EMPIRE telecom

May 2, 2018

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

Regarding:	Notice of Exempt Modification – Equipment Upgrades
Property Address:	36 Ritch Avenue West; Greenwich, CT 06830
AT&T Site:	CT5004 // FA# 10071045

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 77-foot monopine tower at the above-referenced address, latitude 41.00502222, longitude -73.64831389. Said monopine tower is owned by American Tower Corp., and the property is owned by 36 Ritch Avenue, LLC.

AT&T desires to modify its existing telecommunications facility by installing three (3) additional remote radio units as detailed in the enclosed plans by Centek. The centerline height of the existing antenna installation is and will remain at 67 feet.

Three administrative corrections to the AT&T leased / reserved loading are reflected in the Structural Analysis completed by American Tower on January 15, 2018, but other than the addition of the remote radio units as noted above, no physical work is proposed. Corrections are as follows: 1) Removal of (3) RRUS-11 as these particular units are not installed on the tower, but on the ground in AT&T's ground equipment area; 2) correction to the model number of the existing (6) TMAs; and 3) a correction to the size of existing cables and conduit.

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 First Selectman of the Town of Greenwich, the Planning and Zoning Director, tower owner, American Tower Corp., and ground owner 36 Ritch Avenue, LLC.

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 equipment to be added will be installed at the existing height of 67 feet on the 77-foot tower.

Kristen White • Empire Telecom USA, LLC • 16 Esquire Road, Billerica, MA 01862 • 978-284-3801 • kwhite@empiretelecomm.com

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 decibels 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 (enclosed) 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 existing structure and its foundation can support AT&T's proposed modifications (please see enclosed structural analysis completed by Tower Engineering Professionals dated January 15, 2018).

For the foregoing reasons, AT&T respectfully requests that the proposed installation be allowed within the exempt modifications under R.C.S.A. §16-50j-72 (b)(2).

Sincerely,

Kristen White

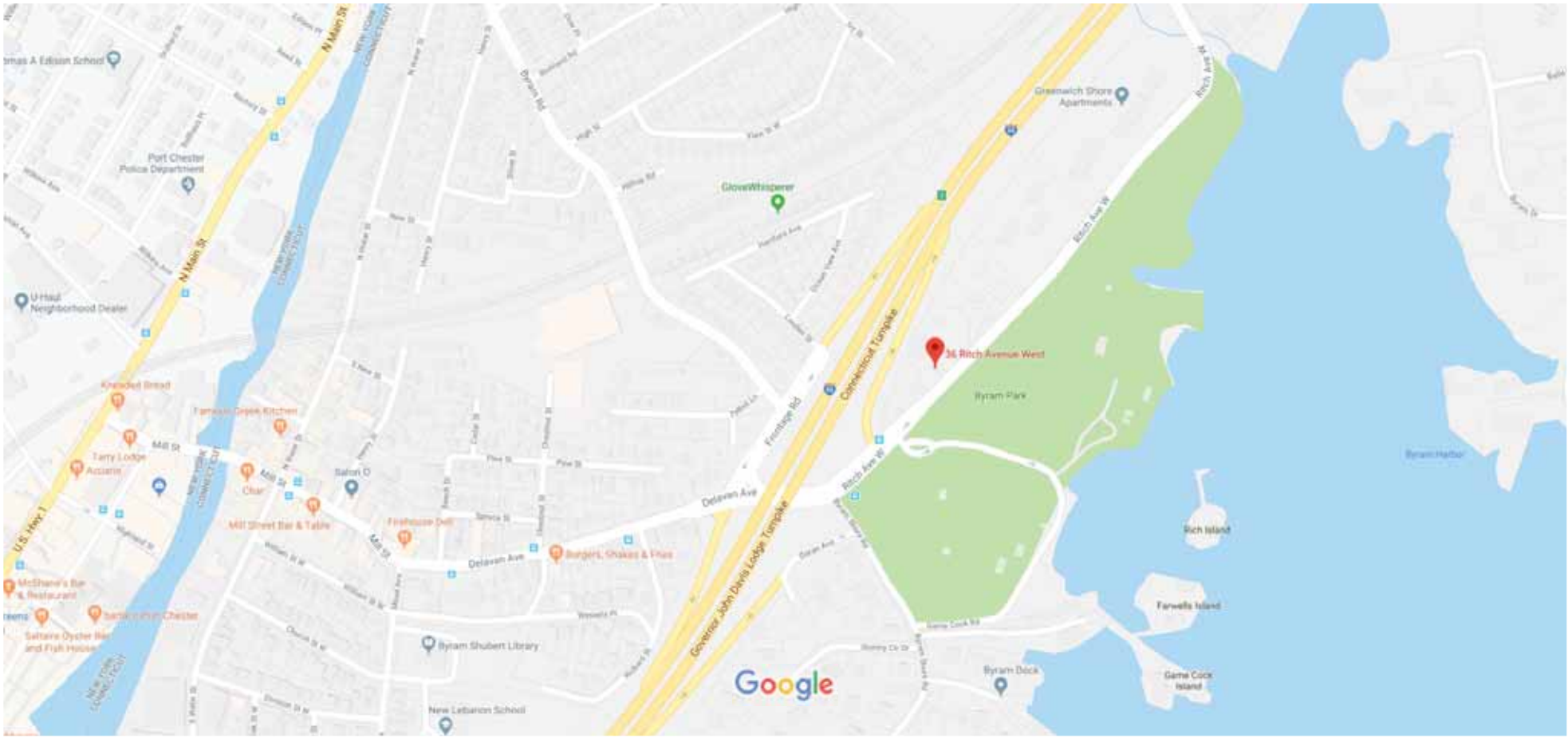
Kristen White
Site Acquisition Specialist

Enclosures: Exhibit 1 - Property Card and GIS Map
Exhibit 2 - Construction Drawings
Exhibit 3 - RF Emissions Analysis Report Evaluation
Exhibit 4 - Structural Analysis

cc: Mr. Peter Tesei, First Selectman
Ms. Katie DeLuca, AICP; Town Planner
36 RITCH AVENUE, LLC, ground owner
American Tower Corporation, tower owner & operator

Exhibit 1

Google Maps 36 Ritch Ave W



Map data ©2018 Google 200 ft

36 Ritch Ave W

Greenwich, CT 06830

Property Details

Property address	36 Ritch Ave W, Greenwich, CT 06830
Parcel ID	04-2334/S
Acreage	0.27
Property class	Telephone Exchange(430)
Zoning	R-7
Square footage	644
Year built	2012
Stories	1

Exhibit 2

WIRELESS COMMUNICATIONS FACILITY
CT5004 - LTE 5C AWS
GREENWICH SW
AMERICAN TOWER CORP. SITE NO.: 414240
36 RITCH AVENUE WEST
GREENWICH, CT 06830

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION 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.
3. 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.
4. 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.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. 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.
7. 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.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY 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 SUBCONTRACTORS.
9. 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 BUILDING'S/PROPERTY'S OPERATIONS, COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD 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.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" 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 MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. 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.
16. 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.
17. 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.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. 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.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

TO: 36 RITCH AVENUE WEST, GREENWICH, CONNECTICUT

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.36 MI
2.	TURN LEFT ONTO CAPITAL BLVD	0.27 MI
3.	TURN LEFT ONTO WEST ST	0.30 MI
4.	TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN	9.59 MI
5.	MERGE ONTO CT-15 S VIA EXIT 17 TOWARD E MAIN ST.	47.29 MI
6.	TAKE EXIT 40A TOWARD US-7 S/NORWALK.	0.09 MI
7.	MERGE ONTO MAIN AVE.	0.84 MI
8.	MAIN AVE BECOMES MAIN ST	0.31 MI
9.	TURN RIGHT ONTO NEW CANAAN AVE/CT-123.	0.28 MI
10.	MERGE ONTO US-7 S VIA THE RAMP ON THE LEFT TOWARD I-95.	1.20 MI
11.	MERGE ONTO I-95 S TOWARD N.Y CITY/NY CITY.	14.68 MI
12.	TAKE EXIT 2 TOWARD DELAVAN AVE/BYRAM.	0.17 MI
13.	STAY STRAIGHT TO GO ONTO FRONTAGE RD.	0.13 MI
14.	TURN LEFT ONTO RITCH AVE W.	0.17 MI
15.	36 RITCH AVE W, GREENWICH, CT 06830-6918, 36 RITCH AVE W IS ON THE LEFT.	

VICINITY MAP

SCALE: 1" = 1000'

PROJECT SUMMARY

1. THE PROPOSED SCOPE OF WORK CONSISTS OF A MODIFICATION TO THE EXISTING UNMANNED TELECOMMUNICATIONS FACILITY INCLUDING THE FOLLOWING:

A. AT ANTENNA SECTORS:

- INSTALL (3) NEW 4426 B66 TO SERVE POSITION 4 ANTENNA
- INSTALL (3) SWIVEL RRU MOUNTS TO ACCOMMODATE EXISTING/ADDITIONAL RRUS

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5004
AT&T SITE NAME:	GREENWICH SW
SITE ADDRESS:	AMERICAN TOWER CORP. SITE NO.: 414240 36 RITCH AVENUE WEST GREENWICH, CT 06830
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
AT&T PACE NUMBER:	MRCTB027628
AT&T FA LOCATION CODE:	10071045
ENGINEER:	CENTEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-00'-18.24" N LONGITUDE: 73°-38'-53.94" W GROUND ELEVATION: ±59' AMSL SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM GOOGLE EARTH.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	0
N-1	NOTES, SPECIFICATIONS AND ANTENNA SCHEDULE	0
C-1	PLANS AND ELEVATION	0
C-2	LTE 5C AWS ANTENNA LAYOUT PLANS	0
C-3	DETAILS	0
E-1	LTE SCHEMATIC DIAGRAM AND NOTES	0
E-2	LTE WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0

PROFESSIONAL ENGINEER SEAL

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	04/13/18	KAWJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

at&t

EMPIRE telecom

CENTEK engineering
Centered on Solutions
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY

WIRELESS COMMUNICATIONS FACILITY

GREENWICH SW

CT5004 - LTE 5C AWS

36 RITCH AVENUE WEST
GREENWICH, CT 06830

DATE: 04/03/18
SCALE: AS NOTED
JOB NO. 18000.18

TITLE SHEET

T-1

Sheet No. 1 of 8

NOTES AND SPECIFICATIONS

DESIGN BASIS:

GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.

1. DESIGN CRITERIA:

- WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 90–110 MPH (3 SECOND GUST)
- RISK CATEGORY: II (BASED ON IBC APPENDIX N)
- NOMINAL DESIGN SPEED (TOWER): 93 MPH (Vasd) (EXPOSURE C/IMPORTANCE FACTOR 1.0 BASED ON ASCE 7–10) PER 2012 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE.
- SEISMIC LOAD (DOES NOT CONTROL): PER ASCE 7–10 MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD 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.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, 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 DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. 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 SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF–SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION 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 WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. 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.
12. 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 BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
13. NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
14. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
   - A. STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
   - B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
   - C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
   - D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
   - E. PIPE---ASTM A53 (FY = 35 KSI)
   - F. CONNECTION BOLTS---ASTM A325–N
   - G. U–BOLTS---ASTM A36
   - H. ANCHOR RODS---ASTM F 1554
   - I. WELDING ELECTRODE---ASTM E 70XX
2. 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, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON–GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT–DIP) ON IRON AND STEEL HARDWARE".
10. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
11. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
12. 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 ON THE DRAWINGS.
13. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
14. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
15. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
16. FABRICATE BEAMS WITH MILL CAMBER UP.
17. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
18. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
19. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
20. 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:

1. ANTENNA PANELS:
   - A. SHERWIN WILLIAMS POLANE–B
   - B. COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
2. COAXIAL CABLES:
   - A. ONE COAT OF DTM BONDING PRIMER (2–5 MILS. DRY FINISH)
   - B. TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5–5 MILS. DRY FINISH)
   - C. COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.

EXAMINATION AND PREPARATION:

1. DO NOT APPLY PAINT IN SNOW, RAIN, FOG OR MIST OR WHEN RELATIVE HUMIDITY EXCEEDS 85%. DO NOT APPLY PAINT TO DAMP OR WET SURFACES.
2. VERIFY THAT SUBSTRATE CONDITIONS ARE READY TO RECEIVE WORK. EXAMINE SURFACE SCHEDULED TO BE FINISHED PRIOR TO COMMENCEMENT OF WORK. REPORT ANY CONDITION THAT MAY POTENTIALLY AFFECT PROPER APPLICATION.
3. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
4. PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
5. CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
6. IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI–SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
7. ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH–PRESSURE WATER. REMOVE OXIDATION WITH ACID ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
8. FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER FOREIGN SUBSTANCES. USE SOLVENT OR MECHANICAL CLEANING METHODS THAT COMPLY WITH THE STEEL STRUCTURES PAINTING COUNCIL'S (SSPC) RECOMMENDATIONS. TOUCH UP BARE AREAS AND SHOP APPLIED PRIME COATS THAT HAVE BEEN DAMAGED. WIRE BRUSH, CLEAN WITH SOLVENTS RECOMMENDED BY PAINT MANUFACTURER, AND TOUCH UP WITH THE SAME PRIMER AS THE SHOP COAT.
9. GALVANIZED SURFACES: CLEAN GALVANIZED SURFACES WITH NON–PETROLEUM–BASED SOLVENTS SO SURFACE IS FREE OF OIL AND SURFACE CONTAMINANTS. REMOVE PRETREATMENT FROM GALVANIZED SHEET METAL FABRICATED FROM COIL STOCK BY MECHANICAL METHODS.
10. ANTENNA PANELS: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION. PANELS MUST BE WIPED WITH METHYL ETHYL KETONE (MEK).
11. COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE. DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

1. COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.

APPLICATION:

1. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
2. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
3. APPLY EACH COAT TO UNIFORM FINISH.
4. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
5. SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
6. VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
7. ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

1. SAMPLES: PREPARE 24" X 24" SAMPLE AREA FOR REVIEW.
2. MATCH APPROVED SAMPLES FOR COLOR, TEXTURE AND COVERAGE. REMOVE REFINISH OR REPAINT WORK NOT IN COMPLIANCE WITH SPECIFIED REQUIREMENTS.

ANTENNA SCHEDULE

SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	(E/P) TMA/DIPLEXER/TRIPLEXER (QTY)	(E/P) RRU (QTY)	FEEDER	(E/P) RAYCAP (QTY)
A1	EXISTING	UMTS 850	P65–16–XLH–RR	72X12X6	±67'	10°	(E) POWERWAVE CM1007–DBPXBC–003 (2) | (E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)		(2) 1–5/8"ø COAX	
A2	EXISTING	LTE 850/WCS	OPA–65R–LCUU–H6	72X14.8X7.4	±67'	30°	(E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)	(E) RRUS–11 (1), (E) RRUS–32 (1)	(2) 1–5/8"ø COAX, FIBER AND DC POWER	(E) RAYCAP DC6–48–60–18–8C (1)
A4	EXISTING	LTE 700/1900/1900/AWS	QS66512–2	72X12X9.6	±67'	30°		(E) RRUS–11 (1), (E) RRUS–32 B2 (1), (P) 4426 B66 (1)	FIBER AND DC POWER	(E) RAYCAP DC6–48–60–18–8C (1)
B1	EXISTING	UMTS 850	P65–16–XLH–RR	72X12X6	±67'	130°	(E) POWERWAVE CM1007–DBPXBC–003 (2) | (E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)		(2) 1–5/8"ø COAX	
B2	EXISTING	LTE 850/WCS	OPA–65R–LCUU–H6	72X14.8X7.4	±67'	150°	(E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)	(E) RRUS–11 (1), (E) RRUS–32 (1)	(2) 1–5/8"ø COAX, FIBER AND DC POWER	
B4	EXISTING	LTE 700/1900/1900/AWS	QS66512–2	72X12X9.6	±67'	150°		(E) RRUS–11 (1), (E) RRUS–32 B2 (1), (P) 4426 B66 (1)	FIBER AND DC POWER	
C1	EXISTING	UMTS 850	P65–16–XLH–RR	72X12X6	±67'	250°	(E) POWERWAVE CM1007–DBPXBC–003 (2) | (E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)		(2) 1–5/8"ø COAX	
C2	EXISTING	LTE 850/WCS	OPA–65R–LCUU–H6	72X14.8X7.4	±67'	270°	(E) CCI DTMABP7819VG12A TWIN PCS W 700–850BP (850) (1)	(E) RRUS–11 (1), (E) RRUS–32 (1)	(2) 1–5/8"ø COAX, FIBER AND DC POWER	
C4	EXISTING	LTE 700/1900/1900/AWS	QS66512–2	72X12X9.6	±67'	270°		(E) RRUS–11 (1), (E) RRUS–32 B2 (1), (P) 4426 B66 (1)	FIBER AND DC POWER	

RRU	SIZE (INCHES) (L x W x D)
RRUS–11	19.7 x 17 x 7.2
RRUS–32	27.2 x 12.1 x 7
RRUS–32 B2	27.2 x 12.1 x 7
4426 B66	15.0 x 13.2 x 5.8

