



June 22, 2016

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Street
New Britain, CT 06051

Regarding: Notice of Exempt Modification – Antenna Swap, Addition
of Three Radio Heads, 1 DC/Fiber Squid, and Six Triplexers
Property Address: 2 Mountain Street, Hartford, CT 06106

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing -110-foot monopole at the above-referenced address, latitude 41.726569, longitude -72.708169. Said monopole is owned by American Tower Corporation. The equipment space in the customer building is 26' x 12' totaling 312 square feet.

AT&T desires to modify its existing telecommunications facility by swapping three (3) antennas, adding three (3) remote-radio heads ("RRHs"), one (1) DC/Fiber Squid, and six (6) triplexers. The centerline height of said antennas is and will remain at 102 feet. Antennas are mounted utilizing a platform with hand rails.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to the Honorable Luke Bronin, Mayor of the City of Hartford and to the monopole owner American Tower Corporation. Please be advised the landowner is AT&T Mobility, as shown on the assessor's record attached.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72 (b)(2). Specifically:

1. The planned modification will not result in an increase in the height of the existing structure. The antennas to be swapped will be installed at the existing height of 102 feet on the 110-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (attached) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The monopole and its foundation can support AT&T's proposed modifications (please see attached structural analysis completed by American Tower dated June 6, 2016).

For the foregoing reasons, AT&T respectfully requests that the proposed antenna swap, remote radio head, D/C Fiber Squid and triplexer installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,



Sarah Snell
Site Acquisition Specialist

cc: The Honorable Luke Bronin, Mayor, City of Hartford
American Tower Corporation (tower owner)



City of Hartford Assessor Map

- Legend**
- Parcel ID
 - Employee Parcel ID
 - Building ID
 - Air Right ID
 - Parcels
 - City Boundaries Line
 - Building Construction
 - House Trailer
 - Foundation
 - Greenhouse
 - Driveway and Parking
 - Lot Unleaved
 - Lot Cleared
 - Physical Structure
 - Shops
 - Remedy
 - Ridge
 - Road Edge Unleaved
 - Wharf and Pier
 - Fuel Tank
 - Water Tank
 - Garage
 - Green
 - Grass
 - Land Trap
 - Swamp
 - Water
 - River or Stream
 - Vegetation



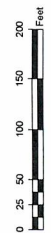
DISCLAIMER

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Horizontal Datum: Connecticut State Plane, Coordinate System: NAD 83
Vertical Datum: 1985 National Mean Sea Level, Units: US Feet



Date: October 1, 2015



Map Sheet 144





Printable Record Card | Previous Assessment | Condo Info | Zoning | Yahoo Map | **WebPro**

Card 1 of 1

Location 0289 MOUNTAIN ST HARTFORD Parcel ID 144-714-129

Current Property Mailing Address

Owner SPRINGWHICH CELLULAR TOWER HOLDINGS LLC City ST LOUIS
 Address AT & T MOBILITY LLC State MO
 909 CHESTNUT, RM 36-M-1 Zip 63101
 Zoning CAMP

Current Property Sales Information

Sale Date 7/7/2003 Legal Reference 04797-0166
 METROPOLITAN
Sale Price 0 Grantor(Seller)DISTRICT,BUREAU OF PUBLIC WORKS

Two Year Prior Assessment History

Fiscal Year 2013	Fiscal Year 2014
Property Use 409	Property Use 409
Total Value 42,140	Total Value 38,290

Current Property Assessment

Fiscal Year 2015	Building Value 38,290
Land Area 0.000 acres	Land Value 0
	Total Value 38,290

2011 Grand List Revaluation Fair Market Value

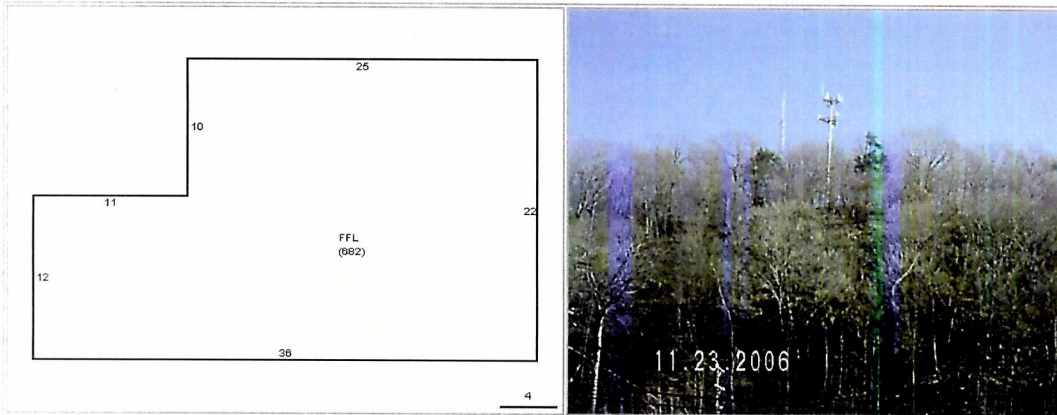
54,700

Narrative Description

This property contains 0.000 acres of land mainly classified as OTHER UTILTY with a(n) MFG/PROCESS style building, built about 1984 , having Brick exterior and Membrane roc cover, with 0 unit(s), 0 total room(s), 0 total bedroom(s), 0 total bath(s), 0 total half bath(s) total 3/4 bath(s).

Legal Description

Property Images





**WIRELESS COMMUNICATIONS FACILITY
CT1011 - LTE 1900 PCS RETROFIT
HARTFORD SOUTH
289 H MOUNTAIN STREET
HARTFORD, CT 06111**

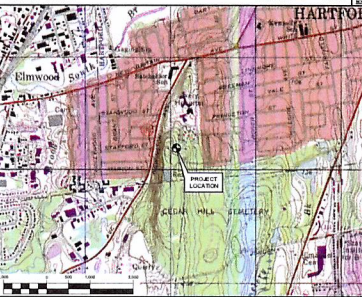
GENERAL NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2006 CONNECTICUT SUPPLEMENT AND 2006 AMENDMENTS, INCLUDING THE TABLE-222 REVISION "T" "CONSTRUCTION STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES," 2003 CONNECTICUT FIRE SAFETY CODE AND 2006 AMENDMENTS, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
- THE COMPACT, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMAND POINT ARE PROVIDED BY SITE OWNER AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
- CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
- CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB AS IN ACCORDANCE WITH LOCAL AND STATE CONCERNING AUTHORITIES AND OTHER AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
- CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
- LOCATION OF EQUIPMENT AND WORK SUPPLIED BY OTHERS THAT IS DISCONTINUOUSLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTOR.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SUBCONTRACTOR'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUPERSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION FOR MFG.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ANY AND ALL ERRORS, DISCREPANCIES AND "MISSING" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO "EXTRA" WILL BE ALLOWED FOR MISSING ITEMS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS MANAGED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
- COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION FOR THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-522-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
- CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROCEDURES FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM: 800 ENTERPRISE DRIVE ROOF HILL CONNECTION	TO: 289 H MOUNTAIN STREET HARTFORD, CT 06111
1. TURN LEFT ONTO CAPITOL BLVD.	0.5 MI
2. TURN RIGHT ONTO STATE HWY 411	0.3 MI
3. TURN LEFT ONTO SOUTHER AVE	1.4 MI
4. TURN RIGHT ONTO MARLE ST	0.6 MI
5. TURN LEFT ONTO BRIDGEMAN RD	0.5 MI
6. TURN LEFT ONTO PHOENIX ST	0.5 MI
7. TURN RIGHT ONTO RIDGE RD	2.5 MI
8. TURN RIGHT ONTO MARLE AVE	4.0 MI
9. TURN LEFT ONTO FAIRFIELD AVE	0.3 MI
10. TURN LEFT ONTO WALK CT	0.2 MI
11. TURN LEFT ONTO ROVER ST	0.2 MI
12. TURN RIGHT AT THE FIRST CROSS STREET ONTO PRINCETON ST.	2.92 MI
13. TURN LEFT AT THE FIRST CROSS STREET ONTO HAWARD ST.	0.2 MI
14. HAWARD ST TURNS RIGHT AND BECOMES MOUNTAIN ST.	2.66 MI
15. TURN LEFT TO STOP ON MOUNTAIN ST.	0.2 MI

VICINITY MAP



PROJECT SUMMARY

- THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:
 - REMOVE AND REPLACE EXISTING POSITION 4 ANTENNA FOR PROPOSED (1) POSE ANTENNA, (1) FOR SECTOR
 - REMOVE AND REPLACE (3) EXISTING 1900-1(11900 MHz) WITH (3) NEW 800-32 824 MOUNTED BY ANTENNA ON EXISTING MONOPOLE.
- INSTALL (1) NEW TOWER MOUNTED SURGE ARRESTOR
- INSTALL (2) NEW TOWER MOUNTED TRIPLEXERS BEHIND POSITION 2 ANTENNA

PROJECT INFORMATION

AT&T SITE NUMBER: CT1011
 AT&T SITE NAME: HARTFORD SOUTH
 SITE ADDRESS: 289 H MOUNTAIN STREET
 HARTFORD, CT 06111
 PROPERTY OWNER: AMERICAN TOWER CORP
 118 HANOVERIAN AVE., 11TH FLOOR
 BOSTON, MA 02116
 LESSEE/APPLICANT: AT&T MOBILITY
 800 ENTERPRISE DRIVE, SUITE 3A
 ROOF HILL, CT 06067
 CONTACT PERSON: LAUREN GRISPI
 EMPIRE TELECOM, LLC
 (978)430-2534
 ENGINEER: CENTEX ENGINEERING, INC.
 83-2 NORTH BRANFORD RD
 BRANFORD, CT 06405
 PROJECT COORDINATOR: LATITUDE: 41°-43'-33.85" N
 LONGITUDE: 72°-47'-28.44" W
 GROUND ELEVATION: 8286' AMSL
 (THIS ABOVE COORDINATED AND GROUND ELEVATION ALIGNED WITH ELEVATIONS SHOWN HEREIN ARE UTILITIES FROM THE SUPPLY CERTIFICATION AS PREPARED BY THE BROADBAND GROUP, INC., JOB NO. 99-202 DATED 05/14/1999)

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES AND SPECIFICATIONS	0
C-1	PLANS, ELEVATION AND DETAILS	0
C-2	LITE BME EQUIPMENT DETAILS AND ELEVATIONS	0
E-1	TYPICAL ELECTRICAL DETAILS AND NOTES	0

PROFESSIONAL ENGINEER SEAL

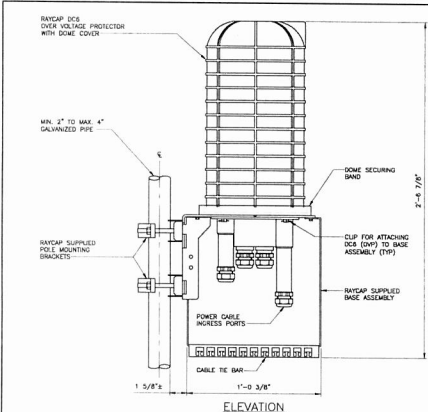
at&t
EMPIRE telecom

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
HARTFORD SOUTH
CT1011 - LTE 1900 PCS RETROFIT
289 H MOUNTAIN STREET
HARTFORD, CT 06111

DATE: 05/03/17
SCALE: AS NOTED
JOB NO: 18022.06

TITLE SHEET

T-1
Sheet No. 1 of 3



NOTES:
1. RAYCAP VIA AT&T SUPPLIES THE DCs OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

1 RAYCAP DCs MOUNTING DETAIL
SCALE: 3" = 1'-0"



2 EXISTING TOWER BASE REPAIR DETAIL
SCALE: N.T.S.

NOTES AND SPECIFICATIONS

DESIGN BASIS

- GOVERNING CODE: 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT STATE BUILDING CODE AND 2008 AMENDMENTS.
- DESIGN CRITERIA:
 - WIND LOAD: PER ASCE 7-02 (ANTENNA MOUNTS): 80 MPH (FASTEST MILE), EQUIVALENT TO 85 MPH (3 SECOND DUST)
 - BUILDING CLASSIFICATION: II (BASED ON IBC TABLE 1604.5)
 - BASED WIND SPEED (OTHER STRUCTURES): 90 MPH (3 SECOND GUST) (EXPOSURE B) (IMPORTANCE FACTOR 1.0 BASED ON ASCE 7-02) FOR 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CONNECTICUT SUPPLEMENT AND 2008 AMENDMENT.
 - SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7-02 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE SUBSTANTIALLY TO ANY DIMENSIONS, LANE, COLOR, GRADE, WEIGHT, OR REGULATIONS SHOWN ON THE DRAWING, THE CONTRACTOR SHALL NOTIFY THE OWNER AND SHALL DELIVER THE WORK CORRECTLY IN ACCORDANCE WITH SUCH DIMENSIONS, LANE, COLOR, GRADE OR REGULATIONS WITH NO INCREASE IN COSTS.
- BEFORE BEGINNING WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AS ARE CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
- DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- ALL DIMENSIONAL, ELEVATION AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONAL, ELEVATION, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
- AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONTACT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONTACT IS SATISFACTORILY RESOLVED.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY DEVICES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHIELDING, BARRIERS, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
- THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF SHIELDING, BARRIERS, UNDERPINNING, ETC. THAT MAY BE NECESSARY TO MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WITH NEAREST UTILITIES.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REPAIRATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF SHIELDING, BARRIERS, TEMPORARY BRACING, STAYS OR TENSORS, WHICH MAY BE NECESSARY.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND SIGN THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
- NO DRILLING, WELDING OR TAPING ON CLAMP OWNED EQUIPMENT.
- REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
 - A. STRUCTURAL STEEL (W SHAPES)—ASTM A588 (FY = 50 KSI)
 - B. STRUCTURAL STEEL (OTHER SHAPES)—ASTM A588 (FY = 50 KSI)
 - C. STRUCTURAL WEE (RECTANGULAR SHAPES)—ASTM A500 GRADE B (FY = 48 KSI)
 - D. STRUCTURAL WEE (ROUND SHAPES)—ASTM A500 GRADE B (FY = 42 KSI)
 - E. CONNECTION BOLTS—ASTM A325-N
 - F. CONNECTION BOLTS—ASTM A325-N
 - G. ANCHOR BOLTS—ASTM F 1554
 - H. ANCHOR BOLTS—ASTM F 1554
 - I. WELDING ELECTRODE—ASTM E 70XX
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES, INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
- PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PLATES AND BOLTS REQUIRED TO COMPLETE THE STRUCTURE.
- FIT AND SHOP ASSEMBLY FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
- INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTION OR DEFECTS.
- AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 50% ORGANIC ZINC PAINT PER IN ACCORDANCE WITH ASTM 780.
- ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153 ZINC DUST BIPPED GALVANIZED COATING ON IRON AND STEEL PRODUCTS.
- ALL BOLTS, NUTS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE.
- THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR DEFECTIVE MATERIALS OR NON-COMFORMING MATERIALS OR CONDITIONS TO CORRECTING OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
- CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
- STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
- SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
- WELD BEARING ENDS OF COLLARS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
- FABRICATE BEAMS WITH WELL CAMBER UP.
- LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1/800, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
- COMMENCEMENT OF STRUCTURAL STEEL WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
- INSPECTION OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
- FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

- PAINTING SCHEDULE:**
- ANTENNA PANELS:
 - A. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
 - GENERAL DETAILS:
 - A. ONE COAT OF EPM BONDING PRIMER (2.5-3 MILS DRY FRESH)
 - B. TWO COATS OF EPM ACRYLIC PRIMER/FINISH (2.5-3 MILS DRY FRESH)
 - C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.
- DIMENSION AND PREPARATION:**
- DO NOT APPLY PAINT IN SNOW, RAIN, DUST OR WIND WHEN RELATIVE HUMIDITY EXCEEDS 85% DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
 - VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE THOROUGHLY TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
 - TEST SHOP APPLIED FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIAL.
 - PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
 - CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT SHOW LOOSE SURFACE DEFECTS.
 - IMPROVED SURFACE: REMOVE WELD SPATTER, BRUSH WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
 - ALUMINUM SURFACES: CONTINUED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER REMOVE OXIDATION WITH AOD LTO AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
 - FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED, REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE AND OTHER COATINGS WITH THE STEEL STRAIGHTENING, MECHANICAL CLEANING METHODS THAT RECOMMENDATIONS TO USE SOLVENT OR MECHANICAL CLEANING METHODS THAT RECOMMENDATIONS TO USE SOLVENT AND SHOP APPLIED PRIMER COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME FINISH AS THE SHOP COAT.
 - GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON-PETROLEUM-BASED SOLVENTS. DO NOT USE SURFACE TO REMOVE CONTAMINATION. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL, FABRICATED FROM ONE STOCK BY MECHANICAL METHODS.
 - ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO INSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
 - COATLINES: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO INSURE ADEQUATE ADHESION.
- CLEANING:**
- COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.
- APPLICATION:**
- APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - DO NOT SHOP APPLIED FINISHES TO SURFACES THAT ARE NOT DRY.
 - APPLY EACH COAT TO UNIFORM FINISH.
 - APPLY EACH COAT OF PAINT SLOWLY DARNER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
 - SAND MILL LIGHTS BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
 - INCLUDE CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
 - ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.
- COMPLETED WORK:**
- SAMPLES: PREPARE 24" x 24" SAMPLE AREA FOR REVIEW.
 - MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPEAT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

DATE: 02/03/16
SCALE: AS NOTED
JOB NO: 16002.06

NOTES AND SPECIFICATIONS

N-1

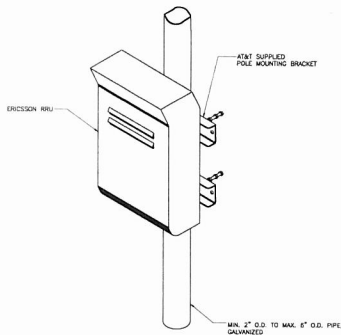
Sheet No. 2 of 2

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
HARTFORD SOUTH
CT1011- LITE 1800 PCS RETROFIT
280 H MOUNTAIN STREET
HARTFORD, CT 06111

EMPIRE telecom

CENITEK
2000 W. 100th St.
Cedar Rapids, IA 52403
563-321-1100
www.cenitek.com

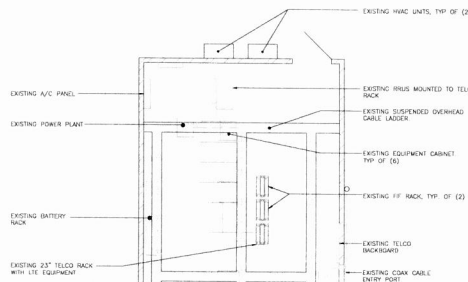
PROFESSIONAL ENGINEER SEAL
STATE OF CONNECTICUT
NO. 10000
DATE: 02/03/16
NAME: JAMES M. CHANDLER
FIRM: CHANDLER ENGINEERING, INC.



