



May 8, 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: 605 Willard Avenue; Newington, CT 06111
AT&T Site: CT5403 // FA# 10071165

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 180-foot monopole tower at the above-referenced address, latitude 41.69837222, longitude -72.73714722. Said monopole tower is operated by American Tower Corp., and the property is owned by the Town of Newington.

AT&T desires to modify its existing telecommunications facility by installing (3) new antennas; removing (3) Remote Radio Units (RRUS) and removing (3) A2 units and replacing them with (15) new RRUs; add (1) DC/Fiber Squid surge suppressor, add (1) DC Squid surge suppressor with associated cabling, and modify the existing antenna mount as detailed in the enclosed plans by Centek. The centerline height of the existing antenna installation is and will remain at 157 feet.

There is an administrative correction to the AT&T leased / reserved loading reflected in the Structural Analysis completed by American Tower on January 18, 2018. The antenna loading shows the removal of (3) Powerwave 7770 antennas to be replaced with (3) Kathrein model 800-10121 antennas. No physical work is proposed to accomplish this change to the loading, this is corrective only to reflect the correct installed antennas - AT&T is utilizing model (3) 800-10121s, not Powerwave 7770s.

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 Mayor of the Town of Newington Connecticut, the Town Building Official, the Town Planner, tower operator American Tower Corp., and ground owner Town of Newington.

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 157 feet on the 180-foot tower.

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Page 2 of 2

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 American Tower dated January 18, 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: Hon. Roy Zartarian, Mayor (ground owner)
25 Stuart Street
Newington, CT 06111

Mr. Douglas Jourdan
Building Official, Building Department
131 Cedar Street
Newington, CT 06111

Mr. Craig Minor, Town Planner
Town Planner's Office
131 Cedar Street
Newington, CT 06111

Mr. Shawn Dunn, APM
American Tower
10 Presidential Way
Woburn, MA 01801

Exhibit 1

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2015.

Town of Newington

ASSESSOR'S OFFICE



Information on the Property Records for the Municipality of Newington was last updated on 5/8/2018.

Parcel Information

Location:	605 WILLARD AVE	Property Use:	School	Primary Use:	Elementary School
Unique ID:	N0046500	Map Block Lot:	09/300/000	Acres:	80.59
490 Acres:	0.00	Zone:	R-12/	Volume / Page:	189/67
Developers Map / Lot:	N/W 1860 & 1969	Census:			

Value Information

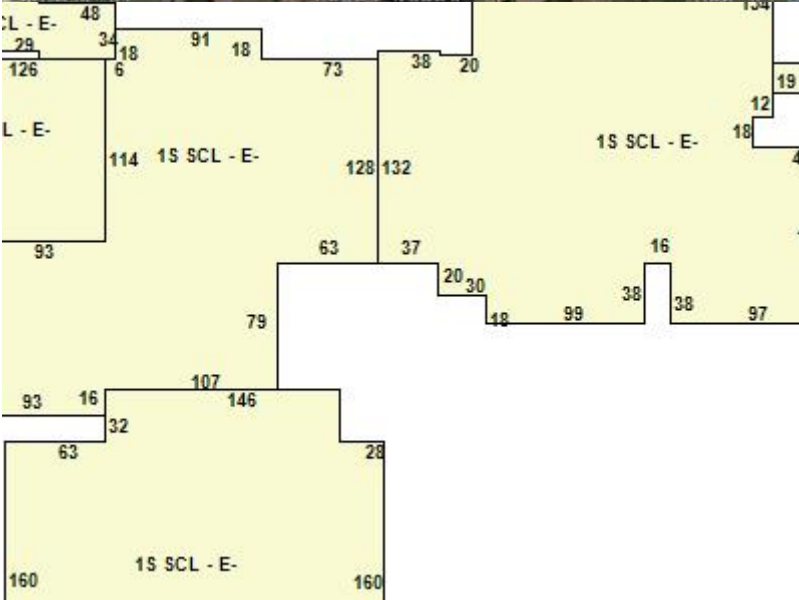
	Appraised Value	Assessed Value
Land	8,147,790	5,703,450
Buildings	22,823,428	15,976,410
Detached Outbuildings	534,775	374,340
Total	31,505,993	22,054,200

Owner's Information

Owner's Data

NEWINGTON TOWN OF
 NEWINGTON HIGH SCHOOL
 605 WILLARD AVE

Building 1



Category:	School	Use:	High School	GLA:	171,729
Stories:	1.00	Construction:	Masonry	Year Built:	1971

Heating:	Forced Hot Air	Fuel:	Natural Gas	Cooling Percent:	100
Siding:	Brick	Roof Material:	Asphalt	Beds/Units:	0

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Tennis Courts	1971	0.00	0.00	10,000
4 Ft Chain Fence	1978	1.00	25,000.00	25,000
Paving	1978	1.00	175,000.00	175,000
Gunite Pool	1971	1.00	3,344.00	3,344
Frame Shed	1978	1.00	288.00	288

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
NEWINGTON TOWN OF	189	67	09/20/1968		No	\$0
NEWINGTON TOWN OF	182	151	10/03/1967		No	\$0
NEWINGTON TOWN OF	180	281	07/27/1967		No	\$0
U S GOVT	27	488	01/11/1930		No	\$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
E-17-28	Electrical	01/24/2017		Closed	Install Burglar, access control and CCTV system.
E-16-549	Electrical	12/23/2016		Closed	COMPLETE CONTROL WIRING FOR (5) RTU'S, (1) EXHAUST FAN, (2) CABINET UNIT HEATERS, (2) RADIATORS AND
E-16-539	Electrical	12/15/2016		Closed	ELECTRICAL ALTERATIONS AS PER PLANS & SPECS ON FILE. POWER LIGHTING FIRE ALARM
P-16-259	Fire Sprinkler	12/13/2016		Closed	RELOCATE 4" MAIN FOR DUCTWORK BEING INSTALLED & RELOCATED. MISC. BRANCH PIPING AND DROP NEW HEADS
P-16-242	Plumbing	11/23/2016		Closed	Plumbing Fixtures, Piping & Gas line
M-16-305	Air Conditioning	11/23/2016		Closed	New Sheet Metal, New Roof Top Units, New Cabinet Unit Heaters, New Gas Lines, New Radiators
P-16-195	Plumbing	09/21/2016		Closed	ROUGH UNDERGROUND PLUMBING FOR PHASE 1 CULINARY ARTS AREA. 2 H/C BATHROOMS, 2 F.O., 2 HANDSINKS, G
B-16-589	Comm Renovations	08/04/2016		Closed	10,00 SQ FT CONVERT INDUSTRIAL TECH PROGRAM TO A STEM PROGRAM.
TB-16-475	Commercial Demolition	05/30/2016		Closed	DEMO OF EXISTING SPACE.
M-16-75	Air Conditioning	04/20/2016		Closed	AC
B-15-606	Comm Renovations	02/23/2016		Closed	(3) PANEL ANTENNAS AND ADD A NEW COMMSCOPE
TB-14-295	Addition	05/20/2014		Closed	ADDITION TO BAND ROOM
TB-13-197	Remodel	04/26/2013		Closed	AAUDITORIUM, BAND AND CHORUS ROOMS
B-11-429	Commercial New	08/16/2011		Closed	New construct
B-11-352	Remodel	08/03/2011		Closed	remodel
TB-11-352	Remodel	06/28/2011		Closed	Remodel
	Addition	06/28/2010		Closed	Gym flr replacement / misc

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Town of Newington

ASSESSOR'S OFFICE



Information on the Property Records for the Municipality of Newington was last updated on 5/8/2018.

Property Summary Information

Parcel Data And Values

Building ▼

Outbuildings

Sales

Permits

Google Map

Google Map

Unique Id:

N0046500

Location:

605 WILLARD AVE

MBL:

09/300/000

Primary Use:

Elementary School

Zone:

R-12/

Acres:

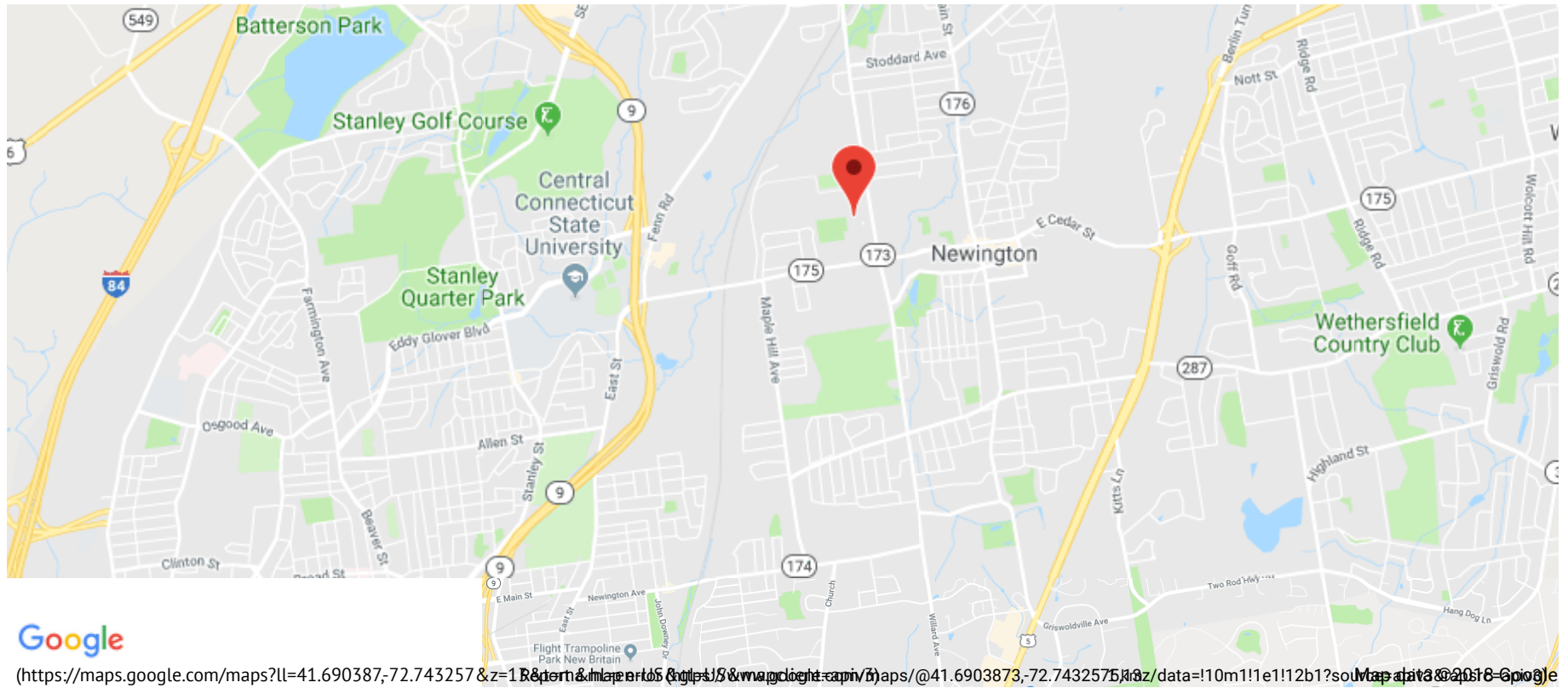
80.59

Appraised Value:

\$31,505,993

Assessed Value:

\$22,054,200



[Back To Search \(JavaScript:window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=094&uniqueid=N0046500\)](#)

Exhibit 2



WIRELESS COMMUNICATIONS FACILITY CT5403 - LTE 3C/4C/5C/6C FIRSTNET NEWINGTON CENTRAL 605 WILLARD AVENUE NEWINGTON, CT 06111

GENERAL NOTES

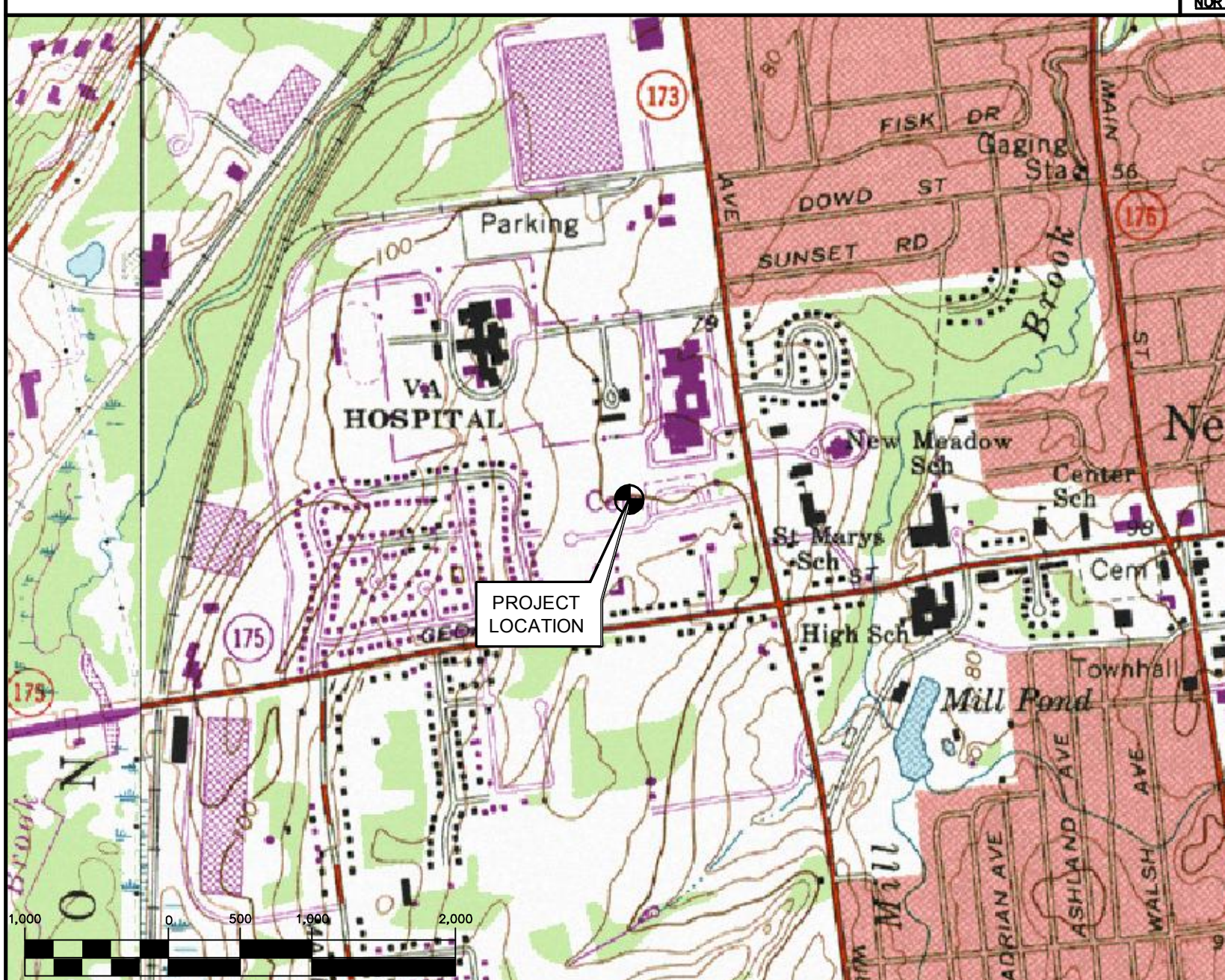
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL 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:	TO:
500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT	605 WILLARD AVENUE NEWINGTON, CONNECTICUT
1. TURN LEFT ONTO CAPITAL BLVD. 0.36 MI 2. TURN LEFT ONTO WEST ST. 0.27 MI 3. MERGE ONTO I-91 S VIA THE RAMP ON THE LEFT TOWARD NEW HAVEN. 0.30 MI 4. MERGE ONTO CT-9 N VIA EXIT 22N TOWARD NEW BRITAIN. 1.63 MI 5. TAKE THE CT-175 EXIT, EXIT 29, TOWARD NEWINGTON. 8.51 MI 6. TURN RIGHT ONTO CEDAR ST/CT-175. 0.24 MI 7. TAKE THE 1ST LEFT ONTO ALUMNI RD. 0.57 MI 8. 605 WILLARD AVE, NEWINGTON, CT 06111-2648, 605 WILLARD AVE. 0.43 MI	

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 CCI ANTENNA AT POS. 3 FOR ALPHA AND GAMMA SECTOR. (TOTAL OF 2)
 - INSTALL QUINTEL ANTENNA AT POS. 3 FOR BETA SECTOR. (TOTAL OF 1)
 - INSTALL (1) DC/FIBER SQUID AND (1) DC SQUID.
 - REPLACE RRUS-12+A2 WITH RRUS-32 B66 AT POS. 4. (TOTAL OF 3)
 - INSTALL RRUS-32 AT POS. 3. (TOTAL OF 3)
 - INSTALL RRUS-32 B2 AT POS. 3. (TOTAL OF 3)
 - INSTALL RRUS-12 AT POS. 3. (TOTAL OF 3)
 - INSTALL B14-4478 AT POS. 3. (TOTAL OF 3)
 - B. **AT THE EQUIPMENT SHELTER**
 - REPLACE DUL WITH 5216. ADD 2ND 5216 (TOTAL OF 2).
 - INSTALL 2nd XMU AND IDLe.
 - DECOMMISSION GSM 1900.

PROJECT INFORMATION

AT&T SITE NUMBER:	CT5403
AT&T SITE NAME:	NEWINGTON CENTRAL
SITE ADDRESS:	605 WILLARD AVENUE NEWINGTON, CT 06111
LESSEE/APPLICANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
AT&T PACE ID NUMBER:	PACE JOB 1 - MRCTB022548 PACE JOB 2 - MRCTB022499 PACE JOB 3 - MRCTB025302 PACE JOB 4 - MRCTB025300
AT&T FA LOCATION CODE:	10071165
ENGINEER:	CEN TEK ENGINEERING, INC. 63-2 NORTH BRANFORD RD. BRANFORD, CT 06405
PROJECT COORDINATES:	LATITUDE: 41°-41'-54.13" N LONGITUDE: 72°-44'-13.77" W GROUND ELEVATION: ±100' 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	ANTENNA CONFIGURATION DETAILS	0
C-3	DETAILS	0
C-4	DETAILS	0
E-1	SCHEMATIC DIAGRAM AND NOTES	0
E-2	WIRING DIAGRAM	0
E-3	TYPICAL ELECTRICAL DETAILS	0

PROFESSIONAL ENGINEER SEAL



CEN TEK engineering
 Centered on Solutions®
 (203) 488-0360
 (203) 488-8387 Fax
 63-2 North Branford Road
 Branford, CT 06405
 www.CentekEng.com

AT&T MOBILITY
 WIRELESS COMMUNICATIONS FACILITY
NEWINGTON CENTRAL
 CT5403 - LTE 3C/4C/5C/6C FIRSTNET
 605 WILLARD AVENUE
 NEWINGTON, CT 06111

DATE: 04/04/18
SCALE: AS NOTED
JOB NO. 17004.71

TITLE SHEET

T-1

Sheet No. 1 of 9

REV. DATE DRAWN BY/CHK'D BY DMD CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

NOTES AND SPECIFICATIONS

DESIGN BASIS:

- GOVERNING CODE: 2012 INTERNATIONAL BUILDING (IBC) AS MODIFIED BY THE 2016 CT STATE BUILDING CODE AND AMENDMENTS.
- DESIGN CRITERIA:
 - WIND LOAD: PER TIA 222 G (ANTENNA MOUNTS): 90-110 MPH (3 SECOND GUST)
 - RISK CATEGORY: II (BASED ON IBC TABLE 1604.5)
 - NOMINAL DESIGN SPEED (OTHER STRUCTURE): 93 MPH (V_{asd}) (EXPOSURE B/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:

- ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
- 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.
- 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.
- DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST EXISTING FIELD CONDITIONS.
- THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
- ALL 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.
- 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.
- 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.
- 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
- 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.
- ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
- SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
- NO DRILLING WELDING OR TAPING ON EVERSOURCE OWNED EQUIPMENT.
- REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)
 - STRUCTURAL STEEL (W SHAPES)---ASTM A992 (FY = 50 KSI)
 - STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
 - STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
 - STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
 - PIPE---ASTM A53 (FY = 35 KSI)
 - CONNECTION BOLTS---ASTM A325-N
 - U-BOLTS---ASTM A36
 - ANCHOR RODS---ASTM F 1554
 - WELDING ELECTRODE---ASTM E 70XX
- CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
- PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
- FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
- INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
- AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
- 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.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
- THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
- CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
- STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
- LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
- SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
- MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
- FABRICATE BEAMS WITH MILL CAMBER UP.
- 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.
- COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
- INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
- FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

PAINT NOTES

PAINTING SCHEDULE:

- ANTENNA PANELS:
 - SHERWIN WILLIAMS POLANE-B
 - COLOR TO BE MATCHED WITH EXISTING TOWER STRUCTURE.
 - COAXIAL CABLES:
 - ONE COAT OF DTM BONDING PRIMER (2-5 MILS. DRY FINISH)
 - TWO COATS OF DTM ACRYLIC PRIMER/FINISH (2.5-5 MILS. DRY FINISH)
 - COLOR TO BE FIELD MATCHED WITH EXISTING STRUCTURE.
- EXAMINATION AND PREPARATION:**
- 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.
 - 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.
 - TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COVER MATERIALS.
 - PERFORM PREPARATION AND CLEANING PROCEDURE IN STRICT ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS FOR EACH SUBSTRATE CONDITION.
 - CORRECT DEFECTS AND CLEAN SURFACES WHICH AFFECT WORK OF THIS SECTION. REMOVE EXISTING COATINGS THAT EXHIBIT LOOSE SURFACE DEFECTS.
 - IMPERVIOUS SURFACE: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRI-SODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW SURFACE TO DRY.
 - ALUMINUM SURFACE SCHEDULED FOR PAINT FINISH: REMOVE SURFACE CONTAMINATION BY STEAM OR HIGH-PRESSURE WATER. REMOVE OXIDATION WITH AICD ETCH AND SOLVENT WASHING. APPLY ETCHING PRIMER IMMEDIATELY FOLLOWING CLEANING.
 - FERROUS METALS: CLEAN UNGALVANIZED FERROUS METAL SURFACES THAT HAVE NOT BEEN SHOP COATED; REMOVE OIL, GREASE, DIRT, LOOSE MILL SCALE, AND OTHER 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.
 - 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.
 - 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).
 - COAXIAL CABLES: REMOVE ALL OIL, DUST, GREASE, DIRT, AND OTHER FOREIGN MATERIAL TO ENSURE ADEQUATE ADHESION.

CLEANING:

- COLLECT WASTE MATERIAL, WHICH MAY CONSTITUTE A FIRE HAZARD, PLACE IN CLOSED METAL CONTAINERS AND REMOVE DAILY FROM SITE.
- APPLICATION:**
- APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
 - APPLY EACH COAT TO UNIFORM FINISH.
 - APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS OTHERWISE APPROVED.
 - SAND METAL LIGHTLY BETWEEN COATS TO ACHIEVE REQUIRED FINISH.
 - VACUUM CLEAN SURFACES FREE OF LOOSE PARTICLES. USE TACK CLOTH JUST PRIOR TO APPLYING NEXT COAT.
 - ALLOW APPLIED COAT TO DRY BEFORE NEXT COAT IS APPLIED.

COMPLETED WORK:

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

ANTENNA SCHEDULE

SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA H HEIGHT	AZIMUTH	(E/P) TMA/DIPLXER/TRIPLEXER (QTY)	(E/P) RRU (QTY)	FEEDER	(E/P) RAYCAP (QTY)	RRU	SIZE (INCHES) (L x W x D)
A1	EXISTING	UMTS 850/1900	KATHREIN (800-10121)	54.5 x 10.3 x 5.9	157'	35°	TMA:PWAV: (E) LGP21401 SINGLE 1900 W/ 850BP (2) DIPLXER:PWAV: (E) LGP21903 (2)		1 1/2" COAX (3)	(E) RAYCAP-DC6-48-60-18-8C (1)	RRU-11	19.7 x 17 x 7.2
A3	PROPOSED	LTE 700/850/WCS/AWS	CCI (TPA-65R-LCUUUU-H8)	96 x 14.4 x 8.6	157'	35°		(P) B14 4478 (1), (P) RRUS-32 B2 (1), (P) RRUS-12 (1), (P) RRUS-32 (1)	FEEDER AND DC POWER	(P) RAYCAP DC6-48-60-18-8C (2)	RRU-12	20.4 x 18.5 x 7.5
A4	EXISTING	LTE 700/1900	CCI (OPA-65R-LCUU-H8)	92.7 x 14.4 x 7	157'	35°		(E) RRUS-11 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER		RRU-32	27.2 x 12.1 x 7
B1	EXISTING	UMTS 850/1900	KATHREIN (800-10121)	54.5 x 10.3 x 5.9	157'	145°	TMA:PWAV: (E) LGP21401 SINGLE 1900 W/ 850BP (2) DIPLXER:PWAV: (E) LGP21903 (2)		1 1/2" COAX (3)		RRU-32 B2	27.2 x 12.1 x 7
B3	PROPOSED	LTE 700/850/WCS/AWS	QUINTEL (QS66512-2)	72 x 12 x 9.6	157'	145°		(P) B14 4478 (1), (P) RRUS-32 B2 (1), (P) RRUS-12 (1), (P) RRUS-32 (1)	FEEDER AND DC POWER		RRU-32 B66	27.2 x 12.1 x 7
B4	EXISTING	LTE 700/1900	CCI (OPA-65R-LCUU-H8)	72 x 14.8 x 7.4	157'	145°		(E) RRUS-11 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER		B14-4478	14.9 x 13.1 x 7.3
C1	EXISTING	UMTS 850/1900	KATHREIN (800-10121)	54.5 x 10.3 x 5.9	157'	275°	TMA:PWAV: (E) LGP21401 SINGLE 1900 W/ 850BP (2) DIPLXER:PWAV: (E) LGP21903 (2)		1 1/2" COAX (3)			
C3	PROPOSED	LTE 700/850/WCS/AWS	CCI (TPA-65R-LCUUUU-H8)	96 x 14.4 x 8.6	157'	275°		(P) B14 4478 (1), (P) RRUS-32 B2 (1), (P) RRUS-12 (1), (P) RRUS-32 (1)	FEEDER AND DC POWER			
C4	EXISTING	LTE 700/1900	CCI (OPA-65R-LCUU-H8)	92.7 x 14.4 x 7	157'	275°		(E) RRUS-11 (1), (P) RRUS-32 B66 (1)	FEEDER AND DC POWER			

PROFESSIONAL ENGINEER SEAL



CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION

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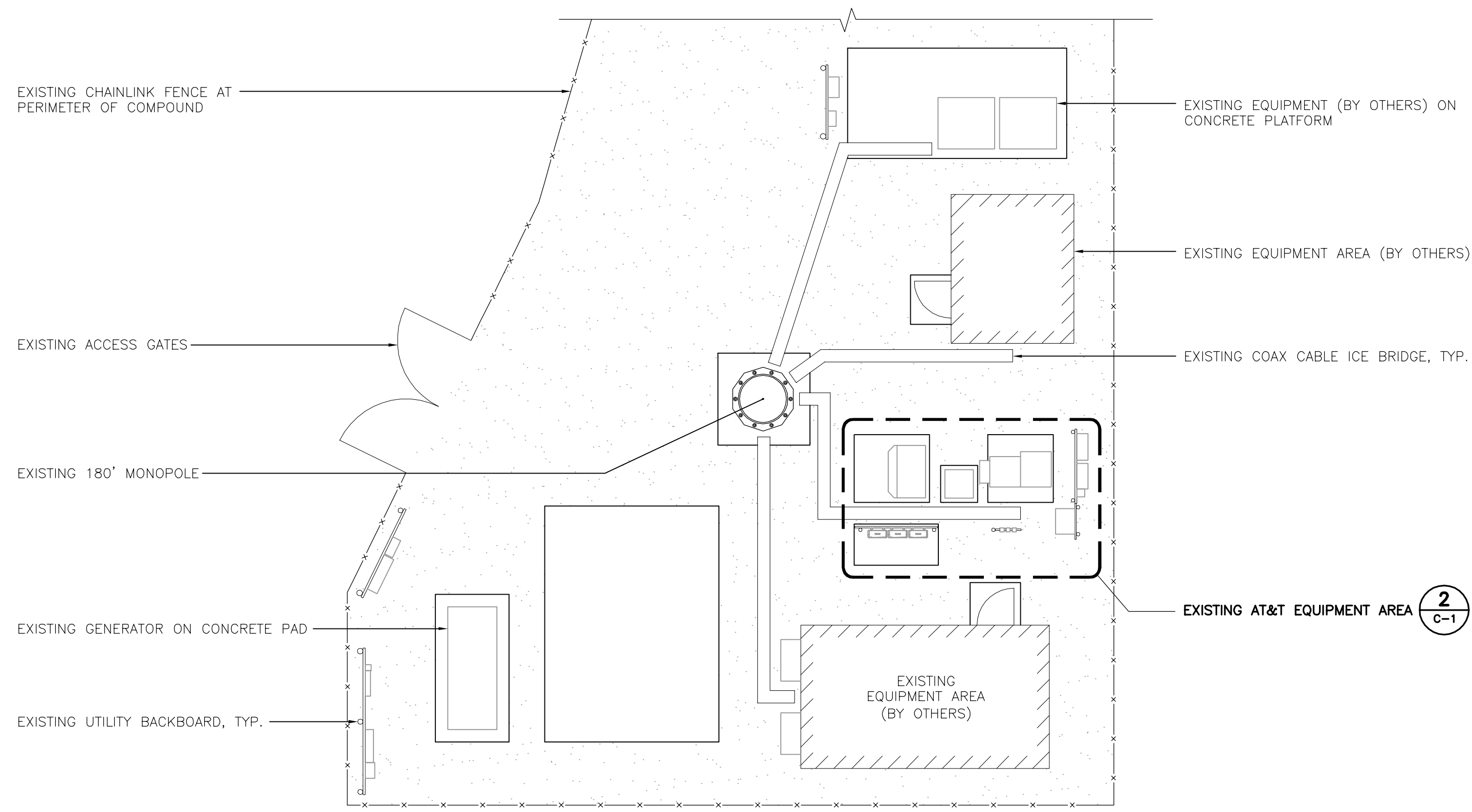
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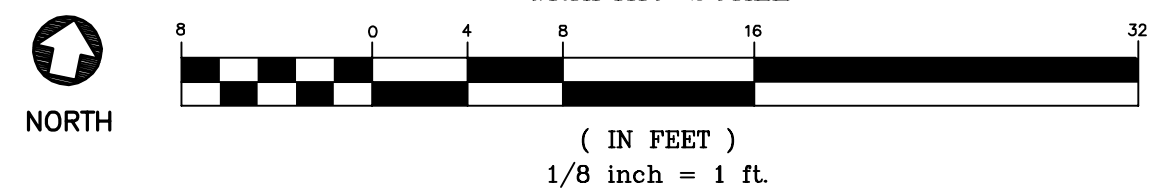
NOTES,
SPECIFICATIONS
AND ANTENNA
SCHEDULE