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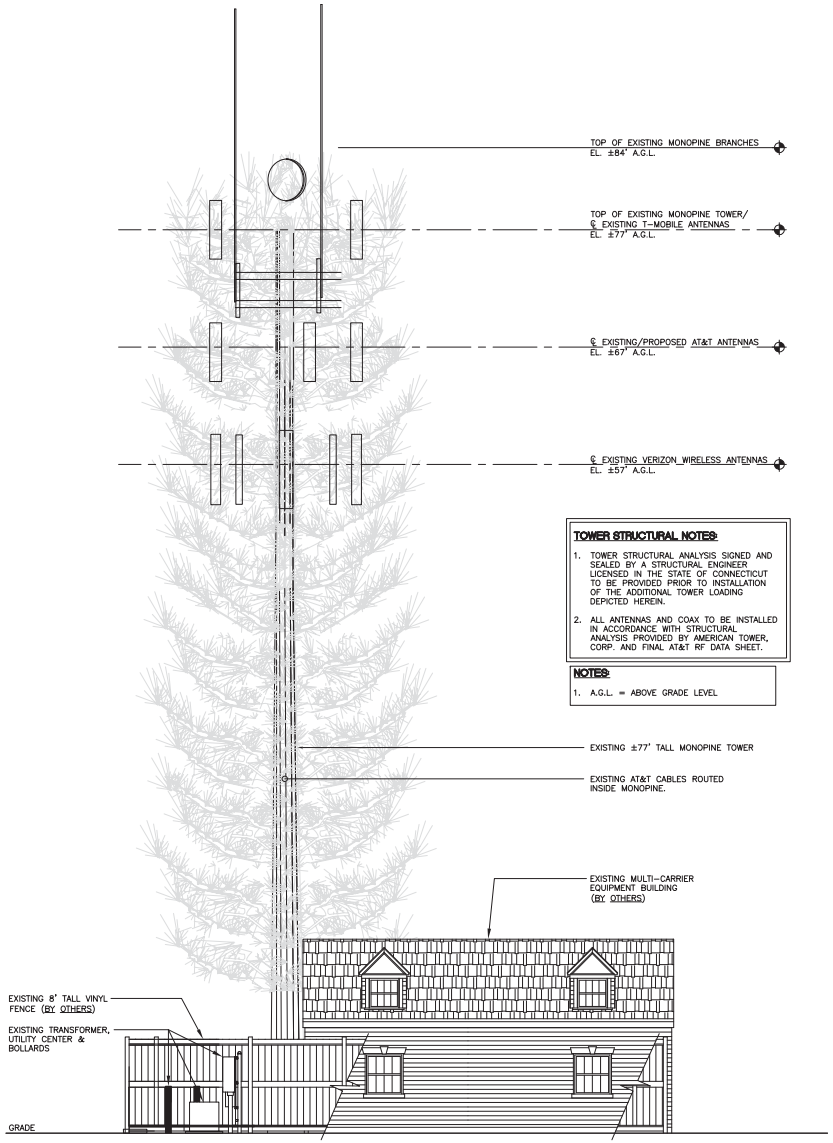
NOTES, SPECIFICATIONS & ANTENNA SCHEDULE

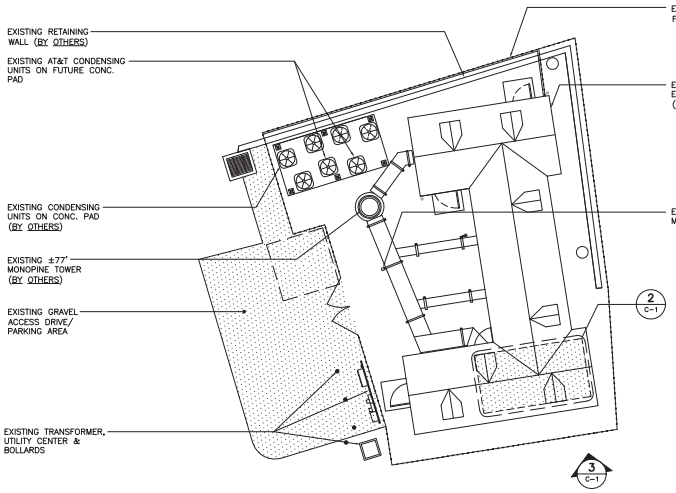
N-1

Sheet No. 2 of 8



3 / C-1 **EAST ELEVATION**
SCALE: 1" = 5'

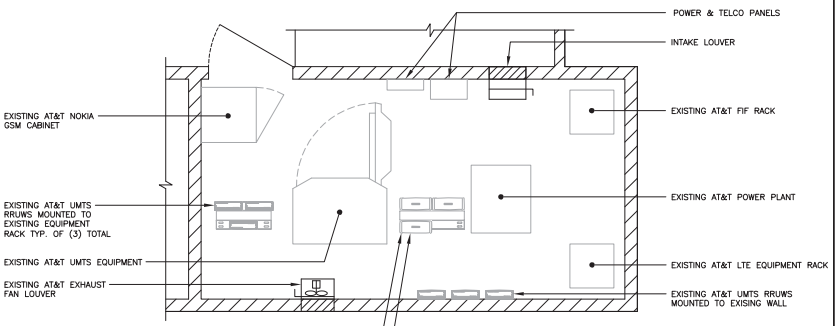
GRAPHIC SCALE
5 0 2.5 5 10 20
(IN FEET)
1 inch = 5 ft.



1 / C-1 **SITE PLAN**
SCALE: 1" = 10'

TRUE NORTH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.



2 / C-1 **EQUIPMENT LAYOUT PLAN**
SCALE: 3/8" = 1'-0"

TRUE NORTH

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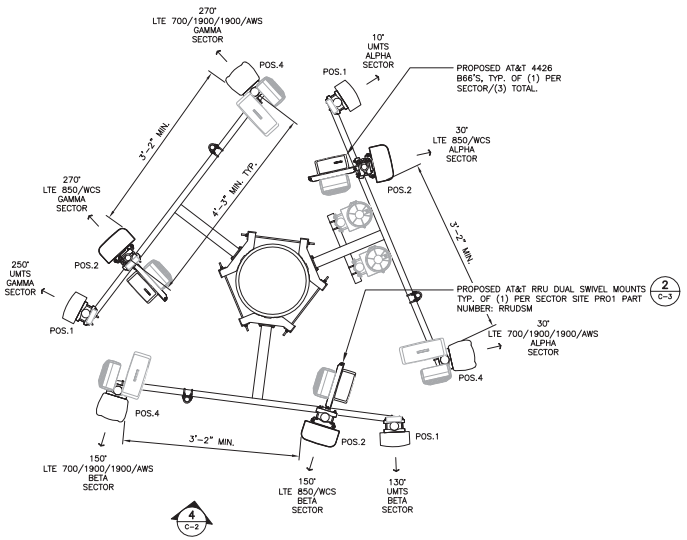
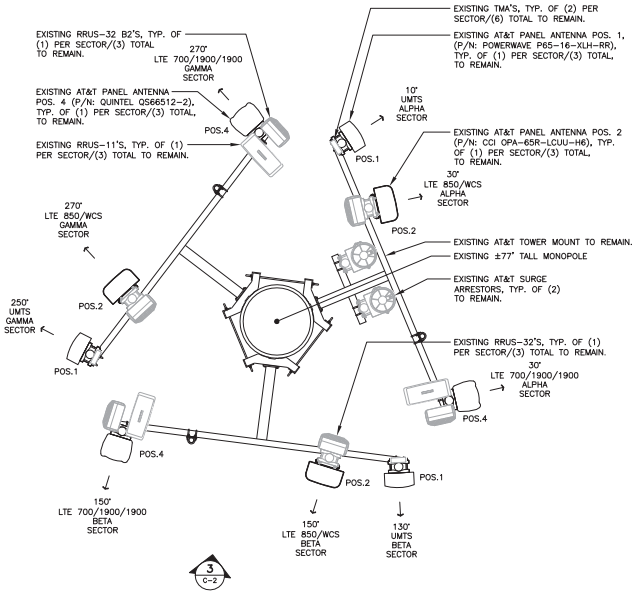
PLANS AND ELEVATION

C-1

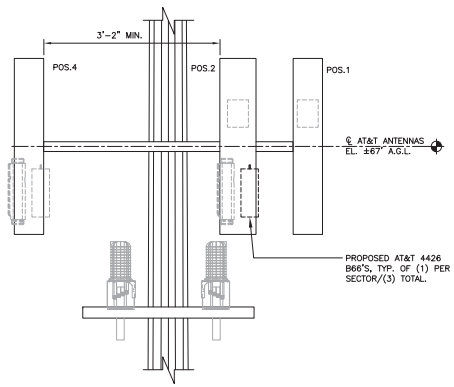
Sheet No. 3 of 8



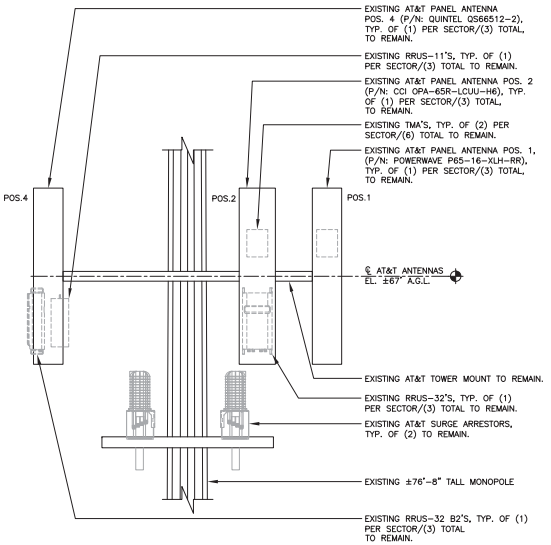
2 C-2 PROPOSED ANTENNA PLAN
SCALE: 1/2" = 1'-0"



1 C-2 EXISTING ANTENNA PLAN
SCALE: 1/2" = 1'-0"
NORTH



4 C-2 PROPOSED ANTENNA ELEVATION
SCALE: 1/2" = 1'-0"



3 C-2 EXISTING ANTENNA ELEVATION
SCALE: 1/2" = 1'-0"

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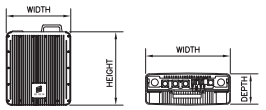
LTE 5C AWS
ANTENNA LAYOUT
PLANS

C-2

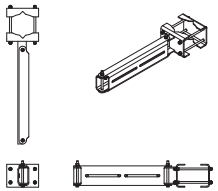
Sheet No. 4 of 8



FRONT VIEW BOTTOM VIEW

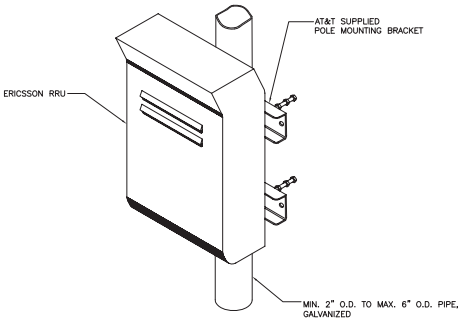
RRU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERICSSON MODEL: 4426 B66	15.0"L x 13.2"W x 5.8"D	48.5 LBS.	ABOVE: 16" MIN. BELOW: 12" MIN. FRONT: 36" MIN.
NOTES: 1. CONTRACTOR TO COORDINATE FINAL EQUIPMENT MODEL SELECTION WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.			

1 / C-3 **ERICSSON 4426 B66 DETAIL**
SCALE: 1" = 1'-0"



RRU DUAL SWIVEL MOUNT		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: SITE PRO 1 PART NO.: RRUDSM	27.75"L x 6.5"W x 4.7"D	39.4 LBS.

2 / C-3 **RRH DUAL SWIVEL MOUNT DETAIL**
NOT TO SCALE



ISOMETRIC VIEW

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 INSTALLS RRU AND MAKES CABLE TERMINATIONS.
2. NO PAINTING OF THE RRU OR SOLAR SHIELD IS ALLOWED.

3 / C-3 **TYPICAL RRUS MOUNTING DETAILS**
SCALE: NTS

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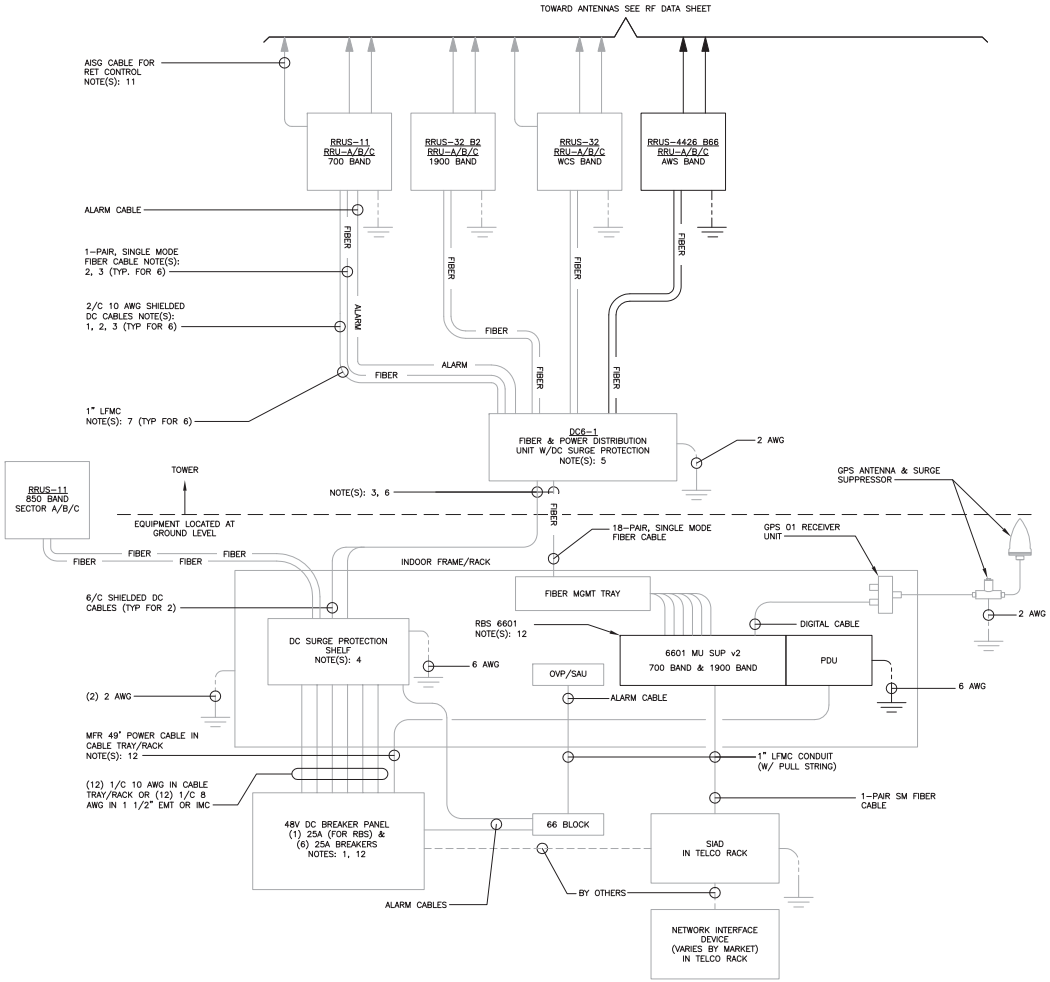
DETAILS

C-3

Sheet No. 5 of 8



1 / E-1 **LTE SCHEMATIC DIAGRAM**

NOT TO SCALE

LTE SCHEMATIC DIAGRAM NOTES:

1. BREAKERS TO BE TAGGED AND LOCKED OUT. A 20A (MIN.) OR 30A (MAX.) BREAKER FOR RRUs MAY BE SUBSTITUTED FOR THE RECOMMENDED 25A BREAKER. SIZE 12 CONDUCTORS MAY BE USED ONLY WITH 20A BREAKERS.
2. LEAVE COILED AND PROTECTED UNTIL TERMINATED.
3. DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
4. DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCX-48-60-RM.
5. FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
6. SUPPORT FIBER & DC POWER CABLES WITH SNAP-IN HANGERS SPACED NO GREATER THAN 3 FEET APART ON TOWER. SUPPORT FIBER AND DC POWER CABLES INSIDE MONOPOLE WITH CABLE HOISTING GRIPS AT 250 FT MAXIMUM INTERVALS. DRESS CABLES TO PREVENT CONTACT WITH ENTRANCE AND EXIT OPENINGS.
7. CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
8. SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX® OR KS24194®, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER). UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS I (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL BE COPPER, CLASS B STRANDING WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
9. GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
10. FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
11. RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
12. RBS 6601 VARIANT 2 REQUIRES A 25A BREAKER AND 10 AWG (MIN.) CONDUCTORS. REPLACE EXISTING 15A OR 20A BREAKERS AND 12 AWG CONDUCTORS WHEN UPGRADING AN EXISTING RBS 6601 VARIANT 1.

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 TELCO 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 ELECTRIC SERVICE.
6. CONTRACTOR SHALL INSPECT EXISTING GROUNDING AND LIGHTNING PROTECTION SYSTEM AND ENSURE THAT IT IS IN COMPLIANCE WITH NEC, AND SITE OWNER'S SPECIFICATIONS. THE RESULTS OF THIS INSPECTION SHALL BE PRESENTED TO OWNERS REPRESENTATIVE, AND ANY DEFICIENCIES 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 OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
9. ALL CONDUCTORS SHALL BE TYPE THWN (INT. APPLICATION) AND XHHW (EXT. APPLICATION), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER. #10 AWG AND SMALLER SHALL BE SPLICED USING ACCEPTABLE SOLDERLESS PRESSURE CONNECTORS. #6 AWG AND LARGER SHALL BE SPLICED USING COMPRESSION SPLIT-BOLT TYPE CONNECTORS, #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). 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 INFRINGEMENT OF SUCH CODES OR REGULATIONS.
12. THE ELECTRICAL CONTRACTOR IS TO BE RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH OWNER'S REPRESENTATIVE, DESIGN ENGINEER AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
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 DEMOLITION WORK INVOLVED.
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 TYPE OF 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 INDEPENDENT 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. (MIN. #12 AWG).
20. CONTRACTOR SHALL PROVIDE A CELLULAR GROUNDING SYSTEM WITH THE MAXIMUM AC RESISTANCE TO GROUND OF 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:

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.

B. TESTING SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF OWNERS CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE CONSTRUCTION AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.

C. THE CONTRACTOR SHALL FORWARD 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.

D. CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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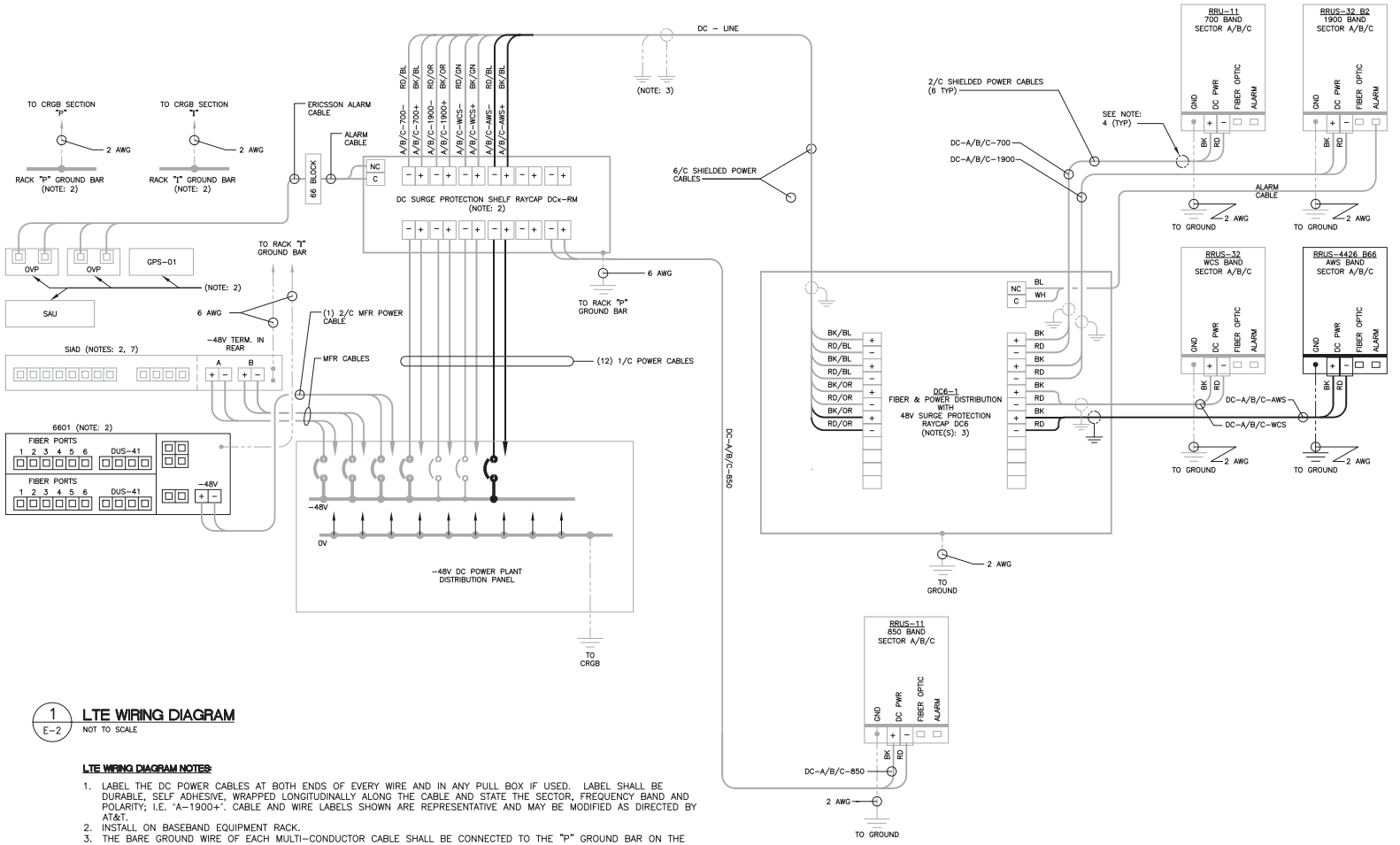
LTE SCHEMATIC DIAGRAM AND NOTES

E-1

Sheet No. 6 of 8



1 LTE WIRING DIAGRAM

E-2

NOT TO SCALE

LTE WIRING DIAGRAM NOTES:

1. LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-1900+". CABLE AND WIRE LABELS SHOWN ARE REPRESENTATIVE AND MAY BE MODIFIED AS DIRECTED BY AT&T.
2. INSTALL ON BASEBAND EQUIPMENT RACK.
3. THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE SHALL BE CONNECTED TO THE "P" GROUND BAR ON THE RACK. WHEN A SHIELDED CABLE IS USED, THE DRAIN WIRE ALSO SHALL BE CONNECTED TO THE "P" GROUND BAR.
4. CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRU AND DC POWER PLANT.
5. SEE LTE SCHEMATIC DIAGRAM DETAIL 1/E-1 FOR BREAKER RATING.

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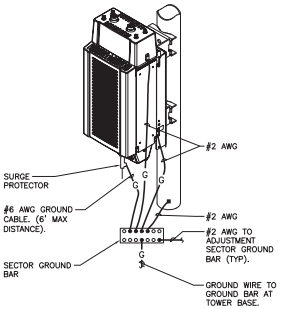
LTE WIRING DIAGRAM

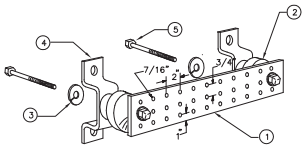
E-2

Sheet No. 7 of 8

EACH RRH CABINET SHALL BE GROUNDED IN THE FOLLOWING MANNER:
1. AT TOP OF THE CABINET
2. AT RIGHT SIDE OF THE CABINET.



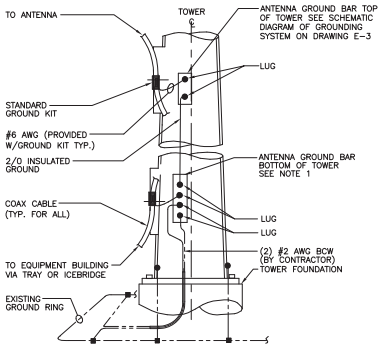
4 E-3 **RRU POLE MOUNT GROUNDING**
NOT TO SCALE



LEGEND

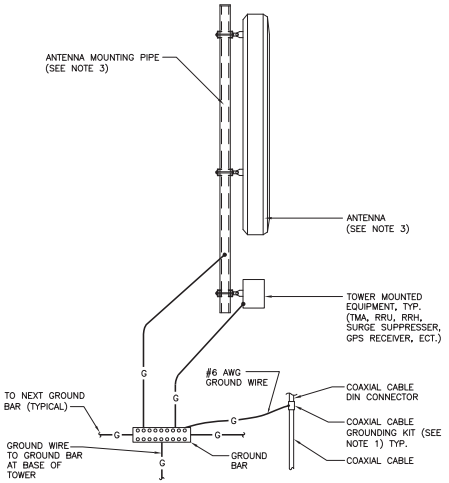
1. TINNED COPPER GROUND BAR, 1/4"x 4"x 20". NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG .
2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 2. 3061-4.
3. 3. 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. 4. CAT NO. A-6056.
5. STAINLESS STEEL SECURITY SCREWS.

3 E-3 **GROUND BAR DETAIL**
NOT TO SCALE



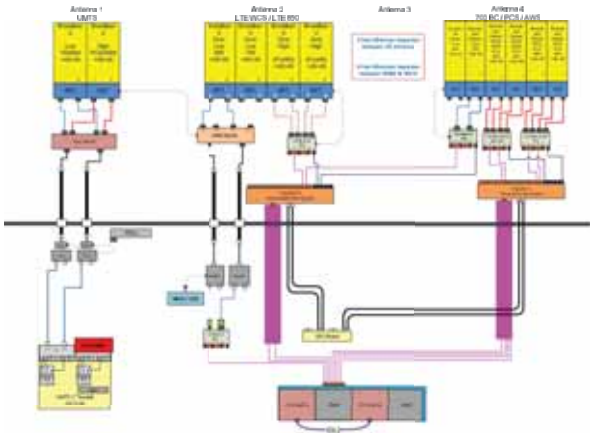
NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

2 E-3 **ANTENNA CABLE GROUNDING - TOWER**
NOT TO SCALE

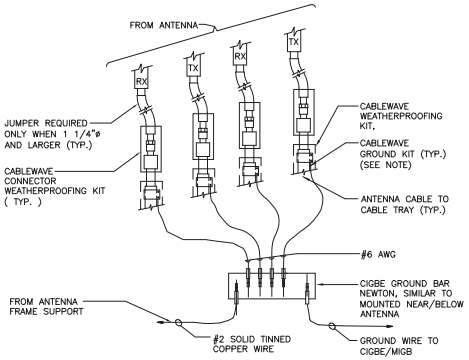


NOTES:
1. BOND COAXIAL CABLE GROUND KITS TO EACH OWNER'S GROUND BAR ALONG ENTIRE COAX RUN FROM ANTENNA TO SHELTER.
2. BOND ALL EQUIPMENT TO GROUND PER NEC AND MANUFACTURERS SPECIFICATIONS.
3. DETAIL IS TYPICAL FOR ALL ANTENNA SECTORS, INCLUDING GPS ANTENNA.

1 E-3 **TYPICAL ANTENNA GROUNDING DETAIL**
NOT TO SCALE

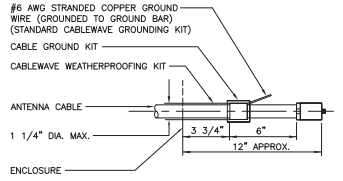


7 E-3 **RF PLUMBING DIAGRAM**
NOT TO SCALE



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

6 E-3 **CONNECTION OF GROUND WIRES TO GROUND BAR**
NOT TO SCALE



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

5 E-3 **ANTENNA CABLE GROUNDING DETAIL**
NOT TO SCALE

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	04/13/18	KAWJR	DMD	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

EMPIRE telecom

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Centered on Solutions℠
(203) 488-0580
(203) 488-8587 Fax
63-2 North Branford Road
Branford, CT 06405
www.CentekEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY

GREENWICH SW
CT5004 - LTE 5C AWS
36 RITCH AVENUE WEST
GREENWICH, CT 06830

DATE:	04/03/18
SCALE:	AS NOTED
JOB NO.	18000.18

TYPICAL ELECTRICAL DETAILS

E-3

Sheet No. 8 of 8

Exhibit 3

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5004

Greenwich SW
36 Ritch Avenue West
Greenwich, CT 6830

January 31, 2018

Centerline Communications Project Number: 950006-088

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**53.37 %**

January 31, 2018

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

Emissions Analysis for Site: **CT5004 – Greenwich SW**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **36 Ritch Avenue West, Greenwich, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 population 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 population 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.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately 467 $\mu W/cm^2$ and 567 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is 1000 $\mu W/cm^2$. 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 performed for the proposed AT&T Wireless antenna facility located at **36 Ritch Avenue West, Greenwich, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	850 MHz	2	60
LTE	2300 MHz (WCS)	4	60
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	4	60
LTE	2100 MHz (AWS)	4	60

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 Mhz (AWS) 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave P65-16-XLH-RR	67
A	2	CCI OPA-65R-LCUU-H6	67
A	3	Quintel QS66512-2	67
B	1	Powerwave P65-16-XLH-RR	67
B	2	CCI OPA-65R-LCUU-H6	67
B	3	Quintel QS66512-2	67
C	1	Powerwave P65-16-XLH-RR	67
C	2	CCI OPA-65R-LCUU-H6	67
C	3	Quintel QS66512-2	67

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave P65-16-XLH-RR	850 MHz	13.4	2	60	1,312.66	2.24
Antenna A2	CCI OPA-65R-LCUU-H6	850 MHz / 2300 MHz (WCS)	12.45 / 15.45	6	360	10,527.55	11.73
Antenna A3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.85 / 13.85 / 14.35	10	600	13,817.77	14.96
						Sector A Composite MPE%	**28.92**
Antenna B1	Powerwave P65-16-XLH-RR	850 MHz	13.4	2	60	1,312.66	2.24
Antenna B2	CCI OPA-65R-LCUU-H6	850 MHz / 2300 MHz (WCS)	12.45 / 15.45	6	360	10,527.55	11.73
Antenna B3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.85 / 13.85 / 14.35	10	600	13,817.77	14.96
						Sector B Composite MPE%	**28.92**
Antenna C1	Powerwave P65-16-XLH-RR	850 MHz	13.4	2	60	1,312.66	2.24
Antenna C2	CCI OPA-65R-LCUU-H6	850 MHz / 2300 MHz (WCS)	12.45 / 15.45	6	360	10,527.55	11.73
Antenna C3	Quintel QS66512-2	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	10.85 / 13.85 / 14.35	10	600	13,817.77	14.96
						Sector C Composite MPE%	**28.92**

Table 3: AT&T Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**28.92 %**
T-Mobile	9.21 %
Verizon Wireless	15.24 %
Site Total MPE %:	**53.37 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	28.92 %
AT&T Sector B Total:	28.92 %
AT&T Sector C Total:	28.92 %
Site Total:	53.37 %

Table 5: Site MPE Summary

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	656.33	67	12.68	850 MHz	567	2.24%
AT&T 850 MHz LTE	2	1,054.75	67	20.38	850 MHz	567	3.59%
AT&T 2300 MHz (WCS) LTE	4	2,104.51	67	81.33	2300 MHz (WCS)	1000	8.13%
AT&T 700 MHz LTE	2	729.71	67	14.10	700 MHz	467	3.02%
AT&T 1900 MHz (PCS) LTE	4	1,455.97	67	56.27	1900 MHz (PCS)	1000	5.63%
AT&T 2100 MHz (AWS) LTE	4	1,633.62	67	63.13	2100 MHz (AWS)	1000	6.31%
						Total:	**28.92%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population 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 population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	28.92 %
Sector B:	28.92 %
Sector C:	28.92 %
AT&T Maximum Total (per sector):	28.92 %
Site Total:	53.37 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **53.37 %** of the allowable FCC established general population 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.

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

Exhibit 4

AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by

TOWER ENGINEERING PROFESSIONALS

Structural Analysis Report

Structure	:	**76.7 ft Monopine**
ATC Site Name	:	**Byram Park CT, CT**
ATC Site Number	:	**414240**
Engineering Number	:	**OAA720743_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**CT004/CT 004/Byram**
Carrier Site Number	:	**CT5004**
Site Location	:	**48 Ritch Avenue West** **Greenwich, CT 06830-9992** **41.005100,-73.648300**
County	:	**Fairfield**
Date	:	**January 15, 2018**
Max Usage	:	**38%**
Result	:	**Pass**

Prepared By:
Michael Dugan
TEP

Michael Dugan

Reviewed By:

STATE OF CONNECTICUT
AARON THOMAS RUCKER
32608
LICENSED
PROFESSIONAL ENGINEER

01/16/2018

COA: PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 76.7 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	EEI Project #16733 Rev. 3, dated December 9, 2011
Foundation Drawing	Centek Engineering Job #09129 Rev. 0, dated February 14, 2012
Geotechnical Report	DET Job #2010.14, dated October 4, 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:	93 mph (3-Second Gust, Vasd) / 120 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.26, S_1 = 0.07
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					
76.0	76.0	3	Ericsson RRUS 32 w/ Solar Shield (52.9 lbs)	T-Arms	(2) 1 5/8" Fiber	T-Mobile
		3	Ericsson RRUS 11 B12			
		3	Commscope LNX-6512DS-A1M (28.7 lbs)			
		3	Ericsson AIR-32 B2A/B66Aa			
		3	RFS APX16DWV-16DWVS-E-A20 (60" Height)			
67.0	67.0	2	Raycap DC6-48-60-18-8F(32.8 lbs)	T-Arms	(12) 1 5/8" Coax	AT&T Mobility
		3	Ericsson RRUS 32 B2			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Ericsson RRUS-11			
		3	Powerwave P65-16-XLH-RR			
		3	Quintel QS66512-2			
		3	CCI OPA-65R-LCUU-H6			
57.0	57.0	3	Alcatel-Lucent RRH 2X60-1900	T-Arms	(18) 1 5/8" Coax (1) 1 5/8" Fiber (1) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent B66 RRH4x45			
		2	Commscope RC2DC-4750-PF-48			
		3	Antel BXA-171063-12CF			
		2	Commscope SBNHH-1D65A			
		4	Commscope SBNHH-1D45A			
		6	Antel LPA-80063-6CF-EDIN-X			
	56.0	1	VZW Unused Reserve: 14,138 sq in			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
67.0	67.0	6	Powerwave TT19-08BP111-001	-	(4) 0.63" Cable (2) 5/8" Hybriflex	AT&T Mobility
		3	Ericsson RRUS-11			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
67.0	67.0	6	CCI DTMABP7819VG12A	T-Arms	(4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 2" Conduit	AT&T Mobility
		3	Ericsson RRUS 4426 B66			

[1]Mount 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).

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	37%	Pass
Shaft	36%	Pass
Base Plate	38%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,555.2	2,221.4	49%
Shear (Kips)	74.4	43.2	58%

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
67.0	CCI DTMABP7819VG12A	AT&T Mobility	0.200	0.291
	Ericsson RRUS 4426 B66			

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

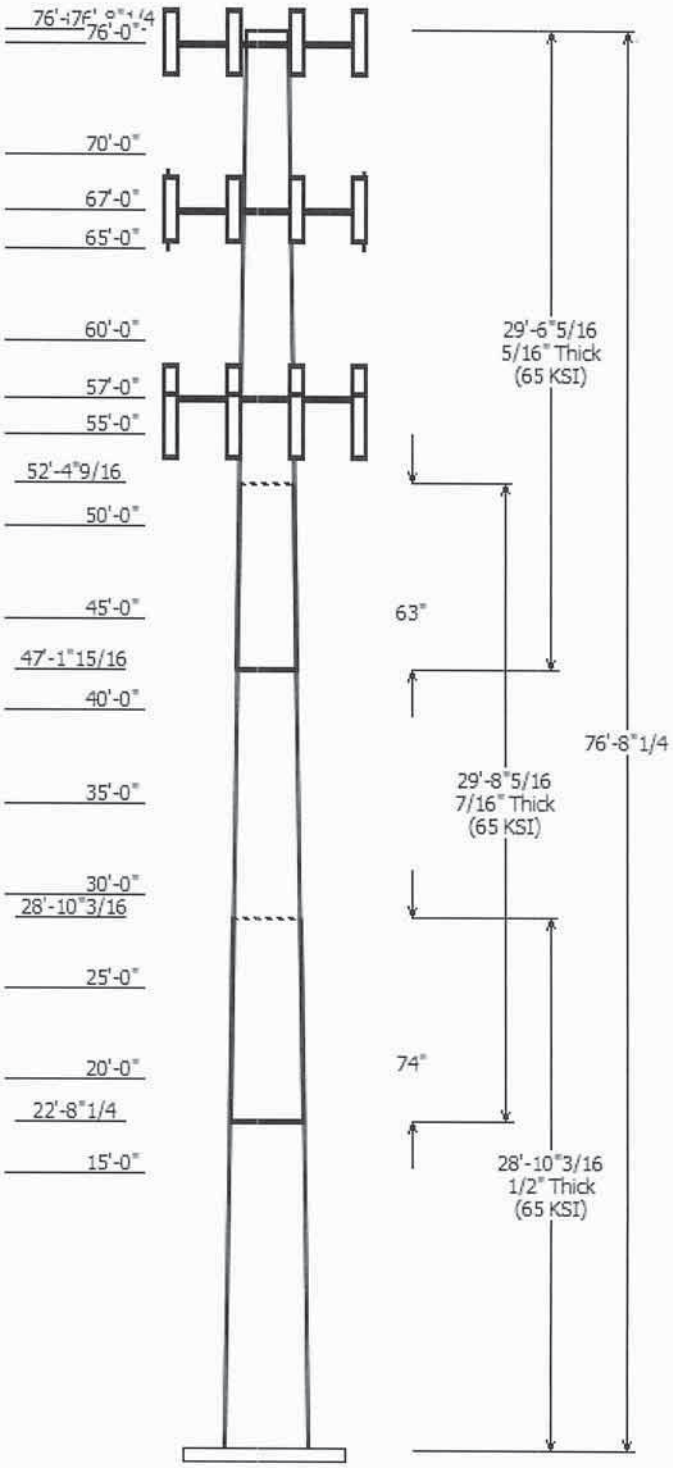
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

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

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

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



Job Information

Pole :	414240	Code:	ANSI/TIA-222-G
Location :	Byram Park CT, CT		
Description :	77 ft monopine		
Client :	AT&T MOBILITY	Struct Class :	II
Shape :	18 Sides	Exposure :	C
Height :	76.69 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.335790 (in/ft)		

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
1	28.852	42.31	52.00	0.500		0.000	18 Sides	65
2	29.693	35.28	45.25	0.438	Slip Joint	73.969	18 Sides	65
3	29.529	27.75	37.66	0.313	Slip Joint	62.656	18 Sides	65

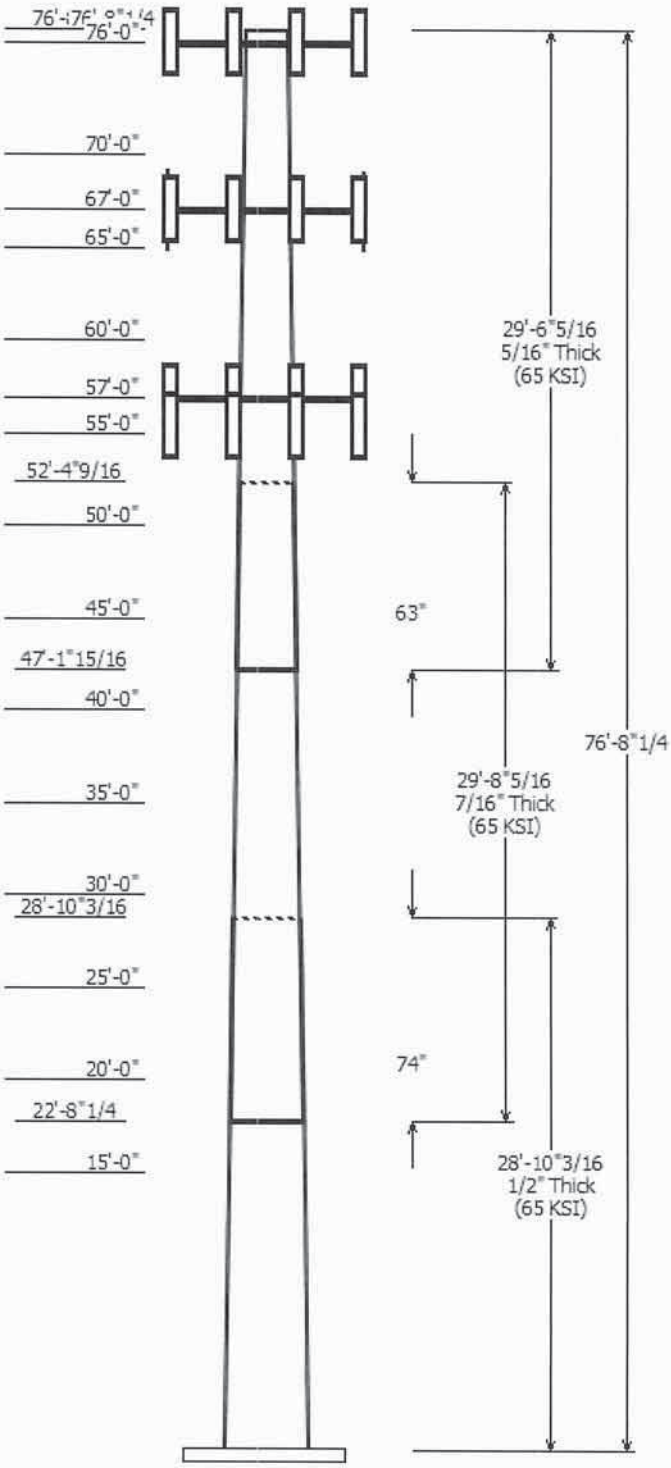
Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
76.690	77.090	1	Pine Branches
76.000	76.000	3	Flat T-Arms
76.000	76.000	3	RFS APX16DWV-16DWVS-E-A20
76.000	76.000	3	Ericsson AIR-32 B2A/B66Aa
76.000	76.000	3	Commscope LNX-6512DS-A1M
76.000	76.000	3	Ericsson RRUS 11 B12
76.000	76.000	3	Ericsson RRUS 32 w/ Solar Shie
70.000	70.000	1	Pine Branches
67.000	67.000	3	Flat T-Arm
67.000	67.000	3	Ericsson RRUS 4426 B66
67.000	67.000	6	CCI DTMABP7819VG12A
67.000	67.000	3	Quintel QS66512-2
67.000	67.000	3	Ericsson RRUS-32 (77 lbs)
67.000	67.000	3	Powerwave Allgon P65-16-
67.000	67.000	3	Ericsson RRUS-11
67.000	67.000	2	Raycap DC6-48-60-18-8F(32.8 lb
67.000	67.000	3	CCI OPA-65R-LCUU-H6
67.000	67.000	3	Ericsson RRUS 32 B2
65.000	65.000	1	Pine Branches
60.000	60.000	1	Pine Branches
57.000	57.000	3	Alcatel-Lucent B66 RRH4x45
57.000	57.000	4	Commscope SBNHH-1D45A
57.000	57.000	2	Commscope SBNHH-1D65A
57.000	57.000	2	Commscope RC2DC-4750-PF-
57.000	57.000	3	Alcatel-Lucent RRH2x60 700
57.000	57.000	3	Alcatel-Lucent RRH 2X60-1900
57.000	57.000	6	Amphenol Antel LPA-80063-
57.000	57.000	3	Amphenol Antel BXA-171063-
57.000	56.000	1	VZW Unused Reserve: 14,138
57.000	57.000	3	Flat T-Arms
55.000	55.000	1	Pine Branches
50.000	50.000	1	Pine Branches
45.000	45.000	1	Pine Branches
40.000	40.000	1	Pine Branches
35.000	35.000	1	Pine Branches
30.000	30.000	1	Pine Branches
25.000	25.000	1	Pine Branches
20.000	20.000	1	Pine Branches
15.000	15.000	1	Pine Branches

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind

0.000	57.000	1 5/8" Coax	No
0.000	57.000	1 5/8" Fiber	No
0.000	57.000	1 5/8" Hybriflex	No
0.000	67.000	0.39" Fiber Trunk	No
0.000	67.000	0.78" 8 AWG 6	No
0.000	67.000	1 5/8" Coax	No
0.000	67.000	2" Conduit	No
0.000	76.000	1 5/8" Fiber	No
0.000	87.000	1/2" Coax	No
0.000	87.000	7/8" Coax	No



Load Cases

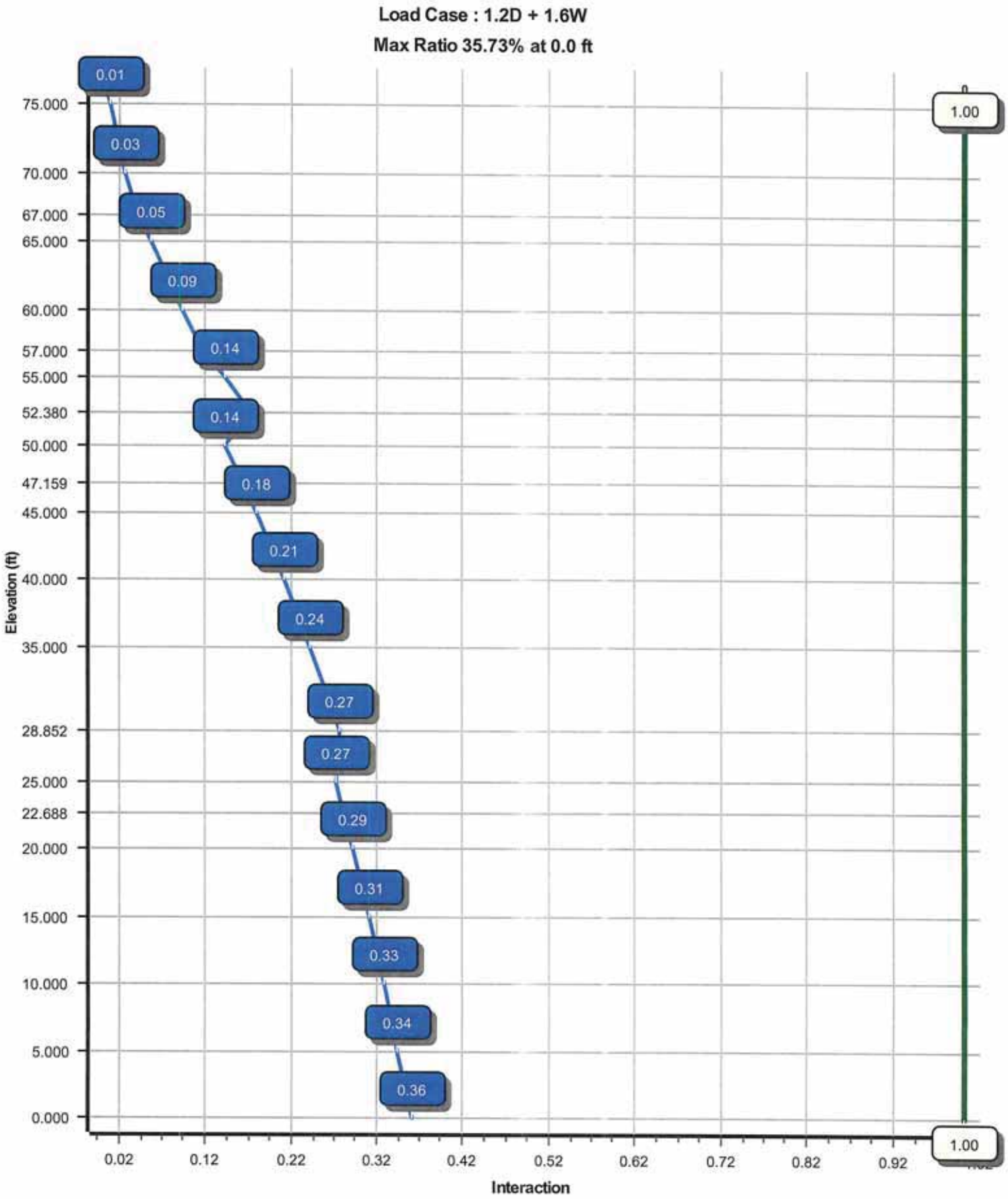
1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) 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	2221.39	43.18	40.21
0.9D + 1.6W	2217.32	43.17	30.15
1.2D + 1.0Di + 1.0Wi	635.48	12.47	66.34
(1.2 + 0.2Sds) * DL + E ELFM	260.44	4.84	40.17
(1.2 + 0.2Sds) * DL + E EMAM	241.00	4.02	40.17
(0.9 - 0.2Sds) * DL + E ELFM	259.81	4.84	27.00
(0.9 - 0.2Sds) * DL + E EMAM	240.37	4.02	27.00
1.0D + 1.0W	577.17	11.23	33.54

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.6W
Max Ratio 35.73% at 0.0 ft
0.01
0.03
0.05
0.09
0.14
0.14
0.18
0.21
0.24
0.27
0.27
0.29
0.31
0.33
0.34
0.36
1.00
1.00
75.000
70.000
67.000
65.000
60.000
57.000
55.000
52.380
50.000
47.159
45.000
40.000
35.000
28.852
25.000
22.688
20.000
15.000
10.000
5.000
0.000
Elevation (ft)
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:43 AM

Analysis Parameters

Location :	FAIRFIELD County, CT	Height (ft) :	76.6875
Code :	ANSI/TIA-222-G	Base Diameter (in) :	52.00
Shape :	18 Sides	Top Diameter (in) :	27.75
Pole Type :	Custom	Taper (in/ft) :	0.336
Pole Manfacturer :	EEI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	93 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 0.68

T_L (sec):	6	p:	1.3	C_s:	0.111
S_s:	0.263	S_1:	0.071	C_s Max:	0.111
F_a:	1.590	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.279	S_{d1}:	0.114		

Load Cases

1.2D + 1.6W	93 mph with No Ice
0.9D + 1.6W	93 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 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: 414240 Code: ANSI/TIA-222-G

Site Name: Byram Park CT, CT Engineering Number:OAA720743_C3_01 1/16/2018 11:16:43 AM

Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-18	28.852	0.5000	65		0.00	7,269	52.00	0.00	81.73	27387.9	16.93	104.00	42.31	28.85	66.35	14656.9	13.51	84.63	0.335790
2-18	29.693	0.4375	65	Slip	73.97	5,589	45.25	22.69	62.24	15795.8	16.83	103.45	35.28	52.38	48.39	7425.4	12.81	80.66	0.335790
3-18	29.529	0.3125	65	Slip	62.66	3,228	37.66	47.16	37.05	6530.8	19.84	120.53	27.75	76.69	27.21	2588.4	14.25	88.80	0.335790
				Shaft Weight		16,086													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
76.69	Pine Branches	1	600.00	45.000	1.00	991.67	74.376	1.00	0.000	0.400
76.00	Commscope LNX-6512DS-	3	28.70	5.090	0.69	159.31	6.008	0.69	0.000	0.000
76.00	Ericsson AIR-32 B2A/B66Aa	3	132.20	6.510	0.71	301.70	7.576	0.71	0.000	0.000
76.00	Ericsson RRUS 11 B12	3	50.70	2.790	0.67	130.19	3.421	0.67	0.000	0.000
76.00	Ericsson RRUS 32 w/ Solar	3	52.90	2.740	0.67	133.90	3.422	0.67	0.000	0.000
76.00	Flat T-Arms	3	250.00	12.900	0.67	445.61	20.554	0.67	0.000	0.000
76.00	RFS APX16DWV-16DWVS-E-	3	41.90	7.010	0.60	154.02	9.177	0.60	0.000	0.000
70.00	Pine Branches	1	600.00	45.000	1.00	987.28	74.046	1.00	0.000	0.000
67.00	CCI DTMABP7819VG12A	6	19.20	0.970	0.50	0.00	0.000	0.50	0.000	0.000
67.00	CCI OPA-65R-LCUU-H6	3	73.00	9.660	0.66	260.87	12.219	0.66	0.000	0.000
67.00	Ericsson RRUS 32 B2	3	53.00	2.740	0.67	132.64	3.412	0.67	0.000	0.000
67.00	Ericsson RRUS 4426 B66	3	48.40	1.650	0.50	0.00	0.000	0.50	0.000	0.000
67.00	Ericsson RRUS-11	3	55.00	3.790	0.67	137.87	4.975	0.67	0.000	0.000
67.00	Ericsson RRUS-32 (77 lbs)	3	77.00	3.310	0.67	166.77	4.494	0.67	0.000	0.000
67.00	Flat T-Arm	3	250.00	12.900	0.67	0.00	0.000	0.67	0.000	0.000
67.00	Powerwave Allgon P65-16-	3	53.00	8.130	0.67	205.04	10.702	0.67	0.000	0.000
67.00	Quintel QS66512-2	3	111.00	8.130	0.74	317.49	9.321	0.74	0.000	0.000
67.00	Raycap DC6-48-60-18-	2	32.80	1.280	1.00	89.75	1.841	1.00	0.000	0.000
65.00	Pine Branches	1	600.00	45.000	1.00	983.74	73.781	1.00	0.000	0.000
60.00	Pine Branches	1	600.00	45.000	1.00	981.21	73.591	1.00	0.000	0.000
57.00	Alcatel-Lucent B66 RRH4x45	3	67.00	2.580	0.67	142.67	3.210	0.67	0.000	0.000
57.00	Alcatel-Lucent RRH 2X60-	3	39.60	1.880	0.50	99.06	2.412	0.50	0.000	0.000
57.00	Alcatel-Lucent RRH2x60 700	3	56.70	2.150	0.67	128.80	2.711	0.67	0.000	0.000
57.00	Amphenol Antel BXA-171063-	3	12.80	4.800	0.72	99.75	6.947	0.72	0.000	0.000
57.00	Amphenol Antel LPA-80063-	6	27.00	9.730	0.75	263.95	12.217	0.75	0.000	0.000
57.00	Commscope RC2DC-4750-PF-	2	26.00	3.780	0.67	138.48	4.518	0.67	0.000	0.000
57.00	Commscope SBNHH-1D45A	4	50.50	7.240	0.63	211.11	8.263	0.63	0.000	0.000
57.00	Commscope SBNHH-1D65A	2	33.50	5.880	0.69	174.20	6.847	0.69	0.000	0.000
57.00	Flat T-Arms	3	250.00	12.900	0.67	439.78	20.326	0.67	0.000	0.000
57.00	VZW Unused Reserve:	1	1488.70	98.260	1.00	2,430.43	160.418	1.00	0.000	-1.000
55.00	Pine Branches	1	600.00	45.000	1.00	977.96	73.347	1.00	0.000	0.000
50.00	Pine Branches	1	600.00	45.000	1.00	974.19	73.064	1.00	0.000	0.000
45.00	Pine Branches	1	600.00	45.000	1.00	969.22	72.692	1.00	0.000	0.000
40.00	Pine Branches	1	600.00	45.000	1.00	964.63	72.347	1.00	0.000	0.000
35.00	Pine Branches	1	600.00	45.000	1.00	959.45	71.959	1.00	0.000	0.000
30.00	Pine Branches	1	600.00	45.000	1.00	955.90	71.692	1.00	0.000	0.000
25.00	Pine Branches	1	600.00	45.000	1.00	948.49	71.137	1.00	0.000	0.000
20.00	Pine Branches	1	600.00	45.000	1.00	937.87	70.341	1.00	0.000	0.000
15.00	Pine Branches	1	600.00	45.000	1.00	926.69	69.502	1.00	0.000	0.000
	Totals	93	15061.20			28,588.15			Number of Loadings :	39

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	87.00	2	1/2" Coax	0.63	0.15	N	0.00	N	TOWN OF GREENWICH, CT
0.00	87.00	2	7/8" Coax	1.09	0.33	N	0.00	N	TOWN OF GREENWICH, CT
0.00	76.00	2	1 5/8" Fiber	1.63	1.61	N	0.00	N	T-Mobile
0.00	67.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	67.00	4	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	67.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	67.00	1	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	57.00	18	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	57.00	1	1 5/8" Fiber	1.63	1.61	N	0.00	N	Verizon
0.00	57.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon

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	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	52.001	81.729	27,387.9	16.93	104.00	81.5	1037.	0.0	0.0
5.00		0.5000	50.322	79.065	24,795.7	16.34	100.64	82.2	970.5	0.0	1,367.9
10.00		0.5000	48.643	76.400	22,372.5	15.74	97.29	82.6	905.9	0.0	1,322.5
15.00		0.5000	46.964	73.736	20,112.5	15.15	93.93	82.6	843.5	0.0	1,277.2
20.00		0.5000	45.285	71.071	18,010.1	14.56	90.57	82.6	783.3	0.0	1,231.9
22.69	Bot - Section 2	0.5000	44.383	69.639	16,943.1	14.24	88.77	82.6	751.9	0.0	643.4
25.00		0.5000	43.606	68.407	16,059.5	13.97	87.21	82.6	725.4	0.0	1,028.6
28.85	Top - Section 1	0.4375	43.188	59.362	13,707.0	16.00	98.72	82.6	625.1	0.0	1,672.9
30.00		0.4375	42.802	58.827	13,339.4	15.84	97.83	82.6	613.8	0.0	230.9
35.00		0.4375	41.123	56.495	11,815.4	15.16	94.00	82.6	565.9	0.0	981.0
40.00		0.4375	39.444	54.164	10,412.2	14.49	90.16	82.6	519.9	0.0	941.4
45.00		0.4375	37.765	51.833	9,124.8	13.81	86.32	82.6	475.9	0.0	901.7
47.16	Bot - Section 3	0.4375	37.040	50.826	8,603.4	13.52	84.66	82.6	457.5	0.0	377.1
50.00		0.4375	36.086	49.501	7,948.1	13.13	82.48	82.6	433.8	0.0	838.6
52.38	Top - Section 2	0.3125	35.912	35.309	5,653.7	18.85	114.92	79.2	310.1	0.0	685.6
55.00		0.3125	35.032	34.437	5,244.8	18.36	112.10	79.8	294.9	0.0	310.9
57.00		0.3125	34.361	33.771	4,946.3	17.98	109.95	80.3	283.5	0.0	232.1
60.00		0.3125	33.354	32.771	4,520.2	17.41	106.73	80.9	266.9	0.0	339.6
65.00		0.3125	31.675	31.106	3,865.5	16.46	101.36	82.0	240.4	0.0	543.4
67.00		0.3125	31.003	30.440	3,622.5	16.08	99.21	82.5	230.1	0.0	209.4
70.00		0.3125	29.996	29.441	3,277.4	15.51	95.99	82.6	215.2	0.0	305.6
75.00		0.3125	28.317	27.776	2,752.1	14.57	90.61	82.6	191.4	0.0	486.7
76.00		0.3125	27.981	27.443	2,654.3	14.38	89.54	82.6	186.8	0.0	93.9
76.69		0.3125	27.750	27.214	2,588.4	14.25	88.80	82.6	183.7	0.0	63.9
											16,086.4

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:43 AM

Load Case: 1.2D + 1.6W

93 mph with No Ice

14 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.60

Wind Importance Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		221.4	0.0					0.0	0.0	221.4	0.0	0.0	0.0
5.00		435.5	1,641.4					0.0	226.9	435.5	1,868.4	0.0	0.0
10.00		421.0	1,587.0					0.0	226.9	421.0	1,814.0	0.0	0.0
15.00	Appurtenance(s)	412.7	1,532.6	1,416.0	0.0	0.0	720.0	0.0	226.9	1,828.8	2,479.6	0.0	0.0
20.00	Appurtenance(s)	318.1	1,478.2	1,502.5	0.0	0.0	720.0	0.0	226.9	1,820.5	2,425.2	0.0	0.0
22.69	Bot - Section 2	211.0	772.1					0.0	122.0	211.0	894.0	0.0	0.0
25.00	Appurtenance(s)	263.9	1,234.4	1,574.7	0.0	0.0	720.0	0.0	105.0	1,838.6	2,059.3	0.0	0.0
28.85	Top - Section 1	214.2	2,007.4					0.0	174.8	214.2	2,182.2	0.0	0.0
30.00	Appurtenance(s)	262.6	277.1	1,636.4	0.0	0.0	720.0	0.0	52.1	1,898.9	1,049.2	0.0	0.0
35.00	Appurtenance(s)	424.5	1,177.2	1,690.3	0.0	0.0	720.0	0.0	226.9	2,114.8	2,124.2	0.0	0.0
40.00	Appurtenance(s)	418.8	1,129.6	1,738.5	0.0	0.0	720.0	0.0	226.9	2,157.4	2,076.6	0.0	0.0
45.00	Appurtenance(s)	296.1	1,082.0	1,782.2	0.0	0.0	720.0	0.0	226.9	2,078.3	2,029.0	0.0	0.0
47.16	Bot - Section 3	205.3	452.5					0.0	98.0	205.3	550.5	0.0	0.0
50.00	Appurtenance(s)	213.7	1,006.3	1,822.1	0.0	0.0	720.0	0.0	128.9	2,035.8	1,855.2	0.0	0.0
52.38	Top - Section 2	201.8	822.7					0.0	108.0	201.8	930.8	0.0	0.0
55.00	Appurtenance(s)	184.2	373.1	1,859.1	0.0	0.0	720.0	0.0	118.9	2,043.3	1,211.9	0.0	0.0
57.00	Appurtenance(s)	196.0	278.5	8,144.5	0.0	-4,074.8	3,900.0	0.0	90.8	8,340.5	4,269.3	0.0	0.0
60.00	Appurtenance(s)	306.7	407.6	1,893.4	0.0	0.0	720.0	0.0	72.5	2,200.1	1,200.1	0.0	0.0
65.00	Appurtenance(s)	263.7	652.1	1,925.6	0.0	0.0	720.0	0.0	120.9	2,189.4	1,493.0	0.0	0.0
67.00	Appurtenance(s)	182.9	251.3	3,636.4	0.0	0.0	2,810.4	0.0	48.4	3,819.3	3,110.1	0.0	0.0
70.00	Appurtenance(s)	284.4	366.8	1,955.9	0.0	0.0	720.0	0.0	15.0	2,240.3	1,101.8	0.0	0.0
75.00		209.7	584.1					0.0	25.1	209.7	609.2	0.0	0.0
76.00	Appurtenance(s)	57.5	112.7	2,563.0	0.0	0.0	2,003.0	0.0	5.0	2,620.5	2,120.8	0.0	0.0
76.69		23.3	76.7					0.0	0.8	23.3	77.5	0.0	0.0
								Totals:		41,369.6	39,531.6	0.00	0.00

Load Case: 1.2D + 1.6W
93 mph with No Ice
14 Iterations
Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.60
Wind Importance 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	-40.21	-43.18	0.00	-2,221.39	0.00	2,221.39	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.357
5.00	-38.26	-42.82	0.00	-2,005.47	0.00	2,005.47	5,848.27	2,924.13	11,946.7	5,982.25	0.06	-0.11	0.342
10.00	-36.37	-42.46	0.00	-1,791.37	0.00	1,791.37	5,676.15	2,838.08	11,200.5	5,608.58	0.24	-0.22	0.326
15.00	-33.82	-40.68	0.00	-1,579.06	0.00	1,579.06	5,478.20	2,739.10	10,429.0	5,222.28	0.52	-0.33	0.309
20.00	-31.35	-38.89	0.00	-1,375.64	0.00	1,375.64	5,280.25	2,640.13	9,685.11	4,849.75	0.92	-0.43	0.290
22.69	-30.43	-38.70	0.00	-1,271.12	0.00	1,271.12	5,173.85	2,586.93	9,296.61	4,655.22	1.18	-0.49	0.279
25.00	-28.34	-36.87	0.00	-1,181.63	0.00	1,181.63	5,082.30	2,541.15	8,968.69	4,491.01	1.43	-0.53	0.269
28.85	-26.13	-36.66	0.00	-1,039.60	0.00	1,039.60	4,410.30	2,205.15	7,729.02	3,870.25	1.90	-0.61	0.275
30.00	-25.07	-34.78	0.00	-997.50	0.00	997.50	4,370.52	2,185.26	7,589.51	3,800.39	2.05	-0.63	0.268
35.00	-22.91	-32.67	0.00	-823.62	0.00	823.62	4,197.31	2,098.66	6,996.92	3,503.66	2.76	-0.73	0.241
40.00	-20.82	-30.52	0.00	-660.24	0.00	660.24	4,024.11	2,012.05	6,428.42	3,218.99	3.58	-0.82	0.211
45.00	-18.80	-28.43	0.00	-507.65	0.00	507.65	3,850.90	1,925.45	5,884.00	2,946.37	4.48	-0.90	0.177
47.16	-18.23	-28.23	0.00	-446.27	0.00	446.27	3,776.11	1,888.06	5,656.38	2,832.40	4.90	-0.93	0.163
50.00	-16.40	-26.17	0.00	-366.07	0.00	366.07	3,677.69	1,838.85	5,363.67	2,685.82	5.46	-0.97	0.141
52.38	-15.46	-25.96	0.00	-303.79	0.00	303.79	2,517.68	1,258.84	3,679.50	1,842.48	5.95	-1.00	0.171
55.00	-14.27	-23.90	0.00	-235.78	0.00	235.78	2,473.56	1,236.78	3,524.91	1,765.07	6.51	-1.02	0.140
57.00	-10.15	-15.49	0.00	-187.97	0.00	187.97	2,439.26	1,219.63	3,408.20	1,706.63	6.95	-1.05	0.114
60.00	-8.98	-13.27	0.00	-141.51	0.00	141.51	2,386.81	1,193.40	3,235.34	1,620.08	7.61	-1.08	0.091
65.00	-7.53	-11.06	0.00	-75.14	0.00	75.14	2,296.72	1,148.36	2,953.55	1,478.97	8.76	-1.11	0.054
67.00	-4.49	-7.18	0.00	-53.03	0.00	53.03	2,259.74	1,129.87	2,843.16	1,423.69	9.23	-1.12	0.039
70.00	-3.43	-4.92	0.00	-31.49	0.00	31.49	2,187.31	1,093.66	2,660.79	1,332.37	9.94	-1.13	0.025
75.00	-2.83	-4.70	0.00	-6.90	0.00	6.90	2,063.59	1,031.80	2,366.82	1,185.17	11.13	-1.14	0.007
76.00	-0.76	-2.03	0.00	-2.20	0.00	2.20	2,038.85	1,019.42	2,310.09	1,156.76	11.37	-1.14	0.002
76.69	0.00	-2.02	0.00	-0.80	0.00	0.80	2,021.84	1,010.92	2,271.49	1,137.43	11.53	-1.14	0.001

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:46 AM

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

14 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60

Wind Importance Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		221.4	0.0					0.0	0.0	221.4	0.0	0.0	0.0
5.00		435.5	1,231.1					0.0	170.2	435.5	1,401.3	0.0	0.0
10.00		421.0	1,190.3					0.0	170.2	421.0	1,360.5	0.0	0.0
15.00	Appurtenance(s)	412.7	1,149.5	1,416.0	0.0	0.0	540.0	0.0	170.2	1,828.8	1,859.7	0.0	0.0
20.00	Appurtenance(s)	318.1	1,108.7	1,502.5	0.0	0.0	540.0	0.0	170.2	1,820.5	1,818.9	0.0	0.0
22.69	Bot - Section 2	211.0	579.1					0.0	91.5	211.0	670.5	0.0	0.0
25.00	Appurtenance(s)	263.9	925.8	1,574.7	0.0	0.0	540.0	0.0	78.7	1,838.6	1,544.5	0.0	0.0
28.85	Top - Section 1	214.2	1,505.6					0.0	131.1	214.2	1,636.7	0.0	0.0
30.00	Appurtenance(s)	262.6	207.8	1,636.4	0.0	0.0	540.0	0.0	39.1	1,898.9	786.9	0.0	0.0
35.00	Appurtenance(s)	424.5	882.9	1,690.3	0.0	0.0	540.0	0.0	170.2	2,114.8	1,593.1	0.0	0.0
40.00	Appurtenance(s)	418.8	847.2	1,738.5	0.0	0.0	540.0	0.0	170.2	2,157.4	1,557.4	0.0	0.0
45.00	Appurtenance(s)	296.1	811.5	1,782.2	0.0	0.0	540.0	0.0	170.2	2,078.3	1,521.7	0.0	0.0
47.16	Bot - Section 3	205.3	339.4					0.0	73.5	205.3	412.8	0.0	0.0
50.00	Appurtenance(s)	213.7	754.7	1,822.1	0.0	0.0	540.0	0.0	96.7	2,035.8	1,391.4	0.0	0.0
52.38	Top - Section 2	201.8	617.1					0.0	81.0	201.8	698.1	0.0	0.0
55.00	Appurtenance(s)	184.2	279.8	1,859.1	0.0	0.0	540.0	0.0	89.2	2,043.3	909.0	0.0	0.0
57.00	Appurtenance(s)	196.0	208.9	8,144.5	0.0	-4,074.8	2,925.0	0.0	68.1	8,340.5	3,202.0	0.0	0.0
60.00	Appurtenance(s)	306.7	305.7	1,893.4	0.0	0.0	540.0	0.0	54.4	2,200.1	900.1	0.0	0.0
65.00	Appurtenance(s)	263.7	489.1	1,925.6	0.0	0.0	540.0	0.0	90.7	2,189.4	1,119.7	0.0	0.0
67.00	Appurtenance(s)	182.9	188.5	3,636.4	0.0	0.0	2,107.8	0.0	36.3	3,819.3	2,332.6	0.0	0.0
70.00	Appurtenance(s)	284.4	275.1	1,955.9	0.0	0.0	540.0	0.0	11.3	2,240.3	826.4	0.0	0.0
75.00		209.7	438.1					0.0	18.8	209.7	456.9	0.0	0.0
76.00	Appurtenance(s)	57.5	84.6	2,563.0	0.0	0.0	1,502.3	0.0	3.8	2,620.5	1,590.6	0.0	0.0
76.69		23.3	57.5					0.0	0.6	23.3	58.1	0.0	0.0
								Totals:		41,369.6	29,648.7	0.00	0.00

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:49 AM

Load Case: 0.9D + 1.6W

93 mph with No Ice (Reduced DL)

14 Iterations

Gust Response Factor :1.10
Dead Load Factor :0.90
Wind Load Factor :1.60

Wind Importance 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	-30.15	-43.17	0.00	-2,217.32	0.00	2,217.32	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.355
5.00	-28.66	-42.79	0.00	-2,001.45	0.00	2,001.45	5,848.27	2,924.13	11,946.7	5,982.25	0.06	-0.11	0.340
10.00	-27.22	-42.42	0.00	-1,787.49	0.00	1,787.49	5,676.15	2,838.08	11,200.5	5,608.58	0.24	-0.22	0.324
15.00	-25.30	-40.63	0.00	-1,575.40	0.00	1,575.40	5,478.20	2,739.10	10,429.0	5,222.28	0.52	-0.33	0.307
20.00	-23.44	-38.83	0.00	-1,372.26	0.00	1,372.26	5,280.25	2,640.13	9,685.11	4,849.75	0.92	-0.43	0.288
22.69	-22.73	-38.63	0.00	-1,267.92	0.00	1,267.92	5,173.85	2,586.93	9,296.61	4,655.22	1.18	-0.49	0.277
25.00	-21.17	-36.80	0.00	-1,178.58	0.00	1,178.58	5,082.30	2,541.15	8,968.69	4,491.01	1.43	-0.53	0.267
28.85	-19.50	-36.59	0.00	-1,036.84	0.00	1,036.84	4,410.30	2,205.15	7,729.02	3,870.25	1.89	-0.61	0.273
30.00	-18.70	-34.70	0.00	-994.82	0.00	994.82	4,370.52	2,185.26	7,589.51	3,800.39	2.04	-0.63	0.266
35.00	-17.08	-32.60	0.00	-821.31	0.00	821.31	4,197.31	2,098.66	6,996.92	3,503.66	2.76	-0.73	0.239
40.00	-15.50	-30.44	0.00	-658.34	0.00	658.34	4,024.11	2,012.05	6,428.42	3,218.99	3.57	-0.82	0.209
45.00	-13.99	-28.35	0.00	-506.14	0.00	506.14	3,850.90	1,925.45	5,884.00	2,946.37	4.47	-0.90	0.176
47.16	-13.56	-28.15	0.00	-444.94	0.00	444.94	3,776.11	1,888.06	5,656.38	2,832.40	4.89	-0.93	0.161
50.00	-12.19	-26.10	0.00	-364.96	0.00	364.96	3,677.69	1,838.85	5,363.67	2,685.82	5.45	-0.97	0.139
52.38	-11.48	-25.89	0.00	-302.85	0.00	302.85	2,517.68	1,258.84	3,679.50	1,842.48	5.94	-1.00	0.169
55.00	-10.60	-23.83	0.00	-235.02	0.00	235.02	2,473.56	1,236.78	3,524.91	1,765.07	6.50	-1.02	0.138
57.00	-7.54	-15.44	0.00	-187.36	0.00	187.36	2,439.26	1,219.63	3,408.20	1,706.63	6.93	-1.05	0.113
60.00	-6.67	-13.23	0.00	-141.03	0.00	141.03	2,386.81	1,193.40	3,235.34	1,620.08	7.60	-1.07	0.090
65.00	-5.59	-11.02	0.00	-74.89	0.00	74.89	2,296.72	1,148.36	2,953.55	1,478.97	8.74	-1.11	0.053
67.00	-3.33	-7.16	0.00	-52.85	0.00	52.85	2,259.74	1,129.87	2,843.16	1,423.69	9.21	-1.12	0.039
70.00	-2.55	-4.90	0.00	-31.39	0.00	31.39	2,187.31	1,093.66	2,660.79	1,332.37	9.91	-1.13	0.025
75.00	-2.10	-4.68	0.00	-6.88	0.00	6.88	2,063.59	1,031.80	2,366.82	1,185.17	11.10	-1.13	0.007
76.00	-0.56	-2.03	0.00	-2.20	0.00	2.20	2,038.85	1,019.42	2,310.09	1,156.76	11.34	-1.14	0.002
76.69	0.00	-2.02	0.00	-0.80	0.00	0.80	2,021.84	1,010.92	2,271.49	1,137.43	11.50	-1.14	0.001

Site Number: 414240 | Code: ANSI/TIA-222-G |

Site Name: Byram Park CT, CT | Engineering Number:OAA720743_C3_01 | 1/16/2018 11:16:49 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 0.75 in Radial Ice — 13 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 Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		77.1	0.0					0.0	0.0	77.1	0.0	0.0	0.0
5.00		152.2	2,015.2					0.0	226.9	152.2	2,242.1	0.0	0.0
10.00		147.9	1,991.6					0.0	226.9	147.9	2,218.6	0.0	0.0
15.00	Appurtenance(s)	145.7	1,944.7	395.1	0.0	0.0	1,646.7	0.0	226.9	540.8	3,818.3	0.0	0.0
20.00	Appurtenance(s)	112.6	1,890.0	424.3	0.0	0.0	1,657.9	0.0	226.9	536.8	3,774.8	0.0	0.0
22.69	Bot - Section 2	74.8	993.6					0.0	122.0	74.8	1,115.6	0.0	0.0
25.00	Appurtenance(s)	93.8	1,427.6	449.7	0.0	0.0	1,668.5	0.0	105.0	543.5	3,201.0	0.0	0.0
28.85	Top - Section 1	76.2	2,324.1					0.0	174.8	76.2	2,498.9	0.0	0.0
30.00	Appurtenance(s)	93.7	371.6	471.0	0.0	0.0	1,675.9	0.0	52.1	564.7	2,099.6	0.0	0.0
35.00	Appurtenance(s)	151.8	1,577.1	488.3	0.0	0.0	1,679.5	0.0	226.9	640.1	3,483.4	0.0	0.0
40.00	Appurtenance(s)	150.4	1,519.4	504.9	0.0	0.0	1,684.6	0.0	226.9	655.3	3,431.0	0.0	0.0
45.00	Appurtenance(s)	106.6	1,460.7	520.1	0.0	0.0	1,689.2	0.0	226.9	626.7	3,376.9	0.0	0.0
47.16	Bot - Section 3	74.1	614.3					0.0	98.0	74.1	712.3	0.0	0.0
50.00	Appurtenance(s)	77.2	1,218.6	534.5	0.0	0.0	1,694.2	0.0	128.9	611.7	3,041.8	0.0	0.0
52.38	Top - Section 2	73.1	997.9					0.0	108.0	73.1	1,105.9	0.0	0.0
55.00	Appurtenance(s)	66.9	562.2	547.4	0.0	0.0	1,698.0	0.0	118.9	614.3	2,379.1	0.0	0.0
57.00	Appurtenance(s)	71.4	420.9	2,146.6	0.0	-1,201.8	6,965.7	0.0	90.8	2,217.9	7,477.4	0.0	0.0
60.00	Appurtenance(s)	112.0	616.1	559.4	0.0	0.0	1,701.2	0.0	72.5	671.4	2,389.9	0.0	0.0
65.00	Appurtenance(s)	96.6	985.2	570.4	0.0	0.0	1,703.7	0.0	120.9	667.0	2,809.9	0.0	0.0
67.00	Appurtenance(s)	67.3	382.6	882.4	0.0	0.0	5,525.8	0.0	48.4	949.7	5,956.8	0.0	0.0
70.00	Appurtenance(s)	105.1	558.4	581.4	0.0	0.0	1,707.3	0.0	15.0	686.5	2,280.7	0.0	0.0
75.00		77.7	888.3					0.0	25.1	77.7	913.4	0.0	0.0
76.00	Appurtenance(s)	21.4	173.2	623.6	0.0	0.0	4,009.4	0.0	5.0	645.0	4,187.6	0.0	0.0
76.69		8.7	118.0					0.0	0.8	8.7	118.8	0.0	0.0
								Totals:		11,933.1	64,633.6	0.00	0.00

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:52 AM

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

13 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.20
Wind Load Factor :1.00

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00
Ice Importance 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	-66.34	-12.47	0.00	-635.48	0.00	635.48	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.111
5.00	-64.09	-12.35	0.00	-573.13	0.00	573.13	5,848.27	2,924.13	11,946.7	5,982.25	0.02	-0.03	0.107
10.00	-61.87	-12.24	0.00	-511.37	0.00	511.37	5,676.15	2,838.08	11,200.5	5,608.58	0.07	-0.06	0.102
15.00	-58.04	-11.72	0.00	-450.19	0.00	450.19	5,478.20	2,739.10	10,429.0	5,222.28	0.15	-0.09	0.097
20.00	-54.27	-11.20	0.00	-391.59	0.00	391.59	5,280.25	2,640.13	9,685.11	4,849.75	0.26	-0.12	0.091
22.69	-53.15	-11.13	0.00	-361.50	0.00	361.50	5,173.85	2,586.93	9,296.61	4,655.22	0.34	-0.14	0.088
25.00	-49.94	-10.60	0.00	-335.75	0.00	335.75	5,082.30	2,541.15	8,968.69	4,491.01	0.41	-0.15	0.085
28.85	-47.44	-10.53	0.00	-294.93	0.00	294.93	4,410.30	2,205.15	7,729.02	3,870.25	0.54	-0.17	0.087
30.00	-45.34	-9.97	0.00	-282.84	0.00	282.84	4,370.52	2,185.26	7,589.51	3,800.39	0.58	-0.18	0.085
35.00	-41.86	-9.34	0.00	-233.00	0.00	233.00	4,197.31	2,098.66	6,996.92	3,503.66	0.79	-0.21	0.076
40.00	-38.42	-8.68	0.00	-186.32	0.00	186.32	4,024.11	2,012.05	6,428.42	3,218.99	1.02	-0.23	0.067
45.00	-35.05	-8.05	0.00	-142.91	0.00	142.91	3,850.90	1,925.45	5,884.00	2,946.37	1.28	-0.26	0.058
47.16	-34.34	-7.98	0.00	-125.52	0.00	125.52	3,776.11	1,888.06	5,656.38	2,832.40	1.40	-0.26	0.053
50.00	-31.30	-7.36	0.00	-102.85	0.00	102.85	3,677.69	1,838.85	5,363.67	2,685.82	1.56	-0.28	0.047
52.38	-30.19	-7.29	0.00	-85.33	0.00	85.33	2,517.68	1,258.84	3,679.50	1,842.48	1.70	-0.28	0.058
55.00	-27.81	-6.66	0.00	-66.25	0.00	66.25	2,473.56	1,236.78	3,524.91	1,765.07	1.85	-0.29	0.049
57.00	-20.35	-4.41	0.00	-52.92	0.00	52.92	2,439.26	1,219.63	3,408.20	1,706.63	1.98	-0.30	0.039
60.00	-17.96	-3.73	0.00	-39.70	0.00	39.70	2,386.81	1,193.40	3,235.34	1,620.08	2.17	-0.31	0.032
65.00	-15.15	-3.05	0.00	-21.06	0.00	21.06	2,296.72	1,148.36	2,953.55	1,478.97	2.49	-0.31	0.021
67.00	-9.20	-2.06	0.00	-14.97	0.00	14.97	2,259.74	1,129.87	2,843.16	1,423.69	2.63	-0.32	0.015
70.00	-6.92	-1.37	0.00	-8.77	0.00	8.77	2,187.31	1,093.66	2,660.79	1,332.37	2.83	-0.32	0.010
75.00	-6.01	-1.28	0.00	-1.95	0.00	1.95	2,063.59	1,031.80	2,366.82	1,185.17	3.16	-0.32	0.005
76.00	-1.83	-0.61	0.00	-0.66	0.00	0.66	2,038.85	1,019.42	2,310.09	1,156.76	3.23	-0.32	0.001
76.69	0.00	-0.60	0.00	-0.24	0.00	0.24	2,021.84	1,010.92	2,271.49	1,137.43	3.28	-0.32	0.000

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:53 AM

Load Case: 1.0D + 1.0W

Serviceability 60 mph

13 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Wind Importance Factor :1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		57.6	0.0					0.0	0.0	57.6	0.0	0.0	0.0
5.00		113.3	1,367.9					0.0	189.1	113.3	1,557.0	0.0	0.0
10.00		109.5	1,322.5					0.0	189.1	109.5	1,511.6	0.0	0.0
15.00	Appurtenance(s)	107.4	1,277.2	368.4	0.0	0.0	600.0	0.0	189.1	475.7	2,066.3	0.0	0.0
20.00	Appurtenance(s)	82.7	1,231.9	390.9	0.0	0.0	600.0	0.0	189.1	473.6	2,021.0	0.0	0.0
22.69	Bot - Section 2	54.9	643.4					0.0	101.6	54.9	745.0	0.0	0.0
25.00	Appurtenance(s)	68.7	1,028.6	409.7	0.0	0.0	600.0	0.0	87.5	478.3	1,716.1	0.0	0.0
28.85	Top - Section 1	55.7	1,672.9					0.0	145.7	55.7	1,818.5	0.0	0.0
30.00	Appurtenance(s)	68.3	230.9	425.7	0.0	0.0	600.0	0.0	43.4	494.0	874.4	0.0	0.0
35.00	Appurtenance(s)	110.4	981.0	439.7	0.0	0.0	600.0	0.0	189.1	550.2	1,770.1	0.0	0.0
40.00	Appurtenance(s)	109.0	941.4	452.3	0.0	0.0	600.0	0.0	189.1	561.2	1,730.5	0.0	0.0
45.00	Appurtenance(s)	77.0	901.7	463.6	0.0	0.0	600.0	0.0	189.1	540.7	1,690.8	0.0	0.0
47.16	Bot - Section 3	53.4	377.1					0.0	81.6	53.4	458.7	0.0	0.0
50.00	Appurtenance(s)	55.6	838.6	474.0	0.0	0.0	600.0	0.0	107.5	529.6	1,546.0	0.0	0.0
52.38	Top - Section 2	52.5	685.6					0.0	90.0	52.5	775.6	0.0	0.0
55.00	Appurtenance(s)	47.9	310.9	483.6	0.0	0.0	600.0	0.0	99.1	531.5	1,010.0	0.0	0.0
57.00	Appurtenance(s)	51.0	232.1	2,118.8	0.0	-1,060.0	3,250.0	0.0	75.6	2,169.8	3,557.7	0.0	0.0
60.00	Appurtenance(s)	79.8	339.6	492.6	0.0	0.0	600.0	0.0	60.5	572.3	1,000.1	0.0	0.0
65.00	Appurtenance(s)	68.6	543.4	500.9	0.0	0.0	600.0	0.0	100.8	569.6	1,244.2	0.0	0.0
67.00	Appurtenance(s)	47.6	209.4	946.0	0.0	0.0	2,342.0	0.0	40.3	993.6	2,591.7	0.0	0.0
70.00	Appurtenance(s)	74.0	305.6	508.8	0.0	0.0	600.0	0.0	12.5	582.8	918.2	0.0	0.0
75.00		54.6	486.7					0.0	20.9	54.6	507.6	0.0	0.0
76.00	Appurtenance(s)	15.0	93.9	666.8	0.0	0.0	1,669.2	0.0	4.2	681.7	1,767.3	0.0	0.0
76.69		6.1	63.9					0.0	0.7	6.1	64.6	0.0	0.0
								Totals:		10,762.1	32,943.0	0.00	0.00

Site Number: 414240
Site Name: Byram Park CT, CT
Customer: AT&T MOBILITY

Code: ANSI/TIA-222-G
Engineering Number:OAA720743_C3_01

1/16/2018 11:16:55 AM

Load Case: 1.0D + 1.0W

Serviceability 60 mph

13 Iterations

Gust Response Factor :1.10
Dead Load Factor :1.00
Wind Load Factor :1.00

Wind Importance 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	-33.54	-11.23	0.00	-577.17	0.00	577.17	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.097
5.00	-31.98	-11.13	0.00	-521.01	0.00	521.01	5,848.27	2,924.13	11,946.7	5,982.25	0.02	-0.03	0.093
10.00	-30.46	-11.04	0.00	-465.35	0.00	465.35	5,676.15	2,838.08	11,200.5	5,608.58	0.06	-0.06	0.088
15.00	-28.39	-10.57	0.00	-410.15	0.00	410.15	5,478.20	2,739.10	10,429.0	5,222.28	0.14	-0.08	0.084
20.00	-26.37	-10.11	0.00	-357.29	0.00	357.29	5,280.25	2,640.13	9,685.11	4,849.75	0.24	-0.11	0.079
22.69	-25.62	-10.06	0.00	-330.13	0.00	330.13	5,173.85	2,586.93	9,296.61	4,655.22	0.31	-0.13	0.076
25.00	-23.90	-9.58	0.00	-306.87	0.00	306.87	5,082.30	2,541.15	8,968.69	4,491.01	0.37	-0.14	0.073
28.85	-22.08	-9.52	0.00	-269.98	0.00	269.98	4,410.30	2,205.15	7,729.02	3,870.25	0.49	-0.16	0.075
30.00	-21.21	-9.03	0.00	-259.04	0.00	259.04	4,370.52	2,185.26	7,589.51	3,800.39	0.53	-0.16	0.073
35.00	-19.43	-8.49	0.00	-213.87	0.00	213.87	4,197.31	2,098.66	6,996.92	3,503.66	0.72	-0.19	0.066
40.00	-17.70	-7.93	0.00	-171.44	0.00	171.44	4,024.11	2,012.05	6,428.42	3,218.99	0.93	-0.21	0.058
45.00	-16.01	-7.38	0.00	-131.81	0.00	131.81	3,850.90	1,925.45	5,884.00	2,946.37	1.16	-0.23	0.049
47.16	-15.55	-7.33	0.00	-115.87	0.00	115.87	3,776.11	1,888.06	5,656.38	2,832.40	1.27	-0.24	0.045
50.00	-14.01	-6.80	0.00	-95.05	0.00	95.05	3,677.69	1,838.85	5,363.67	2,685.82	1.42	-0.25	0.039
52.38	-13.23	-6.74	0.00	-78.87	0.00	78.87	2,517.68	1,258.84	3,679.50	1,842.48	1.55	-0.26	0.048
55.00	-12.22	-6.21	0.00	-61.21	0.00	61.21	2,473.56	1,236.78	3,524.91	1,765.07	1.69	-0.27	0.040
57.00	-8.67	-4.02	0.00	-48.80	0.00	48.80	2,439.26	1,219.63	3,408.20	1,706.63	1.80	-0.27	0.032
60.00	-7.68	-3.45	0.00	-36.73	0.00	36.73	2,386.81	1,193.40	3,235.34	1,620.08	1.98	-0.28	0.026
65.00	-6.44	-2.87	0.00	-19.51	0.00	19.51	2,296.72	1,148.36	2,953.55	1,478.97	2.28	-0.29	0.016
67.00	-3.85	-1.86	0.00	-13.77	0.00	13.77	2,259.74	1,129.87	2,843.16	1,423.69	2.40	-0.29	0.011
70.00	-2.93	-1.28	0.00	-8.17	0.00	8.17	2,187.31	1,093.66	2,660.79	1,332.37	2.58	-0.29	0.007
75.00	-2.43	-1.22	0.00	-1.79	0.00	1.79	2,063.59	1,031.80	2,366.82	1,185.17	2.89	-0.30	0.003
76.00	-0.66	-0.53	0.00	-0.57	0.00	0.57	2,038.85	1,019.42	2,310.09	1,156.76	2.95	-0.30	0.001
76.69	0.00	-0.53	0.00	-0.21	0.00	0.21	2,021.84	1,010.92	2,271.49	1,137.43	2.99	-0.30	0.000

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.26
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.59
Site Coeffiecient F_v:	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.28
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Seismic Response Coefficient (C_s):	0.11
Upper Limit C_s	0.11
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	0.68
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.09
Total Unfactored Dead Load:	33.54 k
Seismic Base Shear (E):	4.85 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
23	76.34	65	7	0.004	18	81
22	75.50	98	11	0.005	27	123
21	72.50	508	54	0.027	132	637
20	68.50	318	32	0.016	78	400
19	66.00	250	24	0.012	58	314
18	62.50	644	59	0.029	142	809
17	58.50	400	34	0.017	82	502
16	56.00	308	25	0.012	60	386
15	53.69	410	32	0.016	77	515
14	51.19	776	57	0.028	138	974
13	48.58	946	65	0.033	159	1,188
12	46.08	459	30	0.015	73	576
11	42.50	1,091	65	0.033	158	1,370
10	37.50	1,130	59	0.029	143	1,420
9	32.50	1,170	52	0.026	126	1,469
8	29.43	274	11	0.005	27	345
7	26.93	1,819	66	0.033	160	2,284
6	23.84	1,116	35	0.018	86	1,402
5	21.34	745	21	0.011	51	936
4	17.50	1,421	32	0.016	78	1,784
3	12.50	1,466	23	0.012	56	1,841
2	7.50	1,512	14	0.007	33	1,898
1	2.50	1,557	4	0.002	10	1,955

Pine Branches	76.69	600	68	0.034	165	753
Ericsson RRUS 32 w/	76.00	159	18	0.009	43	199
Ericsson RRUS 11 B12	76.00	152	17	0.009	42	191
Commscope LNX-6512DS	76.00	86	10	0.005	24	108
Ericsson AIR-32 B2A/	76.00	397	45	0.022	108	498
RFS APX16DWV-16DWVS-	76.00	126	14	0.007	34	158
Flat T-Arms	76.00	750	84	0.042	205	942
Pine Branches	70.00	600	62	0.031	150	753
CCI DTMABP7819VG12A	67.00	115	11	0.006	27	145
Raycap DC6-48-60-18-	67.00	66	6	0.003	16	82
Ericsson RRUS 4426 B	67.00	145	14	0.007	35	182
Ericsson RRUS 32 B2	67.00	159	16	0.008	38	200
Ericsson RRUS-32 (77	67.00	231	23	0.011	55	290
Ericsson RRUS-11	67.00	165	16	0.008	39	207
Powerwave Allgon P65	67.00	159	16	0.008	38	200
Quintel QS66512-2	67.00	333	33	0.016	79	418
CCI OPA-65R-LCUU-H6	67.00	219	21	0.011	52	275
Flat T-Arm	67.00	750	74	0.037	178	942
Pine Branches	65.00	600	57	0.028	138	753
Pine Branches	60.00	600	52	0.026	127	753
Alcatel-Lucent RRH 2	57.00	119	10	0.005	24	149
Alcatel-Lucent RRH2x	57.00	170	14	0.007	34	214
Alcatel-Lucent B66 R	57.00	201	17	0.008	40	252
Commscope RC2DC-4750	57.00	52	4	0.002	10	65
Amphenol Antel BXA-1	57.00	38	3	0.002	8	48
Commscope SBNHH-1D65	57.00	67	6	0.003	13	84
Commscope SBNHH-1D45	57.00	202	17	0.008	40	254
Amphenol Antel LPA-8	57.00	162	13	0.007	32	203
Flat T-Arms	57.00	750	62	0.031	150	942
VZW Unused Reserve:	57.00	1,489	122	0.061	297	1,869
Pine Branches	55.00	600	47	0.024	115	753
Pine Branches	50.00	600	43	0.021	104	753
Pine Branches	45.00	600	38	0.019	92	753
Pine Branches	40.00	600	34	0.017	81	753
Pine Branches	35.00	600	29	0.015	70	753
Pine Branches	30.00	600	24	0.012	59	753
Pine Branches	25.00	600	20	0.010	49	753
Pine Branches	20.00	600	16	0.008	38	753
Pine Branches	15.00	600	12	0.006	28	753
		33,543	1,998	1.000	4,848	42,121

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
23	76.34	65	7	0.004	18	55
22	75.50	98	11	0.005	27	83
21	72.50	508	54	0.027	132	429
20	68.50	318	32	0.016	78	269
19	66.00	250	24	0.012	58	211
18	62.50	644	59	0.029	142	544
17	58.50	400	34	0.017	82	338
16	56.00	308	25	0.012	60	260
15	53.69	410	32	0.016	77	346
14	51.19	776	57	0.028	138	655
13	48.58	946	65	0.033	159	799
12	46.08	459	30	0.015	73	387
11	42.50	1,091	65	0.033	158	921
10	37.50	1,130	59	0.029	143	954
9	32.50	1,170	52	0.026	126	988

8	29.43	274	11	0.005	27	232
7	26.93	1,819	66	0.033	160	1,535
6	23.84	1,116	35	0.018	86	942
5	21.34	745	21	0.011	51	629
4	17.50	1,421	32	0.016	78	1,200
3	12.50	1,466	23	0.012	56	1,238
2	7.50	1,512	14	0.007	33	1,276
1	2.50	1,557	4	0.002	10	1,314
Pine Branches	76.69	600	68	0.034	165	507
Ericsson RRUS 32 w/	76.00	159	18	0.009	43	134
Ericsson RRUS 11 B12	76.00	152	17	0.009	42	128
Commscope LNX-6512DS	76.00	86	10	0.005	24	73
Ericsson AIR-32 B2A/	76.00	397	45	0.022	108	335
RFS APX16DWV-16DWVS-	76.00	126	14	0.007	34	106
Flat T-Arms	76.00	750	84	0.042	205	633
Pine Branches	70.00	600	62	0.031	150	507
CCI DTMABP7819VG12A	67.00	115	11	0.006	27	97
Raycap DC6-48-60-18-	67.00	66	6	0.003	16	55
Ericsson RRUS 4426 B	67.00	145	14	0.007	35	123
Ericsson RRUS 32 B2	67.00	159	16	0.008	38	134
Ericsson RRUS-32 (77	67.00	231	23	0.011	55	195
Ericsson RRUS-11	67.00	165	16	0.008	39	139
Powerwave Allgon P65	67.00	159	16	0.008	38	134
Quintel QS66512-2	67.00	333	33	0.016	79	281
CCI OPA-65R-LCUU-H6	67.00	219	21	0.011	52	185
Flat T-Arm	67.00	750	74	0.037	178	633
Pine Branches	65.00	600	57	0.028	138	507
Pine Branches	60.00	600	52	0.026	127	507
Alcatel-Lucent RRH 2	57.00	119	10	0.005	24	100
Alcatel-Lucent RRH2x	57.00	170	14	0.007	34	144
Alcatel-Lucent B66 R	57.00	201	17	0.008	40	170
Commscope RC2DC-4750	57.00	52	4	0.002	10	44
Amphenol Antel BXA-1	57.00	38	3	0.002	8	32
Commscope SBNHH-1D65	57.00	67	6	0.003	13	57
Commscope SBNHH-1D45	57.00	202	17	0.008	40	171
Amphenol Antel LPA-8	57.00	162	13	0.007	32	137
Flat T-Arms	57.00	750	62	0.031	150	633
VZW Unused Reserve:	57.00	1,489	122	0.061	297	1,257
Pine Branches	55.00	600	47	0.024	115	507
Pine Branches	50.00	600	43	0.021	104	507
Pine Branches	45.00	600	38	0.019	92	507
Pine Branches	40.00	600	34	0.017	81	507
Pine Branches	35.00	600	29	0.015	70	507
Pine Branches	30.00	600	24	0.012	59	507
Pine Branches	25.00	600	20	0.010	49	507
Pine Branches	20.00	600	16	0.008	38	507
Pine Branches	15.00	600	12	0.006	28	507
		33,543	1,998	1.000	4,848	28,319

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

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	-40.17	-4.84	0.00	-260.44	0.00	260.44	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.048
5.00	-38.27	-4.82	0.00	-236.23	0.00	236.23	5,848.27	2,924.13	11,946.7	5,982.25	0.01	-0.01	0.046
10.00	-36.42	-4.77	0.00	-212.15	0.00	212.15	5,676.15	2,838.08	11,200.5	5,608.58	0.03	-0.03	0.044
15.00	-33.89	-4.67	0.00	-188.30	0.00	188.30	5,478.20	2,739.10	10,429.0	5,222.28	0.06	-0.04	0.042
20.00	-32.20	-4.58	0.00	-164.96	0.00	164.96	5,280.25	2,640.13	9,685.11	4,849.75	0.11	-0.05	0.040
22.69	-30.79	-4.50	0.00	-152.64	0.00	152.64	5,173.85	2,586.93	9,296.61	4,655.22	0.14	-0.06	0.039
25.00	-27.76	-4.29	0.00	-142.23	0.00	142.23	5,082.30	2,541.15	8,968.69	4,491.01	0.17	-0.06	0.037
28.85	-27.41	-4.27	0.00	-125.70	0.00	125.70	4,410.30	2,205.15	7,729.02	3,870.25	0.22	-0.07	0.039
30.00	-25.19	-4.08	0.00	-120.80	0.00	120.80	4,370.52	2,185.26	7,589.51	3,800.39	0.24	-0.08	0.038
35.00	-23.01	-3.87	0.00	-100.40	0.00	100.40	4,197.31	2,098.66	6,996.92	3,503.66	0.33	-0.09	0.034
40.00	-20.89	-3.63	0.00	-81.05	0.00	81.05	4,024.11	2,012.05	6,428.42	3,218.99	0.43	-0.10	0.030
45.00	-19.56	-3.47	0.00	-62.89	0.00	62.89	3,850.90	1,925.45	5,884.00	2,946.37	0.53	-0.11	0.026
47.16	-18.37	-3.31	0.00	-55.41	0.00	55.41	3,776.11	1,888.06	5,656.38	2,832.40	0.58	-0.11	0.024
50.00	-16.65	-3.06	0.00	-46.01	0.00	46.01	3,677.69	1,838.85	5,363.67	2,685.82	0.65	-0.12	0.022
52.38	-16.13	-2.99	0.00	-38.72	0.00	38.72	2,517.68	1,258.84	3,679.50	1,842.48	0.71	-0.12	0.027
55.00	-14.99	-2.81	0.00	-30.90	0.00	30.90	2,473.56	1,236.78	3,524.91	1,765.07	0.78	-0.12	0.024
57.00	-10.41	-2.07	0.00	-25.28	0.00	25.28	2,439.26	1,219.63	3,408.20	1,706.63	0.83	-0.13	0.019
60.00	-8.85	-1.80	0.00	-19.07	0.00	19.07	2,386.81	1,193.40	3,235.34	1,620.08	0.91	-0.13	0.015
65.00	-7.78	-1.60	0.00	-10.08	0.00	10.08	2,296.72	1,148.36	2,953.55	1,478.97	1.05	-0.14	0.010
67.00	-4.44	-0.96	0.00	-6.88	0.00	6.88	2,259.74	1,129.87	2,843.16	1,423.69	1.11	-0.14	0.007
70.00	-3.05	-0.67	0.00	-4.01	0.00	4.01	2,187.31	1,093.66	2,660.79	1,332.37	1.19	-0.14	0.004
75.00	-2.93	-0.65	0.00	-0.65	0.00	0.65	2,063.59	1,031.80	2,366.82	1,185.17	1.34	-0.14	0.002
76.00	0.00	0.00	0.00	0.00	0.00	0.00	2,038.85	1,019.42	2,310.09	1,156.76	1.37	-0.14	0.000
76.69	0.00	0.00	0.00	0.00	0.00	0.00	2,021.84	1,010.92	2,271.49	1,137.43	1.39	-0.14	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

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	-27.00	-4.84	0.00	-259.81	0.00	259.81	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.045
5.00	-25.73	-4.81	0.00	-235.61	0.00	235.61	5,848.27	2,924.13	11,946.7	5,982.25	0.01	-0.01	0.044
10.00	-24.49	-4.76	0.00	-211.54	0.00	211.54	5,676.15	2,838.08	11,200.5	5,608.58	0.03	-0.03	0.042
15.00	-22.78	-4.66	0.00	-187.73	0.00	187.73	5,478.20	2,739.10	10,429.0	5,222.28	0.06	-0.04	0.040
20.00	-21.64	-4.57	0.00	-164.43	0.00	164.43	5,280.25	2,640.13	9,685.11	4,849.75	0.11	-0.05	0.038
22.69	-20.70	-4.49	0.00	-152.14	0.00	152.14	5,173.85	2,586.93	9,296.61	4,655.22	0.14	-0.06	0.037
25.00	-18.66	-4.28	0.00	-141.76	0.00	141.76	5,082.30	2,541.15	8,968.69	4,491.01	0.17	-0.06	0.035
28.85	-18.43	-4.26	0.00	-125.27	0.00	125.27	4,410.30	2,205.15	7,729.02	3,870.25	0.22	-0.07	0.037
30.00	-16.93	-4.07	0.00	-120.39	0.00	120.39	4,370.52	2,185.26	7,589.51	3,800.39	0.24	-0.08	0.036
35.00	-15.47	-3.86	0.00	-100.04	0.00	100.04	4,197.31	2,098.66	6,996.92	3,503.66	0.33	-0.09	0.032
40.00	-14.04	-3.62	0.00	-80.75	0.00	80.75	4,024.11	2,012.05	6,428.42	3,218.99	0.42	-0.10	0.029
45.00	-13.15	-3.45	0.00	-62.66	0.00	62.66	3,850.90	1,925.45	5,884.00	2,946.37	0.53	-0.11	0.025
47.16	-12.35	-3.29	0.00	-55.20	0.00	55.20	3,776.11	1,888.06	5,656.38	2,832.40	0.58	-0.11	0.023
50.00	-11.19	-3.05	0.00	-45.84	0.00	45.84	3,677.69	1,838.85	5,363.67	2,685.82	0.65	-0.12	0.020
52.38	-10.84	-2.98	0.00	-38.58	0.00	38.58	2,517.68	1,258.84	3,679.50	1,842.48	0.71	-0.12	0.025
55.00	-10.08	-2.80	0.00	-30.78	0.00	30.78	2,473.56	1,236.78	3,524.91	1,765.07	0.78	-0.12	0.022
57.00	-7.00	-2.06	0.00	-25.19	0.00	25.19	2,439.26	1,219.63	3,408.20	1,706.63	0.83	-0.13	0.018
60.00	-5.95	-1.79	0.00	-19.00	0.00	19.00	2,386.81	1,193.40	3,235.34	1,620.08	0.91	-0.13	0.014
65.00	-5.23	-1.59	0.00	-10.04	0.00	10.04	2,296.72	1,148.36	2,953.55	1,478.97	1.05	-0.13	0.009
67.00	-2.99	-0.95	0.00	-6.86	0.00	6.86	2,259.74	1,129.87	2,843.16	1,423.69	1.10	-0.14	0.006
70.00	-2.05	-0.67	0.00	-3.99	0.00	3.99	2,187.31	1,093.66	2,660.79	1,332.37	1.19	-0.14	0.004
75.00	-1.97	-0.64	0.00	-0.64	0.00	0.64	2,063.59	1,031.80	2,366.82	1,185.17	1.34	-0.14	0.001
76.00	0.00	0.00	0.00	0.00	0.00	0.00	2,038.85	1,019.42	2,310.09	1,156.76	1.36	-0.14	0.000
76.69	0.00	0.00	0.00	0.00	0.00	0.00	2,021.84	1,010.92	2,271.49	1,137.43	1.38	-0.14	0.000

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_s):	0.26
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.07
Importance Factor (I_E):	1.00
Site Coefficient F_a:	1.59
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.28
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.11
Period Based on Rayleigh Method (sec):	0.68
Redundancy Factor (p):	1.30

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)
23	76.34	65	1.873	1.892	1.108	0.590	33	81
22	75.50	98	1.832	1.688	1.033	0.554	47	123
21	72.50	508	1.689	1.082	0.798	0.437	192	637
20	68.50	318	1.508	0.521	0.552	0.310	85	400
19	66.00	250	1.400	0.284	0.432	0.246	53	314
18	62.50	644	1.255	0.063	0.298	0.176	98	809
17	58.50	400	1.100	-0.070	0.187	0.122	42	502
16	56.00	308	1.008	-0.108	0.135	0.100	27	386
15	53.69	410	0.926	-0.121	0.098	0.087	31	515
14	51.19	776	0.842	-0.118	0.067	0.078	53	974
13	48.58	946	0.758	-0.103	0.043	0.074	61	1,188
12	46.08	459	0.682	-0.081	0.027	0.073	29	576
11	42.50	1,091	0.580	-0.046	0.013	0.074	70	1,370
10	37.50	1,130	0.452	0.001	0.006	0.075	74	1,420
9	32.50	1,170	0.339	0.036	0.009	0.072	73	1,469
8	29.43	274	0.278	0.050	0.014	0.068	16	345
7	26.93	1,819	0.233	0.058	0.019	0.064	101	2,284
6	23.84	1,116	0.183	0.065	0.026	0.059	57	1,402
5	21.34	745	0.146	0.068	0.031	0.054	35	936
4	17.50	1,421	0.098	0.071	0.037	0.047	58	1,784
3	12.50	1,466	0.050	0.071	0.042	0.039	50	1,841
2	7.50	1,512	0.018	0.063	0.037	0.031	40	1,898
1	2.50	1,557	0.002	0.032	0.018	0.015	20	1,955
Pine Branches	76.69	600	1.890	1.981	1.140	0.605	315	753
Ericsson RRUS 32 w/	76.00	159	1.856	1.807	1.077	0.575	79	199
Ericsson RRUS 11 B12	76.00	152	1.856	1.807	1.077	0.575	76	191
Commscope LNX-	76.00	86	1.856	1.807	1.077	0.575	43	108
Ericsson AIR-32 B2A/	76.00	397	1.856	1.807	1.077	0.575	198	498
RFS APX16DWV-	76.00	126	1.856	1.807	1.077	0.575	63	158
Flat T-Arms	76.00	750	1.856	1.807	1.077	0.575	374	942
Pine Branches	70.00	600	1.575	0.702	0.636	0.354	184	753
CCI DTMABP7819VG12A	67.00	115	1.443	0.370	0.477	0.270	27	145
Raycap DC6-48-60-18-	67.00	66	1.443	0.370	0.477	0.270	15	82
Ericsson RRUS 4426 B	67.00	145	1.443	0.370	0.477	0.270	34	182

Ericsson RRUS 32 B2	67.00	159	1.443	0.370	0.477	0.270	37	200
Ericsson RRUS-32 (77	67.00	231	1.443	0.370	0.477	0.270	54	290
Ericsson RRUS-11	67.00	165	1.443	0.370	0.477	0.270	39	207
Powerwave Allgon P65	67.00	159	1.443	0.370	0.477	0.270	37	200
Quintel QS66512-2	67.00	333	1.443	0.370	0.477	0.270	78	418
CCI OPA-65R-LCUU-H6	67.00	219	1.443	0.370	0.477	0.270	51	275
Flat T-Arm	67.00	750	1.443	0.370	0.477	0.270	176	942
Pine Branches	65.00	600	1.358	0.209	0.390	0.224	116	753
Pine Branches	60.00	600	1.157	-0.032	0.224	0.140	73	753
Alcatel-Lucent RRH 2	57.00	119	1.044	-0.096	0.154	0.108	11	149
Alcatel-Lucent RRH2x	57.00	170	1.044	-0.096	0.154	0.108	16	214
Alcatel-Lucent B66 R	57.00	201	1.044	-0.096	0.154	0.108	19	252
Commscope RC2DC-	57.00	52	1.044	-0.096	0.154	0.108	5	65
Amphenol Antel BXA-1	57.00	38	1.044	-0.096	0.154	0.108	4	48
Commscope SBNHH-	57.00	67	1.044	-0.096	0.154	0.108	6	84
Commscope SBNHH-	57.00	202	1.044	-0.096	0.154	0.108	19	254
Amphenol Antel LPA-8	57.00	162	1.044	-0.096	0.154	0.108	15	203
Flat T-Arms	57.00	750	1.044	-0.096	0.154	0.108	70	942
VZW Unused Reserve:	57.00	1,489	1.044	-0.096	0.154	0.108	139	1,869
Pine Branches	55.00	600	0.972	-0.116	0.118	0.094	49	753
Pine Branches	50.00	600	0.803	-0.113	0.055	0.076	39	753
Pine Branches	45.00	600	0.651	-0.071	0.021	0.073	38	753
Pine Branches	40.00	600	0.514	-0.021	0.008	0.075	39	753
Pine Branches	35.00	600	0.394	0.020	0.007	0.074	39	753
Pine Branches	30.00	600	0.289	0.048	0.013	0.069	36	753
Pine Branches	25.00	600	0.201	0.063	0.023	0.061	32	753
Pine Branches	20.00	600	0.129	0.069	0.033	0.051	27	753
Pine Branches	15.00	600	0.072	0.072	0.040	0.043	22	753
		33,543	63.266	21.782	20.515	12.620	4,040	42,121

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)
23	76.34	65	1.873	1.892	1.108	0.590	33	55
22	75.50	98	1.832	1.688	1.033	0.554	47	83
21	72.50	508	1.689	1.082	0.798	0.437	192	429
20	68.50	318	1.508	0.521	0.552	0.310	85	269
19	66.00	250	1.400	0.284	0.432	0.246	53	211
18	62.50	644	1.255	0.063	0.298	0.176	98	544
17	58.50	400	1.100	-0.070	0.187	0.122	42	338
16	56.00	308	1.008	-0.108	0.135	0.100	27	260
15	53.69	410	0.926	-0.121	0.098	0.087	31	346
14	51.19	776	0.842	-0.118	0.067	0.078	53	655
13	48.58	946	0.758	-0.103	0.043	0.074	61	799
12	46.08	459	0.682	-0.081	0.027	0.073	29	387
11	42.50	1,091	0.580	-0.046	0.013	0.074	70	921
10	37.50	1,130	0.452	0.001	0.006	0.075	74	954
9	32.50	1,170	0.339	0.036	0.009	0.072	73	988
8	29.43	274	0.278	0.050	0.014	0.068	16	232
7	26.93	1,819	0.233	0.058	0.019	0.064	101	1,535
6	23.84	1,116	0.183	0.065	0.026	0.059	57	942
5	21.34	745	0.146	0.068	0.031	0.054	35	629
4	17.50	1,421	0.098	0.071	0.037	0.047	58	1,200
3	12.50	1,466	0.050	0.071	0.042	0.039	50	1,238
2	7.50	1,512	0.018	0.063	0.037	0.031	40	1,276
1	2.50	1,557	0.002	0.032	0.018	0.015	20	1,314
Pine Branches	76.69	600	1.890	1.981	1.140	0.605	315	507
Ericsson RRUS 32 w/	76.00	159	1.856	1.807	1.077	0.575	79	134

Ericsson RRUS 11 B12	76.00	152	1.856	1.807	1.077	0.575	76	128
Commscope LNX-	76.00	86	1.856	1.807	1.077	0.575	43	73
Ericsson AIR-32 B2A/	76.00	397	1.856	1.807	1.077	0.575	198	335
RFS APX16DWV-	76.00	126	1.856	1.807	1.077	0.575	63	106
Flat T-Arms	76.00	750	1.856	1.807	1.077	0.575	374	633
Pine Branches	70.00	600	1.575	0.702	0.636	0.354	184	507
CCI DTMABP7819VG12A	67.00	115	1.443	0.370	0.477	0.270	27	97
Raycap DC6-48-60-18-	67.00	66	1.443	0.370	0.477	0.270	15	55
Ericsson RRUS 4426 B	67.00	145	1.443	0.370	0.477	0.270	34	123
Ericsson RRUS 32 B2	67.00	159	1.443	0.370	0.477	0.270	37	134
Ericsson RRUS-32 (77	67.00	231	1.443	0.370	0.477	0.270	54	195
Ericsson RRUS-11	67.00	165	1.443	0.370	0.477	0.270	39	139
Powerwave Allgon P65	67.00	159	1.443	0.370	0.477	0.270	37	134
Quintel QS66512-2	67.00	333	1.443	0.370	0.477	0.270	78	281
CCI OPA-65R-LCUU-H6	67.00	219	1.443	0.370	0.477	0.270	51	185
Flat T-Arm	67.00	750	1.443	0.370	0.477	0.270	176	633
Pine Branches	65.00	600	1.358	0.209	0.390	0.224	116	507
Pine Branches	60.00	600	1.157	-0.032	0.224	0.140	73	507
Alcatel-Lucent RRH 2	57.00	119	1.044	-0.096	0.154	0.108	11	100
Alcatel-Lucent RRH2x	57.00	170	1.044	-0.096	0.154	0.108	16	144
Alcatel-Lucent B66 R	57.00	201	1.044	-0.096	0.154	0.108	19	170
Commscope RC2DC-	57.00	52	1.044	-0.096	0.154	0.108	5	44
Amphenol Antel BXA-1	57.00	38	1.044	-0.096	0.154	0.108	4	32
Commscope SBNHH-	57.00	67	1.044	-0.096	0.154	0.108	6	57
Commscope SBNHH-	57.00	202	1.044	-0.096	0.154	0.108	19	171
Amphenol Antel LPA-8	57.00	162	1.044	-0.096	0.154	0.108	15	137
Flat T-Arms	57.00	750	1.044	-0.096	0.154	0.108	70	633
VZW Unused Reserve:	57.00	1,489	1.044	-0.096	0.154	0.108	139	1,257
Pine Branches	55.00	600	0.972	-0.116	0.118	0.094	49	507
Pine Branches	50.00	600	0.803	-0.113	0.055	0.076	39	507
Pine Branches	45.00	600	0.651	-0.071	0.021	0.073	38	507
Pine Branches	40.00	600	0.514	-0.021	0.008	0.075	39	507
Pine Branches	35.00	600	0.394	0.020	0.007	0.074	39	507
Pine Branches	30.00	600	0.289	0.048	0.013	0.069	36	507
Pine Branches	25.00	600	0.201	0.063	0.023	0.061	32	507
Pine Branches	20.00	600	0.129	0.069	0.033	0.051	27	507
Pine Branches	15.00	600	0.072	0.072	0.040	0.043	22	507
		33,543	63.266	21.782	20.515	12.620	4,040	28,319

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

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	-40.17	-4.02	0.00	-241.00	0.00	241.00	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.045
5.00	-38.27	-3.99	0.00	-220.88	0.00	220.88	5,848.27	2,924.13	11,946.7	5,982.25	0.01	-0.01	0.043
10.00	-36.42	-3.95	0.00	-200.92	0.00	200.92	5,676.15	2,838.08	11,200.5	5,608.58	0.03	-0.02	0.042
15.00	-33.89	-3.87	0.00	-181.18	0.00	181.18	5,478.20	2,739.10	10,429.0	5,222.28	0.06	-0.04	0.041
20.00	-32.20	-3.82	0.00	-161.81	0.00	161.81	5,280.25	2,640.13	9,685.11	4,849.75	0.10	-0.05	0.039
22.69	-30.79	-3.76	0.00	-151.55	0.00	151.55	5,173.85	2,586.93	9,296.61	4,655.22	0.13	-0.06	0.039
25.00	-27.76	-3.63	0.00	-142.86	0.00	142.86	5,082.30	2,541.15	8,968.69	4,491.01	0.16	-0.06	0.037
28.85	-27.41	-3.62	0.00	-128.88	0.00	128.88	4,410.30	2,205.15	7,729.02	3,870.25	0.21	-0.07	0.040
30.00	-25.19	-3.51	0.00	-124.72	0.00	124.72	4,370.52	2,185.26	7,589.51	3,800.39	0.23	-0.07	0.039
35.00	-23.02	-3.40	0.00	-107.19	0.00	107.19	4,197.31	2,098.66	6,996.92	3,503.66	0.31	-0.09	0.036
40.00	-20.89	-3.29	0.00	-90.20	0.00	90.20	4,024.11	2,012.05	6,428.42	3,218.99	0.41	-0.10	0.033
45.00	-19.56	-3.22	0.00	-73.76	0.00	73.76	3,850.90	1,925.45	5,884.00	2,946.37	0.52	-0.11	0.030
47.16	-18.37	-3.16	0.00	-66.81	0.00	66.81	3,776.11	1,888.06	5,656.38	2,832.40	0.57	-0.11	0.028
50.00	-16.65	-3.07	0.00	-57.83	0.00	57.83	3,677.69	1,838.85	5,363.67	2,685.82	0.64	-0.12	0.026
52.38	-16.13	-3.04	0.00	-50.53	0.00	50.53	2,517.68	1,258.84	3,679.50	1,842.48	0.70	-0.12	0.034
55.00	-14.99	-2.96	0.00	-42.58	0.00	42.58	2,473.56	1,236.78	3,524.91	1,765.07	0.77	-0.13	0.030
57.00	-10.41	-2.60	0.00	-36.66	0.00	36.66	2,439.26	1,219.63	3,408.20	1,706.63	0.82	-0.13	0.026
60.00	-8.85	-2.43	0.00	-28.86	0.00	28.86	2,386.81	1,193.40	3,235.34	1,620.08	0.91	-0.14	0.022
65.00	-7.78	-2.26	0.00	-16.71	0.00	16.71	2,296.72	1,148.36	2,953.55	1,478.97	1.06	-0.15	0.015
67.00	-4.44	-1.61	0.00	-12.20	0.00	12.20	2,259.74	1,129.87	2,843.16	1,423.69	1.12	-0.15	0.011
70.00	-3.05	-1.23	0.00	-7.36	0.00	7.36	2,187.31	1,093.66	2,660.79	1,332.37	1.21	-0.15	0.007
75.00	-2.93	-1.19	0.00	-1.19	0.00	1.19	2,063.59	1,031.80	2,366.82	1,185.17	1.37	-0.15	0.002
76.00	0.00	0.00	0.00	0.00	0.00	0.00	2,038.85	1,019.42	2,310.09	1,156.76	1.40	-0.15	0.000
76.69	0.00	0.00	0.00	0.00	0.00	0.00	2,021.84	1,010.92	2,271.49	1,137.43	1.42	-0.15	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

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	-27.00	-4.02	0.00	-240.37	0.00	240.37	5,994.12	2,997.06	12,661.4	6,340.12	0.00	0.00	0.042
5.00	-25.73	-3.99	0.00	-220.26	0.00	220.26	5,848.27	2,924.13	11,946.7	5,982.25	0.01	-0.01	0.041
10.00	-24.49	-3.94	0.00	-200.32	0.00	200.32	5,676.15	2,838.08	11,200.5	5,608.58	0.03	-0.02	0.040
15.00	-22.78	-3.87	0.00	-180.61	0.00	180.61	5,478.20	2,739.10	10,429.0	5,222.28	0.06	-0.04	0.039
20.00	-21.65	-3.81	0.00	-161.28	0.00	161.28	5,280.25	2,640.13	9,685.11	4,849.75	0.10	-0.05	0.037
22.69	-20.70	-3.75	0.00	-151.05	0.00	151.05	5,173.85	2,586.93	9,296.61	4,655.22	0.13	-0.05	0.036
25.00	-18.66	-3.62	0.00	-142.38	0.00	142.38	5,082.30	2,541.15	8,968.69	4,491.01	0.16	-0.06	0.035
28.85	-18.43	-3.60	0.00	-128.44	0.00	128.44	4,410.30	2,205.15	7,729.02	3,870.25	0.21	-0.07	0.037
30.00	-16.93	-3.50	0.00	-124.30	0.00	124.30	4,370.52	2,185.26	7,589.51	3,800.39	0.23	-0.07	0.037
35.00	-15.47	-3.38	0.00	-106.82	0.00	106.82	4,197.31	2,098.66	6,996.92	3,503.66	0.31	-0.08	0.034
40.00	-14.04	-3.28	0.00	-89.90	0.00	89.90	4,024.11	2,012.05	6,428.42	3,218.99	0.41	-0.10	0.031
45.00	-13.15	-3.21	0.00	-73.52	0.00	73.52	3,850.90	1,925.45	5,884.00	2,946.37	0.52	-0.11	0.028
47.16	-12.35	-3.15	0.00	-66.59	0.00	66.59	3,776.11	1,888.06	5,656.38	2,832.40	0.57	-0.11	0.027
50.00	-11.19	-3.05	0.00	-57.65	0.00	57.65	3,677.69	1,838.85	5,363.67	2,685.82	0.63	-0.12	0.025
52.38	-10.84	-3.02	0.00	-50.38	0.00	50.38	2,517.68	1,258.84	3,679.50	1,842.48	0.69	-0.12	0.032
55.00	-10.08	-2.95	0.00	-42.46	0.00	42.46	2,473.56	1,236.78	3,524.91	1,765.07	0.76	-0.13	0.028
57.00	-7.00	-2.59	0.00	-36.56	0.00	36.56	2,439.26	1,219.63	3,408.20	1,706.63	0.82	-0.13	0.024
60.00	-5.95	-2.42	0.00	-28.78	0.00	28.78	2,386.81	1,193.40	3,235.34	1,620.08	0.90	-0.14	0.020
65.00	-5.23	-2.25	0.00	-16.67	0.00	16.67	2,296.72	1,148.36	2,953.55	1,478.97	1.05	-0.14	0.014
67.00	-2.98	-1.61	0.00	-12.17	0.00	12.17	2,259.74	1,129.87	2,843.16	1,423.69	1.11	-0.15	0.010
70.00	-2.05	-1.23	0.00	-7.34	0.00	7.34	2,187.31	1,093.66	2,660.79	1,332.37	1.21	-0.15	0.006
75.00	-1.97	-1.18	0.00	-1.18	0.00	1.18	2,063.59	1,031.80	2,366.82	1,185.17	1.36	-0.15	0.002
76.00	0.00	0.00	0.00	0.00	0.00	0.00	2,038.85	1,019.42	2,310.09	1,156.76	1.40	-0.15	0.000
76.69	0.00	0.00	0.00	0.00	0.00	0.00	2,021.84	1,010.92	2,271.49	1,137.43	1.42	-0.15	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	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	43.18	0.00	40.21	0.00	0.00	2221.39	0.00	0.36
0.9D + 1.6W	43.17	0.00	30.15	0.00	0.00	2217.32	0.00	0.35
1.2D + 1.0Di + 1.0Wi	12.47	0.00	66.34	0.00	0.00	635.48	0.00	0.11
(1.2 + 0.2Sds) * DL + E ELFM	4.84	0.00	40.17	0.00	0.00	260.44	0.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	4.02	0.00	40.17	0.00	0.00	241.00	0.00	0.04
(0.9 - 0.2Sds) * DL + E ELFM	4.84	0.00	27.00	0.00	0.00	259.81	0.00	0.05
(0.9 - 0.2Sds) * DL + E EMAM	4.02	0.00	27.00	0.00	0.00	240.37	0.00	0.04
1.0D + 1.0W	11.23	0.00	33.54	0.00	0.00	577.17	0.00	0.10

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
4,555.20	38.30	74.40	2,221.39	66.34	43.18	48.77

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
50.0	2.750	66.000	Round	0	0.00	8.252	265.43	702.09	0.38

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
60.00	20	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	92.17	260.00	0.37	85.54	260.00	0.35

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Ms. Katie DeLuca, AICP
Greenwich Town Hall, 2nd Floor
101 Field Point Road
Greenwich, CT 06830

9590 9402 3676 7335 2345 64

2. Article Number (Transfer from service label)
7016 2140 0000 9458 7488

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 5-4-18

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

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

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

SENDER: *COMPLETE THIS SECTION*

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

1. Article Addressed to:

Mr. Peter Tesei, First Selectman
Greenwich Town Hall, First Floor
101 Field Point Road
Greenwich, CT 06830

9590 9402 3676 7335 2345 95

2. Article Number (Transfer from service label)
7016 3010 0000 7829 1421

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 5-4-18

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

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

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

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- ...verse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

36 RITCH AVENUE, LLC
16 B ARTHER STREET,
GREENWICH, CT, 06831

9590 9402 3676 7335 2346 18

2 Article Number (Transfer from service label)
7016 2140 0000 9458 7136

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) | C. Date of Delivery 5/4/18

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

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

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

7016 2140 0000 9458 7143

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Domestic Mail Only

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☐ Certified Mail Restricted Delivery $0.00	
☐ Adult Signature Required $0.00	
☐ Adult Signature Restricted Delivery $	
Postage $2.26	05/02/2018
Total Postage and Fees $8.46	

Sent To: Shawn Dunn, APM
Street and Apt. No., or PO Box No.: American Tower Corporation
City, State, ZIP+4®: 10 Presidential Way, Woburn, MA 01801

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

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