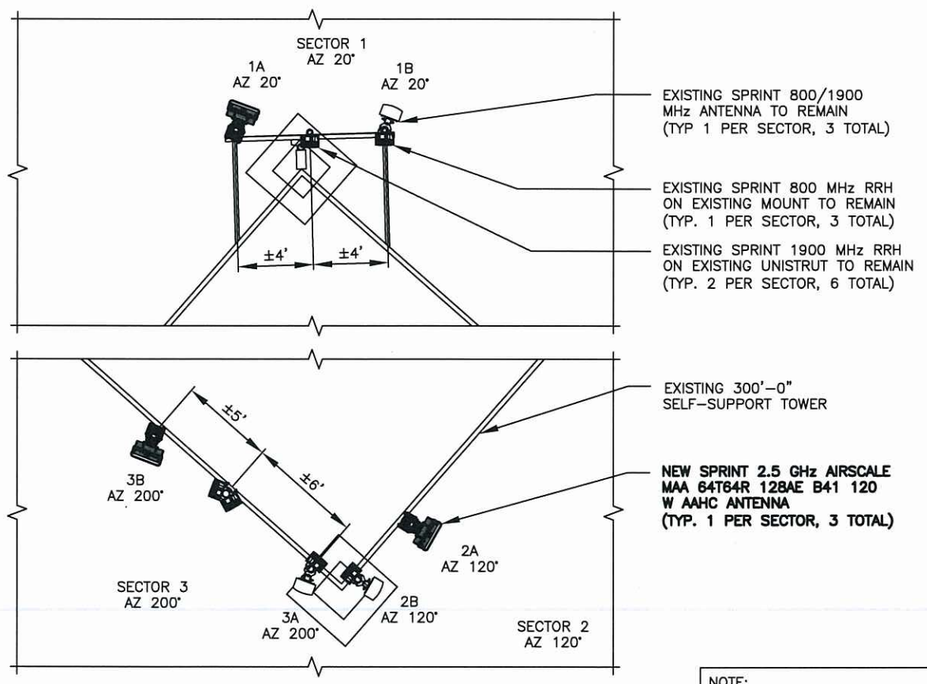
0 4' 8'

SCALE: 1/8"=1'-0" (11x17)
(OR) 1/16"=1'-0" (22x34)

1

NEW ANTENNA AND CABLE SCHEDULE

LOCATION		AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL #	# OF RRH	CABLE SIZE	CABLE LENGTH
SECTOR 1	1A	20°	154'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120W AAHC	INTEGRATED	0.82" HYBRID	±15'
	1B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	1C	20°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±267'
SECTOR 2	2A	120°	154'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120W AAHC	INTEGRATED	0.82" HYBRID	±15'
	2B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	2C	120°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±209'
SECTOR 3	3A	200°	154'-0"	EXISTING	800/1900 MHz	RFS APXVSPP18-C-A20	800 MHz-1	N/A	±209'
	3B	N/A	N/A	N/A	N/A	N/A	1900 MHz-2	N/A	N/A
	3C	200°	154'-0"	NEW	2500 MHz	AIRSCALE MAA 64T64R 128AE B41 120W AAHC	INTEGRATED	0.82" HYBRID	±15'
									±45'



NORTH

NOTE:
1. THE AAHC WILL REQUIRE A 40A CIRCUIT BREAKER.

NOTE:
1. ANTENNA AZIMUTHS BASED ON TRUE NORTH AS SPECIFIED BY RFDS, LATEST REVISION
2. ALL SPRINT ANTENNAS TO BE 4'-0" CL PIPE TO PIPE.

PROPOSED ANTENNA PLAN

0 4' 8'

SCALE: 1/8"=1'-0" (11x17)
(OR) 1/16"=1'-0" (22x34)

2

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CHICAGO, IL 60661
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312.895.4977

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BARRINGTON, IL 60010
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NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
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DRAWN BY:	JCS
CHECKED BY:	JMB
JOB NUMBER:	CT03XC337
ARCHITECT:	JOHN BANKS

STATE OF CONNECTICUT
JOHN M. BANKS
No. 19617
REGISTERED ARCHITECT

DATED: 09/04/18 SEAL: EXP. DATE: 07/31/19

SITE NAME

ATC TOWER

SITE NUMBER

CT03XC337

SITE LOCATION

168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID

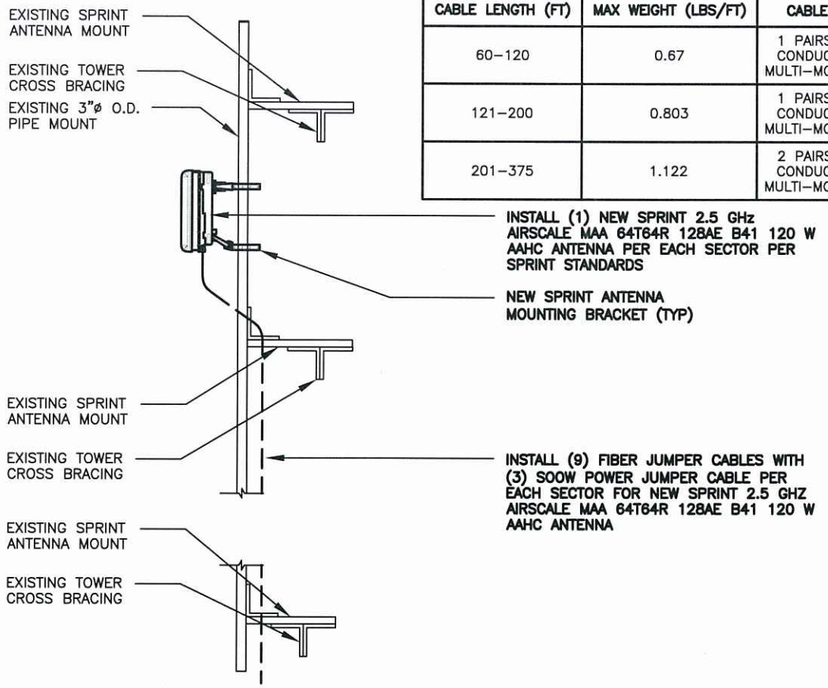
CT03XC337S18.2

SHEET TITLE

ANTENNA LAYOUTS

SHEET NUMBER

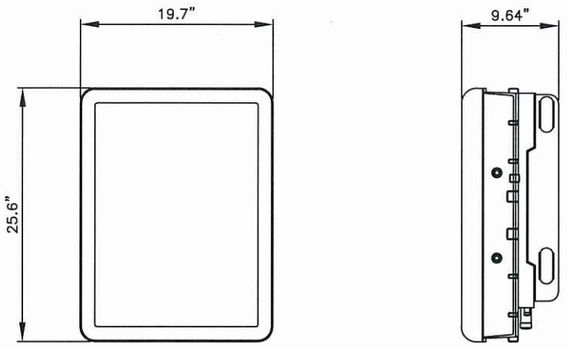
C-3

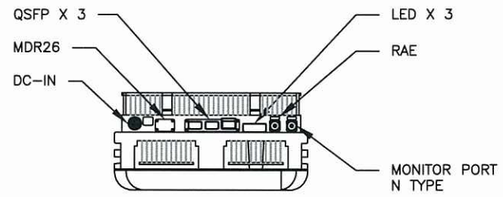


SPRINT CABLE GUIDELINES FOR CELL SITES

CABLE LENGTH (FT)	MAX WEIGHT (LBS/FT)	CABLE DESCRIPTION	MAX DIAMETER (IN.)
60–120	0.67	1 PAIRS OF 6AWG DC CONDUCTORS WITH 16 MULTI–MODE FIBER PAIRS	0.82
121–200	0.803	1 PAIRS OF 4AWG DC CONDUCTORS WITH 16 MULTI–MODE FIBER PAIRS	0.92
201–375	1.122	2 PAIRS OF 4AWG DC CONDUCTORS WITH 16 MULTI–MODE FIBER PAIRS	1.01

ANTENNA MOUNTING PROFILE VIEW — SCALE N.T.S. — 1





NOKIA – AIRSCALE MAA 64T64R 128AE B41 120W AAHC
WEIGHT (FULLY EQUIPPED): 103.6 LBS
SIZE (HXWXD): 25.6X19.7X9.64 IN.