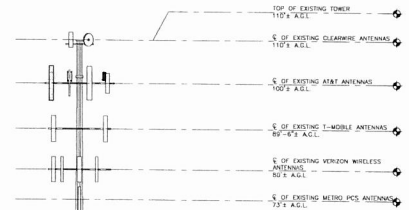
NOTES:

1. AT&T SHALL SUPPLY RRU AND RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL SUPPLY POLE/PIPE AND INSTALL ALL MOUNTING HARDWARE INCLUDING ERICSSON RRU POLE-MOUNTING BRACKET. CONTRACTOR SHALL PROVIDE RRU AND WAVE GUIDE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

3 TYPICAL RRU MOUNTING DETAILS
SCALE: NTS



2 EQUIPMENT BUILDING FLOOR PLAN
SCALE: 1/4" = 1'-0"

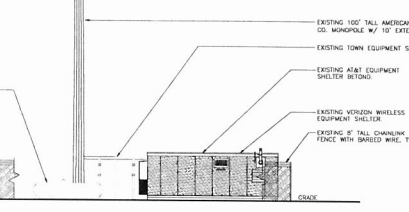


TOWER STRUCTURAL NOTES:

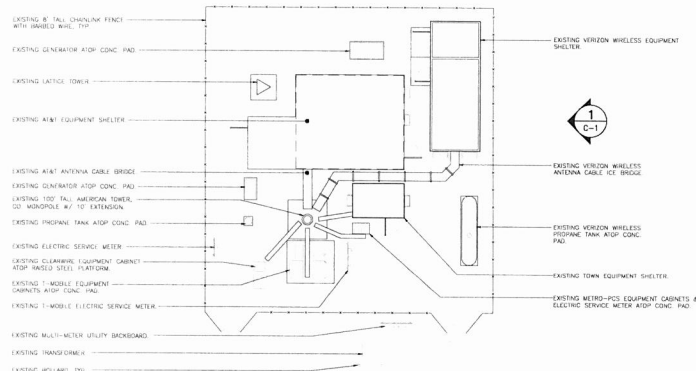
1. REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY AMERICAN TOWER CO., PROJ. NO. XXXX-00, DATED XXXXX 00, FROM NO. XXXX-00, DATED XXXXX 00, FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. ALL ANTENNAS AND CSMA TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER CO. AND FINAL AT&T RF DATA SHEET.

NOTES:

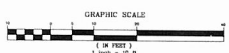
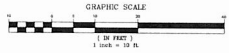
1. OTHER CARRIER EQUIPMENT NOT SHOWN FOR CLARITY.
2. A.G.L. = ABOVE GRADE LEVEL.



1 EAST ELEVATION
SCALE: 1" = 10'



1 COMPOUND PLAN - PROPOSED
SCALE: 1" = 10'



PROFESSIONAL ENGINEER SEAL

DATE: 05/03/18
SCALE: AS NOTED
JOB NO. 18002.08

PLANS, ELEVATION AND DETAILS

C-1

Sheet No. 2 of 3

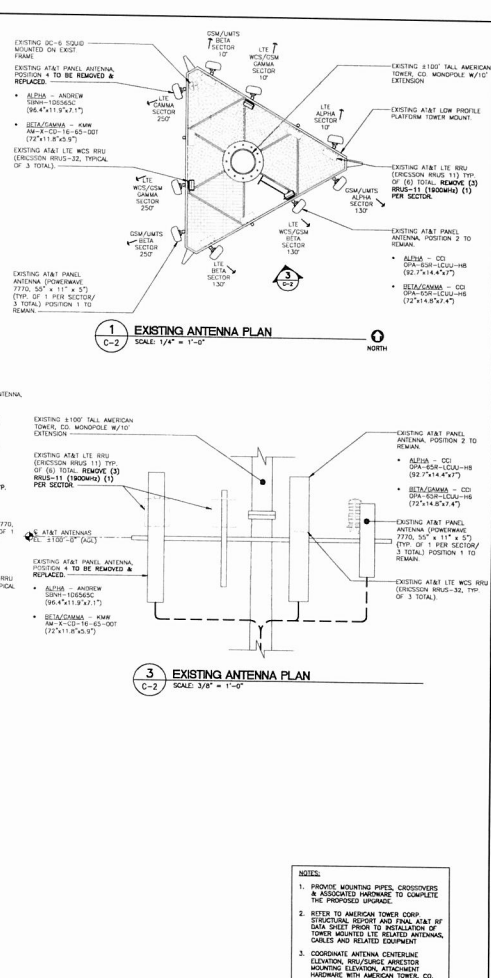
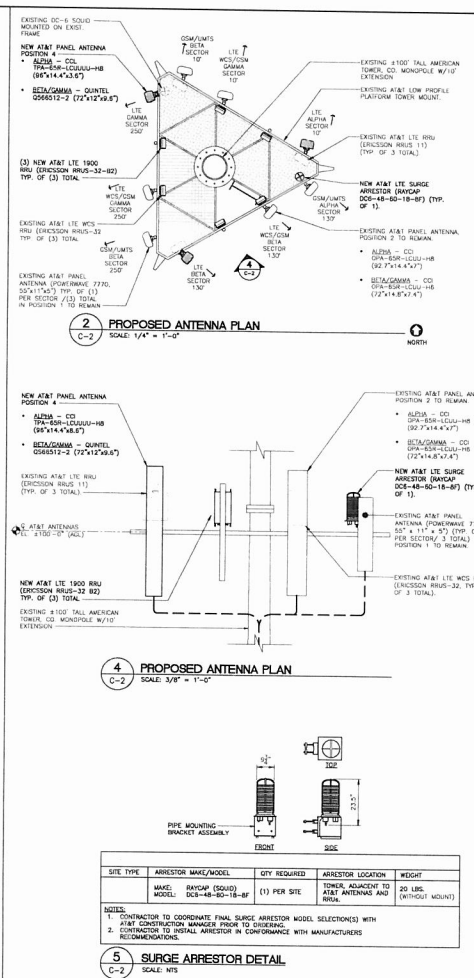
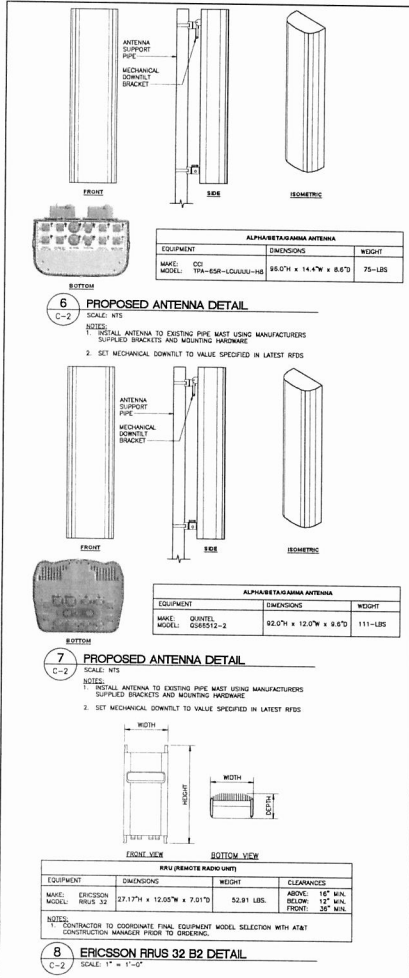
AT&T MOBILITY
HARTFORD SOUTH
CT 01116-1800 PCS RETROFIT
PROJECT
HARTFORD, CT 06111

DATE: 05/03/18
SCALE: AS NOTED
JOB NO. 18002.08

PLANS, ELEVATION AND DETAILS

C-1

Sheet No. 2 of 3



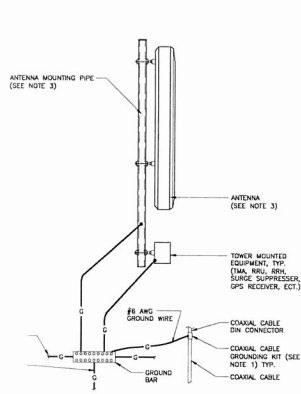
DATE: 05/03/16
SCALE: AS NOTED
JOB NO. 18002-06

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
HARTFORD SOUTH
CTIOT - LITE 1900 PCS RETROFIT
288 H MOUNTAIN STREET
HARTFORD, CT 06111

DATE: 05/03/16
SCALE: AS NOTED
JOB NO. 18002-06

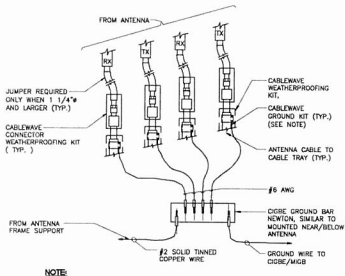
LTE BIVE
EQUIPMENT
DETAILS AND
ELEVATIONS

C-2



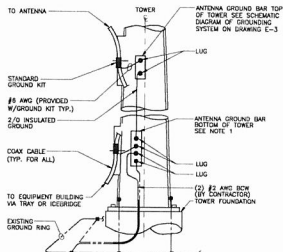
- NOTES:
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
 2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURER'S SPECIFICATIONS.
 3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

2 TYPICAL ANTENNA GROUNDING DETAIL
E-1 NOT TO SCALE



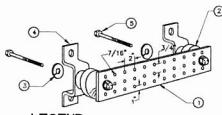
- NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO COAX.

5 CONNECTION OF GROUND WIRES TO GROUND BAR
E-1 NOT TO SCALE

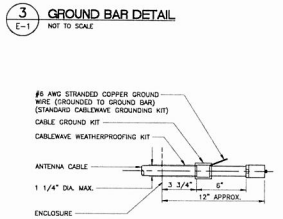


- NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION PROVIDED AS REQUIRED.
 2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

1 ANTENNA CABLE GROUNDING - MONOPOLE
E-1 NOT TO SCALE



- LEGEND
1. TANKED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG.
 2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2, 308T-4.
 3. 5/16" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-B.
 4. CAT. NO. 4H-8056.
 5. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. 4H-8056.
 6. STAINLESS STEEL SECURITY SCREWS.



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

4 ANTENNA CABLE GROUNDING DETAIL
E-1 NOT TO SCALE

ELECTRICAL NOTES

1. PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH OWNER FOR ALL CONSTRUCTION STANDARDS AND SPECIFICATIONS, AND ALL MANUFACTURER DOCUMENTATION FOR ALL EQUIPMENT TO BE INSTALLED.
2. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
3. CONNECT ALL NEW EQUIPMENT TO EXISTING TELES AS REQUIRED BY MANUFACTURER.
4. MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
5. PRIOR TO INSTALLATION CONTRACTOR SHALL MEASURE EXISTING ELECTRICAL LOAD AND VERIFY EXISTING AVAILABLE CAPACITY FOR PROPOSED INSTALLATION. IF INADEQUATE CAPACITY IS AVAILABLE, CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRIC UTILITY COMPANY TO UPGRADE EXISTING ELECTRICAL SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS CONFORMING WITH NEC AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNER'S REPRESENTATIVE, AND ANY DISCREPANCIES SHALL BE CORRECTED.
7. ALL TRANSMISSION TOWER SITES CONTAIN AN EXTENSIVE BURIED GROUNDING SYSTEM. ALL GROUNDING WORK MUST BE COORDINATED WITH AND APPROVED BY THE TOWER OWNER'S SITE REPRESENTATIVE. ALL OF THE TOWER OWNER'S SPECIFICATIONS MUST BE STRICTLY FOLLOWED.
8. PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNER'S GROUNDING SYSTEM PER OWNER'S SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE TWIN (ONE APPLICATION) AND SOME (EXT. APPLICATION), 75 TO 90°C, AND VOLT REGULATION, SOFT ANNEALED STRANDED COPPER, #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE COLLOIDAL PRESSURE CONNECTORS. #6 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLICE AND TYP. CONNECTORS. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR ALL VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SPECIFICATIONS FOR BRANCH CIRCUIT CONDUCTOR SIZES. CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION.
10. MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
11. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH MAY APPLY AND NOTHING IN THE DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS AN IMPROVEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COMPLETION OF THE ENTIRE ELECTRICAL SERVICE. ALL ELECTRICAL AND OTHER ADMINISTRATIVE JURISDICTION OF TRADE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR REMEDIATION WORK REQUIRED.
15. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR FROM THE ACCEPTANCE DATE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO THE OWNER.
16. DRAWINGS INDICATE GENERAL ARRANGEMENT OF WORK INCLUDED IN CONTRACT. CONTRACTOR SHALL WITHOUT EXTRA CHARGE, MAKE MODIFICATIONS TO THE LAYOUT OF THE WORK TO PREVENT CONFLICT WITH WORK OF OTHER TRADES AND FOR THE PROPER INSTALLATION OF WORK. CHECK ALL DRAWINGS AND VISIT JOB SITE TO VERIFY SPACE AND TEST FOR EXISTING CONDITIONS IN WHICH WORK WILL BE DONE, PRIOR TO SUBMITTAL OF BID.
17. ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN IMPEDIMENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
18. GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
19. EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122 (PART #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE NOT EXCEEDING 5 OHM BETWEEN ANY POINT ON THE GROUNDING SYSTEM AS MEASURED BY 3-POINT GROUNDING TEST. (REFER TO SECTION 16960).

- TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM
- A. CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) AS SPECIFIED BY OWNER TO PERFORM:
 1. TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM. THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:
 1. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 2. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING, INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
 3. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
 2. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNER. CONTRACTOR REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND REPLY/ANALYSIS.
 3. THE CONTRACTOR SHALL FURNISH SIX (6) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO ENGINEER A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
 - B. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

DATE: 09/03/18
SCALE: AS NOTED
JOB NO: 18002.09

AT&T MOBILITY
HARTFORD SOUTH
200 H. MONTGOMERY STREET
HARTFORD, CT 06103

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AT&T MOBILITY
HARTFORD SOUTH
200 H. MONTGOMERY STREET
HARTFORD, CT 06103

DATE: 09/03/18
SCALE: AS NOTED
JOB NO: 18002.09

E-1



AMERICAN TOWER®
CORPORATION

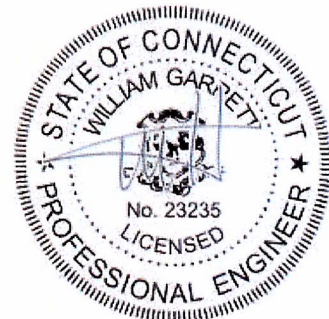
Structural Analysis Report

Structure : 110 ft Monopole
ATC Site Name : Hrfr - South, CT
ATC Site Number : 302481
Engineering Number : 66593122
Proposed Carrier : AT&T Mobility
Carrier Site Name : Hartford South
Carrier Site Number : CT1011/FA#10034968
Site Location : Mountain Road
Hartford, CT 06106-4121
41.726569,-72.708169
County : Hartford
Date : June 6, 2016
Max Usage : 98%
Result : Pass

Reviewed by:
William Garrett, PE
Chief Engineer

Prepared By:
Nupur Khadilkar
Engineer Intern

Nupur S. Khadilkar



Jun 6 2016 3:08 PM

COA: PEC.0001553



Table of Contents

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Supporting Documents	1
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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 110 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Mapped by Smith Cullum Site #CT-0017(A), dated June 6, 2001
Foundation Drawing	Girard & Co Engineering Job #39902, dated April 29, 1988
Geotechnical Report	TEP Project #071162.01, dated July 23, 2007
Modifications	ATC Project #42719232, dated January 12, 2009 ATC Project #43595333, dated July 1, 2009 ATC Project #43930034, dated September 15, 2009 ATC Project #44662232, dated March 30, 2010

Analysis

The tower was analyzed using American Tower Corporation’s tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	95 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	4
Crest Height:	36 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

