



March 23, 2016

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

Regarding: Notice of Exempt Modification – Antenna Swap,
Addition of Three Radio Heads with A2 Modules

Property Address: 500 Cooks Lane, Guilford CT 06437

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 190.6-foot self-supported tower at the above-referenced address, latitude 41.41873889, longitude -72.71170833333333. Said self-supported tower is owned by American Tower Corporation. The existing equipment shelter is 25' x 21.7' totaling 542.5 square feet.

AT&T desires to modify its existing telecommunications facility by swapping three (3) antennas and adding three remote-radio heads ("RRHs") with A2 modules. The centerline height of said antennas is and will remain at 163 feet. Antennas are mounted utilizing a platform with hand rails.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to James Mazza, the First Selectmen for the Town of Guilford. The Town of Guilford is also the landowner. A copy of this letter is also being sent to the monopole owner American Tower Corporation.

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

1. The planned modification will not result in an increase in the height of the existing structure. The antennas to be swapped will be installed at the existing height of 163 feet on the 190.6-foot self-supported tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (attached) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The self-supported tower and its foundation can support AT&T's proposed modifications (please see attached structural analysis completed by American Tower dated February 17, 2016).

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

Sincerely,



Sarah Snell
Site Acquisition Specialist

cc: James S. Mazza, First Selectman Town of Guilford, Property Owner
American Tower Corporation, Tower Owner/ Landlord

PROJECT INFORMATION

SCOPE OF WORK: • AT&T ANTENNAS: (1) NEW LTE ANTENNAS PER SECTOR TO REPLACE EXISTING ANTENNA, FOR A TOTAL OF (3) NEW LTE ANTENNAS; (6) EXISTING ANTENNAS & TMA6 TO BE RE-USED (2 PER SECTOR)
 • AT&T RRUS: (1) NEW RRU & (1) NEW A2 MODULE PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) NEW RRUs& (3) NEW A2 MODULES; (1) EXISTING RRU PER SECTOR TO BE REUSED, FOR A TOTAL OF (3) EXISTING RRUs.

SITE ADDRESS: 500 COOKS LANE
 GUILDFORD, CT 06437

LATITUDE: 41° 41' 25" 07.32"N
 LONGITUDE: -72° 42' 42.12"W

USID: 61161

TOWER OWNER: TBA

TYPE OF SITE: LATTICE TOWER/INDOOR EQUIPMENT

TOWER HEIGHT: 190'-6"±

RAD CENTER: 163'-0"±

CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

PROPOSED USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY

DRAWING INDEX

TITLE SHEET	REV.
T-1	0
GN-1	0
A-1	0
A-2	0
A-3	0
A-4	0
G-1	0

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE DESIGNER TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND ANY NECESSARY CHANGES OR SITE MODIFICATIONS.

DISCIPLINE:	NAME:	DATE:
SITE ACQUISITION:		
CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

COM-EX
 CONSULTANTS
 1501 STATE ST. 4TH FLOOR
 WASHINGTON, DC 20004
 PHONE: 462.524.4206
 FAX: 862.298.4381

EMPIRE
 telecom
 115 ESCORT ROAD
 BILERICA, MA 01821

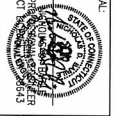
SITE NUMBER: CT2018
 SITE NAME: GUILDFORD NORTH
 500 COOKS LANE
 GUILDFORD, CT 06437
 NEW HAVEN COUNTY

at&t
 MOBILITY
 550 COCHITUALE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	ISSUED AS FINAL	NAME	NOB	NOB	NOB	NOB	NOB	NOB
0	03/22/16								

SCALE: AS SHOWN

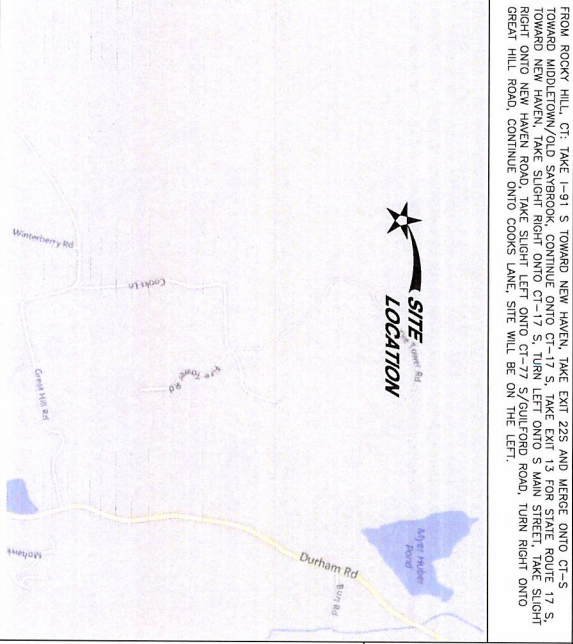
DESIGNED BY: NAME	DRAWN BY: NAME



DRAWING TITLE	DRAWING NUMBER	REV.
TITLE SHEET	T-1	0

FA CODE: 10035062
SITE NUMBER: CT2018
SITE NAME: GUILDFORD NORTH

VICINITY MAP



PROJECT TEAM

CLIENT REPRESENTATIVE
 COMPANY: EMPIRE TELECOM
 ADDRESS: 8 ESCORT ROAD
 BILERICA, MA 01821
 CONTACT: DAVID COOPER
 PHONE: 617-639-4508
 EMAIL: dcooper@empiretelecom.com

SITE ACQUISITION:
 COMPANY: EMPIRE TELECOM
 ADDRESS: 16 ESQUIRE ROAD
 BILERICA, MA 01821
 CONTACT: DAVID COOPER
 PHONE: 617-639-4508
 EMAIL: dcooper@empiretelecom.com

ENGINEERING:
 COMPANY: COM-EX CONSULTANTS, LLC
 ADDRESS: 15 ROUTE 46
 MOUNTAIN LAKES, NJ 07046
 CONTACT: NICHOLAS D. BARILE, P.E.
 PHONE: 862-209-4300
 EMAIL: nbarile@comexconsultants.com

RE ENGINEER:
 COMPANY: AT&T MOBILITY - NEW ENGLAND
 ADDRESS: 550 COCHITUALE ROAD
 FRAMINGHAM, MA 01701
 CONTACT: CAVERON SYME
 PHONE: 508-396-7146
 EMAIL: cs9770@att.com

CONSTRUCTION MANAGEMENT:
 COMPANY: EMPIRE TELECOM
 ADDRESS: 16 ESQUIRE ROAD
 BILERICA, MA 01821
 CONTACT: GARZEOZ, GREGG DORMAN
 PHONE: 617-639-7590
 EMAIL: gdorman@empiretelecom.com

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY, AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND REGULATOR AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PERMANENT AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSIBLE BY TRAINED TECHNICIANS FOR SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811

GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY INCLUDING THE LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC, THE NATIONAL ELECTRICAL CODE, AND THE SITE-SPECIFIC (UL, LP, OR NFPA) LIGHTING PROTECTION STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GCS'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (SEE IEEE 1100 AND 61) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS PER FOOT OF GROUND. THE CONTRACTOR SHALL PROVIDE A COPY OF THE TEST REPORT (2547-000-325-1600-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES).
4. METAL RACKWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT BONDING AND SUPPLEMENTAL GROUNDING. THE NEC SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES. 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTI-OXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSORS AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER GAO STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES WITH THE NEC SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY DISCONTINUOUS WITH 8 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR SPECIAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC OR PLASTIC CONDUIT SHALL BE USED. THE CONTRACTOR SHALL PROVIDE A COPY OF THE NEC AND NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODES TO THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND THE LIGHTNING PROTECTION SYSTEM. THE MINIMUM WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE "X" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - EMPIRE TELECOM
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T MOBILITY EQUIPMENT MANUFACTURER
 GEM - ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED WITHIN THE EXISTING DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND REQUIREMENTS. SUBCONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROPRIATE NOTICES FROM ALL APPLICABLE LOCAL, STATE AND FEDERAL AGENCIES AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND 11 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF THE WORKING SHALL BE APPROVED BY CONTRACTOR.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION WORK SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DETAIL, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. STRUCTURAL STEEL SHALL BE GALVANIZED TO 28 LB/100 SQ FT. STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SPATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-00-3495-4002-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES".
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHALL BE ON THE DRAWINGS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY THE SUBCONTRACTOR SHALL BE SCHEDULED TO OCCUR DURING OFF HOURS OF OPERATION. ALL CONSTRUCTION WORK MUST BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT-DOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
 - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
 - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
 - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
 - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
 - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;
 - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
 - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM (IEEE 1100 (1999)) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
 - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING REQUIREMENTS OF CONSTRUCTION, OR FOR ANY CONFLICTS BETWEEN THE MOST RESTRICTIVE REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



1315 E. 46th Ave
 Suite 100
 Waukegan, IL 60087
 Phone: 847.263.2400
 Fax: 847.263.2381



112 ESCROW ROAD
 BILLERICA, MA 01821

SITE NUMBER: CT2018

SITE NAME: GUILFORD NORTH

500 COOKS LANE
 GUILFORD, CT 06437
 NEW HAVEN COUNTY



550 COCHITAUET ROAD
 FFAVINGHAM, MA 01701

NOI	0	03/22/16	ISSUED AS FINAL	NAM	NIB	NIB
SCALE AS SHOWN			DESIGNED BY: NAM	DRAWN BY: NAM	CHK: CJK	APP: J



AT&T

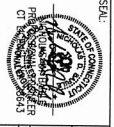
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JOB NUMBER: 16003-EMP

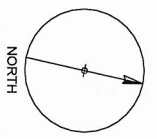
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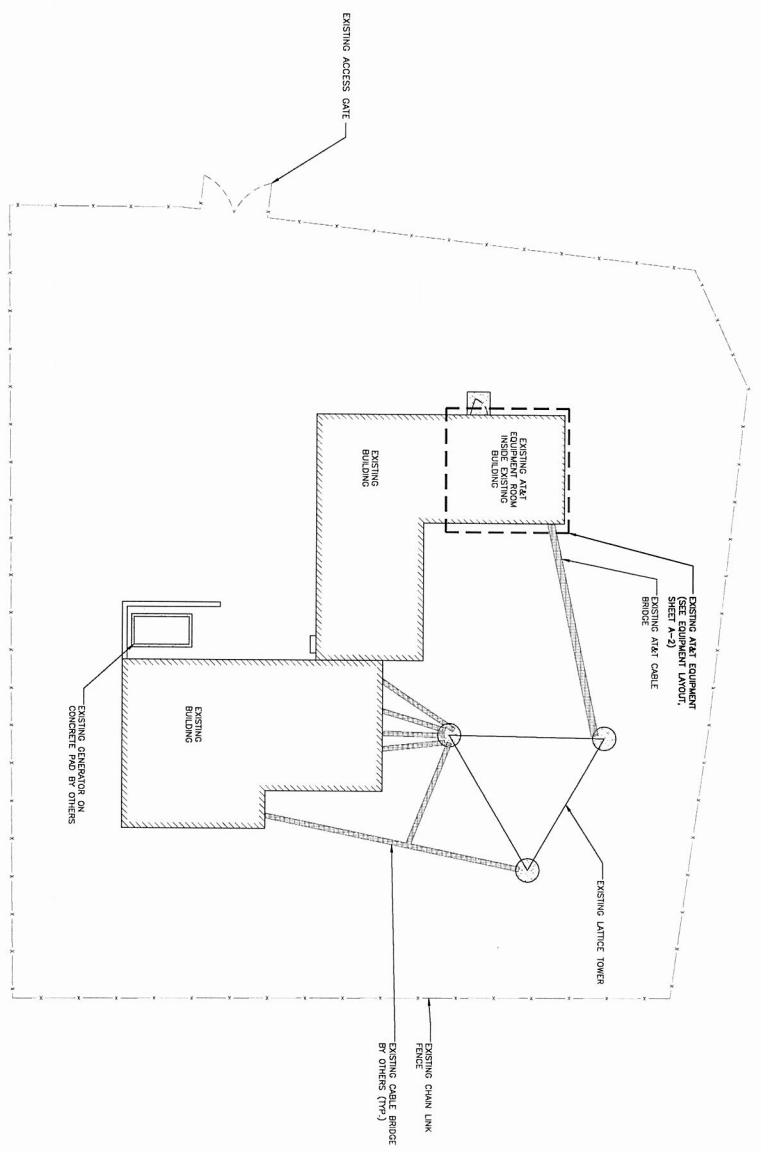
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0	03/22/16	ISSUED AS FINAL	DESIGNED BY: NAM	DRAWN BY: NAM	CHECKED BY: NAM
SCALE: AS SHOWN					



AT&T	
DRAWING TITLE	COMPOUND LAYOUT
JOB NUMBER	16003-EAP
DRAWING NUMBER	A-1
REV	0



COMPOUND LAYOUT
 SCALE: 3/32" = 1'-0"
 GRAPHIC SCALE: 3/32" = 1'-0"



COM-EX
CONSULTANTS

1000 STATE ST. SUITE 1000
BOSTON, MA 02118
PHONE: 617.269.4200
FAX: 617.269.4201

EMPIRE
telecom

116 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT2018
SITE NAME: GUILFORD NORTH

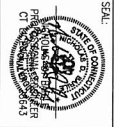
500 COOKS LANE
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t
MOBILITY

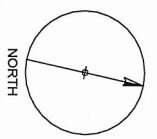
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	ISSUED AS FINAL	DESIGNED BY: NJM	DRAWN BY: NJM	NO.	DATE	ISSUED AS FINAL	DESIGNED BY: NJM	DRAWN BY: NJM
0	06/22/16								