ANTENNA DETAIL — SCALE N.T.S. — 2

NOT USED — SCALE N.T.S. — 3

NOT USED — SCALE N.T.S. — 4

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www.sacw.com
312.895.4977

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TELEPHONE: 847–277–0070
FAX : 847–277–0080
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NO.	DATE	DESCRIPTION
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DRAWN BY: JCS
CHECKED BY: JMB
JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF CONNECTICUT JOHN M. BANKS REGISTERED LICENSED ARCHITECT
DATED: 09/04/18 SEAL EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

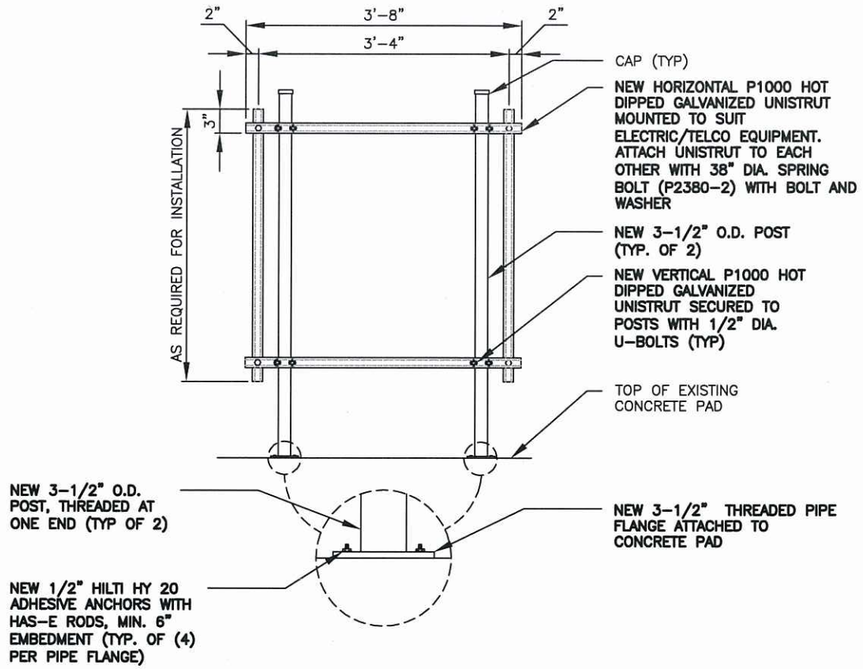
SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

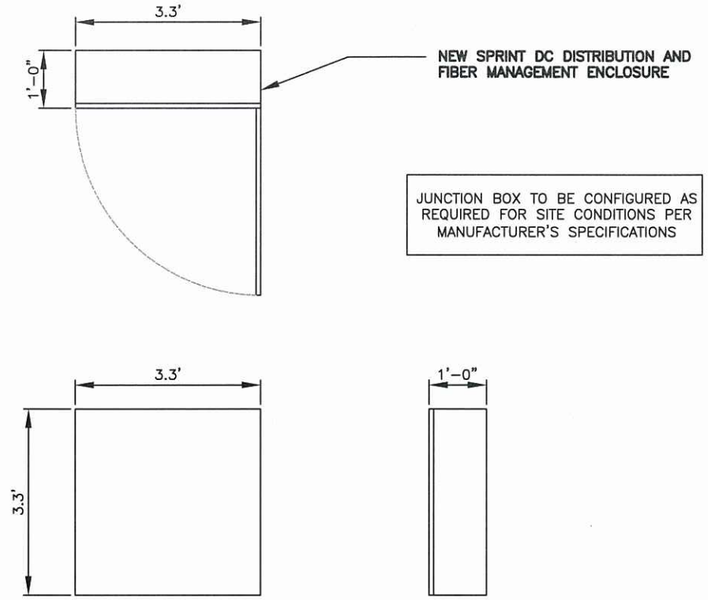
AUGMENT ID
CT03XC337S18.2

SHEET TITLE
EQUIPMENT DETAILS

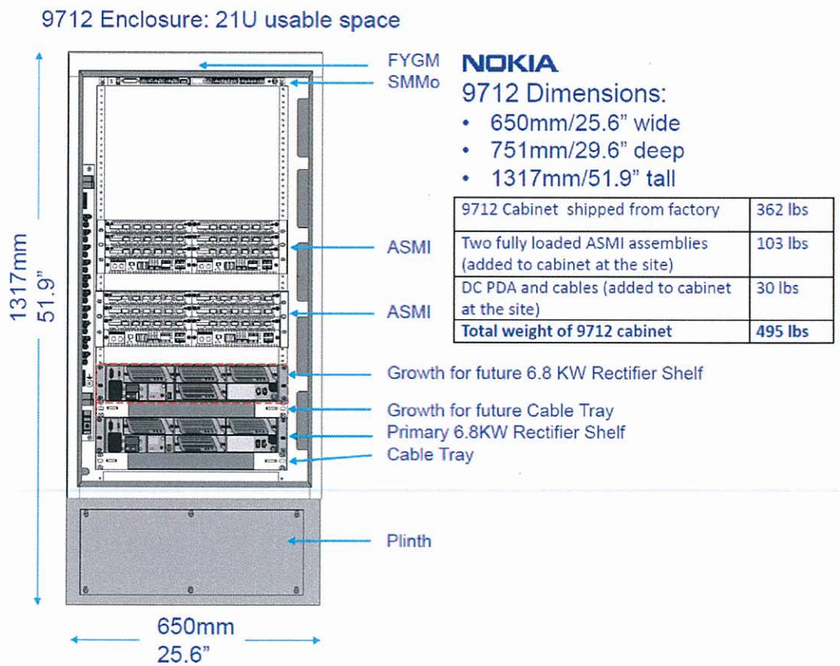
SHEET NUMBER
C-4



DC DISTRIBUTION & FIBER MGMT ENCLOSURE MOUNTING DETAIL | SCALE N.T.S. | 1



DC DISTRIBUTION & FIBER MGMT ENCLOSURE DETAIL | SCALE N.T.S. | 2



9712 Cabinet shipped from factory	362 lbs
Two fully loaded ASMI assemblies (added to cabinet at the site)	103 lbs
DC PDA and cables (added to cabinet at the site)	30 lbs
Total weight of 9712 cabinet	**495 lbs**

9712U CABINET DETAIL | SCALE N.T.S. | 3

NOT USED | SCALE N.T.S. | 4

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CHECKED BY:	JMB
JOB NUMBER:	GT03XC337
ARCHITECT:	JOHN BANKS

STATE OF CONNECTICUT JOHN M. BANKS LICENSED ARCHITECT
DATED: 09/04/18 SEAL EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

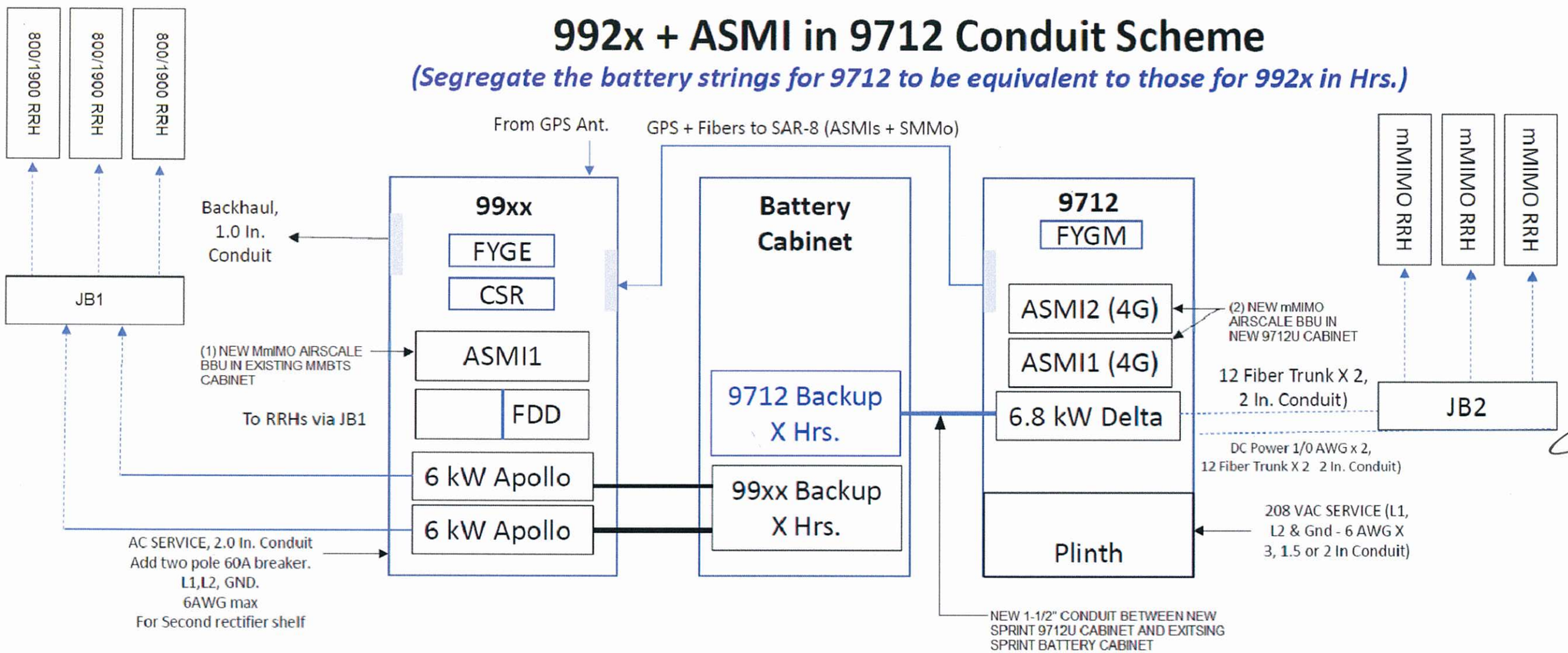
AUGMENT ID
CT03XC337S18.2

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-5

992x + ASMI in 9712 Conduit Scheme

(Segregate the battery strings for 9712 to be equivalent to those for 992x in Hrs.)