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

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
110.0	110.0	3	DragonWave Horizon Compact	Side Arms	(6) 5/16" Coax (3) 1/2" Coax	Clearwire
		1	DragonWave A-ANT-23G-1-C			
		3	NextNet BTS-2500			
		3	Argus LLPX310R			
		2	DragonWave A-ANT-11G-2.5-C			
100.0	100.0	6	Powerwave LGP21401	Platform w/ Handrails	(12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3" Conduit	AT&T Mobility
		2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS-11			
		3	Ericsson RRUS-32			
		3	Powerwave 7770.00			
		2	Quintel QS66512-2			
		2	CCI OPA-65R-LCUU-H6			
		1	CCI OPA-65R-LCUU-H8			
		1	CCI TPA-65R-LCUUUU-H8			
		1	10' Omni			Other
91.0	91.0	3	Kathrein Smart Bias Tee	Low Profile Platform	(18) 1 5/8" Coax	T-Mobile
		3	Ericsson KRY 112 144/1			
	87.0	3	Ericsson KRY 112 489/1			
		3	RFS APX16DWV-16DWV-S-E-ACU			
		3	Commscope LNX-6515DS-VTM			
80.0	80.0	3	Alcatel-Lucent RRH2X60-AWS	Low Profile Platform	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		6	Antel BXA-171063-12CF-EDIN-5			
		2	RFS DB-T1-6Z-8AB-OZ			
		6	Antel BXA-70063-6CF-EDIN-2			
75.0	75.0	1	Scala 840 10212	Stand Offs	(1) 7/8" Coax	WEST Hartford
		1	TX RX Systems 421-86A-10-18-12-N			
70.0	70.0	3	72" x 6" Panel	Side Arms	(6) 1 5/8" Coax	Metro PCS
60.0	60.0	1	Scala 840 10212	Stand Off	(1) 1/4" Coax (1) 7/8" Coax	WEST Hartford
		1	Radio Waves SP2-4.7 w/ Radome			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
102.0	102.0	1	Andrew SBNH-1D6565C	-	-	AT&T Mobility
		2	KMW AM-X-CD-16-65-00T-RET			
		6	Kathrein 860-10025			
		3	Ericsson RRUS-11			



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
100.0	100.0	6	Powerwave 7020.00 Dual Band RET	Platform w/ Handrails	-	AT&T Mobility
		3	Ericsson RRUS 32 B2			
	98.0	6	CCI TPX-070821			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	36%	Pass
Shaft	98%	Pass
Base Plate	67%	Pass
Flanges	21%	Pass
Reinforcement	94%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	1,628.8	81%
Axial (Kips)	80.5	17%
Shear (Kips)	22.9	76%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Foundations and Anchorages have been analyzed with a factor of safety greater than or equal to two.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
110.0	DragonWave A-ANT-23G-1-C	Clearwire	1.611	1.486
	DragonWave A-ANT-11G-2.5-C			
100.0	Powerwave Allgon 7020.00 Dual Band RET	AT&T Mobility	1.353	1.464
	CCI TPX-070821			
	Ericsson RRUS 32 B2			
60.0	Radio Waves SP2-4.7 w/ Radome	West Hartford	0.526	0.935

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

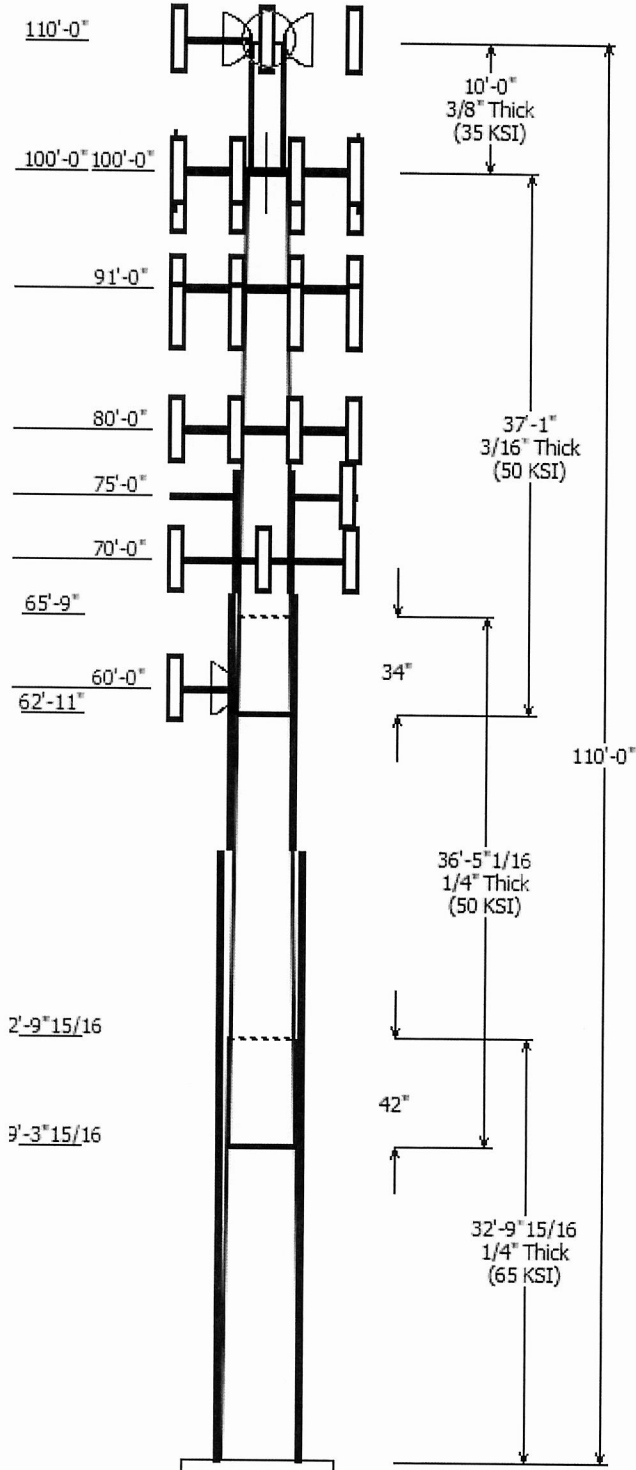
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.

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Job Information

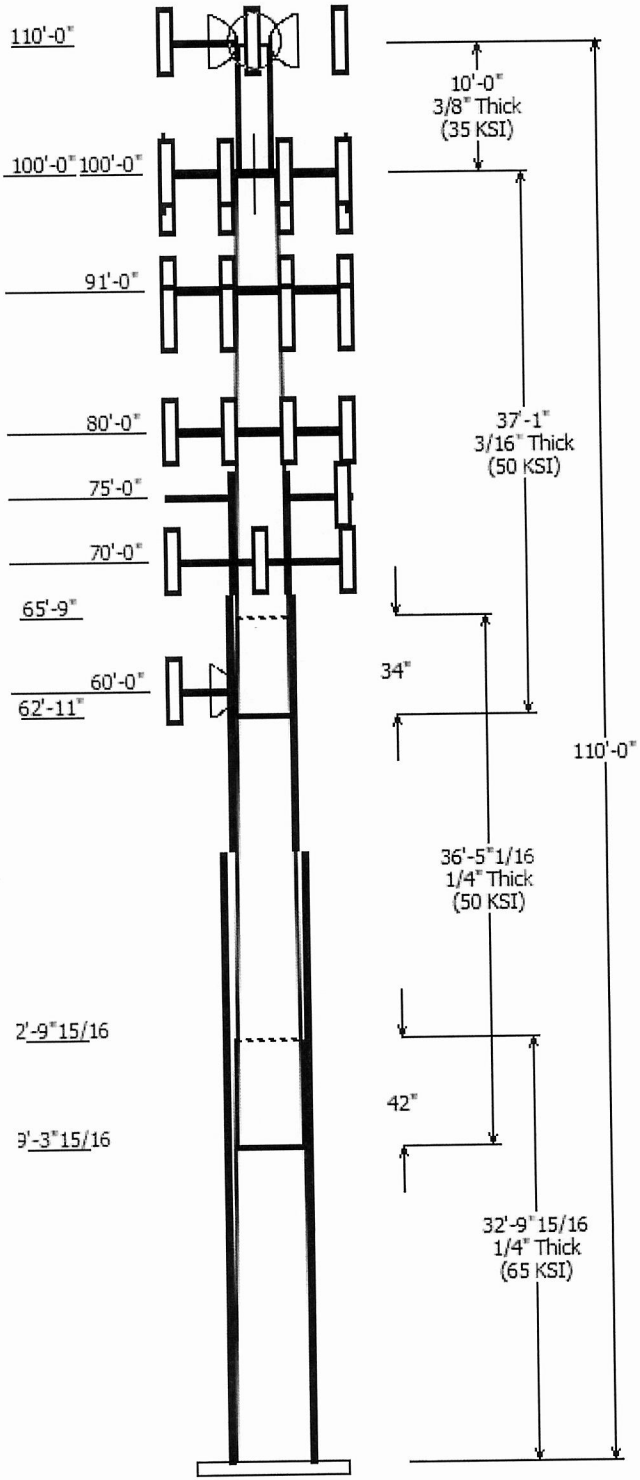
Pole : 302481 Code: ANSI/TIA-222-G
 Description : 110 ft ITT Meyer Monopole
 Client : AT&T MOBILITY Struct Class : II
 Location : Hrfr - South, CT
 Shape : 12 Sides Exposure : B
 Height : 110.00 (ft) Topo : 4
 Base Elev (ft): 0.00
 Taper: 0.16375'(in/ft)

Sections Properties

Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Across Top	Flats Bottom				
1	32.830	24.62	30.00	0.250	0.000	0.163800	65
2	36.420	19.73	25.69	0.250 Slip Joint	42.000	0.163800	50
3	37.083	14.50	20.57	0.188 Slip Joint	34.000	0.163800	50
4	10.000	12.75	12.75	0.375 Butt Joint	0.000	0.000000	35

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
110.000	110.000	1	Side Arms
110.000	110.000	1	DragonWave A-ANT-23G-1-C
110.000	110.000	3	Argus LLPX310R
110.000	110.000	3	NextNet BTS-2500
110.000	110.000	2	DragonWave A-ANT-11G-2.5-C
110.000	110.000	3	DragonWave Horizon Compact
100.000	100.000	1	Stand-Off
100.000	98.000	6	CCI TPX-070821
100.000	100.000	1	10' Omni
100.000	100.000	1	CCI TPA-65R-LCUIIU-H8
100.000	100.000	2	Quintel QS66512-2
100.000	100.000	3	Ericsson RRUS 32 B2
100.000	100.000	6	Powerwave Allgon 7020.00
100.000	100.000	3	Ericsson RRUS-11
100.000	100.000	1	CCI OPA-65R-LCUIIU-H8
100.000	100.000	2	CCI OPA-65R-LCUIIU-H6
100.000	100.000	3	Ericsson RRUS-32
100.000	100.000	2	Raycap DC6-48-60-18-8F
100.000	100.000	3	Powerwave 7770.00
100.000	100.000	1	Flat Platform w/ Handrails
100.000	100.000	6	Powerwave LGP21401
91.000	91.000	1	Flat Low Profile Platform
91.000	87.000	3	Commscope LNX-6515DS-VTM
91.000	87.000	3	RFS APX16DWV-16DWV-S-E
91.000	87.000	3	Ericsson KRY 112 489/1
91.000	87.000	3	Ericsson KRY 112 144/1
91.000	91.000	3	Kathrein Smart Bias Tee
80.000	80.000	1	Round Low Profile Platform
80.000	80.000	3	Alcatel-Lucent RRH2x60 700
80.000	80.000	3	Alcatel-Lucent RRH2X60-AWS
80.000	80.000	2	RFS DB-T1-6Z-8AB-0Z
80.000	80.000	6	Antel BXA-70063-6CF-EDIN-2
80.000	80.000	6	Antel BXA-171063-12CF-EDIN-5
75.000	75.000	2	Stand Offs
75.000	75.000	1	TX RX Systems 421-86A-10-18-
75.000	75.000	1	Scala 840 10212
70.000	70.000	3	Round Side Arms
70.000	70.000	3	72" x 6" Panel
60.000	60.000	1	Stand Off
60.000	60.000	1	Scala 840 10212
60.000	60.000	1	Radio Waves SP2-4.7 w/

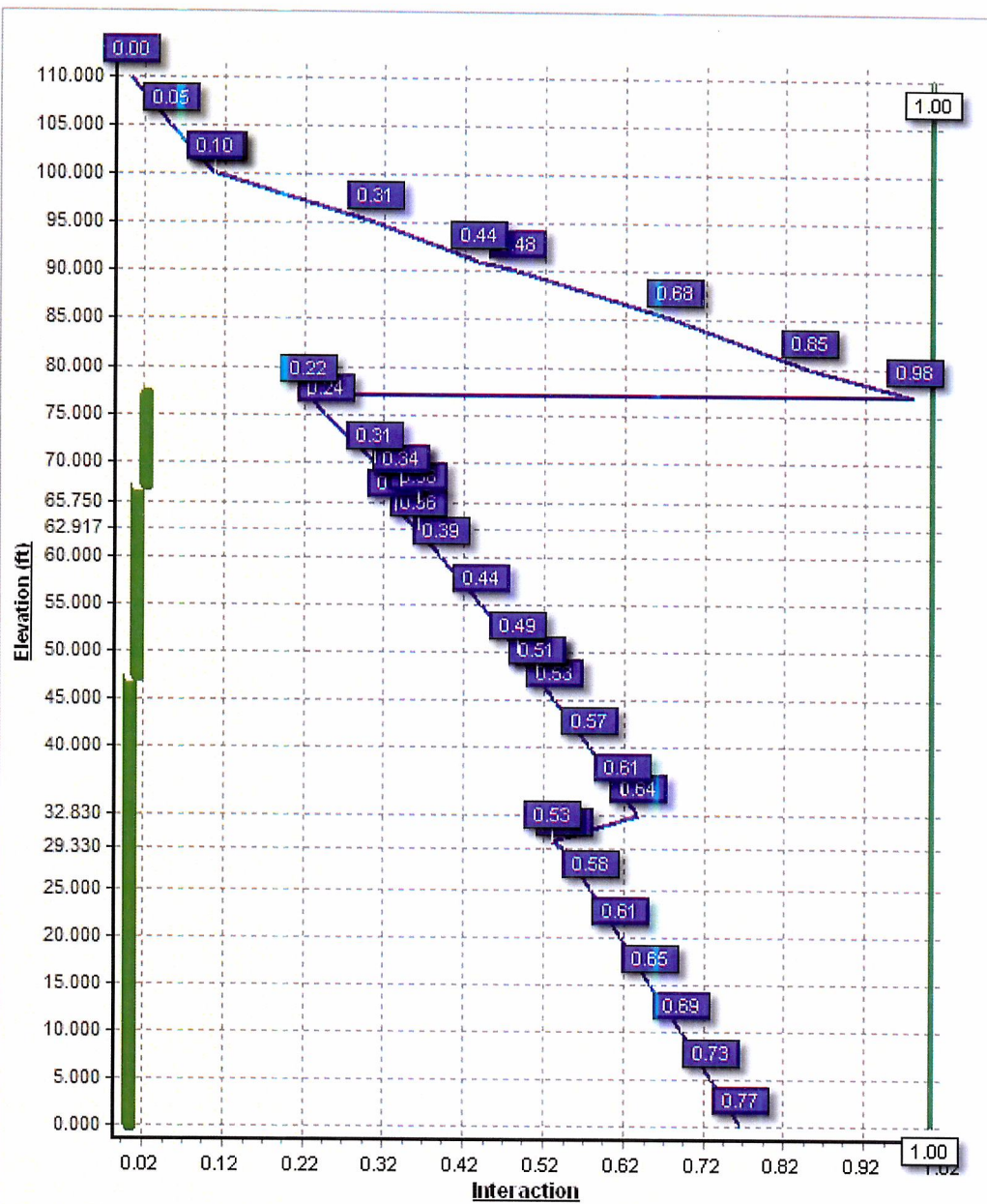


Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	60.000	1/4" Coax	Yes
0.000	60.000	7/8" Coax	Yes
0.000	70.000	1 5/8" Coax	Yes
0.000	75.000	7/8" Coax	Yes
0.000	80.000	1 5/8" Coax	Yes
0.000	80.000	1 5/8" Hybriflex	Yes
0.000	81.000	#20 DYWIDAG	Yes
0.000	91.000	1 5/8" Coax	Yes
0.000	100.0	0.39" Fiber Trunk	No
0.000	100.0	0.78" 8 AWG 6	No
0.000	100.0	1 5/8" Coax	No
0.000	100.0	1 5/8" Coax	Yes
0.000	100.0	3" Conduit	No
0.000	110.0	1/2" Coax	Yes
0.000	110.0	5/16" Coax	No

Load Cases	
1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	1628.82	22.90	30.47
0.9D + 1.6W	1604.67	22.54	22.84
1.2D + 1.0Di + 1.0Wi	482.21	6.04	80.49
(1.2 + 0.2Sds) * DL + E ELFM	92.88	1.04	30.28
(1.2 + 0.2Sds) * DL + E EMAM	117.82	1.33	30.28
(0.9 - 0.2Sds) * DL + E ELFM	91.29	1.04	21.06
(0.9 - 0.2Sds) * DL + E EMAM	115.66	1.32	21.06
1.0D + 1.0W	402.47	5.63	25.45

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	60.00	6.310	0.935
1.0D + 1.0W	110.00	19.328	1.486
1.0D + 1.0W	110.00	19.328	1.486



Site Number: 302481
 Site Name: Hrfr - South, CT
 Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
 Engineering Number: 66593122