N-1

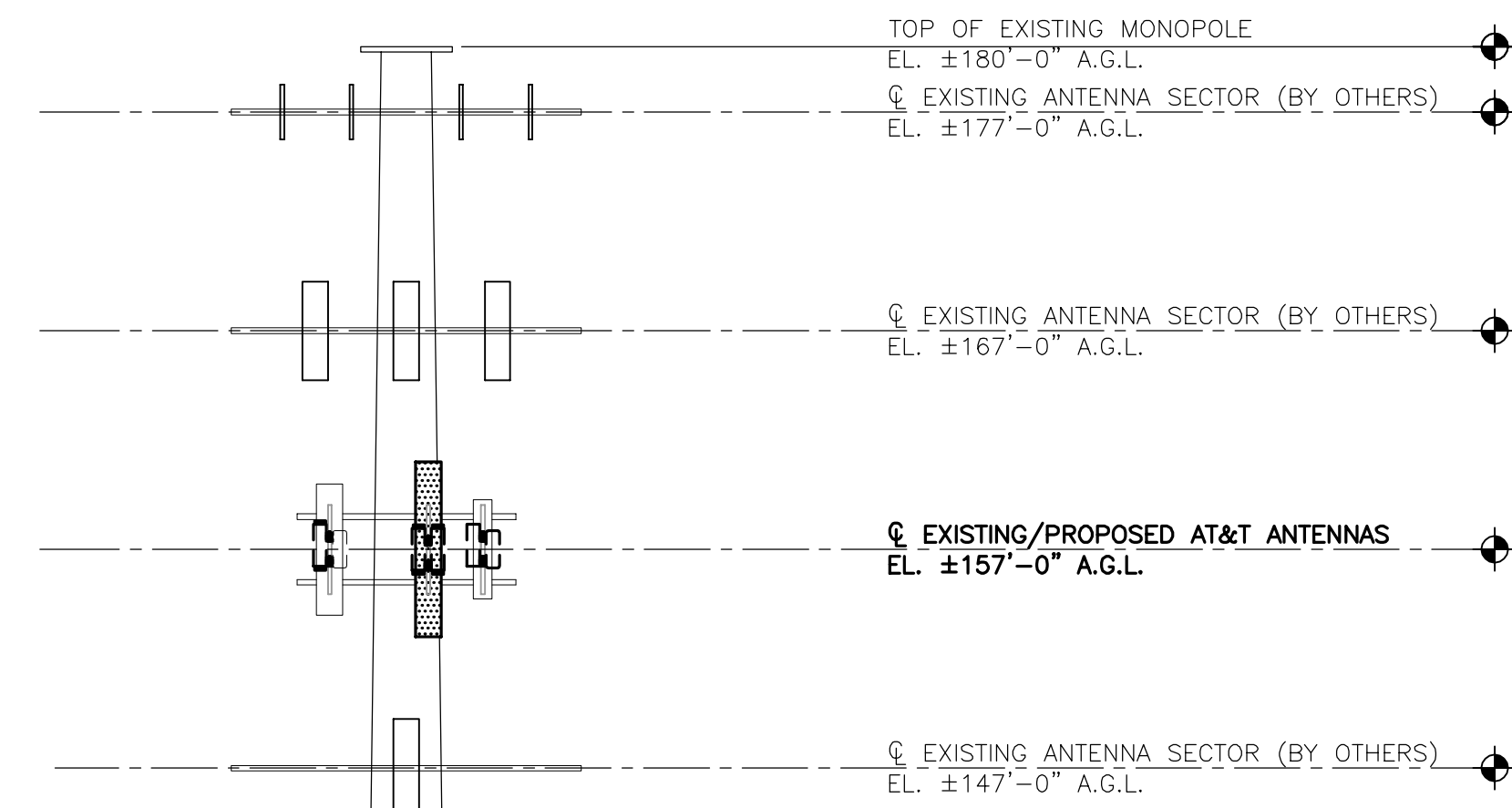
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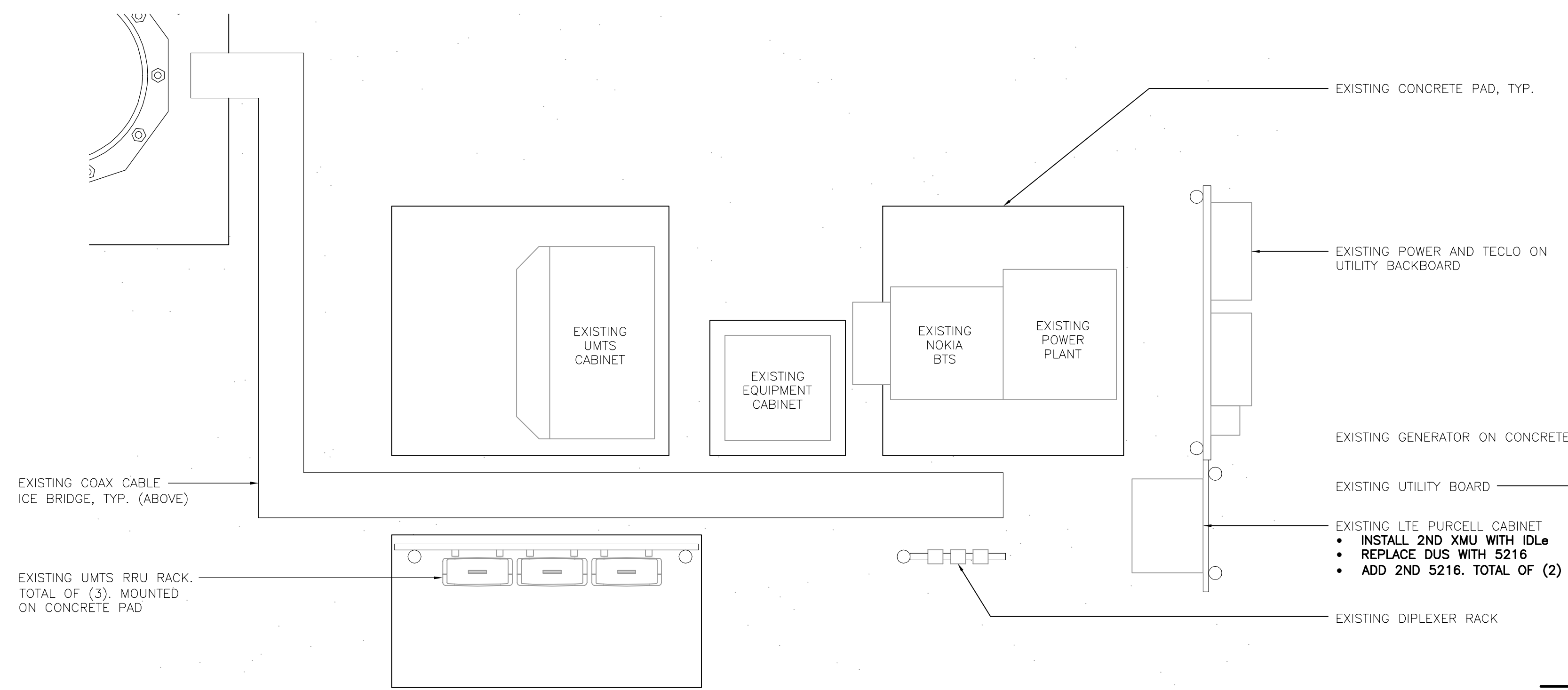
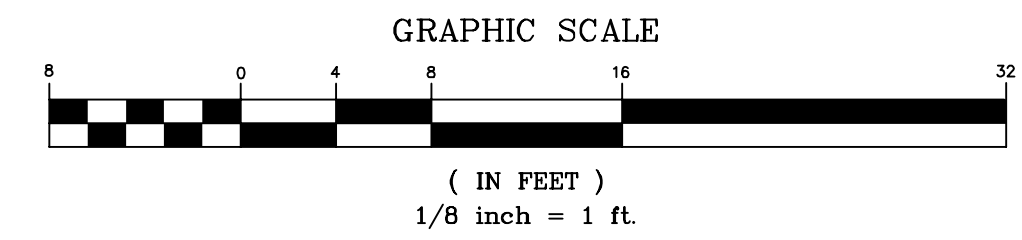
1 PARTIAL SITE PLAN
C-1 SCALE: 1/8" = 1'-0"



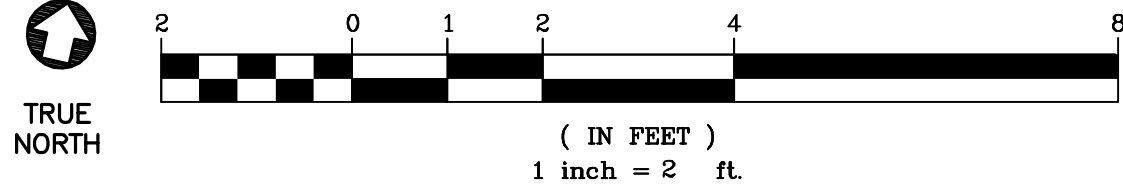
NOTE:
SOME ANTENNA EQUIPMENT (BY OTHERS)
NOT SHOWN FOR CLARITY.



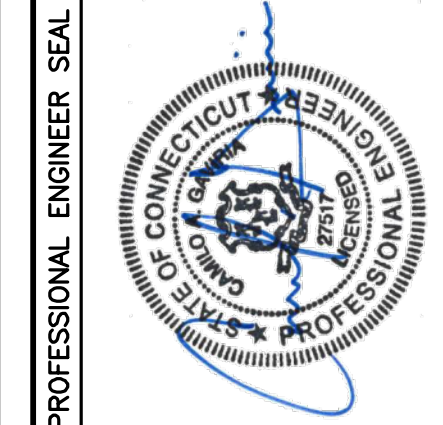
3 PARTIAL SOUTH ELEVATION
C-1 SCALE: 1/8" = 1'



2 EQUIPMENT LAYOUT PLAN
C-1 SCALE: 1" = 2'-0"



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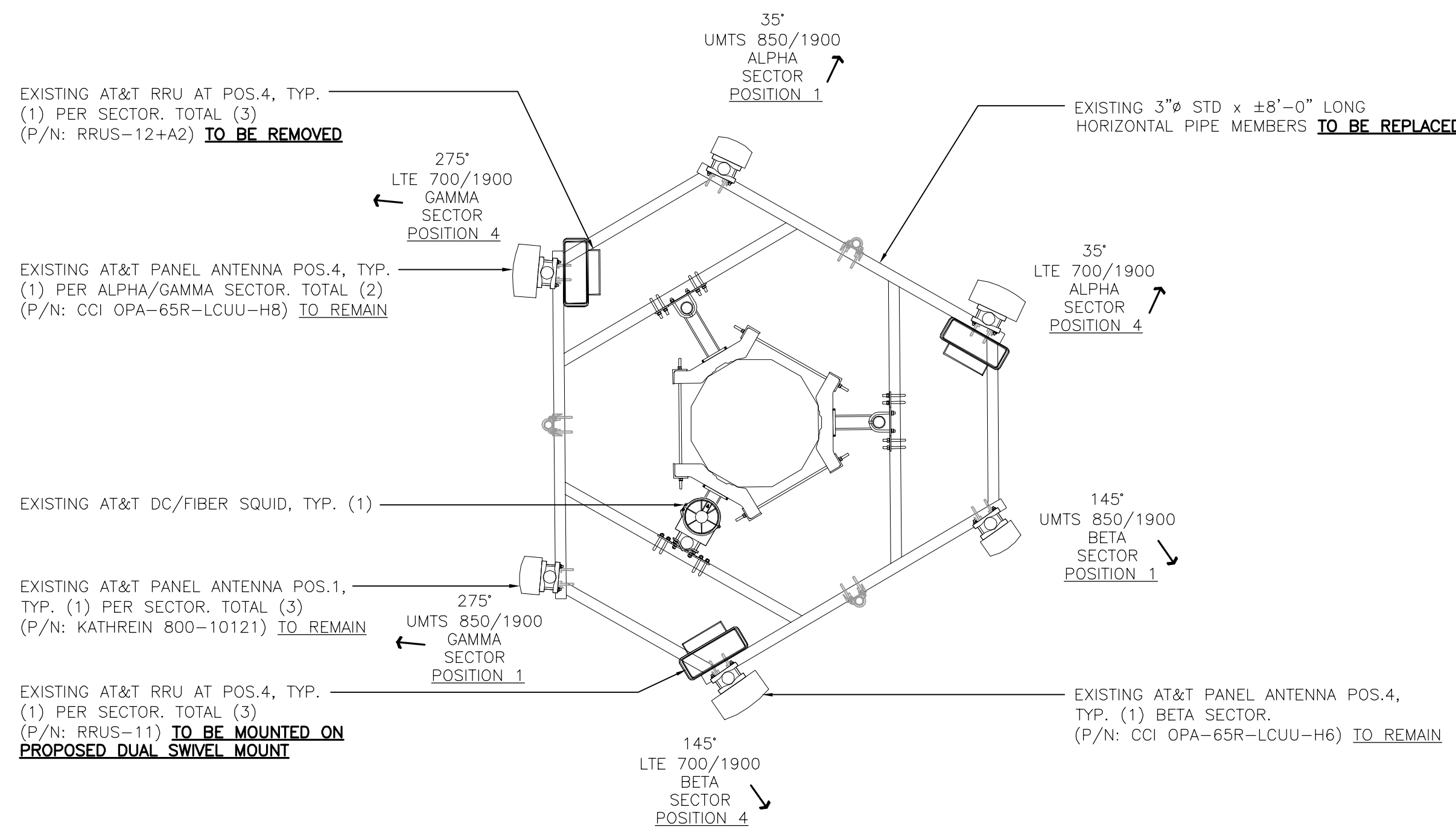
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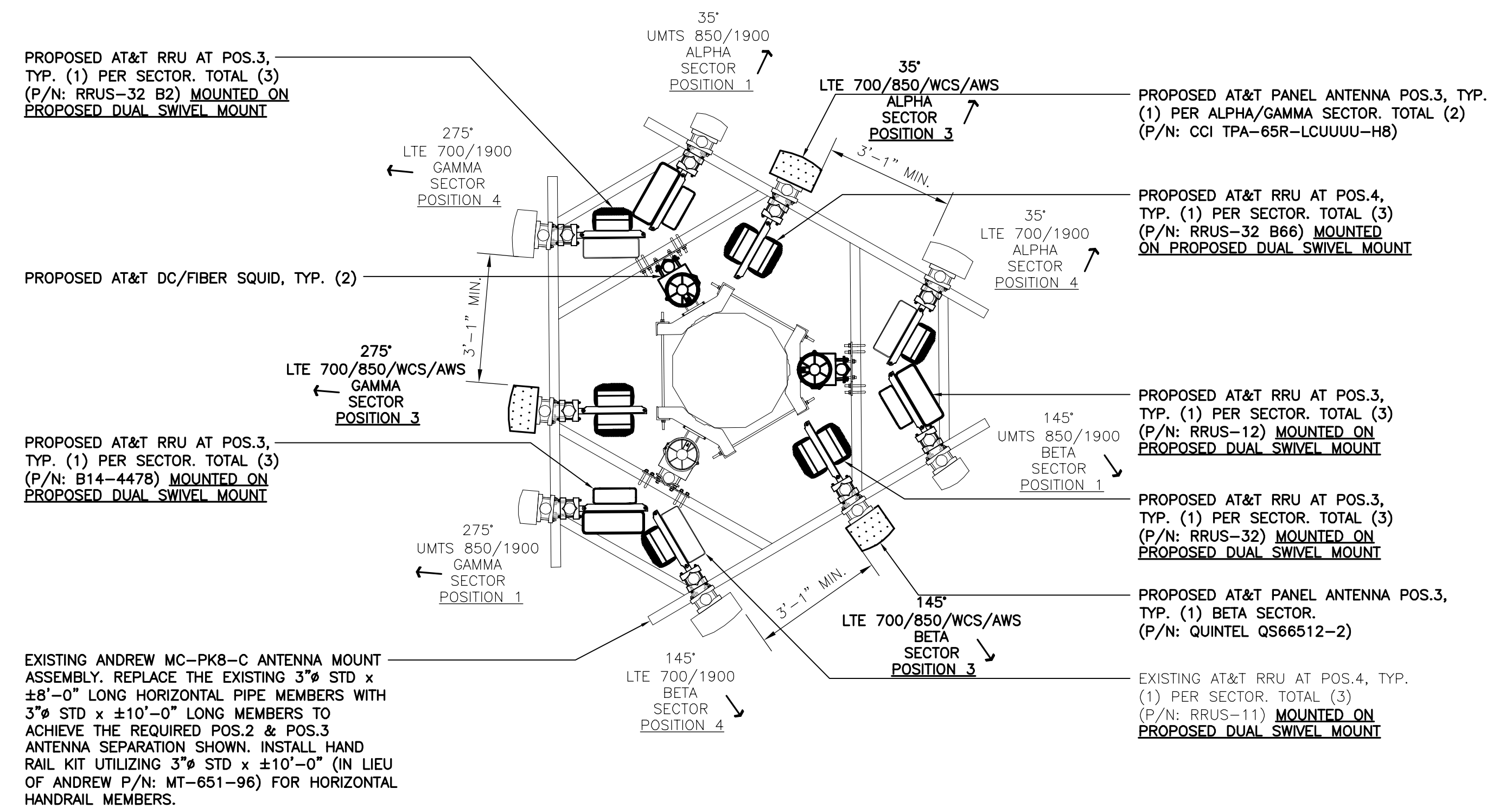
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PLANS AND ELEVATION

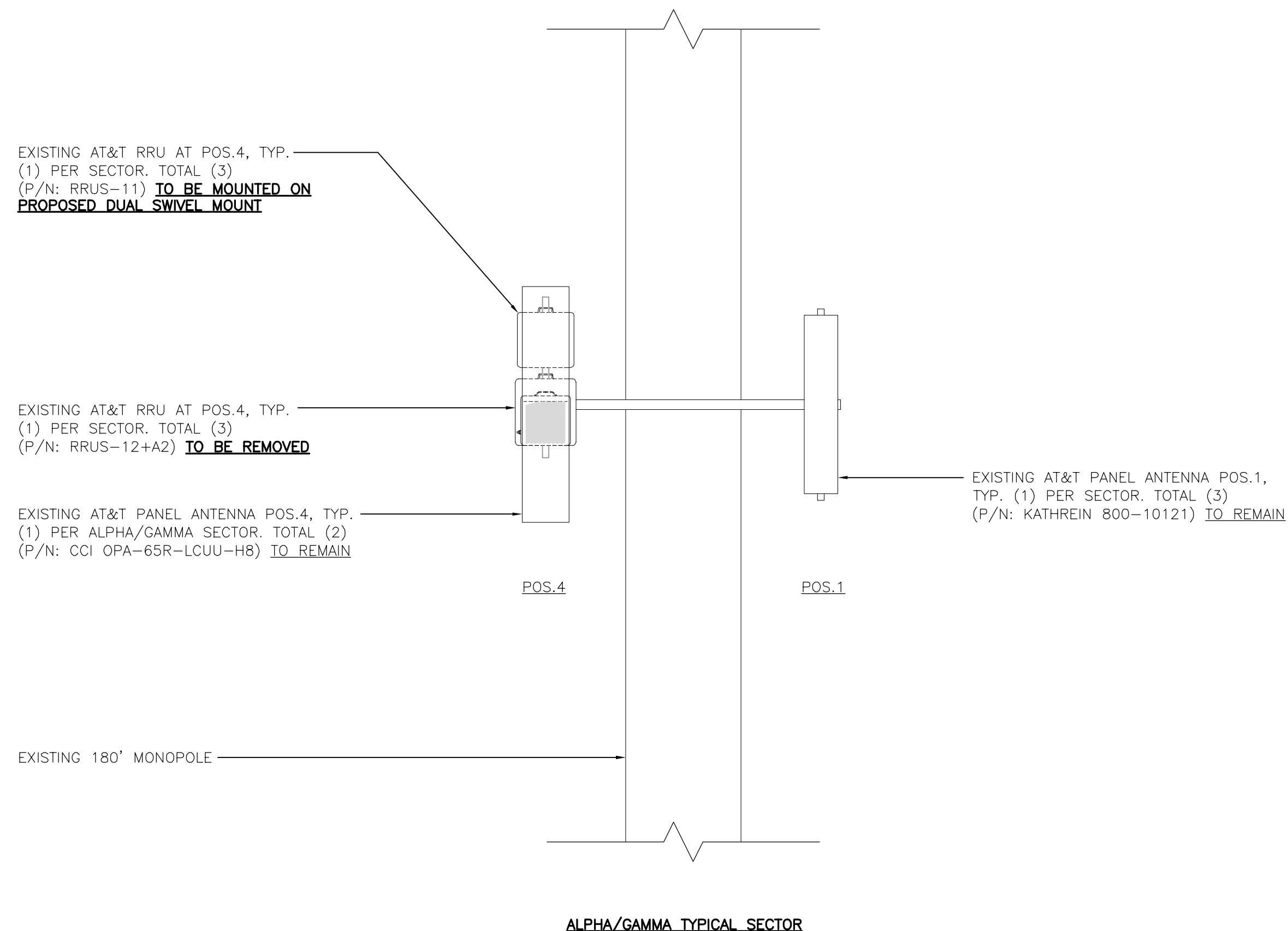
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Sheet No. 3 of 9



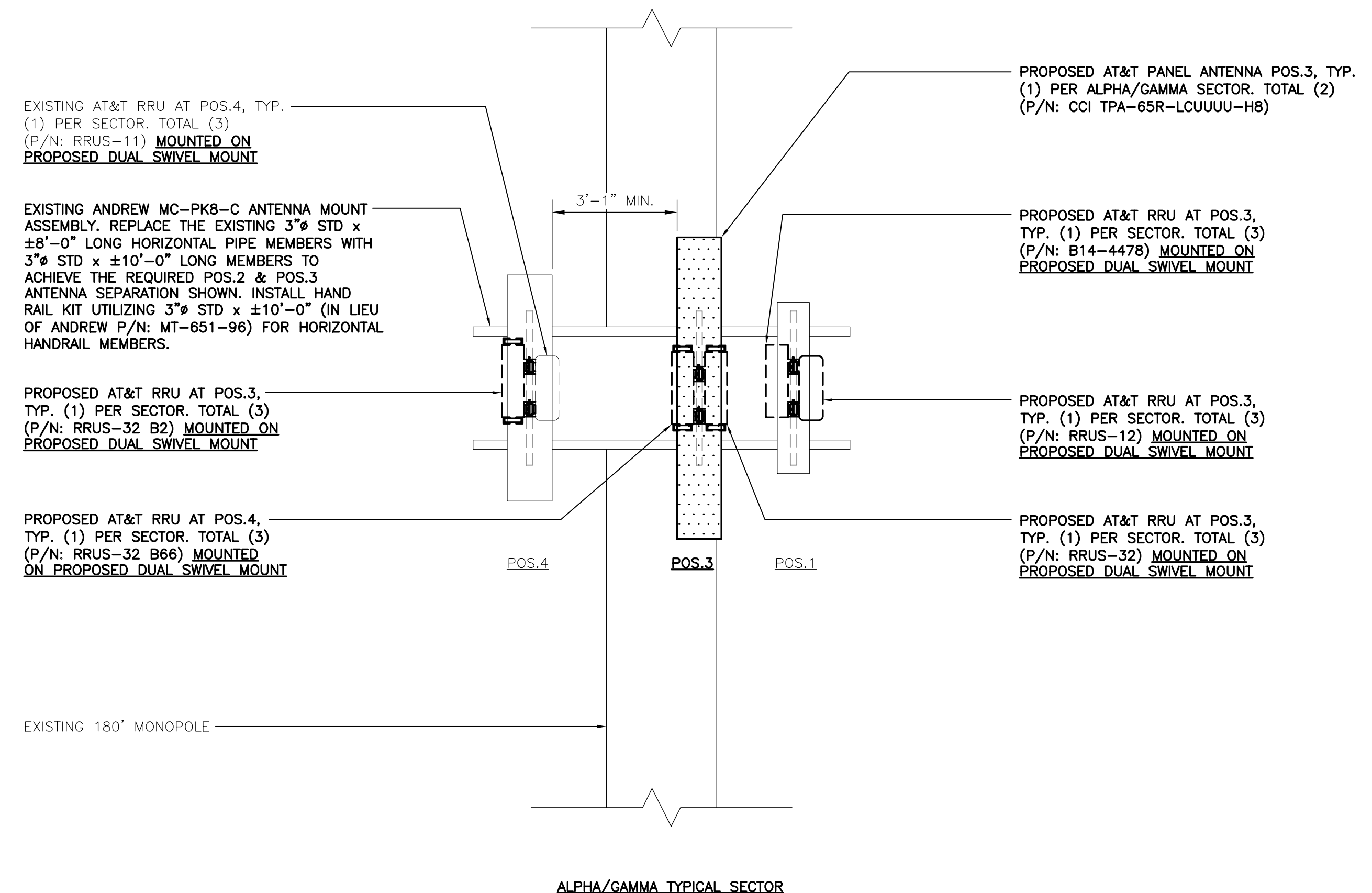
1 EXISTING ANTENNA PLAN
SCALE: 3/8" = 1'-0"
TRUE NORTH



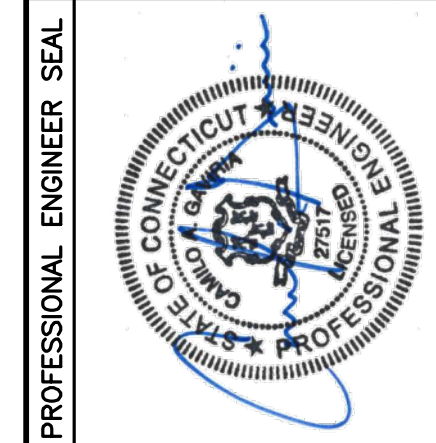
2 PROPOSED ANTENNA PLAN
SCALE: 3/8" = 1'-0"
TRUE NORTH



1A EXISTING ANTENNA ELEVATION
SCALE: 3/8" = 1'-0"



2A PROPOSED ANTENNA ELEVATION
SCALE: 3/8" = 1'-0"



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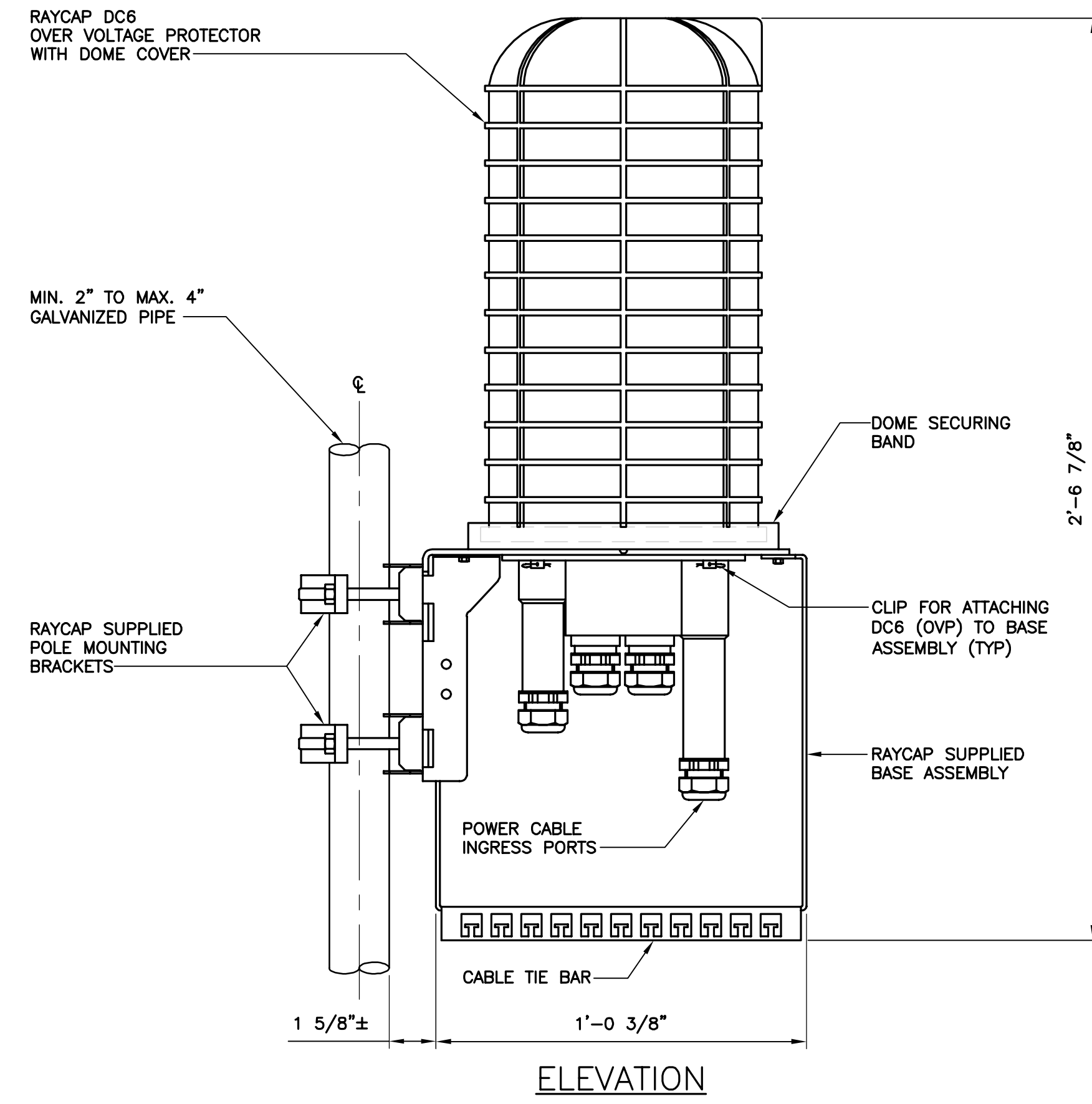
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EQUIPMENT PLANS

C-2
Sheet No. 4 of 9

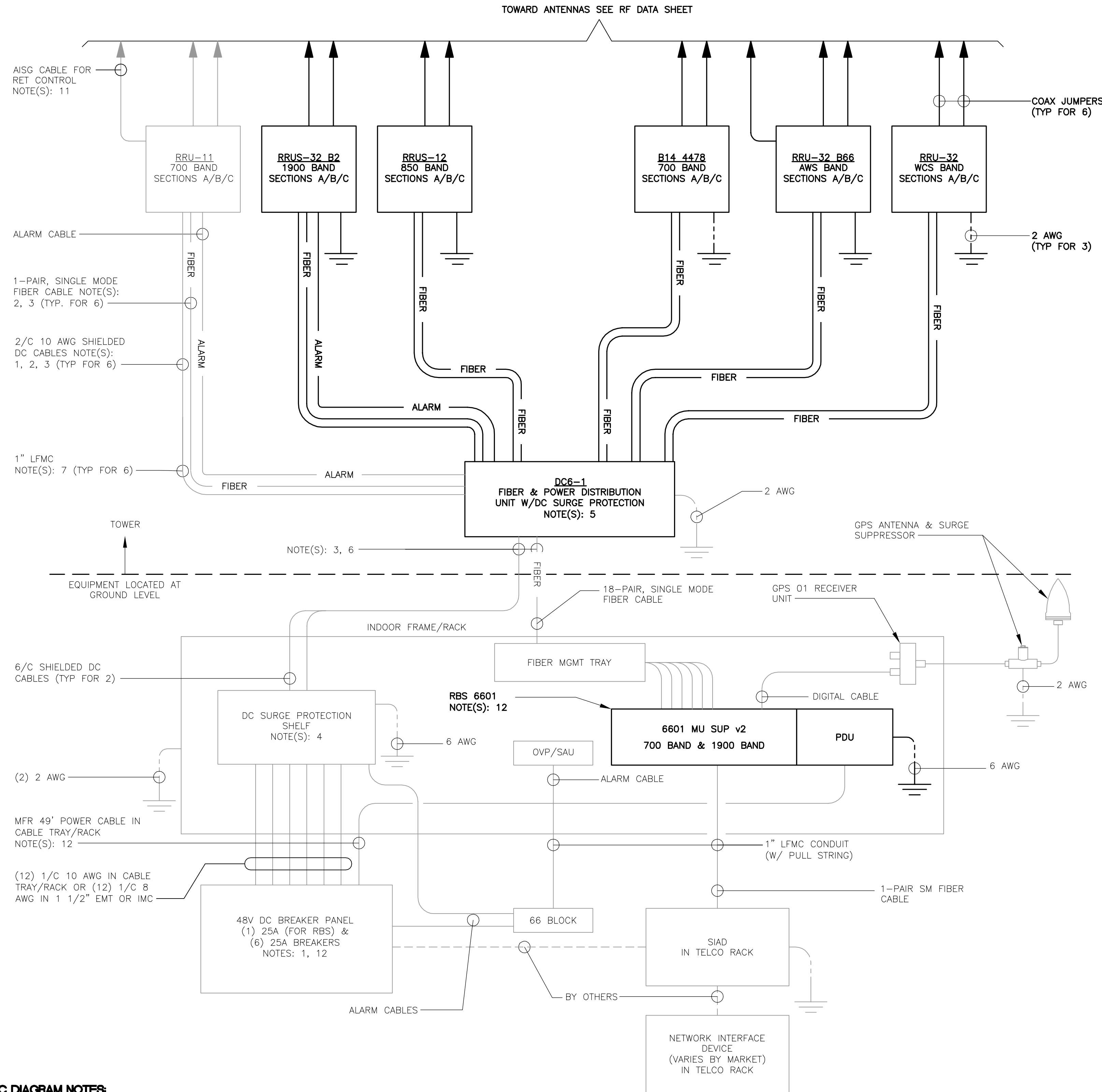
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SITE TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
	MAKE: RAYCAP (SQUID) MODEL: DC6-48-60-18-8C	(1) PER SITE	TOWER, ADJACENT TO AT&T ANTENNAS AND RRUs.	20 LBS. (WITHOUT MOUNT)
NOTES:				
1. CONTRACTOR TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTION(S) WITH AT&T CONSTRUCTION MANAGER PRIOR TO ORDERING.				
2. CONTRACTOR TO INSTALL ARRESTOR IN CONFORMANCE WITH MANUFACTURERS RECOMMENDATIONS.				
3. RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.				

1 TYPICAL DC/FIBER SQUID DETAIL
C-4 NOT TO SCALE

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EQUIPMENT DETAILS							
C-4							
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LTE SCHEMATIC DIAGRAM NOTES:

- 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.
- LEAVE COILED AND PROTECTED UNTIL TERMINATED.
- DC AND FIBER CABLE SHALL BE ROUTED WITH THE EXISTING COAX CABLE.
- DC SURGE PROTECTION SHELF SHALL BE RAYCAP DCx-48-60-RM.
- FIBER & DC DISTRIBUTION BOX W/DC SURGE PROTECTION SHALL BE RAYCAP DC6-48-60-18-8F.
- 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.
- CONDUIT TO BE USED ON A TOWER IF THE RRU IS MORE THAN 10' FROM THE DISTRIBUTION UNITS. MAX CABLE LENGTH IS 16 FEET.
- 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.
- 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.
- FIBER OPTIC CABLES SHALL BE INSTALLED IN FLEXIBLE CONDUIT AS SCOPED BY MARKET.
- RET CONTROL FROM THE RRU IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
- 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.

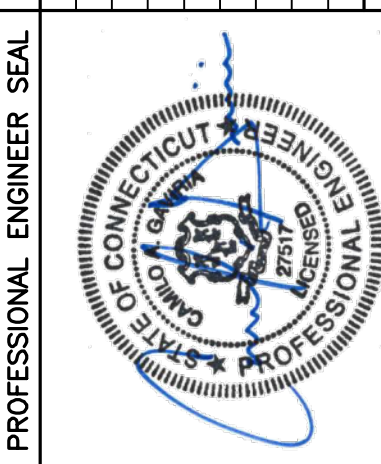
ELECTRICAL NOTES

- 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.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH LOCAL BUILDING CODE, NATIONAL ELECTRIC CODE, OWNER AND MANUFACTURER'S SPECIFICATIONS.
- CONNECT ALL NEW EQUIPMENT TO EXISTING TELCO AS REQUIRED BY MANUFACTURER.
- MAINTAIN ALL CLEARANCES REQUIRED BY NEC AND EQUIPMENT MANUFACTURER.
- 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.
- 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.
- 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.
- PROVIDE AND INSTALL GROUND KITS FOR ALL NEW COAXIAL CABLES AND BOND TO EXISTING OWNERS GROUNDING SYSTEM PER OWNERS SPECIFICATIONS AND NEC.
- 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. #8 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.
- MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.
- 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.
- 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.
- 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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE SITE AND/OR BUILDING OWNER FOR NEW AND/OR DEMOLITION WORK INVOLVED.
- 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.
- 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.
- 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.
- GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE LATEST ACCEPTABLE EDITION OF THE NATIONAL ELECTRICAL CODE AND REQUIREMENTS PER LOCAL INSPECTOR HAVING JURISDICTION.
- EACH EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH THE N.E.C. ARTICLE 250-122. (MIN. #12 AWG).
- 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

- 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:
 - TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
 - CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
 - GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- 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.
- 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.
- CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO OWNER AND ENGINEER FOR ALL TESTS REQUIRING WITNESSING.

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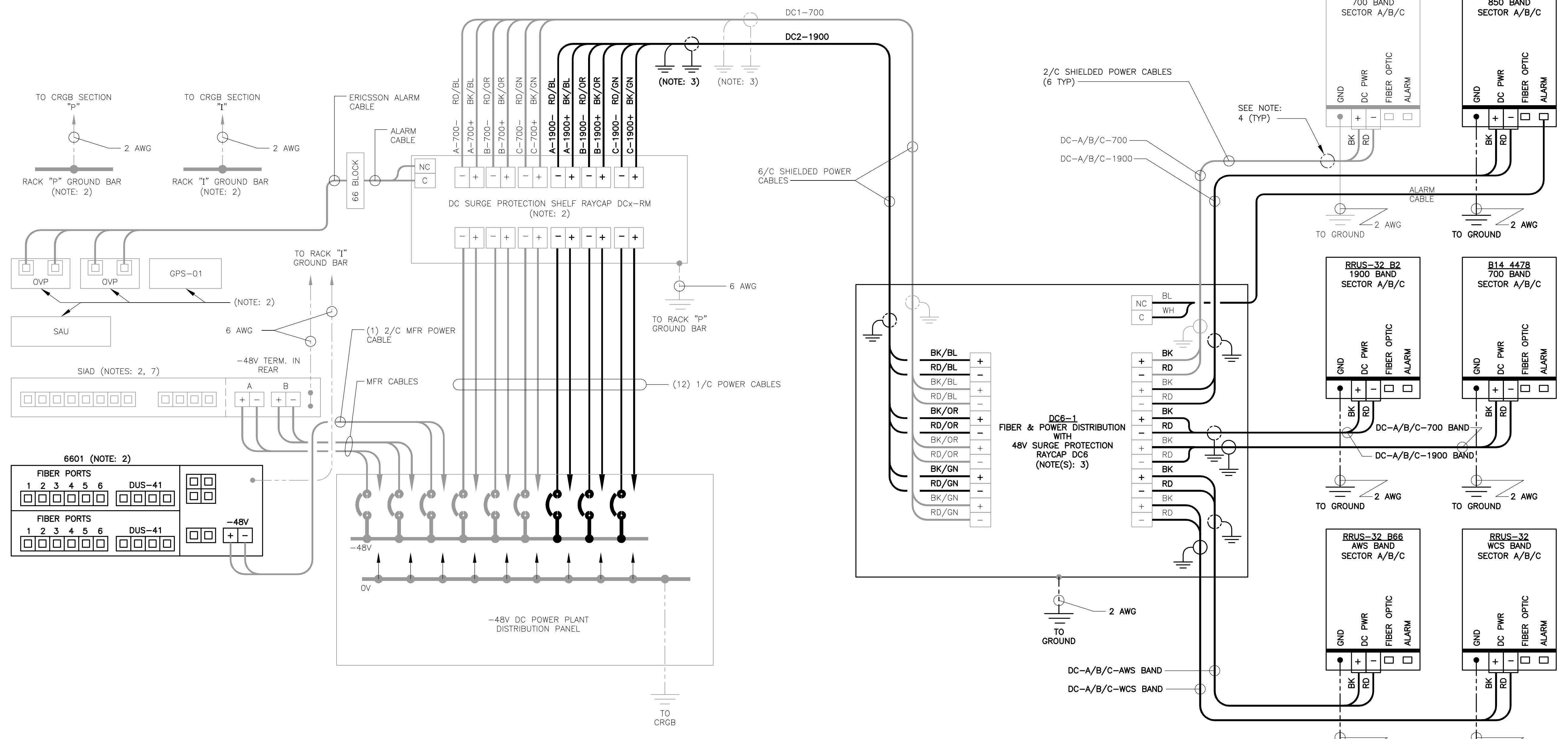


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SCHEMATIC
DIAGRAM
AND NOTES

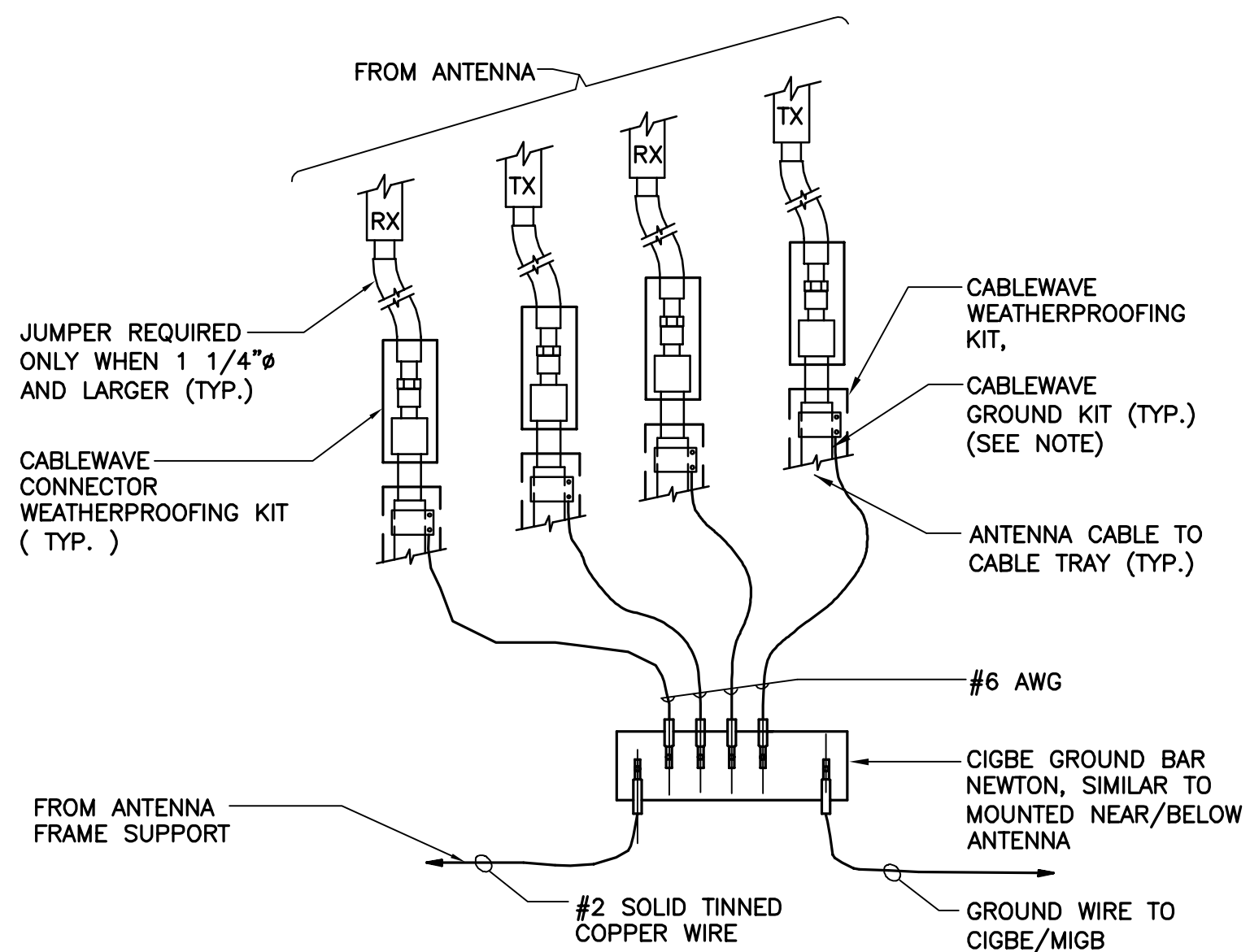


LTE WIRING DIAGRAM NOTES:

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.

1 WIRING DIAGRAM
E-2 NOT TO SCALE

PROFESSIONAL ENGINEER SEAL	DATE: 05/05/18	TJR	DND	CONSTRUCTION DRAWINGS - ISSUED FOR CONSTRUCTION
	REV.	DATE	DRAWN BY	CHK'D BY
	605 WILLARD AVENUE NEWINGTON, CT 06111 (203) 488-0360 (203) 488-8387 Fax 63.2 North Branford Road Branford, CT 06405 www.CentexEng.com			
AT&T MOBILITY WIRELESS COMMUNICATIONS FACILITY NEWINGTON CENTRAL CT5403 - LTE 3C/4C/5C/6C FIRSTNET	DATE: 04/04/18 SCALE: AS NOTED JOB NO. 17004.71			
WIRING DIAGRAM				
E-2				
Sheet No. 8 of 9				

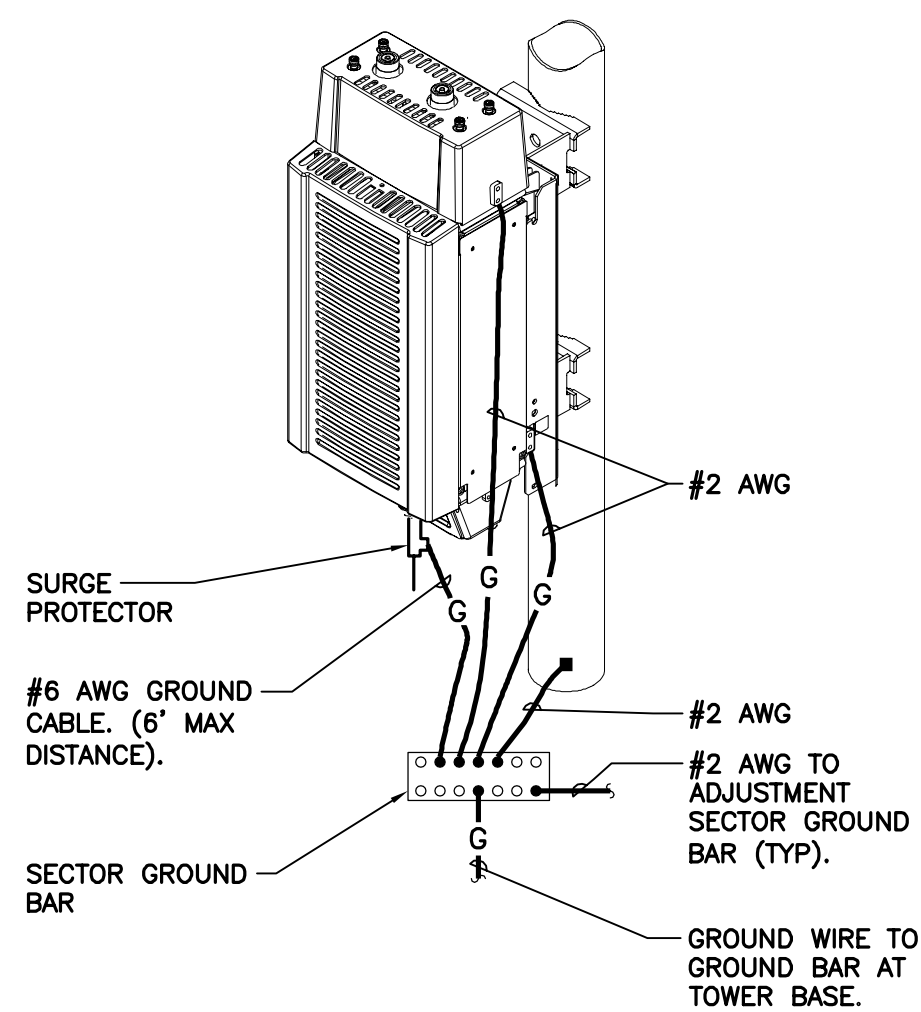


NOTE:

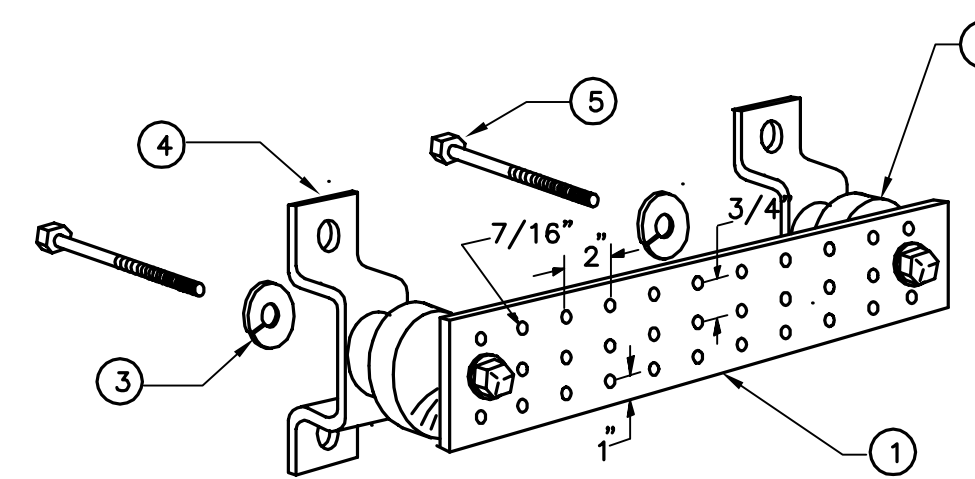
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

1 CONNECTION OF GROUND WIRES TO GROUND BAR
E-3 NOT TO SCALE

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



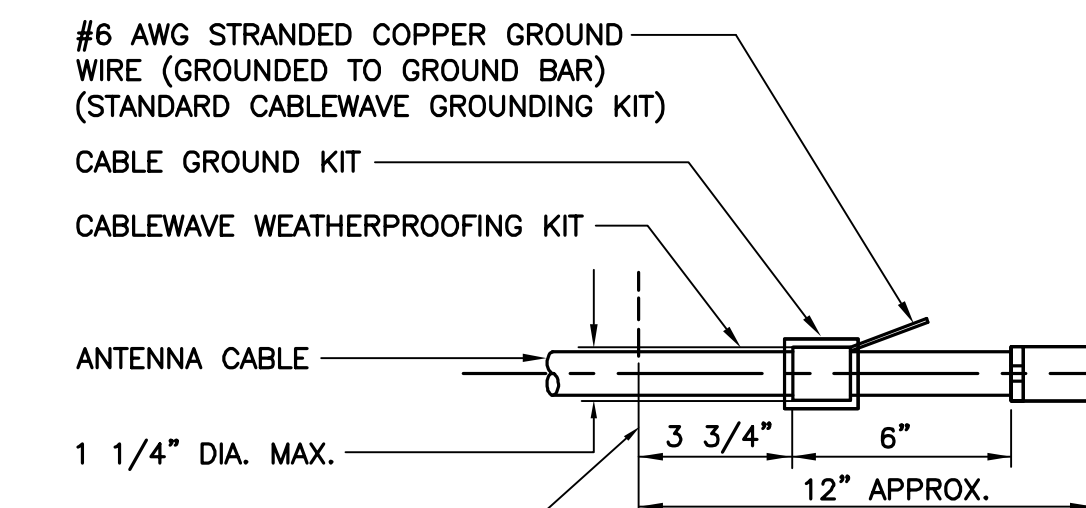
2 RRU POLE MOUNT GROUNING
E-3 NOT TO SCALE



LEGEND

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

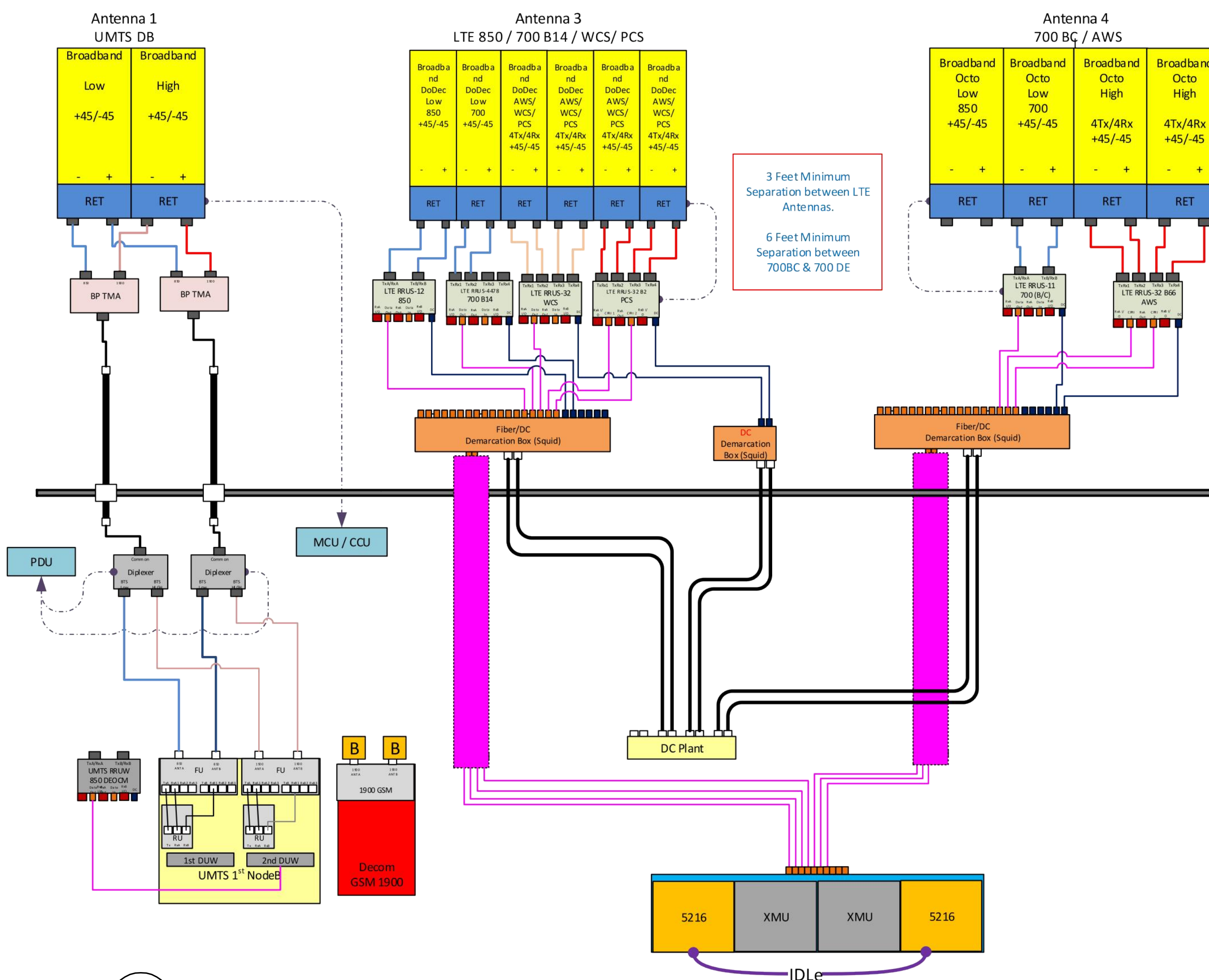
3 GROUND BAR DETAIL
E-3 NOT TO SCALE



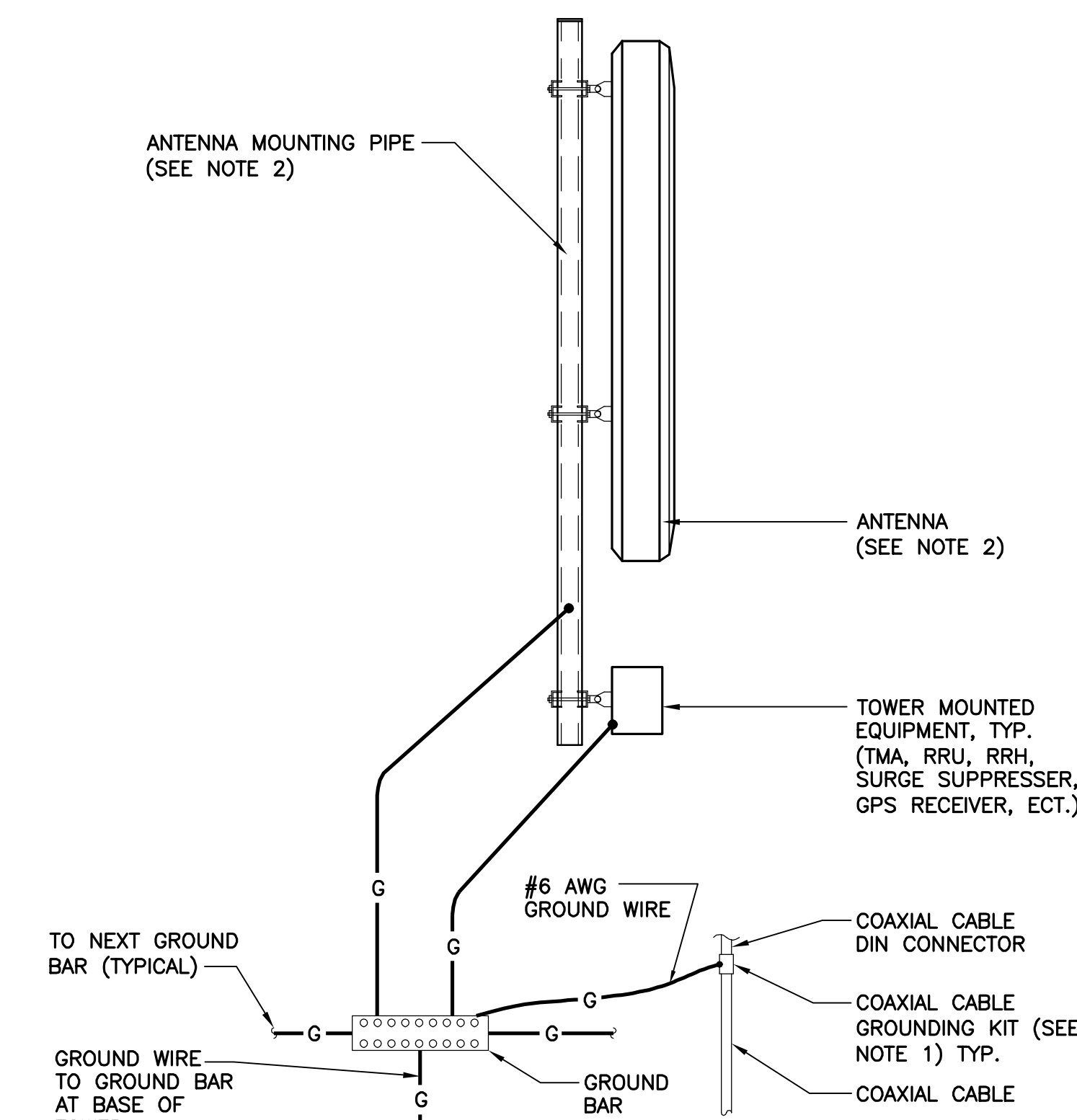
NOTE:

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

4 ANTENNA CABLE GROUNING DETAIL
E-3 NOT TO SCALE



5 RF PLUMBING DIAGRAM
E-3 NOT TO SCALE



NOTES:

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

6 TYPICAL ANTENNA GROUNING DETAIL
E-3 NOT TO SCALE

PROFESSIONAL ENGINEER SEAL

DATE: 05/05/18
REV. 0
DRAWN BY: CHK'D
TJR
DMD
CONSTRUCTION DRAWINGS
ISSUED FOR CONSTRUCTION

at&t
EMPIRE telecom

CENTEX engineering
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(203) 488-8387
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Branford, CT 06405
www.CentexEng.com

AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
NEWINGTON CENTRAL
CT15403 - LTE 3C/4C/5C/6C FIRSTNET
605 WILLARD AVENUE
NEWINGTON, CT 06111

DATE: 04/04/18
SCALE: AS NOTED
JOB NO. 17004.71

TYPICAL ELECTRICAL DETAILS

E-3
Sheet No. 9 of 9

Exhibit 3



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5403

FA#: 10071165

Newington Central
605 Willard Avenue
Newington, CT 06111

March 7, 2018

Centerline Communications Project Number: 950006-098

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	14.45 %



March 7, 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: **CT5403 – Newington Central**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **605 Willard Avenue, Newington, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **605 Willard Avenue, Newington, 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
UMTS	1900 MHz (PCS)	2	30
LTE	850 MHz	2	40
LTE	700 MHz (Band 14)	4	40
LTE	2300 MHz (WCS)	4	30
LTE	2100 MHz (AWS)	4	30
LTE	700 MHz	2	40
LTE	1900 MHz (PCS)	4	40

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	Kathrein 800-10121	154
A	2	CCI TPA-65R-LCUUUU-H8	154
A	3	CCI OPA-65R-LCUU-H8	154
B	1	Kathrein 800-10121	154
B	2	Quintel QS66512-2	154
B	3	CCI OPA-65R-LCUU-H6	154
C	1	Kathrein 800-10121	154
C	2	CCI TPA-65R-LCUUUU-H8	154
C	3	CCI TPA-65R-LCUUUU-H8	154

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	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.51
Antenna A2	CCI TPA-65R-LCUUUU-H8	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS) / 2100 MHz (AWS)	13.45 / 12.95 / 14.45 / 14.25	14	480	11,462.57	2.69
Antenna A3	CCI OPA-65R-LCUU-H8	700 MHz / 1900 MHz (PCS)	12.55 / 14.85	6	240	6,326.97	1.31
Sector A Composite MPE%							4.51
Antenna B1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.51
Antenna B2	Quintel QS66512-2	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS) / 2100 MHz (AWS)	11.35 / 10.85 / 14.85 / 14.35	14	480	9,970.71	2.14
Antenna B3	CCI OPA-65R-LCUU-H6	700 MHz / 1900 MHz (PCS)	12.55 / 14.85	6	240	6,057.62	1.21
Sector B Composite MPE%							3.86
Antenna C1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	0.51
Antenna C2	CCI TPA-65R-LCUUUU-H8	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS) / 2100 MHz (AWS)	13.45 / 12.95 / 14.45 / 14.25	14	480	11,462.57	2.69
Antenna C3	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS)	12.55 / 14.85	6	240	5,372.14	1.18
Sector C Composite MPE%							4.38

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	4.51 %
Nextel	0.44 %
Town of Newington	0.03 %
Verizon Wireless	5.09 %
Clearwire	0.08 %
T-Mobile	1.50 %
Sprint	2.80 %
Site Total MPE %:	14.45 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.51 %
AT&T Sector B Total:	3.86 %
AT&T Sector C Total:	4.38 %
<hr/>	
Site Total:	14.45 %

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 Max Power Value (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS (Antenna 1)	2	418.91	154	1.38	850 MHz	567	0.24%
AT&T 1900 MHz (PCS) UMTS (Antenna 1)	2	816.81	154	2.68	1900 MHz (PCS)	1000	0.27%
AT&T 850 MHz LTE (Antenna 2)	2	885.24	154	2.91	850 MHz	567	0.51%
AT&T 700 MHz LTE (Antenna 2)	4	788.97	154	5.18	700 MHz	467	1.11%
AT&T 2300 MHz (WCS) LTE (Antenna 2)	4	835.84	154	5.49	2300 MHz (WCS)	1000	0.55%
AT&T 2100 MHz (AWS) LTE (Antenna 2)	4	798.22	154	5.24	2100 MHz (AWS)	1000	0.52%
AT&T 700 MHz LTE (Antenna 3)	2	719.55	154	2.36	700 MHz	467	0.51%
AT&T 1900 MHz (PCS) LTE (Antenna 3)	4	1,221.97	154	8.02	1900 MHz (PCS)	1000	0.80%
						Total:	4.51%

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:	4.51 %
Sector B:	3.86 %
Sector C:	4.38 %
AT&T Maximum Total (per sector):	4.51 %
Site Total:	14.45 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **14.45 %** 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.