IMPLEMENTATION DETAIL

SCALE N.T.S.

1

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JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF ILLINOIS · JOHN MICHAEL BANKS · LICENSED ARCHITECT · NO. 0010137 · SEAL

DATED: 09/04/18 EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID
CT03XC337S18.2

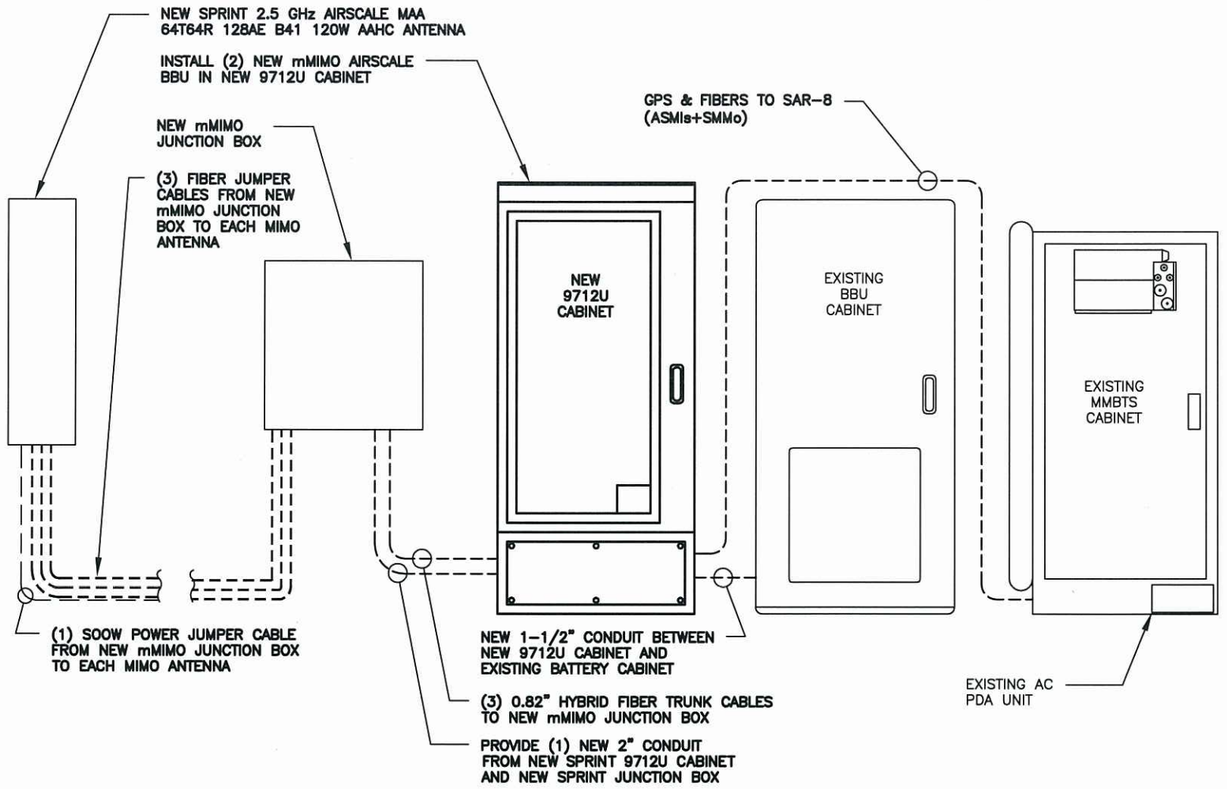
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
C-6

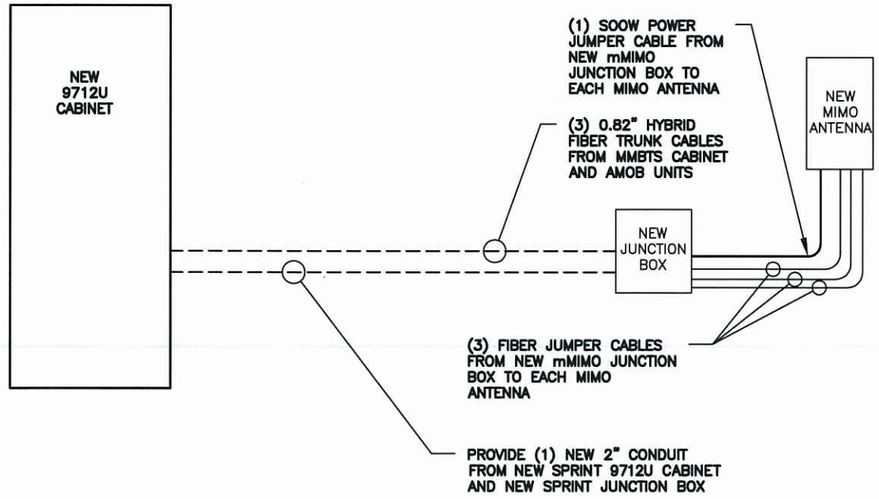
ELECTRICAL NOTES:

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
3. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
4. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
5. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS OR LB'S FOR ALL CONDUITS 2" OR LARGER.
6. ALL CONDUIT TERMINATION'S SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
7. ALL WIRE SHALL BE TYPE THHN/THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY, MINIMUM #12.
8. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
9. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
10. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
11. ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
12. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
13. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
14. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.)
15. ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
16. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
17. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS). LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

ELECTRICAL NOTES | SCALE N.T.S. | 1



EQUIPMENT UTILITY ELEVATION VIEW | SCALE N.T.S. | 2



ONE-LINE DIAGRAM | SCALE N.T.S. | 3

Sprint
201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684-4000
FAX: (201) 684-4223

SAC WIRELESS A NOKIA™ COMPANY
540 W. MADISON ST. 9TH FLOOR CHICAGO, IL 60661
www.sacw.com
312.895.4977

WESTCHESTER SERVICES LLC
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
AE@westchesterservices.com

JOHN M. BANKS ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
0	07.27.18	PERMIT/CONSTRUCTION

DRAWN BY: JCS
CHECKED BY: JMB
JOB NUMBER: CT03XC337
ARCHITECT: JOHN BANKS

STATE OF CONNECTICUT LICENSED ARCHITECT JOHN M. BANKS NO. 10137 SEAL/ITECT
DATED: 09/04/18 EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID
CT03XC337S18.2

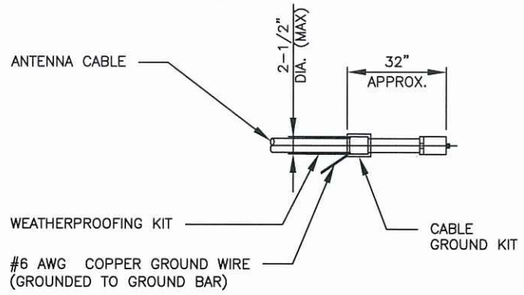
SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
C-7

GROUNDING NOTES:

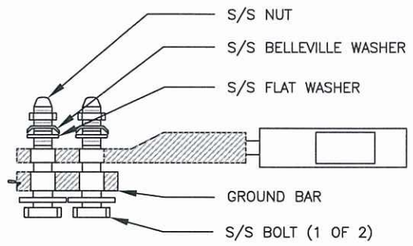
1. ALL GROUNDING SYSTEM CONDUCTORS AND CONNECTIONS BELOW GRADE SHALL BE THERMAL WELDS AT GROUND RODS AND AT A MINIMUM OF 36" BELOW GRADE.
2. ALL INSTALLATIONS SHALL BE FIELD VERIFIED.
3. ALL GROUND WIRE SHALL BE #2 AWG BARE COPPER TINNED UNLESS NOTED OTHERWISE.
4. ALL GROUND WIRES SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
5. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF GROUND RODS AND GROUND RING WITH FOUNDATION AND UNDERGROUND CONDUIT.
6. EACH EQUIPMENT CABINET SHALL BE CONNECTED WITH (2) #2 AWG INSULATED SOLID TINNED COPPER WIRE TO GROUND BAR. EQUIPMENT CABINETS SHALL EACH HAVE (2) CONNECTIONS.
7. ANTENNA GROUND KITS SHALL BE FURNISHED BY SPRINT AND INSTALLED BY CONTRACTOR.
8. KOPR-SHIELD ANTI-OXIDATION COMPOUND SHALL BE USED ON ALL GROUNDING CONNECTIONS.
9. ALL EXOTHERMIC CONNECTS SHALL BE INSTALLED UTILIZING THE PROPER CONNECTION/MOLD AND MATERIALS FOR THE PARTICULAR APPLICATION.
10. ALL BOLTED GROUNDING CONNECTIONS SHALL BE INSTALLED WITH A LOCK WASHER UNDER THE NUT. HARDWARE FOR BOLTED CONNECTIONS SHALL BE A MINIMUM OF 3/8" DIAMETER AND SHALL BE STAINLESS STEEL.
11. GROUNDING WIRE SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
12. PLASTIC CLIPS OR METAL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTORS SHALL BE USED TO FASTEN AND SUPPORT GROUNDING CONDUCTORS. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED.
13. STANDARD BUS BARS (CIGBE AND MIGB) SHALL BE FURNISHED AND INSTALLED. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD.
14. THE GROUNDING CONNECTION TO THE POWER AND TELCO SECTIONS OF THE PPC CABINET SHALL BE MADE BY CONNECTING A CONDUCTOR FROM THE GROUND RING TO THE FACTORY FURNISHED BUS BAR IN EACH COMPARTMENT.
15. THE CONTRACTOR SHALL SUPPLY SPRINT AND NIH/ORF WITH RESULTS FROM PRE-CONSTRUCTION (CO-LO ONLY) AND POST-CONSTRUCTION OHM TESTING (GROUND) RESULTS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A "FALL OF POTENTIAL" TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER AND NIH/ORF FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.