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Analysis Parameters

Location:	Hartford County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	110
Shape:	12 Sides. Sect 4: Round	Base Diameter (in):	30.00
Pole Type:	Custom	Top Diameter (in):	12.75
Pole Manufacturer:	ITT Meyer	Taper (in/ft) :	0.164

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	95 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	4	Operational Wind Speed:	60 mph
Crest Height:	36.4 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.17		
T _L (sec):	6	p:	1.3
S _s :	0.181	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.193	S _{d1} :	0.102
		C _s :	0.031
		C _s Max:	0.031
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302481

Code: ANSITIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

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Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	32.830	0.2500	65		0.00	2,434	30.00	0.00	23.95	2705.5	29.47	120.00	24.62	32.83	19.62	1487.9	23.71	98.50	0.163751
2-12	36.420	0.2500	50	Slip	42.00	2,241	25.69	29.33	20.49	1693.2	24.86	102.79	19.73	65.75	15.68	759.9	18.47	78.93	0.163751
3-12	37.083	0.1875	50	Slip	34.00	1,322	20.57	62.92	12.31	652.8	26.72	109.72	14.50	100.00	8.64	225.9	18.04	77.33	0.163751
4-R	10.000	0.3750	35	Butt	0.00	496	12.75	100.00	14.58	279.3	0.00	34.00	12.75	110.00	14.58	279.3	0.00	34.00	0.000000
Shaft Weight						6,493													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
110.00	Argus LLPX310R	3	28.60	4.290	0.63	178.50	5.481	0.63	0.000	0.000
110.00	DragonWave A-ANT-11G-2.5-	2	47.60	8.670	0.90	213.26	10.914	0.90	0.000	0.000
110.00	DragonWave A-ANT-23G-1-C	1	15.00	1.610	0.90	60.90	2.594	0.90	0.000	0.000
110.00	DragonWave Horizon	3	10.60	0.430	0.50	54.59	0.772	0.50	0.000	0.000
110.00	NextNet BTS-2500	3	35.00	1.820	0.50	115.53	2.551	0.50	0.000	0.000
110.00	Side Arms	1	560.00	8.500	1.00	1,168.26	17.733	1.00	0.000	0.000
100.00	10' Omni	1	25.00	3.000	1.00	216.58	6.567	1.00	0.000	0.000
100.00	CCI OPA-65R-LCUU-H6	2	73.00	9.660	0.66	386.34	11.449	0.66	0.000	0.000
100.00	CCI OPA-65R-LCUU-H8	1	88.00	12.750	0.67	469.44	14.867	0.67	0.000	0.000
100.00	CCI TPA-65R-LCUUUU-H8	1	82.10	13.300	0.69	594.66	19.456	0.69	0.000	0.000
100.00	CCI TPX-070821	6	7.50	0.550	0.50	41.12	1.031	0.50	0.000	-2.000
100.00	Ericsson RRUS 32 B2	3	53.00	2.740	0.67	174.38	3.704	0.67	0.000	0.000
100.00	Ericsson RRUS-11	3	50.00	2.570	0.67	162.11	3.424	0.67	0.000	0.000
100.00	Ericsson RRUS-32	3	77.00	3.310	0.67	202.47	4.964	0.67	0.000	0.000
100.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,833.54	69.457	1.00	0.000	0.000
100.00	Powerwave 7770.00	3	35.00	5.510	0.65	220.58	6.897	0.65	0.000	0.000
100.00	Powerwave Allgon 7020.00	6	2.20	0.400	0.50	5.77	0.625	0.50	0.000	0.000
100.00	Powerwave LGP21401	6	14.10	1.100	0.50	62.42	1.718	0.50	0.000	0.000
100.00	Quintel QS66512-2	2	111.00	8.130	0.74	418.48	9.835	0.74	0.000	0.000
100.00	Raycap DC6-48-60-18-8F	2	32.80	1.280	1.00	160.37	2.146	1.00	0.000	0.000
100.00	Stand-Off	1	75.00	2.500	1.00	122.19	4.185	1.00	0.000	0.000
91.00	Commscope LNX-6515DS-	3	50.30	11.450	0.70	405.61	13.586	0.70	0.000	-4.000
91.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.50	35.38	0.735	0.50	0.000	-4.000
91.00	Ericsson KRY 112 489/1	3	15.40	0.650	0.50	51.31	1.028	0.50	0.000	-4.000
91.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,331.92	50.615	1.00	0.000	0.000
91.00	Kathrein Smart Bias Tee	3	3.31	0.090	0.50	14.29	0.313	0.50	0.000	0.000
91.00	RFS APX16DWV-16DWV-S-E-	3	39.60	6.080	0.60	216.94	7.486	0.60	0.000	-4.000
80.00	Alcatel-Lucent RRH2x60 700	3	56.70	2.150	0.50	167.11	2.966	0.50	0.000	0.000
80.00	Alcatel-Lucent RRH2X60-	3	44.00	1.880	0.50	138.50	2.654	0.50	0.000	0.000
80.00	Antel BXA-171063-12CF-EDIN-	6	12.80	4.800	0.72	178.78	6.394	0.72	0.000	0.000
80.00	Antel BXA-70063-6CF-EDIN-2	6	17.00	7.570	0.66	251.70	9.210	0.66	0.000	0.000
80.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	4.800	0.50	235.83	5.932	0.50	0.000	0.000
80.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,325.80	46.171	1.00	0.000	0.000
75.00	Scala 840 10212	1	6.70	2.170	0.63	92.96	3.041	0.63	0.000	0.000
75.00	Stand Offs	2	75.00	2.500	1.00	121.47	3.739	1.00	0.000	0.000
75.00	TX RX Systems 421-86A-10-	1	15.00	2.220	0.67	85.93	3.016	0.67	0.000	0.000
70.00	72" x 6" Panel	3	40.00	4.700	0.69	870.04	20.015	0.69	0.000	0.000
70.00	Round Side Arms	3	100.00	4.000	0.67	161.86	6.651	0.67	0.000	0.000
60.00	Radio Waves SP2-4.7 w/	1	26.00	2.710	0.67	154.90	3.188	0.67	0.000	0.000
60.00	Scala 840 10212	1	6.70	2.170	0.63	92.43	3.036	0.63	0.000	0.000
60.00	Stand Off	1	75.00	2.500	1.00	121.27	4.152	1.00	0.000	0.000
Totals		104	9011.43			27,488.67			Number of Loadings : 41	

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

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Customer: AT&T MOBILITY

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	110.00	3	1/2" Coax	0.63	0.15	N	0.00	Y	Clearwire
0.00	110.00	6	5/16" Coax	0.31	0.05	N	0.00	N	Clearwire
0.00	100.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	100.00	4	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	100.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	100.00	6	1 5/8" Coax	1.98	0.82	N	3.96	Y	AT&T Mobility
0.00	100.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	91.00	18	1 5/8" Coax	1.98	0.82	N	1.98	Y	T-Mobile (4*1.09 - 2.38)
0.00	81.00	4	#20 DYWIDAG	8.00	0.00	N	0.00	Y	--
0.00	80.00	12	1 5/8" Coax	1.98	0.82	N	0.00	Y	Verizon
0.00	80.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	Y	Verizon
0.00	75.00	1	7/8" Coax	1.09	0.33	N	0.00	Y	West Hartford
0.00	70.00	6	1 5/8" Coax	1.98	0.82	N	0.00	Y	Metro PCS
0.00	60.00	1	1/4" Coax	0.34	0.06	N	0.00	Y	West Hartford
0.00	60.00	1	7/8" Coax	1.09	0.33	N	0.00	Y	West Hartford

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —		Connectors	Continuation?	
					Description	Spacing (in)	Len (in)			
0.00	47.50	4	SOL #20 All Thread	80	2.31	6" Angle Bracket	39.0	3.31	5/8" A36 U-Bolt	Yes
47.50	67.50	4	SOL #20 All Thread	80	2.31	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
67.50	77.04	4	SOL #20 All Thread	80	2.31	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302481

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

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Customer: AT&T MOBILITY

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.2500	30.000	23.949	2,705.5	29.47	120.00	72.6	174.2	0.0	0.0	19.64	3,462	0.0
5.00		0.2500	29.181	23.290	2,488.2	28.60	116.72	73.5	164.7	0.0	401.9	19.64	3,308	334.0
10.00		0.2500	28.362	22.631	2,282.9	27.72	113.45	74.5	155.5	0.0	390.6	19.64	3,157	334.0
15.00		0.2500	27.544	21.971	2,089.2	26.84	110.17	75.4	146.5	0.0	379.4	19.64	3,010	334.0
20.00		0.2500	26.725	21.312	1,906.7	25.96	106.90	76.4	137.8	0.0	368.2	19.64	2,866	334.0
25.00		0.2500	25.906	20.653	1,735.2	25.09	103.62	77.4	129.4	0.0	357.0	19.64	2,726	334.0
29.33	Bot - Section 2	0.2500	25.197	20.083	1,595.3	24.33	100.79	78.2	122.3	0.0	300.1	19.64	2,607	289.2
30.00		0.2500	25.087	19.994	1,574.4	24.21	100.35	78.3	121.2	0.0	92.3	19.64	2,672	44.8
32.83	Top - Section 1	0.2500	25.124	20.024	1,581.3	24.25	100.50	62.7	121.6	0.0	385.4	19.64	2,595	189.0
35.00		0.2500	24.769	19.738	1,514.5	23.87	99.07	63.0	118.1	0.0	146.8	19.64	2,537	145.0
40.00		0.2500	23.950	19.078	1,367.8	22.99	95.80	63.0	110.3	0.0	330.2	19.64	2,405	334.0
45.00		0.2500	23.131	18.419	1,230.9	22.11	92.52	63.0	102.8	0.0	319.0	19.64	2,277	334.0
47.50	Reinf. Top Reinf	0.2500	22.722	18.090	1,166.0	21.67	90.89	63.0	99.1	0.0	155.3	19.64	2,214	167.0
50.00		0.2500	22.312	17.760	1,103.4	21.23	89.25	63.0	95.5	0.0	152.5	19.64	2,152	167.0
55.00		0.2500	21.494	17.101	985.1	20.36	85.97	63.0	88.5	0.0	296.6	19.64	2,031	334.0
60.00		0.2500	20.675	16.442	875.5	19.48	82.70	63.0	81.8	0.0	285.4	19.64	1,913	334.0
62.92	Bot - Section 3	0.2500	20.197	16.058	815.5	18.97	80.79	63.0	78.0	0.0	161.3	19.64	1,846	194.8
65.00		0.2500	19.856	15.783	774.4	18.60	79.42	63.0	75.3	0.0	199.4	19.64	1,850	139.2
65.75	Top - Section 2	0.1875	20.108	12.027	609.2	26.06	107.24	61.4	58.5	0.0	70.9	19.64	1,833	50.1
67.50	Reinf. Top Reinf	0.1875	19.822	11.854	583.3	25.65	105.72	61.7	56.8	0.0	71.1	19.64	1,794	116.9
70.00		0.1875	19.412	11.607	547.6	25.06	103.53	62.1	54.5	0.0	99.8	19.64	1,738	167.0
75.00		0.1875	18.594	11.113	480.5	23.89	99.17	63.0	49.9	0.0	193.3	19.64	1,629	334.0
77.04	Reinf. Top	0.1875	18.259	10.911	454.8	23.41	97.38	63.0	48.1	0.0	76.5	19.64	1,586	136.4
80.00		0.1875	17.775	10.618	419.2	22.72	94.80	63.0	45.6	0.0	108.4			
85.00		0.1875	16.956	10.124	363.4	21.55	90.43	63.0	41.4	0.0	176.5			
90.00		0.1875	16.137	9.630	312.7	20.38	86.07	63.0	37.4	0.0	168.0			
91.00		0.1875	15.974	9.531	303.2	20.15	85.19	63.0	36.7	0.0	32.6			
95.00		0.1875	15.319	9.135	267.0	19.21	81.70	63.0	33.7	0.0	127.0			
100.0	Top - Section 3	0.1875	14.500	8.641	225.9	18.04	77.33	63.0	30.1	0.0	151.2			
100.0	Bot - Section 4	0.3750	12.750	14.579	279.3	0.00	34.00	35.0	43.8	57.4				
105.0		0.3750	12.750	14.579	279.3	0.00	34.00	35.0	43.8	57.4	248.0			
110.0		0.3750	12.750	14.579	279.3	0.00	34.00	35.0	43.8	57.4	248.0			
												6,492.7		5,146.3

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:34 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

95 mph with No Ice

23 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	Moment MZ (lb)
0.00		555.4	0.0					0.0	0.0	555.4	0.0	0.0	0.0
5.00		1,029.8	482.2					0.0	721.7	1,029.8	1,203.9	0.0	0.0
10.00		850.9	468.8					0.0	721.7	850.9	1,190.5	0.0	0.0
15.00		704.9	455.3					142.1	721.7	847.0	1,177.0	0.0	0.0
20.00		619.2	441.9					132.2	721.7	751.4	1,163.6	0.0	0.0
25.00		518.1	428.4					124.3	721.7	642.4	1,150.1	0.0	0.0
29.33	Bot - Section 2	261.4	360.1					102.1	625.0	363.5	985.1	0.0	0.0
30.00		175.4	110.8					15.3	96.7	190.6	207.5	0.0	0.0
32.83	Top - Section 1	247.0	462.4					63.9	408.5	310.9	870.9	0.0	0.0
35.00		341.3	176.2					48.6	313.2	390.0	489.4	0.0	0.0
40.00		461.0	396.2					111.0	721.7	572.0	1,118.0	0.0	0.0
45.00		334.6	382.8					109.9	721.7	444.5	1,104.5	0.0	0.0
47.50	Reinf. Top Reinf	216.3	186.3					54.7	360.9	270.9	547.2	0.0	0.0
50.00		314.9	183.0					54.5	360.9	369.4	543.8	0.0	0.0
55.00		407.9	355.9					108.9	721.7	516.8	1,077.6	0.0	0.0
60.00	Appertunance(s)	313.4	342.4	208.5	0.0	0.0	129.2	108.9	721.7	630.8	1,193.4	0.0	0.0
62.92	Bot - Section 3	194.3	193.5					63.6	419.6	257.9	613.1	0.0	0.0
65.00		109.8	239.3					45.5	299.8	155.3	539.0	0.0	0.0
65.75	Top - Section 2	95.5	85.1					16.4	107.9	112.0	193.0	0.0	0.0
67.50	Reinf. Top Reinf	160.5	85.3					38.3	251.8	198.9	337.1	0.0	0.0
70.00	Appertunance(s)	276.5	119.8	585.8	0.0	0.0	504.0	54.9	359.7	917.1	983.4	0.0	0.0
75.00	Appertunance(s)	255.3	231.9	292.7	0.0	0.0	206.0	110.3	689.9	658.3	1,127.8	0.0	0.0
77.04	Reinf. Top	176.1	91.8					45.3	280.9	221.3	372.7	0.0	0.0
80.00	Appertunance(s)	272.9	130.0	2,664.5	0.0	0.0	2,482.7	65.8	169.9	3,003.2	2,782.6	0.0	0.0
85.00		332.5	211.7					112.0	212.4	444.5	424.2	0.0	0.0
90.00		194.8	201.7					113.0	212.4	307.8	414.1	0.0	0.0
91.00	Appertunance(s)	156.4	39.1	2,116.3	0.0	-4,450.0	2,230.6	22.7	42.5	2,295.4	2,312.2	0.0	0.0
95.00		274.2	152.4					60.9	99.1	335.1	251.6	0.0	0.0
100.00	Top - Section 3	212.1	181.5	3,990.6	0.0	-96.1	4,189.8	76.8	123.9	4,279.5	4,495.2	0.0	0.0
105.00		125.5	297.7					0.0	4.5	125.5	302.2	0.0	0.0
110.00	Appertunance(s)	63.1	297.7	1,246.3	0.0	0.0	1,071.4	0.0	4.5	1,309.3	1,373.5	0.0	0.0
Totals:										23,357.6	30,544.2	0.00	0.00

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:36 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