SCALE: AS SHOWN



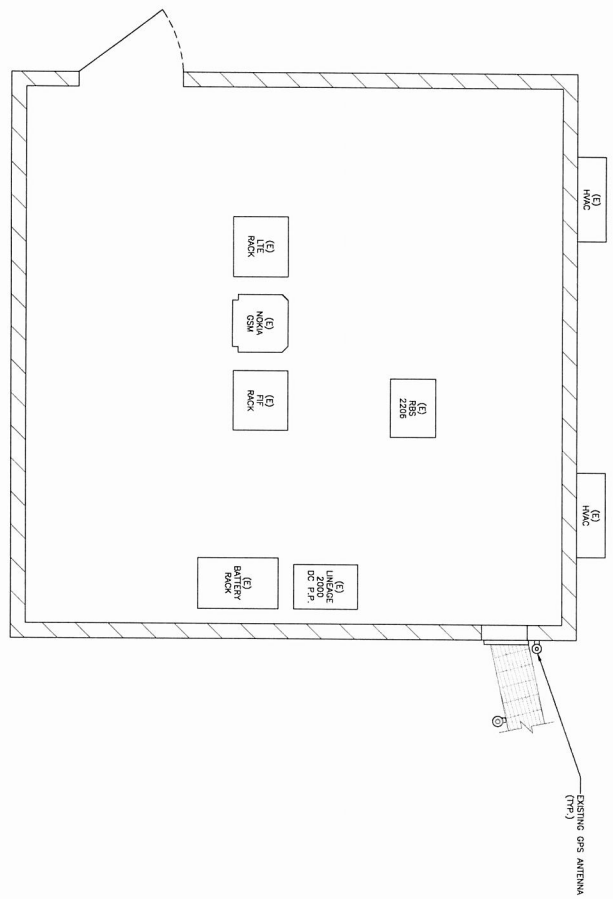
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EQUIPMENT LAYOUT			
JOB NUMBER	16003-EMP	DRAWING NUMBER	A-2
REV			0



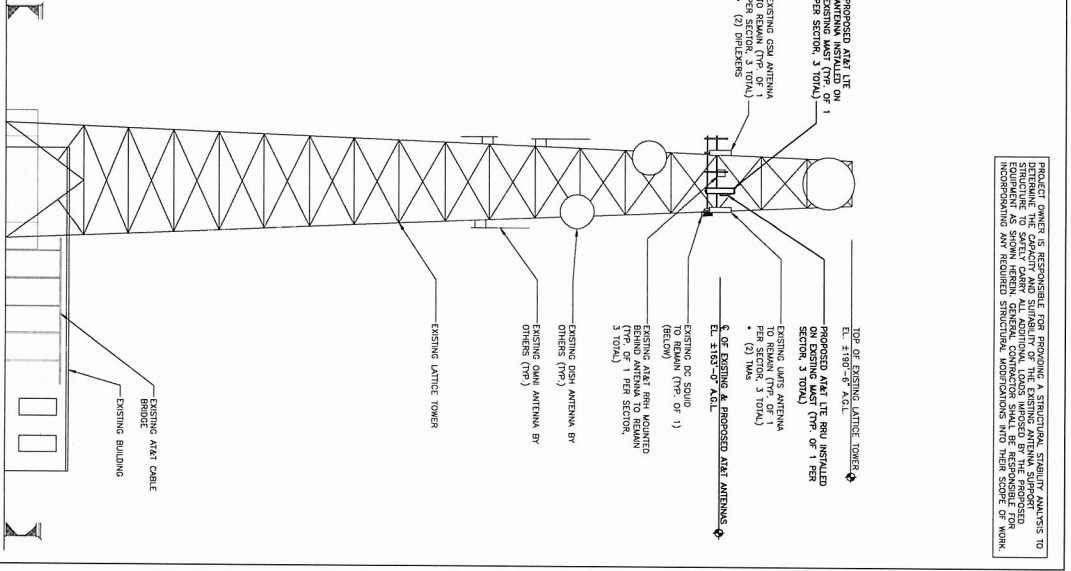
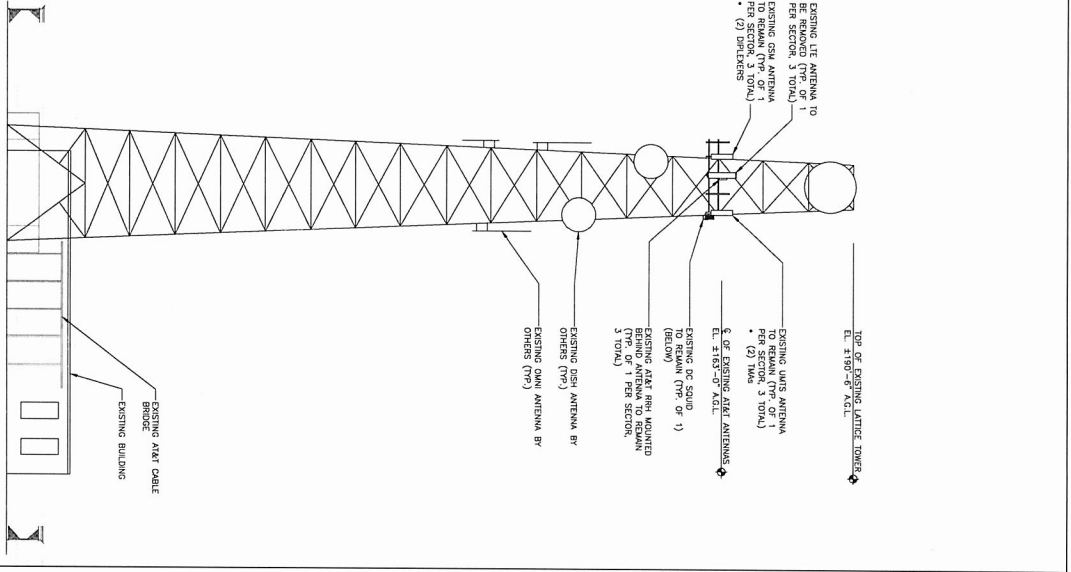
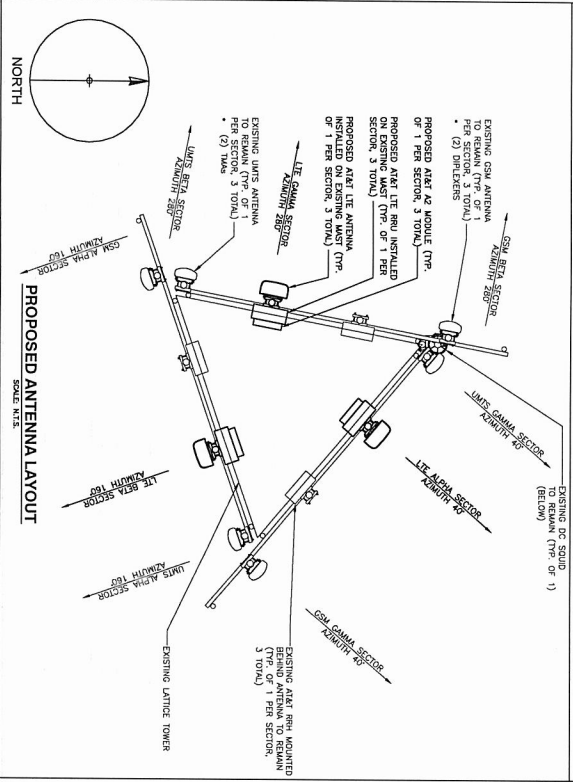
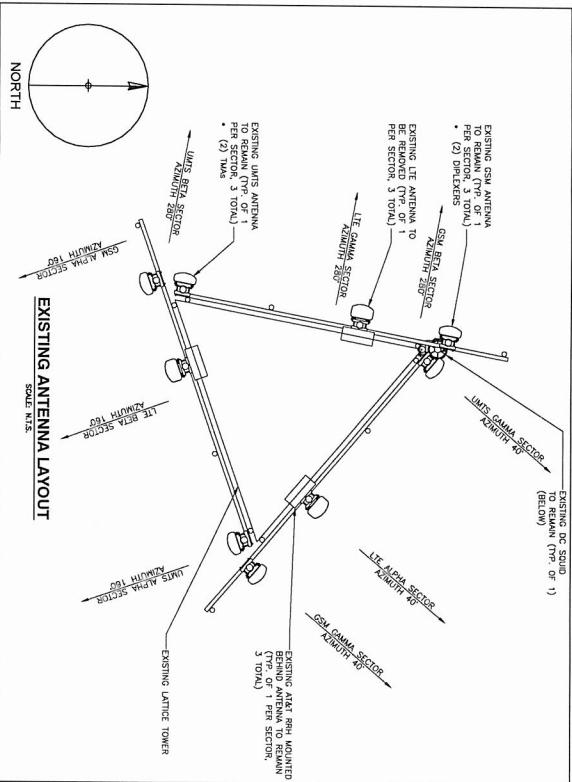
EXISTING EQUIPMENT LAYOUT

SCALE: 1/2" = 1'-0"

GRAPHIC SCALE: 1/2" = 1'-0"



PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO THE ENGINEER FOR THE EXISTING ANTENNA SUPPORT STRUCTURE TO VERIFY THAT THE EXISTING ANTENNA SUPPORT STRUCTURE IS CAPABLE OF SUPPORTING THE PROPOSED ANTENNA EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE EXISTING ANTENNA SUPPORT STRUCTURE MEETS ALL NECESSARY INSPECTION AND TESTING REQUIREMENTS AND THAT THE STRUCTURE IS CAPABLE OF SUPPORTING THE PROPOSED ANTENNA EQUIPMENT AS SHOWN HEREIN.



COM-EX
Consultants

138 W. HILL ST.
SUITE 400
WASHINGTON, MA 01894
TEL: 603.229.4200
FAX: 603.229.4381

EMPIRE
telecom

111 ESCORT ROAD
BILERICA, MA 01821

SITE NUMBER: CT2018
SITE NAME: GUILFORD NORTH

500 COOKS LANE
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t
MOBILITY

550 COCHITUCKET ROAD
FRAMMINGHAM, MA 01701

NO.	DATE	ISSUED AS FINAL	NAME	NO.	DATE	DESIGNED BY	NAME	NO.	DATE	DRAWN BY	NAME
0	03/27/16										

SCALE: AS SHOWN

STATE OF CONNECTICUT
REGISTERED PROFESSIONAL ENGINEER
NO. 26145
DATE: 03/27/16

AT&T

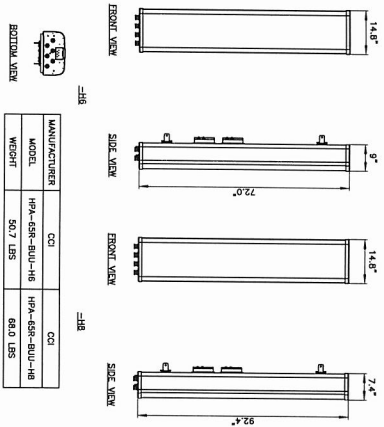
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JOB NUMBER: 16003-EMP

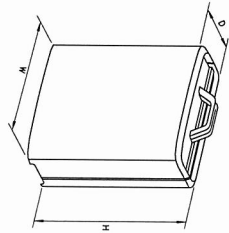
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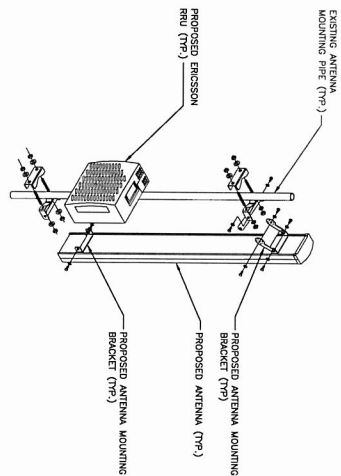
SCALE: 1/8" = 1'-0"



LTE ANTENNA DETAIL
SCALE: N.T.S.



RRUS DETAIL
SCALE: N.T.S.



ANTENNA AND RRU MOUNTING DETAIL
SCALE: N.T.S.

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770.00	55"x11"x5"
	A2	ANDREW	—	—
	A3	ANDREW	SBNH-1D5656C	96.4"x11.9"x7.1"
	A4	POWERWAVE	7770.00	55"x11"x5"
BETA	B1	POWERWAVE	7770.00	55"x11"x5"
	B2	ANDREW	—	—
	B3	ANDREW	SBNH-1D5656C	96.4"x11.9"x7.1"
	B4	POWERWAVE	7770.00	55"x11"x5"
GAMMA	G1	POWERWAVE	7770.00	55"x11"x5"
	G2	KW	—	—
	G3	KW	AM-X-CO-16-65-001-RET	72"x11.8"x5.9"
	G4	POWERWAVE	7770.00	55"x11"x5"

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770.00	55"x11"x5"
	A2	CCI	HPA-65R-BUJ-H8	92.4"x14.8"x7.4"
	A3	—	—	—
	A4	POWERWAVE	7770.00	55"x11"x5"
BETA	B1	POWERWAVE	7770.00	55"x11"x5"
	B2	CCI	HPA-65R-BUJ-H8	92.4"x14.8"x7.4"
	B3	—	—	—
	B4	POWERWAVE	7770.00	55"x11"x5"
GAMMA	G1	POWERWAVE	7770.00	55"x11"x5"
	G2	CCI	HPA-65R-BUJ-H8	72"x14.8"x9"
	G3	—	—	—
	G4	POWERWAVE	7770.00	55"x11"x5"

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO THE STRUCTURE TO BE SHOWN HEREIN. ENGINEER/CONTRACTOR SHALL BE RESPONSIBLE FOR EQUIPMENT TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED STRUCTURE AND FOR THE STRUCTURAL INTEGRATION INTO THE SITE'S EXISTING INFRASTRUCTURE AND FOUNDATION STRUCTURE. INDENTATIONS INTO THE SITE'S EXISTING INFRASTRUCTURE SHALL BE MARKED.