ELECTRICAL NOTES | SCALE N.T.S. | 1



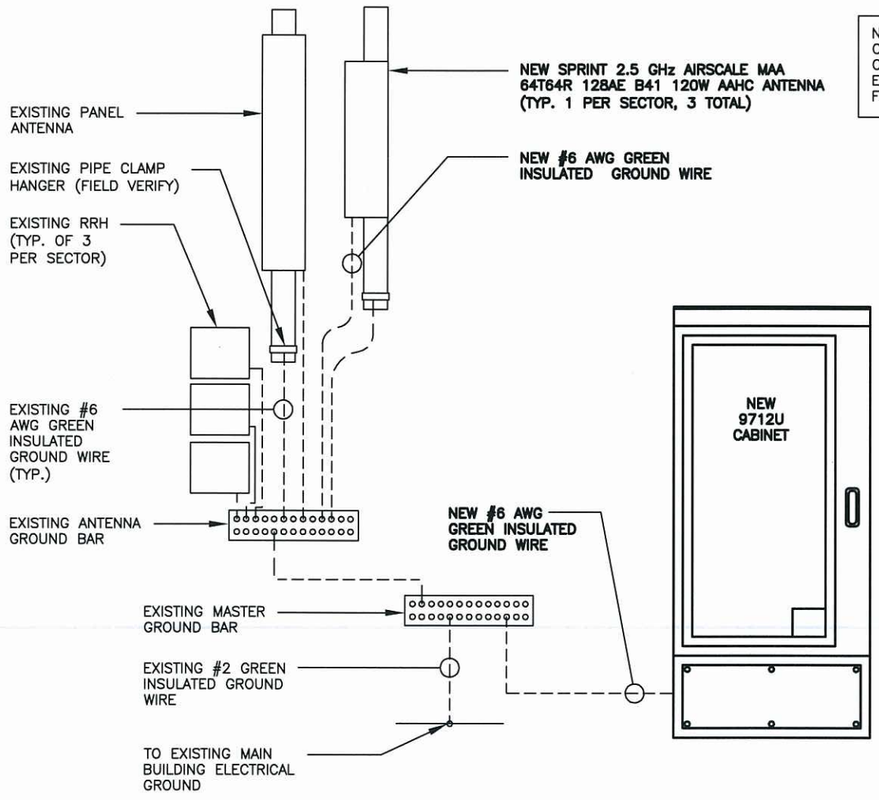
NOTE:
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

CABLE GROUNDING DETAIL | SCALE N.T.S. | 2



NOTES:
1. PROVIDE 2-HOLE, LONG BARREL,TINNED SOLID COPPER LUGS WHEREVER LUGS ARE SHOWN. ERICO B-122-CE PREFERRED WITH CADWELD TYPE GL CONNECTION. THOMAS AND BETTS 54800BE SERIES WHERE CRIMP CONNECTOR IS REQUIRED.
2. ALL CRIMP CONNECTIONS MUST BE MADE USING HYDRAULIC TOOLS AND THREE POINT HEXAGONAL COMPRESSION MOLDS ON LONG BARREL LUGS.
3. ALL MECHANICAL CONNECTIONS MUST BE MADE USING THOMAS AND BETTS "KOPR-SHIELD". COAT ALL WIRES BEFORE LUGGING. COAT ALL SURFACES BEFORE CONNECTING.
4. ALL HARDWARE 18/8 STAINLESS STEEL INCLUDING BELLEVILLE, COAT ALL SURFACES WITH "KOPR-SHIELD" BEFORE MATING.
5. FOR GROUNDING BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH "KOPR-SHIELD".
6. NO SLOTTED HOLES ON BUS BAR OR LUGS ARE PERMITTED.
7. ALL LUG SHANKS AND LEAD JOINTS SHALL HAVE HEAT SHRINK MATERIAL

TWO-HOLE LUG | SCALE N.T.S. | 3



NOTES:
CONTRACTOR TO USE MECHANICAL CONNECTION FOR GROUNDING OF NEW EQUIPMENT AND CADWELD CONNECTION FOR GROUNDING OF ALL MOUNT PIPES.

GROUNDING RISER DIAGRAM | SCALE N.T.S. | 4

Sprint
201 STATE ROUTE 17 NORTH
RUTHERFORD, NJ 07070
TEL: (201) 684-4000
FAX: (201) 684-4223

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FAX : 847-277-0080
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BARRINGTON, IL 60010
TELEPHONE: 847-277-0070
FAX : 847-277-0080
JBANKS@WESTCHESTERSERVICES.COM

NO.	DATE	DESCRIPTION
1	09.04.18	PERMIT/CONSTRUCTION
0	07.27.18	PERMIT/CONSTRUCTION

DRAWN BY:	JCS
CHECKED BY:	JMB
JOB NUMBER:	CT03XC337
ARCHITECT:	JOHN BANKS

STATE OF CONNECTICUT JOHN M. BANKS LICENSED ARCHITECT
DATED: 08/04/18 SEAL EXP. DATE: 07/31/19

SITE NAME
ATC TOWER

SITE NUMBER
CT03XC337

SITE LOCATION
168 CATOONA LANE
STAMFORD, CT 06902

AUGMENT ID
CT03XC337S18.2

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
C-8

CITY OF STAMFORD, CONNECTICUT
Building Department
888 Washington Blvd.
Stamford, CT 06901

CITY OF STAMFORD, CONNECTICUT

Building Department

Inspections, Permitting & Code Compliance

Inspection Line: (203) 977-6600 (X-1581)
Questions: (203) 977-5700
Fax Number: (203) 977-4163
WebSite: www.cityofstamford.org

D & A CONSTRUCTION
7 SYCAMORE WAY
Branford, CT 06405

Building Permit
BP-2011-0578

PARCEL	
Parcel Id	000-0370
Card	N 016
Lot	A
Owner	American Towers Inc
Location	168 Catoona Lane

Building Permit Issued On: 07/28/2011

APPLICATION	
Application id	71977
Dated	7/28/2011
Applicant	D & A CONSTRUCTION
Job Category	437 Alter. to Coml. Bldg.
Use Group	UA14
Const. Type	5B
Fee Type	Commercial
Dwelling Type	Commercial Building
Units Now	
Units To Be	
Est. Cost	$9,000.00

Application for Building Permit is Approved and the permission is hereby granted to perform the following work:
ANTENNA UPGRADE (SPRINT)
At - 168 CATOONA LANE
By Contractor - D & A CONSTRUCTION License Number -

ROBERT D. DEMARCO
CHIEF BUILDING OFFICIAL

Robert D. Demarco
Chief Building Official

PAYMENT SUMMARY

Invoice#	Due Date	Fee Description	UseGrp	Rate	Est. Cost	Fee Due	Tax Due	Date Paid	Check#	Fee Paid	Tax Paid
68953	07/28/2011	Permit Fee	UA14	C16	9,000.00	144.00	2.34	07/28/2011	015288	144.00	2.34
BALANCE: $0.00						TOTAL DUE: $146.34				TOTAL PAID: $146.34	

NOTE 1. **Permit is void if work is not started within six (6) months of issuance and permit will also become void if work is suspended for six (6) months after it has commenced.**

2. **This permit may be Revoked by the City of Stamford upon violation of any of its rules and regulations.**

SAC/Sprint Massive MiMo
CT03XC337
168 Catoona Lane
Stamford, CT 06902

Photo Simulations
09/11/18

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
Before – North

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
After – North

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
Before – East

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
After – East

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
Before – South

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
After – South

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
Before – West

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

Sprint CT03XC337
After – West

WESTCHESTER SERVICES L.L.C.◆604 FOX GLEN◆BARRINGTON, ILLINOIS 60010
847/277-0070 Main◆847/277-0080 Facsimile◆e-mail: ae@westchesterservices.com