A handwritten signature in black ink, appearing to read 'Scott Heffernan', is written over a light blue horizontal line.

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

Exhibit 4



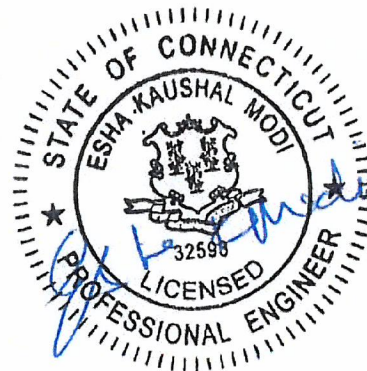
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 179 ft Monopole
ATC Site Name : Newington CT, CT
ATC Site Number : 370627
Engineering Number : OAA720717_C3_03
Proposed Carrier : Sprint Nextel
Carrier Site Name : Newington Central
Carrier Site Number : CT5403
Site Location : 605 Willard Ave.
Newington, CT 06111-0000
41.698400,-72.737100
County : Hartford
Date : January 18, 2018
Max Usage : 65%
Result : Pass

Prepared By:
Timothy Kassakatis
Structural Engineer I

Reviewed By:



Jan 19 2018 2:53 PM

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment	2
Structure Usages	3
Foundations	3
Deflection, Twist, and Sway.....	3
Standard Conditions	4
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 179 ft monopole to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	PiRod Engineering File #A-118092, dated August 10, 2001
Foundation Drawing	PiRod Engineering File #A-118092, dated August 10, 2001
Geotechnical Report	Clarence Welti, dated August 1, 2001

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:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
179.0	188.0	1	18' Dipole	Low Profile Platform	(3) 7/8" Coax	Town Of Newington, CT
	180.0	1	5' Dipole			
		1	10' Omni			
		1	8' Yagi			
170.0	170.0	3	Ericsson KRY 112 144/1	Low Profile Platform	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	Metro PCS
		3	Ericsson RRUS 11 B12			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Andrew LNX-6515DS-VTM			
160.0	160.0	3	RCU	Side Arms	(3) 0.28" Fiber (3) 5/8" Coax (3) 1/2" Coax (1) 0.32" Cable	Clearwire
		3	DragonWave Horizon Compact			
		3	Samsung U-RAS Premium-F FRH			
		3	Argus LLPX310R			
		3	DragonWave A-ANT-18G-2-C			
154.0	155.0	6	Powerwave LGP21401	Low Profile Platform	(6) 1 5/8" Coax (1) 3" Conduit (1) 2" Conduit	AT&T Mobility
	154.0	2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS 32 B2			
		3	CCI OPA-65R-LCUU-H8			
140.0	140.0	3	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter	Low Profile Platform	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 1900MHz RRH			
		3	Alcatel-Lucent TD-RRH8x20			
		3	RFS APXVTM14-C-I20			
		1	RFS APXV9ERR18-C-A20			
		2	RFS APXVSPP18-C-A20			
110.0	110.0	3	Alcatel-Lucent RRH2X60-1900	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Fiber (1) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2X60-AWS			
		3	Alcatel-Lucent RRH2x60 700			
		3	Antel BXA-80063/4CF ___ 5°			
		2	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-70063-6CF-EDIN-X			
		6	Commscope SBNHH-1D65B			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
154.0	154.0	3	Powerwave 7770.00	-	-	AT&T Mobility
		3	Ericsson RRUS 12 w/ RRUS A2			



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
154.0	154.0	3	Ericsson RRUS 4478 B14	Low Profile Platform	(6) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3/8" RET Control Cable (1) 2" Conduit (1) 3" Conduit	AT&T Mobility
		3	Ericsson RRUS 32			
		3	Ericsson RRUS 12			
		3	Ericsson RRUS 32 B66			
		1	Raycap DC6-48-60-0-8F			
		3	Kathrein 800 10121			
		1	Quintel QS66512-2			
		2	CCI TPA-65R-LCUUUU-H8			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	52%	Pass
Shaft	65%	Pass
Base Plate	5%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,601.2	6,211.6	3,789.5	61%
Shear (Kips)	37.2	50.2	30.0	60%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

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) (°)
160.0	DragonWave A-ANT-18G-2-C	Clearwire	2.073	1.634
154.0	Ericsson RRUS 4478 B14	AT&T Mobility	1.905	1.579
	Ericsson RRUS 32			
	Ericsson RRUS 12			
	Ericsson RRUS 32 B66			
	Raycap DC6-48-60-0-8F			
	Kathrein Scala 800 10121			
	Quintel QS66512-2			
140.0	Alcatel-Lucent TD-RRH8x20	Sprint Nextel	1.538	1.413

*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:

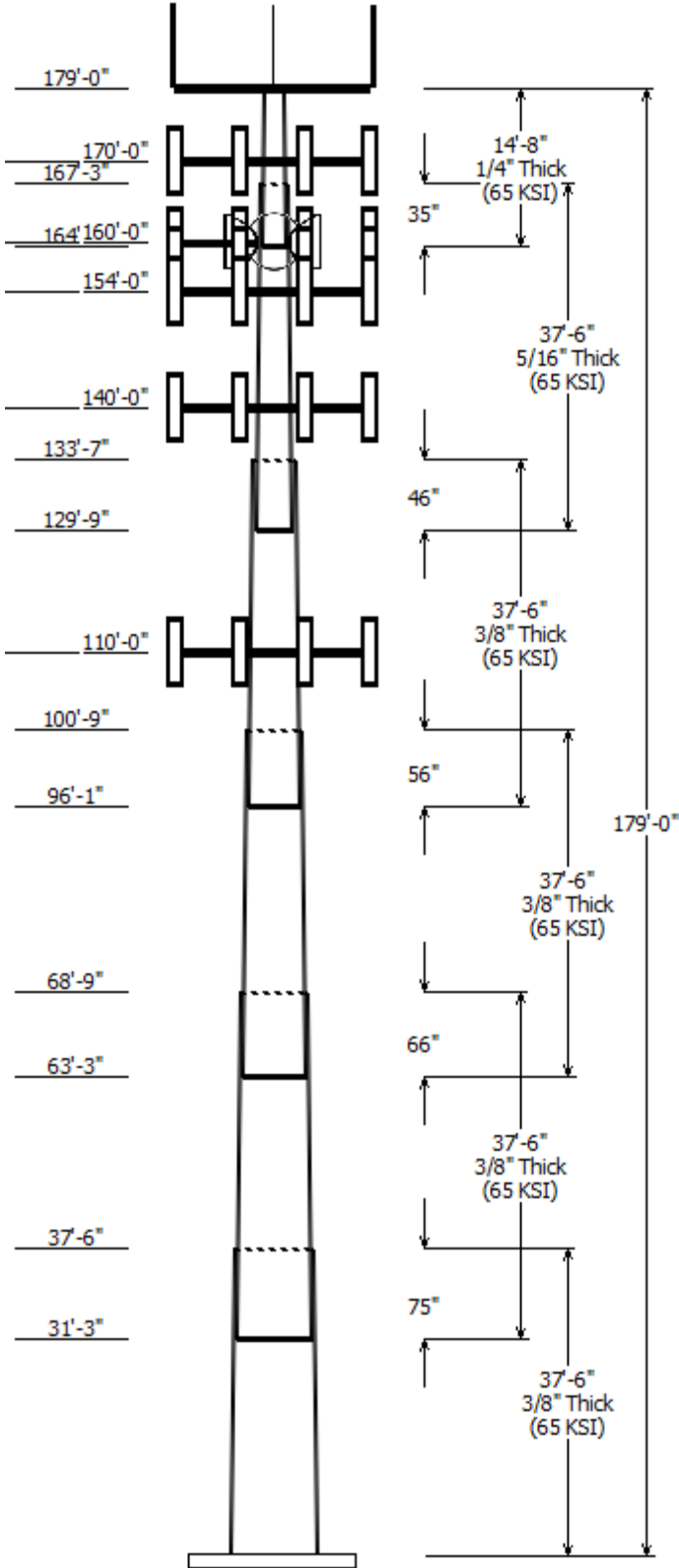
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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 : 370627	Code: ANSI/TIA-222-G
Location : Newington CT, CT	
Description : 179' Pirod Monopole	
Client : AT&T MOBILITY	Struct Class : II
Shape : 18 Sides	Exposure : B
Height : 179.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.30377 (in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom				
1	37.500	51.60	63.00	0.375		0.000	18 Sides 65
2	37.500	42.86	54.25	0.375	Slip Joint	75.000	18 Sides 65
3	37.500	33.89	45.28	0.375	Slip Joint	66.000	18 Sides 65
4	37.500	24.67	36.06	0.375	Slip Joint	56.000	18 Sides 65
5	37.500	15.06	26.46	0.313	Slip Joint	46.000	18 Sides 65
6	14.667	12.00	16.45	0.250	Slip Joint	35.000	18 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
179.000	180.000	1	5' Dipole
179.000	180.000	1	10' Omni
179.000	179.000	1	Round Low Profile Platform
179.000	180.000	1	8' Yagi
179.000	188.000	1	18' Dipole
170.000	170.000	3	Andrew LNX-6515DS-VTM
170.000	170.000	3	Ericsson RRUS 11 B12
170.000	170.000	3	Ericsson AIR 21, 1.3M, B4A B2P
170.000	170.000	3	Ericsson AIR 21, 1.3 M, B2A B4
170.000	170.000	3	Ericsson KRY 112 144/1
170.000	170.000	1	Round Low Profile Platform
160.000	160.000	3	Argus LLPX310R
160.000	160.000	3	Samsung U-RAS Premium-F
160.000	160.000	3	DragonWave A-ANT-18G-2-C
160.000	160.000	3	DragonWave Horizon Compact
160.000	160.000	3	RCU
160.000	160.000	1	Side Arms
154.000	154.000	2	CCI TPA-65R-LCUUUU-H8
154.000	154.000	1	Quintel QS66512-2
154.000	154.000	1	Raycap DC6-48-60-0-8F
154.000	154.000	3	Kathrein Scala 800 10121
154.000	154.000	3	Ericsson RRUS 12
154.000	154.000	3	Ericsson RRUS 32
154.000	154.000	3	Ericsson RRUS 32 B66
154.000	154.000	3	CCI OPA-65R-LCUU-H8
154.000	154.000	3	Ericsson RRUS 4478 B14
154.000	154.000	3	Ericsson RRUS 32 B2
154.000	154.000	3	Ericsson RRUS 11 (Band 12) (55
154.000	154.000	2	Raycap DC6-48-60-18-8F
154.000	155.000	6	Powerwave LGP21401
154.000	154.000	1	Round Low Profile Platform
140.000	140.000	3	RFS APXVTM14-C-I20
140.000	140.000	3	Alcatel-Lucent TD-RRH8x20
140.000	140.000	2	RFS APXVSP18-C-A20
140.000	140.000	1	RFS APXV9ERR18-C-A20
140.000	140.000	3	Alcatel-Lucent 1900MHz RRH
140.000	140.000	3	Alcatel-Lucent 800 MHz 2X50W
140.000	140.000	1	Round Low Profile Platform
110.000	110.000	6	Commscope SBNHH-1D65B
110.000	110.000	1	Flat Low Profile Platform
110.000	110.000	3	Antel BXA-70063-6CF-EDIN-X

110.000	110.000	2	RFS DB-T1-6Z-8AB-0Z
110.000	110.000	3	Antel BXA-80063/4CF ___ 5°
110.000	110.000	3	Alcatel-Lucent RRH2x60 700
110.000	110.000	3	Alcatel-Lucent RRH2X60-1900
110.000	110.000	3	Alcatel-Lucent RRH2X60-AWS

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
0.000	110.0	1 5/8" Coax	No
0.000	110.0	1 5/8" Fiber	No
0.000	110.0	1 5/8" Hybriflex	No
0.000	140.0	1 1/4" Hybriflex	No
0.000	154.0	0.39" Fiber Trunk	No
0.000	154.0	0.78" 8 AWG 6	No
0.000	154.0	1 5/8" Coax	No
0.000	154.0	2" Conduit	No
0.000	154.0	3" Conduit	No
0.000	154.0	3/8" RET Control	No
0.000	160.0	0.28" Fiber	No
0.000	160.0	0.32" Cable	No
0.000	160.0	1/2" Coax	No
0.000	160.0	5/8" Coax	No
0.000	170.0	1 1/4" Hybriflex	No
0.000	170.0	1 5/8" Coax	No
0.000	179.0	7/8" Coax	No

Load Cases

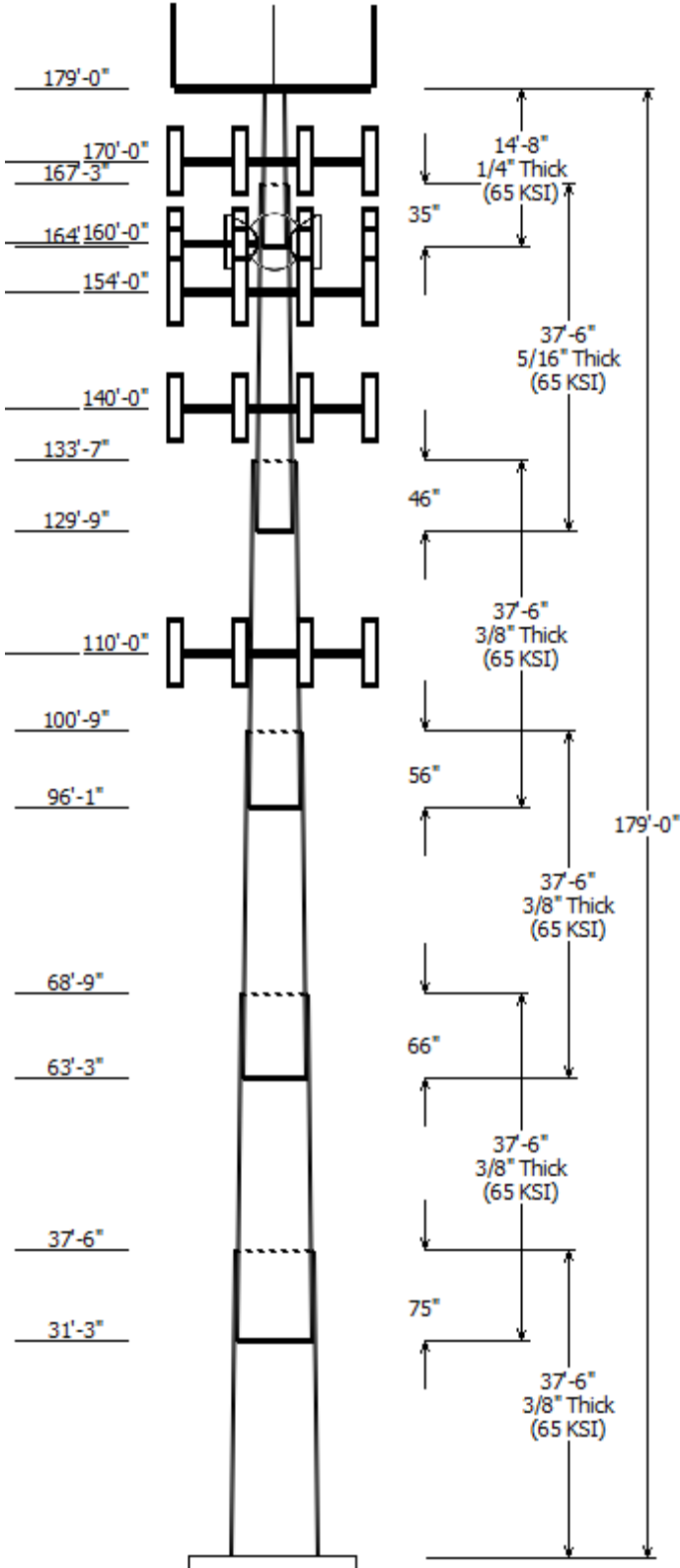
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

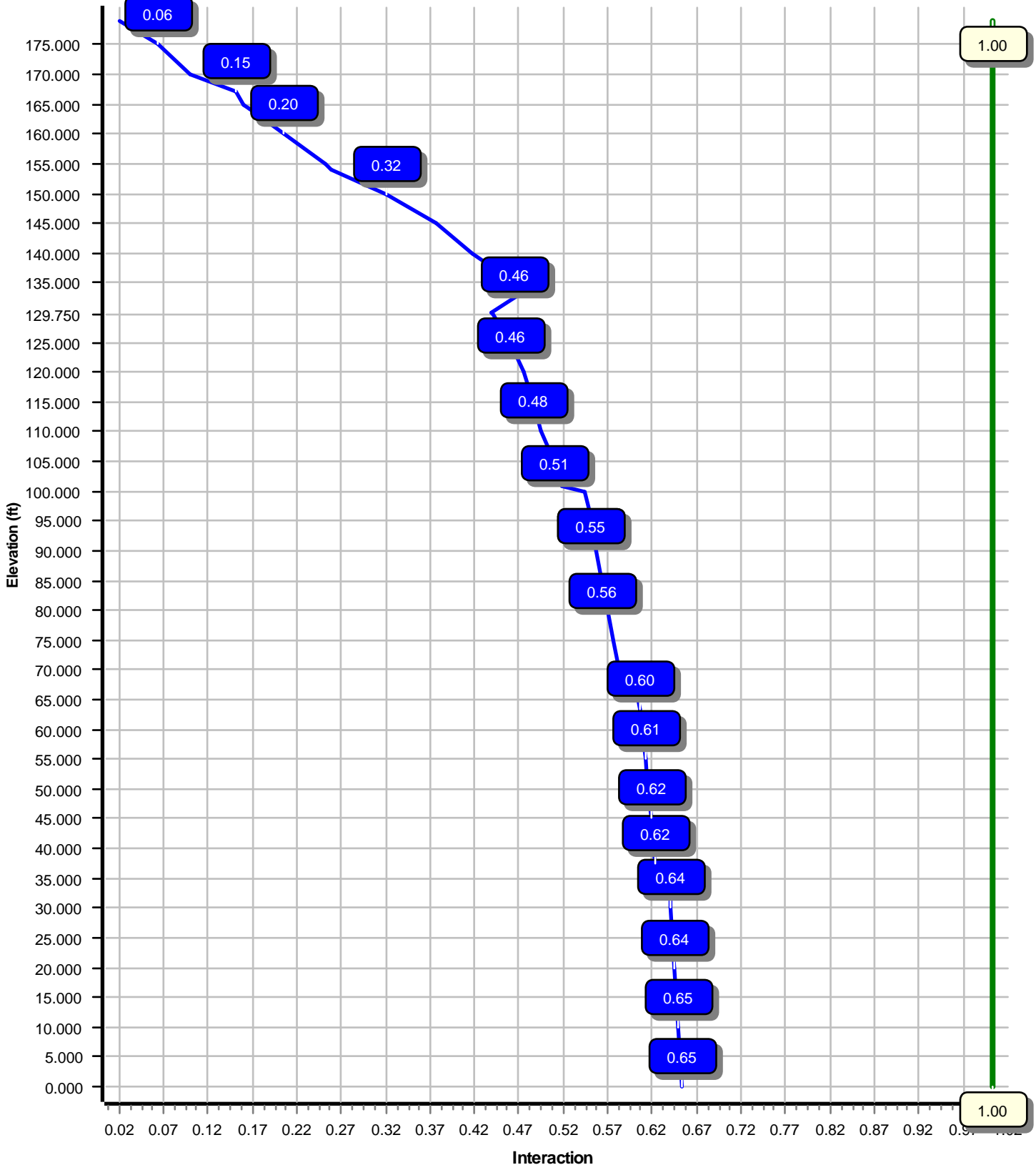
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3789.54	30.03	61.00
0.9D + 1.6W	3730.70	30.01	45.74
1.2D + 1.0Di + 1.0Wi	1235.14	9.23	100.95
(1.2 + 0.2Sds) * DL + E ELFM	287.42	1.99	61.11
(1.2 + 0.2Sds) * DL + E EMAM	309.28	2.34	61.11
(0.9 - 0.2Sds) * DL + E ELFM	281.84	1.99	42.48
(0.9 - 0.2Sds) * DL + E EMAM	302.50	2.34	42.48
1.0D + 1.0W	898.06	7.18	50.86

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	160.00	24.881	1.634



Load Case : 1.2D + 1.6W
Max Ratio 65.10% at 0.0 ft



Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

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Customer: AT&T MOBILITY

Analysis Parameters

Location :	HARTFORD County, CT	Height (ft) :	179
Code :	ANSI/TIA-222-G	Base Diameter (in) :	63.00
Shape :	18 Sides	Top Diameter (in) :	12.00
Pole Type :	Taper	Taper (in/ft) :	0.304
Pole Manufacturer :	Pirod	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.91		
T _L (sec):	6	p:	1.3
S _s :	0.182	S ₁ :	0.064
F _a :	1.600	F _v :	2.400
S _{ds} :	0.194	S _{d1} :	0.102
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

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Customer: AT&T MOBILITY

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	37.500	0.3750	65		0.00	8,646	63.00	0.00	74.54	36933.4	27.86	168.00	51.60	37.50	60.98	20222.7	22.50	137.62	0.303771
2-18	37.500	0.3750	65	Slip	75.00	7,318	54.25	31.25	64.13	23524.0	23.75	144.69	42.86	68.75	50.57	11536.1	18.39	114.31	0.303771
3-18	37.500	0.3750	65	Slip	66.00	5,956	45.28	63.25	53.45	13622.2	19.53	120.76	33.89	100.75	39.90	5663.6	14.17	90.39	0.303771
4-18	37.500	0.3750	65	Slip	56.00	4,555	36.06	96.08	42.48	6834.9	15.19	96.17	24.67	133.58	28.92	2156.7	9.84	65.79	0.303771
5-18	37.500	0.3125	65	Slip	46.00	2,589	26.46	129.75	25.93	2240.4	13.17	84.67	15.06	167.25	14.64	402.7	6.74	48.22	0.303771
6-18	14.667	0.2500	65	Slip	35.00	554	16.45	164.33	12.86	426.6	9.84	65.82	12.00	179.00	9.32	162.6	6.70	48.00	0.303771
Shaft Weight						29,617													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
179.00	10' Omni	1	0.000	1.000	25.00	3.000	1.00
179.00	18' Dipole	1	0.000	9.000	55.00	6.770	1.00
179.00	5' Dipole	1	0.000	1.000	15.00	1.740	1.00
179.00	8' Yagi	1	0.000	1.000	30.00	12.000	1.00
179.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
170.00	Andrew LNX-6515DS-VTM	3	0.000	0.000	51.30	11.430	0.70
170.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	0.000	83.00	6.050	0.71
170.00	Ericsson AIR 21, 1.3M, B4A B2P	3	0.000	0.000	81.50	6.090	0.70
170.00	Ericsson KRY 112 144/1	3	0.000	0.000	11.00	0.410	0.50
170.00	Ericsson RRUS 11 B12	3	0.000	0.000	50.70	2.790	0.67
170.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
160.00	Argus LLPX310R	3	0.000	0.000	28.60	4.290	0.63
160.00	DragonWave A-ANT-18G-2-C	3	0.000	0.000	27.10	4.690	0.67
160.00	DragonWave Horizon Compact	3	0.000	0.000	11.50	0.840	0.50
160.00	RCU	3	0.000	0.000	1.00	0.160	0.50
160.00	Samsung U-RAS Premium-F FRH	3	0.000	0.000	33.00	1.560	0.50
160.00	Side Arms	1	0.000	0.000	560.00	8.500	1.00
154.00	CCI OPA-65R-LCUU-H8	3	0.000	0.000	88.00	12.980	0.79
154.00	CCI TPA-65R-LCUUUU-H8	2	0.000	0.000	81.60	13.300	0.69
154.00	Ericsson RRUS 11 (Band 12) (55	3	0.000	0.000	55.00	2.520	0.50
154.00	Ericsson RRUS 12	3	0.000	0.000	50.00	3.150	0.67
154.00	Ericsson RRUS 32	3	0.000	0.000	55.10	2.850	0.67
154.00	Ericsson RRUS 32 B2	3	0.000	0.000	53.00	3.200	0.77
154.00	Ericsson RRUS 32 B66	3	0.000	0.000	53.00	3.200	1.00
154.00	Ericsson RRUS 4478 B14	3	0.000	0.000	59.90	1.840	0.50
154.00	Kathrein Scala 800 10121	3	0.000	0.000	46.30	5.160	0.68
154.00	Powerwave LGP21401	6	0.000	1.000	14.10	1.100	0.50
154.00	Quintel QS66512-2	1	0.000	0.000	111.00	8.130	0.74
154.00	Raycap DC6-48-60-0-8F	1	0.000	0.000	16.00	4.790	0.67
154.00	Raycap DC6-48-60-18-8F	2	0.000	0.000	31.80	1.280	1.00
154.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
140.00	Alcatel-Lucent 1900MHz RRH	3	0.000	0.000	44.00	3.260	0.67
140.00	Alcatel-Lucent 800 MHz 2X50W R	3	0.000	0.000	64.00	2.060	0.67
140.00	Alcatel-Lucent TD-RRH8x20	3	0.000	0.000	66.10	3.690	0.67
140.00	RFS APXV9ERR18-C-A20	1	0.000	0.000	62.00	8.020	0.71
140.00	RFS APXVSP18-C-A20	2	0.000	0.000	57.00	8.020	0.69
140.00	RFS APXVTM14-C-I20	3	0.000	0.000	52.90	6.340	0.66
140.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
110.00	Alcatel-Lucent RRH2x60 700	3	0.000	0.000	56.70	2.150	0.67
110.00	Alcatel-Lucent RRH2X60-1900	3	0.000	0.000	43.00	1.880	0.50
110.00	Alcatel-Lucent RRH2X60-AWS	3	0.000	0.000	44.00	1.880	0.50
110.00	Antel BXA-70063-6CF-EDIN-X	3	0.000	0.000	17.00	7.570	0.66
110.00	Antel BXA-80063/4CF ___ 5°	3	0.000	0.000	9.90	4.710	0.64
110.00	Commscope SBNHH-1D65B	6	0.000	0.000	40.60	8.080	0.69
110.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

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Customer: AT&T MOBILITY

110.00	RFS DB-T1-6Z-8AB-0Z	2	0.000	0.000	44.00	4.800	0.67
Totals	Num Loadings:46	114			12840.80		

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	179.00	3	7/8" Coax	1.09	0.33	N	0.00	N	Town of Newington, CT
0.00	170.00	1	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Metro PCS
0.00	170.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Metro PCS
0.00	160.00	3	0.28" Fiber	0.28	0.03	N	0.00	N	Clearwire
0.00	160.00	1	0.32" Cable	0.32	0.06	N	0.00	N	Clearwire
0.00	160.00	3	1/2" Coax	0.63	0.15	N	0.00	N	Clearwire
0.00	160.00	3	5/8" Coax	0.87	0.15	N	0.00	N	Clearwire
0.00	154.00	2	0.39" Fiber Trunk	0.39	0.07	N	0.00	N	AT&T Mobility
0.00	154.00	6	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	154.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	154.00	1	2" Conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	154.00	2	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	154.00	1	3/8" RET Control Cable	0.38	0.23	N	0.00	N	AT&T Mobility
0.00	140.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
0.00	110.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	110.00	1	1 5/8" Fiber	1.63	1.61	N	0.00	N	Verizon
0.00	110.00	1	1 5/8" Hybriflex Cable	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		0.3750	63.000	74.537	36,933.4	27.86	168.00	68.6	1154.	0.0	0.0
5.00		0.3750	61.481	72.729	34,310.8	27.15	163.95	69.5	1099.	0.0	1,252.8
10.00		0.3750	59.962	70.921	31,815.3	26.43	159.90	70.3	1045.	0.0	1,222.0
15.00		0.3750	58.443	69.113	29,443.9	25.72	155.85	71.2	992.3	0.0	1,191.3
20.00		0.3750	56.925	67.306	27,193.4	25.00	151.80	72.0	940.9	0.0	1,160.5
25.00		0.3750	55.406	65.498	25,060.6	24.29	147.75	72.8	890.9	0.0	1,129.8
30.00		0.3750	53.887	63.690	23,042.3	23.57	143.70	73.7	842.2	0.0	1,099.0
31.25	Bot - Section 2	0.3750	53.507	63.238	22,555.3	23.40	142.69	73.9	830.3	0.0	269.9
35.00		0.3750	52.368	61.882	21,135.4	22.86	139.65	74.5	794.9	0.0	1,608.0
37.50	Top - Section 1	0.3750	52.359	61.871	21,123.9	22.86	139.62	74.5	794.6	0.0	1,052.8
40.00		0.3750	51.599	60.967	20,211.6	22.50	137.60	74.9	771.5	0.0	522.5
45.00		0.3750	50.080	59.160	18,466.5	21.78	133.55	75.8	726.3	0.0	1,021.9
50.00		0.3750	48.561	57.352	16,824.8	21.07	129.50	76.6	682.4	0.0	991.2
55.00		0.3750	47.043	55.544	15,283.5	20.36	125.45	77.5	639.9	0.0	960.4
60.00		0.3750	45.524	53.736	13,839.3	19.64	121.40	78.3	598.8	0.0	929.6
63.25	Bot - Section 3	0.3750	44.536	52.561	12,951.1	19.18	118.76	78.8	572.8	0.0	587.8
65.00		0.3750	44.005	51.929	12,489.0	18.93	117.35	79.1	559.0	0.0	627.5
68.75	Top - Section 2	0.3750	43.616	51.465	12,157.8	18.75	116.31	79.4	549.0	0.0	1,319.4
70.00		0.3750	43.236	51.014	11,840.3	18.57	115.30	79.6	539.4	0.0	217.9
75.00		0.3750	41.717	49.206	10,625.7	17.85	111.25	80.4	501.7	0.0	852.6
80.00		0.3750	40.198	47.398	9,497.0	17.14	107.20	81.2	465.3	0.0	821.8
85.00		0.3750	38.679	45.590	8,451.3	16.42	103.15	82.1	430.4	0.0	791.0
90.00		0.3750	37.161	43.783	7,485.3	15.71	99.09	82.6	396.7	0.0	760.3
95.00		0.3750	35.642	41.975	6,595.9	15.00	95.04	82.6	364.5	0.0	729.5
96.08	Bot - Section 4	0.3750	35.313	41.583	6,412.9	14.84	94.17	82.6	357.7	0.0	154.0
100.0		0.3750	34.123	40.167	5,779.8	14.28	90.99	82.6	333.6	0.0	1,101.4
100.7	Top - Section 3	0.3750	34.645	40.788	6,052.3	14.53	92.39	82.6	344.1	0.0	206.6
105.0		0.3750	33.354	39.252	5,393.7	13.92	88.94	82.6	318.5	0.0	578.8
110.0		0.3750	31.835	37.444	4,682.3	13.21	84.89	82.6	289.7	0.0	652.4
115.0		0.3750	30.316	35.636	4,036.4	12.49	80.84	82.6	262.2	0.0	621.7
120.0		0.3750	28.797	33.829	3,452.7	11.78	76.79	82.6	236.2	0.0	590.9
125.0		0.3750	27.279	32.021	2,928.3	11.06	72.74	82.6	211.4	0.0	560.2
129.7	Bot - Section 5	0.3750	25.836	30.304	2,481.9	10.38	68.90	82.6	189.2	0.0	503.7
130.0		0.3750	25.760	30.213	2,459.8	10.35	68.69	82.6	188.1	0.0	47.8
133.5	Top - Section 4	0.3125	25.296	24.780	1,954.2	12.51	80.95	82.6	152.2	0.0	669.2
135.0		0.3125	24.866	24.353	1,854.9	12.27	79.57	82.6	146.9	0.0	118.4
140.0		0.3125	23.347	22.847	1,531.6	11.41	74.71	82.6	129.2	0.0	401.5
145.0		0.3125	21.828	21.340	1,248.1	10.55	69.85	82.6	112.6	0.0	375.9
150.0		0.3125	20.309	19.834	1,002.0	9.70	64.99	82.6	97.2	0.0	350.3
154.0		0.3125	19.094	18.629	830.2	9.01	61.10	82.6	85.6	0.0	261.8
155.0		0.3125	18.791	18.327	790.6	8.84	60.13	82.6	82.9	0.0	62.9
160.0		0.3125	17.272	16.821	611.2	7.98	55.27	82.6	69.7	0.0	299.0
164.3	Bot - Section 6	0.3125	15.955	15.515	479.7	7.24	51.06	82.6	59.2	0.0	238.4
165.0		0.3125	15.753	15.314	461.3	7.13	50.41	82.6	57.7	0.0	64.0
167.2	Top - Section 5	0.2500	15.569	12.155	360.4	9.22	62.28	82.6	45.6	0.0	209.8
170.0		0.2500	14.734	11.493	304.6	8.63	58.94	82.6	40.7	0.0	110.6
175.0		0.2500	13.215	10.287	218.5	7.56	52.86	82.6	32.6	0.0	185.3
179.0		0.2500	12.000	9.323	162.6	6.70	48.00	82.6	26.7	0.0	133.5
29,617.5											

Load Case: 1.2D + 1.6W	97 mph with No Ice	27 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		241.3	0.0					0.0	0.0	241.3	0.0	0.0	0.0
5.00		476.7	1,503.3					0.0	343.6	476.7	1,847.0	0.0	0.0
10.00		464.9	1,466.4					0.0	343.6	464.9	1,810.0	0.0	0.0
15.00		453.1	1,429.5					0.0	343.6	453.1	1,773.1	0.0	0.0
20.00		441.3	1,392.6					0.0	343.6	441.3	1,736.2	0.0	0.0
25.00		429.6	1,355.7					0.0	343.6	429.6	1,699.3	0.0	0.0
30.00		264.2	1,318.8					0.0	343.6	264.2	1,662.4	0.0	0.0
31.25	Bot - Section 2	213.1	323.9					0.0	85.9	213.1	409.8	0.0	0.0
35.00		268.7	1,929.6					0.0	257.7	268.7	2,187.3	0.0	0.0
37.50	Top - Section 1	216.5	1,263.3					0.0	171.8	216.5	1,435.1	0.0	0.0
40.00		326.4	627.0					0.0	171.8	326.4	798.8	0.0	0.0
45.00		436.1	1,226.3					0.0	343.6	436.1	1,569.9	0.0	0.0
50.00		435.8	1,189.4					0.0	343.6	435.8	1,533.0	0.0	0.0
55.00		433.9	1,152.5					0.0	343.6	433.9	1,496.1	0.0	0.0
60.00		355.7	1,115.6					0.0	343.6	355.7	1,459.2	0.0	0.0
63.25	Bot - Section 3	215.4	705.3					0.0	223.4	215.4	928.7	0.0	0.0
65.00		237.6	753.0					0.0	120.3	237.6	873.3	0.0	0.0
68.75	Top - Section 2	215.2	1,583.2					0.0	257.7	215.2	1,840.9	0.0	0.0
70.00		265.6	261.5					0.0	85.9	265.6	347.4	0.0	0.0
75.00		420.5	1,023.1					0.0	343.6	420.5	1,366.7	0.0	0.0
80.00		412.7	986.2					0.0	343.6	412.7	1,329.8	0.0	0.0
85.00		404.0	949.3					0.0	343.6	404.0	1,292.9	0.0	0.0
90.00		394.6	912.3					0.0	343.6	394.6	1,256.0	0.0	0.0
95.00		236.3	875.4					0.0	343.6	236.3	1,219.1	0.0	0.0
96.08	Bot - Section 4	192.7	184.8					0.0	74.5	192.7	259.3	0.0	0.0
100.00		179.8	1,321.7					0.0	269.2	179.8	1,590.9	0.0	0.0
100.75	Top - Section 3	188.0	247.9					0.0	51.5	188.0	299.5	0.0	0.0
105.00		341.5	694.5					0.0	292.1	341.5	986.6	0.0	0.0
110.00	Appurtenance(s)	358.0	782.9	3,484.6	0.0	0.0	2,812.1	0.0	343.6	3,842.6	3,938.6	0.0	0.0
115.00		345.3	746.0					0.0	267.1	345.3	1,013.2	0.0	0.0
120.00		332.0	709.1					0.0	267.1	332.0	976.2	0.0	0.0
125.00		310.6	672.2					0.0	267.1	310.6	939.3	0.0	0.0
129.75	Bot - Section 5	155.7	604.4					0.0	253.8	155.7	858.2	0.0	0.0
130.00		117.5	57.3					0.0	13.4	117.5	70.7	0.0	0.0
133.58	Top - Section 4	152.0	803.1					0.0	191.4	152.0	994.5	0.0	0.0
135.00		186.8	142.1					0.0	75.7	186.8	217.8	0.0	0.0
140.00	Appurtenance(s)	281.3	481.8	2,613.2	0.0	0.0	2,828.4	0.0	267.1	2,894.4	3,577.3	0.0	0.0
145.00		265.6	451.1					0.0	243.1	265.6	694.2	0.0	0.0
150.00		226.1	420.3					0.0	243.1	226.1	663.4	0.0	0.0
154.00	Appurtenance(s)	120.7	314.1	4,951.0	0.0	119.1	3,983.2	0.0	194.5	5,071.7	4,491.8	0.0	0.0
155.00		135.8	75.5					0.0	15.5	135.8	90.9	0.0	0.0
160.00	Appurtenance(s)	202.8	358.8	1,165.3	0.0	0.0	1,036.3	0.0	77.3	1,368.1	1,472.4	0.0	0.0
164.33	Bot - Section 6	104.2	286.1					0.0	61.5	104.2	347.6	0.0	0.0
165.00		59.1	76.7					0.0	9.5	59.1	86.2	0.0	0.0
167.25	Top - Section 5	98.2	251.8					0.0	31.9	98.2	283.7	0.0	0.0
170.00	Appurtenance(s)	142.3	132.8	3,076.3	0.0	0.0	2,799.0	0.0	39.0	3,218.6	2,970.8	0.0	0.0
175.00		154.3	222.3					0.0	5.9	154.3	228.3	0.0	0.0
179.00	Appurtenance(s)	65.0	160.2	1,925.0	0.0	2,970.3	1,950.0	0.0	4.8	1,989.9	2,114.9	0.0	0.0

Site Number: 370627

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:16 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W

97 mph with No Ice

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Totals: 30,189.7 61,038.4 0.00 0.00

Load Case: 1.2D + 1.6W

97 mph with No Ice

27 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	-61.00	-30.03	0.00	-3,789.54	0.00	3,789.54	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.651
5.00	-59.08	-29.70	0.00	-3,639.41	0.00	3,639.41	4,547.42	2,273.71	11,437.5	5,727.25	0.08	-0.14	0.649
10.00	-57.19	-29.38	0.00	-3,490.93	0.00	3,490.93	4,488.01	2,244.00	11,005.7	5,511.07	0.31	-0.29	0.646
15.00	-55.34	-29.06	0.00	-3,344.06	0.00	3,344.06	4,425.86	2,212.93	10,575.0	5,295.36	0.69	-0.44	0.644
20.00	-53.53	-28.75	0.00	-3,198.76	0.00	3,198.76	4,360.98	2,180.49	10,145.6	5,080.38	1.24	-0.60	0.642
25.00	-51.76	-28.46	0.00	-3,054.99	0.00	3,054.99	4,293.36	2,146.68	9,718.32	4,866.38	1.96	-0.77	0.640
30.00	-50.04	-28.26	0.00	-2,912.71	0.00	2,912.71	4,223.01	2,111.51	9,293.47	4,653.64	2.85	-0.93	0.638
31.25	-49.59	-28.12	0.00	-2,877.39	0.00	2,877.39	4,205.00	2,102.50	9,187.70	4,600.68	3.10	-0.98	0.637
35.00	-47.36	-27.90	0.00	-2,771.95	0.00	2,771.95	4,149.93	2,074.96	8,871.62	4,442.40	3.93	-1.11	0.636
37.50	-45.88	-27.73	0.00	-2,702.20	0.00	2,702.20	4,149.47	2,074.73	8,869.01	4,441.10	4.54	-1.21	0.620
40.00	-45.02	-27.50	0.00	-2,632.88	0.00	2,632.88	4,111.89	2,055.95	8,659.38	4,336.13	5.19	-1.30	0.618
45.00	-43.38	-27.16	0.00	-2,495.41	0.00	2,495.41	4,034.69	2,017.35	8,243.04	4,127.64	6.65	-1.48	0.615
50.00	-41.77	-26.82	0.00	-2,359.61	0.00	2,359.61	3,954.76	1,977.38	7,830.99	3,921.32	8.30	-1.67	0.612
55.00	-40.20	-26.48	0.00	-2,225.50	0.00	2,225.50	3,872.09	1,936.05	7,423.76	3,717.40	10.15	-1.86	0.609
60.00	-38.67	-26.19	0.00	-2,093.11	0.00	2,093.11	3,786.70	1,893.35	7,021.86	3,516.15	12.20	-2.06	0.606
63.25	-37.71	-26.01	0.00	-2,007.99	0.00	2,007.99	3,729.72	1,864.86	6,763.73	3,386.89	13.66	-2.20	0.603
65.00	-36.79	-25.81	0.00	-1,962.48	0.00	1,962.48	3,698.56	1,849.28	6,625.81	3,317.83	14.48	-2.27	0.602
68.75	-34.91	-25.59	0.00	-1,865.68	0.00	1,865.68	3,675.54	1,837.77	6,525.34	3,267.52	16.33	-2.44	0.581
70.00	-34.51	-25.39	0.00	-1,833.69	0.00	1,833.69	3,652.91	1,826.45	6,427.71	3,218.63	16.97	-2.50	0.579
75.00	-33.07	-25.04	0.00	-1,706.73	0.00	1,706.73	3,560.66	1,780.33	6,041.44	3,025.21	19.70	-2.71	0.574
80.00	-31.67	-24.68	0.00	-1,581.55	0.00	1,581.55	3,465.68	1,732.84	5,662.31	2,835.36	22.65	-2.93	0.567
85.00	-30.30	-24.33	0.00	-1,458.14	0.00	1,458.14	3,367.96	1,683.98	5,290.83	2,649.35	25.84	-3.16	0.560
90.00	-28.97	-23.99	0.00	-1,336.48	0.00	1,336.48	3,252.82	1,626.41	4,905.37	2,456.33	29.27	-3.39	0.553
95.00	-27.71	-23.75	0.00	-1,216.55	0.00	1,216.55	3,118.51	1,559.26	4,506.69	2,256.70	32.95	-3.63	0.548
96.08	-27.41	-23.60	0.00	-1,190.82	0.00	1,190.82	3,089.41	1,544.71	4,422.54	2,214.56	33.78	-3.69	0.547
100.00	-25.78	-23.37	0.00	-1,098.38	0.00	1,098.38	2,984.21	1,492.10	4,124.91	2,065.52	36.89	-3.89	0.541
100.75	-25.44	-23.22	0.00	-1,080.85	0.00	1,080.85	3,030.38	1,515.19	4,254.26	2,130.29	37.50	-3.93	0.516
105.00	-24.39	-22.91	0.00	-982.17	0.00	982.17	2,916.22	1,458.11	3,938.09	1,971.97	41.10	-4.15	0.507
110.00	-20.67	-18.87	0.00	-867.62	0.00	867.62	2,781.91	1,390.96	3,581.76	1,793.54	45.57	-4.39	0.491
115.00	-19.60	-18.54	0.00	-773.25	0.00	773.25	2,647.61	1,323.80	3,242.33	1,623.57	50.30	-4.64	0.484
120.00	-18.58	-18.21	0.00	-680.57	0.00	680.57	2,513.30	1,256.65	2,919.79	1,462.07	55.30	-4.90	0.473
125.00	-17.59	-17.90	0.00	-589.53	0.00	589.53	2,378.99	1,189.50	2,614.15	1,309.02	60.56	-5.16	0.458
129.75	-16.71	-17.70	0.00	-504.53	0.00	504.53	2,251.40	1,125.70	2,339.44	1,171.46	65.82	-5.41	0.438
130.00	-16.61	-17.61	0.00	-500.10	0.00	500.10	2,244.69	1,122.34	2,325.40	1,164.43	66.10	-5.43	0.437
133.58	-15.60	-17.40	0.00	-437.01	0.00	437.01	1,841.02	920.51	1,881.29	942.04	70.24	-5.62	0.473
135.00	-15.34	-17.24	0.00	-412.37	0.00	412.37	1,809.31	904.65	1,816.65	909.67	71.92	-5.70	0.462
140.00	-12.01	-14.05	0.00	-326.17	0.00	326.17	1,697.39	848.69	1,597.52	799.95	78.04	-5.98	0.415
145.00	-11.29	-13.77	0.00	-255.90	0.00	255.90	1,585.46	792.73	1,392.48	697.27	84.44	-6.25	0.374
150.00	-10.60	-13.51	0.00	-187.07	0.00	187.07	1,473.54	736.77	1,201.51	601.65	91.12	-6.51	0.318
154.00	-6.71	-7.97	0.00	-132.91	0.00	132.91	1,384.00	692.00	1,058.88	530.23	96.64	-6.69	0.256
155.00	-6.62	-7.84	0.00	-124.95	0.00	124.95	1,361.62	680.81	1,024.63	513.08	98.04	-6.73	0.249
160.00	-5.30	-6.32	0.00	-85.77	0.00	85.77	1,249.70	624.85	861.82	431.55	105.18	-6.92	0.203
164.33	-4.96	-6.18	0.00	-58.39	0.00	58.39	1,152.70	576.35	732.11	366.60	111.52	-7.07	0.164
165.00	-4.88	-6.11	0.00	-54.28	0.00	54.28	1,137.78	568.89	713.10	357.08	112.50	-7.09	0.156
167.25	-4.60	-5.99	0.00	-40.52	0.00	40.52	903.09	451.54	563.74	282.29	115.85	-7.16	0.149
170.00	-2.05	-2.42	0.00	-24.06	0.00	24.06	853.84	426.92	503.47	252.11	119.98	-7.22	0.098
175.00	-1.84	-2.24	0.00	-11.94	0.00	11.94	764.30	382.15	402.61	201.60	127.57	-7.30	0.062
179.00	0.00	-1.99	0.00	-2.97	0.00	2.97	692.67	346.34	330.04	165.26	133.69	-7.34	0.018

Load Case: 0.9D + 1.6W	97 mph with No Ice (Reduced DL)	27 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :0.90		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		241.3	0.0					0.0	0.0	241.3	0.0	0.0	0.0
5.00		476.7	1,127.5					0.0	257.7	476.7	1,385.2	0.0	0.0
10.00		464.9	1,099.8					0.0	257.7	464.9	1,357.5	0.0	0.0
15.00		453.1	1,072.1					0.0	257.7	453.1	1,329.9	0.0	0.0
20.00		441.3	1,044.5					0.0	257.7	441.3	1,302.2	0.0	0.0
25.00		429.6	1,016.8					0.0	257.7	429.6	1,274.5	0.0	0.0
30.00		264.2	989.1					0.0	257.7	264.2	1,246.8	0.0	0.0
31.25	Bot - Section 2	213.1	242.9					0.0	64.4	213.1	307.4	0.0	0.0
35.00		268.7	1,447.2					0.0	193.3	268.7	1,640.5	0.0	0.0
37.50	Top - Section 1	216.5	947.5					0.0	128.9	216.5	1,076.3	0.0	0.0
40.00		326.4	470.2					0.0	128.9	326.4	599.1	0.0	0.0
45.00		436.1	919.7					0.0	257.7	436.1	1,177.4	0.0	0.0
50.00		435.8	892.0					0.0	257.7	435.8	1,149.8	0.0	0.0
55.00		433.9	864.4					0.0	257.7	433.9	1,122.1	0.0	0.0
60.00		355.7	836.7					0.0	257.7	355.7	1,094.4	0.0	0.0
63.25	Bot - Section 3	215.4	529.0					0.0	167.5	215.4	696.5	0.0	0.0
65.00		237.6	564.8					0.0	90.2	237.6	655.0	0.0	0.0
68.75	Top - Section 2	215.2	1,187.4					0.0	193.3	215.2	1,380.7	0.0	0.0
70.00		265.6	196.2					0.0	64.4	265.6	260.6	0.0	0.0
75.00		420.5	767.3					0.0	257.7	420.5	1,025.0	0.0	0.0
80.00		412.7	739.6					0.0	257.7	412.7	997.3	0.0	0.0
85.00		404.0	711.9					0.0	257.7	404.0	969.7	0.0	0.0
90.00		394.6	684.3					0.0	257.7	394.6	942.0	0.0	0.0
95.00		236.3	656.6					0.0	257.7	236.3	914.3	0.0	0.0
96.08	Bot - Section 4	192.7	138.6					0.0	55.8	192.7	194.4	0.0	0.0
100.00		179.8	991.3					0.0	201.9	179.8	1,193.2	0.0	0.0
100.75	Top - Section 3	188.0	185.9					0.0	38.7	188.0	224.6	0.0	0.0
105.00		341.5	520.9					0.0	219.1	341.5	739.9	0.0	0.0
110.00	Appurtenance(s)	358.0	587.2	3,484.6	0.0	0.0	2,109.1	0.0	257.7	3,842.6	2,954.0	0.0	0.0
115.00		345.3	559.5					0.0	200.3	345.3	759.9	0.0	0.0
120.00		332.0	531.8					0.0	200.3	332.0	732.2	0.0	0.0
125.00		310.6	504.2					0.0	200.3	310.6	704.5	0.0	0.0
129.75	Bot - Section 5	155.7	453.3					0.0	190.3	155.7	643.6	0.0	0.0
130.00		117.5	43.0					0.0	10.0	117.5	53.0	0.0	0.0
133.58	Top - Section 4	152.0	602.3					0.0	143.6	152.0	745.9	0.0	0.0
135.00		186.8	106.6					0.0	56.8	186.8	163.3	0.0	0.0
140.00	Appurtenance(s)	281.3	361.4	2,613.2	0.0	0.0	2,121.3	0.0	200.3	2,894.4	2,683.0	0.0	0.0
145.00		265.6	338.3					0.0	182.3	265.6	520.6	0.0	0.0
150.00		226.1	315.2					0.0	182.3	226.1	497.6	0.0	0.0
154.00	Appurtenance(s)	120.7	235.6	4,951.0	0.0	119.1	2,987.4	0.0	145.9	5,071.7	3,368.8	0.0	0.0
155.00		135.8	56.6					0.0	11.6	135.8	68.2	0.0	0.0
160.00	Appurtenance(s)	202.8	269.1	1,165.3	0.0	0.0	777.2	0.0	58.0	1,368.1	1,104.3	0.0	0.0
164.33	Bot - Section 6	104.2	214.6					0.0	46.1	104.2	260.7	0.0	0.0
165.00		59.1	57.6					0.0	7.1	59.1	64.7	0.0	0.0
167.25	Top - Section 5	98.2	188.8					0.0	24.0	98.2	212.8	0.0	0.0
170.00	Appurtenance(s)	142.3	99.6	3,076.3	0.0	0.0	2,099.2	0.0	29.3	3,218.6	2,228.1	0.0	0.0
175.00		154.3	166.8					0.0	4.5	154.3	171.2	0.0	0.0
179.00	Appurtenance(s)	65.0	120.1	1,925.0	0.0	2,970.3	1,462.5	0.0	3.6	1,989.9	1,586.2	0.0	0.0

Site Number: 370627

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:21 PM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Totals: 30,189.7 45,778.8 0.00 0.00

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

27 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-45.74	-30.01	0.00	-3,730.70	0.00	3,730.70	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.638
5.00	-44.28	-29.64	0.00	-3,580.68	0.00	3,580.68	4,547.42	2,273.71	11,437.5	5,727.25	0.08	-0.14	0.635
10.00	-42.85	-29.28	0.00	-3,432.49	0.00	3,432.49	4,488.01	2,244.00	11,005.7	5,511.07	0.30	-0.29	0.633
15.00	-41.45	-28.93	0.00	-3,286.10	0.00	3,286.10	4,425.86	2,212.93	10,575.0	5,295.36	0.68	-0.44	0.630
20.00	-40.07	-28.59	0.00	-3,141.46	0.00	3,141.46	4,360.98	2,180.49	10,145.6	5,080.38	1.22	-0.59	0.628
25.00	-38.72	-28.25	0.00	-2,998.54	0.00	2,998.54	4,293.36	2,146.68	9,718.32	4,866.38	1.93	-0.75	0.625
30.00	-37.43	-28.04	0.00	-2,857.28	0.00	2,857.28	4,223.01	2,111.51	9,293.47	4,653.64	2.81	-0.92	0.623
31.25	-37.08	-27.88	0.00	-2,822.24	0.00	2,822.24	4,205.00	2,102.50	9,187.70	4,600.68	3.05	-0.96	0.622
35.00	-35.39	-27.65	0.00	-2,717.71	0.00	2,717.71	4,149.93	2,074.96	8,871.62	4,442.40	3.86	-1.09	0.620
37.50	-34.28	-27.46	0.00	-2,648.59	0.00	2,648.59	4,149.47	2,074.73	8,869.01	4,441.10	4.46	-1.18	0.605
40.00	-33.62	-27.20	0.00	-2,579.94	0.00	2,579.94	4,111.89	2,055.95	8,659.38	4,336.13	5.10	-1.28	0.603
45.00	-32.37	-26.84	0.00	-2,443.92	0.00	2,443.92	4,034.69	2,017.35	8,243.04	4,127.64	6.53	-1.45	0.600
50.00	-31.15	-26.48	0.00	-2,309.72	0.00	2,309.72	3,954.76	1,977.38	7,830.99	3,921.32	8.15	-1.64	0.597
55.00	-29.95	-26.11	0.00	-2,177.35	0.00	2,177.35	3,872.09	1,936.05	7,423.76	3,717.40	9.97	-1.83	0.594
60.00	-28.79	-25.80	0.00	-2,046.80	0.00	2,046.80	3,786.70	1,893.35	7,021.86	3,516.15	11.98	-2.02	0.590
63.25	-28.06	-25.61	0.00	-1,962.95	0.00	1,962.95	3,729.72	1,864.86	6,763.73	3,386.89	13.41	-2.16	0.587
65.00	-27.36	-25.40	0.00	-1,918.14	0.00	1,918.14	3,698.56	1,849.28	6,625.81	3,317.83	14.21	-2.23	0.586
68.75	-25.94	-25.18	0.00	-1,822.88	0.00	1,822.88	3,675.54	1,837.77	6,525.34	3,267.52	16.03	-2.39	0.565
70.00	-25.64	-24.96	0.00	-1,791.40	0.00	1,791.40	3,652.91	1,826.45	6,427.71	3,218.63	16.66	-2.45	0.564
75.00	-24.54	-24.59	0.00	-1,666.58	0.00	1,666.58	3,560.66	1,780.33	6,041.44	3,025.21	19.33	-2.65	0.558
80.00	-23.47	-24.22	0.00	-1,543.63	0.00	1,543.63	3,465.68	1,732.84	5,662.31	2,835.36	22.23	-2.87	0.551
85.00	-22.43	-23.85	0.00	-1,422.54	0.00	1,422.54	3,367.96	1,683.98	5,290.83	2,649.35	25.35	-3.09	0.544
90.00	-21.42	-23.49	0.00	-1,303.27	0.00	1,303.27	3,252.82	1,626.41	4,905.37	2,456.33	28.71	-3.32	0.537
95.00	-20.46	-23.26	0.00	-1,185.80	0.00	1,185.80	3,118.51	1,559.26	4,506.69	2,256.70	32.31	-3.56	0.532
96.08	-20.23	-23.10	0.00	-1,160.60	0.00	1,160.60	3,089.41	1,544.71	4,422.54	2,214.56	33.12	-3.61	0.531
100.00	-19.00	-22.88	0.00	-1,070.15	0.00	1,070.15	2,984.21	1,492.10	4,124.91	2,065.52	36.17	-3.81	0.525
100.75	-18.74	-22.72	0.00	-1,052.99	0.00	1,052.99	3,030.38	1,515.19	4,254.26	2,130.29	36.77	-3.84	0.501
105.00	-17.94	-22.40	0.00	-956.45	0.00	956.45	2,916.22	1,458.11	3,938.09	1,971.97	40.28	-4.06	0.491
110.00	-15.19	-18.41	0.00	-844.47	0.00	844.47	2,781.91	1,390.96	3,581.76	1,793.54	44.66	-4.30	0.476
115.00	-14.39	-18.07	0.00	-752.41	0.00	752.41	2,647.61	1,323.80	3,242.33	1,623.57	49.29	-4.54	0.469
120.00	-13.61	-17.74	0.00	-662.06	0.00	662.06	2,513.30	1,256.65	2,919.79	1,462.07	54.17	-4.79	0.458
125.00	-12.85	-17.43	0.00	-573.36	0.00	573.36	2,378.99	1,189.50	2,614.15	1,309.02	59.32	-5.04	0.444
129.75	-12.19	-17.24	0.00	-490.58	0.00	490.58	2,251.40	1,125.70	2,339.44	1,171.46	64.45	-5.29	0.424
130.00	-12.12	-17.14	0.00	-486.27	0.00	486.27	2,244.69	1,122.34	2,325.40	1,164.43	64.73	-5.30	0.423
133.58	-11.35	-16.95	0.00	-424.85	0.00	424.85	1,841.02	920.51	1,881.29	942.04	68.78	-5.49	0.457
135.00	-11.15	-16.78	0.00	-400.84	0.00	400.84	1,809.31	904.65	1,816.65	909.67	70.42	-5.57	0.447
140.00	-8.71	-13.67	0.00	-316.95	0.00	316.95	1,697.39	848.69	1,597.52	799.95	76.39	-5.84	0.402
145.00	-8.16	-13.39	0.00	-248.58	0.00	248.58	1,585.46	792.73	1,392.48	697.27	82.64	-6.11	0.362
150.00	-7.64	-13.14	0.00	-181.63	0.00	181.63	1,473.54	736.77	1,201.51	601.65	89.16	-6.35	0.307
154.00	-4.85	-7.73	0.00	-128.95	0.00	128.95	1,384.00	692.00	1,058.88	530.23	94.55	-6.53	0.247
155.00	-4.78	-7.60	0.00	-121.21	0.00	121.21	1,361.62	680.81	1,024.63	513.08	95.92	-6.57	0.240
160.00	-3.82	-6.12	0.00	-83.22	0.00	83.22	1,249.70	624.85	861.82	431.55	102.89	-6.75	0.196
164.33	-3.57	-5.99	0.00	-56.69	0.00	56.69	1,152.70	576.35	732.11	366.60	109.07	-6.90	0.158
165.00	-3.51	-5.93	0.00	-52.70	0.00	52.70	1,137.78	568.89	713.10	357.08	110.03	-6.92	0.151
167.25	-3.30	-5.81	0.00	-39.36	0.00	39.36	903.09	451.54	563.74	282.29	113.30	-6.98	0.143
170.00	-1.48	-2.34	0.00	-23.38	0.00	23.38	853.84	426.92	503.47	252.11	117.33	-7.04	0.095
175.00	-1.33	-2.17	0.00	-11.66	0.00	11.66	764.30	382.15	402.61	201.60	124.74	-7.12	0.060
179.00	0.00	-1.99	0.00	-2.97	0.00	2.97	692.67	346.34	330.04	165.26	130.71	-7.16	0.018

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	27 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		77.6	0.0					0.0	0.0	77.6	0.0	0.0	0.0
5.00		153.8	2,113.4					0.0	343.6	153.8	2,457.0	0.0	0.0
10.00		150.8	2,132.8					0.0	343.6	150.8	2,476.4	0.0	0.0
15.00		147.6	2,114.6					0.0	343.6	147.6	2,458.2	0.0	0.0
20.00		144.2	2,084.0					0.0	343.6	144.2	2,427.6	0.0	0.0
25.00		140.8	2,046.9					0.0	343.6	140.8	2,390.5	0.0	0.0
30.00		86.8	2,005.8					0.0	343.6	86.8	2,349.4	0.0	0.0
31.25	Bot - Section 2	70.1	496.4					0.0	85.9	70.1	582.3	0.0	0.0
35.00		88.5	2,447.6					0.0	257.7	88.5	2,705.3	0.0	0.0
37.50	Top - Section 1	71.4	1,607.1					0.0	171.8	71.4	1,778.9	0.0	0.0
40.00		107.9	968.3					0.0	171.8	107.9	1,140.1	0.0	0.0
45.00		144.5	1,896.0					0.0	343.6	144.5	2,239.6	0.0	0.0
50.00		144.9	1,847.2					0.0	343.6	144.9	2,190.8	0.0	0.0
55.00		144.7	1,797.2					0.0	343.6	144.7	2,140.8	0.0	0.0
60.00		119.0	1,746.3					0.0	343.6	119.0	2,089.9	0.0	0.0
63.25	Bot - Section 3	72.2	1,109.7					0.0	223.4	72.2	1,333.1	0.0	0.0
65.00		79.8	972.7					0.0	120.3	79.8	1,093.0	0.0	0.0
68.75	Top - Section 2	72.3	2,044.5					0.0	257.7	72.3	2,302.3	0.0	0.0
70.00		89.5	414.6					0.0	85.9	89.5	500.5	0.0	0.0
75.00		142.1	1,617.6					0.0	343.6	142.1	1,961.3	0.0	0.0
80.00		140.1	1,564.2					0.0	343.6	140.1	1,907.8	0.0	0.0
85.00		137.7	1,510.2					0.0	343.6	137.7	1,853.8	0.0	0.0
90.00		135.1	1,455.8					0.0	343.6	135.1	1,799.4	0.0	0.0
95.00		81.2	1,401.0					0.0	343.6	81.2	1,744.6	0.0	0.0
96.08	Bot - Section 4	66.4	298.1					0.0	74.5	66.4	372.5	0.0	0.0
100.00		62.0	1,727.5					0.0	269.2	62.0	1,996.7	0.0	0.0
100.75	Top - Section 3	65.1	325.3					0.0	51.5	65.1	376.9	0.0	0.0
105.00		118.7	1,119.0					0.0	292.1	118.7	1,411.1	0.0	0.0
110.00	Appurtenance(s)	125.1	1,263.2	851.7	0.0	0.0	7,560.9	0.0	343.6	976.8	9,167.8	0.0	0.0
115.00		121.4	1,207.1					0.0	267.1	121.4	1,474.2	0.0	0.0
120.00		117.6	1,150.7					0.0	267.1	117.6	1,417.9	0.0	0.0
125.00		110.9	1,094.1					0.0	267.1	110.9	1,361.2	0.0	0.0
129.75	Bot - Section 5	55.9	987.2					0.0	253.8	55.9	1,241.0	0.0	0.0
130.00		42.3	77.9					0.0	13.4	42.3	91.3	0.0	0.0
133.58	Top - Section 4	54.8	1,087.4					0.0	191.4	54.8	1,278.8	0.0	0.0
135.00		68.0	253.0					0.0	75.7	68.0	328.7	0.0	0.0
140.00	Appurtenance(s)	103.0	852.2	707.2	0.0	0.0	6,101.1	0.0	267.1	810.2	7,220.3	0.0	0.0
145.00		98.5	800.8					0.0	243.1	98.5	1,043.9	0.0	0.0
150.00		84.8	749.3					0.0	243.1	84.8	992.4	0.0	0.0
154.00	Appurtenance(s)	45.7	564.0	1,183.7	0.0	31.4	10,666.6	0.0	194.5	1,229.4	11,425.1	0.0	0.0
155.00		52.2	137.1					0.0	15.5	52.2	152.6	0.0	0.0
160.00	Appurtenance(s)	78.7	645.6	313.9	0.0	0.0	2,746.7	0.0	77.3	392.6	3,469.6	0.0	0.0
164.33	Bot - Section 6	40.9	518.7					0.0	61.5	40.9	580.2	0.0	0.0
165.00		23.3	113.2					0.0	9.5	23.3	122.6	0.0	0.0
167.25	Top - Section 5	39.1	370.3					0.0	31.9	39.1	402.3	0.0	0.0
170.00	Appurtenance(s)	57.7	271.1	794.3	0.0	0.0	6,531.0	0.0	39.0	852.0	6,841.2	0.0	0.0
175.00		63.8	452.1					0.0	5.9	63.8	458.1	0.0	0.0
179.00	Appurtenance(s)	27.3	330.1	946.1	0.0	1,651.6	3,473.5	0.0	4.8	973.4	3,808.4	0.0	0.0

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:26 PM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 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

Totals: 9,262.71 100,957. 0.00 0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-100.95	-9.23	0.00	-1,235.14	0.00	1,235.14	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.230
5.00	-98.49	-9.15	0.00	-1,189.01	0.00	1,189.01	4,547.42	2,273.71	11,437.5	5,727.25	0.03	-0.05	0.229
10.00	-96.00	-9.08	0.00	-1,143.24	0.00	1,143.24	4,488.01	2,244.00	11,005.7	5,511.07	0.10	-0.10	0.229
15.00	-93.54	-9.01	0.00	-1,097.83	0.00	1,097.83	4,425.86	2,212.93	10,575.0	5,295.36	0.23	-0.15	0.228
20.00	-91.10	-8.95	0.00	-1,052.77	0.00	1,052.77	4,360.98	2,180.49	10,145.6	5,080.38	0.41	-0.20	0.228
25.00	-88.71	-8.88	0.00	-1,008.04	0.00	1,008.04	4,293.36	2,146.68	9,718.32	4,866.38	0.64	-0.25	0.228
30.00	-86.35	-8.84	0.00	-963.64	0.00	963.64	4,223.01	2,111.51	9,293.47	4,653.64	0.93	-0.31	0.228
31.25	-85.76	-8.81	0.00	-952.60	0.00	952.60	4,205.00	2,102.50	9,187.70	4,600.68	1.02	-0.32	0.227
35.00	-83.05	-8.76	0.00	-919.57	0.00	919.57	4,149.93	2,074.96	8,871.62	4,442.40	1.29	-0.37	0.227
37.50	-81.27	-8.72	0.00	-897.68	0.00	897.68	4,149.47	2,074.73	8,869.01	4,441.10	1.49	-0.40	0.222
40.00	-80.12	-8.66	0.00	-875.89	0.00	875.89	4,111.89	2,055.95	8,659.38	4,336.13	1.70	-0.43	0.222
45.00	-77.88	-8.59	0.00	-832.57	0.00	832.57	4,034.69	2,017.35	8,243.04	4,127.64	2.18	-0.49	0.221
50.00	-75.68	-8.50	0.00	-789.65	0.00	789.65	3,954.76	1,977.38	7,830.99	3,921.32	2.73	-0.55	0.221
55.00	-73.53	-8.42	0.00	-747.13	0.00	747.13	3,872.09	1,936.05	7,423.76	3,717.40	3.34	-0.62	0.220
60.00	-71.43	-8.35	0.00	-705.01	0.00	705.01	3,786.70	1,893.35	7,021.86	3,516.15	4.02	-0.68	0.219
63.25	-70.10	-8.31	0.00	-677.87	0.00	677.87	3,729.72	1,864.86	6,763.73	3,386.89	4.50	-0.73	0.219
65.00	-69.00	-8.26	0.00	-663.33	0.00	663.33	3,698.56	1,849.28	6,625.81	3,317.83	4.77	-0.75	0.219
68.75	-66.69	-8.20	0.00	-632.35	0.00	632.35	3,675.54	1,837.77	6,525.34	3,267.52	5.39	-0.81	0.212
70.00	-66.19	-8.16	0.00	-622.10	0.00	622.10	3,652.91	1,826.45	6,427.71	3,218.63	5.60	-0.83	0.211
75.00	-64.22	-8.07	0.00	-581.31	0.00	581.31	3,560.66	1,780.33	6,041.44	3,025.21	6.51	-0.90	0.210
80.00	-62.30	-7.98	0.00	-540.97	0.00	540.97	3,465.68	1,732.84	5,662.31	2,835.36	7.50	-0.98	0.209
85.00	-60.44	-7.89	0.00	-501.07	0.00	501.07	3,367.96	1,683.98	5,290.83	2,649.35	8.56	-1.06	0.207
90.00	-58.63	-7.81	0.00	-461.60	0.00	461.60	3,252.82	1,626.41	4,905.37	2,456.33	9.71	-1.14	0.206
95.00	-56.88	-7.74	0.00	-422.56	0.00	422.56	3,118.51	1,559.26	4,506.69	2,256.70	10.94	-1.22	0.206
96.08	-56.50	-7.71	0.00	-414.17	0.00	414.17	3,089.41	1,544.71	4,422.54	2,214.56	11.22	-1.24	0.205
100.00	-54.50	-7.65	0.00	-383.96	0.00	383.96	2,984.21	1,492.10	4,124.91	2,065.52	12.27	-1.31	0.204
100.75	-54.12	-7.62	0.00	-378.23	0.00	378.23	3,030.38	1,515.19	4,254.26	2,130.29	12.48	-1.32	0.195
105.00	-52.70	-7.54	0.00	-345.86	0.00	345.86	2,916.22	1,458.11	3,938.09	1,971.97	13.69	-1.40	0.193
110.00	-43.55	-6.40	0.00	-308.17	0.00	308.17	2,781.91	1,390.96	3,581.76	1,793.54	15.20	-1.49	0.187
115.00	-42.07	-6.30	0.00	-276.18	0.00	276.18	2,647.61	1,323.80	3,242.33	1,623.57	16.81	-1.58	0.186
120.00	-40.65	-6.21	0.00	-244.67	0.00	244.67	2,513.30	1,256.65	2,919.79	1,462.07	18.51	-1.67	0.184
125.00	-39.28	-6.12	0.00	-213.61	0.00	213.61	2,378.99	1,189.50	2,614.15	1,309.02	20.30	-1.76	0.180
129.75	-38.04	-6.06	0.00	-184.52	0.00	184.52	2,251.40	1,125.70	2,339.44	1,171.46	22.10	-1.85	0.174
130.00	-37.95	-6.04	0.00	-183.00	0.00	183.00	2,244.69	1,122.34	2,325.40	1,164.43	22.20	-1.86	0.174
133.58	-36.66	-5.98	0.00	-161.36	0.00	161.36	1,841.02	920.51	1,881.29	942.04	23.62	-1.93	0.191
135.00	-36.33	-5.94	0.00	-152.89	0.00	152.89	1,809.31	904.65	1,816.65	909.67	24.20	-1.96	0.188
140.00	-29.13	-4.93	0.00	-123.19	0.00	123.19	1,697.39	848.69	1,597.52	799.95	26.31	-2.07	0.171
145.00	-28.09	-4.84	0.00	-98.54	0.00	98.54	1,585.46	792.73	1,392.48	697.27	28.53	-2.17	0.159
150.00	-27.09	-4.76	0.00	-74.32	0.00	74.32	1,473.54	736.77	1,201.51	601.65	30.85	-2.27	0.142
154.00	-15.72	-3.08	0.00	-55.25	0.00	55.25	1,384.00	692.00	1,058.88	530.23	32.78	-2.34	0.116
155.00	-15.57	-3.04	0.00	-52.16	0.00	52.16	1,361.62	680.81	1,024.63	513.08	33.28	-2.36	0.113
160.00	-12.12	-2.52	0.00	-36.96	0.00	36.96	1,249.70	624.85	861.82	431.55	35.79	-2.44	0.095
164.33	-11.54	-2.46	0.00	-26.06	0.00	26.06	1,152.70	576.35	732.11	366.60	38.03	-2.50	0.081
165.00	-11.41	-2.43	0.00	-24.42	0.00	24.42	1,137.78	568.89	713.10	357.08	38.38	-2.51	0.078
167.25	-11.01	-2.38	0.00	-18.94	0.00	18.94	903.09	451.54	563.74	282.29	39.58	-2.54	0.079
170.00	-4.22	-1.23	0.00	-12.39	0.00	12.39	853.84	426.92	503.47	252.11	41.05	-2.57	0.054
175.00	-3.76	-1.15	0.00	-6.24	0.00	6.24	764.30	382.15	402.61	201.60	43.77	-2.62	0.036
179.00	0.00	-0.97	0.00	-1.65	0.00	1.65	692.67	346.34	330.04	165.26	45.97	-2.64	0.010

Load Case: 1.0D + 1.0W	Serviceability 60 mph	25 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		57.7	0.0					0.0	0.0	57.7	0.0	0.0	0.0
5.00		114.0	1,252.8					0.0	286.4	114.0	1,539.1	0.0	0.0
10.00		111.2	1,222.0					0.0	286.4	111.2	1,508.4	0.0	0.0
15.00		108.4	1,191.3					0.0	286.4	108.4	1,477.6	0.0	0.0
20.00		105.5	1,160.5					0.0	286.4	105.5	1,446.9	0.0	0.0
25.00		102.7	1,129.8					0.0	286.4	102.7	1,416.1	0.0	0.0
30.00		63.2	1,099.0					0.0	286.4	63.2	1,385.3	0.0	0.0
31.25	Bot - Section 2	51.0	269.9					0.0	71.6	51.0	341.5	0.0	0.0
35.00		64.3	1,608.0					0.0	214.8	64.3	1,822.7	0.0	0.0
37.50	Top - Section 1	51.8	1,052.8					0.0	143.2	51.8	1,195.9	0.0	0.0
40.00		78.0	522.5					0.0	143.2	78.0	665.7	0.0	0.0
45.00		104.3	1,021.9					0.0	286.4	104.3	1,308.3	0.0	0.0
50.00		104.2	991.2					0.0	286.4	104.2	1,277.5	0.0	0.0
55.00		103.8	960.4					0.0	286.4	103.8	1,246.7	0.0	0.0
60.00		85.1	929.6					0.0	286.4	85.1	1,216.0	0.0	0.0
63.25	Bot - Section 3	51.5	587.8					0.0	186.1	51.5	773.9	0.0	0.0
65.00		56.8	627.5					0.0	100.2	56.8	727.8	0.0	0.0
68.75	Top - Section 2	51.5	1,319.4					0.0	214.8	51.5	1,534.1	0.0	0.0
70.00		63.5	217.9					0.0	71.6	63.5	289.5	0.0	0.0
75.00		100.5	852.6					0.0	286.4	100.5	1,138.9	0.0	0.0
80.00		98.7	821.8					0.0	286.4	98.7	1,108.2	0.0	0.0
85.00		96.6	791.0					0.0	286.4	96.6	1,077.4	0.0	0.0
90.00		94.4	760.3					0.0	286.4	94.4	1,046.6	0.0	0.0
95.00		56.5	729.5					0.0	286.4	56.5	1,015.9	0.0	0.0
96.08	Bot - Section 4	46.1	154.0					0.0	62.0	46.1	216.1	0.0	0.0
100.00		43.0	1,101.4					0.0	224.3	43.0	1,325.7	0.0	0.0
100.75	Top - Section 3	45.0	206.6					0.0	43.0	45.0	249.6	0.0	0.0
105.00		81.7	578.8					0.0	243.4	81.7	822.2	0.0	0.0
110.00	Appurtenance(s)	85.6	652.4	833.3	0.0	0.0	2,343.4	0.0	286.4	918.9	3,282.2	0.0	0.0
115.00		82.6	621.7					0.0	222.6	82.6	844.3	0.0	0.0
120.00		79.4	590.9					0.0	222.6	79.4	813.5	0.0	0.0
125.00		74.3	560.2					0.0	222.6	74.3	782.8	0.0	0.0
129.75	Bot - Section 5	37.2	503.7					0.0	211.5	37.2	715.2	0.0	0.0
130.00		28.1	47.8					0.0	11.1	28.1	58.9	0.0	0.0
133.58	Top - Section 4	36.3	669.2					0.0	159.5	36.3	828.8	0.0	0.0
135.00		44.7	118.4					0.0	63.1	44.7	181.5	0.0	0.0
140.00	Appurtenance(s)	67.3	401.5	624.9	0.0	0.0	2,357.0	0.0	222.6	692.2	2,981.1	0.0	0.0
145.00		63.5	375.9					0.0	202.6	63.5	578.5	0.0	0.0
150.00		54.1	350.3					0.0	202.6	54.1	552.9	0.0	0.0
154.00	Appurtenance(s)	28.9	261.8	1,184.0	0.0	28.5	3,319.3	0.0	162.1	1,212.8	3,743.1	0.0	0.0
155.00		32.5	62.9					0.0	12.9	32.5	75.8	0.0	0.0
160.00	Appurtenance(s)	48.5	299.0	278.7	0.0	0.0	863.6	0.0	64.4	327.2	1,227.0	0.0	0.0
164.33	Bot - Section 6	24.9	238.4					0.0	51.3	24.9	289.7	0.0	0.0
165.00		14.1	64.0					0.0	7.9	14.1	71.8	0.0	0.0
167.25	Top - Section 5	23.5	209.8					0.0	26.6	23.5	236.4	0.0	0.0
170.00	Appurtenance(s)	34.0	110.6	735.6	0.0	0.0	2,332.5	0.0	32.5	769.7	2,475.7	0.0	0.0
175.00		36.9	185.3					0.0	5.0	36.9	190.2	0.0	0.0
179.00	Appurtenance(s)	15.5	133.5	460.3	0.0	710.3	1,625.0	0.0	4.0	475.9	1,762.4	0.0	0.0

Site Number: 370627

Code: ANSI/TIA-222-G © 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:30 PM

Customer: AT&T MOBILITY

Load Case: 1.0D + 1.0W

Serviceability 60 mph

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Totals: 7,219.36 50,865.3 0.00 0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.86	-7.18	0.00	-898.06	0.00	898.06	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.162
5.00	-49.32	-7.09	0.00	-862.18	0.00	862.18	4,547.42	2,273.71	11,437.5	5,727.25	0.02	-0.03	0.161
10.00	-47.81	-7.01	0.00	-826.73	0.00	826.73	4,488.01	2,244.00	11,005.7	5,511.07	0.07	-0.07	0.161
15.00	-46.33	-6.93	0.00	-791.69	0.00	791.69	4,425.86	2,212.93	10,575.0	5,295.36	0.16	-0.11	0.160
20.00	-44.87	-6.85	0.00	-757.05	0.00	757.05	4,360.98	2,180.49	10,145.6	5,080.38	0.29	-0.14	0.159
25.00	-43.45	-6.77	0.00	-722.81	0.00	722.81	4,293.36	2,146.68	9,718.32	4,866.38	0.46	-0.18	0.159
30.00	-42.07	-6.72	0.00	-688.95	0.00	688.95	4,223.01	2,111.51	9,293.47	4,653.64	0.68	-0.22	0.158
31.25	-41.72	-6.69	0.00	-680.55	0.00	680.55	4,205.00	2,102.50	9,187.70	4,600.68	0.74	-0.23	0.158
35.00	-39.90	-6.63	0.00	-655.48	0.00	655.48	4,149.93	2,074.96	8,871.62	4,442.40	0.93	-0.26	0.157
37.50	-38.70	-6.59	0.00	-638.90	0.00	638.90	4,149.47	2,074.73	8,869.01	4,441.10	1.07	-0.29	0.153
40.00	-38.03	-6.53	0.00	-622.43	0.00	622.43	4,111.89	2,055.95	8,659.38	4,336.13	1.23	-0.31	0.153
45.00	-36.72	-6.45	0.00	-589.78	0.00	589.78	4,034.69	2,017.35	8,243.04	4,127.64	1.57	-0.35	0.152
50.00	-35.43	-6.36	0.00	-557.56	0.00	557.56	3,954.76	1,977.38	7,830.99	3,921.32	1.96	-0.39	0.151
55.00	-34.18	-6.28	0.00	-525.76	0.00	525.76	3,872.09	1,936.05	7,423.76	3,717.40	2.40	-0.44	0.150
60.00	-32.96	-6.20	0.00	-494.38	0.00	494.38	3,786.70	1,893.35	7,021.86	3,516.15	2.89	-0.49	0.149
63.25	-32.19	-6.16	0.00	-474.22	0.00	474.22	3,729.72	1,864.86	6,763.73	3,386.89	3.23	-0.52	0.149
65.00	-31.46	-6.11	0.00	-463.44	0.00	463.44	3,698.56	1,849.28	6,625.81	3,317.83	3.43	-0.54	0.148
68.75	-29.92	-6.06	0.00	-440.53	0.00	440.53	3,675.54	1,837.77	6,525.34	3,267.52	3.86	-0.58	0.143
70.00	-29.63	-6.01	0.00	-432.95	0.00	432.95	3,652.91	1,826.45	6,427.71	3,218.63	4.02	-0.59	0.143
75.00	-28.49	-5.92	0.00	-402.91	0.00	402.91	3,560.66	1,780.33	6,041.44	3,025.21	4.66	-0.64	0.141
80.00	-27.37	-5.83	0.00	-373.31	0.00	373.31	3,465.68	1,732.84	5,662.31	2,835.36	5.36	-0.69	0.140
85.00	-26.29	-5.75	0.00	-344.13	0.00	344.13	3,367.96	1,683.98	5,290.83	2,649.35	6.11	-0.75	0.138
90.00	-25.24	-5.67	0.00	-315.38	0.00	315.38	3,252.82	1,626.41	4,905.37	2,456.33	6.93	-0.80	0.136
95.00	-24.22	-5.61	0.00	-287.05	0.00	287.05	3,118.51	1,559.26	4,506.69	2,256.70	7.80	-0.86	0.135
96.08	-24.00	-5.57	0.00	-280.98	0.00	280.98	3,089.41	1,544.71	4,422.54	2,214.56	7.99	-0.87	0.135
100.00	-22.68	-5.52	0.00	-259.15	0.00	259.15	2,984.21	1,492.10	4,124.91	2,065.52	8.73	-0.92	0.133
100.75	-22.43	-5.48	0.00	-255.01	0.00	255.01	3,030.38	1,515.19	4,254.26	2,130.29	8.87	-0.93	0.127
105.00	-21.60	-5.41	0.00	-231.70	0.00	231.70	2,916.22	1,458.11	3,938.09	1,971.97	9.72	-0.98	0.125
110.00	-18.33	-4.45	0.00	-204.66	0.00	204.66	2,781.91	1,390.96	3,581.76	1,793.54	10.78	-1.04	0.121
115.00	-17.48	-4.37	0.00	-182.40	0.00	182.40	2,647.61	1,323.80	3,242.33	1,623.57	11.90	-1.10	0.119
120.00	-16.67	-4.29	0.00	-160.55	0.00	160.55	2,513.30	1,256.65	2,919.79	1,462.07	13.08	-1.16	0.116
125.00	-15.88	-4.22	0.00	-139.08	0.00	139.08	2,378.99	1,189.50	2,614.15	1,309.02	14.32	-1.22	0.113
129.75	-15.16	-4.18	0.00	-119.04	0.00	119.04	2,251.40	1,125.70	2,339.44	1,171.46	15.57	-1.28	0.108
130.00	-15.10	-4.15	0.00	-117.99	0.00	117.99	2,244.69	1,122.34	2,325.40	1,164.43	15.64	-1.28	0.108
133.58	-14.27	-4.11	0.00	-103.11	0.00	103.11	1,841.02	920.51	1,881.29	942.04	16.61	-1.33	0.117
135.00	-14.09	-4.07	0.00	-97.30	0.00	97.30	1,809.31	904.65	1,816.65	909.67	17.01	-1.35	0.115
140.00	-11.12	-3.32	0.00	-76.96	0.00	76.96	1,697.39	848.69	1,597.52	799.95	18.46	-1.41	0.103
145.00	-10.54	-3.25	0.00	-60.38	0.00	60.38	1,585.46	792.73	1,392.48	697.27	19.97	-1.48	0.093
150.00	-9.99	-3.19	0.00	-44.13	0.00	44.13	1,473.54	736.77	1,201.51	601.65	21.55	-1.54	0.080
154.00	-6.28	-1.88	0.00	-31.35	0.00	31.35	1,384.00	692.00	1,058.88	530.23	22.86	-1.58	0.064
155.00	-6.20	-1.85	0.00	-29.47	0.00	29.47	1,361.62	680.81	1,024.63	513.08	23.19	-1.59	0.062
160.00	-4.99	-1.49	0.00	-20.23	0.00	20.23	1,249.70	624.85	861.82	431.55	24.88	-1.63	0.051
164.33	-4.70	-1.46	0.00	-13.78	0.00	13.78	1,152.70	576.35	732.11	366.60	26.38	-1.67	0.042
165.00	-4.62	-1.44	0.00	-12.81	0.00	12.81	1,137.78	568.89	713.10	357.08	26.61	-1.67	0.040
167.25	-4.39	-1.41	0.00	-9.56	0.00	9.56	903.09	451.54	563.74	282.29	27.41	-1.69	0.039
170.00	-1.94	-0.57	0.00	-5.68	0.00	5.68	853.84	426.92	503.47	252.11	28.39	-1.70	0.025
175.00	-1.75	-0.53	0.00	-2.83	0.00	2.83	764.30	382.15	402.61	201.60	30.18	-1.72	0.016
179.00	0.00	-0.48	0.00	-0.71	0.00	0.71	692.67	346.34	330.04	165.26	31.63	-1.73	0.004

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.91
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	50.87 k
Seismic Base Shear (E):	1.98 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)
47	177.00	137	4,305	0.008	15	170
46	172.50	190	5,661	0.010	20	236
45	168.63	143	4,071	0.007	15	177
44	166.13	236	6,524	0.012	23	293
43	164.67	72	1,948	0.004	7	89
42	162.17	290	7,618	0.014	27	359
41	157.50	363	9,015	0.016	32	450
40	154.50	76	1,808	0.003	6	94
39	152.00	424	9,792	0.018	35	525
38	147.50	553	12,028	0.022	43	685
37	142.50	578	11,747	0.021	42	717
36	137.50	624	11,800	0.021	42	773
35	134.29	181	3,273	0.006	12	225
34	131.79	829	14,395	0.026	52	1,027
33	129.88	59	994	0.002	4	73
32	127.38	715	11,603	0.021	42	886
31	122.50	783	11,747	0.021	42	970
30	117.50	814	11,232	0.020	40	1,008
29	112.50	844	10,686	0.019	38	1,046
28	107.50	939	10,849	0.020	39	1,163
27	102.88	822	8,701	0.016	31	1,019
26	100.38	250	2,514	0.005	9	309
25	98.04	1,326	12,743	0.023	46	1,642

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24	95.54	216	1,972	0.004	7	268
23	92.50	1,016	8,692	0.016	31	1,259
22	87.50	1,047	8,013	0.014	29	1,297
21	82.50	1,077	7,333	0.013	26	1,335
20	77.50	1,108	6,656	0.012	24	1,373
19	72.50	1,139	5,986	0.011	21	1,411
18	69.38	290	1,393	0.003	5	359
17	66.88	1,534	6,861	0.012	25	1,901
16	64.13	728	2,993	0.005	11	902
15	61.63	774	2,939	0.005	11	959
14	57.50	1,216	4,020	0.007	14	1,506
13	52.50	1,247	3,436	0.006	12	1,545
12	47.50	1,278	2,882	0.005	10	1,583
11	42.50	1,308	2,363	0.004	8	1,621
10	38.75	666	1,000	0.002	4	825
9	36.25	1,196	1,572	0.003	6	1,482
8	33.13	1,823	2,000	0.004	7	2,258
7	30.63	342	320	0.001	1	423
6	27.50	1,385	1,048	0.002	4	1,716
5	22.50	1,416	717	0.001	3	1,754
4	17.50	1,447	443	0.001	2	1,792
3	12.50	1,478	231	0.000	1	1,831
2	7.50	1,508	85	0.000	0	1,869
1	2.50	1,539	10	0.000	0	1,907
5' Dipole	179.00	15	481	0.001	2	19
10' Omni	179.00	25	801	0.001	3	31
18' Dipole	179.00	55	1,762	0.003	6	68
8' Yagi	179.00	30	961	0.002	3	37
Round Low Profile PI	179.00	1,500	48,062	0.087	172	1,858
Ericsson KRY 112 144	170.00	33	954	0.002	3	41
Ericsson RRUS 11 B12	170.00	152	4,396	0.008	16	188
Ericsson AIR 21, 1.3	170.00	249	7,196	0.013	26	308
Ericsson AIR 21, 1.3	170.00	244	7,066	0.013	25	303
Andrew LNX-6515DS-VT	170.00	154	4,448	0.008	16	191
Round Low Profile PI	170.00	1,500	43,350	0.078	156	1,858
RCU	160.00	3	77	0.000	0	4
DragonWave Horizon C	160.00	34	883	0.002	3	43
Samsung U-RAS Premiu	160.00	99	2,534	0.005	9	123
Argus LLPX310R	160.00	86	2,196	0.004	8	106
DragonWave A-ANT-18G	160.00	81	2,081	0.004	7	101
Side Arms	160.00	560	14,336	0.026	51	694
Powerwave LGP21401	154.00	85	2,006	0.004	7	105
Raycap DC6-48-60-18-	154.00	64	1,508	0.003	5	79
Ericsson RRUS 4478 B	154.00	180	4,262	0.008	15	223
Ericsson RRUS 11 (Ba	154.00	165	3,913	0.007	14	204
Ericsson RRUS 32	154.00	165	3,920	0.007	14	205
Ericsson RRUS 12	154.00	150	3,557	0.006	13	186
Ericsson RRUS 32 B66	154.00	159	3,771	0.007	14	197
Ericsson RRUS 32 B2	154.00	159	3,771	0.007	14	197
Raycap DC6-48-60-0-8	154.00	16	379	0.001	1	20
Kathrein Scala 800 1	154.00	139	3,294	0.006	12	172
Quintel QS66512-2	154.00	111	2,632	0.005	9	138
CCI OPA-65R-LCUU-H8	154.00	264	6,261	0.011	22	327
CCI TPA-65R-LCUUUU-H	154.00	163	3,870	0.007	14	202
Round Low Profile PI	154.00	1,500	35,574	0.064	128	1,858
Alcatel-Lucent 800 M	140.00	192	3,763	0.007	14	238
Alcatel-Lucent 1900M	140.00	132	2,587	0.005	9	164
Alcatel-Lucent TD-RR	140.00	198	3,887	0.007	14	246
RFS APXVTM14-C-I20	140.00	159	3,111	0.006	11	197
RFS APXV9ERR18-C-A20	140.00	62	1,215	0.002	4	77
RFS APXVSP18-C-A20	140.00	114	2,234	0.004	8	141
Round Low Profile PI	140.00	1,500	29,400	0.053	105	1,858
Alcatel-Lucent RRH2X	110.00	132	1,597	0.003	6	164
Alcatel-Lucent RRH2X	110.00	129	1,561	0.003	6	160

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Alcatel-Lucent RRH2x	110.00	170	2,058	0.004	7	211
Antel BXA-80063/4CF	110.00	30	359	0.001	1	37
RFS DB-T1-6Z-8AB-OZ	110.00	88	1,065	0.002	4	109
Antel BXA-70063-6CF-	110.00	51	617	0.001	2	63
Commscope SBNHH-1D65	110.00	244	2,948	0.005	11	302
Flat Low Profile Pla	110.00	1,500	18,150	0.033	65	1,858
		50,865	552,876	1.000	1,984	63,013

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

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)
47	177.00	137	4,305	0.008	15	118
46	172.50	190	5,661	0.010	20	164
45	168.63	143	4,071	0.007	15	123
44	166.13	236	6,524	0.012	23	204
43	164.67	72	1,948	0.004	7	62
42	162.17	290	7,618	0.014	27	249
41	157.50	363	9,015	0.016	32	313
40	154.50	76	1,808	0.003	6	65
39	152.00	424	9,792	0.018	35	365
38	147.50	553	12,028	0.022	43	476
37	142.50	578	11,747	0.021	42	498
36	137.50	624	11,800	0.021	42	537
35	134.29	181	3,273	0.006	12	156
34	131.79	829	14,395	0.026	52	714
33	129.88	59	994	0.002	4	51
32	127.38	715	11,603	0.021	42	616
31	122.50	783	11,747	0.021	42	674
30	117.50	814	11,232	0.020	40	701
29	112.50	844	10,686	0.019	38	727
28	107.50	939	10,849	0.020	39	808
27	102.88	822	8,701	0.016	31	708
26	100.38	250	2,514	0.005	9	215
25	98.04	1,326	12,743	0.023	46	1,142
24	95.54	216	1,972	0.004	7	186
23	92.50	1,016	8,692	0.016	31	875
22	87.50	1,047	8,013	0.014	29	901
21	82.50	1,077	7,333	0.013	26	928
20	77.50	1,108	6,656	0.012	24	954
19	72.50	1,139	5,986	0.011	21	981
18	69.38	290	1,393	0.003	5	249
17	66.88	1,534	6,861	0.012	25	1,321
16	64.13	728	2,993	0.005	11	627
15	61.63	774	2,939	0.005	11	666
14	57.50	1,216	4,020	0.007	14	1,047
13	52.50	1,247	3,436	0.006	12	1,074
12	47.50	1,278	2,882	0.005	10	1,100
11	42.50	1,308	2,363	0.004	8	1,127
10	38.75	666	1,000	0.002	4	573
9	36.25	1,196	1,572	0.003	6	1,030
8	33.13	1,823	2,000	0.004	7	1,570
7	30.63	342	320	0.001	1	294
6	27.50	1,385	1,048	0.002	4	1,193
5	22.50	1,416	717	0.001	3	1,220
4	17.50	1,447	443	0.001	2	1,246
3	12.50	1,478	231	0.000	1	1,272
2	7.50	1,508	85	0.000	0	1,299
1	2.50	1,539	10	0.000	0	1,325
5' Dipole	179.00	15	481	0.001	2	13

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10' Omni	179.00	25	801	0.001	3	22
18' Dipole	179.00	55	1,762	0.003	6	47
8' Yagi	179.00	30	961	0.002	3	26
Round Low Profile PI	179.00	1,500	48,062	0.087	172	1,292
Ericsson KRY 112 144	170.00	33	954	0.002	3	28
Ericsson RRUS 11 B12	170.00	152	4,396	0.008	16	131
Ericsson AIR 21, 1.3	170.00	249	7,196	0.013	26	214
Ericsson AIR 21, 1.3	170.00	244	7,066	0.013	25	211
Andrew LNX-6515DS-VT	170.00	154	4,448	0.008	16	133
Round Low Profile PI	170.00	1,500	43,350	0.078	156	1,292
RCU	160.00	3	77	0.000	0	3
DragonWave Horizon C	160.00	34	883	0.002	3	30
Samsung U-RAS Premiu	160.00	99	2,534	0.005	9	85
Argus LLPX310R	160.00	86	2,196	0.004	8	74
DragonWave A-ANT-18G	160.00	81	2,081	0.004	7	70
Side Arms	160.00	560	14,336	0.026	51	482
Powerwave LGP21401	154.00	85	2,006	0.004	7	73
Raycap DC6-48-60-18-	154.00	64	1,508	0.003	5	55
Ericsson RRUS 4478 B	154.00	180	4,262	0.008	15	155
Ericsson RRUS 11 (Ba	154.00	165	3,913	0.007	14	142
Ericsson RRUS 32	154.00	165	3,920	0.007	14	142
Ericsson RRUS 12	154.00	150	3,557	0.006	13	129
Ericsson RRUS 32 B66	154.00	159	3,771	0.007	14	137
Ericsson RRUS 32 B2	154.00	159	3,771	0.007	14	137
Raycap DC6-48-60-0-8	154.00	16	379	0.001	1	14
Kathrein Scala 800 1	154.00	139	3,294	0.006	12	120
Quintel QS66512-2	154.00	111	2,632	0.005	9	96
CCI OPA-65R-LCUU-H8	154.00	264	6,261	0.011	22	227
CCI TPA-65R-LCUUUU-H	154.00	163	3,870	0.007	14	141
Round Low Profile PI	154.00	1,500	35,574	0.064	128	1,292
Alcatel-Lucent 800 M	140.00	192	3,763	0.007	14	165
Alcatel-Lucent 1900M	140.00	132	2,587	0.005	9	114
Alcatel-Lucent TD-RR	140.00	198	3,887	0.007	14	171
RFS APXVTM14-C-I20	140.00	159	3,111	0.006	11	137
RFS APXV9ERR18-C-A20	140.00	62	1,215	0.002	4	53
RFS APXVSP18-C-A20	140.00	114	2,234	0.004	8	98
Round Low Profile PI	140.00	1,500	29,400	0.053	105	1,292
Alcatel-Lucent RRH2X	110.00	132	1,597	0.003	6	114
Alcatel-Lucent RRH2X	110.00	129	1,561	0.003	6	111
Alcatel-Lucent RRH2x	110.00	170	2,058	0.004	7	146
Antel BXA-80063/4CF	110.00	30	359	0.001	1	26
RFS DB-T1-6Z-8AB-0Z	110.00	88	1,065	0.002	4	76
Antel BXA-70063-6CF-	110.00	51	617	0.001	2	44
Commscope SBNHH-1D65	110.00	244	2,948	0.005	11	210
Flat Low Profile Pla	110.00	1,500	18,150	0.033	65	1,292
		50,865	552,876	1.000	1,984	43,804

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	-61.11	-1.99	0.00	-287.42	0.00	287.42	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.062
5.00	-59.24	-2.00	0.00	-277.48	0.00	277.48	4,547.42	2,273.71	11,437.5	5,727.25	0.01	-0.01	0.061
10.00	-57.41	-2.01	0.00	-267.48	0.00	267.48	4,488.01	2,244.00	11,005.7	5,511.07	0.02	-0.02	0.061
15.00	-55.61	-2.02	0.00	-257.44	0.00	257.44	4,425.86	2,212.93	10,575.0	5,295.36	0.05	-0.03	0.061
20.00	-53.86	-2.03	0.00	-247.34	0.00	247.34	4,360.98	2,180.49	10,145.6	5,080.38	0.09	-0.05	0.061
25.00	-52.14	-2.03	0.00	-237.21	0.00	237.21	4,293.36	2,146.68	9,718.32	4,866.38	0.15	-0.06	0.061
30.00	-51.72	-2.04	0.00	-227.05	0.00	227.05	4,223.01	2,111.51	9,293.47	4,653.64	0.22	-0.07	0.061
31.25	-49.46	-2.03	0.00	-224.50	0.00	224.50	4,205.00	2,102.50	9,187.70	4,600.68	0.24	-0.08	0.061
35.00	-47.98	-2.03	0.00	-216.87	0.00	216.87	4,149.93	2,074.96	8,871.62	4,442.40	0.30	-0.09	0.060
37.50	-47.15	-2.04	0.00	-211.78	0.00	211.78	4,149.47	2,074.73	8,869.01	4,441.10	0.35	-0.09	0.059
40.00	-45.53	-2.03	0.00	-206.69	0.00	206.69	4,111.89	2,055.95	8,659.38	4,336.13	0.40	-0.10	0.059
45.00	-43.95	-2.03	0.00	-196.53	0.00	196.53	4,034.69	2,017.35	8,243.04	4,127.64	0.51	-0.11	0.059
50.00	-42.40	-2.03	0.00	-186.38	0.00	186.38	3,954.76	1,977.38	7,830.99	3,921.32	0.64	-0.13	0.058
55.00	-40.90	-2.02	0.00	-176.24	0.00	176.24	3,872.09	1,936.05	7,423.76	3,717.40	0.78	-0.14	0.058
60.00	-39.94	-2.02	0.00	-166.15	0.00	166.15	3,786.70	1,893.35	7,021.86	3,516.15	0.94	-0.16	0.058
63.25	-39.04	-2.01	0.00	-159.60	0.00	159.60	3,729.72	1,864.86	6,763.73	3,386.89	1.06	-0.17	0.058
65.00	-37.14	-1.98	0.00	-156.08	0.00	156.08	3,698.56	1,849.28	6,625.81	3,317.83	1.12	-0.18	0.057
68.75	-36.78	-1.98	0.00	-148.64	0.00	148.64	3,675.54	1,837.77	6,525.34	3,267.52	1.27	-0.19	0.055
70.00	-35.37	-1.96	0.00	-146.17	0.00	146.17	3,652.91	1,826.45	6,427.71	3,218.63	1.32	-0.20	0.055
75.00	-33.99	-1.95	0.00	-136.35	0.00	136.35	3,560.66	1,780.33	6,041.44	3,025.21	1.53	-0.21	0.055
80.00	-32.66	-1.92	0.00	-126.62	0.00	126.62	3,465.68	1,732.84	5,662.31	2,835.36	1.76	-0.23	0.054
85.00	-31.36	-1.90	0.00	-117.00	0.00	117.00	3,367.96	1,683.98	5,290.83	2,649.35	2.01	-0.25	0.053
90.00	-30.10	-1.87	0.00	-107.50	0.00	107.50	3,252.82	1,626.41	4,905.37	2,456.33	2.28	-0.27	0.053
95.00	-29.83	-1.87	0.00	-98.14	0.00	98.14	3,118.51	1,559.26	4,506.69	2,256.70	2.57	-0.29	0.053
96.08	-28.19	-1.82	0.00	-96.11	0.00	96.11	3,089.41	1,544.71	4,422.54	2,214.56	2.64	-0.29	0.053
100.00	-27.88	-1.82	0.00	-88.97	0.00	88.97	2,984.21	1,492.10	4,124.91	2,065.52	2.88	-0.31	0.052
100.75	-26.86	-1.78	0.00	-87.61	0.00	87.61	3,030.38	1,515.19	4,254.26	2,130.29	2.93	-0.31	0.050
105.00	-25.70	-1.75	0.00	-80.02	0.00	80.02	2,916.22	1,458.11	3,938.09	1,971.97	3.22	-0.33	0.049
110.00	-21.75	-1.59	0.00	-71.29	0.00	71.29	2,781.91	1,390.96	3,581.76	1,793.54	3.57	-0.35	0.048
115.00	-20.74	-1.55	0.00	-63.33	0.00	63.33	2,647.61	1,323.80	3,242.33	1,623.57	3.95	-0.37	0.047
120.00	-19.77	-1.51	0.00	-55.56	0.00	55.56	2,513.30	1,256.65	2,919.79	1,462.07	4.34	-0.39	0.046
125.00	-18.89	-1.47	0.00	-48.00	0.00	48.00	2,378.99	1,189.50	2,614.15	1,309.02	4.76	-0.41	0.045
129.75	-18.81	-1.47	0.00	-41.01	0.00	41.01	2,251.40	1,125.70	2,339.44	1,171.46	5.18	-0.43	0.043
130.00	-17.79	-1.41	0.00	-40.65	0.00	40.65	2,244.69	1,122.34	2,325.40	1,164.43	5.20	-0.43	0.043
133.58	-17.56	-1.40	0.00	-35.58	0.00	35.58	1,841.02	920.51	1,881.29	942.04	5.54	-0.45	0.047
135.00	-16.79	-1.36	0.00	-33.59	0.00	33.59	1,809.31	904.65	1,816.65	909.67	5.67	-0.45	0.046
140.00	-13.15	-1.13	0.00	-26.80	0.00	26.80	1,697.39	848.69	1,597.52	799.95	6.16	-0.48	0.041
145.00	-12.47	-1.08	0.00	-21.16	0.00	21.16	1,585.46	792.73	1,392.48	697.27	6.67	-0.50	0.038
150.00	-11.94	-1.05	0.00	-15.74	0.00	15.74	1,473.54	736.77	1,201.51	601.65	7.21	-0.52	0.034
154.00	-7.74	-0.72	0.00	-11.55	0.00	11.55	1,384.00	692.00	1,058.88	530.23	7.65	-0.54	0.027
155.00	-7.29	-0.69	0.00	-10.83	0.00	10.83	1,361.62	680.81	1,024.63	513.08	7.76	-0.54	0.026
160.00	-5.86	-0.57	0.00	-7.41	0.00	7.41	1,249.70	624.85	861.82	431.55	8.34	-0.56	0.022
164.33	-5.77	-0.56	0.00	-4.95	0.00	4.95	1,152.70	576.35	732.11	366.60	8.85	-0.57	0.019
165.00	-5.48	-0.53	0.00	-4.58	0.00	4.58	1,137.78	568.89	713.10	357.08	8.93	-0.57	0.018
167.25	-5.30	-0.52	0.00	-3.38	0.00	3.38	903.09	451.54	563.74	282.29	9.20	-0.58	0.018
170.00	-2.18	-0.22	0.00	-1.95	0.00	1.95	853.84	426.92	503.47	252.11	9.54	-0.58	0.010
175.00	-2.01	-0.21	0.00	-0.83	0.00	0.83	764.30	382.15	402.61	201.60	10.15	-0.59	0.007
179.00	0.00	-0.19	0.00	0.00	0.00	0.00	692.67	346.34	330.04	165.26	10.64	-0.59	0.000

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

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	-42.48	-1.99	0.00	-281.84	0.00	281.84	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.057
5.00	-41.18	-1.99	0.00	-271.91	0.00	271.91	4,547.42	2,273.71	11,437.5	5,727.25	0.01	-0.01	0.057
10.00	-39.91	-2.00	0.00	-261.94	0.00	261.94	4,488.01	2,244.00	11,005.7	5,511.07	0.02	-0.02	0.056
15.00	-38.66	-2.01	0.00	-251.94	0.00	251.94	4,425.86	2,212.93	10,575.0	5,295.36	0.05	-0.03	0.056
20.00	-37.44	-2.01	0.00	-241.90	0.00	241.90	4,360.98	2,180.49	10,145.6	5,080.38	0.09	-0.05	0.056
25.00	-36.25	-2.01	0.00	-231.85	0.00	231.85	4,293.36	2,146.68	9,718.32	4,866.38	0.15	-0.06	0.056
30.00	-35.95	-2.02	0.00	-221.78	0.00	221.78	4,223.01	2,111.51	9,293.47	4,653.64	0.21	-0.07	0.056
31.25	-34.38	-2.01	0.00	-219.26	0.00	219.26	4,205.00	2,102.50	9,187.70	4,600.68	0.23	-0.07	0.056
35.00	-33.35	-2.01	0.00	-211.71	0.00	211.71	4,149.93	2,074.96	8,871.62	4,442.40	0.30	-0.08	0.056
37.50	-32.78	-2.01	0.00	-206.68	0.00	206.68	4,149.47	2,074.73	8,869.01	4,441.10	0.34	-0.09	0.054
40.00	-31.65	-2.01	0.00	-201.66	0.00	201.66	4,111.89	2,055.95	8,659.38	4,336.13	0.39	-0.10	0.054
45.00	-30.55	-2.00	0.00	-191.63	0.00	191.63	4,034.69	2,017.35	8,243.04	4,127.64	0.50	-0.11	0.054
50.00	-29.48	-1.99	0.00	-181.63	0.00	181.63	3,954.76	1,977.38	7,830.99	3,921.32	0.63	-0.13	0.054
55.00	-28.43	-1.98	0.00	-171.66	0.00	171.66	3,872.09	1,936.05	7,423.76	3,717.40	0.77	-0.14	0.054
60.00	-27.76	-1.98	0.00	-161.74	0.00	161.74	3,786.70	1,893.35	7,021.86	3,516.15	0.92	-0.16	0.053
63.25	-27.13	-1.97	0.00	-155.31	0.00	155.31	3,729.72	1,864.86	6,763.73	3,386.89	1.03	-0.17	0.053
65.00	-25.81	-1.95	0.00	-151.86	0.00	151.86	3,698.56	1,849.28	6,625.81	3,317.83	1.10	-0.17	0.053
68.75	-25.56	-1.94	0.00	-144.56	0.00	144.56	3,675.54	1,837.77	6,525.34	3,267.52	1.24	-0.19	0.051
70.00	-24.58	-1.92	0.00	-142.13	0.00	142.13	3,652.91	1,826.45	6,427.71	3,218.63	1.29	-0.19	0.051
75.00	-23.63	-1.90	0.00	-132.52	0.00	132.52	3,560.66	1,780.33	6,041.44	3,025.21	1.49	-0.21	0.050
80.00	-22.70	-1.88	0.00	-123.00	0.00	123.00	3,465.68	1,732.84	5,662.31	2,835.36	1.72	-0.22	0.050
85.00	-21.80	-1.85	0.00	-113.60	0.00	113.60	3,367.96	1,683.98	5,290.83	2,649.35	1.97	-0.24	0.049
90.00	-20.92	-1.83	0.00	-104.33	0.00	104.33	3,252.82	1,626.41	4,905.37	2,456.33	2.23	-0.26	0.049
95.00	-20.74	-1.82	0.00	-95.19	0.00	95.19	3,118.51	1,559.26	4,506.69	2,256.70	2.51	-0.28	0.049
96.08	-19.59	-1.77	0.00	-93.22	0.00	93.22	3,089.41	1,544.71	4,422.54	2,214.56	2.57	-0.28	0.048
100.00	-19.38	-1.77	0.00	-86.27	0.00	86.27	2,984.21	1,492.10	4,124.91	2,065.52	2.81	-0.30	0.048
100.75	-18.67	-1.74	0.00	-84.94	0.00	84.94	3,030.38	1,515.19	4,254.26	2,130.29	2.86	-0.30	0.046
105.00	-17.86	-1.70	0.00	-77.56	0.00	77.56	2,916.22	1,458.11	3,938.09	1,971.97	3.14	-0.32	0.045
110.00	-15.12	-1.55	0.00	-69.07	0.00	69.07	2,781.91	1,390.96	3,581.76	1,793.54	3.48	-0.34	0.044
115.00	-14.42	-1.51	0.00	-61.33	0.00	61.33	2,647.61	1,323.80	3,242.33	1,623.57	3.85	-0.36	0.043
120.00	-13.74	-1.47	0.00	-53.78	0.00	53.78	2,513.30	1,256.65	2,919.79	1,462.07	4.24	-0.38	0.042
125.00	-13.13	-1.43	0.00	-46.45	0.00	46.45	2,378.99	1,189.50	2,614.15	1,309.02	4.64	-0.40	0.041
129.75	-13.08	-1.42	0.00	-39.67	0.00	39.67	2,251.40	1,125.70	2,339.44	1,171.46	5.05	-0.42	0.040
130.00	-12.36	-1.37	0.00	-39.32	0.00	39.32	2,244.69	1,122.34	2,325.40	1,164.43	5.07	-0.42	0.039
133.58	-12.21	-1.36	0.00	-34.41	0.00	34.41	1,841.02	920.51	1,881.29	942.04	5.40	-0.44	0.043
135.00	-11.67	-1.32	0.00	-32.49	0.00	32.49	1,809.31	904.65	1,816.65	909.67	5.53	-0.44	0.042
140.00	-9.14	-1.09	0.00	-25.91	0.00	25.91	1,697.39	848.69	1,597.52	799.95	6.00	-0.46	0.038
145.00	-8.67	-1.05	0.00	-20.45	0.00	20.45	1,585.46	792.73	1,392.48	697.27	6.50	-0.49	0.035
150.00	-8.30	-1.01	0.00	-15.22	0.00	15.22	1,473.54	736.77	1,201.51	601.65	7.02	-0.51	0.031
154.00	-5.38	-0.70	0.00	-11.17	0.00	11.17	1,384.00	692.00	1,058.88	530.23	7.45	-0.52	0.025
155.00	-5.07	-0.66	0.00	-10.48	0.00	10.48	1,361.62	680.81	1,024.63	513.08	7.56	-0.53	0.024
160.00	-4.07	-0.55	0.00	-7.16	0.00	7.16	1,249.70	624.85	861.82	431.55	8.12	-0.54	0.020
164.33	-4.01	-0.54	0.00	-4.79	0.00	4.79	1,152.70	576.35	732.11	366.60	8.62	-0.55	0.017
165.00	-3.81	-0.52	0.00	-4.43	0.00	4.43	1,137.78	568.89	713.10	357.08	8.69	-0.55	0.016
167.25	-3.69	-0.50	0.00	-3.27	0.00	3.27	903.09	451.54	563.74	282.29	8.96	-0.56	0.016
170.00	-1.52	-0.22	0.00	-1.89	0.00	1.89	853.84	426.92	503.47	252.11	9.28	-0.57	0.009
175.00	-1.40	-0.20	0.00	-0.80	0.00	0.80	764.30	382.15	402.61	201.60	9.88	-0.57	0.006
179.00	0.00	-0.19	0.00	0.00	0.00	0.00	692.67	346.34	330.04	165.26	10.36	-0.57	0.000

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:31 PM

Customer: AT&T MOBILITY

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):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.91
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)
47	177.00	137	1.848	1.766	1.062	0.339	40	170
46	172.50	190	1.755	1.343	0.902	0.281	46	236
45	168.63	143	1.677	1.038	0.780	0.235	29	177
44	166.13	236	1.628	0.867	0.709	0.208	43	293
43	164.67	72	1.599	0.777	0.669	0.192	12	89
42	162.17	290	1.551	0.635	0.606	0.167	42	359
41	157.50	363	1.463	0.415	0.500	0.123	39	450
40	154.50	76	1.408	0.299	0.440	0.098	6	94
39	152.00	424	1.363	0.217	0.394	0.078	29	525
38	147.50	553	1.283	0.098	0.322	0.046	22	685
37	142.50	578	1.198	0.003	0.253	0.015	8	717
36	137.50	624	1.115	-0.061	0.196	-0.010	-5	773
35	134.29	181	1.064	-0.088	0.165	-0.023	-4	225
34	131.79	829	1.025	-0.103	0.144	-0.032	-23	1,027
33	129.88	59	0.995	-0.111	0.129	-0.038	-2	73
32	127.38	715	0.957	-0.118	0.111	-0.044	-27	886
31	122.50	783	0.885	-0.121	0.082	-0.053	-36	970
30	117.50	814	0.814	-0.114	0.058	-0.056	-40	1,008
29	112.50	844	0.747	-0.100	0.040	-0.054	-40	1,046
28	107.50	939	0.682	-0.081	0.026	-0.047	-38	1,163
27	102.88	822	0.624	-0.062	0.018	-0.036	-25	1,019
26	100.38	250	0.594	-0.051	0.014	-0.028	-6	309
25	98.04	1,326	0.567	-0.041	0.011	-0.021	-24	1,642
24	95.54	216	0.538	-0.030	0.009	-0.012	-2	268
23	92.50	1,016	0.505	-0.018	0.007	-0.001	-1	1,259
22	87.50	1,047	0.452	0.001	0.006	0.016	14	1,297
21	82.50	1,077	0.401	0.018	0.006	0.030	28	1,335
20	77.50	1,108	0.354	0.032	0.008	0.041	40	1,373
19	72.50	1,139	0.310	0.043	0.011	0.049	48	1,411
18	69.38	290	0.284	0.049	0.014	0.052	13	359
17	66.88	1,534	0.264	0.053	0.016	0.054	72	1,901
16	64.13	728	0.243	0.057	0.018	0.056	35	902
15	61.63	774	0.224	0.059	0.020	0.056	38	959
14	57.50	1,216	0.195	0.063	0.024	0.057	60	1,506

13	52.50	1,247	0.163	0.067	0.028	0.057	61	1,545
12	47.50	1,278	0.133	0.069	0.033	0.056	62	1,583
11	42.50	1,308	0.107	0.071	0.036	0.055	62	1,621
10	38.75	666	0.089	0.071	0.039	0.054	31	825
9	36.25	1,196	0.078	0.072	0.040	0.053	55	1,482
8	33.13	1,823	0.065	0.072	0.041	0.053	83	2,258
7	30.63	342	0.055	0.071	0.042	0.052	15	423
6	27.50	1,385	0.045	0.071	0.042	0.051	62	1,716
5	22.50	1,416	0.030	0.068	0.040	0.050	61	1,754
4	17.50	1,447	0.018	0.063	0.037	0.047	58	1,792
3	12.50	1,478	0.009	0.054	0.031	0.041	53	1,831
2	7.50	1,508	0.003	0.039	0.022	0.032	42	1,869
1	2.50	1,539	0.000	0.016	0.008	0.015	20	1,907
5' Dipole	179.00	15	1.890	1.980	1.140	0.366	5	19
10' Omni	179.00	25	1.890	1.980	1.140	0.366	8	31
18' Dipole	179.00	55	1.890	1.980	1.140	0.366	17	68
8' Yagi	179.00	30	1.890	1.980	1.140	0.366	10	37
Round Low Profile PI	179.00	1,500	1.890	1.980	1.140	0.366	476	1,858
Ericsson KRY 112 144	170.00	33	1.705	1.140	0.822	0.251	7	41
Ericsson RRUS 11 B12	170.00	152	1.705	1.140	0.822	0.251	33	188
Ericsson AIR 21, 1.3	170.00	249	1.705	1.140	0.822	0.251	54	308
Ericsson AIR 21, 1.3	170.00	244	1.705	1.140	0.822	0.251	53	303
Andrew LNX-6515DS-VT	170.00	154	1.705	1.140	0.822	0.251	34	191
Round Low Profile PI	170.00	1,500	1.705	1.140	0.822	0.251	327	1,858
RCU	160.00	3	1.510	0.526	0.555	0.146	0	4
DragonWave Horizon C	160.00	34	1.510	0.526	0.555	0.146	4	43
Samsung U-RAS	160.00	99	1.510	0.526	0.555	0.146	13	123
Argus LLPX310R	160.00	86	1.510	0.526	0.555	0.146	11	106
DragonWave A-ANT-18G	160.00	81	1.510	0.526	0.555	0.146	10	101
Side Arms	160.00	560	1.510	0.526	0.555	0.146	71	694
Powerwave LGP21401	154.00	85	1.399	0.282	0.431	0.093	7	105
Raycap DC6-48-60-18-	154.00	64	1.399	0.282	0.431	0.093	5	79
Ericsson RRUS 4478 B	154.00	180	1.399	0.282	0.431	0.093	15	223
Ericsson RRUS 11 (Ba	154.00	165	1.399	0.282	0.431	0.093	13	204
Ericsson RRUS 32	154.00	165	1.399	0.282	0.431	0.093	13	205
Ericsson RRUS 12	154.00	150	1.399	0.282	0.431	0.093	12	186
Ericsson RRUS 32 B66	154.00	159	1.399	0.282	0.431	0.093	13	197
Ericsson RRUS 32 B2	154.00	159	1.399	0.282	0.431	0.093	13	197
Raycap DC6-48-60-0-8	154.00	16	1.399	0.282	0.431	0.093	1	20
Kathrein Scala 800 1	154.00	139	1.399	0.282	0.431	0.093	11	172
Quintel QS66512-2	154.00	111	1.399	0.282	0.431	0.093	9	138
CCI OPA-65R-LCUU-H8	154.00	264	1.399	0.282	0.431	0.093	21	327
CCI TPA-65R-LCUUUU-H	154.00	163	1.399	0.282	0.431	0.093	13	202
Round Low Profile PI	154.00	1,500	1.399	0.282	0.431	0.093	122	1,858
Alcatel-Lucent 800 M	140.00	192	1.156	-0.033	0.223	0.002	0	238
Alcatel-Lucent 1900M	140.00	132	1.156	-0.033	0.223	0.002	0	164
Alcatel-Lucent TD-RR	140.00	198	1.156	-0.033	0.223	0.002	0	246
RFS APXVTM14-C-I20	140.00	159	1.156	-0.033	0.223	0.002	0	197
RFS APXV9ERR18-C-A20	140.00	62	1.156	-0.033	0.223	0.002	0	77
RFS APXVSP18-C-A20	140.00	114	1.156	-0.033	0.223	0.002	0	141
Round Low Profile PI	140.00	1,500	1.156	-0.033	0.223	0.002	3	1,858
Alcatel-Lucent RRH2X	110.00	132	0.714	-0.091	0.033	-0.051	-6	164
Alcatel-Lucent RRH2X	110.00	129	0.714	-0.091	0.033	-0.051	-6	160
Alcatel-Lucent RRH2x	110.00	170	0.714	-0.091	0.033	-0.051	-8	211
Antel BXA-80063/4CF	110.00	30	0.714	-0.091	0.033	-0.051	-1	37
RFS DB-T1-6Z-8AB-0Z	110.00	88	0.714	-0.091	0.033	-0.051	-4	109
Antel BXA-70063-6CF-	110.00	51	0.714	-0.091	0.033	-0.051	-2	63
Commscope SBNHH-	110.00	244	0.714	-0.091	0.033	-0.051	-11	302
Flat Low Profile Pla	110.00	1,500	0.714	-0.091	0.033	-0.051	-67	1,858
		50,865	93.534	30.422	30.024	7.478	2,358	63,013

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)
47	177.00	137	1.848	1.766	1.062	0.339	40	118
46	172.50	190	1.755	1.343	0.902	0.281	46	164
45	168.63	143	1.677	1.038	0.780	0.235	29	123
44	166.13	236	1.628	0.867	0.709	0.208	43	204
43	164.67	72	1.599	0.777	0.669	0.192	12	62
42	162.17	290	1.551	0.635	0.606	0.167	42	249
41	157.50	363	1.463	0.415	0.500	0.123	39	313
40	154.50	76	1.408	0.299	0.440	0.098	6	65
39	152.00	424	1.363	0.217	0.394	0.078	29	365
38	147.50	553	1.283	0.098	0.322	0.046	22	476
37	142.50	578	1.198	0.003	0.253	0.015	8	498
36	137.50	624	1.115	-0.061	0.196	-0.010	-5	537
35	134.29	181	1.064	-0.088	0.165	-0.023	-4	156
34	131.79	829	1.025	-0.103	0.144	-0.032	-23	714
33	129.88	59	0.995	-0.111	0.129	-0.038	-2	51
32	127.38	715	0.957	-0.118	0.111	-0.044	-27	616
31	122.50	783	0.885	-0.121	0.082	-0.053	-36	674
30	117.50	814	0.814	-0.114	0.058	-0.056	-40	701
29	112.50	844	0.747	-0.100	0.040	-0.054	-40	727
28	107.50	939	0.682	-0.081	0.026	-0.047	-38	808
27	102.88	822	0.624	-0.062	0.018	-0.036	-25	708
26	100.38	250	0.594	-0.051	0.014	-0.028	-6	215
25	98.04	1,326	0.567	-0.041	0.011	-0.021	-24	1,142
24	95.54	216	0.538	-0.030	0.009	-0.012	-2	186
23	92.50	1,016	0.505	-0.018	0.007	-0.001	-1	875
22	87.50	1,047	0.452	0.001	0.006	0.016	14	901
21	82.50	1,077	0.401	0.018	0.006	0.030	28	928
20	77.50	1,108	0.354	0.032	0.008	0.041	40	954
19	72.50	1,139	0.310	0.043	0.011	0.049	48	981
18	69.38	290	0.284	0.049	0.014	0.052	13	249
17	66.88	1,534	0.264	0.053	0.016	0.054	72	1,321
16	64.13	728	0.243	0.057	0.018	0.056	35	627
15	61.63	774	0.224	0.059	0.020	0.056	38	666
14	57.50	1,216	0.195	0.063	0.024	0.057	60	1,047
13	52.50	1,247	0.163	0.067	0.028	0.057	61	1,074
12	47.50	1,278	0.133	0.069	0.033	0.056	62	1,100
11	42.50	1,308	0.107	0.071	0.036	0.055	62	1,127
10	38.75	666	0.089	0.071	0.039	0.054	31	573
9	36.25	1,196	0.078	0.072	0.040	0.053	55	1,030
8	33.13	1,823	0.065	0.072	0.041	0.053	83	1,570
7	30.63	342	0.055	0.071	0.042	0.052	15	294
6	27.50	1,385	0.045	0.071	0.042	0.051	62	1,193
5	22.50	1,416	0.030	0.068	0.040	0.050	61	1,220
4	17.50	1,447	0.018	0.063	0.037	0.047	58	1,246
3	12.50	1,478	0.009	0.054	0.031	0.041	53	1,272
2	7.50	1,508	0.003	0.039	0.022	0.032	42	1,299
1	2.50	1,539	0.000	0.016	0.008	0.015	20	1,325
5' Dipole	179.00	15	1.890	1.980	1.140	0.366	5	13
10' Omni	179.00	25	1.890	1.980	1.140	0.366	8	22
18' Dipole	179.00	55	1.890	1.980	1.140	0.366	17	47
8' Yagi	179.00	30	1.890	1.980	1.140	0.366	10	26
Round Low Profile PI	179.00	1,500	1.890	1.980	1.140	0.366	476	1,292
Ericsson KRY 112 144	170.00	33	1.705	1.140	0.822	0.251	7	28
Ericsson RRUS 11 B12	170.00	152	1.705	1.140	0.822	0.251	33	131
Ericsson AIR 21, 1.3	170.00	249	1.705	1.140	0.822	0.251	54	214
Ericsson AIR 21, 1.3	170.00	244	1.705	1.140	0.822	0.251	53	211

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:31 PM

Customer: AT&T MOBILITY

Andrew LNX-6515DS-VT	170.00	154	1.705	1.140	0.822	0.251	34	133
Round Low Profile PI	170.00	1,500	1.705	1.140	0.822	0.251	327	1,292
RCU	160.00	3	1.510	0.526	0.555	0.146	0	3
DragonWave Horizon C	160.00	34	1.510	0.526	0.555	0.146	4	30
Samsung U-RAS	160.00	99	1.510	0.526	0.555	0.146	13	85
Argus LLPX310R	160.00	86	1.510	0.526	0.555	0.146	11	74
DragonWave A-ANT-18G	160.00	81	1.510	0.526	0.555	0.146	10	70
Side Arms	160.00	560	1.510	0.526	0.555	0.146	71	482
Powerwave LGP21401	154.00	85	1.399	0.282	0.431	0.093	7	73
Raycap DC6-48-60-18-	154.00	64	1.399	0.282	0.431	0.093	5	55
Ericsson RRUS 4478 B	154.00	180	1.399	0.282	0.431	0.093	15	155
Ericsson RRUS 11 (Ba	154.00	165	1.399	0.282	0.431	0.093	13	142
Ericsson RRUS 32	154.00	165	1.399	0.282	0.431	0.093	13	142
Ericsson RRUS 12	154.00	150	1.399	0.282	0.431	0.093	12	129
Ericsson RRUS 32 B66	154.00	159	1.399	0.282	0.431	0.093	13	137
Ericsson RRUS 32 B2	154.00	159	1.399	0.282	0.431	0.093	13	137
Raycap DC6-48-60-0-8	154.00	16	1.399	0.282	0.431	0.093	1	14
Kathrein Scala 800 1	154.00	139	1.399	0.282	0.431	0.093	11	120
Quintel QS66512-2	154.00	111	1.399	0.282	0.431	0.093	9	96
CCI OPA-65R-LCUU-H8	154.00	264	1.399	0.282	0.431	0.093	21	227
CCI TPA-65R-LCUUUU-H	154.00	163	1.399	0.282	0.431	0.093	13	141
Round Low Profile PI	154.00	1,500	1.399	0.282	0.431	0.093	122	1,292
Alcatel-Lucent 800 M	140.00	192	1.156	-0.033	0.223	0.002	0	165
Alcatel-Lucent 1900M	140.00	132	1.156	-0.033	0.223	0.002	0	114
Alcatel-Lucent TD-RR	140.00	198	1.156	-0.033	0.223	0.002	0	171
RFS APXVTM14-C-I20	140.00	159	1.156	-0.033	0.223	0.002	0	137
RFS APXV9ERR18-C-A20	140.00	62	1.156	-0.033	0.223	0.002	0	53
RFS APXVSP18-C-A20	140.00	114	1.156	-0.033	0.223	0.002	0	98
Round Low Profile PI	140.00	1,500	1.156	-0.033	0.223	0.002	3	1,292
Alcatel-Lucent RRH2X	110.00	132	0.714	-0.091	0.033	-0.051	-6	114
Alcatel-Lucent RRH2X	110.00	129	0.714	-0.091	0.033	-0.051	-6	111
Alcatel-Lucent RRH2x	110.00	170	0.714	-0.091	0.033	-0.051	-8	146
Antel BXA-80063/4CF	110.00	30	0.714	-0.091	0.033	-0.051	-1	26
RFS DB-T1-6Z-8AB-0Z	110.00	88	0.714	-0.091	0.033	-0.051	-4	76
Antel BXA-70063-6CF-	110.00	51	0.714	-0.091	0.033	-0.051	-2	44
Commscope SBNHH-	110.00	244	0.714	-0.091	0.033	-0.051	-11	210
Flat Low Profile Pla	110.00	1,500	0.714	-0.091	0.033	-0.051	-67	1,292
		50,865	93.534	30.422	30.024	7.478	2,358	43,804

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	-61.11	-2.34	0.00	-309.28	0.00	309.28	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.065
5.00	-59.24	-2.31	0.00	-297.56	0.00	297.56	4,547.42	2,273.71	11,437.5	5,727.25	0.01	-0.01	0.065
10.00	-57.41	-2.27	0.00	-285.99	0.00	285.99	4,488.01	2,244.00	11,005.7	5,511.07	0.03	-0.02	0.065
15.00	-55.61	-2.23	0.00	-274.63	0.00	274.63	4,425.86	2,212.93	10,575.0	5,295.36	0.06	-0.04	0.064
20.00	-53.86	-2.18	0.00	-263.50	0.00	263.50	4,360.98	2,180.49	10,145.6	5,080.38	0.10	-0.05	0.064
25.00	-52.14	-2.13	0.00	-252.62	0.00	252.62	4,293.36	2,146.68	9,718.32	4,866.38	0.16	-0.06	0.064
30.00	-51.72	-2.12	0.00	-241.99	0.00	241.99	4,223.01	2,111.51	9,293.47	4,653.64	0.23	-0.08	0.064
31.25	-49.46	-2.04	0.00	-239.34	0.00	239.34	4,205.00	2,102.50	9,187.70	4,600.68	0.25	-0.08	0.064
35.00	-47.98	-1.99	0.00	-231.70	0.00	231.70	4,149.93	2,074.96	8,871.62	4,442.40	0.32	-0.09	0.064
37.50	-47.15	-1.96	0.00	-226.74	0.00	226.74	4,149.47	2,074.73	8,869.01	4,441.10	0.37	-0.10	0.062
40.00	-45.53	-1.91	0.00	-221.83	0.00	221.83	4,111.89	2,055.95	8,659.38	4,336.13	0.43	-0.11	0.062
45.00	-43.95	-1.85	0.00	-212.30	0.00	212.30	4,034.69	2,017.35	8,243.04	4,127.64	0.55	-0.12	0.062
50.00	-42.40	-1.80	0.00	-203.04	0.00	203.04	3,954.76	1,977.38	7,830.99	3,921.32	0.68	-0.14	0.063
55.00	-40.90	-1.75	0.00	-194.04	0.00	194.04	3,872.09	1,936.05	7,423.76	3,717.40	0.84	-0.16	0.063
60.00	-39.94	-1.72	0.00	-185.29	0.00	185.29	3,786.70	1,893.35	7,021.86	3,516.15	1.01	-0.17	0.063
63.25	-39.04	-1.69	0.00	-179.71	0.00	179.71	3,729.72	1,864.86	6,763.73	3,386.89	1.13	-0.19	0.064
65.00	-37.14	-1.62	0.00	-176.76	0.00	176.76	3,698.56	1,849.28	6,625.81	3,317.83	1.20	-0.19	0.063
68.75	-36.78	-1.61	0.00	-170.70	0.00	170.70	3,675.54	1,837.77	6,525.34	3,267.52	1.36	-0.21	0.062
70.00	-35.37	-1.56	0.00	-168.69	0.00	168.69	3,652.91	1,826.45	6,427.71	3,218.63	1.41	-0.21	0.062
75.00	-33.99	-1.53	0.00	-160.87	0.00	160.87	3,560.66	1,780.33	6,041.44	3,025.21	1.65	-0.23	0.063
80.00	-32.66	-1.51	0.00	-153.23	0.00	153.23	3,465.68	1,732.84	5,662.31	2,835.36	1.90	-0.25	0.063
85.00	-31.36	-1.50	0.00	-145.69	0.00	145.69	3,367.96	1,683.98	5,290.83	2,649.35	2.18	-0.28	0.064
90.00	-30.10	-1.51	0.00	-138.19	0.00	138.19	3,252.82	1,626.41	4,905.37	2,456.33	2.48	-0.30	0.066
95.00	-29.83	-1.52	0.00	-130.65	0.00	130.65	3,118.51	1,559.26	4,506.69	2,256.70	2.81	-0.32	0.067
96.08	-28.19	-1.54	0.00	-129.00	0.00	129.00	3,089.41	1,544.71	4,422.54	2,214.56	2.88	-0.33	0.067
100.00	-27.88	-1.55	0.00	-122.98	0.00	122.98	2,984.21	1,492.10	4,124.91	2,065.52	3.16	-0.35	0.069
100.75	-26.86	-1.57	0.00	-121.82	0.00	121.82	3,030.38	1,515.19	4,254.26	2,130.29	3.22	-0.36	0.066
105.00	-25.70	-1.62	0.00	-115.12	0.00	115.12	2,916.22	1,458.11	3,938.09	1,971.97	3.55	-0.38	0.067
110.00	-21.75	-1.75	0.00	-107.04	0.00	107.04	2,781.91	1,390.96	3,581.76	1,793.54	3.96	-0.41	0.067
115.00	-20.74	-1.79	0.00	-98.31	0.00	98.31	2,647.61	1,323.80	3,242.33	1,623.57	4.41	-0.44	0.068
120.00	-19.77	-1.83	0.00	-89.36	0.00	89.36	2,513.30	1,256.65	2,919.79	1,462.07	4.89	-0.48	0.069
125.00	-18.88	-1.86	0.00	-80.21	0.00	80.21	2,378.99	1,189.50	2,614.15	1,309.02	5.41	-0.51	0.069
129.75	-18.81	-1.87	0.00	-71.37	0.00	71.37	2,251.40	1,125.70	2,339.44	1,171.46	5.94	-0.55	0.069
130.00	-17.78	-1.89	0.00	-70.90	0.00	70.90	2,244.69	1,122.34	2,325.40	1,164.43	5.96	-0.55	0.069
133.58	-17.55	-1.89	0.00	-64.14	0.00	64.14	1,841.02	920.51	1,881.29	942.04	6.39	-0.58	0.078
135.00	-16.78	-1.90	0.00	-61.46	0.00	61.46	1,809.31	904.65	1,816.65	909.67	6.56	-0.59	0.077
140.00	-13.14	-1.86	0.00	-51.96	0.00	51.96	1,697.39	848.69	1,597.52	799.95	7.20	-0.63	0.073
145.00	-12.46	-1.84	0.00	-42.67	0.00	42.67	1,585.46	792.73	1,392.48	697.27	7.88	-0.68	0.069
150.00	-11.93	-1.81	0.00	-33.47	0.00	33.47	1,473.54	736.77	1,201.51	601.65	8.61	-0.72	0.064
154.00	-7.73	-1.49	0.00	-26.23	0.00	26.23	1,384.00	692.00	1,058.88	530.23	9.23	-0.75	0.055
155.00	-7.28	-1.44	0.00	-24.74	0.00	24.74	1,361.62	680.81	1,024.63	513.08	9.39	-0.76	0.054
160.00	-5.85	-1.28	0.00	-17.52	0.00	17.52	1,249.70	624.85	861.82	431.55	10.21	-0.80	0.045
164.33	-5.76	-1.27	0.00	-11.99	0.00	11.99	1,152.70	576.35	732.11	366.60	10.95	-0.83	0.038
165.00	-5.47	-1.22	0.00	-11.14	0.00	11.14	1,137.78	568.89	713.10	357.08	11.06	-0.83	0.036
167.25	-5.29	-1.19	0.00	-8.40	0.00	8.40	903.09	451.54	563.74	282.29	11.46	-0.85	0.036
170.00	-2.17	-0.59	0.00	-5.13	0.00	5.13	853.84	426.92	503.47	252.11	11.95	-0.86	0.023
175.00	-2.00	-0.55	0.00	-2.19	0.00	2.19	764.30	382.15	402.61	201.60	12.86	-0.88	0.013
179.00	0.00	-0.52	0.00	0.00	0.00	0.00	692.67	346.34	330.04	165.26	13.60	-0.88	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	-42.48	-2.34	0.00	-302.50	0.00	302.50	4,604.11	2,302.05	11,869.6	5,943.65	0.00	0.00	0.060
5.00	-41.18	-2.31	0.00	-290.80	0.00	290.80	4,547.42	2,273.71	11,437.5	5,727.25	0.01	-0.01	0.060
10.00	-39.91	-2.26	0.00	-279.26	0.00	279.26	4,488.01	2,244.00	11,005.7	5,511.07	0.02	-0.02	0.060
15.00	-38.66	-2.21	0.00	-267.95	0.00	267.95	4,425.86	2,212.93	10,575.0	5,295.36	0.06	-0.04	0.059
20.00	-37.44	-2.16	0.00	-256.90	0.00	256.90	4,360.98	2,180.49	10,145.6	5,080.38	0.10	-0.05	0.059
25.00	-36.25	-2.10	0.00	-246.10	0.00	246.10	4,293.36	2,146.68	9,718.32	4,866.38	0.16	-0.06	0.059
30.00	-35.95	-2.09	0.00	-235.58	0.00	235.58	4,223.01	2,111.51	9,293.47	4,653.64	0.23	-0.07	0.059
31.25	-34.38	-2.01	0.00	-232.97	0.00	232.97	4,205.00	2,102.50	9,187.70	4,600.68	0.25	-0.08	0.059
35.00	-33.35	-1.96	0.00	-225.42	0.00	225.42	4,149.93	2,074.96	8,871.62	4,442.40	0.31	-0.09	0.059
37.50	-32.78	-1.93	0.00	-220.52	0.00	220.52	4,149.47	2,074.73	8,869.01	4,441.10	0.36	-0.10	0.058
40.00	-31.65	-1.88	0.00	-215.68	0.00	215.68	4,111.89	2,055.95	8,659.38	4,336.13	0.42	-0.10	0.057
45.00	-30.55	-1.82	0.00	-206.31	0.00	206.31	4,034.69	2,017.35	8,243.04	4,127.64	0.53	-0.12	0.058
50.00	-29.48	-1.76	0.00	-197.21	0.00	197.21	3,954.76	1,977.38	7,830.99	3,921.32	0.67	-0.14	0.058
55.00	-28.43	-1.71	0.00	-188.39	0.00	188.39	3,872.09	1,936.05	7,423.76	3,717.40	0.82	-0.15	0.058
60.00	-27.76	-1.68	0.00	-179.84	0.00	179.84	3,786.70	1,893.35	7,021.86	3,516.15	0.99	-0.17	0.058
63.25	-27.14	-1.64	0.00	-174.39	0.00	174.39	3,729.72	1,864.86	6,763.73	3,386.89	1.10	-0.18	0.059
65.00	-25.81	-1.57	0.00	-171.51	0.00	171.51	3,698.56	1,849.28	6,625.81	3,317.83	1.17	-0.19	0.059
68.75	-25.56	-1.56	0.00	-165.61	0.00	165.61	3,675.54	1,837.77	6,525.34	3,267.52	1.32	-0.20	0.058
70.00	-24.58	-1.52	0.00	-163.65	0.00	163.65	3,652.91	1,826.45	6,427.71	3,218.63	1.38	-0.21	0.058
75.00	-23.63	-1.48	0.00	-156.07	0.00	156.07	3,560.66	1,780.33	6,041.44	3,025.21	1.60	-0.23	0.058
80.00	-22.70	-1.46	0.00	-148.66	0.00	148.66	3,465.68	1,732.84	5,662.31	2,835.36	1.85	-0.25	0.059
85.00	-21.80	-1.45	0.00	-141.37	0.00	141.37	3,367.96	1,683.98	5,290.83	2,649.35	2.12	-0.27	0.060
90.00	-20.92	-1.45	0.00	-134.13	0.00	134.13	3,252.82	1,626.41	4,905.37	2,456.33	2.41	-0.29	0.061
95.00	-20.74	-1.46	0.00	-126.86	0.00	126.86	3,118.51	1,559.26	4,506.69	2,256.70	2.73	-0.32	0.063
96.08	-19.59	-1.48	0.00	-125.27	0.00	125.27	3,089.41	1,544.71	4,422.54	2,214.56	2.80	-0.32	0.063
100.00	-19.38	-1.49	0.00	-119.47	0.00	119.47	2,984.21	1,492.10	4,124.91	2,065.52	3.08	-0.34	0.064
100.75	-18.67	-1.52	0.00	-118.35	0.00	118.35	3,030.38	1,515.19	4,254.26	2,130.29	3.13	-0.35	0.062
105.00	-17.86	-1.56	0.00	-111.90	0.00	111.90	2,916.22	1,458.11	3,938.09	1,971.97	3.45	-0.37	0.063
110.00	-15.11	-1.69	0.00	-104.10	0.00	104.10	2,781.91	1,390.96	3,581.76	1,793.54	3.85	-0.40	0.063
115.00	-14.41	-1.74	0.00	-95.64	0.00	95.64	2,647.61	1,323.80	3,242.33	1,623.57	4.29	-0.43	0.064
120.00	-13.74	-1.77	0.00	-86.96	0.00	86.96	2,513.30	1,256.65	2,919.79	1,462.07	4.76	-0.46	0.065
125.00	-13.12	-1.80	0.00	-78.09	0.00	78.09	2,378.99	1,189.50	2,614.15	1,309.02	5.26	-0.50	0.065
129.75	-13.07	-1.81	0.00	-69.52	0.00	69.52	2,251.40	1,125.70	2,339.44	1,171.46	5.77	-0.53	0.065
130.00	-12.35	-1.83	0.00	-69.07	0.00	69.07	2,244.69	1,122.34	2,325.40	1,164.43	5.80	-0.53	0.065
133.58	-12.20	-1.84	0.00	-62.52	0.00	62.52	1,841.02	920.51	1,881.29	942.04	6.21	-0.56	0.073
135.00	-11.66	-1.84	0.00	-59.92	0.00	59.92	1,809.31	904.65	1,816.65	909.67	6.38	-0.57	0.072
140.00	-9.13	-1.81	0.00	-50.71	0.00	50.71	1,697.39	848.69	1,597.52	799.95	7.00	-0.61	0.069
145.00	-8.65	-1.79	0.00	-41.66	0.00	41.66	1,585.46	792.73	1,392.48	697.27	7.67	-0.66	0.065
150.00	-8.29	-1.76	0.00	-32.72	0.00	32.72	1,473.54	736.77	1,201.51	601.65	8.38	-0.70	0.060
154.00	-5.37	-1.45	0.00	-25.67	0.00	25.67	1,384.00	692.00	1,058.88	530.23	8.98	-0.73	0.052
155.00	-5.05	-1.41	0.00	-24.22	0.00	24.22	1,361.62	680.81	1,024.63	513.08	9.13	-0.74	0.051
160.00	-4.06	-1.25	0.00	-17.16	0.00	17.16	1,249.70	624.85	861.82	431.55	9.93	-0.78	0.043
164.33	-4.00	-1.24	0.00	-11.75	0.00	11.75	1,152.70	576.35	732.11	366.60	10.65	-0.81	0.036
165.00	-3.80	-1.19	0.00	-10.92	0.00	10.92	1,137.78	568.89	713.10	357.08	10.76	-0.81	0.034
167.25	-3.67	-1.16	0.00	-8.23	0.00	8.23	903.09	451.54	563.74	282.29	11.15	-0.83	0.033
170.00	-1.51	-0.58	0.00	-5.04	0.00	5.04	853.84	426.92	503.47	252.11	11.63	-0.84	0.022
175.00	-1.39	-0.54	0.00	-2.15	0.00	2.15	764.30	382.15	402.61	201.60	12.52	-0.85	0.012
179.00	0.00	-0.52	0.00	0.00	0.00	0.00	692.67	346.34	330.04	165.26	13.24	-0.86	0.000

Site Number: 370627

Code: ANSI/TIA-222-G

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Site Name: Newington CT, CT

Engineering Number: OAA720717_C3_03

1/18/2018 2:04:31 PM

Customer: AT&T MOBILITY

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	30.03	0.00	61.00	0.00	0.00	3789.54	0.00	0.65
0.9D + 1.6W	30.01	0.00	45.74	0.00	0.00	3730.70	0.00	0.64
1.2D + 1.0Di + 1.0Wi	9.23	0.00	100.95	0.00	0.00	1235.14	0.00	0.23
(1.2 + 0.2Sds) * DL + E ELFM	1.99	0.00	61.11	0.00	0.00	287.42	0.00	0.06
(1.2 + 0.2Sds) * DL + E EMAM	2.34	0.00	61.11	0.00	0.00	309.28	133.58	0.08
(0.9 - 0.2Sds) * DL + E ELFM	1.99	0.00	42.48	0.00	0.00	281.84	0.00	0.06
(0.9 - 0.2Sds) * DL + E EMAM	2.34	0.00	42.48	0.00	0.00	302.50	133.58	0.07
1.0D + 1.0W	7.18	0.00	50.86	0.00	0.00	898.06	0.00	0.16

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	63 in
	Pole Thickness	0.375 in
	Plate Diameter	73 in
	Plate Thickness	1.5 in
	Plate Fy	50 ksi
	Weld Length	0.25 in
	ϕ_s Resistance	1731.33 k-in
	Applied	94.99 k-in
Stiffeners	#	45 Show
	Thickness	1 in
	Length	4 in
	Height	12 in
	Chamfer	0 in
	Offset Angle	0 °
	Fy	50 ksi

Bolts	#	45
	Bolt Circle (R)adial / (S)quare	68 in R
	Diameter	1.25 in
	Hole Diameter	1.375 in
	Type	A687
	Fy	105 ksi
	Fu	150 ksi
	ϕ_s Resistance	116.29 k
	Applied	60.79 k
Reinforcement	#	0
Extra Bolts O	#	0

Code Rev. **G** Date **1/18/2018**
 Engineer **T. Kassakatis**
 Site # **370627**
 Carrier **Sprint Nextel**

Moment **3789.5 k-ft**
 Axial **61.0 k**

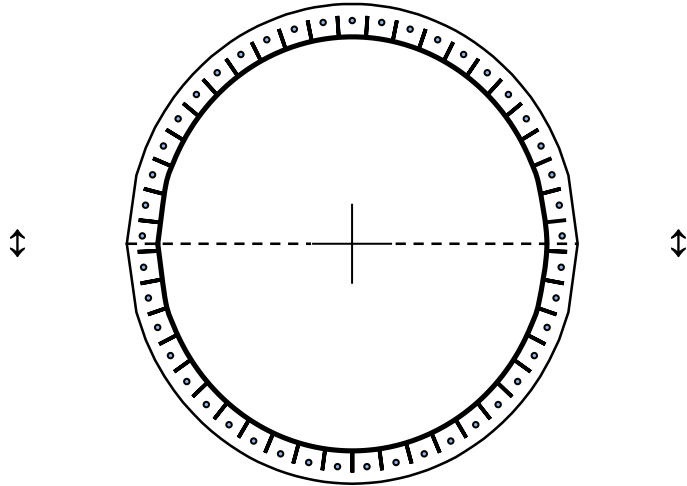


Plate Stress Ratio:
0.05 (Pass)

Bolt Stress Ratio:
0.52 (Pass)

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. Craig Minor, Town Planner
Town Planner's Office
131 Cedar Street
Newington, CT 06111**



9590 9402 3315 7196 6103 56

2. Article Number (Transfer from service label)

7016 2140 0000 9458 6474

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Alberto Comi*

- Agent
- Addressee

B. Received by (Printed Name)

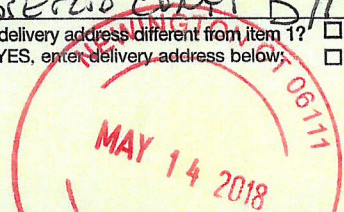
ALBERTO COMI

C. Date of Delivery

5/14/18

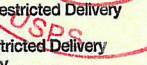
D. Is delivery address different from item 1? Yes

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



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. Douglas Jourdan
Building Official, Building Dept.
131 Cedar Street
Newington, CT 06111**



9590 9402 3315 7196 6103 63

2. Article Number (Transfer from service label)

7017 1450 0001 7926 3050

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Alberto Comi*

- Agent
- Addressee

B. Received by (Printed Name)

ALBERTO COMI

C. Date of Delivery

5/14/18

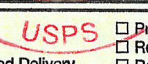
D. Is delivery address different from item 1? Yes

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



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. Shawn Dunn, APM
American Tower
10 Presidential Way
Woburn, MA 01801**



9590 9402 3315 7196 6103 49

2. Article Number (Transfer from service label)

7017 1450 0001 7926 3043

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

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *Shawn Dunn*

- Agent
- Addressee

B. Received by (Printed Name)

Dunn

C. Date of Delivery

5-14

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

Domestic Return Receipt



FAQs > (<http://faq.usps.com/?articleId=220900>)

Track Another Package +

Tracking Number: 70171450000179263067

Remove X

Your item was delivered at 10:34 am on May 16, 2018 in NEWINGTON, CT 06111.

✓ Delivered

May 16, 2018 at 10:34 am
Delivered
NEWINGTON, CT 06111

Get Updates ▾

Text & Email Updates

Tracking History

Product Information

See Less

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

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

NEWINGTON, CT 06111

Certified Mail Fee	\$3.45	\$2.77	
Extra Services & Fees (check box, add fees as appropriate)		\$0.00	
<input type="checkbox"/> Return Receipt (hardcopy)		\$0.00	
<input type="checkbox"/> Return Receipt (electronic)		\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery		\$0.00	
<input type="checkbox"/> Adult Signature Required		\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery		\$0.00	
Postage	\$2.26		
Total Postage	\$8.46		

Sent To: **Hon. Roy Zartarian, Mayor**
25 Stuart Street
Newington, CT 06111

Postmark Here: MAY 11 2018 NORTH BRITAIN MA 01703

PS Form 3849

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (<http://faq.usps.com/?articleId=220900>)