95 mph with No Ice

23 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-30.47	-22.90	0.00	-1,628.82	0.00	1,628.82	1,564.13	782.07	1,919.99	948.21	0.00	0.00	0.765
5.00	-29.13	-22.05	0.00	-1,514.32	0.00	1,514.32	1,541.15	770.57	1,839.28	908.35	0.20	-0.36	0.727
10.00	-27.82	-21.36	0.00	-1,404.07	0.00	1,404.07	1,517.03	758.51	1,758.81	868.61	0.77	-0.72	0.689
15.00	-26.53	-20.66	0.00	-1,297.26	0.00	1,297.26	1,491.77	745.88	1,678.72	829.05	1.72	-1.07	0.651
20.00	-25.26	-20.03	0.00	-1,193.97	0.00	1,193.97	1,465.38	732.69	1,599.10	789.74	3.03	-1.42	0.614
25.00	-24.02	-19.49	0.00	-1,093.80	0.00	1,093.80	1,437.85	718.92	1,520.08	750.71	4.70	-1.76	0.576
29.33	-22.99	-19.16	0.00	-1,009.40	0.00	1,009.40	1,413.09	706.55	1,452.23	717.20	6.44	-2.05	0.543
30.00	-22.76	-19.01	0.00	-996.56	0.00	996.56	1,409.19	704.59	1,441.78	712.04	6.73	-2.10	0.528
32.83	-21.84	-18.73	0.00	-942.76	0.00	942.76	1,130.07	565.03	1,157.93	571.86	8.03	-2.28	0.635
35.00	-21.30	-18.40	0.00	-902.12	0.00	902.12	1,119.12	559.56	1,130.16	558.15	9.10	-2.42	0.615
40.00	-20.12	-17.88	0.00	-810.11	0.00	810.11	1,081.75	540.87	1,055.58	521.31	11.80	-2.72	0.574
45.00	-18.97	-17.46	0.00	-720.69	0.00	720.69	1,044.38	522.19	983.54	485.73	14.80	-3.01	0.531
47.50	-18.40	-17.20	0.00	-677.06	0.00	677.06	1,025.69	512.85	948.47	468.41	16.42	-3.15	0.508
47.50	-18.40	-17.20	0.00	-677.06	0.00	677.06	1,025.69	512.85	948.47	468.41	16.42	-3.15	0.508
50.00	-17.82	-16.86	0.00	-634.06	0.00	634.06	1,007.01	503.50	914.04	451.41	18.11	-3.29	0.486
55.00	-16.70	-16.36	0.00	-549.74	0.00	549.74	969.64	484.82	847.09	418.35	21.69	-3.55	0.438
60.00	-15.50	-15.70	0.00	-467.97	0.00	467.97	932.27	466.13	782.69	386.54	25.54	-3.79	0.389
62.92	-14.88	-15.43	0.00	-422.18	0.00	422.18	910.47	455.23	746.30	368.57	27.89	-3.92	0.359
65.00	-14.33	-15.25	0.00	-390.03	0.00	390.03	894.90	447.45	720.83	355.99	29.63	-4.01	0.331
65.75	-14.13	-15.14	0.00	-378.59	0.00	378.59	664.38	332.19	545.54	269.42	30.26	-4.04	0.361
67.50	-13.79	-14.94	0.00	-352.10	0.00	352.10	658.03	329.02	532.49	262.97	31.75	-4.11	0.338
67.50	-13.79	-14.94	0.00	-352.10	0.00	352.10	658.03	329.02	532.49	262.97	31.75	-4.11	0.338
70.00	-12.84	-13.98	0.00	-314.75	0.00	314.75	648.81	324.40	513.97	253.83	33.93	-4.21	0.306
75.00	-11.74	-13.27	0.00	-244.83	0.00	244.83	629.79	314.89	477.45	235.80	38.44	-4.39	0.245
77.04	-11.37	-13.03	0.00	-217.75	0.00	217.75	618.65	309.32	460.40	227.37	40.33	-4.45	0.222
77.04	-11.37	-13.03	0.00	-217.75	0.00	217.75	618.65	309.32	460.40	227.37	40.33	-4.45	0.978
80.00	-8.78	-9.87	0.00	-179.20	0.00	179.20	602.06	301.03	435.93	215.29	43.11	-4.53	0.848
85.00	-8.31	-9.46	0.00	-129.86	0.00	129.86	574.04	287.02	396.08	195.61	48.15	-5.06	0.679
90.00	-7.89	-9.15	0.00	-82.57	0.00	82.57	546.01	273.00	358.14	176.87	53.67	-5.47	0.482
91.00	-5.79	-6.65	0.00	-73.43	0.00	73.43	540.40	270.20	350.78	173.24	54.82	-5.54	0.435
95.00	-5.55	-6.32	0.00	-46.81	0.00	46.81	517.98	258.99	322.11	159.08	59.56	-5.77	0.306
100.00	-1.52	-1.60	0.00	-15.24	0.00	15.24	489.95	244.98	288.00	142.23	65.70	-5.93	0.110
100.00	-1.52	-1.60	0.00	-15.24	0.00	15.24	459.24	229.62	229.69	150.79	65.70	-5.93	0.104
105.00	-1.23	-1.45	0.00	-7.23	0.00	7.23	459.24	229.62	229.69	150.79	71.94	-6.01	0.051
110.00	0.00	-1.31	0.00	0.00	0.00	0.00	459.24	229.62	229.69	150.79	78.23	-6.02	0.000

Site Number: 302481
 Site Name: Hrfr - South, CT
 Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
 Engineering Number: 66593122

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6/6/2016 11:09:37 AM

Load Case: 0.9D + 1.6W	95 mph with No Ice (Reduced DL)	23 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 0.90		
Wind Load Factor : 1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion M Y (lb-ft)	Moment M Z (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion M Y (lb-ft)	Moment M Z (lb)
0.00		433.3	0.0					0.0	0.0	433.3	0.0	0.0	0.0
5.00		798.8	361.7					0.0	541.3	798.8	903.0	0.0	0.0
10.00		741.9	351.6					0.0	541.3	741.9	892.9	0.0	0.0
15.00		704.9	341.5					142.1	541.3	847.0	882.8	0.0	0.0
20.00		619.2	331.4					132.2	541.3	751.4	872.7	0.0	0.0
25.00		518.1	321.3					124.3	541.3	642.4	862.6	0.0	0.0
29.33	Bot - Section 2	261.4	270.1					102.1	468.7	363.5	738.8	0.0	0.0
30.00		175.4	83.1					15.3	72.5	190.6	155.6	0.0	0.0
32.83	Top - Section 1	247.0	346.8					63.9	306.4	310.9	653.2	0.0	0.0
35.00		341.3	132.1					48.6	234.9	390.0	367.1	0.0	0.0
40.00		461.0	297.2					111.0	541.3	572.0	838.5	0.0	0.0
45.00		334.6	287.1					109.9	541.3	444.5	828.4	0.0	0.0
47.50	Reinf. Top Reinf	216.3	139.8					54.7	270.6	270.9	410.4	0.0	0.0
50.00		314.9	137.2					54.5	270.6	369.4	407.9	0.0	0.0
55.00		407.9	266.9					108.9	541.3	516.8	808.2	0.0	0.0
60.00	Appertunance(s)	313.4	256.8	208.5	0.0	0.0	96.9	108.9	541.3	630.8	895.0	0.0	0.0
62.92	Bot - Section 3	194.3	145.1					63.6	314.7	257.9	459.9	0.0	0.0
65.00		109.8	179.5					45.5	224.8	155.3	404.3	0.0	0.0
65.75	Top - Section 2	95.5	63.8					16.4	80.9	112.0	144.8	0.0	0.0
67.50	Reinf. Top Reinf	160.5	64.0					38.3	188.8	198.9	252.8	0.0	0.0
70.00	Appertunance(s)	276.5	89.8	585.8	0.0	0.0	378.0	54.9	269.8	917.1	737.6	0.0	0.0
75.00	Appertunance(s)	255.3	173.9	292.7	0.0	0.0	154.5	110.3	517.4	658.3	845.9	0.0	0.0
77.04	Reinf. Top	176.1	68.9					45.3	210.7	221.3	279.5	0.0	0.0
80.00	Appertunance(s)	272.9	97.5	2,664.5	0.0	0.0	1,862.0	65.8	127.4	3,003.2	2,086.9	0.0	0.0
85.00		332.5	158.8					112.0	159.3	444.5	318.1	0.0	0.0
90.00		194.8	151.2					113.0	159.3	307.8	310.6	0.0	0.0
91.00	Appertunance(s)	156.4	29.3	2,116.3	0.0	-4,450.0	1,672.9	22.7	31.9	2,295.4	1,734.2	0.0	0.0
95.00		274.2	114.3					60.9	74.3	335.1	188.7	0.0	0.0
100.00	Top - Section 3	212.1	136.1	3,990.6	0.0	-96.1	3,142.3	76.8	92.9	4,279.5	3,371.4	0.0	0.0
105.00		125.5	223.2					0.0	3.4	125.5	226.6	0.0	0.0
110.00	Appertunance(s)	63.1	223.2	1,246.3	0.0	0.0	803.5	0.0	3.4	1,309.3	1,030.1	0.0	0.0
Totals:										22,895.5	22,908.2	0.00	0.00

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:39 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W	95 mph with No Ice (Reduced DL)	23 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 0.90		
Wind Load Factor : 1.60		

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-22.84	-22.54	0.00	-1,604.67	0.00	1,604.67	1,564.13	782.07	1,919.99	948.21	0.00	0.00	0.751
5.00	-21.80	-21.87	0.00	-1,492.00	0.00	1,492.00	1,541.15	770.57	1,839.28	908.35	0.19	-0.36	0.714
10.00	-20.79	-21.25	0.00	-1,382.66	0.00	1,382.66	1,517.03	758.51	1,758.81	868.61	0.76	-0.71	0.676
15.00	-19.79	-20.50	0.00	-1,276.43	0.00	1,276.43	1,491.77	745.88	1,678.72	829.05	1.69	-1.06	0.639
20.00	-18.82	-19.85	0.00	-1,173.90	0.00	1,173.90	1,465.38	732.69	1,599.10	789.74	2.98	-1.40	0.601
25.00	-17.87	-19.28	0.00	-1,074.67	0.00	1,074.67	1,437.85	718.92	1,520.08	750.71	4.63	-1.73	0.564
29.33	-17.09	-18.94	0.00	-991.21	0.00	991.21	1,413.09	706.55	1,452.23	717.20	6.34	-2.02	0.531
30.00	-16.90	-18.78	0.00	-978.51	0.00	978.51	1,409.19	704.59	1,441.78	712.04	6.62	-2.06	0.516
32.83	-16.21	-18.49	0.00	-925.38	0.00	925.38	1,130.07	565.03	1,157.93	571.86	7.90	-2.24	0.621
35.00	-15.79	-18.14	0.00	-885.27	0.00	885.27	1,119.12	559.56	1,130.16	558.15	8.96	-2.38	0.601
40.00	-14.89	-17.61	0.00	-794.56	0.00	794.56	1,081.75	540.87	1,055.58	521.31	11.61	-2.68	0.560
45.00	-14.02	-17.17	0.00	-706.52	0.00	706.52	1,044.38	522.19	983.54	485.73	14.57	-2.96	0.518
47.50	-13.59	-16.92	0.00	-663.58	0.00	663.58	1,025.69	512.85	948.47	468.41	16.15	-3.10	0.496
47.50	-13.59	-16.92	0.00	-663.58	0.00	663.58	1,025.69	512.85	948.47	468.41	16.15	-3.10	0.496
50.00	-13.14	-16.57	0.00	-621.30	0.00	621.30	1,007.01	503.50	914.04	451.41	17.81	-3.23	0.474
55.00	-12.30	-16.06	0.00	-538.45	0.00	538.45	969.64	484.82	847.09	418.35	21.34	-3.49	0.427
60.00	-11.40	-15.41	0.00	-458.16	0.00	458.16	932.27	466.13	782.69	386.54	25.12	-3.72	0.379
62.92	-10.93	-15.14	0.00	-413.23	0.00	413.23	910.47	455.23	746.30	368.57	27.43	-3.85	0.350
65.00	-10.52	-14.97	0.00	-381.68	0.00	381.68	894.90	447.45	720.83	355.99	29.13	-3.94	0.323
65.75	-10.37	-14.86	0.00	-370.45	0.00	370.45	864.38	332.19	545.54	269.42	29.75	-3.97	0.351
67.50	-10.11	-14.66	0.00	-344.45	0.00	344.45	658.03	329.02	532.49	262.97	31.22	-4.04	0.329
67.50	-10.11	-14.66	0.00	-344.45	0.00	344.45	658.03	329.02	532.49	262.97	31.22	-4.04	0.329
70.00	-9.41	-13.71	0.00	-307.81	0.00	307.81	648.81	324.40	513.97	253.83	33.36	-4.14	0.298
75.00	-8.59	-13.01	0.00	-239.26	0.00	239.26	629.79	314.89	477.45	235.80	37.79	-4.31	0.238
77.04	-8.31	-12.78	0.00	-212.70	0.00	212.70	618.65	309.32	460.40	227.37	39.64	-4.37	0.215
77.04	-8.31	-12.78	0.00	-212.70	0.00	212.70	618.65	309.32	460.40	227.37	39.64	-4.37	0.951
80.00	-6.41	-9.66	0.00	-174.90	0.00	174.90	602.06	301.03	435.93	215.29	42.37	-4.45	0.824
85.00	-6.05	-9.24	0.00	-126.62	0.00	126.62	574.04	287.02	396.08	195.61	47.31	-4.96	0.659
90.00	-5.74	-8.92	0.00	-80.44	0.00	80.44	546.01	273.00	358.14	176.87	52.73	-5.37	0.466
91.00	-4.21	-6.49	0.00	-71.51	0.00	71.51	540.40	270.20	350.78	173.24	53.86	-5.44	0.421
95.00	-4.03	-6.15	0.00	-45.56	0.00	45.56	517.98	258.99	322.11	159.08	58.51	-5.65	0.295
100.00	-1.10	-1.56	0.00	-14.82	0.00	14.82	489.95	244.98	288.00	142.23	64.52	-5.82	0.106
100.00	-1.10	-1.56	0.00	-14.82	0.00	14.82	459.24	229.62	229.69	150.79	64.52	-5.82	0.101
105.00	-0.89	-1.41	0.00	-7.04	0.00	7.04	459.24	229.62	229.69	150.79	70.64	-5.88	0.049
110.00	0.00	-1.31	0.00	0.00	0.00	0.00	459.24	229.62	229.69	150.79	76.81	-5.90	0.000

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:39 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	23 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		102.6	0.0					0.0	0.0	102.6	0.0	0.0	0.0
5.00		190.0	914.1					0.0	2,204.4	190.0	3,118.5	0.0	0.0
10.00		162.9	917.2					0.0	2,303.3	162.9	3,220.5	0.0	0.0
15.00		141.5	895.4					67.9	2,316.6	209.4	3,212.0	0.0	0.0
20.00		124.7	868.1					60.9	2,310.2	185.6	3,178.3	0.0	0.0
25.00		104.7	839.6					55.3	2,298.5	160.0	3,138.1	0.0	0.0
29.33	Bot - Section 2	52.9	704.7					44.4	1,980.8	97.3	2,685.5	0.0	0.0
30.00		35.5	164.7					6.6	305.8	42.1	470.5	0.0	0.0
32.83	Top - Section 1	50.1	685.7					27.7	1,289.4	77.8	1,975.2	0.0	0.0
35.00		69.4	344.7					21.0	986.8	90.5	1,331.5	0.0	0.0
40.00		94.1	771.4					47.9	2,268.0	142.0	3,039.4	0.0	0.0
45.00		68.5	744.8					47.3	2,262.2	115.9	3,007.0	0.0	0.0
47.50	Reinf. Top Reinf	44.5	364.1					23.5	1,129.7	68.0	1,493.7	0.0	0.0
50.00		65.0	357.6					23.5	1,129.0	88.5	1,486.6	0.0	0.0
55.00		84.6	693.2					46.8	2,257.0	131.4	2,950.2	0.0	0.0
60.00	Appertunance(s)	65.3	668.1	52.1	0.0	0.0	363.6	46.8	2,257.0	164.3	3,288.7	0.0	0.0
62.92	Bot - Section 3	40.6	379.6					27.4	1,273.6	68.0	1,653.2	0.0	0.0
65.00		23.0	372.5					19.6	910.2	42.6	1,282.7	0.0	0.0
65.75	Top - Section 2	20.1	132.8					7.1	327.7	27.1	460.5	0.0	0.0
67.50	Reinf. Top Reinf	33.8	195.3					16.5	765.0	50.3	960.3	0.0	0.0
70.00	Appertunance(s)	58.5	274.0	298.1	0.0	0.0	2,904.0	23.6	1,093.4	380.3	4,271.5	0.0	0.0
75.00	Appertunance(s)	54.2	529.3	73.6	0.0	0.0	606.2	47.6	2,017.8	175.4	3,153.3	0.0	0.0
77.04	Reinf. Top	37.7	211.5					19.5	807.8	57.2	1,019.3	0.0	0.0
80.00	Appertunance(s)	58.8	299.6	708.3	0.0	0.0	6,511.0	28.4	934.4	795.5	7,745.0	0.0	0.0
85.00		72.2	487.3					48.4	853.3	120.6	1,340.5	0.0	0.0
90.00		42.6	466.3					49.0	772.4	91.5	1,238.7	0.0	0.0
91.00	Appertunance(s)	34.5	91.7	573.2	0.0	-940.4	4,674.3	9.9	154.7	617.6	4,920.7	0.0	0.0
95.00		61.0	355.5					22.5	252.4	83.5	607.9	0.0	0.0
100.00	Top - Section 3	62.7	424.3	1,015.9	0.0	-31.2	9,778.6	28.4	316.2	1,107.0	10,519.1	0.0	0.0
105.00		58.9	504.2					0.0	52.6	58.9	556.9	0.0	0.0
110.00	Appertunance(s)	29.6	505.1	327.7	0.0	0.0	2,611.2	0.0	52.9	357.3	3,169.2	0.0	0.0
Totals:										6,061.20	80,494.6	0.00	0.00

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:41 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	23 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-80.49	-6.04	0.00	-482.21	0.00	482.21	1,564.13	782.07	1,919.99	948.21	0.00	0.00	0.251
5.00	-77.36	-5.99	0.00	-452.03	0.00	452.03	1,541.15	770.57	1,839.28	908.35	0.06	-0.11	0.241
10.00	-74.13	-5.95	0.00	-422.09	0.00	422.09	1,517.03	758.51	1,758.81	868.61	0.23	-0.21	0.230
15.00	-70.91	-5.86	0.00	-392.32	0.00	392.32	1,491.77	745.88	1,678.72	829.05	0.51	-0.32	0.219
20.00	-67.72	-5.78	0.00	-363.01	0.00	363.01	1,465.38	732.69	1,599.10	789.74	0.90	-0.43	0.208
25.00	-64.57	-5.70	0.00	-334.12	0.00	334.12	1,437.85	718.92	1,520.08	750.71	1.41	-0.53	0.196
29.33	-61.88	-5.63	0.00	-309.44	0.00	309.44	1,413.09	706.55	1,452.23	717.20	1.93	-0.62	0.186
30.00	-61.41	-5.62	0.00	-305.67	0.00	305.67	1,409.19	704.59	1,441.78	712.04	2.02	-0.63	0.181
32.83	-59.43	-5.57	0.00	-289.76	0.00	289.76	1,130.07	565.03	1,157.93	571.86	2.41	-0.69	0.218
35.00	-58.09	-5.54	0.00	-277.67	0.00	277.67	1,119.12	559.56	1,130.16	558.15	2.74	-0.73	0.212
40.00	-55.05	-5.44	0.00	-249.99	0.00	249.99	1,081.75	540.87	1,055.58	521.31	3.55	-0.83	0.199
45.00	-52.04	-5.34	0.00	-222.80	0.00	222.80	1,044.38	522.19	983.54	485.73	4.47	-0.91	0.185
47.50	-50.54	-5.28	0.00	-209.46	0.00	209.46	1,025.69	512.85	948.47	468.41	4.96	-0.96	0.178
47.50	-50.54	-5.28	0.00	-209.46	0.00	209.46	1,025.69	512.85	948.47	468.41	4.96	-0.96	0.178
50.00	-49.05	-5.22	0.00	-196.25	0.00	196.25	1,007.01	503.50	914.04	451.41	5.47	-1.00	0.171
55.00	-46.10	-5.10	0.00	-170.14	0.00	170.14	969.64	484.82	847.09	418.35	6.56	-1.08	0.155
60.00	-42.81	-4.91	0.00	-144.65	0.00	144.65	932.27	466.13	782.69	386.54	7.74	-1.16	0.139
62.92	-41.15	-4.84	0.00	-130.32	0.00	130.32	910.47	455.23	746.30	368.57	8.46	-1.20	0.129
65.00	-39.87	-4.78	0.00	-120.24	0.00	120.24	894.90	447.45	720.83	355.99	8.99	-1.22	0.120
65.75	-39.41	-4.75	0.00	-116.66	0.00	116.66	664.38	332.19	545.54	269.42	9.18	-1.23	0.131
67.50	-38.45	-4.70	0.00	-108.34	0.00	108.34	658.03	329.02	532.49	262.97	9.63	-1.26	0.123
67.50	-38.45	-4.70	0.00	-108.34	0.00	108.34	658.03	329.02	532.49	262.97	9.63	-1.26	0.123
70.00	-34.18	-4.25	0.00	-96.59	0.00	96.59	648.81	324.40	513.97	253.83	10.30	-1.29	0.111
75.00	-31.03	-4.02	0.00	-75.34	0.00	75.34	629.79	314.89	477.45	235.80	11.68	-1.34	0.091
77.04	-30.01	-3.95	0.00	-67.13	0.00	67.13	618.65	309.32	460.40	227.37	12.26	-1.36	0.083
77.04	-30.01	-3.95	0.00	-67.13	0.00	67.13	618.65	309.32	460.40	227.37	12.26	-1.36	0.344
80.00	-22.28	-3.01	0.00	-55.44	0.00	55.44	602.06	301.03	435.93	215.29	13.11	-1.38	0.295
85.00	-20.94	-2.91	0.00	-40.39	0.00	40.39	574.04	287.02	396.08	195.61	14.65	-1.55	0.243
90.00	-19.70	-2.81	0.00	-25.85	0.00	25.85	546.01	273.00	358.14	176.87	16.34	-1.68	0.182
91.00	-14.80	-2.06	0.00	-23.05	0.00	23.05	540.40	270.20	350.78	173.24	16.69	-1.70	0.160
95.00	-14.19	-1.97	0.00	-14.82	0.00	14.82	517.98	258.99	322.11	159.08	18.15	-1.77	0.121
100.00	-3.71	-0.54	0.00	-4.97	0.00	4.97	489.95	244.98	288.00	142.23	20.04	-1.82	0.043
100.00	-3.71	-0.54	0.00	-4.97	0.00	4.97	459.24	229.62	229.69	150.79	20.04	-1.82	0.041
105.00	-3.16	-0.46	0.00	-2.30	0.00	2.30	459.24	229.62	229.69	150.79	21.96	-1.85	0.022
110.00	0.00	-0.36	0.00	0.00	0.00	0.00	459.24	229.62	229.69	150.79	23.90	-1.85	0.000

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:41 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W	Serviceability 60 mph	22 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion Moment MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	Moment MZ (lb)
0.00		108.0	0.0					0.0	0.0	108.0	0.0	0.0	0.0
5.00		199.1	401.9					0.0	601.4	199.1	1,003.3	0.0	0.0
10.00		185.0	390.6					0.0	601.4	185.0	992.1	0.0	0.0
15.00		175.7	379.4					38.5	601.4	214.3	980.9	0.0	0.0
20.00		154.4	368.2					34.6	601.4	189.0	969.6	0.0	0.0
25.00		129.2	357.0					31.6	601.4	160.8	958.4	0.0	0.0
29.33	Bot - Section 2	65.2	300.1					25.5	520.8	90.6	820.9	0.0	0.0
30.00		43.7	92.3					3.8	80.6	47.5	172.9	0.0	0.0
32.83	Top - Section 1	61.6	385.4					15.9	340.4	77.5	725.8	0.0	0.0
35.00		85.1	146.8					12.1	261.0	97.2	407.8	0.0	0.0
40.00		114.9	330.2					27.7	601.4	142.6	931.6	0.0	0.0
45.00		83.4	319.0					27.4	601.4	110.8	920.4	0.0	0.0
47.50	Reinf. Top Reinf	53.9	155.3					13.6	300.7	67.5	456.0	0.0	0.0
50.00		78.5	152.5					13.6	300.7	92.1	453.2	0.0	0.0
55.00		101.7	296.6					27.1	601.4	128.8	898.0	0.0	0.0
60.00	Appertunance(s)	78.1	285.4	52.0	0.0	0.0	107.7	27.1	601.4	157.3	994.5	0.0	0.0
62.92	Bot - Section 3	48.4	161.3					15.9	349.7	64.3	511.0	0.0	0.0
65.00		27.4	199.4					11.4	249.8	38.7	449.2	0.0	0.0
65.75	Top - Section 2	23.8	70.9					4.1	89.9	27.9	160.8	0.0	0.0
67.50	Reinf. Top Reinf	40.0	71.1					9.6	209.8	49.6	280.9	0.0	0.0
70.00	Appertunance(s)	68.9	99.8	146.0	0.0	0.0	420.0	13.7	299.7	228.7	819.5	0.0	0.0
75.00	Appertunance(s)	63.7	193.3	73.0	0.0	0.0	171.7	27.5	574.9	164.1	939.9	0.0	0.0
77.04	Reinf. Top	43.9	76.5					11.3	234.1	55.2	310.6	0.0	0.0
80.00	Appertunance(s)	68.0	108.4	664.3	0.0	0.0	2,068.9	16.4	141.6	748.7	2,318.8	0.0	0.0
85.00		82.9	176.5					27.9	177.0	110.8	353.5	0.0	0.0
90.00		48.6	168.0					28.2	177.0	76.7	345.1	0.0	0.0
91.00	Appertunance(s)	39.0	32.6	527.6	0.0	-1,109.4	1,858.8	5.7	35.4	572.3	1,926.8	0.0	0.0
95.00		68.4	127.0					15.2	82.6	83.6	209.6	0.0	0.0
100.00	Top - Section 3	52.9	151.2	994.9	0.0	-24.0	3,491.5	19.1	103.2	1,066.9	3,746.0	0.0	0.0
105.00		31.3	248.0					0.0	3.8	31.3	251.8	0.0	0.0
110.00	Appertunance(s)	15.7	248.0	310.7	0.0	0.0	892.8	0.0	3.8	326.4	1,144.6	0.0	0.0
Totals:										5,713.40	25,453.5	0.00	0.00

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:43 AM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

22 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-25.45	-5.63	0.00	-402.47	0.00	402.47	1,564.13	782.07	1,919.99	948.21	0.00	0.00	0.195
5.00	-24.44	-5.46	0.00	-374.35	0.00	374.35	1,541.15	770.57	1,839.28	908.35	0.05	-0.09	0.186
10.00	-23.44	-5.31	0.00	-347.03	0.00	347.03	1,517.03	758.51	1,758.81	868.61	0.19	-0.18	0.176
15.00	-22.45	-5.13	0.00	-320.47	0.00	320.47	1,491.77	745.88	1,678.72	829.05	0.42	-0.27	0.166
20.00	-21.47	-4.97	0.00	-294.84	0.00	294.84	1,465.38	732.69	1,599.10	789.74	0.75	-0.35	0.157
25.00	-20.51	-4.83	0.00	-270.01	0.00	270.01	1,437.85	718.92	1,520.08	750.71	1.16	-0.44	0.147
29.33	-19.69	-4.74	0.00	-249.11	0.00	249.11	1,413.09	706.55	1,452.23	717.20	1.59	-0.51	0.139
30.00	-19.51	-4.70	0.00	-245.93	0.00	245.93	1,409.19	704.59	1,441.78	712.04	1.66	-0.52	0.135
32.83	-18.78	-4.63	0.00	-232.63	0.00	232.63	1,130.07	565.03	1,157.93	571.86	1.98	-0.56	0.162
35.00	-18.37	-4.55	0.00	-222.57	0.00	222.57	1,119.12	559.56	1,130.16	558.15	2.25	-0.60	0.157
40.00	-17.44	-4.42	0.00	-199.83	0.00	199.83	1,081.75	540.87	1,055.58	521.31	2.91	-0.67	0.147
45.00	-16.51	-4.31	0.00	-177.75	0.00	177.75	1,044.38	522.19	983.54	485.73	3.66	-0.74	0.136
47.50	-16.06	-4.25	0.00	-166.97	0.00	166.97	1,025.69	512.85	948.47	468.41	4.06	-0.78	0.131
47.50	-16.06	-4.25	0.00	-166.97	0.00	166.97	1,025.69	512.85	948.47	468.41	4.06	-0.78	0.131
50.00	-15.60	-4.16	0.00	-156.36	0.00	156.36	1,007.01	503.50	914.04	451.41	4.47	-0.81	0.125
55.00	-14.70	-4.04	0.00	-135.55	0.00	135.55	969.64	484.82	847.09	418.35	5.36	-0.88	0.113
60.00	-13.71	-3.87	0.00	-115.37	0.00	115.37	932.27	466.13	782.69	386.54	6.31	-0.94	0.100
62.92	-13.19	-3.81	0.00	-104.08	0.00	104.08	910.47	455.23	746.30	368.57	6.89	-0.97	0.093
65.00	-12.74	-3.76	0.00	-96.15	0.00	96.15	894.90	447.45	720.83	355.99	7.32	-0.99	0.086
65.75	-12.58	-3.74	0.00	-93.32	0.00	93.32	664.38	332.19	545.54	269.42	7.48	-1.00	0.094
67.50	-12.30	-3.69	0.00	-86.79	0.00	86.79	658.03	329.02	532.49	262.97	7.84	-1.02	0.088
67.50	-12.30	-3.69	0.00	-86.79	0.00	86.79	658.03	329.02	532.49	262.97	7.84	-1.02	0.088
70.00	-11.48	-3.45	0.00	-77.57	0.00	77.57	648.81	324.40	513.97	253.83	8.38	-1.04	0.080
75.00	-10.55	-3.27	0.00	-60.32	0.00	60.32	629.79	314.89	477.45	235.80	9.50	-1.08	0.064
77.04	-10.24	-3.22	0.00	-53.64	0.00	53.64	618.65	309.32	460.40	227.37	9.96	-1.10	0.059
77.04	-10.24	-3.22	0.00	-53.64	0.00	53.64	618.65	309.32	460.40	227.37	9.96	-1.10	0.253
80.00	-7.93	-2.43	0.00	-44.13	0.00	44.13	602.06	301.03	435.93	215.29	10.65	-1.12	0.218
85.00	-7.57	-2.33	0.00	-31.97	0.00	31.97	574.04	287.02	396.08	195.61	11.89	-1.25	0.177
90.00	-7.23	-2.25	0.00	-20.32	0.00	20.32	546.01	273.00	358.14	176.87	13.26	-1.35	0.128
91.00	-5.31	-1.64	0.00	-18.07	0.00	18.07	540.40	270.20	350.78	173.24	13.54	-1.37	0.114
95.00	-5.10	-1.55	0.00	-11.52	0.00	11.52	517.98	258.99	322.11	159.08	14.72	-1.42	0.082
100.00	-1.39	-0.39	0.00	-3.75	0.00	3.75	489.95	244.98	288.00	142.23	16.23	-1.46	0.029
100.00	-1.39	-0.39	0.00	-3.75	0.00	3.75	459.24	229.62	229.69	150.79	16.23	-1.46	0.028
105.00	-1.14	-0.36	0.00	-1.78	0.00	1.78	459.24	229.62	229.69	150.79	17.77	-1.48	0.014
110.00	0.00	-0.33	0.00	0.00	0.00	0.00	459.24	229.62	229.69	150.79	19.33	-1.49	0.000

Site Number: 302481
Site Name: Hrfr - South, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number: 66593122

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Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.17
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.84
Total Unfactored Dead Load:	25.45 k
Seismic Base Shear (E):	1.04 k

Site Number: 302481
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Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_g):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.17
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2S_{ds}) * DL + E ELMF

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
30	107.50	252	1.805	1.562	0.986	0.315	69	217
29	102.50	252	1.641	0.911	0.727	0.220	48	217
28	97.50	254	1.485	0.464	0.525	0.140	31	219
27	93.00	210	1.351	0.197	0.383	0.081	15	181
26	90.50	68	1.279	0.093	0.318	0.053	3	59
25	87.50	345	1.196	0.001	0.252	0.025	7	297
24	82.50	353	1.063	-0.088	0.165	-0.010	-3	304
23	78.52	250	0.963	-0.117	0.114	-0.028	-6	215
22	76.02	311	0.903	-0.122	0.088	-0.034	-9	268
21	72.50	768	0.821	-0.115	0.060	-0.037	-25	662
20	68.75	400	0.738	-0.098	0.038	-0.033	-12	344
19	66.62	281	0.693	-0.085	0.029	-0.028	-7	242
18	65.37	161	0.668	-0.077	0.024	-0.025	-3	139
17	63.96	449	0.639	-0.067	0.020	-0.020	-8	387
16	61.46	511	0.590	-0.049	0.013	-0.010	-4	440
15	57.50	887	0.516	-0.022	0.008	0.006	5	764
14	52.50	898	0.431	0.008	0.006	0.026	20	774
13	48.75	453	0.371	0.027	0.008	0.036	14	390
12	46.25	456	0.334	0.037	0.010	0.042	17	393
11	42.50	920	0.282	0.049	0.014	0.047	37	793
10	37.50	932	0.220	0.060	0.021	0.050	40	803
9	33.91	408	0.180	0.065	0.026	0.050	18	351
8	31.41	726	0.154	0.068	0.030	0.050	31	625
7	29.66	173	0.137	0.069	0.032	0.049	7	149
6	27.16	821	0.115	0.070	0.035	0.048	34	707
5	22.50	958	0.079	0.072	0.040	0.047	39	826
4	17.50	970	0.048	0.071	0.042	0.045	38	835
3	12.50	981	0.024	0.066	0.039	0.042	35	845
2	7.50	992	0.009	0.053	0.031	0.034	30	855
1	2.50	1,003	0.001	0.024	0.013	0.017	15	864
DragonWave Horizon C	110.00	32	1.890	1.980	1.140	0.369	10	27
DragonWave A-ANT-23G	110.00	15	1.890	1.980	1.140	0.369	5	13
NextNet BTS-2500	110.00	105	1.890	1.980	1.140	0.369	34	90
Argus LLPX310R	110.00	86	1.890	1.980	1.140	0.369	27	74

Site Number: 302481

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Side Arms	110.00	560	1.890	1.980	1.140	0.369	179	482
DragonWave A-ANT-11G	110.00	95	1.890	1.980	1.140	0.369	30	82
Powerwave Allgon 702	100.00	13	1.562	0.666	0.620	0.178	2	11
CCI TPX-070821	100.00	45	1.562	0.666	0.620	0.178	7	39
Powerwave LGP21401	100.00	85	1.562	0.666	0.620	0.178	13	73
Raycap DC6-48-60-18-	100.00	66	1.562	0.666	0.620	0.178	10	57
Stand-Off	100.00	75	1.562	0.666	0.620	0.178	12	65
Ericsson RRUS-11	100.00	150	1.562	0.666	0.620	0.178	23	129
Ericsson RRUS 32 B2	100.00	159	1.562	0.666	0.620	0.178	24	137
10' Omni	100.00	25	1.562	0.666	0.620	0.178	4	22
Ericsson RRUS-32	100.00	231	1.562	0.666	0.620	0.178	36	199
Powerwave 7770.00	100.00	105	1.562	0.666	0.620	0.178	16	90
Quintel QS66512-2	100.00	222	1.562	0.666	0.620	0.178	34	191
CCI OPA-65R-LCUU-H6	100.00	146	1.562	0.666	0.620	0.178	22	126
CCI OPA-65R-LCUU-H8	100.00	88	1.562	0.666	0.620	0.178	14	76
CCI TPA-65R-LCUUUU-H	100.00	82	1.562	0.666	0.620	0.178	13	71
Flat Platform w/ Han	100.00	2,000	1.562	0.666	0.620	0.178	308	1,723
Kathrein Smart Bias	91.00	10	1.293	0.112	0.330	0.058	1	9
Ericsson KRY 112 144	91.00	33	1.293	0.112	0.330	0.058	2	28
Ericsson KRY 112 489	91.00	46	1.293	0.112	0.330	0.058	2	40
RFS APX16DWV-16DWV-	91.00	119	1.293	0.112	0.330	0.058	6	102
Commscope LNX-	91.00	151	1.293	0.112	0.330	0.058	8	130
Flat Low Profile Pla	91.00	1,500	1.293	0.112	0.330	0.058	76	1,292
Alcatel-Lucent RRR2X	80.00	132	1.000	-0.110	0.131	-0.022	-3	114
Alcatel-Lucent RRR2x	80.00	170	1.000	-0.110	0.131	-0.022	-3	147
RFS DB-T1-6Z-8AB-0Z	80.00	88	1.000	-0.110	0.131	-0.022	-2	76
Antel BXA-171063-12C	80.00	77	1.000	-0.110	0.131	-0.022	-1	66
Antel BXA-70063-6CF-	80.00	102	1.000	-0.110	0.131	-0.022	-2	88
Round Low Profile PI	80.00	1,500	1.000	-0.110	0.131	-0.022	-29	1,292
Scala 840 10212	75.00	7	0.879	-0.121	0.079	-0.036	0	6
TX RX Systems 421-86	75.00	15	0.879	-0.121	0.079	-0.036	0	13
Stand Offs	75.00	150	0.879	-0.121	0.079	-0.036	-5	129
Round Side Arms	70.00	300	0.765	-0.105	0.044	-0.035	-9	258
72" x 6" Panel	70.00	120	0.765	-0.105	0.044	-0.035	-4	103
Scala 840 10212	60.00	7	0.562	-0.039	0.011	-0.004	0	6
Stand Off	60.00	75	0.562	-0.039	0.011	-0.004	0	65
Radio Waves SP2-4.7	60.00	26	0.562	-0.039	0.011	-0.004	0	22
		25,454	73.119	24.309	23.358	6.102	1,335	21,925

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
30	107.50	252	1.805	1.562	0.986	0.315	69	217
29	102.50	252	1.641	0.911	0.727	0.220	48	217
28	97.50	254	1.485	0.464	0.525	0.140	31	219
27	93.00	210	1.351	0.197	0.383	0.081	15	181
26	90.50	68	1.279	0.093	0.318	0.053	3	59
25	87.50	345	1.196	0.001	0.252	0.025	7	297
24	82.50	353	1.063	-0.088	0.165	-0.010	-3	304
23	78.52	250	0.963	-0.117	0.114	-0.028	-6	215
22	76.02	311	0.903	-0.122	0.088	-0.034	-9	268
21	72.50	768	0.821	-0.115	0.060	-0.037	-25	662
20	68.75	400	0.738	-0.098	0.038	-0.033	-12	344
19	66.62	281	0.693	-0.085	0.029	-0.028	-7	242
18	65.37	161	0.668	-0.077	0.024	-0.025	-3	139
17	63.96	449	0.639	-0.067	0.020	-0.020	-8	387
16	61.46	511	0.590	-0.049	0.013	-0.010	-4	440
15	57.50	887	0.516	-0.022	0.008	0.006	5	764
14	52.50	898	0.431	0.008	0.006	0.026	20	774

Site Number: 302481

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13	48.75	453	0.371	0.027	0.008	0.036	14	390
12	46.25	456	0.334	0.037	0.010	0.042	17	393
11	42.50	920	0.282	0.049	0.014	0.047	37	793
10	37.50	932	0.220	0.060	0.021	0.050	40	803
9	33.91	408	0.180	0.065	0.026	0.050	18	351
8	31.41	726	0.154	0.068	0.030	0.050	31	625
7	29.66	173	0.137	0.069	0.032	0.049	7	149
6	27.16	821	0.115	0.070	0.035	0.048	34	707
5	22.50	958	0.079	0.072	0.040	0.047	39	826
4	17.50	970	0.048	0.071	0.042	0.045	38	835
3	12.50	981	0.024	0.066	0.039	0.042	35	845
2	7.50	992	0.009	0.053	0.031	0.034	30	855
1	2.50	1,003	0.001	0.024	0.013	0.017	15	864
DragonWave Horizon C	110.00	32	1.890	1.980	1.140	0.369	10	27
DragonWave A-ANT-23G	110.00	15	1.890	1.980	1.140	0.369	5	13
NextNet BTS-2500	110.00	105	1.890	1.980	1.140	0.369	34	90
Argus LLPX310R	110.00	86	1.890	1.980	1.140	0.369	27	74
Side Arms	110.00	560	1.890	1.980	1.140	0.369	179	482
DragonWave A-ANT-11G	110.00	95	1.890	1.980	1.140	0.369	30	82
Powerwave Allgon 702	100.00	13	1.562	0.666	0.620	0.178	2	11
CCI TPX-070821	100.00	45	1.562	0.666	0.620	0.178	7	39
Powerwave LGP21401	100.00	85	1.562	0.666	0.620	0.178	13	73
Raycap DC6-48-60-18-	100.00	66	1.562	0.666	0.620	0.178	10	57
Stand-Off	100.00	75	1.562	0.666	0.620	0.178	12	65
Ericsson RRUS-11	100.00	150	1.562	0.666	0.620	0.178	23	129
Ericsson RRUS 32 B2	100.00	159	1.562	0.666	0.620	0.178	24	137
10' Omni	100.00	25	1.562	0.666	0.620	0.178	4	22
Ericsson RRUS-32	100.00	231	1.562	0.666	0.620	0.178	36	199
Powerwave 7770.00	100.00	105	1.562	0.666	0.620	0.178	16	90
Quintel QS66512-2	100.00	222	1.562	0.666	0.620	0.178	34	191
CCI OPA-65R-LCUU-H6	100.00	146	1.562	0.666	0.620	0.178	22	126
CCI OPA-65R-LCUU-H8	100.00	88	1.562	0.666	0.620	0.178	14	76
CCI TPA-65R-LCUUUU-H	100.00	82	1.562	0.666	0.620	0.178	13	71
Flat Platform w/ Han	100.00	2,000	1.562	0.666	0.620	0.178	308	1,723
Kathrein Smart Bias	91.00	10	1.293	0.112	0.330	0.058	1	9
Ericsson KRY 112 144	91.00	33	1.293	0.112	0.330	0.058	2	28
Ericsson KRY 112 489	91.00	46	1.293	0.112	0.330	0.058	2	40
RFS APX16DWV-16DWV-	91.00	119	1.293	0.112	0.330	0.058	6	102
Commscope LNX-	91.00	151	1.293	0.112	0.330	0.058	8	130
Flat Low Profile Pla	91.00	1,500	1.293	0.112	0.330	0.058	76	1,292
Alcatel-Lucent RRH2X	80.00	132	1.000	-0.110	0.131	-0.022	-3	114
Alcatel-Lucent RRH2x	80.00	170	1.000	-0.110	0.131	-0.022	-3	147
RFS DB-T1-6Z-8AB-0Z	80.00	88	1.000	-0.110	0.131	-0.022	-2	76
Antel BXA-171063-12C	80.00	77	1.000	-0.110	0.131	-0.022	-1	66
Antel BXA-70063-6CF-	80.00	102	1.000	-0.110	0.131	-0.022	-2	88
Round Low Profile PI	80.00	1,500	1.000	-0.110	0.131	-0.022	-29	1,292
Scala 840 10212	75.00	7	0.879	-0.121	0.079	-0.036	0	6
TX RX Systems 421-86	75.00	15	0.879	-0.121	0.079	-0.036	0	13
Stand Offs	75.00	150	0.879	-0.121	0.079	-0.036	-5	129
Round Side Arms	70.00	300	0.765	-0.105	0.044	-0.035	-9	258
72" x 6" Panel	70.00	120	0.765	-0.105	0.044	-0.035	-4	103
Scala 840 10212	60.00	7	0.562	-0.039	0.011	-0.004	0	6
Stand Off	60.00	75	0.562	-0.039	0.011	-0.004	0	65
Radio Waves SP2-4.7	60.00	26	0.562	-0.039	0.011	-0.004	0	22
		25,454	73.119	24.309	23.358	6.102	1,335	21,925

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
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Site Number: 302481

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30	107.50	252	1.805	1.562	0.986	0.315	69	217
29	102.50	252	1.641	0.911	0.727	0.220	48	217
28	97.50	254	1.485	0.464	0.525	0.140	31	219
27	93.00	210	1.351	0.197	0.383	0.081	15	181
26	90.50	68	1.279	0.093	0.318	0.053	3	59
25	87.50	345	1.196	0.001	0.252	0.025	7	297
24	82.50	353	1.063	-0.088	0.165	-0.010	-3	304
23	78.52	250	0.963	-0.117	0.114	-0.028	-6	215
22	76.02	311	0.903	-0.122	0.088	-0.034	-9	268
21	72.50	768	0.821	-0.115	0.060	-0.037	-25	662
20	68.75	400	0.738	-0.098	0.038	-0.033	-12	344
19	66.62	281	0.693	-0.085	0.029	-0.028	-7	242
18	65.37	161	0.668	-0.077	0.024	-0.025	-3	139
17	63.96	449	0.639	-0.067	0.020	-0.020	-8	387
16	61.46	511	0.590	-0.049	0.013	-0.010	-4	440
15	57.50	887	0.516	-0.022	0.008	0.006	5	764
14	52.50	898	0.431	0.008	0.006	0.026	20	774
13	48.75	453	0.371	0.027	0.008	0.036	14	390
12	46.25	456	0.334	0.037	0.010	0.042	17	393
11	42.50	920	0.282	0.049	0.014	0.047	37	793
10	37.50	932	0.220	0.060	0.021	0.050	40	803
9	33.91	408	0.180	0.065	0.026	0.050	18	351
8	31.41	726	0.154	0.068	0.030	0.050	31	625
7	29.66	173	0.137	0.069	0.032	0.049	7	149
6	27.16	821	0.115	0.070	0.035	0.048	34	707
5	22.50	958	0.079	0.072	0.040	0.047	39	826
4	17.50	970	0.048	0.071	0.042	0.045	38	835
3	12.50	981	0.024	0.066	0.039	0.042	35	845
2	7.50	992	0.009	0.053	0.031	0.034	30	855
1	2.50	1,003	0.001	0.024	0.013	0.017	15	864
DragonWave Horizon C	110.00	32	1.890	1.980	1.140	0.369	10	27
DragonWave A-ANT-23G	110.00	15	1.890	1.980	1.140	0.369	5	13
NextNet BTS-2500	110.00	105	1.890	1.980	1.140	0.369	34	90
Argus LLPX310R	110.00	86	1.890	1.980	1.140	0.369	27	74
Side Arms	110.00	560	1.890	1.980	1.140	0.369	179	482
DragonWave A-ANT-11G	110.00	95	1.890	1.980	1.140	0.369	30	82
Powerwave Allgon 702	100.00	13	1.562	0.666	0.620	0.178	2	11
CCI TPX-070821	100.00	45	1.562	0.666	0.620	0.178	7	39
Powerwave LGP21401	100.00	85	1.562	0.666	0.620	0.178	13	73
Raycap DC6-48-60-18-	100.00	66	1.562	0.666	0.620	0.178	10	57
Stand-Off	100.00	75	1.562	0.666	0.620	0.178	12	65
Ericsson RRUS-11	100.00	150	1.562	0.666	0.620	0.178	23	129
Ericsson RRUS 32 B2	100.00	159	1.562	0.666	0.620	0.178	24	137
10' Omni	100.00	25	1.562	0.666	0.620	0.178	4	22
Ericsson RRUS-32	100.00	231	1.562	0.666	0.620	0.178	36	199
Powerwave 7770.00	100.00	105	1.562	0.666	0.620	0.178	16	90
Quintel QS66512-2	100.00	222	1.562	0.666	0.620	0.178	34	191
CCI OPA-65R-LCUU-H6	100.00	146	1.562	0.666	0.620	0.178	22	126
CCI OPA-65R-LCUU-H8	100.00	88	1.562	0.666	0.620	0.178	14	76
CCI TPA-65R-LCUUUU-H	100.00	82	1.562	0.666	0.620	0.178	13	71
Flat Platform w/ Han	100.00	2,000	1.562	0.666	0.620	0.178	308	1,723
Kathrein Smart Bias	91.00	10	1.293	0.112	0.330	0.058	1	9
Ericsson KRY 112 144	91.00	33	1.293	0.112	0.330	0.058	2	28
Ericsson KRY 112 489	91.00	46	1.293	0.112	0.330	0.058	2	40
RFS APX16DWV-16DWV-	91.00	119	1.293	0.112	0.330	0.058	6	102
Commscope LNX-	91.00	151	1.293	0.112	0.330	0.058	8	130
Flat Low Profile Pla	91.00	1,500	1.293	0.112	0.330	0.058	76	1,292
Alcatel-Lucent RRH2X	80.00	132	1.000	-0.110	0.131	-0.022	-3	114
Alcatel-Lucent RRH2x	80.00	170	1.000	-0.110	0.131	-0.022	-3	147
RFS DB-T1-6Z-8AB-0Z	80.00	88	1.000	-0.110	0.131	-0.022	-2	76
Antel BXA-171063-12C	80.00	77	1.000	-0.110	0.131	-0.022	-1	66
Antel BXA-70063-6CF-	80.00	102	1.000	-0.110	0.131	-0.022	-2	88
Round Low Profile PI	80.00	1,500	1.000	-0.110	0.131	-0.022	-29	1,292
Scala 840 10212	75.00	7	0.879	-0.121	0.079	-0.036	0	6

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

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Customer: AT&T MOBILITY

TX RX Systems 421-86	75.00	15	0.879	-0.121	0.079	-0.036	0	13
Stand Offs	75.00	150	0.879	-0.121	0.079	-0.036	-5	129
Round Side Arms	70.00	300	0.765	-0.105	0.044	-0.035	-9	258
72" x 6" Panel	70.00	120	0.765	-0.105	0.044	-0.035	-4	103
Scala 840 10212	60.00	7	0.562	-0.039	0.011	-0.004	0	6
Stand Off	60.00	75	0.562	-0.039	0.011	-0.004	0	65
Radio Waves SP2-4.7	60.00	26	0.562	-0.039	0.011	-0.004	0	22
		25,454	73.119	24.309	23.358	6.102	1,335	21,925

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
30	107.50	252	1.805	1.562	0.986	0.315	69	217
29	102.50	252	1.641	0.911	0.727	0.220	48	217
28	97.50	254	1.485	0.464	0.525	0.140	31	219
27	93.00	210	1.351	0.197	0.383	0.081	15	181
26	90.50	68	1.279	0.093	0.318	0.053	3	59
25	87.50	345	1.196	0.001	0.252	0.025	7	297
24	82.50	353	1.063	-0.088	0.165	-0.010	-3	304
23	78.52	250	0.963	-0.117	0.114	-0.028	-6	215
22	76.02	311	0.903	-0.122	0.088	-0.034	-9	268
21	72.50	768	0.821	-0.115	0.060	-0.037	-25	662
20	68.75	400	0.738	-0.098	0.038	-0.033	-12	344
19	66.62	281	0.693	-0.085	0.029	-0.028	-7	242
18	65.37	161	0.668	-0.077	0.024	-0.025	-3	139
17	63.96	449	0.639	-0.067	0.020	-0.020	-8	387
16	61.46	511	0.590	-0.049	0.013	-0.010	-4	440
15	57.50	887	0.516	-0.022	0.008	0.006	5	764
14	52.50	898	0.431	0.008	0.006	0.026	20	774
13	48.75	453	0.371	0.027	0.008	0.036	14	390
12	46.25	456	0.334	0.037	0.010	0.042	17	393
11	42.50	920	0.282	0.049	0.014	0.047	37	793
10	37.50	932	0.220	0.060	0.021	0.050	40	803
9	33.91	408	0.180	0.065	0.026	0.050	18	351
8	31.41	726	0.154	0.068	0.030	0.050	31	625
7	29.66	173	0.137	0.069	0.032	0.049	7	149
6	27.16	821	0.115	0.070	0.035	0.048	34	707
5	22.50	958	0.079	0.072	0.040	0.047	39	826
4	17.50	970	0.048	0.071	0.042	0.045	38	835
3	12.50	981	0.024	0.066	0.039	0.042	35	845
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1	2.50	1,003	0.001	0.024	0.013	0.017	15	864
DragonWave Horizon C	110.00	32	1.890	1.980	1.140	0.369	10	27
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Side Arms	110.00	560	1.890	1.980	1.140	0.369	179	482
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Stand-Off	100.00	75	1.562	0.666	0.620	0.178	12	65
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10' Omni	100.00	25	1.562	0.666	0.620	0.178	4	22
Ericsson RRUS-32	100.00	231	1.562	0.666	0.620	0.178	36	199
Powerwave 7770.00	100.00	105	1.562	0.666	0.620	0.178	16	90
Quintel QS66512-2	100.00	222	1.562	0.666	0.620	0.178	34	191

Site Number: 302481

Code: ANSI/TIA-222-G

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Site Name: Hrfr - South, CT

Engineering Number: 66593122

6/6/2016 11:09:44 AM

Customer: AT&T MOBILITY

CCI OPA-65R-LCUU-H6	100.00	146	1.562	0.666	0.620	0.178	22	126
CCI OPA-65R-LCUU-H8	100.00	88	1.562	0.666	0.620	0.178	14	76
CCI TPA-65R-LCUUUU-H	100.00	82	1.562	0.666	0.620	0.178	13	71
Flat Platform w/ Han	100.00	2,000	1.562	0.666	0.620	0.178	308	1,723
Kathrein Smart Bias	91.00	10	1.293	0.112	0.330	0.058	1	9
Ericsson KRY 112 144	91.00	33	1.293	0.112	0.330	0.058	2	28
Ericsson KRY 112 489	91.00	46	1.293	0.112	0.330	0.058	2	40
RFS APX16DWV-16DWV-	91.00	119	1.293	0.112	0.330	0.058	6	102
Commscope LNX-	91.00	151	1.293	0.112	0.330	0.058	8	130
Flat Low Profile Pla	91.00	1,500	1.293	0.112	0.330	0.058	76	1,292
Alcatel-Lucent RRH2X	80.00	132	1.000	-0.110	0.131	-0.022	-3	114
Alcatel-Lucent RRH2x	80.00	170	1.000	-0.110	0.131	-0.022	-3	147
RFS DB-T1-6Z-8AB-0Z	80.00	88	1.000	-0.110	0.131	-0.022	-2	76
Antel BXA-171063-12C	80.00	77	1.000	-0.110	0.131	-0.022	-1	66
Antel BXA-70063-6CF-	80.00	102	1.000	-0.110	0.131	-0.022	-2	88
Round Low Profile PI	80.00	1,500	1.000	-0.110	0.131	-0.022	-29	1,292
Scala 840 10212	75.00	7	0.879	-0.121	0.079	-0.036	0	6
TX RX Systems 421-86	75.00	15	0.879	-0.121	0.079	-0.036	0	13
Stand Offs	75.00	150	0.879	-0.121	0.079	-0.036	-5	129
Round Side Arms	70.00	300	0.765	-0.105	0.044	-0.035	-9	258
72" x 6" Panel	70.00	120	0.765	-0.105	0.044	-0.035	-4	103
Scala 840 10212	60.00	7	0.562	-0.039	0.011	-0.004	0	6
Stand Off	60.00	75	0.562	-0.039	0.011	-0.004	0	65
Radio Waves SP2-4.7	60.00	26	0.562	-0.039	0.011	-0.004	0	22
		25,454	73.119	24.309	23.358	6.102	1,335	21,925

Site Number: 302481
 Site Name: Hrfr - South, CT
 Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
 Engineering Number: 66593122

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Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	22.90	0.00	30.47	0.00	0.00	1628.82	77.04	0.98
0.9D + 1.6W	22.54	0.00	22.84	0.00	0.00	1604.67	77.04	0.95
1.2D + 1.0Di + 1.0Wi	6.04	0.00	80.49	0.00	0.00	482.21	77.04	0.34
(1.2 + 0.2Sds) * DL + E ELFM	1.04	0.00	30.28	0.00	0.00	92.88	77.04	0.09
(1.2 + 0.2Sds) * DL + E EMAM	1.33	0.00	30.28	0.00	0.00	117.82	77.04	0.15
(0.9 - 0.2Sds) * DL + E ELFM	1.04	0.00	21.06	0.00	0.00	91.29	77.04	0.08
(0.9 - 0.2Sds) * DL + E EMAM	1.32	0.00	21.06	0.00	0.00	115.66	77.04	0.14
1.0D + 1.0W	5.63	0.00	25.45	0.00	0.00	402.47	77.04	0.25

Additional Steel Summary

Elev From (ft)	Elev To (ft)	(4) SOL-#20 All Thre Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Pu (kip)	phiPn (kip)	Ratio
0.00	47.5	(4) SOL-#20 All Thre	374.5	14.6	16.8	0.0	12.0	0	0	0.0	12.0	0	0	295.3	315.5	0.936
47.5	67.5	(4) SOL-#20 All Thre	416.1	12.5	16.8	0.0	12.0	0	0	0.0	12.0	0	0	179.3	330.5	0.543
67.5	77.0	(4) SOL-#20 All Thre	416.1	12.5	16.8	79.7	12.0	7	7	0.0	12.0	0	0	119.8	330.5	0.363

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	30 in
	Pole Thickness	0.25 in
	Plate Length	44 in
	Plate Thickness	2 in
	Plate Fy	60 ksi
	Weld Length	0.1875 in
	ϕ_s Resistance	1598.36 k-in
	Applied	1065.76 k-in
Stiffeners	#	0

Bolts	#	8
	Bolt Circle	44 in
	(R)adial / (S)quare	S
	Bolt Gap	6 in
	Diameter	2.25 in
	Hole Diameter	2.375 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
ϕ_s Resistance	259.82 k	
Applied	94.73 k	
Reinforcement	#	4
	DYW. Circle	38.6 in
	Offset Angle	0°
	Type	#20
	Diameter	2.5 in
Fu	100 ksi	
Extra Bolts	#	0

Code Rev. **G**

Date **6/6/2016**
 Engineer **NSK**
 Site # **302481**
 Carrier **AT&T Mobility**

Moment **1628.8 k-ft**
 Axial **30.5 k**

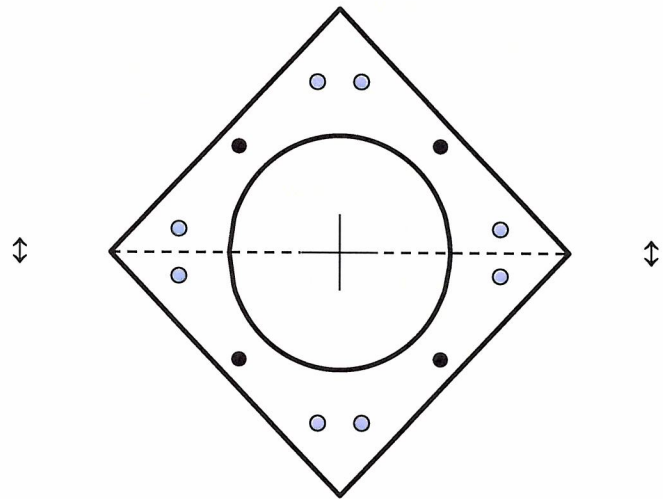


Plate Stress Ratio:

0.67 (Pass)

Bolt Stress Ratio:

0.36 (Pass)

Base/Flange Plate	Plate Type	Flange @ 100.0 ft
	Pole Diameter	12.75 in
	Pole Thickness	0.375 in
	Plate Diameter	28.5 in
	Plate Thickness	1.5 in
	Plate Fy	36 ksi
	Weld Length	0.25 in
	ϕ_s Resistance	60.83 k-in
	Applied	12.95 k-in
	#	0
Stiffeners	#	0

Code Rev. **G**

Date **6/6/2016**
 Engineer **NSK**
 Site # **302481**
 Carrier **AT&T Mobility**

Moment **15.2 k-ft**
 Axial **1.5 k**

Required Flange Thickness:
0.69 in OK

Bolts	#	12
	Bolt Circle (R)adial / (S)quare	26 in R
	Diameter	1 in
	Hole Diameter	1.0625 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
Applied	2.22 k	
Reinforcement	#	0
Extra Bolts	#	0

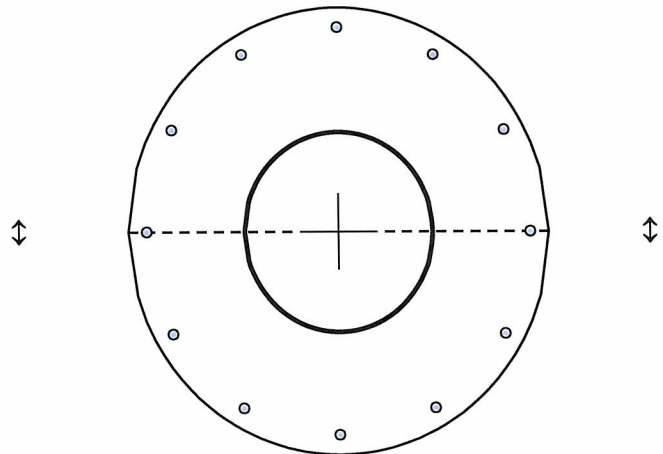


Plate Stress Ratio:
0.21 (Pass)

Bolt Stress Ratio:
0.04 (Pass)

Site Name: Hrrr - South, CT
 Site Number: 302481
 Engineering Number: 66593122
 Engineer: NSK
 Date: 6/6/2016

Design Base Loads (Factored) - Design per TIA-222-G Standard

Moment (Overturning) (M_u):	1628.8 k-ft
Shear/Leg (V_u):	22.9 k
Compression/Leg (P_u):	30.5 k
Uplift/Leg (T_u):	k
Tower Type (GT / SST / MP):	MP
Length / Width of Block:	6.0 ft
Thickness of Block:	6.0 ft
Block Height Above Ground:	0.5 ft
Depth Below Ground Surface to Water Table (w):	99.0 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil:	125.0 pcf
Unit Weight of Water:	62.4 pcf
Ultimate Compressive Bearing Pressure:	10000 psf
Capacity Increase (Due to Transient Loads):	1.00
Pullout Angle:	30.0 degrees
Rod Diameter:	1.00 in
Rod Ultimate Strength:	38 ksi
Rod Net Area:	2.65 in ²
Number of Rods:	18
Diameter of Cored Hole:	2.00 in
Ultimate Grout / Rock Interface Bond Strength:	200 psi
Ultimate Grout / Rock Anchor Interface Bond Strength:	600 psi
Overall Rod Embedment Length:	72 in
Rod Exposure Above Lock Off Nut in Foundation:	60 in
Rod Embedment Circle:	60 in
Free Stress Length:	0 in
Soil / Concrete Friction Coefficient:	0.44
Rock Anchor Design Plastic or Elastic:	Elastic
Ignore Pullout Weight Resistance (Y/N):	Y
Weight of Concrete (Buoyancy Effect Considered):	32.4 k
Compressive Bearing Resistance:	282.7 k
Pullout Weight / Rod:	k - Ignored
Rock / Grout Bond Strength / Rod:	90.5 k
Grout / Rod Bond Strength / Rod:	135.7 k
Rod Mechanical Strength / Rod:	100.7 k
Soil Strength Reduction Factor (ϕ_s):	0.75
Factored Nominal Moment Capacity per Leg ($\phi_s M_n$):	2189.8 k
Factored Nominal Uplift Capacity per Leg ($\phi_s T_n$):	1273.5 k
Factored Nominal Compressive Capacity per Leg ($\phi_s P_n$):	212.1 k
Factored Nominal Shear Capacity per Leg ($\phi_s V_n$):	815.7 k
M_u :	1766.2 k-ft
T_u :	0.0 k
P_u :	36.4 k
V_u :	22.9 k
$T_u/\phi_s T_n + M_u/\phi_s M_n$:	0.81 Result: OK
$P_u/\phi_s P_n$:	0.17 Result: OK
$V_u/\phi_s V_n$:	0.03 Result: OK

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	74 Minimum # of vertical rebar met
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	4
Horizontal Tie / Stirrup Area:	0.20 in ²
Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	40 ksi
Anchor Rod Nut Diameter:	2.02 in
Rebar Cage Diameter:	64.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression/Bearing Reduction Factor ($\phi_{P/B}$):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	1766.2 k-ft
Factored Nominal Moment Capacity ($\phi_B M_n$):	16253.8 k-ft - ACI318-05 - 10.2
$M_u/\phi_B M_n$:	0.11 Result: OK
Design Shear (V_u):	304.1 k
Factored Nominal Shear Capacity ($\phi_V V_n$):	402.2 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.76 Result: OK
Design Tension (T_u):	0.0 k
Factored Nominal Tension Capacity ($\phi_T T_n$):	6233.8 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	30.5 k
Factored Nominal Compression Capacity ($\phi_P P_n$):	6171.5 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.00 Result: OK

**RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS**

AT&T Existing Facility

Site ID: CT1011

**Hartford South
2 Mountain St
Hartford, CT 06107**

June 10, 2016

EBI Project Number: 6216002776

Site Compliance Summary	
Compliance Status:	Compliant
Site total MPE% of FCC general public allowable limit:	29.65 %

June 10, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1011 – Hartford South**

EBI Consulting was directed to analyze the proposed AT&T facility located at **2 Mountain St, Hartford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **2 Mountain St, Hartford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 GSM channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 6) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 7) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 9) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antennas used in this modeling are the **Kathrein 7770, CCI OPA-65R-LCUU-H6, CCI OPA-65R-LCUU-H8, Commscope SBNH-1D6565C and the KMW AM-X-CD-16-65-00T-RET** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antenna mounting height centerlines of the proposed antennas are **103 feet** above ground level (AGL) for **Sector A**, **103 feet** above ground level (AGL) for **Sector B** and **103 feet** above ground level (AGL) for Sector C.
- 12) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Kathrein 7770	Make / Model:	Kathrein 7770	Make / Model:	Kathrein 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	103 feet	Height (AGL):	103 feet	Height (AGL):	103 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	3,453.54	ERP (W):	3,453.54	ERP (W):	3,453.54
Antenna A1 MPE%	1.56 %	Antenna B1 MPE%	1.56 %	Antenna C1 MPE%	1.56 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI OPA-65R-LCUU-H8	Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H6
Gain:	14.95 / 13.35 dBd	Gain:	15.45 / 12.45 dBd	Gain:	15.45 / 12.45 dBd
Height (AGL):	103 feet	Height (AGL):	103 feet	Height (AGL):	103 feet
Frequency Bands	2300 MHz (WCS) / 850 MHz	Frequency Bands	2300 MHz (WCS) / 850 MHz	Frequency Bands	2300 MHz (WCS) / 850 MHz
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts	Total TX Power(W):	180 Watts
ERP (W):	5,048.93	ERP (W):	5,263.78	ERP (W):	5,263.78
Antenna A2 MPE%	2.31 %	Antenna B2 MPE%	2.32 %	Antenna C2 MPE%	2.32 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope SBNH-ID6565C	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET
Gain:	13.65 / 15.85 dBd	Gain:	13.35 / 15.25 dBd	Gain:	13.35 / 15.25 dBd
Height (AGL):	103 feet	Height (AGL):	103 feet	Height (AGL):	103 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	7,395.97	ERP (W):	6,614.85	ERP (W):	6,614.85
Antenna A3 MPE%	4.04 %	Antenna B3 MPE%	3.66 %	Antenna C3 MPE%	3.66 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	7.91 %
Clearwire	0.17 %
MetroPCS	2.97 %
Town of W. Hartford	0.98 %
T-Mobile	4.70 %
Verizon Wireless	12.92 %
Site Total MPE %:	29.65 %

AT&T Sector A Total:	7.91 %
AT&T Sector B Total:	7.54 %
AT&T Sector C Total:	7.54 %
Site Total:	29.65 %

AT&T _ Per Sector (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	828.23	103	3.16	850 MHz	567	0.56%
AT&T 1900 MHz (PCS) UMTS	2	1,312.66	103	5.02	1900 MHz (PCS)	1000	0.50%
AT&T 1900 MHz (PCS) GSM	2	1,312.66	103	5.02	1900 MHz (PCS)	1000	0.50%
AT&T 2300 MHz (WCS) LTE	2	3,751.30	103	14.33	2300 MHz (WCS)	1000	1.43%
AT&T 850 MHz GSM	2	1,297.63	103	4.96	850 MHz	567	0.87%
AT&T 700 MHz LTE	2	2,780.87	103	10.63	700 MHz	467	2.28%
AT&T 1900 MHz (PCS) LTE	2	4,615.10	103	17.63	1900 MHz (PCS)	1000	1.76%
						Total*:	7.91 %

*Note: Totals may vary by 0.01% due to summing of remainders

Summary

All calculations performed for this analysis yielded results that were **Within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	7.91 %
Sector B:	7.54 %
Sector C:	7.54 %
AT&T Maximum Total (per sector):	7.91 %
Site Total:	29.65 %
Site Compliance Status:	Compliant

The anticipated composite MPE value for this site assuming all carriers present is **29.65 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

BillERICA Warehouse

From: Michael Macgregor <mmacgregor@empiretelecomm.com>
Sent: Wednesday, June 22, 2016 1:11 PM
To: BillERICA Warehouse
Cc: logistics@empiretelecomm.com
Subject: Pick Ticket Backorders

Looks like the material below can be filled. Please confirm when put with the sites so I can run them through consumption.

Project Number	PTN	Request Date	Request By	Construction Manager	BOM Type	Item Number	Request Warehouse	Request Quantity	UOM	Description
00008465	2075A02SID	5/9/2016	Lincoln Higgins	Lincoln Higgins	Initial Kit	14301	MASTK	6	EACH	KATHREIN 782 11053 Smart Bias Tee 12V BTS (repla
00008494	2075A03K9J	5/17/2016	Lincoln Higgins	Lincoln Higgins	Initial Kit	11765	MASTK	18	EACH	Andrews - 1/2" Coax Jumper - 4.3-1.0 Connector (Bo
00007508	2101A01ACV	5/17/2016	Harold Giglio	Harold Giglio	Initial Kit	11765	MASTK	12	EACH	Andrews - 1/2" Coax Jumper - 4.3-1.0 Connector (Bo
00008348	2075A0310	5/23/2016	Lincoln Higgins	Lincoln Higgins	Initial Kit	14126	MASTK	12	EACH	CCI PENTAPLEXER 5PX-0726-0

Thanks,

Michael MacGregor
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