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**300 ft Self Supported AT&T TAG Tower**
ATC Site Name	:	**Stamford (Katoona), CT**
ATC Site Number	:	**88018**
Engineering Number	:	**OAA729246_C3_01**
Proposed Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**ATC Tower**
Carrier Site Number	:	**CT03XC337**
Site Location	:	**Catoona Lane** **Stamford, CT 06902-4573** **41.052800,-73.563000**
County	:	**Fairfield**
Date	:	**May 9, 2018**
Max Usage	:	**94%**
Result	:	**Pass**

Prepared By:
Robert D. Barrett, E.I.
Structural Engineer II

Robert D. Barrett

Reviewed By:

STATE OF CONNECTICUT
BRYAN K LANIER
32586
LICENSED PROFESSIONAL ENGINEER

8/22/18

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 300 ft self supported AT&T tag tower to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	CSEI Analysis, ATC Eng. #73123451, dated September 28, 2005
Foundation Drawing	Rose, Chulkoff, and Rose Job #C67229, dated August 9, 1967
Geotechnical Report	Rose, Chulkoff, and Rose Job #C67229, dated August 9, 1967
Modifications	ATC Eng. #42439132, dated September 26, 2008 ATC Eng. #44209632, dated December 2, 2009

Analysis

The tower was analyzed using Power Line Systems, Inc. tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	93 mph (3-Second Gust, V_{asd}) / 120 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment (Continued)

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
175.0	175.0	1	12" x 12" Junction Box	Leg	-	Clearwire
171.0	171.0	3	NextNet BTS-2500	T-Arms	(6) 5/16" Coax (2) 2" Conduit	
165.0	165.0	15	RCU	Leg	(12) 1 5/8" Coax (1) 3/8" RET Control Cable (1) 3/8" Coax	Metro PCS
		6	Kathrein 800 10504			
150.0	150.0	3	Alcatel-Lucent ALU 800MHz External Notch Filter	Sector Frames	(3) 1 1/4" Hybriflex Cable	Sprint Nextel
		3	RFS IBC1900HB-2			
		3	Alcatel-Lucent 800 MHz RRH			
		6	Alcatel-Lucent 1900MHz RRH			
		3	RFS APXVSPP18-C-A20			
139.0	139.0	1	Antel BCD-87010 ___ 4°	Side Arm	(1) 7/8" Coax	Sensus USA
135.0	135.0	1	L-com HG908U-PRO	Stand-Off	(1) 0.38" Cat 5e (1) 1/2" Coax	Senet
130.0	130.0	1	Tycon ENC-DC	Side Arm	-	
120.0	120.0	1	Channel Master Type 120	Stand-Off	(1) 1/2" Coax	Spok Holdings
107.0	107.0	1	TX RX Systems 101-68-10-X-03N	Side Arm	(1) 1 1/4" Coax	Marcus Comm.
92.0	92.0	3	Alcatel-Lucent RRH2X60-1900A-4R	Sector Frames	(3) 1 1/4" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent RRH4x45-B66 w/o Solar Shield			
		3	RFS DB-T1-6Z-8AB-0Z			
		6	Andrew SBNHH-1D65B			
		6	72" x 14" Panel			
22.0	22.0	1	Til-Tek TA-2324-LHCP	Leg	(1) 7/8" Coax	Sirius XM Radio
6.0	6.0	1	Trimble Acutime 2000	Leg	(1) 1/2" Coax (1) 1/4" Coax	Spok Holdings
		1	Channel Master Type 120			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	150.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	-	(1) 1 1/4" Hybriflex Cable	Sprint Nextel
		3	RFS APXVTM14-C-I20			

AMERICAN TOWER®
CORPORATION

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Project Name : 88018 - Stamford (Katoona), CT
Project Notes: OAA729246_C3_01 - Sprint Nextel
Project File : N:\L2 - ATC\88018\2018.05.09 - Sprint Nextel - OAA729246_C3_01\2018.05.09
Date run : 7:40:18 PM Wednesday, May 09, 2018
by : Tower Version 15.00
Licensed to : American Tower Corp.

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support Joint	Origin Joint	Leg Member	Force In Leg Dir. (kips)	Residual Shear Perpendicular To Leg (kips)	Residual Shear Horizontal To Leg - Tan. (kips)	Residual Shear Horizontal To Leg - Long. (kips)	Residual Shear Horizontal To Leg - Tran. (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vert. Force (kips)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Torsional Moment (ft-k)	Resultant Moment (ft-k)	Transverse Force (kips)	Longitudinal Force (kips)	Vertical Force (kips)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Area (ft^2)	Face Af Adjust Factor	Face Ar Adjust Factor	Dead Load Factor
291.4-300.0	300.000	291.417	8	20	9.00	10.06	81.79	1.1220	1.1220	1.346
282.8-291.4	291.417	282.834	8	16	10.06	11.12	90.88	1.2150	1.2150	1.458
272.7-282.8	282.834	272.667	8	16	11.12	12.37	119.40	1.1970	1.1970	1.436

LD 8	B/B L2.5"x2"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LD 9	B/B L3"x2"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LD 10	B/B L3"x3"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LD 11	B/B L2.5"x2"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LD 12	B/B L2.5"x2.5"x0.375"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LH 1	B/B L2.5"x3"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W 90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LH 2	B/B L2.5"x3"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -90	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LH 3	B/B L2.5"x3"x0.375"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LH 4	B/B L3.5"x3.5"x0.25"	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DUM 1	Dummy Bracing Member	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W -45	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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Legs

Site No.:	88018
Engineer:	RDB
Date:	05/09/2018
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter or Length (in)	Thickness [2] (in)	F_y (ksi)
1	0.000-25.00	L	8	1.125	36
2	25.00-50.00	L	8	1.125	36
3	50.00-75.00	L	8	1.125	36
4	75.00-100.0	L	8	1	36
5	100.0-125.0	L	8	0.875	36
6	125.0-150.0	L	8	0.875	36
7	150.0-175.0	L	8	0.75	36
8	175.0-200.0	L	8	0.625	36
9	200.0-212.5	L	6	0.75	36
10	212.5-225.0	L	6	0.75	36
11	225.0-237.5	L	6	0.5625	36
12	237.5-250.0	L	6	0.5625	36
13	250.0-262.5	L	6	0.4375	36
14	262.5-272.7	L	5	0.4375	36
15	272.7-282.8	L	5	0.4375	36
16	282.8-291.4	L	5	0.3125	36
17	291.4-300.0	L	5	0.3125	36

Notes:

[1] Type of Leg Shape: R = Round or P = Bent Plate or S = Schifflerized Angle. L = Even Leg

[2] For Solid Round Leg Shapes Thickness Equals Zero.

[3] Adjust for Bent Plate Leg Shapes.

Horizontals

Site No.:	88018
Engineer:	RDB
Date:	05/09/2018
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter [2] (in)	Web Length [3] (in)	Flange Length [3] (in)	Thickness (in)	F_y (ksi)	
1	0.000-25.00	2L		3.5	2.5	0.25	36	
2	25.00-50.00	2L		3.5	2.5	0.25	36	
3	50.00-75.00	2L		3.5	2.5	0.25	36	
4	75.00-100.0	2L		3	2.5	0.25	36	
5	100.0-125.0	2L		3	2.5	0.25	36	
6	125.0-150.0	2L		3	2.5	0.25	36	
7	150.0-175.0	2L		2.5	2.5	0.25	36	
8	175.0-200.0	2L		2.5	2.5	0.25	36	
9	200.0-212.5	2L		2.5	2.5	0.25	36	
10	212.5-225.0	2L		2.5	2.5	0.25	36	
11	225.0-237.5	2L		2.5	2.5	0.25	36	
12	237.5-250.0	2L		2.5	2.5	0.25	36	
13	250.0-262.5	2L		2.5	2.5	0.25	36	
14	262.5-272.7	L		3	2.5	0.25	36	
15	272.7-282.8	2L		3	2.5	0.25	36	
16	282.8-291.4	L		3	2.5	0.25	36	
17	291.4-300.0	C		8	11.5		36	

Notes:

[1] Type of Horizontal Shape: R = Round, L = Single-Angle, 2L = Double-Angle, C = Channel, W = W Shape

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88018
Engineer:	RDB
Date:	05/09/2018
Carrier:	Sprint Nextel

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape [1]	Diameter [2] (in)	Web Length [3] (in)	Flange Length [3] (in)	Thickness (in)	F_y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-25.00	2L		2.5	3	0.25	36	Y
2	25.00-50.00	2L		2.5	3	0.25	36	
3	50.00-75.00	2L		2.5	3	0.375	36	
4	75.00-100.0	2L		3.5	3.5	0.25	36	

Notes:

[1] Type of Horizontal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

[3] Applies to Single-Angle and Double-Angle Shapes only.

[4] Applies to Double-Angle Shapes only.

[5] Applies to Single-Angle Shapes only.