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"	—	—
BETA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"	—	—
GAMMA	ERICSSON	RRUS-12	20.4"x18.5"x7.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"	—	—

PROPOSED RRH SCHEDULE

COM-EX
Consultants
10001 SHUTE CHASE
SUITE 200
P.O. BOX 4420
706 862-2843

EMPIRE
telecom
16 ESCUJIE ROAD
BILLERICA, MA 01821

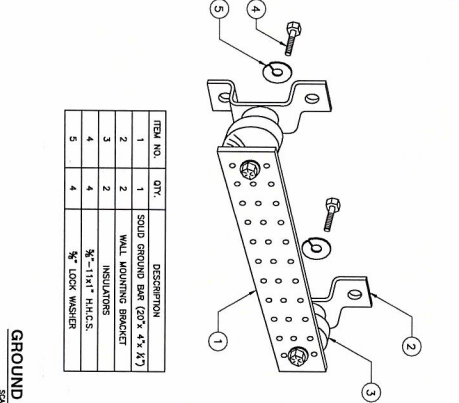
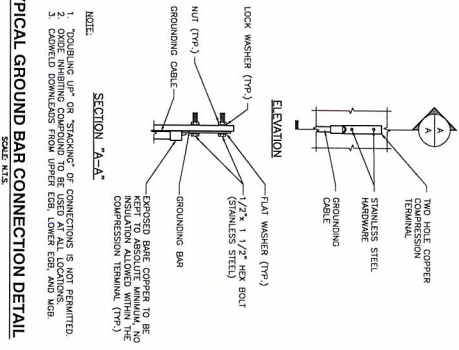
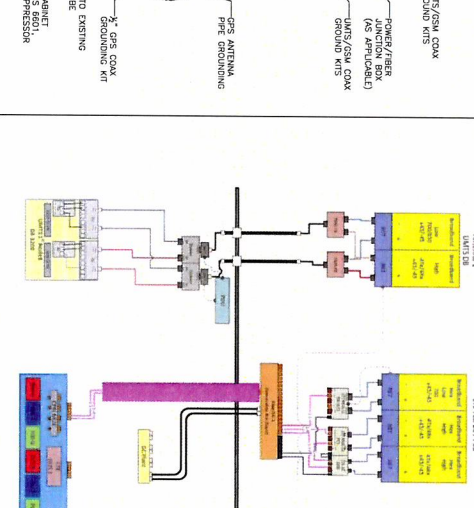
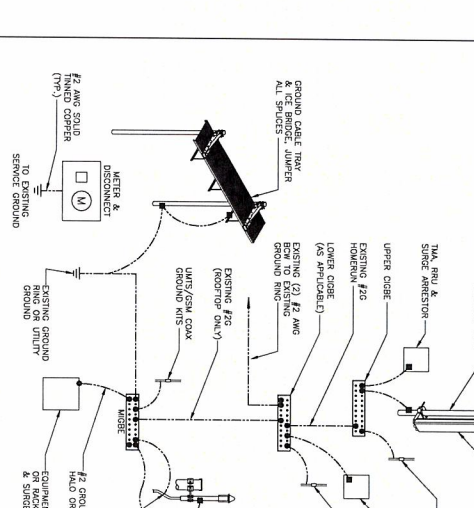
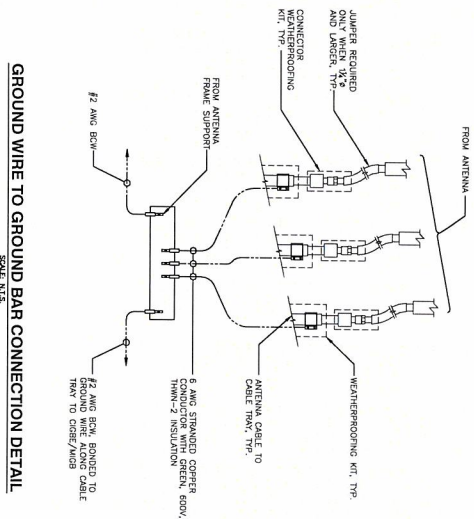
SITE NUMBER: CT2018
SITE NAME: GUILFORD NORTH
500 COOKS LANE
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMMINGHAM, MA 01701

NO.	DATE	ISSUED AS	DESIGNED BY	DRAWN BY
0	03/22/16	ISSUED AS FINAL		



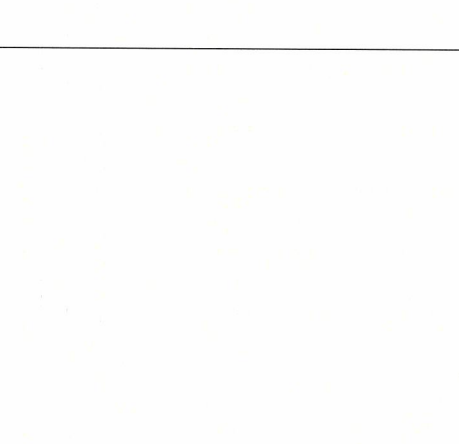
AT&T
DRAWING TITLE: **ANTENNA LAYOUTS & ELEVATION**
JOB NUMBER: 16003-EUP
DRAWING NUMBER: A-4
0



NOTE: 1. TIGHTENING OF CONNECTIONS IS NOT PERMITTED. 2. EXISTING CONNECTIONS TO BE USED AT ALL LOCATIONS. 3. CORROSION RESISTANT FROM SPHERICAL, LAMINAR, AND 90°.

NOTE: 1. TIGHTENING OF CONNECTIONS IS NOT PERMITTED. 2. EXISTING CONNECTIONS TO BE USED AT ALL LOCATIONS. 3. CORROSION RESISTANT FROM SPHERICAL, LAMINAR, AND 90°.

ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20" x 4" x 3")
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	3/4" x 1 1/4" FLNCS
5	4	3/4" LOCK WASHER



COM-EX
Consultants
1000 ROUTE 1
SUITE 100
MONTICELLO, VA 22946
PHONE: 863-209-4300
FAX: 863-209-4301

EMPIRE
telecom
115 ESCUWEE ROAD
BULLOCKIA, VA 01821

SITE NUMBER: CT2018
SITE NAME: GUILFORD NORTH
500 COOKS LANE
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t
MOBILITY
550 COCHILLATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	ISSUED AS FINAL	DATE	DESIGNED BY	DRAWN BY
0	03/22/16				



AT&T
DRAWING TITLE:
GROUNDING, ONE-LINE DIAGRAM & DETAILS
JOB NUMBER: 16003-EMP
DRAWING NUMBER: G-1



AMERICAN TOWER®
CORPORATION

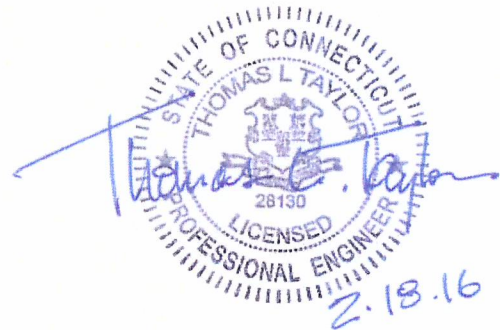
This report was prepared for American Tower Corporation by



Structural Analysis Report

Structure : 190.6 ft Self Supported Tower
ATC Site Name : GLFD-Guilford Rebuild CT, CT
ATC Site Number : 311305
Engineering Number : 65304822
Proposed Carrier : AT&T Mobility
Carrier Site Name : Guilford North
Carrier Site Number : CT2017/FA#10035062
Site Location : 10 Tanner Marsh Road
Guilford, CT 06437-2942
41.288608, -72.658281
County : New Haven
Date : February 17, 2016
Max Usage : 92%
Result : Pass

Prepared By:
Kyle Klabunde
SES Structural Engineer





AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



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SES Structural Engineer



Table of Contents

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190.6 ft self supported tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	Nello Job #RFQ34841, dated April 8, 2011
Foundation Drawing	ATC Job #47517572B, dated June 15, 2011
Geotechnical Report	GEOservices Project #21-07254, dated March 11, 2008

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:	110 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Spectral Response:	$S_s = 0.17, S_1 = 0.06$
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					
187.0	192.0	3	10' Dipole	Leg	(3) 1 1/4" Coax	Town Of Guilford
183.0	182.0	3	RCU (Remote Control Unit)	Side Arms	(6) 1 5/8" Coax Stacked (3/3) (1) 3/8" Coax	Metro PCS, Inc.
		3	RFS APXV18-206517S-C			
175.0	176.0	3	Ericsson AIR 21 B4A B2P	Sector Frames	(12) 1 5/8" Coax Stacked (6/6) (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1700/2100			
		3	Ericsson KRY 112 144/1			
163.0	163.0	2	Raycap DC6-48-60-18-8F	Sector Frames	(12) 1 5/8" Coax Stacked (6/6) (2) 0.39" Fiber Trunk (2) 0.74" 8 AWG 7 (2) 0.78" 8 AWG 6 (6) 3/8" RET Control Cable (1) 1/2" Coax	AT&T Mobility
		3	Ericsson RRUS-11 (19.7â€œ□)			
		6	Powerwave Allgon 7770.00			
		6	Powerwave Allgon 7020			
		6	Powerwave Allgon LGP21901			
142.0	144.5	2	Diamond X50A	Side Arms	(2) 1/2" Coax	Senet, Inc.
141.0	147.0	1	4' Dish w/ Radome	Sector Frame w/ Side Arm	(7) 7/8" Coax Stacked (3/4)	Town Of Guilford
	145.0	2	4' Dish w/ Radome			
	139.0	1	4' Dish w/ Radome			
	146.0	3	5' Dipole			
122.0	138.0	1	Shively 6810-HW-2 w/ Radome	Leg	(1) 7/8" Coax (1) 1 5/8" Coax	Monroe Board Of Education
		1	Shively 6812B-1 w/o Radome			
108.8	108.8	1	Scala PR-950	Leg	(1) 7/8" Coax	
87.0	91.0	1	Antel BCD-87010 __ 4"	Stand-Off	(1) 1 5/8" Coax	Spok Holdings, Inc.
80.0	80.0	2	4' Dish w/ Radome	Leg	(2) 7/8" Coax	Town Of Guilford
17.0	17.0	1	Channel Master Type 120	Leg	(1) 0.28" RG-6	Spok Holdings, Inc.
		1	2" x 4" GPS			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
163.0	163.0	6	Powerwave LGP21401	-	-	AT&T Mobility
		3	CCI OPA-65R-LCUU-H4			
		3	Commscope SBNHH-1D65A			
		3	Ericsson RRUS 32 B30			
		3	Ericsson RRUS A2 B2			
		3	Ericsson RRUS-12 B2			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
163.0	163.0	6	Powerwave Allgon LGP17201	Existing Sector Frames	-	AT&T Mobility
		2	CCI OPA-65R-LCUU-H8			
		1	CCI HPA-65R-BUU-H6			
		3	Ericsson RRUS 12 w/ RRUS A2			

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

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	78%	Pass
Diagonals	92%	Pass
Horizontals	12%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	434.0	585.9	407.6	70%
Axial (Kips)	488.3	659.2	460.5	70%
Shear (Kips)	49.5	66.8	45.9	69%

* 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, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
163.0	CCI HPA-65R-BUU-H6	AT&T MOBILITY	0.275	0.039	0.210
	CCI OPA-65R-LCUU-H8				
	Ericsson RRUS 12 w/ RRUS A2				
	Powerwave Allgon 7770.00				
	Powerwave Allgon LGP17201				
141.0	Raycap DC6-48-60-18-8F	Town of Guilford	0.213	0.031	0.193
	4' Dish w/ Radome				
	4' Dish w/ Radome				
108.8	4' Dish w/ Radome	Monroe Board Of Education	0.125	0.018	0.130
80.0	Scala PR-950	Town of Guilford	0.071	0.010	0.101
17.0	4' Dish w/ Radome	Spok Holdings, Inc.	0.006	0.002	0.030
	Channel Master Type 120				

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



Standard Conditions

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

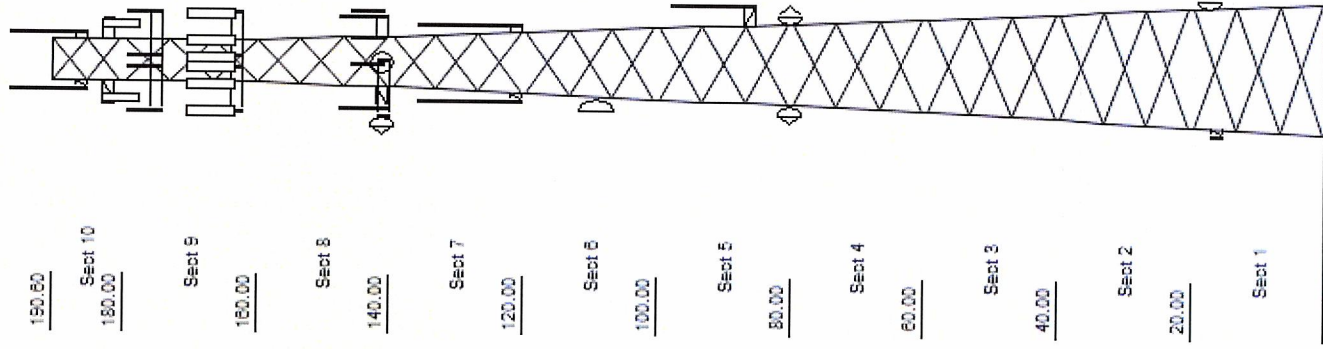
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements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

It is the responsibility of the client to ensure that the information provided to Semaan Engineering Solutions Holdings, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

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

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Semaan Engineering Solutions Holdings, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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 Loads: 110 mph no ice
 50 mph w/ 3/4" radial ice
 Site Class: D Ss: 0.17 S1: 0.06
 60 mph Serviceability



Uplift 407.82 k Moment 7,652.30 k Moment Ice 1,750.16 k-ft
 Vert 450.55 k Tot Down Ice 125.53 k
 Horiz 45.85 k Tot Shear 76.97 k Tot Shear Ice 17.45 k

Job Information
 Tower : 311305
 Code : ANSI/TIA-222-G
 Client : AT&T MOBILITY
 Location : GLFD-Guilford Rebuild CT, CT
 Shape : Triangle
 Base Width : 20.00 ft
 Top Width : 6.50 ft

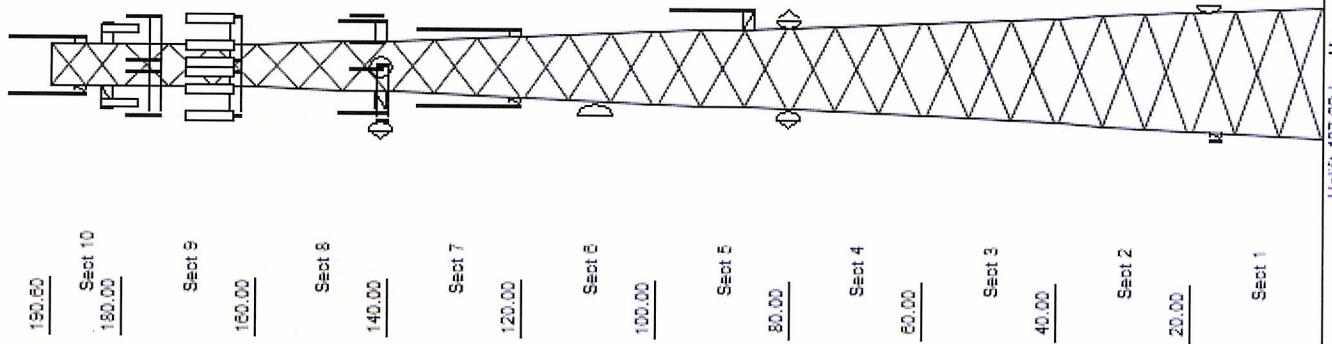
Sections Properties		
Section	Leg Members	Horizontal Members
1	PST 50 ksi 12" DIA PIPE	SAE 50 ksi 4X4X0.25
2	PST 50 ksi 10" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25
3-4	PST 50 ksi 10" DIA PIPE	SAE 50 ksi 3X3X0.25
5-6	PST 50 ksi 8" DIA PIPE	SAE 50 ksi 3X3X0.1875
7	PST 50 ksi 6" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875
8	PST 50 ksi 5" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875
9	PST 50 ksi 3" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875
10	PST 50 ksi 2" DIA PIPE	SAE 36 ksi 2X2X0.1875