Coax (p. 2 of 2)

Site No.:	88018
Engineer:	RDS
Date:	03/09/16
Carrier:	Sprint Nextel

Exposure: B | α: 7 | $k_{z\,max}$: 2.01

TIa Code: TIA-222-G | Topo Cat: 1 | z_g: 1200 | $k_{z\,min}$: 0.7

f | K_e: 0.9 | K_z

Description	From (ft)	To (ft)	Quantity	Face # (1-4, A-D)	Coax Width (in)	Coax Shape (Block / Flat / Ind)	% Exposed	Spacing (in)	Shape (Round/Flat)	Block Width (# coax)	Block Depth (# coax)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone (Yes/No)	Include in Wind Load (Yes/No)
Ladder	0	300	1	B	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
Short Ladder	6.3333	11.3333	1	1	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
Short Ladder	6.3333	11.3333	1	3	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
														No	No
WG	5	300	1	2	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
WG	5	272	1	3	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
WG	5	235	1	1	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
WG	5	229	1	2	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
WG	5	180	1	1	1.50	Flat	100		Flat	1	1	6.0	6	Yes	Yes
Marcus Communications LLC	5	300	1	B	1.55	Ind	100		Round	1	1	4.9	0.65	Yes	Yes
Marcus Communications LLC	5	300	1	B	1.95	Ind	100		Round	1	1	6.2	0.82	Yes	Yes
Marcus Communications LLC	5	300	1	B	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
Other	5	300	1	B	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	Yes
Clearwire Corporation	5	300	5	2	1.09	Ind	100		Round	5	1	3.4	0.28	Yes	Yes
US Dept Of Homeland Security	5	275	2	2	1.09	Ind	100		Round	2	1	3.4	0.28	Yes	Yes
Sirius XM Radio Inc.	5	270	1	4	1.96	Ind	100		Round	1	1	6.2	0.82	Yes	Yes
T-Mobile	5	268	15	4	1.98	Block	35	0.5	Flat	5	5	37.7	12.3	Yes	Yes
T-Mobile	5	268	3	4	0.88	Ind	100		Round	3	1	2.8	0.69	Yes	Yes
Sirius XM Radio Inc.	5	260	1	4	5.02	Ind	100		Round	1	1	15.8	1.65	Yes	Yes
US Dept Of Homeland Security	5	250	1	2	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
US Dept Of Homeland Security	5	248	1	2	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
AT&T Mobility	5	235	12	1	1.98	Block	50	0.5	Flat	6	2	37.7	9.84	Yes	Yes
AT&T Mobility	5	235	2	1	0.39	Ind	100		Round	2	1	1.2	0.17	No	No
AT&T Mobility	5	235	2	1	0.78	Ind	100		Round	2	1	2.5	0.59	Yes	Yes
AT&T Mobility	5	235	4	1	0.74	Ind	100		Round	4	1	2.5	0.49	No	No
Sprint Nextel	5	222	15	2	1.98	Block	35	0.5	Flat	5	3	37.7	12.3	Yes	Yes
US Dept Of Homeland Security	5	207	1	2	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
Marcus Communications LLC	5	200	2	B	1.55	Ind	100		Round	2	1	4.9	0.62	Yes	Yes
Spok Holdings, Inc.	5	193	2	B	1.09	Ind	100		Round	2	1	3.4	0.28	Yes	Yes
Spok Holdings, Inc.	5	188	1	B	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
Clearwire Corporation	5	171	2	2	2.36	Ind	100		Round	2	1	7.5	1.85	Yes	Yes
Clearwire Corporation	5	171	6	2	0.91	Ind	100		Round	6	1	1.8	0.85	Yes	Yes
Metro PCS Inc	5	165	12	1	1.98	Block	50	0.5	Flat	6	2	37.7	9.84	Yes	Yes
Metro PCS Inc	5	169	1	1	0.59	Ind	100		Round	1	1	1.2	0.29	Yes	Yes
Metro PCS Inc	5	165	1	1	0.44	Ind	100		Round	1	1	1.4	0.09	Yes	Yes
Sprint Nextel	5	150	3	2	1.54	Ind	100		Round	3	1	4.8	1	Yes	Yes
Sprint Nextel	5	150	1	2	1.70	Ind	100		Round	1	1	5.3	1.75	Yes	Yes
Sensus USA Inc.	5	139	1	B	1.09	Ind	100		Round	1	1	3.4	0.28	Yes	Yes
Sensi, Inc.	5	135	1	3	0.38	Ind	100		Round	1	1	1.2	0.29	Yes	Yes
Sensi, Inc.	5	135	1	3	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	Yes
Spok Holdings, Inc.	5	120	1	B	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	Yes
Marcus Communications LLC	5	107	1	B	1.55	Ind	100		Round	1	1	4.9	0.62	Yes	Yes
Verizon Wireless	5	92	3	4	1.54	Ind	100		Round	3	1	4.8	1	Yes	Yes
Sirius XM Radio Inc.	5	22	1	4	1.09	Ind	100		Round	1	1	3.4	0.55	Yes	Yes
Spok Holdings, Inc.	0	6	1	B	0.63	Ind	100		Round	1	1	2.0	0.15	Yes	Yes
Spok Holdings, Inc.	0	6	1	B	0.34	Ind	100		Round	1	1	1.1	0.05	Yes	Yes
														No	No
														No	No
														No	No
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														No	No
														No	No
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														No	No
														No	No
														No	No
														No	No

Site #:	88018
Name:	Sprint Nextel

Engineer:	RDB
Date:	05/09/18

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
L 1	Leg S1		XY-Symmetry	0P	1P	1	4	0.28132	0.28132	0.28132
L 2	Leg S2		XY-Symmetry	1P	2P	1	4	0.28132	0.28132	0.28132
L 3	Leg S3		XY-Symmetry	2P	3P	1	4	0.28132	0.28132	0.28132
L 4	Leg S4		XY-Symmetry	3P	4P	1	4	0.28132	0.28132	0.28132
L 5	Leg S5		XY-Symmetry	4P	5P	1	4	0.333333333	0.333333333	0.333333333
L 6	Leg S6		XY-Symmetry	5P	6P	1	4	0.333333333	0.333333333	0.333333333
L 7	Leg S7		XY-Symmetry	6P	7P	1	4	0.333333333	0.333333333	0.333333333
L 8	Leg S8		XY-Symmetry	7P	8P	1	4	0.333333333	0.333333333	0.333333333
L 9	Leg S9		XY-Symmetry	8P	9P	1	4	0.5	0.5	0.5
L 10	Leg S10		XY-Symmetry	9P	10P	1	4	0.5	0.5	0.5
L 11	Leg S11		XY-Symmetry	10P	11P	1	4	0.5	0.5	0.5
L 12	Leg S12		XY-Symmetry	11P	12P	1	4	0.5	0.5	0.5
L 13	Leg S13		XY-Symmetry	12P	13P	1	4	0.5	0.5	0.5
L 14	Leg S14		XY-Symmetry	13P	14P	1	4	0.5	0.5	0.5
L 15	Leg S15		XY-Symmetry	14P	15P	1	4	0.5	0.5	0.5
L 16	Leg S16		XY-Symmetry	15P	16P	1	4	0.5	0.5	0.5
L 17	Leg S17		XY-Symmetry	16P	17P	1	4	0.5	0.5	0.5
D 1	Diag S1		XY-Symmetry	0P	H2P	1	6	0.31	0.92	0.31
D 2	Diag S1		XY-Symmetry	0P	H1P	1	6	0.31	0.92	0.31
D 3	Diag S2		XY-Symmetry	1P	H6P	1	6	0.31	0.62	0.31
D 4	Diag S2		XY-Symmetry	1P	H5P	1	6	0.31	0.62	0.31
D 5	Diag S3		XY-Symmetry	2P	H10P	1	6	0.333333333	0.666666667	0.333333333
D 6	Diag S3		XY-Symmetry	2P	H9P	1	6	0.333333333	0.666666667	0.333333333
D 7	Diag S4		XY-Symmetry	3P	H14P	1	6	0.333333333	0.666666667	0.333333333
D 8	Diag S4		XY-Symmetry	3P	H13P	1	6	0.333333333	0.666666667	0.333333333
D 9	Diag S5		XY-Symmetry	4P	A9P	1	6	0.333333333	0.666666667	0.333333333
D 10	Diag S5		XY-Symmetry	4P	A10P	1	6	0.333333333	0.666666667	0.333333333
D 11	Diag S6		XY-Symmetry	5P	A11P	1	6	0.333333333	0.666666667	0.333333333
D 12	Diag S6		XY-Symmetry	5P	A12P	1	6	0.333333333	0.666666667	0.333333333
D 13	Diag S7		XY-Symmetry	6P	A13P	1	6	0.333333333	0.666666667	0.333333333
D 14	Diag S7		XY-Symmetry	6P	A14P	1	6	0.333333333	0.666666667	0.333333333
D 15	Diag S8		XY-Symmetry	7P	A15P	1	6	0.333333333	0.666666667	0.333333333
D 16	Diag S8		XY-Symmetry	7P	A16P	1	6	0.333333333	0.666666667	0.333333333
D 17	Diag S9		XY-Symmetry	8P	A17P	1	6	0.32	0.59	0.32
D 18	Diag S9		XY-Symmetry	8P	A18P	1	6	0.32	0.59	0.32
D 19	Diag S10		XY-Symmetry	9P	A19P	1	6	0.5	1	0.5
D 20	Diag S10		XY-Symmetry	9P	A20P	1	6	0.5	1	0.5
D 21	Diag S11		XY-Symmetry	10P	A21P	1	6	0.48	0.96	0.48
D 22	Diag S11		XY-Symmetry	10P	A22P	1	6	0.48	0.96	0.48
D 23	Diag S12		XY-Symmetry	11P	A23P	1	6	0.5	1	0.5
D 24	Diag S12		XY-Symmetry	11P	A24P	1	6	0.5	1	0.5
D 25	Diag S13		XY-Symmetry	12P	A25P	1	6	0.5	1	0.5
D 26	Diag S13		XY-Symmetry	12P	A26P	1	6	0.5	1	0.5
D 27	Diag S14		XY-Symmetry	13P	14Y	2	5	0.52	0.52	0.52
D 28	Diag S14		XY-Symmetry	13P	14X	2	5	0.52	0.52	0.52
D 29	Diag S15		XY-Symmetry	14P	15Y	2	5	0.52	0.52	0.52
D 30	Diag S15		XY-Symmetry	14P	15X	2	5	0.52	0.52	0.52
D 31	Diag S16		XY-Symmetry	15P	16Y	2	5	0.52	0.52	0.52
D 32	Diag S16		XY-Symmetry	15P	16X	2	5	0.52	0.52	0.52
D 33	Diag S17		XY-Symmetry	16P	17Y	2	5	0.52	0.52	0.52
D 34	Diag S17		XY-Symmetry	16P	17X	2	5	0.52	0.52	0.52
H 1	Horiz 1		XY-Symmetry	1P	A1P	1	6	0.48	0.48	0.48
H 2	Horiz 1		XY-Symmetry	1P	A2P	1	6	0.48	0.48	0.48
H 3	Horiz 2		XY-Symmetry	2P	A3P	1	6	0.5	0.5	0.5
H 4	Horiz 2		XY-Symmetry	2P	A4P	1	6	0.5	0.5	0.5
H 5	Horiz 3		XY-Symmetry	3P	A5P	1	6	0.5	0.5	0.5
H 6	Horiz 3		XY-Symmetry	3P	A6P	1	6	0.5	0.5	0.5
H 7	Horiz 4		XY-Symmetry	4P	A7P	1	6	0.47	0.94	0.47
H 8	Horiz 4		XY-Symmetry	4P	A8P	1	6	0.47	0.94	0.47
H 9	Horiz 5		XY-Symmetry	5P	A9P	1	6	1	1	1
H 10	Horiz 5		XY-Symmetry	5P	A10P	1	6	1	1	1
H 11	Horiz 6		XY-Symmetry	6P	A11P	1	6	1	1	1