Discrete Appurtenance		
Elev (ft)	Type	Qty Description
187.00	Whip	3 10' Dipole
183.00	RCU	3 RCU (Remote Control Unit)
183.00	Panel	3 RFS APXV18-206517S-C
183.00	Straight Arm	3 Round Side Arm
175.00	Panel	3 Ericsson AIR 21 B4A B2P
175.00	Panel	3 Ericsson AIR 21.1.3 M. B2A B4
175.00	Panel	3 Ericsson KRY112.144/1
175.00	Mounting Frame	3 Round Sector Frame
163.00	Mounting Frame	3 Ericsson RRUS-11 (19.7")
163.00	Panel	6 Powerwave Aligon LGP17201
163.00	Panel	6 Powerwave Aligon 7770.00
163.00	Panel	2 CCI OPA-65R-LCUU-H8
163.00	Panel	1 CCI HPA-65R-BUU-H6
163.00	Panel	2 Raycap DC6-48-60-18-8F
163.00	Panel	3 Ericsson RRUS 12 w/ RRUS A2
163.00	Panel	6 Powerwave Aligon 7020
163.00	Panel	6 Powerwave Aligon LGP21901
163.00	Mounting Frame	3 Flat Light Sector Frame
142.00	Whip	2 Diamond X50A
142.00	Straight Arm	2 Round Side Arm
141.00	Mounting Frame	1 Round Sector Frame
141.00	Dish	1 4' Dish w/ Radome
141.00	Whip	3 5' Dipole
141.00	Dish	2 4' Dish w/ Radome
141.00	Dish	1 4' Dish w/ Radome
141.00	Straight Arm	1 Round Side Arm
122.00	Whip	1 Shively 6810-HW-2 w/ Radome
122.00	Whip	1 Shively 6812B-1 w/o Radome
108.80	Dish	1 Scala PR-950
87.00	Whip	1 Antel BCD-87010 4"
87.00	Straight Arm	1 Stand-Off
80.00	Dish	2 4' Dish w/ Radome
17.00	Dish	1 Channel Master Type 120
17.00	Whip	1 2' x 4' GPS

Linear Appurtenance		
Elev (ft)	From To	Qty Description
0.000	187.00	3 1 1/4" Coax
0.000	183.00	1 Waveguide
0.000	183.00	1 3/8" Coax
0.000	183.00	6 1 5/8" Coax
0.000	175.00	1 Waveguide
0.000	175.00	12 1 5/8" Coax
0.000	175.00	1 1 1/4" Hybriflex Cab
0.000	163.00	1 Waveguide
0.000	163.00	6 3/8" RET Control Cab
0.000	163.00	1 1/2" Coax
0.000	163.00	12 1 5/8" Coax

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Job Information			
Tower : 311305	Location : GLFD-Guilford Rebuild CT, CT		
Code : ANSI/TIA-222-G	Base Width : 20.00 ft		
Client : A&T MOBILITY	Top Width : 6.50 ft		
	Shape : Triangle		
0.000	163.00	2	0.78" 8 AWG 6
0.000	163.00	2	0.74" 8 AWG 7
0.000	163.00	1	0.39" Fiber Trunk
0.000	163.00	1	0.39" Fiber Trunk
0.000	142.00	2	1/2" Coax
0.000	141.00	7	7/8" Coax
0.000	122.00	1	1 5/8" Coax
0.000	108.80	1	7/8" Coax
0.000	87.000	1	1 5/8" Coax
0.000	80.000	2	7/8" Coax
0.000	17.000	1	0.28" RG-6



Uplift 407.62 k Moment 7.682.30 k Moment Ice 1.780.16 k-ft
 Vert 450.55 k Tot Down 51.03 k Tot Down Ice 123.83 k
 Horiz 45.35 k Tot Shear 70.97 k Tot Shear Ice 17.45 k

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Analysis Parameters

Location:	New Haven County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	190.5999
Shape:	Triangle	Base Elevation (ft):	0.00
Tower Manufacturer:	Nello Corp	Bottom Face Width (ft):	20.00
Tower Type:	Self Support	Top Face Width (ft):	6.50

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	110 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.79		
T_L (sec):	6	p:	1.3
S_s :	0.173	S_1 :	0.060
F_a :	1.600	F_V :	2.400
S_{ds} :	0.185	S_{d1} :	0.096
		C_s :	0.000
		C_s, Max :	0.000
		C_s, Min :	0.000

Load Cases

1.2D + 1.6W Normal	110 mph Normal to Face with No Ice
1.2D + 1.6W 60 deg	110 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	110 mph 90 degree with No Ice
0.9D + 1.6W Normal	110 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	110 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	110 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 degree with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 degree with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 degree
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 degree
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 degree
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 degree
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 degree
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 degree

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
187.0	10' Dipole	3	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	2932.3	38.23	586	130
183.0	RCU (Remote)	3	1	0.2	0.7	2.0	2.0	0.80	0.50	-1.0	9.9	37.80	10	4
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.80	-1.0	510.3	37.80	510	114
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	37.84	538	648
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	611.1	37.53	611	389
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	611.1	37.53	611	389
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	1.0	25.1	37.53	25	48
175.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	37.49	1239	1296
163.0	CCI HPA-65R-BUU-H6	1	51	10.4	6.0	14.8	9.0	0.80	1.00	3.0	1253.7	37.08	418	73
163.0	CCI OPA-65R-LCUU-	2	88	13.3	7.7	14.8	7.4	0.80	0.84	3.0	2701.9	37.08	901	253
163.0	Ericsson RRUS 12 w/	3	71	3.7	1.7	18.5	10.8	0.80	0.70	1.0	310.1	36.98	310	308
163.0	Ericsson RRUS-11	3	51	3.3	1.6	17.0	8.0	0.80	0.70	1.0	275.5	36.98	275	220
163.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	36.93	1355	1728
163.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	48.3	36.98	48	19
163.0	Powerwave Allgon	6	35	5.9	4.6	11.0	5.0	0.80	0.75	3.0	3202.0	37.08	1067	302
163.0	Powerwave Allgon	6	31	2.0	1.2	14.4	3.7	0.80	0.50	3.0	707.9	37.08	236	268
163.0	Powerwave Allgon	6	6	0.2	0.3	6.0	3.0	0.80	0.50	1.0	27.8	36.98	28	48
163.0	Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	0.50	1.0	50.7	36.98	51	58
142.0	Diamond X50A	2	2	1.1	5.6	2.0	2.0	1.00	1.00	2.5	274.2	36.01	110	7
142.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	35.88	411	432
141.0	4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	-2.0	790.5	35.72	395	173
141.0	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	0.75	4.0	3190.4	36.03	798	346
141.0	4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	6.0	2399.7	36.14	400	173
141.0	5' Dipole	3	15	1.7	5.0	3.0	3.0	1.00	1.00	5.0	1280.9	36.09	256	65
141.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	0.90	1.00	0.0	0.0	35.82	631	432
141.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	35.82	253	216
122.0	Shively 6810-HW-2	1	247	13.8	14.0	3.0	3.0	1.00	1.00	16.0	10708.6	35.66	669	356
122.0	Shively 6812B-1 w/o	1	3	0.6	2.0	12.5	12.5	1.00	1.00	16.0	465.6	35.66	29	4
108.8	Scala PR-950	1	38	10.1	5.7	36.0	0.0	1.00	1.00	0.0	0.0	33.92	465	55
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	515.4	32.67	129	38
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.36	110	108
80.00	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	31.79	938	346
17.00	2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	1.00	1.00	0.0	0.0	22.95	1	7
17.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	22.95	630	181
Totals		84	6412	439.5										

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
187.0	10' Dipole	3	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	2932.3	38.23	586	73
183.0	RCU (Remote)	3	1	0.2	0.7	2.0	2.0	0.80	0.50	-1.0	9.9	37.80	10	2
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.80	-1.0	510.3	37.80	510	64
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	37.84	538	365
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	611.1	37.53	611	219
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	611.1	37.53	611	219
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	1.0	25.1	37.53	25	27
175.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	37.49	1239	729
163.0	CCI HPA-65R-BUU-H6	1	51	10.4	6.0	14.8	9.0	0.80	1.00	3.0	1253.7	37.08	418	41
163.0	CCI OPA-65R-LCUU-	2	88	13.3	7.7	14.8	7.4	0.80	0.84	3.0	2701.9	37.08	901	143
163.0	Ericsson RRUS 12 w/	3	71	3.7	1.7	18.5	10.8	0.80	0.70	1.0	310.1	36.98	310	174
163.0	Ericsson RRUS-11	3	51	3.3	1.6	17.0	8.0	0.80	0.70	1.0	275.5	36.98	275	124

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Tower Loading

163.0 Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	36.93	1355	972
163.0 Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	48.3	36.98	48	11
163.0 Powerwave Allgon	6	35	5.9	4.6	11.0	5.0	0.80	0.75	3.0	3202.0	37.08	1067	170
163.0 Powerwave Allgon	6	31	2.0	1.2	14.4	3.7	0.80	0.50	3.0	707.9	37.08	236	151
163.0 Powerwave Allgon	6	6	0.2	0.3	6.0	3.0	0.80	0.50	1.0	27.8	36.98	28	27
163.0 Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	0.50	1.0	50.7	36.98	51	32
142.0 Diamond X50A	2	2	1.1	5.6	2.0	2.0	1.00	1.00	2.5	274.2	36.01	110	4
142.0 Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	35.88	411	243
141.0 4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	-2.0	790.5	35.72	395	97
141.0 4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	0.75	4.0	3190.4	36.03	798	194
141.0 4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	6.0	2399.7	36.14	400	97
141.0 5' Dipole	3	15	1.7	5.0	3.0	3.0	1.00	1.00	5.0	1280.9	36.09	256	36
141.0 Round Sector Frame	1	300	14.4	0.0	0.0	0.0	0.90	1.00	0.0	0.0	35.82	631	243
141.0 Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	35.82	253	122
122.0 Shively 6810-HW-2	1	247	13.8	14.0	3.0	3.0	1.00	1.00	16.0	10708.6	35.66	669	200
122.0 Shively 6812B-1 w/o	1	3	0.6	2.0	12.5	12.5	1.00	1.00	16.0	465.6	35.66	29	2
108.8 Scala PR-950	1	38	10.1	5.7	36.0	0.0	1.00	1.00	0.0	0.0	33.92	465	31
87.00 Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	515.4	32.67	129	21
87.00 Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	32.36	110	61
80.00 4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	31.79	938	194
17.00 2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	1.00	1.00	0.0	0.0	22.95	1	4
17.00 Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	22.95	630	102
Totals	84	6412	439.5										

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
187.0	10' Dipole	3	144	9.9	10.0	3.0	3.0	1.00	1.00	5.0	995.8	7.90	199	540
183.0	RCU (Remote)	3	7	0.6	0.7	2.0	2.0	0.80	0.50	-1.0	4.4	7.81	4	25
183.0	RFS APXV18-	3	121	7.6	6.0	6.8	3.2	0.80	0.80	-1.0	96.8	7.81	97	455
183.0	Round Side Arm	3	225	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.82	107	918
175.0	Ericsson AIR 21 B4A	3	233	7.9	4.5	12.0	8.0	0.80	0.86	1.0	107.8	7.76	108	905
175.0	Ericsson AIR 21, 1.3	3	233	7.9	4.5	12.0	8.0	0.80	0.86	1.0	107.8	7.76	108	905
175.0	Ericsson KRY 112	3	22	0.9	0.6	6.1	2.7	0.80	0.50	1.0	7.0	7.76	7	87
175.0	Round Sector Frame	3	673	31.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.75	347	2640
163.0	CCI HPA-65R-BUU-H6	1	271	13.3	6.0	14.8	9.0	0.80	1.00	3.0	208.5	7.66	69	337
163.0	CCI OPA-65R-LCUU-	2	346	17.0	7.7	14.8	7.4	0.80	0.84	3.0	445.4	7.66	148	871
163.0	Ericsson RRUS 12 w/	3	167	5.0	1.7	18.5	10.8	0.80	0.70	1.0	54.8	7.64	55	654
163.0	Ericsson RRUS-11	3	127	4.5	1.6	17.0	8.0	0.80	0.70	1.0	49.5	7.64	50	495
163.0	Flat Light Sector	3	702	33.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.63	323	2814
163.0	Powerwave Allgon	6	12	0.9	0.4	8.3	2.4	0.80	0.50	1.0	13.8	7.64	14	93
163.0	Powerwave Allgon	6	170	6.6	4.6	11.0	5.0	0.80	0.75	3.0	461.7	7.66	154	1276
163.0	Powerwave Allgon	6	69	2.9	1.2	14.4	3.7	0.80	0.50	3.0	138.1	7.66	46	543
163.0	Powerwave Allgon	6	13	0.6	0.3	6.0	3.0	0.80	0.50	1.0	9.3	7.64	9	103
163.0	Raycap DC6-48-60-	2	73	1.9	2.0	9.7	9.7	0.80	0.50	1.0	10.0	7.64	10	184
142.0	Diamond X50A	2	4	2.9	5.6	2.0	2.0	1.00	1.00	2.5	92.1	7.44	37	10
142.0	Round Side Arm	2	223	7.9	0.0	0.0	0.0	0.90	0.90	0.0	0.0	7.41	81	608
141.0	4' Dish w/ Radome	1	440	12.4	4.0	48.0	0.0	1.00	0.75	-2.0	117.1	7.38	59	557
141.0	4' Dish w/ Radome	2	440	12.4	4.0	48.0	0.0	1.00	0.75	4.0	472.7	7.45	118	1113
141.0	4' Dish w/ Radome	1	440	12.4	4.0	48.0	0.0	1.00	0.75	6.0	355.5	7.47	59	557
141.0	5' Dipole	3	72	4.0	5.0	3.0	3.0	1.00	1.00	5.0	380.2	7.46	76	268
141.0	Round Sector Frame	1	669	31.0	0.0	0.0	0.0	0.90	1.00	0.0	0.0	7.40	175	874
141.0	Round Side Arm	1	223	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.40	50	304
122.0	Shively 6810-HW-2	1	726	21.3	14.0	3.0	3.0	1.00	1.00	16.0	2133.7	7.37	133	930
122.0	Shively 6812B-1 w/o	1	27	1.4	2.0	12.5	12.5	1.00	1.00	16.0	140.2	7.37	9	33