Member Label	Group Label	Section Label	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ
BR 3	DUM 1		XY-Symmetry	A3P	A4P	1	4	1	1	1
BR 4	DUM 1		XY-Symmetry	A3P	A4XY	1	4	1	1	1
BR 5	DUM 1		XY-Symmetry	A5P	A6P	1	4	1	1	1
BR 6	DUM 1		XY-Symmetry	A5P	A6XY	1	4	1	1	1
BR 7	DUM 1		XY-Symmetry	A7P	A8P	1	4	1	1	1
BR 8	DUM 1		XY-Symmetry	A7P	A8XY	1	4	1	1	1
BR 9	DUM 1		XY-Symmetry	A9P	A10P	1	4	1	1	1
BR 11	DUM 1		XY-Symmetry	A11P	A12P	1	4	1	1	1
BR 13	DUM 1		XY-Symmetry	A13P	A14P	1	4	1	1	1
BR 15	DUM 1		XY-Symmetry	A15P	A16P	1	4	1	1	1
BR 17	DUM 1		XY-Symmetry	A17P	A18P	1	4	1	1	1
BR 19	DUM 1		XY-Symmetry	A19P	A20P	1	4	1	1	1
BR 21	DUM 1		XY-Symmetry	A21P	A22P	1	4	1	1	1
BR 23	DUM 1		XY-Symmetry	A23P	A24P	1	4	1	1	1
BR 25	DUM 1		XY-Symmetry	A25P	A26P	1	4	1	1	1
BR 61	DUM 1		XY-Symmetry	H1P	H2P	1	4	1	1	1
BR 62	DUM 1		XY-Symmetry	H1P	H2XY	1	4	1	1	1
BR 64	DUM 1		XY-Symmetry	H5P	H6P	1	4	1	1	1
BR 65	DUM 1		XY-Symmetry	H5P	H6XY	1	4	1	1	1
BR 66	DUM 1		XY-Symmetry	H7P	H8P	1	4	1	1	1
BR 67	DUM 1		XY-Symmetry	H9P	H10P	1	4	1	1	1
BR 68	DUM 1		XY-Symmetry	H9P	H10XY	1	4	1	1	1
BR 69	DUM 1		XY-Symmetry	H11P	H12P	1	4	1	1	1
BR 70	DUM 1		XY-Symmetry	H13P	H14P	1	4	1	1	1
BR 71	DUM 1		XY-Symmetry	H13P	H14XY	1	4	1	1	1
BR 72	DUM 1		XY-Symmetry	H15P	H16P	1	4	1	1	1

No.	Elevation (ft)	$C_p A_p$ (ft^2)	$C_p A_p$ (ksi) (in^2)	Force (lb)	Force (ksi) (k)	Weight (lb)	Weight (ksi) (k)	60 Azi Mode	Force mean	F (ksi) mean
1	300	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	300	80.00	108.00	2766.617	676.462	10800	14040	1.00	1231.78	671.92
2	288	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	288	70.00	94.50	2380.948	581.286	9600	12480	1.00	1539.82	318.71
3	212.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	212.5	48.00	60.78	1410.307	344.313	6000	7800	1.00	775.67	188.57
4	100	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	100	45.00	60.75	1157.058	277.802	6000	7800	1.00	625.38	162.60
5								1.00		
								1.00		
6	588	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	338	5.59	7.47	197.886	48.811	84	109	1.00	108.84	26.97
7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.00	[illegible]	[illegible]
	324	18.41	18.10	474.089	115.747	90	117	1.00	288.75	68.06
8	320	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	320	3.60	4.86	126.824	30.958	48	62	1.00	69.78	17.08
9	311	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	311	0.80	1.08	27.954	6.825	38	47	1.00	15.37	3.75
10	307	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	307	0.80	1.08	27.881	6.800	36	47	1.00	15.32	3.74
11	303	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	303	0.22	0.29	7.457	1.821	13	17	1.00	4.10	1.00
12	275	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	275	5.20	7.02	175.427	42.829	180	234	1.00	96.48	23.55
13	275	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	275	20.78	28.05	700.860	170.995	108	138	1.00	385.20	94.04
14	270	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	270	22.75	30.71	768.481	186.387	156	203	1.00	419.81	102.52
15	270	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	270	5.20	7.02	174.510	42.605	180	234	1.00	95.96	23.43
16	270	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	270	2.88	3.52	88.940	21.888	36	47	1.00	48.47	12.00
17	270	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	270	8.36	12.84	282.705	69.020	360	468	1.00	165.49	37.96
18	268	10.51	13.86	345.203	77.582	299	384	1.00	188.86	42.84
	268	13.67	18.72	371.488	82.685	476	619	1.00	204.32	45.89
19	268	19.20	21.58	649.129	190.555	185	569	1.00	355.72	71.81
	268	1.50	2.09	40.186	9.811	47	61	1.00	22.10	5.49
20	268	3.35	4.58	112.159	27.711	183	308	1.00	61.66	15.24
	268	35.88	48.57	908.859	220.620	1440	1872	1.00	497.81	121.94
21	250	10.48	13.88	349.344	81.202	85	615	1.00	188.94	44.88
	250	5.20	7.02	170.715	41.578	180	234	1.00	93.89	22.82
22	246	5.55	7.49	181.735	44.257	58	540	1.00	99.85	24.33
	246	5.20	7.02	169.530	41.457	180	234	1.00	93.46	22.82
23	235	8.59	10.71	277.170	62.480	126	322	1.00	152.44	34.38
	235	12.01	16.21	308.797	75.534	147	191	1.00	170.39	41.69
24	235	9.64	12.48	310.785	72.479	205	445	1.00	170.95	39.85
	225	37.46	50.57	966.601	218.987	1728	2248	1.00	531.65	120.79
25	235	19.38	29.86	628.582	189.169	252	701	1.00	348.76	76.84
	235	35.98	48.57	870.362	212.491	1440	1872	1.00	478.78	116.67
26	222	28.82	32.48	841.643	186.394	202	371	1.00	462.88	102.52
	222	25.98	48.57	858.525	209.084	1440	1872	1.00	470.99	114.98
27	207	10.46	13.68	338.319	78.998	95	604	1.00	176.88	41.32
	207	5.20	7.02	161.782	39.490	180	234	1.00	88.96	21.72
28	200	11.06	15.98	340.670	88.708	168	482	1.00	187.37	48.79
	200	9.36	12.64	288.478	69.949	360	468	1.00	142.71	34.84
29	193	5.81	9.26	177.045	51.055	64	135	1.00	97.38	28.09
	193	9.88	12.84	256.948	62.707	360	468	1.00	141.27	34.49
30	189	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	189	7.50	10.13	238.678	58.829	86	47	1.00	126.77	31.71
31	175	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	175	1.20	1.62	35.579	8.686	12	16	1.00	18.37	4.78
32	171	2.18	3.11	84.256	18.548	126	210	1.00	38.33	9.18
	171	8.11	10.85	191.051	46.643	108	184	1.00	108.08	28.68
33	171	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	171	25.96	35.00	572.779	139.839	900	1170	1.00	338.08	76.81
34	180	6.46	8.88	189.146	44.020	378	377	1.00	100.73	24.21
	150	15.84	21.96	388.528	87.774	666	888	1.00	197.74	48.38
35	150	13.29	15.74	377.014	80.752	205	484	1.00	207.86	44.41
	150	40.28	54.37	856.896	209.227	1440	1872	1.00	471.86	115.08
36	139	2.80	4.69	80.599	29.242	82	192	1.00	44.55	12.76
	139	5.20	7.02	144.556	38.349	180	234	1.00	78.40	19.38
37	135	0.79	1.51	21.680	7.508	5	57	1.00	11.96	4.13
	135	5.20	7.02	143.157	34.990	180	234	1.00	78.74	19.22
38	130	0.78	1.22	21.221	5.986	5	31	1.00	11.67	3.29
	130	2.50	3.26	68.057	16.628	95	125	1.00	37.45	9.14
39	107	5.33	7.96	142.458	37.085	84	280	1.00	78.88	20.40
	107	5.20	7.02	139.958	32.705	180	234	1.00	78.69	17.89
40	92	27.07	31.02	687.887	142.855	365	667	1.00	367.34	78.37
	92	18.94	22.88	334.271	81.809	756	985	1.00	183.68	44.99
41	92	28.66	35.62	751.771	158.998	824	841	1.00	402.47	87.42
	92	35.98	48.57	665.785	162.545	1440	1872	1.00	355.16	88.48
42	42	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	42	24.00	32.40	475.802	115.863	720	936	1.00	260.32	63.35
43	6	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00
	6	0.30	0.41	5.368	1.311			1.00	2.89	0.72
44					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
45					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
46					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
47					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
48					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
49					#VALUE!			1.00	#VALUE!	#VALUE!
								1.00	#VALUE!	#VALUE!
50					#VALUE!			1.00	#VALUE!	#VALUE!