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Tower Loading

108.8	Scala PR-950	1	346	75.7	5.7	36.0	0.0	1.00	1.00	0.0	0.0	7.01	451	424
87.00	Antel BCD-87010	1	153	6.5	11.2	2.6	2.6	1.00	1.00	4.0	150.2	6.75	38	190
87.00	Stand-Off	1	125	4.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.69	24	168
80.00	4' Dish w/ Radome	2	416	12.3	4.0	48.0	0.0	1.00	1.00	0.0	0.0	6.57	138	1057
17.00	2" x 4" GPS	1	7	0.1	0.2	4.0	2.0	1.00	1.00	0.0	0.0	4.74	1	10
17.00	Channel Master	1	283	22.5	3.9	47.2	0.0	1.00	1.00	0.0	0.0	4.74	91	370
Totals		84	16481	745.5										

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
187.0	10' Dipole	3	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	545.3	11.37	109	90
183.0	RCU (Remote)	3	1	0.2	0.7	2.0	2.0	0.80	0.50	-1.0	1.8	11.25	2	3
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.80	-1.0	94.9	11.25	95	79
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.26	100	450
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	113.6	11.17	114	270
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.86	1.0	113.6	11.17	114	270
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	1.0	4.7	11.17	5	33
175.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.15	230	900
163.0	CCI HPA-65R-BUU-H6	1	51	10.4	6.0	14.8	9.0	0.80	1.00	3.0	233.1	11.03	78	51
163.0	CCI OPA-65R-LCUU-	2	88	13.3	7.7	14.8	7.4	0.80	0.84	3.0	502.4	11.03	167	176
163.0	Ericsson RRUS 12 w/	3	71	3.7	1.7	18.5	10.8	0.80	0.70	1.0	57.7	11.00	58	214
163.0	Ericsson RRUS-11	3	51	3.3	1.6	17.0	8.0	0.80	0.70	1.0	51.2	11.00	51	153
163.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.99	252	1200
163.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	9.0	11.00	9	13
163.0	Powerwave Allgon	6	35	5.9	4.6	11.0	5.0	0.80	0.75	3.0	595.4	11.03	198	210
163.0	Powerwave Allgon	6	31	2.0	1.2	14.4	3.7	0.80	0.50	3.0	131.6	11.03	44	186
163.0	Powerwave Allgon	6	6	0.2	0.3	6.0	3.0	0.80	0.50	1.0	5.2	11.00	5	33
163.0	Raycap DC6-48-60-	2	20	1.3	2.0	9.7	9.7	0.80	0.50	1.0	9.4	11.00	9	40
142.0	Diamond X50A	2	2	1.1	5.6	2.0	2.0	1.00	1.00	2.5	51.0	10.71	20	5
142.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	10.67	76	300
141.0	4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	-2.0	147.0	10.63	73	120
141.0	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	0.75	4.0	593.2	10.72	148	240
141.0	4' Dish w/ Radome	1	120	10.9	4.0	48.0	0.0	1.00	0.75	6.0	446.2	10.75	74	120
141.0	5' Dipole	3	15	1.7	5.0	3.0	3.0	1.00	1.00	5.0	238.2	10.74	48	45
141.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	0.90	1.00	0.0	0.0	10.66	117	300
141.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.66	47	150
122.0	Shively 6810-HW-2	1	247	13.8	14.0	3.0	3.0	1.00	1.00	16.0	1991.3	10.61	124	247
122.0	Shively 6812B-1 w/o	1	3	0.6	2.0	12.5	12.5	1.00	1.00	16.0	86.6	10.61	5	3
108.8	Scala PR-950	1	38	10.1	5.7	36.0	0.0	1.00	1.00	0.0	0.0	10.09	87	38
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	95.8	9.72	24	27
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.63	20	75
80.00	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	9.46	174	240
17.00	2" x 4" GPS	1	5	0.0	0.2	4.0	2.0	1.00	1.00	0.0	0.0	6.83	0	5
17.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	6.83	117	126
Totals		84	6412	439.5										

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	187.0	1 1/4" Coax	3	1.55	0.63	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	1 5/8" Coax	6	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
0.00	183.0	3/8" Coax	1	0.44	0.08	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	183.0	Waveguide	1	2.00	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	175.0	1 1/4" Hybriflex	1	1.54	1.00	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	175.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	0.00	1.00	0.00
0.00	175.0	Waveguide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	163.0	0.39" Fiber Trunk	1	0.39	0.06	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	163.0	0.39" Fiber Trunk	1	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.01
0.00	163.0	0.74" 8 AWG 7	2	0.74	0.49	50	2	Block	0.00	N	0.00	1.00	0.00
0.00	163.0	0.78" 8 AWG 6	2	0.78	0.59	50	2	Block	0.00	N	0.00	1.00	0.00
0.00	163.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	0.00	1.00	0.00
0.00	163.0	1/2" Coax	1	0.63	0.15	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	163.0	3/8" RET Control	6	0.44	0.08	50	2	Block	0.00	N	0.00	1.00	0.01
0.00	163.0	Waveguide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	142.0	1/2" Coax	2	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	141.0	7/8" Coax	7	1.09	0.33	50	3	Block	0.00	N	1.00	1.00	0.00
0.00	122.0	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	122.0	7/8" Coax	1	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	108.8	7/8" Coax	1	1.09	0.33	0	3	Individual	0.00	N	1.00	0.00	0.00
0.00	87.00	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	80.00	7/8" Coax	2	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	17.00	0.28" RG-6	1	0.28	0.03	0	3	Individual	0.00	N	1.00	1.00	0.01

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Section Forces

LoadCase 1.2D + 1.6W Normal

110 mph Normal to Face with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	1.00	1.00	0.0	8.81	4.81	0.00	543	0	1261	201	1462
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	1.00	1.00	0.0	16.44	45.52	0.00	1837	0	2255	1952	4207
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	1.00	1.00	0.0	21.96	78.48	0.00	2868	0	2829	3214	6043
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	1.00	1.00	0.0	25.33	92.96	0.00	3466	0	3142	3618	6760
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	1.00	1.00	0.0	30.04	98.37	0.00	4284	0	3565	3673	7238
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	1.00	1.00	0.0	31.70	100.54	0.00	4399	0	3687	3590	7278
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	1.00	1.00	0.0	36.73	106.32	0.00	5773	0	4008	3472	7481
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	1.00	1.00	0.0	38.84	106.32	0.00	5944	0	4023	3235	7258
2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	1.00	1.00	0.0	45.93	106.32	0.00	6493	0	4277	2905	7182
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	1.00	1.00	0.0	56.98	106.71	0.00	7731	0	4498	2514	7012
														43337	0			61919

LoadCase 1.2D + 1.6W 60 deg

110 mph 60 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	0.80	1.00	0.0	7.53	4.81	0.00	543	0	1077	201	1278
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	0.80	1.00	0.0	14.21	45.52	0.00	1837	0	1950	1952	3901
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	0.80	1.00	0.0	19.63	78.48	0.00	2868	0	2530	3214	5744
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	0.80	1.00	0.0	22.24	92.96	0.00	3466	0	2758	3618	6377
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	0.80	1.00	0.0	26.63	98.37	0.00	4284	0	3160	3673	6833
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	0.80	1.00	0.0	27.90	100.54	0.00	4399	0	3245	3590	6835
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	0.80	1.00	0.0	32.58	106.32	0.00	5773	0	3556	3472	7028
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	0.80	1.00	0.0	34.22	106.32	0.00	5944	0	3544	3235	6779
2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	0.80	1.00	0.0	39.88	106.32	0.00	6493	0	3714	2905	6619
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	0.80	1.00	0.0	49.38	106.71	0.00	7731	0	3898	2514	6412
														43337	0			57805

LoadCase 1.2D + 1.6W 90 deg

110 mph 90 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	0.85	1.00	0.0	7.85	4.81	0.00	543	0	1123	201	1324
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	0.85	1.00	0.0	14.77	45.52	0.00	1837	0	2026	1952	3978
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	0.85	1.00	0.0	20.21	78.48	0.00	2868	0	2605	3214	5819
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	0.85	1.00	0.0	23.01	92.96	0.00	3466	0	2854	3618	6472
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	0.85	1.00	0.0	27.48	98.37	0.00	4284	0	3261	3673	6934
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	0.85	1.00	0.0	28.85	100.54	0.00	4399	0	3355	3590	6946
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	0.85	1.00	0.0	33.62	106.32	0.00	5773	0	3669	3472	7141
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	0.85	1.00	0.0	35.37	106.32	0.00	5944	0	3664	3235	6898
2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	0.85	1.00	0.0	41.39	106.32	0.00	6493	0	3855	2905	6760
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	0.85	1.00	0.0	51.28	106.71	0.00	7731	0	4048	2514	6562

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Section Forces

43337

0

58834

LoadCase 0.9D + 1.6W Normal

110 mph Normal to Face with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)														
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	1.00	1.00	0.0	8.81	4.81	0.00	407	0	1261	201	1462														
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	1.00	1.00	0.0	16.44	45.52	0.00	1378	0	2255	1952	4207														
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	1.00	1.00	0.0	21.96	78.48	0.00	2151	0	2829	3214	6043														
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	1.00	1.00	0.0	25.33	92.96	0.00	2599	0	3142	3618	6760														
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	1.00	1.00	0.0	30.04	98.37	0.00	3213	0	3565	3673	7238														
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	1.00	1.00	0.0	31.70	100.54	0.00	3299	0	3687	3590	7278														
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	1.00	1.00	0.0	36.73	106.32	0.00	4330	0	4008	3472	7481														
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	1.00	1.00	0.0	38.84	106.32	0.00	4458	0	4023	3235	7258														
2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	1.00	1.00	0.0	45.93	106.32	0.00	4870	0	4277	2905	7182														
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	1.00	1.00	0.0	56.98	106.71	0.00	5798	0	4498	2514	7012														
														32503	0																	61919

LoadCase 0.9D + 1.6W 60 deg

110 mph 60 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)														
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	0.80	1.00	0.0	7.53	4.81	0.00	407	0	1077	201	1278														
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	0.80	1.00	0.0	14.21	45.52	0.00	1378	0	1950	1952	3901														
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	0.80	1.00	0.0	19.63	78.48	0.00	2151	0	2530	3214	5744														
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	0.80	1.00	0.0	22.24	92.96	0.00	2599	0	2758	3618	6377														
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	0.80	1.00	0.0	26.63	98.37	0.00	3213	0	3160	3673	6833														
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	0.80	1.00	0.0	27.90	100.54	0.00	3299	0	3245	3590	6835														
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	0.80	1.00	0.0	32.58	106.32	0.00	4330	0	3556	3472	7028														
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	0.80	1.00	0.0	34.22	106.32	0.00	4458	0	3544	3235	6779														
2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	0.80	1.00	0.0	39.88	106.32	0.00	4870	0	3714	2905	6619														
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	0.80	1.00	0.0	49.38	106.71	0.00	5798	0	3898	2514	6412														
														32503	0																	57805

LoadCase 0.9D + 1.6W 90 deg

110 mph 90 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	37.94	6.43	4.20	0.00	0.15	2.77	0.85	1.00	0.0	7.85	4.81	0.00	407	0	1123	201	1324
9	170.0	37.26	11.13	11.67	0.00	0.17	2.71	0.85	1.00	0.0	14.77	45.52	0.00	1378	0	2026	1952	3978
8	150.0	36.29	11.62	18.56	0.00	0.20	2.61	0.85	1.00	0.0	20.21	78.48	0.00	2151	0	2605	3214	5819
7	130.0	35.22	15.45	22.10	0.00	0.20	2.59	0.85	1.00	0.0	23.01	92.96	0.00	2599	0	2854	3618	6472
6	110.0	34.00	17.06	28.78	0.00	0.21	2.57	0.85	1.00	0.0	27.48	98.37	0.00	3213	0	3261	3673	6934
5	90.00	32.59	19.01	28.78	0.00	0.19	2.62	0.85	1.00	0.0	28.85	100.54	0.00	3299	0	3355	3590	6946
4	70.00	30.91	20.74	35.87	0.00	0.20	2.60	0.85	1.00	0.0	33.62	106.32	0.00	4330	0	3669	3472	7141
3	50.00	28.80	23.13	35.89	0.00	0.19	2.64	0.85	1.00	0.0	35.37	106.32	0.00	4458	0	3664	3235	6898

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:00 PM

Customer: AT&T MOBILITY

Section Forces

2	30.00	25.86	30.23	35.89	0.00	0.18	2.65	0.85	1.00	0.0	41.39	106.32	0.00	4870	0	3855	2905	6760
1	10.00	22.38	37.99	42.57	0.00	0.20	2.59	0.85	1.00	0.0	51.28	106.71	0.00	5798	0	4048	2514	6562
														32503	0			58834

LoadCase 1.2D + 1.0Di + 1.0Wi Normal

50 mph Normal with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor : 1.00

Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	7.84	6.43	22.25	18.05	0.39	2.09	1.00	1.00	1.8	20.46	6.59	7.13	2036	1493	285	69	354
9	170.0	7.70	11.13	39.74	28.08	0.36	2.15	1.00	1.00	1.8	35.75	70.56	30.63	6079	4242	503	509	1012
8	150.0	7.50	11.62	47.24	28.68	0.37	2.13	1.00	1.00	1.7	41.04	131.10	47.70	8949	6082	558	812	1370
7	130.0	7.28	15.45	52.26	30.15	0.35	2.16	1.00	1.00	1.7	47.71	149.86	58.49	10526	7061	639	948	1586
6	110.0	7.02	17.06	60.53	31.75	0.34	2.18	1.00	1.00	1.7	54.24	154.31	70.16	11959	7675	707	994	1702
5	90.00	6.73	19.01	62.05	33.27	0.32	2.25	1.00	1.00	1.7	56.53	155.36	73.79	12224	7825	728	988	1716
4	70.00	6.39	20.74	70.47	34.60	0.32	2.25	1.00	1.00	1.6	63.32	159.77	86.25	14139	8366	775	952	1726
3	50.00	5.95	23.13	71.85	35.96	0.29	2.31	1.00	1.00	1.6	66.03	157.99	83.39	14224	8280	772	881	1653
2	30.00	5.34	30.23	72.81	36.92	0.28	2.34	1.00	1.00	1.5	73.49	155.39	79.24	14925	8432	781	775	1556
1	10.00	4.62	37.99	78.16	35.59	0.29	2.33	1.00	1.00	1.3	84.47	150.64	74.77	16006	8275	775	636	1411
														111068	67731			14086

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg

50 mph 60 degree with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor : 1.00

Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	7.84	6.43	22.25	18.05	0.39	2.09	0.80	1.00	1.8	19.18	6.59	7.13	2036	1493	267	69	337
9	170.0	7.70	11.13	39.74	28.08	0.36	2.15	0.80	1.00	1.8	33.52	70.56	30.63	6079	4242	472	509	981
8	150.0	7.50	11.62	47.24	28.68	0.37	2.13	0.80	1.00	1.7	38.72	131.10	47.70	8949	6082	526	812	1338
7	130.0	7.28	15.45	52.26	30.15	0.35	2.16	0.80	1.00	1.7	44.62	149.86	58.49	10526	7061	597	948	1545
6	110.0	7.02	17.06	60.53	31.75	0.34	2.18	0.80	1.00	1.7	50.83	154.31	70.16	11959	7675	663	994	1657
5	90.00	6.73	19.01	62.05	33.27	0.32	2.25	0.80	1.00	1.7	52.73	155.36	73.79	12224	7825	679	988	1667
4	70.00	6.39	20.74	70.47	34.60	0.32	2.25	0.80	1.00	1.6	59.17	159.77	86.25	14139	8366	724	952	1676
3	50.00	5.95	23.13	71.85	35.96	0.29	2.31	0.80	1.00	1.6	61.40	157.99	83.39	14224	8280	718	881	1599
2	30.00	5.34	30.23	72.81	36.92	0.28	2.34	0.80	1.00	1.5	67.45	155.39	79.24	14925	8432	717	775	1492
1	10.00	4.62	37.99	78.16	35.59	0.29	2.33	0.80	1.00	1.3	76.88	150.64	74.77	16006	8275	705	636	1341
														111068	67731			13632

LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg

50 mph 90 degree with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor : 1.00

Ice Importance Factor : 1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	7.84	6.43	22.25	18.05	0.39	2.09	0.85	1.00	1.8	19.50	6.59	7.13	2036	1493	272	69	341
9	170.0	7.70	11.13	39.74	28.08	0.36	2.15	0.85	1.00	1.8	34.08	70.56	30.63	6079	4242	480	509	988
8	150.0	7.50	11.62	47.24	28.68	0.37	2.13	0.85	1.00	1.7	39.30	131.10	47.70	8949	6082	534	812	1346
7	130.0	7.28	15.45	52.26	30.15	0.35	2.16	0.85	1.00	1.7	45.39	149.86	58.49	10526	7061	608	948	1555
6	110.0	7.02	17.06	60.53	31.75	0.34	2.18	0.85	1.00	1.7	51.68	154.31	70.16	11959	7675	674	994	1668
5	90.00	6.73	19.01	62.05	33.27	0.32	2.25	0.85	1.00	1.7	53.68	155.36	73.79	12224	7825	691	988	1679

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Section Forces

4	70.00	6.39	20.74	70.47	34.60	0.32	2.25	0.85	1.00	1.6	60.21	159.77	86.25	14139	8366	737	952	1688
3	50.00	5.95	23.13	71.85	35.96	0.29	2.31	0.85	1.00	1.6	62.56	157.99	83.39	14224	8280	732	881	1613
2	30.00	5.34	30.23	72.81	36.92	0.28	2.34	0.85	1.00	1.5	68.96	155.39	79.24	14925	8432	733	775	1508
1	10.00	4.62	37.99	78.16	35.59	0.29	2.33	0.85	1.00	1.3	78.78	150.64	74.77	16006	8275	722	636	1358
														111068	67731			13745

LoadCase 1.0D + 1.0W Service Normal

Serviceability - 60 mph Wind Normal

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	11.29	6.43	4.20	0.00	0.15	2.77	1.00	1.00	0.0	8.81	4.81	0.00	452	0	234	37	272
9	170.0	11.09	11.13	11.67	0.00	0.17	2.71	1.00	1.00	0.0	17.77	45.52	0.00	1531	0	453	363	816
8	150.0	10.80	11.62	18.56	0.00	0.20	2.61	1.00	1.00	0.0	19.90	78.48	0.00	2390	0	477	598	1074
7	130.0	10.48	15.45	22.10	0.00	0.20	2.59	1.00	1.00	0.0	25.89	92.96	0.00	2888	0	597	673	1270
6	110.0	10.12	17.06	28.78	0.00	0.21	2.57	1.00	1.00	0.0	31.96	98.37	0.00	3570	0	705	683	1388
5	90.00	9.70	19.01	28.78	0.00	0.19	2.62	1.00	1.00	0.0	33.60	100.54	0.00	3666	0	727	668	1394
4	70.00	9.20	20.74	35.87	0.00	0.20	2.60	1.00	1.00	0.0	40.52	106.32	0.00	4811	0	822	646	1468
3	50.00	8.57	23.13	35.89	0.00	0.19	2.64	1.00	1.00	0.0	42.49	106.32	0.00	4953	0	818	602	1420
2	30.00	7.69	30.23	35.89	0.00	0.18	2.65	1.00	1.00	0.0	49.14	106.32	0.00	5411	0	851	540	1391
1	10.00	6.66	37.99	42.57	0.00	0.20	2.59	1.00	1.00	0.0	61.56	106.71	0.00	6443	0	904	467	1371
														263635	0			11865

LoadCase 1.0D + 1.0W Service 60 deg

Serviceability - 60 mph Wind 60 degree

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	11.29	6.43	4.20	0.00	0.15	2.77	0.80	1.00	0.0	7.53	4.81	0.00	452	0	200	37	238
9	170.0	11.09	11.13	11.67	0.00	0.17	2.71	0.80	1.00	0.0	15.55	45.52	0.00	1531	0	397	363	759
8	150.0	10.80	11.62	18.56	0.00	0.20	2.61	0.80	1.00	0.0	17.57	78.48	0.00	2390	0	421	598	1019
7	130.0	10.48	15.45	22.10	0.00	0.20	2.59	0.80	1.00	0.0	22.80	92.96	0.00	2888	0	526	673	1199
6	110.0	10.12	17.06	28.78	0.00	0.21	2.57	0.80	1.00	0.0	28.54	98.37	0.00	3570	0	630	683	1313
5	90.00	9.70	19.01	28.78	0.00	0.19	2.62	0.80	1.00	0.0	29.79	100.54	0.00	3666	0	644	668	1312
4	70.00	9.20	20.74	35.87	0.00	0.20	2.60	0.80	1.00	0.0	36.37	106.32	0.00	4811	0	738	646	1384
3	50.00	8.57	23.13	35.89	0.00	0.19	2.64	0.80	1.00	0.0	37.87	106.32	0.00	4953	0	729	602	1331
2	30.00	7.69	30.23	35.89	0.00	0.18	2.65	0.80	1.00	0.0	43.10	106.32	0.00	5411	0	746	540	1286
1	10.00	6.66	37.99	42.57	0.00	0.20	2.59	0.80	1.00	0.0	53.96	106.71	0.00	6443	0	792	467	1259
														36114	0			11100

LoadCase 1.0D + 1.0W Service 90 deg

Serviceability - 60 mph Wind 90 degree

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (s.i)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.3	11.29	6.43	4.20	0.00	0.15	2.77	0.85	1.00	0.0	7.85	4.81	0.00	452	0	209	37	246
9	170.0	11.09	11.13	11.67	0.00	0.17	2.71	0.85	1.00	0.0	16.10	45.52	0.00	1531	0	411	363	774
8	150.0	10.80	11.62	18.56	0.00	0.20	2.61	0.85	1.00	0.0	18.15	78.48	0.00	2390	0	435	598	1033

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Section Forces

7	130.0	10.48	15.45	22.10	0.00	0.20	2.59	0.85	1.00	0.0	23.57	92.96	0.00	2888	0	544	673	1216
6	110.0	10.12	17.06	28.78	0.00	0.21	2.57	0.85	1.00	0.0	29.40	98.37	0.00	3570	0	649	683	1332
5	90.00	9.70	19.01	28.78	0.00	0.19	2.62	0.85	1.00	0.0	30.74	100.54	0.00	3666	0	665	668	1333
4	70.00	9.20	20.74	35.87	0.00	0.20	2.60	0.85	1.00	0.0	37.41	106.32	0.00	4811	0	759	646	1405
3	50.00	8.57	23.13	35.89	0.00	0.19	2.64	0.85	1.00	0.0	39.02	106.32	0.00	4953	0	752	602	1353
2	30.00	7.69	30.23	35.89	0.00	0.18	2.65	0.85	1.00	0.0	44.61	106.32	0.00	5411	0	772	540	1313
1	10.00	6.66	37.99	42.57	0.00	0.20	2.59	0.85	1.00	0.0	55.86	106.71	0.00	6443	0	820	467	1287
														36114	0			11291

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period (S_g):	0.17
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):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.79
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height		Seismic					Horizontal Force (lb)	Vertical Force (lb)
	Above Base (ft)	Weight (lb)	a	b	c	S_{az}			
10	185.30	452	1.786	1.477	0.954	0.352	69	559	
9	170.00	1,531	1.504	0.510	0.547	0.216	143	1,894	
8	150.00	2,390	1.171	-0.021	0.233	0.109	113	2,956	
7	130.00	2,888	0.879	-0.121	0.080	0.066	83	3,572	
6	110.00	3,570	0.630	-0.064	0.018	0.057	88	4,416	
5	90.00	3,666	0.421	0.011	0.006	0.054	85	4,534	
4	70.00	4,811	0.255	0.054	0.017	0.045	94	5,950	
3	50.00	4,953	0.130	0.069	0.033	0.034	73	6,126	
2	30.00	5,411	0.047	0.071	0.042	0.024	57	6,693	
1	10.00	6,443	0.005	0.045	0.026	0.013	36	7,969	
10' Dipole	187.00	90	1.819	1.628	1.011	0.371	14	111	
RCU (Remote Control Unit)	183.00	3	1.742	1.289	0.881	0.329	0	4	
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.329	11	98	
Round Side Arm	183.00	450	1.742	1.289	0.881	0.329	64	557	
Ericsson AIR 21 B4A B2P	175.00	270	1.593	0.758	0.661	0.255	30	334	
Ericsson AIR 21, 1.3 M, B2A B4P,	175.00	270	1.593	0.758	0.661	0.255	30	334	
Ericsson KRY 112 144/1	175.00	33	1.593	0.758	0.661	0.255	4	41	
Round Sector Frame	175.00	900	1.593	0.758	0.661	0.255	99	1,113	
CCI HPA-65R-BUU-H6	163.00	51	1.382	0.251	0.414	0.170	4	63	
CCI OPA-65R-LCUU-H8	163.00	176	1.382	0.251	0.414	0.170	13	218	
Ericsson RRUS 12 w/ RRUS A2	163.00	214	1.382	0.251	0.414	0.170	16	265	
Ericsson RRUS-11 (19.7")	163.00	153	1.382	0.251	0.414	0.170	11	189	
Flat Light Sector Frame	163.00	1,200	1.382	0.251	0.414	0.170	88	1,484	
Powerwave Allgon 7020	163.00	13	1.382	0.251	0.414	0.170	1	16	
Powerwave Allgon 7770.00	163.00	210	1.382	0.251	0.414	0.170	15	260	
Powerwave Allgon LGP17201	163.00	186	1.382	0.251	0.414	0.170	14	230	
Powerwave Allgon LGP21901	163.00	33	1.382	0.251	0.414	0.170	2	41	
Raycap DC6-48-60-18-8F	163.00	40	1.382	0.251	0.414	0.170	3	49	
Diamond X50A	142.00	5	1.049	-0.094	0.157	0.086	0	6	
Round Side Arm	142.00	300	1.049	-0.094	0.157	0.086	11	371	
4' Dish w/ Radome	141.00	120	1.034	-0.100	0.149	0.084	4	148	
4' Dish w/ Radome	141.00	240	1.034	-0.100	0.149	0.084	9	297	
4' Dish w/ Radome	141.00	120	1.034	-0.100	0.149	0.084	4	148	
5' Dipole	141.00	45	1.034	-0.100	0.149	0.084	2	56	
Round Sector Frame	141.00	300	1.034	-0.100	0.149	0.084	11	371	
Round Side Arm	141.00	150	1.034	-0.100	0.149	0.084	5	186	
Shively 6810-HW-2 w/ Radome	122.00	247	0.774	-0.107	0.047	0.061	6	306	
Shively 6812B-1 w/o Radome	122.00	3	0.774	-0.107	0.047	0.061	0	4	

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

Scala PR-950	108.80	38	0.616	-0.059	0.016	0.057	1	47
Antel BCD-87010 ___ 4°	87.00	26	0.394	0.020	0.007	0.053	1	33
Stand-Off	87.00	75	0.394	0.020	0.007	0.053	2	93
4' Dish w/ Radome	80.00	240	0.333	0.037	0.010	0.050	5	297
2" x 4" GPS	17.00	5	0.015	0.061	0.036	0.018	0	6
Channel Master Type 120	17.00	126	0.015	0.061	0.036	0.018	1	156
		42,526	45.689	12.209	13.803	6.092	1,327	52,601

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	452	1.786	1.477	0.954	0.352	69	390
9	170.00	1,531	1.504	0.510	0.547	0.216	143	1,321
8	150.00	2,390	1.171	-0.021	0.233	0.109	113	2,063
7	130.00	2,888	0.879	-0.121	0.080	0.066	83	2,493
6	110.00	3,570	0.630	-0.064	0.018	0.057	88	3,081
5	90.00	3,666	0.421	0.011	0.006	0.054	85	3,164
4	70.00	4,811	0.255	0.054	0.017	0.045	94	4,152
3	50.00	4,953	0.130	0.069	0.033	0.034	73	4,275
2	30.00	5,411	0.047	0.071	0.042	0.024	57	4,670
1	10.00	6,443	0.005	0.045	0.026	0.013	36	5,561
10' Dipole	187.00	90	1.819	1.628	1.011	0.371	14	78
RCU (Remote Control Unit)	183.00	3	1.742	1.289	0.881	0.329	0	3
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.329	11	68
Round Side Arm	183.00	450	1.742	1.289	0.881	0.329	64	388
Ericsson AIR 21 B4A B2P	175.00	270	1.593	0.758	0.661	0.255	30	233
Ericsson AIR 21, 1.3 M, B2A B4P,	175.00	270	1.593	0.758	0.661	0.255	30	233
Ericsson KRY 112 144/1	175.00	33	1.593	0.758	0.661	0.255	4	28
Round Sector Frame	175.00	900	1.593	0.758	0.661	0.255	99	777
CCI HPA-65R-BUU-H6	163.00	51	1.382	0.251	0.414	0.170	4	44
CCI OPA-65R-LCUU-H8	163.00	176	1.382	0.251	0.414	0.170	13	152
Ericsson RRUS 12 w/ RRUS A2	163.00	214	1.382	0.251	0.414	0.170	16	185
Ericsson RRUS-11 (19.7")	163.00	153	1.382	0.251	0.414	0.170	11	132
Flat Light Sector Frame	163.00	1,200	1.382	0.251	0.414	0.170	88	1,036
Powerwave Allgon 7020	163.00	13	1.382	0.251	0.414	0.170	1	11
Powerwave Allgon 7770.00	163.00	210	1.382	0.251	0.414	0.170	15	181
Powerwave Allgon LGP17201	163.00	186	1.382	0.251	0.414	0.170	14	161
Powerwave Allgon LGP21901	163.00	33	1.382	0.251	0.414	0.170	2	28
Raycap DC6-48-60-18-8F	163.00	40	1.382	0.251	0.414	0.170	3	35
Diamond X50A	142.00	5	1.049	-0.094	0.157	0.086	0	4
Round Side Arm	142.00	300	1.049	-0.094	0.157	0.086	11	259
4' Dish w/ Radome	141.00	120	1.034	-0.100	0.149	0.084	4	104
4' Dish w/ Radome	141.00	240	1.034	-0.100	0.149	0.084	9	207
4' Dish w/ Radome	141.00	120	1.034	-0.100	0.149	0.084	4	104
5' Dipole	141.00	45	1.034	-0.100	0.149	0.084	2	39
Round Sector Frame	141.00	300	1.034	-0.100	0.149	0.084	11	259
Round Side Arm	141.00	150	1.034	-0.100	0.149	0.084	5	129
Shively 6810-HW-2 w/ Radome	122.00	247	0.774	-0.107	0.047	0.061	6	213
Shively 6812B-1 w/o Radome	122.00	3	0.774	-0.107	0.047	0.061	0	3
Scala PR-950	108.80	38	0.616	-0.059	0.016	0.057	1	33
Antel BCD-87010 ___ 4°	87.00	26	0.394	0.020	0.007	0.053	1	23
Stand-Off	87.00	75	0.394	0.020	0.007	0.053	2	65
4' Dish w/ Radome	80.00	240	0.333	0.037	0.010	0.050	5	207
2" x 4" GPS	17.00	5	0.015	0.061	0.036	0.018	0	4
Channel Master Type 120	17.00	126	0.015	0.061	0.036	0.018	1	109
		42,526	45.689	12.209	13.803	6.092	1,327	36,704

Site Number: 311305

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 1 1 Bot Elev (ft): 0.00 Height (ft): 20.00

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear		Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 12" DIA PIPE	-461.97	0.38	100	100	100	50.0	656.95	0	0	0.00	0.00	70	Member X
	HORIZ	0.00	0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 4X4X0.25	-13.48	19.44	48	48	48	140.9	43.5	22.07	0	0	0.00	0.00	61 Member Z

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use	
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 12" DIA PIPE	409.68	50	65	657.00	0	0	0.00	0.00	62	Member
	HORIZ	0.00	0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 4X4X0.25	13.22	50	65	87.30	0	0	0.00	0.00	15	Member

		Pu	phiRnt	Use	Num	
Max Splice Forces		(kip)	(kip)	%	Bolts	Bolt Type
Top Tension		371.33	0.00	0	0	
Top Compression		418.20	0.00	0		
Bot Tension		409.69	0.00	0		
Bot Compression		461.96	0.00	0		

Section: 2 2 Bot Elev (ft): 20.00 Height (ft): 20.00

		Pu	Len	Bracing %			F'y	Phic Pn	Num	Shear		Bear	Use	
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 10" DIA PIPE	-417.74	0.38	100	100	100	50.0	535.44	0	0	0.00	0.00	78	Member X
	HORIZ	0.00	0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	-12.32	18.77	48	48	48	155.8	42.0	15.73	0	0	0.00	0.00	78 Member Z

		Pu	Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use	
Max Tension Member		(kip)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 10" DIA PIPE	371.63	50	65	535.50	0	0	0.00	0.00	69	Member
	HORIZ	0.00	0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	12.30	50	65	76.05	0	0	0.00	0.00	16	Member

		Pu	phiRnt	Use	Num	
Max Splice Forces		(kip)	(kip)	%	Bolts	Bolt Type
Top Tension		329.39	0.00	0	0	
Top Compression		370.21	0.00	0		
Bot Tension		371.33	0.00	0		
Bot Compression		418.20	0.00	0		

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Site Name: GLFD-Guilford Rebuild CT, CT

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 3 3 Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear	Bear	Use %	Controls
	(kip)			phiRnv (kip)	phiRn (kip)									
LEG PST - 10" DIA PIPE	-369.74	1.2D + 1.6W	0.38	100	100	100	1.2	50.0	535.44	0	0	0.00	0.00	69 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3X3X0.25	-11.61	1.2D + 1.6W 90	16.90	47	47	47	161.1	50.0	12.54	0	0	0.00	0.00	92 Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	327.08	1.2D + 1.6W 60	50	65	535.50	0	0	0.00	0.00	61	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	11.39	1.2D + 1.6W 90	50	65	64.80	0	0	0.00	0.00	17	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	285.46	0.9D + 1.6W 60	0.00	0	0	
Top Compression	320.73	1.2D + 1.6W	0.00	0		
Bot Tension	329.39	0.9D + 1.6W 60	0.00	0		
Bot Compression	370.21	1.2D + 1.6W	0.00	0		

Section: 4 4 Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Pu	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear	Bear	Use %	Controls
	(kip)			phiRnv (kip)	phiRn (kip)									
LEG PST - 10" DIA PIPE	-320.07	1.2D + 1.6W	0.38	100	100	100	1.2	50.0	535.44	0	0	0.00	0.00	59 Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3X3X0.25	-13.17	1.2D + 1.6W 90	15.15	48	48	48	147.5	50.0	14.96	0	0	0.00	0.00	88 Member Z

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PST - 10" DIA PIPE	285.51	0.9D + 1.6W 60	50	65	535.50	0	0	0.00	0.00	53	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3X3X0.25	13.10	1.2D + 1.6W 90	50	65	64.80	0	0	0.00	0.00	20	Member

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	229.71	0.9D + 1.6W 60	0.00	0	0	
Top Compression	259.19	1.2D + 1.6W	0.00	0		
Bot Tension	285.46	0.9D + 1.6W 60	0.00	0		
Bot Compression	320.73	1.2D + 1.6W	0.00	0		

Site Number: 311305

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 5		5		Bot Elev (ft): 80.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 8" DIA PIPE	-248.08	1.2D + 1.6W	6.42	100	100	100	26.2	50.0	359.48	0	0	0.00	0.00	69 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-11.44	1.2D + 1.6W 90	13.81	48	48	48	133.5	44.0	13.82	0	0	0.00	0.00	82 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 8" DIA PIPE	228.36	1.2D + 1.6W 60	50	65	378.00	0	0	0.00	0.00	60	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	11.43	1.2D + 1.6W 90	50	65	49.05	0	0	0.00	0.00	23	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		176.07	0.9D + 1.6W 60	0.00	0	0	
Top Compression		200.48	1.2D + 1.6W	0.00	0		
Bot Tension		229.71	0.9D + 1.6W 60	0.00	0		
Bot Compression		259.19	1.2D + 1.6W	0.00	0		

Section: 6		6		Bot Elev (ft): 100.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 8" DIA PIPE	-200.18	1.2D + 1.6W	0.38	100	100	100	1.5	50.0	377.94	0	0	0.00	0.00	52 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-10.72	1.2D + 1.6W 90	12.50	48	48	48	120.8	44.0	16.87	0	0	0.00	0.00	63 Member Z

Max Tension Member		Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 8" DIA PIPE	174.92	1.2D + 1.6W 60	50	65	378.00	0	0	0.00	0.00	46	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	10.62	1.2D + 1.6W 90	50	65	49.05	0	0	0.00	0.00	21	Member

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		121.89	0.9D + 1.6W 60	0.00	0	0	
Top Compression		140.97	1.2D + 1.6W	0.00	0		
Bot Tension		176.07	0.9D + 1.6W 60	0.00	0		
Bot Compression		200.48	1.2D + 1.6W	0.00	0		

Site Number: 311305

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 7		7		Bot Elev (ft): 120.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	% Controls
LEG	PST - 6" DIA PIPE	-140.66	1.2D + 1.6W	0.38	100	100	100	2.0	50.0	251.03	0	0	0.00	0.00	56 Member X
	HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-8.58	1.2D + 1.6W	11.24	48	48	48	111.5	44.0	19.40	0	0	0.00	0.00	44 Member Z

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls
LEG	PST - 6" DIA PIPE	121.01	1.2D + 1.6W 60	50	65	251.10	0	0	0.00	0.00	48	Member
	HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.1875	9.08	1.2D + 1.6W 90	50	65	49.05	0	0	0.00	0.00	18	Member

Max Splice Forces		Pu		phiRnt	Use	Num	
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		69.24	0.9D + 1.6W 60	0.00	0	0	
Top Compression		83.02	1.2D + 1.6W	0.00	0		
Bot Tension		121.89	0.9D + 1.6W 60	0.00	0		
Bot Compression		140.97	1.2D + 1.6W	0.00	0		

Section: 8		8		Bot Elev (ft): 140.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	% Controls
LEG	PST - 5" DIA PIPE	-82.78	1.2D + 1.6W	0.38	100	100	100	2.4	50.0	193.42	0	0	0.00	0.00	42 Member X
	HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.1875	-6.73	1.2D + 1.6W	10.12	48	48	48	118.4	50.0	14.55	0	0	0.00	0.00	46 Member Z

		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use	
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv (kip)	phiRn (kip)	%	Controls
LEG	PST - 5" DIA PIPE	68.55	1.2D + 1.6W 60	50	65	193.50	0	0	0.00	0.00	35	Member
	HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.1875	6.45	1.2D + 1.6W 90	50	65	40.59	0	0	0.00	0.00	15	Member

Max Splice Forces		Pu		phiRnt	Use	Num	
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type
Top Tension		26.83	0.9D + 1.6W 60	0.00	0	0	
Top Compression		34.56	1.2D + 1.6W	0.00	0		
Bot Tension		69.24	0.9D + 1.6W 60	0.00	0		
Bot Compression		83.02	1.2D + 1.6W	0.00	0		

Site Number: 311305

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 9 9 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Pu		Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear		Bear phiRn (kip)	Use %	Controls
	(kip)	Load Case		X	Y	Z					phiRnv (kip)	phiRn (kip)			
LEG PST - 3" DIA PIPE	-27.02	1.2D + 1.6W	6.54	100	100	100	67.7	50.0	71.80	0	0	0.00	0.00	37	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	-4.71	1.2D + 1.6W	9.222	48	48	48	110.5	50.0	16.63	0	0	0.00	0.00	28	Member Z

Max Tension Member	Pu		Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
	(kip)	Load Case									
LEG PST - 3" DIA PIPE	21.68	1.2D + 1.6W 60	50	65	100.35	0	0	0.00	0.00	21	Member
HORIZ	0.00		0	0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 2.5X2.5X0.1875	4.20	1.2D + 1.6W 60	50	65	40.59	0	0	0.00	0.00	10	Member

Max Splice Forces	Pu		phiRnt (kip)	Use %	Num Bolts	Bolt Type
	(kip)	Load Case				
Top Tension	2.11	0.9D + 1.6W 60	0.00	0	0	
Top Compression	3.99	1.2D + 1.6W	0.00	0		
Bot Tension	26.83	0.9D + 1.6W 60	0.00	0		
Bot Compression	34.56	1.2D + 1.6W	0.00	0		

Section: 10 10 Bot Elev (ft): 180.0 Height (ft): 10.599

Max Compression Member	Pu		Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear		Bear phiRn (kip)	Use %	Controls
	(kip)	Load Case		X	Y	Z					phiRnv (kip)	phiRn (kip)			
LEG PST - 2" DIA PIPE	-3.84	1.2D + 1.6W	0.38	100	100	100	5.7	50.0	48.04	0	0	0.00	0.00	8	Member X
HORIZ SAE - 2X2X0.1875	-0.50	1.2D + 1.6W	6.500	100	100	100	198.0	36.0	4.12	0	0	0.00	0.00	12	Member Z
DIAG SAE - 2X2X0.1875	-1.00	1.2D + 1.6W 60	8.269	48	48	48	120.9	50.0	11.05	0	0	0.00	0.00	9	Member Z

Max Tension Member	Pu		Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
	(kip)	Load Case									
LEG PST - 2" DIA PIPE	2.12	1.2D + 1.6W 60	50	65	48.15	0	0	0.00	0.00	4	Member
HORIZ SAE - 2X2X0.1875	0.26	1.2D + 1.6W	36	58	23.17	0	0	0.00	0.00	1	Member
DIAG SAE - 2X2X0.1875	1.29	1.2D + 1.6W	50	65	32.17	0	0	0.00	0.00	4	Member

Max Splice Forces	Pu		phiRnt (kip)	Use %	Num Bolts	Bolt Type
	(kip)	Load Case				
Top Tension	0.00		0.00	0	0	
Top Compression	0.23	1.2D + 1.0Di +	0.00	0		
Bot Tension	2.11	0.9D + 1.6W 60	0.00	0		
Bot Compression	3.99	1.2D + 1.6W	0.00	0		

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Engineering Number: 65304822

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Customer: AT&T MOBILITY

Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
(0.9 - 0.2Sds) * DL + E 60 deg	1b	0.00	1.93	0.00	
	1a	-1.07	16.91	0.57	
	1	-0.04	16.91	-1.21	
(0.9 - 0.2Sds) * DL + E 90 deg	1b	0.07	3.13	0.07	
	1a	-1.32	20.71	0.74	
	1	-0.04	11.92	-0.81	
(0.9 - 0.2Sds) * DL + E Normal	1b	0.37	6.93	0.17	
	1a	-0.37	6.93	0.17	
	1	0.00	21.91	-1.62	
(1.2 + 0.2Sds) * DL + E 60 deg	1b	0.30	7.08	0.17	
	1a	-1.37	22.08	0.75	
	1	-0.04	22.08	-1.56	
(1.2 + 0.2Sds) * DL + E 90 deg	1b	0.37	8.28	0.24	
	1a	-1.63	25.89	0.92	
	1	-0.04	17.08	-1.15	
(1.2 + 0.2Sds) * DL + E Normal	1b	0.66	12.00	0.34	
	1a	-0.66	12.00	0.34	
	1	0.00	27.25	-1.98	
0.9D + 1.6W 60 deg	1b	-36.55	-407.62	-21.07	
	1a	-21.58	221.62	6.77	
	1	-4.96	224.27	-22.13	
0.9D + 1.6W 90 deg	1b	-33.51	-354.88	-15.73	
	1a	-34.39	380.39	16.56	
	1	-5.99	12.77	-0.83	
0.9D + 1.6W Normal	1b	-16.10	-208.79	-15.70	
	1a	16.10	-208.79	-15.70	
	1	0.00	455.85	-45.56	
1.0D + 1.0W Service 60 deg	1b	-6.24	-65.17	-3.60	
	1a	-4.81	53.60	1.65	
	1	-0.98	54.10	-5.00	
1.0D + 1.0W Service 90 deg	1b	-5.67	-55.21	-2.59	
	1a	-7.26	83.56	3.53	
	1	-1.16	14.18	-0.93	
1.0D + 1.0W Service Normal	1b	-2.38	-27.61	-2.59	
	1a	2.38	-27.61	-2.59	
	1	0.00	97.74	-9.49	
1.2D + 1.0Di + 1.0Wi 60 deg	1b	-14.12	-57.14	-8.14	
	1a	0.51	92.72	-1.59	
	1	-1.13	93.26	1.22	
1.2D + 1.0Di + 1.0Wi 90 deg	1b	-13.33	-44.05	-6.92	
	1a	-2.48	129.93	0.68	
	1	-1.33	42.94	6.24	
1.2D + 1.0Di + 1.0Wi Normal	1b	-9.29	-8.45	-6.72	
	1a	9.29	-8.45	-6.72	

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Code:

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

2/17/2016 4:51:01 PM

Customer: AT&T MOBILITY

	1	0.00	145.72	-4.04
1.2D + 1.6W 60 deg	1b	-36.32	-403.79	-20.93
	1a	-21.83	226.08	6.92
	1	-4.95	228.74	-22.42
1.2D + 1.6W 90 deg	1b	-33.27	-351.00	-15.60
	1a	-34.64	385.01	16.71
	1	-5.98	17.02	-1.11
1.2D + 1.6W Normal	1b	-15.87	-204.76	-15.56
	1a	15.87	-204.76	-15.56
	1	0.00	460.55	-45.85

Max Uplift: 407.62 (kip)

Moment: 7,682.30 (kip-ft) 1.2D + 1.6W Normal

Max Down: 460.55 (kip)

Total Down: 51.03 (kip)

Max Shear: 45.85 (kip)

Total Shear: 76.97 (kip)

Site Number: 311305

Code:

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Site Name: GLFD-Guilford Rebuild CT, CT

Engineering Number: 65304822

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Customer: AT&T MOBILITY

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
110 mph 60 deg with No Ice (Reduced DL)	19.63	0.0297	0.0113	0.1479
	80.00	0.3586	0.0723	0.5084
	86.79	0.4196	0.0874	0.5284
	106.79	0.6294	0.1314	0.6504
	120.38	0.7949	0.1611	0.7608
	140.38	1.0741	0.2272	0.9254
	160.00	1.3854	0.2917	0.9143
	173.08	1.6090	0.3208	0.9597
	185.49	1.8280	0.3644	0.8878
110 mph 60 degree with No Ice	19.63	0.0297	0.0114	0.1480
	80.00	0.3590	0.0723	0.5090
	86.79	0.4201	0.0875	0.5291
	106.79	0.6302	0.1315	0.6514
	120.38	0.7959	0.1611	0.7620
	140.38	1.0756	0.2274	0.9270
	160.00	1.3874	0.2918	0.9159
	173.08	1.6114	0.3210	0.9613
	185.49	1.8308	0.3647	0.8895
110 mph 90 deg with No Ice (Reduced DL)	19.63	0.0299	0.0084	0.1477
	80.00	0.3616	0.0417	0.5078
	86.79	0.4229	0.0489	0.5312
	106.79	0.6342	0.0698	0.6524
	120.38	0.8003	0.0839	0.7405
	140.38	1.0807	0.1137	0.8980
	160.00	1.3932	0.1394	0.8590
	173.08	1.6174	0.1395	0.9385
	185.49	1.8373	0.1396	0.7134
110 mph 90 degree with No Ice	19.63	0.0299	0.0084	0.1478
	80.00	0.3620	0.0417	0.5085
	86.79	0.4234	0.0489	0.5320
	106.79	0.6350	0.0699	0.6534
	120.38	0.8013	0.0840	0.7417
	140.38	1.0821	0.1137	0.8996
	160.00	1.3952	0.1395	0.8609
	173.08	1.6198	0.1396	0.9402
	185.49	1.8401	0.1397	0.7151
110 mph Normal to Face with No Ice (Reduced DL)	19.63	0.0313	0.0010	0.1559
	80.00	0.3771	0.0282	0.5355
	86.79	0.4414	0.0368	0.5608
	106.79	0.6625	0.0617	0.6927
	120.38	0.8381	0.0782	0.8504
	140.38	1.1348	0.1130	1.0326
	160.00	1.4680	0.1429	1.1191
	173.08	1.7068	0.1423	1.1058
	185.49	1.9404	0.1416	1.3244
110 mph Normal to Face with No Ice	19.63	0.0313	0.0010	0.1560
	80.00	0.3775	0.0281	0.5362
	86.79	0.4419	0.0368	0.5616
	106.79	0.6634	0.0616	0.6937
	120.38	0.8392	0.0781	0.8517
	140.38	1.1364	0.1129	1.0343

Site Number: 311305

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Customer: AT&T MOBILITY

	160.00	1.4701	0.1428	1.1210
	173.08	1.7093	0.1422	1.1077
	185.49	1.9433	0.1415	1.3262
50 mph 60 degree with 0.75 in Radial Ice	19.63	0.0087	0.0017	0.0359
	80.00	0.0867	0.0106	0.1216
	86.79	0.1012	0.0128	0.1264
	106.79	0.1511	0.0191	0.1548
	120.38	0.1902	0.0234	0.1801
	140.38	0.2561	0.0319	0.2195
	160.00	0.3300	0.0393	0.2201
	173.08	0.3833	0.0412	0.2288
	185.49	0.4357	0.0449	0.2063
50 mph 90 degree with 0.75 in Radial Ice	19.63	0.0085	0.0018	0.0355
	80.00	0.0868	0.0084	0.1209
	86.79	0.1012	0.0098	0.1263
	106.79	0.1513	0.0138	0.1546
	120.38	0.1904	0.0166	0.1757
	140.38	0.2563	0.0219	0.2130
	160.00	0.3301	0.0262	0.2116
	173.08	0.3833	0.0262	0.2247
	185.49	0.4356	0.0261	0.1331
50 mph Normal with 0.75 in Radial Ice	19.63	0.0080	0.0001	0.0351
	80.00	0.0882	0.0043	0.1251
	86.79	0.1030	0.0059	0.1307
	106.79	0.1545	0.0104	0.1606
	120.38	0.1950	0.0132	0.1957
	140.38	0.2635	0.0189	0.2358
	160.00	0.3406	0.0235	0.2531
	173.08	0.3961	0.0232	0.2560
	185.49	0.4505	0.0230	0.3457
Seismic (Reduced DL) 60 degree	19.63	0.0006	0.0001	0.0030
	80.00	0.0087	0.0004	0.0132
	86.79	0.0103	0.0005	0.0144
	106.79	0.0162	0.0006	0.0188
	120.38	0.0210	0.0007	0.0228
	140.38	0.0297	0.0008	0.0302
	160.00	0.0403	0.0008	0.0334
	173.08	0.0485	0.0007	0.0359
	185.49	0.0567	0.0006	0.0353
Seismic (Reduced DL) 90 degree	19.63	0.0006	0.0001	0.0030
	80.00	0.0089	0.0002	0.0134
	86.79	0.0105	0.0003	0.0146
	106.79	0.0165	0.0003	0.0192
	120.38	0.0214	0.0004	0.0231
	140.38	0.0303	0.0005	0.0304
	160.00	0.0410	0.0005	0.0339
	173.08	0.0493	0.0004	0.0371
	185.49	0.0576	0.0004	0.0361
Seismic (Reduced DL) Normal	19.63	0.0006	0.0001	0.0029
	80.00	0.0087	0.0004	0.0133
	86.79	0.0104	0.0005	0.0144
	106.79	0.0162	0.0006	0.0188
	120.38	0.0211	0.0007	0.0230
	140.38	0.0298	0.0008	0.0303
	160.00	0.0403	0.0008	0.0333
	173.08	0.0485	0.0007	0.0360
	185.49	0.0567	0.0006	0.0351

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Customer: AT&T MOBILITY

Seismic 60 degree	19.63	0.0006	0.0001	0.0030
	80.00	0.0087	0.0004	0.0132
	86.79	0.0103	0.0005	0.0144
	106.79	0.0162	0.0006	0.0188
	120.38	0.0210	0.0007	0.0227
	140.38	0.0298	0.0008	0.0303
	160.00	0.0403	0.0008	0.0336
	173.08	0.0485	0.0007	0.0359
	185.49	0.0568	0.0006	0.0354
Seismic 90 degree	19.63	0.0006	0.0001	0.0031
	80.00	0.0089	0.0002	0.0134
	86.79	0.0106	0.0003	0.0146
	106.79	0.0165	0.0003	0.0192
	120.38	0.0214	0.0004	0.0232
	140.38	0.0303	0.0005	0.0305
	160.00	0.0411	0.0005	0.0341
	173.08	0.0494	0.0004	0.0371
	185.49	0.0577	0.0004	0.0362
Seismic Normal	19.63	0.0006	0.0001	0.0030
	80.00	0.0089	0.0004	0.0135
	86.79	0.0106	0.0005	0.0146
	106.79	0.0165	0.0006	0.0192
	120.38	0.0215	0.0007	0.0234
	140.38	0.0304	0.0009	0.0309
	160.00	0.0411	0.0008	0.0339
	173.08	0.0494	0.0008	0.0367
	185.49	0.0577	0.0007	0.0356
Serviceability - 60 mph Wind 60 degree	19.63	0.0056	0.0016	0.0282
	80.00	0.0675	0.0101	0.0955
	86.79	0.0790	0.0122	0.0992
	106.79	0.1183	0.0184	0.1220
	120.38	0.1493	0.0225	0.1423
	140.38	0.2015	0.0313	0.1732
	160.00	0.2600	0.0392	0.1715
	173.08	0.3019	0.0400	0.1797
	185.49	0.3429	0.0412	0.1658
Serviceability - 60 mph Wind 90 degree	19.63	0.0057	0.0016	0.0281
	80.00	0.0682	0.0078	0.0954
	86.79	0.0797	0.0091	0.0997
	106.79	0.1193	0.0130	0.1223
	120.38	0.1504	0.0156	0.1387
	140.38	0.2029	0.0211	0.1681
	160.00	0.2614	0.0259	0.1617
	173.08	0.3035	0.0258	0.1761
	185.49	0.3447	0.0257	0.1341
Serviceability - 60 mph Wind Normal	19.63	0.0060	0.0002	0.0295
	80.00	0.0711	0.0051	0.1005
	86.79	0.0832	0.0068	0.1052
	106.79	0.1247	0.0114	0.1297
	120.38	0.1576	0.0144	0.1591
	140.38	0.2131	0.0208	0.1927
	160.00	0.2753	0.0265	0.2098
	173.08	0.3200	0.0263	0.2074
	185.49	0.3638	0.0260	0.2479

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

AT&T Existing Facility

Site ID: CT2018

North Guilford
500 Cooks Ln
Guilford, CT 06437

March 11, 2016

EBI Project Number: 6216001534

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	3.23 %

March 11, 2016

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

Emissions Analysis for Site: **CT2018 – North Guilford**

EBI Consulting was directed to analyze the proposed AT&T facility located at **500 Cooks Ln, Guilford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **500 Cooks Ln, Guilford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

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

- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antennas used in this modeling are the **CCI HPA-65R-BUU-H6, CCI HPA-65R-BUU-H8 and the Powerwave 7770.00** for transmission in the 700 MHz, 850 MHz and 1900 MHz (PCS) 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.
- 10) The antenna mounting height centerline of the proposed antennas is **152 feet** above ground level (AGL).
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	0.47	Antenna B1 MPE%	0.47	Antenna C1 MPE%	0.47
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	13.15 / 14.95 dBd	Gain:	13.15 / 14.95 dBd	Gain:	11.95 / 14.75 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	6,229.75	ERP (W):	6,229.75	ERP (W):	5,462.56
Antenna A2 MPE%	1.53	Antenna B2 MPE%	1.53	Antenna C2 MPE%	1.28
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770	Make / Model:	Powerwave 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 11.4 dBd
Height (AGL):	152 feet	Height (AGL):	152 feet	Height (AGL):	152 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A3 MPE%	0.47	Antenna B3 MPE%	0.47	Antenna C3 MPE%	0.47

Site Composite MPE%	
Carrier	MPE%
AT&T - Max per sector	2.46 %
Verizon MW	0.01 %
Various DPS antennas	0.76 %
Site Total MPE %:	3.23 %

AT&T Sector 1 Total:	2.46 %
AT&T Sector 2 Total:	2.46 %
AT&T Sector 3 Total:	2.22 %
Site Total:	3.23 %

AT&T _ Max Sector Values (Sectors A & B)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	152	1.40	850	567	0.25 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	152	2.21	1900	1000	0.22 %
AT&T 700 MHz LTE	2	1239.23	152	4.18	700	467	0.90 %
AT&T 1900 MHz (PCS) LTE	2	1875.65	152	6.33	1900	1000	0.63 %
AT&T 850 MHz GSM	2	414.12	152	1.40	850	567	0.25 %
AT&T 1900 MHz (PCS) GSM	2	656.33	152	2.21	1900	1000	0.22 %
						Total:	2.46 %

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector 1:	2.46 %
Sector 2:	2.46 %
Sector 3 :	2.22 %
AT&T Maximum Total (per sector):	2.46 %
Site Total:	3.23 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **3.23%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803