Height	Sum of Forces (lb)	
Flag	60 Azi.	180 Azi.
1.5088580	2788.617087	
1.5093343		
1.5085396	2380.948376	
1.5085946		
1.5047059	1410.307348	
1.5047059		
1.5100000	1157.05798	
1.5100010		
1.5029688	197.8856442	
1.5050864	474.0888174	
1.5060874		
1.5031250	128.8239182	
1.5031260		
1.5082154	27.95430955	
1.5082164		
1.5032573	27.85110819	
1.5032583		
1.5088208	7.459990624	
1.5088218		
1.5033019	175.4272862	
1.5033023		
1.5086864	875.7888408	
1.5036874		
1.5037037	769.4811611	
1.5037047		
1.5037037	967.9910871	
1.5037047		
1.5037087	1027.930819	
1.5037047		
1.5037037	1310.596964	
1.5037047		
1.5037818	716.8914918	
1.5037225		
1.5057313	1400.000688	
1.5037823		
1.5037813	2411.812332	
1.5037219		
1.5040000	514.0587784	
1.5040010		
1.5040660	881.6648299	
1.5040660		
1.5042553	586.867581	
1.5042568		
1.5041568	1864.888482	
1.5042568		
1.5042553	3350.7575	
1.5042565		
1.5040048	1697.987451	
1.5040055		
1.5040309	467.0716767	
1.5040319		
1.5090000	600.1458282	
1.5090010		
1.5051813	433.8855049	
1.5051828		
1.5051818	862.5987569	
1.5051823		
1.5057143	35.57875845	
1.5057153		
1.5058480	258.2857587	
1.5058490		
1.5058480	828.086216	
1.5058490		
1.5058667	542.8895676	
1.5058677		
1.5058667	1776.679156	
1.5058677		
1.5071942	224.8547542	
1.5071952		
1.5074074	184.8988763	
1.5074084		
1.5078928	89.30758555	
1.5078938		
1.5089458	278.4172769	
1.5093468		
1.5108696	1002.198288	
1.5108706		
1.5108696	2300.71479	
1.5108706		
1.5238095	478.8019575	
1.5238105		
1.5666667	5.388482764	
1.5666677		
1.5666677	#VALUE!	
1.5666687		
1.5666687	#VALUE!	
1.5666697		
1.5666697	#VALUE!	
1.5666707		
1.5666707	#VALUE!	
1.5666717		
1.5666717	#VALUE!	
1.5666727		
1.5666727	#VALUE!	
1.5666737		
1.5666737	#VALUE!	

ORIGIN ID:BDLA (312) 971-7583
PLANS.REVIEWER
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE
NEW BRITAIN, CT 06051
UNITED STATES US

SHIP DATE: 21SEP18
ACTWGT: 2.00 LB
CAD: 106699554/INET4040

TO **MATTHEW SPACCAPANICCIA**
SAC WIRELESS
540 WEST MADISON
9TH FLOOR
CHICAGO IL 60661
(312) 971-7583
INV:
PO: ER0123 CT03XC337 DEPT:

REF: CT03XC337_FROM_CSC

552J1/F78C/DCA5

RMA:

J182118081501uv

FedEx Express

RETURNS MON-FRI
**** 2DAY ****

TRK# 0221 **7908 7632 7075**

60661

IL-US

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

ORIGIN ID:CHIA (312) 971-7583
MATTHEW SPACCAPANICCIA
SAC WIRELESS
540 WEST MADISON
9TH FLOOR
CHICAGO, IL 60661
UNITED STATES US

SHIP DATE: 21SEP18
ACTWGT: 2.00 LB
CAD: 106699554/INET4040

BILL SENDER

TO **PLANS REVIEWER**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQUARE

NEW BRITAIN CT 06051
(312) 971-7583
INV:
PO: ER0123_CT03XC337 DEPT:

REF: CT03XC337_TO_CSC

552J1/F78C/DCA5

J182118081501uv

FedEx Express

TUE - 25 SEP 4:30P
**** 2DAY ****

TRK# 0201 **7732 9396 8270**

K7 BDLA

06051

CT-US BDL

After printing this label:
CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH
1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL®

7016 1370 0001 6047 5697

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To: Maeve Carroll
Street and Apt. No., or PO Box No.: 10 Presidential Way
City, State, ZIP+4®: Woburn, MA 01801

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL®

7016 1370 0001 6047 5727

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To: David R. Martin
Street and Apt. No., or PO Box No.: 888 Washington Boulevard 10th Floor
City, State, ZIP+4®: Stamford, CT 06901

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

CERTIFIED MAIL®

7016 1370 0001 6047 5703

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

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OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To: Bharat Gami
Street and Apt. No., or PO Box No.: 888 Washington Boulevard 7th Floor
City, State, ZIP+4®: Stamford, CT 06901

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
David R. Martin
City of Stamford Mayor
Stamford Government Center
888 Washington Boulevard 10th Floor
Stamford, CT 06901

9590 9402 2320 6225 5917 91

2. Article Number *(Transfer from service label)*
7016 1370 0001 6047 5727

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Bharat Gami
City of Stamford Chief Building Official
Stamford Government Center
888 Washington Boulevard 7th Floor
Stamford, CT 06901

9590 9402 2320 6225 5917 77

2. Article Number *(Transfer from service label)*
7016 1370 0001 6047 5703

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Maeve Carroll
American Towers Corp.
10 Presidential Way
Woburn, MA 01801

9590 9402 2320 6225 5917 60

2. Article Number *(Transfer from service label)*
7016 1370 0001 6047 5697

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION

A. Signature
X

B. Received by *(Printed Nam*

D. Is delivery address different
If YES, enter delivery addr

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Deliver
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Deli
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)

SENDER: COMPLETE THIS SECTION
- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
David W. Woods
City of Stamford Zoning Officer
Stamford Government Center
888 Washington Boulevard 7th Floor
Stamford, CT 06901

9590 9402 2320 6225 5917 84

2. Article Number *(Transfer from service label)*
7016 1370 0001 6047 5710

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

7016 1370 0001 6047 5710

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OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To: David W. Woods
Street and Apt. No., or PO Box No.: 888 Washington Boulevard 7th Floor
City, State, ZIP+4®: Stamford, CT 06901

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions