



April 25, 2019

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

Regarding: Notice of Exempt Modification – Equipment Modification  
Property Address: 401 Wakelee Ave., Ansonia, CT 06401 (the “Property”)  
Applicant: AT&T Mobility (“AT&T”, Site # CT2091)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 196-foot self-support tower at the above-referenced address, latitude 41.35614722°, -73.09193333° longitude. The property is owned by the City of Ansonia and operated by American Tower.

AT&T desires to modify its existing (9) panel antenna telecommunications facility by swapping three (3) panel antennas and modifying its ancillary tower-installed equipment as follows: add (6) diplexers, swap and add Remote Radio Units (RRUs) for a final total of (15) RRUs and add (1) squid surge suppressor with associated cables.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). In accordance with R.C.S.A. §16-50j-73, a copy of this letter is being sent to The Honorable David S. Casseti, Mayor of the City of Ansonia as municipal official and property owner; David Blackwell, Sr., Zoning Enforcement Officer of the City of Ansonia, and to American Tower, the tower operator.

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 added antennas, new mount, and accessory equipment will be installed at the existing height of 167 feet on the 196-foot self-support lattice tower.
2. The proposed modifications will not involve any changes to AT&T’s ground-space footprint, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation for AT&T’s modified facility is herein provided.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support AT&T's proposed modifications. Please see enclosed structural analysis completed by American Tower Corporation, dated February 27, 2019 and signed and stamped on February 28, 2019.

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

Sincerely,

*Julia Coughlin*

Julia Coughlin  
Site Acquisition Specialist  
Empire Telecom USA, LLC  
[jcoughlin@empiretelecomm.com](mailto:jcoughlin@empiretelecomm.com)

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

cc:

Hon. David S. Cassetti  
Mayor's Office  
253 Main Street  
Ansonia, CT 06401

David Blackwell, Sr.,  
Ansonia Zoning Enforcement Officer  
253 Main Street  
Ansonia, CT 06401

American Tower  
10 Presidential Way  
Woburn, MA 01801  
Attn: Ryan Tierney

# **EXHIBIT 1**



# City of Ansonia, CT

## Property Listing Report

Map Block Lot

01900030000

Account

65440

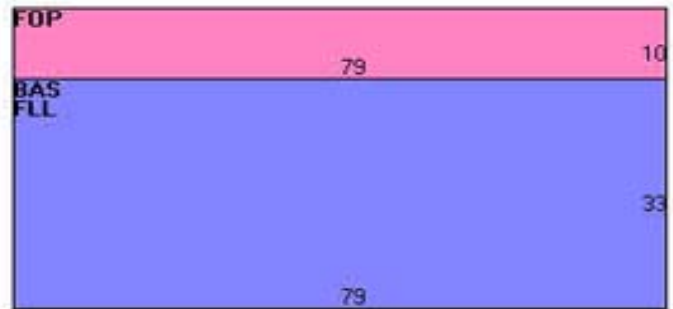
### Property Information

Property Location	<b>401 WAKELEE AVE</b>
Owner	<b>CITY OF ANSONIA</b>
Co-Owner	<b>HILLSIDE HOME &amp; NOLAN FIE</b>
Mailing Address	<b>401 WAKELEE AVE ANSONIA CT 06401</b>
Land Use	<b>901 MUNICIPAL MDL-94</b>
Land Class	<b>E</b>
Zoning Code	<b>A</b>
Census Tract	
Sub Lot	
Neighborhood	
Acreage	<b>16.5</b>
Utilities	<b>All Public</b>
Lot Setting/Desc	<b>Bus. District Level</b>
Survey Map	
Additional Info	

### Photo



### Sketch



### Primary Construction Details

Year Built	<b>2001</b>
Stories	<b>1</b>
Building Style	<b>Health Club</b>
Building Use	<b>Comm/Ind</b>
Building Condition	<b>Average +20</b>
Floors	<b>Ceram Clay Til</b>
Total Rooms	

Bedrooms	
Full Bathrooms	<b>0</b>
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	<b>Gable</b>
Roof Cover	<b>Asphalt Shingl</b>

Exterior Walls	<b>Brick/Masonry</b>
Interior Walls	<b>Minim/Masonry</b>
Heating Type	<b>Forced Air-Duc</b>
Heating Fuel	<b>Gas</b>
AC Type	<b>None</b>
Gross Bldg Area	<b>6004</b>
Total Living Area	<b>4693</b>



# City of Ansonia, CT

Property Listing Report

Map Block Lot

01900030000

Account

65440

## Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	585700	410000
Extras	57400	40200
Outbuildings	162300	113800
Land	996500	697600
<b>Total</b>	<b>1801900</b>	<b>1261600</b>

## Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Porch, Open	790	0
Finished Lower Level	2607	2086
First Floor	2607	2607
<b>Total Area</b>	<b>6004</b>	<b>4693</b>

## Outbuilding and Extra Items

Type	Description
Fence 6 Ft	240.00 L.F.
Fence 7 Ft.	1310.00 L.F.
Fence 8 Ft	230.00 L.F.
Fence 10 Ft	1280.00 L.F.
Tennis Court	3.00 UNITS
Garage w Lft	280.00 S.F
Cell Tower	1.00 UNITS
Shed	200.00 S.F.
Shed	200.00 S.F.
Paving, Asph	75000.00 S.F.

## Sales History

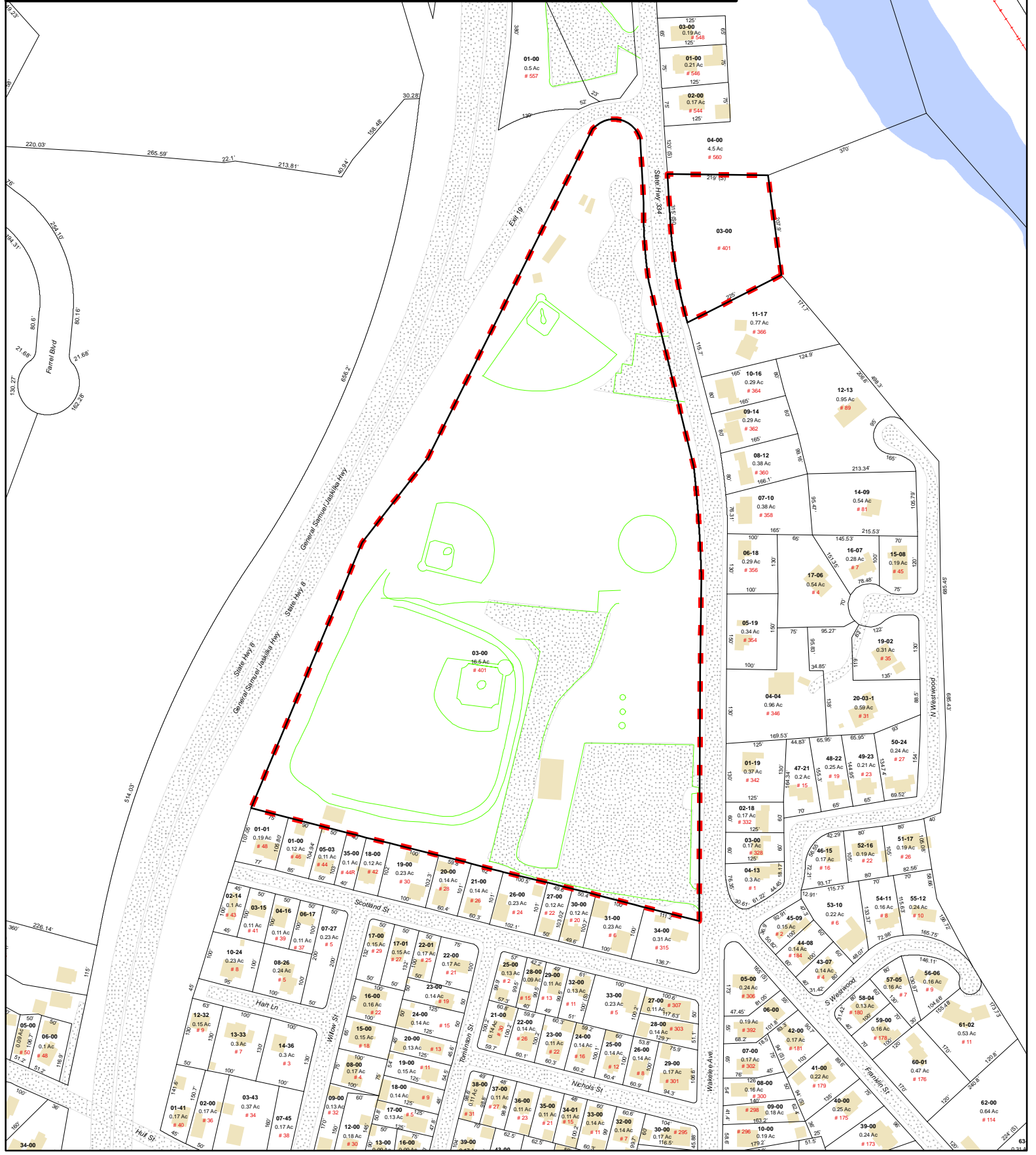
Owner of Record	Book/ Page	Sale Date	Sale Price
CITY OF ANSONIA	5/ 525	1/1/1900	0



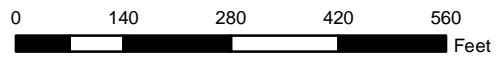
# City of Ansonia, Connecticut- Parcel Map

Parcel: 01900030000

Address: 401 WAKELEE AVE



Approximate Scale: 1 inch = 250 feet



Map Produced: February 2019

Disclaimer: This map is for informational purposes only All information is subject to verification by any user. The City of Ansonia and its mapping contractors assume no legal responsibility for the information contained herein.

# **EXHIBIT 2**

**PROJECT NOTES**

1. SITE INFORMATION OBTAINED FROM THE FOLLOWING:
  - A. PLAN ENTITLED "ANSONIA NW SPECTRASITE TOWER" PREPARED BY VERTICAL RESOURCES GROUP OF AUBURN, MA LAST REVISED 01/19/2017.
  - B. LIMITED FIELD OBSERVATION BY MASER CONSULTING ON 05/31/2018.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN 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 POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. THE PROPOSED FACILITY WILL CAUSE AN INSIGNIFICANT OR "DE-MINIMUS" INCREASE IN STORM WATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
11. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
12. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
13. THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
14. CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
15. THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
16. CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
17. CONSTRUCTION SHALL NOT COMMENCE UNTIL COMPLETION OF A PASSING STRUCTURAL ANALYSIS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. THE STRUCTURAL ANALYSIS IS TO BE PERFORMED BY OTHERS.



**SITE NAME: ANSONIA NW SPECTRASITE TOWER**  
**FA NUMBER: 10035308**  
**SITE NUMBER: CT2091**  
**LTE - 5C/6C/5G NR UPGRADE**  
**401 WAKELEE AVENUE**  
**ANSONIA, CT 06401**  
**NEW HAVEN COUNTY**  
**AMERICAN TOWER ID# 302470**



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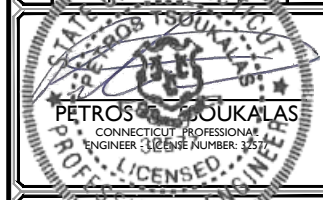


16 ESQUIRE ROAD  
 BILLERICA, MA 01862



SCALE: AS SHOWN JOB NUMBER: 18963012A

REV	DATE	DESCRIPTION	BY	CHECKED
3	3/4/19	REVISED PER COMMENTS	AJC	RA
2	02/20/19	REVISED PER NEW RFDS	AJC	RA
0	09/25/18	FOR CONSTRUCTION	AJC	RA
1	09/17/18	FOR REVIEW	AJC	RA



IT IS A VIOLATION OF THE PROFESSIONAL ENGINEER ACT TO REPRODUCE OR ALTER THIS DOCUMENT.

**SITE NAME:**  
**ANSONIA NW SPECTRASITE TOWER**  
**FA# 10035308**  
**SITE# CT2091**  
**401 WAKELEE AVENUE**  
**ANSONIA, CT 06401**  
**NEW HAVEN COUNTY**

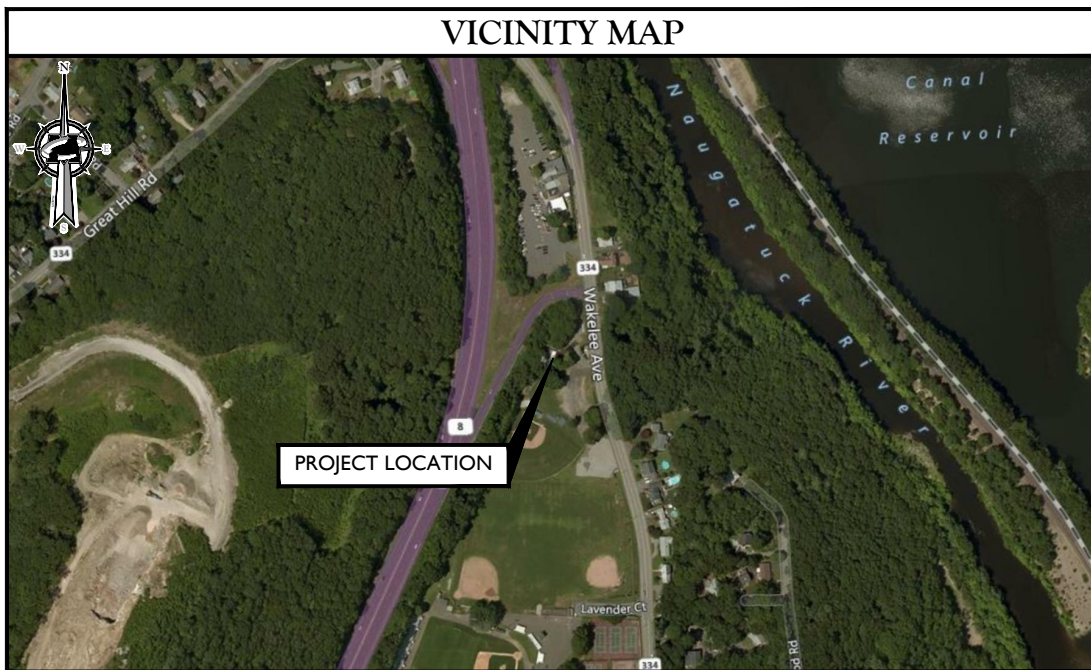


RED BANK  
 331 Newman Springs Road  
 Suite 203  
 Red Bank, NJ 07701-5699  
 Phone: 732.383.1950

email: solutions@maserconsulting.com

SHEET TITLE:  
**TITLE SHEET**

SHEET NUMBER:  
**T-1**



**VICINITY MAP**

PROJECT LOCATION

**PROJECT INFORMATION**

**SITE INFORMATION**  
 LATITUDE: 41.3560750° N  
 LONGITUDE: 73.0920269° W  
 JURISDICTION: NEW HAVEN COUNTY

**APPLICANT/LESSEE**  
 COMPANY: NEW CINGULAR WIRELESS PCS, LLC  
 ADDRESS: 550 COCHITUATE ROAD  
 CITY, STATE, ZIP: FRAMINGHAM, MA 01701

**STRUCTURE OWNER**  
 COMPANY: AMERICAN TOWER CORP.  
 ADDRESS: 116 HUNTINGTON AVENUE, 11TH FLOOR  
 CITY, STATE, ZIP: BOSTON, MA 02116

**CLIENT REPRESENTATIVE**  
 COMPANY: EMPIRE TELECOM  
 ADDRESS: 16 ESQUIRE ROAD  
 CITY, STATE, ZIP: BILLERICA, MA 01862  
 CONTACT: DAVID COOPER  
 E-MAIL: DCOOPER@EMPIRETELECOM.COM

**SITE ACQUISITION**  
 COMPANY: EMPIRE TELECOM  
 ADDRESS: 16 ESQUIRE ROAD  
 CITY, STATE, ZIP: BILLERICA, MA 01862  
 CONTACT: DAVID COOPER  
 E-MAIL: DCOOPER@EMPIRETELECOM.COM

**ENGINEER**  
 COMPANY: MASER CONSULTING CT  
 ADDRESS: 2000 MIDLANTIC DRIVE, SUITE 100  
 CITY, STATE, ZIP: RED BANK, NJ 07701  
 CONTACT: ROBERT ANDREWS  
 PHONE: (856) 797-0412  
 E-MAIL: RANDREWS@MASERCONSULTING.COM

**CODE COMPLIANCE**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

1. 2018 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2015 IBC	8. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81 IEEE C2 LATEST EDITION
2. 2017 NATIONAL ELECTRICAL CODE - NFPA 70	9. TELCORDIA GR-1275
3. 2017 NFPA 101	10. ANSI T1.311
4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10	11. PROPOSED USE: UNMANNED TELECOM FACILITY
5. AMERICAN CONCRETE INSTITUTE	12. HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
6. TIA-222-G	13. CONSTRUCTION TYPE: IIB
7. TIA 607 FOR GROUNDING	14. USE GROUP: U

**PROJECT DESCRIPTION/ SCOPE OF WORK**

- INSTALL (9) NEW RRU'S, (3) PER SECTOR
- REMOVE (6) EXISTING RRU'S, (2) PER SECTOR
- INSTALL (3) NEW PANEL ANTENNAS, (1) PER SECTOR
- REMOVE (3) EXISTING PANEL ANTENNAS, (1) PER SECTOR
- INSTALL (6) LOW BAND COMBINERS, (2) PER SECTOR
- INSTALL (1) NEW DC-6 SURGE SUPPRESSION DOME
- INSTALL (1) NEW FIBER SLACK BOX
- INSTALL (1) NEW 18-PAIR FIBER TRUNK
- INSTALL (2) NEW 6/C DC CABLES
- INSTALL (1) NEW 4 PORT HATCH PLATE
- SWAP DUS WITH (1) 5216
- SWAP IDL2 WITH IDL6 AND ADD (1) LTE 5G RBS 6630
- ADD (1) EMERSON RECTIFIER TO EXISTING POWER PLANT

PROPOSED PROJECT SCOPE BASED ON RFDS ID# 232041 I, VERSION 2.00, LAST UPDATED 06/14/2018.

**SHEET INDEX**

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1	COMPOUND PLAN
C-2	EQUIPMENT LAYOUT AND ELEVATION VIEW
C-3	ANTENNA LAYOUTS AND ANTENNA SCHEDULE
A-1	CONSTRUCTION DETAILS
A-2	CONSTRUCTION DETAILS
A-3	CONSTRUCTION DETAILS
A-4	RF PLUMBING DIAGRAM
G-1	GROUNDING DETAILS AND NOTES

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**GENERAL NOTES:**

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTNING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING 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 GE'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 (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS 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 LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
 CONTRACTOR - EMPIRE TELECOM  
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)  
 OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. 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.
30. 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.
31. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
32. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
33. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
34. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
35. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
36. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
37. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
38. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
39. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
40. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
41. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
42. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
43. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 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.
44. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
45. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
46. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
47. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
48. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
49. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
50. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



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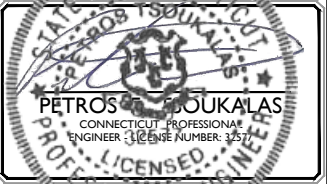


16 ESQUIRE ROAD  
 BILLERICA, MA 01862

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 ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE.  
 Know what's below. Call before you dig.  
 FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	18963012A

3	3/4/19	REVISED PER COMMENTS	AJC	RA
2	02/20/19	REVISED PER NEW RFDS	AJC	RA
0	09/25/18	FOR CONSTRUCTION	AJC	RA
1	09/17/18	FOR REVIEW	AJC	RA
REV		BY	CHECKED	BY



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**SITE NAME:**  
 ANSONIA NW  
 SPECTRASITE TOWER  
 FA# 10035308  
 SITE# CT2091  
 401 WAKELEE AVENUE  
 ANSONIA, CT 06401  
 NEW HAVEN COUNTY

**RED BANK**  
 331 Newman Springs Road  
 Suite 203  
 Red Bank, NJ 07701-5699  
 Phone: 732.383.1950  
 email: solutions@maserconsulting.com

SHEET TITLE:  
**GENERAL NOTES**

SHEET NUMBER:  
**GN-1**

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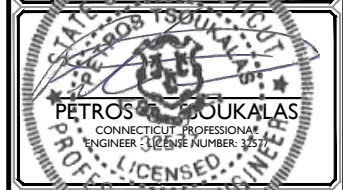
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SCALE:	JOB NUMBER:			
AS SHOWN	18963012A			
REV	DATE	DESCRIPTION	BY	CHECKED
3	3/4/19	REVISED PER COMMENTS	AJC	RA
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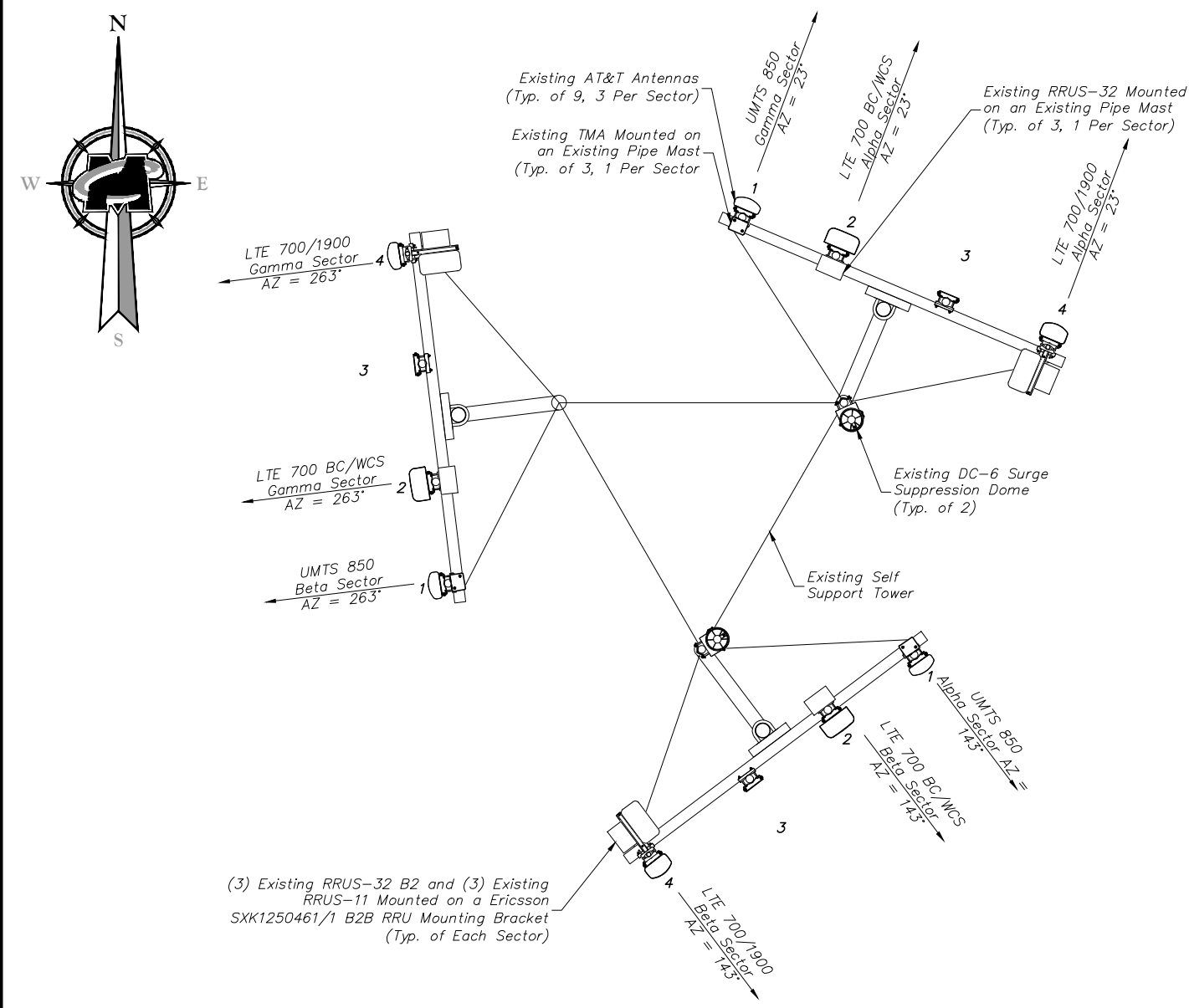
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**SITE NAME:**  
 ANSONIA NW  
 SPECTRASITE TOWER  
 FA# 10035308  
 SITE# CT2091  
 401 WAKELEE AVENUE  
 ANSONIA, CT 06401  
 NEW HAVEN COUNTY

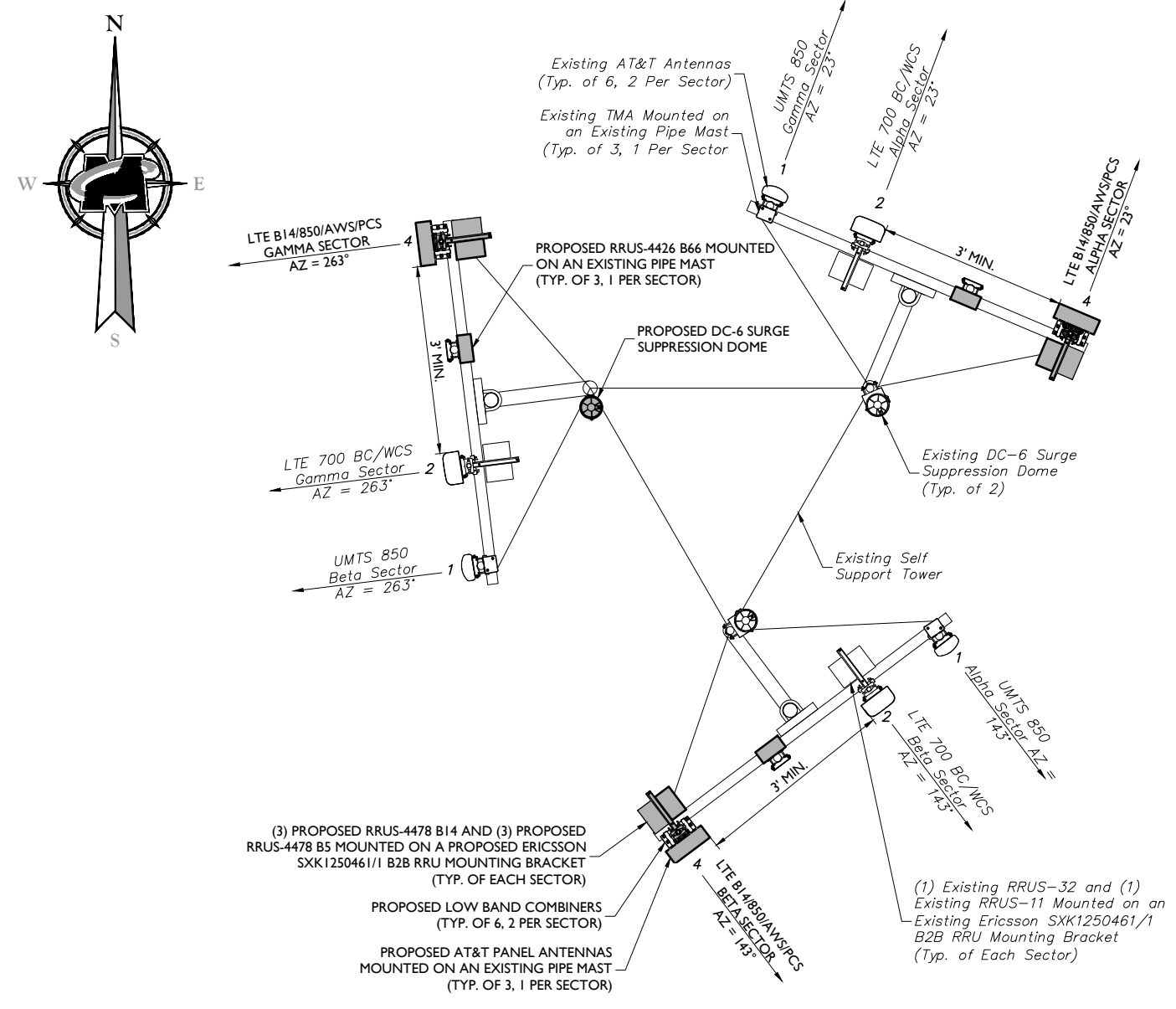
**RED BANK**  
 331 Newnam Springs Road  
 Suite 203  
 Red Bank, NJ 07701-5699  
 Phone: 732.383.1950  
 email: solutions@maserconsulting.com

SHEET TITLE:  
**ANTENNA LAYOUT AND ANTENNA SCHEDULE**

SHEET NUMBER:  
**C-3**



**EXISTING ANTENNA LAYOUT**  
 NOT TO SCALE



**PROPOSED ANTENNA LAYOUT**  
 NOT TO SCALE

ANTENNA SCHEDULE															
SECTOR	EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (ft)	WIDTH (ft)	DEPTH (ft)	WEIGHT (lbs)	ANTENNA AZIMUTH (DEG.)	ANT. CL. ELEV. (ft.)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			
												QUANTITY	TYPE	STATUS	
Sector 1	1	POWERWAVE 7770	POWERWAVE 7770	UMTS 850	EXISTING	55.00	11.00	5.00	35.00	143	167	(2) LGP 21901 (1) TT19-088P111-001	4	1 1/4" COAX	EXISTING
	2	CCI OPA-65R-LCUJ-H6	OPA-65R-LCUJ-H6	LTE 700BC/WCS	EXISTING	72.30	14.40	7.30	69.50	23	167	(1) RRUS-11 (1) RRUS-32	1/2	FIBER/DC	EXISTING
	3														
	4	QUINTEL Q566512.2	CCI TPA65R-BUHD	LTE 700 B14/850 AWS/PCS	PROPOSED	71.20	21.00	7.80	82.50	23	167	(2) CH1007-D8PXBC-003 (2) DACT108F1V92-1 (PROPOSED) (1) RRUS-4478 B14 (PROPOSED) (1) RRUS-4478 B5 (PROPOSED) (1) RRUS4426 B66 (PROPOSED)	1/2	FIBER/DC	PROPOSED
Sector 2	1	POWERWAVE 7770	POWERWAVE 7770	UMTS 850	EXISTING	55.00	11.00	5.00	35.00	263	167	(2) LGP 21901 (1) TT19-088P111-001	4	1 1/4" COAX	EXISTING
	2	CCI OPA-65R-LCUJ-HB	OPA-65R-LCUJ-HB	LTE 700BC/WCS	EXISTING	92.80	14.40	7.30	83.50	143	167	(1) RRUS-11 (1) RRUS-32	1/2	FIBER/DC	EXISTING
	3														
	4	CCI TPA-65R-LCUJ-HB	CCI TPA65R-BUHD	LTE 700 B14/850 AWS/PCS	PROPOSED	96.00	21.00	7.80	100.10	143	167	(2) CH1007-D8PXBC-003 (2) DACT108F1V92-1 (PROPOSED) (1) RRUS-4478 B14 (PROPOSED) (1) RRUS-4478 B5 (PROPOSED) (1) RRUS4426 B66 (PROPOSED)	1/2	FIBER/DC	PROPOSED
Sector 3	1	POWERWAVE 7770	POWERWAVE 7770	UMTS 850	EXISTING	55.00	11.00	5.00	35.00	23	167	(2) LGP 21901 (1) TT19-088P111-001	4	1 1/4" COAX	EXISTING
	2	CCI OPA-65R-LCUJ-H6	OPA-65R-LCUJ-H6	LTE 700BC/WCS	EXISTING	72.30	14.40	7.30	69.50	263	167	(1) RRUS-11 (1) RRUS-32	1/2	FIBER/DC	EXISTING
	3														
	4	QUINTEL Q566512.2	CCI TPA65R-BUHD	LTE 700 B14/850 AWS/PCS	PROPOSED	71.20	21.00	7.80	82.50	263	167	(2) CH1007-D8PXBC-003 (2) DACT108F1V92-1 (PROPOSED) (1) RRUS-4478 B14 (PROPOSED) (1) RRUS-4478 B5 (PROPOSED) (1) RRUS4426 B66 (PROPOSED)	1/2	FIBER/DC	PROPOSED

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# **EXHIBIT 3**



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 196 ft Self Supported Tower  
**ATC Site Name** : Ansonia Wakelee, CT  
**ATC Site Number** : 302470  
**Engineering Number** : OAA739691\_C3\_02  
**Proposed Carrier** : AT&T Mobility  
**Carrier Site Name** : Ansonia NW\_Spectrasite Tower  
**Carrier Site Number** : CT2091  
**Site Location** : 401 Wakelee Ave  
Ansonia, CT 06401-1226  
41.356100,-73.092000  
**County** : New Haven  
**Date** : February 27, 2019  
**Max Usage** : 96%  
**Result** : Pass

Prepared By:  
Jennifer Yu  
Structural Engineer I

Reviewed By:



Authorized by "EOR"  
Feb 28 2019 8:55 AM

COA: PEC.0001553



**Table of Contents**

Introduction .....	1
Supporting Documents .....	1
Analysis .....	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment .....	3
Structure Usages .....	3
Foundations .....	3
Deflection, Twist, and Sway.....	4
Standard Conditions .....	5
Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 196 ft self supported tower to reflect the change in loading by AT&T MOBILITY.

## Supporting Documents

<b>Tower Drawings</b>	Rohn Drawing #A991899, dated July 7, 1999
<b>Foundation Drawing</b>	Rohn Drawing #A992523-1, dated September 22, 1999
<b>Geotechnical Report</b>	Tectonic Engineering Consultants W.O. #1170.C754, dated May 20, 1999

## 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.

<b>Basic Wind Speed:</b>	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	C
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.19, S_1 = 0.06$
<b>Site Class:</b>	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](mailto: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**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier	
194.0	3	KMW AM-X-WM-17-65-00T (48")	Leg	(6) 1 5/8" Coax	SPRINT NEXTEL	
	3	KMW TTA (HB-X-WM-17-65-00T)				
188.0	3	Alcatel-Lucent 800MHz RRH and Type 1 Notch Filter	Sector Frame	(4) 1 1/4" Hybriflex Cable		
185.1	3	Alcatel-Lucent 1900 MHz 4X45 RRH				
185.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield				
	3	Alcatel-Lucent 800 MHz RRH				
	3	KMW ET-X-WM-18-65-8P				
	1	RFS APXVSP18-C-A20				
178.0	2	Powerwave Allgon P40-16-XLPP-RRR				Sector Frame
	1	Powerwave Allgon P40-16-XLPP-RRR				
177.0	3	Ryma MGD3-800TX	Sector Frame	(12) 1 5/8" Coax (2) 1 5/8" Hybriflex		
	3	Amphenol Antel BXA-171063-8CF-EDIN-X				
	1	Swedcom SLCP 2x6014				
	2	RFS DB-T1-6Z-8AB-0Z				
	3	Antel BXA-80080/4CF				
	3	Alcatel-Lucent B66 RRH4x45				
	3	Alcatel-Lucent PCS B25 RRH2x60/4x30				
	3	Alcatel-Lucent B13 RRH4x30-4R 700U				
	3	RFS FD9R6004/2C-3L				
	1	Amphenol Antel BXA-70063-6BF-EDIN-X				
167.0	6	Andrew SBNHH-1D65B	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (12) 1 1/4" Coax	AT&T MOBILITY	
	1	Powerwave Allgon P65-16-XL-2				
	6	Powerwave Allgon TT19-08BP111-001				
	2	Raycap DC6-48-60-18-8F ("Squid")				
	3	Ericsson RRUS 11 (Band 12) (55 lb)				
	3	Ericsson RRUS-32 (77 lbs)				
	3	Powerwave Allgon 7770.00				
157.0	2	CCI OPA-65R-LCUU-H6	Leg	(6) 1 5/8" Coax	METRO PCS INC	
	1	CCI OPA-65R-LCUU-H8				
148.0	3	Kathrein Scala 742 213	Sector Frame	(1) 1 1/4" Hybriflex Cable (12) 1 5/8" Coax	T-MOBILE	
	3	Ericsson KRY 112 144/1				
	3	Andrew LNX-6515DS-VTM				
	3	Ericsson AIR 21, 1.3M, B4A B2P				
	3	Ericsson RRUS 32 (50.8 lbs)				
	3	Ericsson RRUS 11 B12				
125.0	2	Ericsson AIR 21, 1.3 M, B2A B4P	Leg	(2) 1/4" Coax	CITY OF ANSONIA, CT	
85.0	1	Motorola PTP54600	Stand-Off	(1) 1/2" Coax		
76.0	1	Generic 10' Dipole	Stand-Off	(1) 1/2" Coax		SPRINT NEXTEL
76.0	1	PCTEL GPS-TMG-HR-26N	Stand-Off	(1) 1/2" Coax	SPRINT NEXTEL	

**Equipment to be Removed**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
167.0	3	Quintel QS66512-2	-	-	AT&T MOBILITY
	3	Ericsson RRUS 32 B2			



**Proposed Equipment**

Elev. <sup>1</sup> (ft)	Qty	Antenna	Mount Type	Lines	Carrier
167.0	6	Kaelus DBCT108F1V92-1	Sector Frame	(2) 0.78" (19.7mm) 8 AWG 6 (1) 2" conduit	AT&T MOBILITY
	1	Raycap DC6-48-60-0-8F (24" Height)			
	3	Ericsson RRUS 4478 B5			
	3	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)			
	3	Ericsson RRUS 4478 B14			
	2	CCI TPA65R-BU6D			
	1	CCI TPA65R-BU8D			

<sup>1</sup> Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines stacked on top of existing AT&T MOBILITY coax.

**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	90%	Pass
Diagonals	96%	Pass
Horizontals	14%	Pass
Anchor Bolts	80%	Pass
Leg Bolts	74%	Pass

**Foundations**

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	301.1	406.5	351.7	87%
Axial (Kips)	343.0	463.1	401.1	87%
Total Shear (Kips)	54.4	73.4	68.5	93%

\* 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) (°)
167.0	Kaelus DBCT108F1V92-1	AT&T MOBILITY	0.383	0.013	0.276
	Raycap DC6-48-60-0-8F (24" Height)				
	Ericsson RRUS 4478 B5				
	Ericsson Radio 8843 - B2 + B66A (w/ protruding items)				
	Ericsson RRUS 4478 B14				
	CCI TPA65R-BU6D				
	CCI TPA65R-BU8D				

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

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

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

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

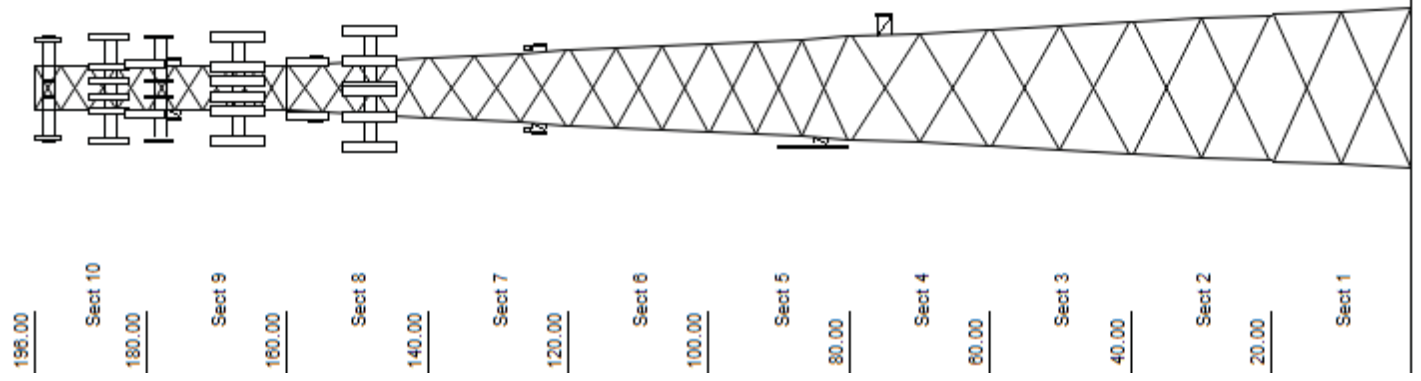
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

Job Information	
Tower : 302470	Location : Ansonia
Client : AT&T MOBILITY	Base Width : 23.00 ft
Code : ANSI/TIA-222-G	Top Width : 6.65 ft
	Tower Ht : 196.00 ft
	Shape : Triangle

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Loads: 97 mph no ice  
 50 mph w/ 3/4" radial ice  
 Site Class: D Ss: 0.19 S1: 0.06  
 60 mph Serviceability



Sections Properties			
Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50 ksi PSP 50 ksi ROHN 8 EHS	8" DIA PIPE SAE 50 ksi 4X4X0.25	SAE 50 ksi 4X4X0.25
2	PX 50 ksi PSP 50 ksi ROHN 8 EHS	6" DIA PIPE SAE 50 ksi 3.5X3.5X0.25	SAE 50 ksi 3.5X3.5X0.25
3	PX 50 ksi PSP 50 ksi ROHN 6 EHS	6" DIA PIPE SAE 50 ksi 3X3X0.25	SAE 50 ksi 3X3X0.25
4	PX 50 ksi PSP 50 ksi ROHN 6 EHS	5" DIA PIPE SAE 36 ksi 2.5X2.5X0.25	SAE 36 ksi 2X2X0.125
5	PX 50 ksi PSP 50 ksi ROHN 6 EHS	4" DIA PIPE SAE 36 ksi 2X2X0.25	SAE 36 ksi 2X2X0.125
6 - 7	PX 50 ksi PSP 50 ksi ROHN 6 EHS	3" DIA PIPE SAE 36 ksi 2X2X0.1875	SAE 36 ksi 2X2X0.125
8	PX 50 ksi PSP 50 ksi ROHN 6 EHS	2-1/2" DIA PIPE SAE 36 ksi 1.75X1.75X0.1875	SAE 36 ksi 2X2X0.125
9	PX 50 ksi PSP 50 ksi ROHN 6 EHS		
10	PX 50 ksi PSP 50 ksi ROHN 6 EHS		

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
194.00	Panel	3	KMW AM-X-WM-17-65-00T (48")
194.00	Panel	3	KMW TTA (HB-X-WM-17-65-00T)
188.00	Panel	3	Alcatel-Lucent 800MHz RRH and
185.10	Panel	3	Alcatel-Lucent 1900 MHz 4X45 R
185.00	Mounting Frame	3	Round Sector Frames
185.00	Panel	1	Powerwave Alligon P40-16-XLPP-R
185.00	Panel	2	Powerwave Alligon P40-16-XLPP-R
185.00	Panel	1	RFS APXVSP18-C-A20
185.00	Panel	3	KMW ET-X-WM-18-65-8P
185.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
185.00	Panel	3	Alcatel-Lucent 800 MHz RRH
178.00	Mounting Frame	3	Flat Light Sector Frames
178.00	Panel	3	Ryma MGD3-800TX
178.00	Panel	3	Amphenol Antel BXA-171063-8CF-
177.00	Panel	6	Andrew SBNHH-1D65B
177.00	Panel	1	Powerwave Alligon P65-16-XL-2
177.00	Panel	1	Amphenol Antel BXA-70063-6BF-E
177.00	Panel	1	Swedcom SLCP 2x6014
177.00	Panel	2	RFS DB-T1-6Z-8AB-0Z
177.00	Panel	3	Antel BXA-80080/4CF
177.00	Panel	3	Alcatel-Lucent B66 RRH4x45
177.00	Panel	3	Alcatel-Lucent PCS B25 RRH2x60
177.00	Panel	3	Alcatel-Lucent B13 RRH4x30-4R
177.00	Mounting Frame	3	RFS FD9R6004/2C-3L
167.00	Mounting Frame	3	Round Sector Frames
167.00	Panel	1	CCI TPA65R-BU8D
167.00	Panel	1	CCI OPA-65R-LCUU-H8
167.00	Panel	2	CCI TPA65R-BU6D
167.00	Panel	2	CCI OPA-65R-LCUU-H6
167.00	Panel	3	Powerwave Alligon 7770.00
167.00	Panel	3	Ericsson RRUS-32 (77 lbs)
167.00	Panel	3	Ericsson RRUS 11 (Band 12) (55
167.00	Panel	3	Ericsson RRUS 4478 B14
167.00	Panel	3	Ericsson Radio 8843 - B2 + B66
167.00	Panel	3	Ericsson RRUS 4478 B5
167.00	Panel	2	Raycap DC6-48-60-18-8F ("Squid
167.00	Panel	1	Raycap DC6-48-60-18-8F (24" Hei
167.00	Panel	6	Kaelus DBCT108F1V92-1
167.00	Panel	6	Powerwave Alligon TT19-088P11-
157.00	Panel	3	Kathrein Scala 742 213
148.00	Mounting Frame	3	Round Sector Frame
148.00	Panel	3	Andrew LNX-6515DS-VTM
148.00	Panel	3	Ericsson AIR 21, 1.3M, B4A B2P
148.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4

**Job Information**

Tower : 302470

Location : Ansonia

Base Width : 23.00 ft

Client : AT&T MOBILITY

Top Width : 6.65 ft

Code : ANSI/TIA-222-G

Tower Ht : 196.00 ft

Shape : Triangle

148.00	3	Ericsson RRUS 11 B12
148.00	3	Ericsson RRUS 32 (50.8 lbs)
148.00	3	Ericsson KRY 112 144/1
125.00	2	Motorola PTP54600
102.00	2	Standoffs
85.00	1	Generic 10' Dipole
80.00	1	Standoffs
76.00	1	Standoffs
76.00	1	PCI-EI, GPS-IMG-HR-26N

**Linear Appurtenance**

Elev (ft)	From	To	Qty	Description
8.00	194.00	1	Wave Guide	
8.00	194.00	6	1 5/8" Coax	
8.00	185.00	1	Wave Guide	
8.00	185.00	1	1 1/4" Hybriflex Cab	
8.00	185.00	3	1 1/4" Hybriflex Cab	
8.00	177.00	2	1 5/8" Hybriflex	
8.00	177.00	12	1 5/8" Coax	
8.00	167.00	1	Wave Guide	
8.00	167.00	1	2" conduit	
8.00	167.00	12	1 1/4" Coax	
8.00	167.00	4	0.78" (19.7mm) 8 AWG	
8.00	167.00	2	0.78" (19.7mm) 8 AWG	
8.00	167.00	2	0.39" (10mm) Fiber T	
8.00	157.00	1	Waveguide	
8.00	157.00	6	1 5/8" Coax	
8.00	148.00	1	Wave Guide	
8.00	148.00	12	1 5/8" Coax	
8.00	148.00	1	1 1/4" Hybriflex Cab	
8.00	125.00	2	1 1/4" Coax	
8.00	85.00	1	1/2" Coax	
8.00	76.00	1	1/2" Coax	

**Global Base Foundation Design Loads**

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	7,611.92	56.79	68.54
DL + WL + IL	2,596.59	172.53	23.83

**Individual Base Foundation Design Loads**

Vertical (kip)	Uplift (kip)	Horizontal (kip)
401.08	351.73	41.53

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

Customer: AT&T MOBILITY

### Analysis Parameters

Location:	NEW HAVEN County, CT	Height (ft):	196
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	23.00
Tower Manufacturer:	Rohn	Top Face Width (ft):	6.65
Tower Type:	Self Support	Anchor Bolt Detail Type	d
Kd:			
Ke:			

### Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

### Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.95				
$T_L$ (sec):	6	p:	1.3	$C_S$ :	0.034
$S_s$ :	0.190	$S_1$ :	0.060	$C_{S, Max}$ :	0.034
$F_a$ :	1.600	$F_v$ :	2.400	$C_{S, Min}$ :	0.030
$S_{ds}$ :	0.203	$S_{d1}$ :	0.096		

### Load Cases

1.2D + 1.6W Normal	97 mph Normal with No Ice
1.2D + 1.6W 60 deg	97 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	97 mph 90 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	97 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	97 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 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg 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 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

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 <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
194.0	KMW TTA (HB-X-WM-	3	16	0.6	1.3	7.3	3.7	1.00	0.50	0.0	0.0	29.79	40	57
194.0	KMW AM-X-WM-17-	3	14	3.4	4.0	7.3	2.6	1.00	0.64	0.0	0.0	29.79	261	51
188.0	Alcatel-Lucent	3	64	1.8	1.3	13.8	13.0	1.00	0.50	0.0	0.0	29.60	109	230
185.1	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	6.9	970.8	29.73	141	216
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	29.50	103	191
185.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.61	0.0	0.0	29.50	238	252
185.0	KMW ET-X-WM-18-	3	36	6.7	5.1	12.0	4.3	0.80	0.63	0.0	0.0	29.50	405	131
185.0	RFS APXVSP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	29.50	257	68
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	582	154
185.0	Powerwave Allgon	1	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	29.50	291	77
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	29.50	975	1080
178.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	1.00	0.67	0.0	0.0	29.26	235	38
178.0	Rymsa MGD3-800TX	3	15	3.3	4.4	6.3	3.5	1.00	0.69	0.0	0.0	29.26	275	55
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.26	1074	1440
177.0	RFS FD9R6004/2C-3L	3	3	0.3	0.5	6.5	1.5	0.80	0.50	0.0	0.0	29.22	15	9
177.0	Alcatel-Lucent B13	3	57	2.2	1.8	12.0	9.0	0.80	0.50	1.0	103.6	29.26	104	206
177.0	Alcatel-Lucent PCS	3	55	2.2	1.8	12.0	9.5	0.80	0.50	1.0	105.0	29.26	105	198
177.0	Alcatel-Lucent B66	3	67	2.6	2.2	12.0	7.3	0.80	0.50	1.0	123.2	29.26	123	241
177.0	Antel BXA-80080/4CF	3	14	4.8	4.0	11.2	5.9	0.80	0.67	1.0	307.1	29.26	307	51
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	220.0	29.26	220	106
177.0	Swedcom SLCP	1	20	6.5	4.4	14.0	11.0	0.80	1.00	1.0	206.3	29.26	206	24
177.0	Amphenol Antel BXA-	1	19	7.3	5.7	11.2	5.3	0.80	1.00	1.0	231.1	29.26	231	23
177.0	Powerwave Allgon	1	33	8.1	6.0	12.0	5.0	0.80	1.00	1.0	258.8	29.26	259	40
177.0	Andrew SBNHH-	6	51	8.2	6.1	11.9	7.1	0.80	0.69	1.0	1076.7	29.26	1077	365
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	28.87	52	115
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	28.87	59	100
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	46	39
167.0	Raycap DC6-48-60-	2	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	28.87	92	76
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	28.87	87	216
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	28.87	93	270
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	28.87	95	214
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	28.87	119	198
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	28.87	156	277
167.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	28.87	337	126
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	28.87	455	175
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	28.87	582	162
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	28.87	408	106
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.87	852	1080
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	28.87	568	99
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	28.49	400	79
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	28.14	16	40
148.0	Ericsson RRUS 32	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	28.14	124	183
148.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	28.14	128	183
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	28.14	395	299
148.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	28.14	392	293
148.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	28.14	735	185
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.14	831	1080
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	260.3	27.34	65	29
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	26.02	159	180
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	25.04	128	36
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	90
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	90



Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

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Customer: AT&T MOBILITY

### Tower Loading

80.00 Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	84	68
76.00 PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	24.46	3	1
76.00 Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.46	83	68
<b>Totals</b>	<b>137</b>	<b>9437</b>	<b>677.2</b>									<b>15177</b>	<b>8493</b>

### 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 <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
194.0	KMW TTA (HB-X-WM-	3	37	1.1	1.3	7.3	3.7	1.00	0.50	0.0	0.0	7.92	11	120
194.0	KMW AM-X-WM-17-	3	78	5.3	4.0	7.3	2.6	1.00	0.64	0.0	0.0	7.92	68	243
188.0	Alcatel-Lucent	3	139	2.7	1.3	13.8	13.0	1.00	0.50	0.0	0.0	7.86	28	454
185.1	Alcatel-Lucent 1900	3	143	3.4	2.1	11.1	10.7	1.00	0.50	6.9	238.1	7.90	35	464
185.0	Alcatel-Lucent 800	3	129	3.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	7.84	25	418
185.0	Alcatel-Lucent TD-	3	167	5.4	2.2	18.6	6.7	0.80	0.61	0.0	0.0	7.84	53	543
185.0	KMW ET-X-WM-18-	3	166	9.1	5.1	12.0	4.3	0.80	0.63	0.0	0.0	7.84	92	521
185.0	RFS APXVSP18-C-	1	234	10.9	6.0	11.8	7.0	0.80	1.00	0.0	0.0	7.84	58	245
185.0	Powerwave Allgon	2	254	11.3	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.84	121	534
185.0	Powerwave Allgon	1	254	11.3	4.5	20.0	6.5	0.80	1.00	0.0	0.0	7.84	60	267
185.0	Round Sector	3	621	24.7	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.84	277	2044
178.0	Amphenol Antel BXA-	3	77	4.6	4.0	6.1	4.1	1.00	0.67	0.0	0.0	7.77	61	237
178.0	Rymasa MGD3-800TX	3	85	5.1	4.4	6.3	3.5	1.00	0.69	0.0	0.0	7.77	70	263
178.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.77	331	2356
177.0	RFS FD9R6004/2C-3L	3	11	0.7	0.5	6.5	1.5	0.80	0.50	0.0	0.0	7.76	6	34
177.0	Alcatel-Lucent B13	3	127	3.2	1.8	12.0	9.0	0.80	0.50	1.0	25.3	7.77	25	415
177.0	Alcatel-Lucent PCS	3	127	3.2	1.8	12.0	9.5	0.80	0.50	1.0	25.6	7.77	26	415
177.0	Alcatel-Lucent B66	3	139	3.7	2.2	12.0	7.3	0.80	0.50	1.0	29.5	7.77	30	457
177.0	Antel BXA-80080/4CF	3	124	6.7	4.0	11.2	5.9	0.80	0.67	1.0	71.2	7.77	71	380
177.0	RFS DB-T1-6Z-8AB-	2	172	6.2	2.0	24.0	10.0	0.80	0.72	1.0	47.5	7.77	48	361
177.0	Swedcom SLCP	1	198	8.6	4.4	14.0	11.0	0.80	1.00	1.0	45.3	7.77	45	202
177.0	Amphenol Antel BXA-	1	166	10.0	5.7	11.2	5.3	0.80	1.00	1.0	52.6	7.77	53	169
177.0	Powerwave Allgon	1	190	11.0	6.0	12.0	5.0	0.80	1.00	1.0	57.9	7.77	58	197
177.0	Andrew SBNHH-	6	229	11.0	6.1	11.9	7.1	0.80	0.69	1.0	241.6	7.77	242	1433
167.0	Powerwave Allgon	6	36	1.1	0.8	6.7	5.4	0.80	0.50	0.0	0.0	7.67	17	238
167.0	Kaelus	6	39	1.2	0.9	7.1	6.8	0.80	0.50	0.0	0.0	7.67	18	253
167.0	Raycap DC6-48-60-0-	1	141	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	11	148
167.0	Raycap DC6-48-60-	2	94	2.2	2.0	11.0	11.0	0.80	1.00	0.0	0.0	7.67	23	202
167.0	Ericsson RRUS 4478	3	116	2.7	1.4	13.4	7.7	0.80	0.50	0.0	0.0	7.67	22	384
167.0	Ericsson Radio 8843	3	148	2.9	1.5	13.2	11.3	0.80	0.50	0.0	0.0	7.67	23	488
167.0	Ericsson RRUS 4478	3	122	3.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	7.67	23	401
167.0	Ericsson RRUS 11	3	123	3.6	1.5	17.0	7.2	0.80	0.50	0.0	0.0	7.67	28	403
167.0	Ericsson RRUS-32	3	176	4.6	2.5	13.3	9.5	0.80	0.50	0.0	0.0	7.67	36	573
167.0	Powerwave Allgon	3	172	6.6	4.6	11.0	5.0	0.80	0.65	0.0	0.0	7.67	67	538
167.0	CCI OPA-65R-LCUU-	2	280	12.5	6.0	14.8	7.4	0.80	0.75	0.0	0.0	7.67	98	588
167.0	CCI TPA65R-BU6D	2	333	15.7	5.9	21.0	7.8	0.80	0.72	0.0	0.0	7.67	118	692
167.0	CCI OPA-65R-LCUU-	1	349	16.6	7.7	14.8	7.4	0.80	1.00	0.0	0.0	7.67	87	366
167.0	Round Sector	3	618	24.6	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.67	242	2034
167.0	CCI TPA65R-BU8D	1	432	21.8	8.0	21.0	7.8	0.80	1.00	0.0	0.0	7.67	114	449
157.0	Kathrein Scala 742	3	135	6.4	6.4	6.1	2.7	1.00	0.67	0.0	0.0	7.57	83	418
148.0	Ericsson KRY 112	3	22	0.8	0.6	6.1	2.7	0.80	0.50	0.0	0.0	7.48	6	72
148.0	Ericsson RRUS 32	3	122	3.8	2.2	12.1	6.7	0.80	0.50	0.0	0.0	7.48	29	398
148.0	Ericsson RRUS 11	3	123	3.9	1.6	17.0	7.2	0.80	0.50	0.0	0.0	7.48	30	400
148.0	Ericsson AIR 21, 1.3	3	229	8.2	4.7	12.0	8.0	0.80	0.71	0.0	0.0	7.48	89	738
148.0	Ericsson AIR 21,	3	227	8.3	4.7	12.1	7.9	0.80	0.70	0.0	0.0	7.48	88	731
148.0	Andrew LNX-	3	281	14.7	8.0	11.9	7.1	0.80	0.70	0.0	0.0	7.48	157	874
148.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.48	297	2186

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

Customer: AT&T MOBILITY

### Tower Loading

125.0	Motorola PTP54600	2	51	2.6	1.2	14.5	3.8	1.00	0.50	4.0	64.4	7.26	16	108
102.0	Standoffs	2	100	2.8	0.0	0.0	0.0	1.00	0.90	0.0	0.0	6.91	30	231
85.00	Generic 10' Dipole	1	136	9.5	10.0	3.0	3.0	1.00	1.00	0.0	0.0	6.65	54	142
80.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.57	16	114
76.00	PCTEL GPS-TMG-HR-	1	5	0.3	0.4	3.2	3.2	1.00	1.00	0.0	0.0	6.50	1	5
76.00	Standoffs	1	99	2.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.50	16	114
<b>Totals</b>		<b>137</b>	<b>25172</b>	<b>1015.5</b>									<b>3729</b>	<b>27060</b>

### Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
194.0	KMW TTA (HB-X-WM-	3	16	0.6	1.3	7.3	3.7	1.00	0.50	0.0	0.0	11.40	9	48
194.0	KMW AM-X-WM-17-	3	14	3.4	4.0	7.3	2.6	1.00	0.64	0.0	0.0	11.40	63	43
188.0	Alcatel-Lucent	3	64	1.8	1.3	13.8	13.0	1.00	0.50	0.0	0.0	11.32	26	192
185.1	Alcatel-Lucent 1900	3	60	2.3	2.1	11.1	10.7	1.00	0.50	6.9	232.1	11.37	34	180
185.0	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	11.29	25	159
185.0	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.61	0.0	0.0	11.29	57	210
185.0	KMW ET-X-WM-18-	3	36	6.7	5.1	12.0	4.3	0.80	0.63	0.0	0.0	11.29	97	109
185.0	RFS APXVSP18-C-	1	57	8.0	6.0	11.8	7.0	0.80	1.00	0.0	0.0	11.29	62	57
185.0	Powerwave Allgon	2	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.29	139	128
185.0	Powerwave Allgon	1	64	9.1	4.5	20.0	6.5	0.80	1.00	0.0	0.0	11.29	70	64
185.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.29	233	900
178.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	1.00	0.67	0.0	0.0	11.19	56	32
178.0	Rymasa MGD3-800TX	3	15	3.3	4.4	6.3	3.5	1.00	0.69	0.0	0.0	11.19	66	46
178.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.19	257	1200
177.0	RFS FD9R6004/2C-3L	3	3	0.3	0.5	6.5	1.5	0.80	0.50	0.0	0.0	11.18	4	8
177.0	Alcatel-Lucent B13	3	57	2.2	1.8	12.0	9.0	0.80	0.50	1.0	24.8	11.19	25	172
177.0	Alcatel-Lucent PCS	3	55	2.2	1.8	12.0	9.5	0.80	0.50	1.0	25.1	11.19	25	165
177.0	Alcatel-Lucent B66	3	67	2.6	2.2	12.0	7.3	0.80	0.50	1.0	29.5	11.19	29	201
177.0	Antel BXA-80080/4CF	3	14	4.8	4.0	11.2	5.9	0.80	0.67	1.0	73.4	11.19	73	43
177.0	RFS DB-T1-6Z-8AB-	2	44	4.8	2.0	24.0	10.0	0.80	0.72	1.0	52.6	11.19	53	88
177.0	Swedcom SLCF	1	20	6.5	4.4	14.0	11.0	0.80	1.00	1.0	49.3	11.19	49	20
177.0	Amphenol Antel BXA-	1	19	7.3	5.7	11.2	5.3	0.80	1.00	1.0	55.3	11.19	55	19
177.0	Powerwave Allgon	1	33	8.1	6.0	12.0	5.0	0.80	1.00	1.0	61.9	11.19	62	33
177.0	Andrew SBNHH-	6	51	8.2	6.1	11.9	7.1	0.80	0.69	1.0	257.5	11.19	257	304
167.0	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	11.04	12	96
167.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	11.04	14	83
167.0	Raycap DC6-48-60-0-	1	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	11	33
167.0	Raycap DC6-48-60-	2	32	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.0	11.04	22	64
167.0	Ericsson RRUS 4478	3	60	1.8	1.4	13.4	7.7	0.80	0.50	0.0	0.0	11.04	21	180
167.0	Ericsson Radio 8843	3	75	2.0	1.5	13.2	11.3	0.80	0.50	0.0	0.0	11.04	22	225
167.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.0	11.04	23	178
167.0	Ericsson RRUS 11	3	55	2.5	1.5	17.0	7.2	0.80	0.50	0.0	0.0	11.04	28	165
167.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.50	0.0	0.0	11.04	37	231
167.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	11.04	81	105
167.0	CCI OPA-65R-LCUU-	2	73	9.7	6.0	14.8	7.4	0.80	0.75	0.0	0.0	11.04	109	146
167.0	CCI TPA65R-BU6D	2	68	12.9	5.9	21.0	7.8	0.80	0.72	0.0	0.0	11.04	139	135
167.0	CCI OPA-65R-LCUU-	1	88	13.0	7.7	14.8	7.4	0.80	1.00	0.0	0.0	11.04	97	88
167.0	Round Sector	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.04	204	900
167.0	CCI TPA65R-BU8D	1	83	18.1	8.0	21.0	7.8	0.80	1.00	0.0	0.0	11.04	136	83
157.0	Kathrein Scala 742	3	22	5.1	6.4	6.1	2.7	1.00	0.67	0.0	0.0	10.90	96	66
148.0	Ericsson KRY 112	3	11	0.3	0.6	6.1	2.7	0.80	0.50	0.0	0.0	10.77	4	33
148.0	Ericsson RRUS 32	3	51	2.7	2.2	12.1	6.7	0.80	0.50	0.0	0.0	10.77	30	152
148.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	10.77	31	152
148.0	Ericsson AIR 21, 1.3	3	83	6.1	4.7	12.0	8.0	0.80	0.71	0.0	0.0	10.77	94	249



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2/27/2019 11:29:59 AM

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### Tower Loading

148.0	Ericsson AIR 21,	3	82	6.1	4.7	12.1	7.9	0.80	0.70	0.0	0.0	10.77	94	245
148.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	10.77	176	154
148.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.77	199	900
125.0	Motorola PTP54600	2	12	1.8	1.2	14.5	3.8	1.00	0.50	4.0	62.2	10.46	16	24
102.0	Standoffs	2	75	2.5	0.0	0.0	0.0	1.00	0.90	0.0	0.0	9.96	38	150
85.00	Generic 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	0.0	0.0	9.58	31	30
80.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.46	20	75
76.00	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	1.00	1.00	0.0	0.0	9.36	1	1
76.00	Standoffs	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.36	20	75
<b>Totals</b>		<b>137</b>	<b>9437</b>	<b>677.2</b>									<b>3629</b>	<b>9437</b>

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2/27/2019 11:29:59 AM

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### 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
8.00	194.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	194.0	Wave Guide	1	1.00	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	1 1/4" Hybriflex	3	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.46
8.00	185.0	1 1/4" Hybriflex	1	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	185.0	Wave Guide	1	1.00	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Coax	12	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	177.0	1 5/8" Hybriflex	2	1.98	1.30	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	167.0	0.39" (10mm) Fiber	2	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	0.78" (19.7mm) 8	2	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	0.78" (19.7mm) 8	4	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	1 1/4" Coax	12	1.55	0.63	100	Lin App	Individual	0.00	N	1.00	1.00	0.35
8.00	167.0	2" conduit	1	2.38	3.65	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	167.0	Wave Guide	1	1.00	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	157.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.36
8.00	157.0	Waveguide	1	1.50	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	148.0	1 1/4" Hybriflex	1	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
8.00	148.0	1 5/8" Coax	12	1.98	0.82	67	Lin App	Block	0.00	N	1.00	1.00	0.44
8.00	148.0	Wave Guide	1	1.50	5.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	125.0	1/4" Coax	2	0.34	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	85.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
8.00	76.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.00

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2/27/2019 11:29:59 AM

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### Equivalent Lateral Force Method

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

Spectral Response Acceleration for Short Period ( $S_g$ ):	0.19
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Long-Period Transition Period ( $T_L$ - Seconds):	6
Importance Factor ( $I_p$ ):	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 ( $S_{ds}$ ):	0.20
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Seismic Response Coefficient ( $C_s$ ):	0.03
Upper Limit $C_s$ :	0.03
Lower Limit $C_s$ :	0.03
Period based on Rayleigh Method (sec):	0.95
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.23
Total Unfactored Dead Load:	47.32 k
Seismic Base Shear (E):	2.06 k

#### LoadCase (1.2 + 0.2Sds) \* DL + E

#### Seismic

Section	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	889	548,234	0.040	83	1,102
9	170.00	1,913	1,043,04	0.076	158	2,373
8	150.00	2,975	1,391,28	0.102	210	3,691
7	130.00	3,680	1,443,55	0.106	218	4,565
6	110.00	3,811	1,217,92	0.089	184	4,727
5	90.00	4,288	1,071,35	0.079	162	5,319
4	70.00	4,581	840,888	0.062	127	5,683
3	50.00	4,977	604,638	0.044	91	6,175
2	30.00	5,318	345,195	0.025	52	6,597
1	10.00	5,455	91,979	0.007	14	6,767
KMW TTA (HB-X-WM-17-65-00T)	194.00	48	30,582	0.002	5	59
KMW AM-X-WM-17-65-00T (48")	194.00	43	27,312	0.002	4	53
Alcatel-Lucent 800MHz RRH and Type 1	188.00	192	118,442	0.009	18	238
Alcatel-Lucent 1900 MHz 4X45 RRH	185.10	180	108,941	0.008	16	223
Alcatel-Lucent 800 MHz RRH	185.00	159	96,168	0.007	15	197
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	185.00	210	127,014	0.009	19	261
KMW ET-X-WM-18-65-8P	185.00	109	66,047	0.005	10	135
RFS APXVSP18-C-A20	185.00	57	34,475	0.003	5	71
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	77,418	0.006	12	159
Powerwave Allgon P40-16-XLPP-RRR	185.00	64	38,709	0.003	6	79
Round Sector Frames	185.00	900	544,346	0.040	82	1,116
Amphenol Antel BXA-171063-8CF-EDIN-X	178.00	32	18,171	0.001	3	39
Ryma MGD3-800TX	178.00	46	26,652	0.002	4	57
Flat Light Sector Frames	178.00	1,200	692,247	0.051	105	1,489
RFS FD9R6004/2C-3L	177.00	8	4,469	0.000	1	10

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**Equivalent Lateral Force Method**

Alcatel-Lucent B13 RRH4x30-4R 700U	177.00	172	98,309	0.007	15	213
Alcatel-Lucent PCS B25 RRH2x60/4x30	177.00	165	94,528	0.007	14	205
Alcatel-Lucent B66 RRH4x45	177.00	201	115,153	0.008	17	249
Antel BXA-80080/4CF	177.00	43	24,577	0.002	4	53
RFS DB-T1-6Z-8AB-0Z	177.00	88	50,415	0.004	8	109
Swedcom SLCP 2x6014	177.00	20	11,458	0.001	2	25
Amphenol Antel BXA-70063-6BF-EDIN-X	177.00	19	11,000	0.001	2	24
Powerwave Allgon P65-16-XL-2	177.00	33	18,906	0.001	3	41
Andrew SBNHH-1D65B	177.00	304	174,276	0.013	26	377
Powerwave Allgon TT19-08BP111-001	167.00	96	51,211	0.004	8	119
Kaelus DBCT108F1V92-1	167.00	83	44,489	0.003	7	103
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	17,497	0.001	3	41
Raycap DC6-48-60-18-8F ("Squid")	167.00	64	33,927	0.002	5	79
Ericsson RRUS 4478 B5	167.00	180	95,860	0.007	14	223
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	120,025	0.009	18	279
Ericsson RRUS 4478 B14	167.00	178	95,060	0.007	14	221
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	88,018	0.006	13	205
Ericsson RRUS-32 (77 lbs)	167.00	231	123,226	0.009	19	287
Powerwave Allgon 7770.00	167.00	105	56,012	0.004	8	130
CCI OPA-65R-LCUU-H6	167.00	146	77,883	0.006	12	181
CCI TPA65R-BU6D	167.00	135	72,015	0.005	11	167
CCI OPA-65R-LCUU-H8	167.00	88	46,943	0.003	7	109
Round Sector Frames	167.00	900	480,101	0.035	73	1,116
CCI TPA65R-BU8D	167.00	83	44,009	0.003	7	102
Kathrein Scala 742 213	157.00	66	32,639	0.002	5	82
Ericsson KRY 112 144/1	148.00	33	15,179	0.001	2	41
Ericsson RRUS 32 (50.8 lbs)	148.00	152	70,100	0.005	11	189
Ericsson RRUS 11 B12	148.00	152	69,962	0.005	11	189
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	114,533	0.008	17	309
Ericsson AIR 21, 1.3M, B4A B2P	148.00	244	112,463	0.008	17	303
Andrew LNX-6515DS-VTM	148.00	154	70,790	0.005	11	191
Round Sector Frame	148.00	900	413,975	0.030	63	1,116
Motorola PTP54600	125.00	24	9,048	0.001	1	30
Standoffs	102.00	150	43,700	0.003	7	186
Generic 10' Dipole	85.00	30	6,988	0.001	1	37
Standoffs	80.00	75	16,218	0.001	2	93
PCTEL GPS-TMG-HR-26N	76.00	1	122	0.000	0	1
Standoffs	76.00	75	15,229	0.001	2	93
		47,323	13,644,933	1.000	2,064	58,706

**LoadCase (0.9 - 0.2Sds) \* DL + E**

**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
10	188.00	889	548,234	0.040	83	764
9	170.00	1,913	1,043,04	0.076	158	1,644
8	150.00	2,975	1,391,28	0.102	210	2,557
7	130.00	3,680	1,443,55	0.106	218	3,162
6	110.00	3,811	1,217,92	0.089	184	3,275
5	90.00	4,288	1,071,35	0.079	162	3,685
4	70.00	4,581	840,888	0.062	127	3,937
3	50.00	4,977	604,638	0.044	91	4,278
2	30.00	5,318	345,195	0.025	52	4,571
1	10.00	5,455	91,979	0.007	14	4,688

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KMW TTA (HB-X-WM-17-65-00T)	194.00	48	30,582	0.002	5	41
KMW AM-X-WM-17-65-00T (48")	194.00	43	27,312	0.002	4	37
Alcatel-Lucent 800MHz RRH and Type 1	188.00	192	118,442	0.009	18	165
Alcatel-Lucent 1900 MHz 4X45 RRH	185.10	180	108,941	0.008	16	155
Alcatel-Lucent 800 MHz RRH	185.00	159	96,168	0.007	15	137
Alcatel-Lucent TD-RRH8x20-25 w/ Solar	185.00	210	127,014	0.009	19	180
KMW ET-X-WM-18-65-8P	185.00	109	66,047	0.005	10	94
RFS APXVSP18-C-A20	185.00	57	34,475	0.003	5	49
Powerwave Allgon P40-16-XLPP-RRR	185.00	128	77,418	0.006	12	110
Powerwave Allgon P40-16-XLPP-RRR	185.00	64	38,709	0.003	6	55
Round Sector Frames	185.00	900	544,346	0.040	82	774
Amphenol Antel BXA-171063-8CF-EDIN-X	178.00	32	18,171	0.001	3	27
Rymosa MGD3-800TX	178.00	46	26,652	0.002	4	40
Flat Light Sector Frames	178.00	1,200	692,247	0.051	105	1,031
RFS FD9R6004/2C-3L	177.00	8	4,469	0.000	1	7
Alcatel-Lucent B13 RRH4x30-4R 700U	177.00	172	98,309	0.007	15	147
Alcatel-Lucent PCS B25 RRH2x60/4x30	177.00	165	94,528	0.007	14	142
Alcatel-Lucent B66 RRH4x45	177.00	201	115,153	0.008	17	173
Antel BXA-80080/4CF	177.00	43	24,577	0.002	4	37
RFS DB-T1-6Z-8AB-0Z	177.00	88	50,415	0.004	8	76
Swedcom SLCP 2x6014	177.00	20	11,458	0.001	2	17
Amphenol Antel BXA-70063-6BF-EDIN-X	177.00	19	11,000	0.001	2	17
Powerwave Allgon P65-16-XL-2	177.00	33	18,906	0.001	3	28
Andrew SBNHH-1D65B	177.00	304	174,276	0.013	26	261
Powerwave Allgon TT19-08BP111-001	167.00	96	51,211	0.004	8	83
Kaelus DBCT108F1V92-1	167.00	83	44,489	0.003	7	72
Raycap DC6-48-60-0-8F (24" Height)	167.00	33	17,497	0.001	3	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	64	33,927	0.002	5	55
Ericsson RRUS 4478 B5	167.00	180	95,860	0.007	14	154
Ericsson Radio 8843 - B2 + B66A (w/ prot	167.00	225	120,025	0.009	18	193
Ericsson RRUS 4478 B14	167.00	178	95,060	0.007	14	153
Ericsson RRUS 11 (Band 12) (55 lb)	167.00	165	88,018	0.006	13	142
Ericsson RRUS-32 (77 lbs)	167.00	231	123,226	0.009	19	199
Powerwave Allgon 7770.00	167.00	105	56,012	0.004	8	90
CCI OPA-65R-LCUU-H6	167.00	146	77,883	0.006	12	125
CCI TPA65R-BU6D	167.00	135	72,015	0.005	11	116
CCI OPA-65R-LCUU-H8	167.00	88	46,943	0.003	7	76
Round Sector Frames	167.00	900	480,101	0.035	73	774
CCI TPA65R-BU8D	167.00	83	44,009	0.003	7	71
Kathrein Scala 742 213	157.00	66	32,639	0.002	5	57
Ericsson KRY 112 144/1	148.00	33	15,179	0.001	2	28
Ericsson RRUS 32 (50.8 lbs)	148.00	152	70,100	0.005	11	131
Ericsson RRUS 11 B12	148.00	152	69,962	0.005	11	131
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	114,533	0.008	17	214
Ericsson AIR 21, 1.3M, B4A B2P	148.00	244	112,463	0.008	17	210
Andrew LNX-6515DS-VTM	148.00	154	70,790	0.005	11	132
Round Sector Frame	148.00	900	413,975	0.030	63	774
Motorola PTP54600	125.00	24	9,048	0.001	1	21
Standoffs	102.00	150	43,700	0.003	7	129
Generic 10' Dipole	85.00	30	6,988	0.001	1	26
Standoffs	80.00	75	16,218	0.001	2	64
PCTEL GPS-TMG-HR-26N	76.00	1	122	0.000	0	1
Standoffs	76.00	75	15,229	0.001	2	64
		47,323	13,644,933	1.000	2,064	40,673

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

Customer: AT&T MOBILITY

## Equivalent Lateral Force Method

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

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 ( $S_s$ ):	0.19
Spectral Response Acceleration at 1.0 Second Period ( $S_1$ ):	0.06
Importance Factor ( $I_p$ ):	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 ( $S_{ds}$ ):	0.20
Design Spectral Response Acceleration at 1.0 Second Period ( $S_{d1}$ ):	0.10
Period Based on Rayleigh Method (sec):	0.95
Redundancy Factor ( $\rho$ ):	1.30

#### LoadCase (1.2 + 0.2Sds) \* DL + E

#### Seismic

Section	Height		Seismic				$S_{az}$	Horizontal Force (lb)	Vertical Force (lb)
	Above Base (ft)	Weight (lb)	a	b	c				
10	188.00	889	1.739	1.275	0.876	0.326	126	1,102	
9	170.00	1,913	1.422	0.326	0.455	0.164	136	2,373	
8	150.00	2,975	1.107	-0.066	0.191	0.063	82	3,691	
7	130.00	3,680	0.831	-0.117	0.063	0.032	51	4,565	
6	110.00	3,811	0.595	-0.051	0.014	0.038	63	4,727	
5	90.00	4,288	0.399	0.019	0.007	0.047	87	5,319	
4	70.00	4,581	0.241	0.057	0.018	0.046	91	5,683	
3	50.00	4,977	0.123	0.070	0.034	0.038	83	6,175	
2	30.00	5,318	0.044	0.071	0.042	0.031	71	6,597	
1	10.00	5,455	0.005	0.044	0.025	0.018	42	6,767	
KMW TTA (HB-X-WM-17-65-00T)	194.00	48	1.852	1.784	1.069	0.396	8	59	
KMW AM-X-WM-17-65-00T (48")	194.00	43	1.852	1.784	1.069	0.396	7	53	
Alcatel-Lucent 800MHz RRH and	188.00	192	1.739	1.275	0.876	0.326	27	238	
Alcatel-Lucent 1900 MHz 4X45	185.10	180	1.686	1.069	0.793	0.295	23	223	
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.294	20	197	
Alcatel-Lucent TD-RRH8x20-25	185.00	210	1.684	1.062	0.790	0.294	27	261	
KMW ET-X-WM-18-65-8P	185.00	109	1.684	1.062	0.790	0.294	14	135	
RFS APXVSP18-C-A20	185.00	57	1.684	1.062	0.790	0.294	7	71	
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.294	16	159	
Powerwave Allgon P40-16-XLPP-	185.00	64	1.684	1.062	0.790	0.294	8	79	
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.294	115	1,116	
Amphenol Antel BXA-171063-	178.00	32	1.559	0.657	0.616	0.227	3	39	
Rymsa MGD3-800TX	178.00	46	1.559	0.657	0.616	0.227	5	57	
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.227	118	1,489	
RFS FD9R6004/2C-3L	177.00	8	1.541	0.608	0.593	0.219	1	10	
Alcatel-Lucent B13 RRH4x30-4R	177.00	172	1.541	0.608	0.593	0.219	16	213	
Alcatel-Lucent PCS B25	177.00	165	1.541	0.608	0.593	0.219	16	205	
Alcatel-Lucent B66 RRH4x45	177.00	201	1.541	0.608	0.593	0.219	19	249	
Antel BXA-80080/4CF	177.00	43	1.541	0.608	0.593	0.219	4	53	
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.219	8	109	
Swedcom SLCP 2x6014	177.00	20	1.541	0.608	0.593	0.219	2	25	
Amphenol Antel BXA-70063-6BF-	177.00	19	1.541	0.608	0.593	0.219	2	24	
Powerwave Allgon P65-16-XL-2	177.00	33	1.541	0.608	0.593	0.219	3	41	
Andrew SBNHH-1D65B	177.00	304	1.541	0.608	0.593	0.219	29	377	
Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.144	6	119	
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.144	5	103	
Raycap DC6-48-60-0-8F (24")	167.00	33	1.372	0.233	0.404	0.144	2	41	
Raycap DC6-48-60-18-8F ("Squid")	167.00	64	1.372	0.233	0.404	0.144	4	79	
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.144	11	223	
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.144	14	279	

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

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Customer: AT&T MOBILITY

### Equivalent Modal Analysis Method

Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.144	11	221
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.144	10	205
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.144	14	287
Powerwave Allgon 7770.00	167.00	105	1.372	0.233	0.404	0.144	7	130
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.144	9	181
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.144	8	167
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.144	5	109
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.144	56	1,116
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.144	5	102
Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.090	3	82
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.058	1	41
Ericsson RRUS 32 (50.8 lbs)	148.00	152	1.078	-0.082	0.173	0.058	4	189
Ericsson RRUS 11 B12	148.00	152	1.078	-0.082	0.173	0.058	4	189
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.058	6	309
Ericsson AIR 21, 1.3M, B4A B2P	148.00	244	1.078	-0.082	0.173	0.058	6	303
Andrew LNX-6515DS-VTM	148.00	154	1.078	-0.082	0.173	0.058	4	191
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.058	22	1,116
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.032	0	30
Standoffs	102.00	150	0.512	-0.020	0.008	0.043	3	186
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.048	1	37
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	93
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.047	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.047	2	93
		47,323	77.367	26.009	26.471	10.052	1,554	58,706

### LoadCase (0.9 - 0.2Sds) \* DL + E

### Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	Seismic (Reduced DL)				Horizontal Force (lb)	Vertical Force (lb)
			a	b	c	S <sub>az</sub>		
10	188.00	889	1.739	1.275	0.876	0.326	126	764
9	170.00	1,913	1.422	0.326	0.455	0.164	136	1,644
8	150.00	2,975	1.107	-0.066	0.191	0.063	82	2,557
7	130.00	3,680	0.831	-0.117	0.063	0.032	51	3,162
6	110.00	3,811	0.595	-0.051	0.014	0.038	63	3,275
5	90.00	4,288	0.399	0.019	0.007	0.047	87	3,685
4	70.00	4,581	0.241	0.057	0.018	0.046	91	3,937
3	50.00	4,977	0.123	0.070	0.034	0.038	83	4,278
2	30.00	5,318	0.044	0.071	0.042	0.031	71	4,571
1	10.00	5,455	0.005	0.044	0.025	0.018	42	4,688
KMW TTA (HB-X-WM-17-65-00T)	194.00	48	1.852	1.784	1.069	0.396	8	41
KMW AM-X-WM-17-65-00T (48")	194.00	43	1.852	1.784	1.069	0.396	7	37
Alcatel-Lucent 800MHz RRH and	188.00	192	1.739	1.275	0.876	0.326	27	165
Alcatel-Lucent 1900 MHz 4X45	185.10	180	1.686	1.069	0.793	0.295	23	155
Alcatel-Lucent 800 MHz RRH	185.00	159	1.684	1.062	0.790	0.294	20	137
Alcatel-Lucent TD-RRH8x20-25	185.00	210	1.684	1.062	0.790	0.294	27	180
KMW ET-X-WM-18-65-8P	185.00	109	1.684	1.062	0.790	0.294	14	94
RFS APXVSP18-C-A20	185.00	57	1.684	1.062	0.790	0.294	7	49
Powerwave Allgon P40-16-XLPP-	185.00	128	1.684	1.062	0.790	0.294	16	110
Powerwave Allgon P40-16-XLPP-	185.00	64	1.684	1.062	0.790	0.294	8	55
Round Sector Frames	185.00	900	1.684	1.062	0.790	0.294	115	774
Amphenol Antel BXA-171063-	178.00	32	1.559	0.657	0.616	0.227	3	27
Rymosa MGD3-800TX	178.00	46	1.559	0.657	0.616	0.227	5	40
Flat Light Sector Frames	178.00	1,200	1.559	0.657	0.616	0.227	118	1,031
RFS FD9R6004/2C-3L	177.00	8	1.541	0.608	0.593	0.219	1	7
Alcatel-Lucent B13 RRH4x30-4R	177.00	172	1.541	0.608	0.593	0.219	16	147
Alcatel-Lucent PCS B25	177.00	165	1.541	0.608	0.593	0.219	16	142
Alcatel-Lucent B66 RRH4x45	177.00	201	1.541	0.608	0.593	0.219	19	173
Antel BXA-80080/4CF	177.00	43	1.541	0.608	0.593	0.219	4	37
RFS DB-T1-6Z-8AB-0Z	177.00	88	1.541	0.608	0.593	0.219	8	76
Swedcom SLCP 2x6014	177.00	20	1.541	0.608	0.593	0.219	2	17
Amphenol Antel BXA-70063-6BF-	177.00	19	1.541	0.608	0.593	0.219	2	17
Powerwave Allgon P65-16-XL-2	177.00	33	1.541	0.608	0.593	0.219	3	28
Andrew SBNHH-1D65B	177.00	304	1.541	0.608	0.593	0.219	29	261



Site Number: 302470

Code:

ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:29:59 AM

Customer: AT&T MOBILITY

### Equivalent Modal Analysis Method

Powerwave Allgon TT19-	167.00	96	1.372	0.233	0.404	0.144	6	83
Kaelus DBCT108F1V92-1	167.00	83	1.372	0.233	0.404	0.144	5	72
Raycap DC6-48-60-0-8F (24"	167.00	33	1.372	0.233	0.404	0.144	2	28
Raycap DC6-48-60-18-8F ("Squid")	167.00	64	1.372	0.233	0.404	0.144	4	55
Ericsson RRUS 4478 B5	167.00	180	1.372	0.233	0.404	0.144	11	154
Ericsson Radio 8843 - B2 + B66A	167.00	225	1.372	0.233	0.404	0.144	14	193
Ericsson RRUS 4478 B14	167.00	178	1.372	0.233	0.404	0.144	11	153
Ericsson RRUS 11 (Band 12) (55	167.00	165	1.372	0.233	0.404	0.144	10	142
Ericsson RRUS-32 (77 lbs)	167.00	231	1.372	0.233	0.404	0.144	14	199
Powerwave Allgon 7770.00	167.00	105	1.372	0.233	0.404	0.144	7	90
CCI OPA-65R-LCUU-H6	167.00	146	1.372	0.233	0.404	0.144	9	125
CCI TPA65R-BU6D	167.00	135	1.372	0.233	0.404	0.144	8	116
CCI OPA-65R-LCUU-H8	167.00	88	1.372	0.233	0.404	0.144	5	76
Round Sector Frames	167.00	900	1.372	0.233	0.404	0.144	56	774
CCI TPA65R-BU8D	167.00	83	1.372	0.233	0.404	0.144	5	71
Kathrein Scala 742 213	157.00	66	1.213	0.017	0.264	0.090	3	57
Ericsson KRY 112 144/1	148.00	33	1.078	-0.082	0.173	0.058	1	28
Ericsson RRUS 32 (50.8 lbs)	148.00	152	1.078	-0.082	0.173	0.058	4	131
Ericsson RRUS 11 B12	148.00	152	1.078	-0.082	0.173	0.058	4	131
Ericsson AIR 21, 1.3 M, B2A B4P	148.00	249	1.078	-0.082	0.173	0.058	6	214
Ericsson AIR 21, 1.3M, B4A B2P	148.00	244	1.078	-0.082	0.173	0.058	6	210
Andrew LNX-6515DS-VTM	148.00	154	1.078	-0.082	0.173	0.058	4	132
Round Sector Frame	148.00	900	1.078	-0.082	0.173	0.058	22	774
Motorola PTP54600	125.00	24	0.769	-0.105	0.045	0.032	0	21
Standoffs	102.00	150	0.512	-0.020	0.008	0.043	3	129
Generic 10' Dipole	85.00	30	0.355	0.031	0.008	0.048	1	26
Standoffs	80.00	75	0.315	0.042	0.011	0.048	2	64
PCTEL GPS-TMG-HR-26N	76.00	1	0.284	0.049	0.014	0.047	0	1
Standoffs	76.00	75	0.284	0.049	0.014	0.047	2	64
		47,323	77.367	26.009	26.471	10.052	1,554	40,673

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

Customer: AT&T MOBILITY

### Force/Stress Summary

Section: 1		15N25		Bot Elev (ft): 0.00				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	PX - 8" DIA PIPE	-391.97	1.2D + 1.6W Normal	9.77	100	100	100	40.7	50.0	510.32	0	0	0.00	0.00	76 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 - 4X4X0.25	-12.89	1.2D + 1.6W 90 deg	23.62	50	50	50	178.3	43.5	13.79	1	1	17.89	23.40	93 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 8" DIA PIPE	353.64	0.9D + 1.6W 60 deg	50	65	576.00	0	0	0.00	0.00		61	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 4X4X0.25	12.65	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	89	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		320.92	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		365.20	1.2D + 1.6W Normal	0.00	0		
Bot Tension		353.64	0.9D + 1.6W 60 deg	605.74	71	10	1" A354-BC
Bot Compression		402.36	1.2D + 1.6W Normal	605.74	80	10	1" A354-BC

Section: 2		14N46		Bot Elev (ft): 20.00				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	PSP - ROHN 8 EHS	-353.35	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.80	0	0	0.00	0.00	90 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 - 4X4X0.25	-12.42	1.2D + 1.6W 90 deg	22.69	50	50	50	171.3	43.5	14.94	1	1	17.89	23.40	83 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	321.23	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		73	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 4X4X0.25	12.19	1.2D + 1.6W 90 deg	50	65	62.93	1	1	17.89	14.14	17.98	86	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		285.49	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		324.11	1.2D + 1.6W Normal	0.00	0		
Bot Tension		320.92	0.9D + 1.6W 60 deg	436.14	74	8	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

Customer: AT&T MOBILITY

### Force/Stress Summary

Section: 3		13N88		Bot Elev (ft): 40.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	-312.86	1.2D + 1.6W Normal	9.77	100	100	100	40.1	50.0	388.78	0	0	0.00	0.00	80 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 - 3.5X3.5X0.25	-11.14	1.2D + 1.6W 90 deg	20.87	50	50	50	182.0	50.0	11.52	1	1	17.89	23.40	96 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PSP - ROHN 8 EHS	285.91	0.9D + 1.6W 60 deg	50	65	437.40	0	0	0.00	0.00		65	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	10.90	1.2D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	77	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		250.74	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		283.91	1.2D + 1.6W Normal	0.00	0		
Bot Tension		285.49	0.9D + 1.6W 60 deg	436.14	65	8	1 A325
Bot Compression		0.00		0.00	0		

Section: 4		12N50		Bot Elev (ft): 60.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	-272.16	1.2D + 1.6W Normal	9.77	100	100	100	53.4	50.0	306.88	0	0	0.00	0.00	88 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 - 3.5X3.5X0.25	-10.79	1.2D + 1.6W 90 deg	19.04	50	50	50	166.1	50.0	13.84	1	1	17.89	23.40	77 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 6" DIA PIPE	251.03	0.9D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00		66	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3.5X3.5X0.25	10.75	1.2D + 1.6W 90 deg	50	65	53.79	1	1	17.89	14.14	17.98	76	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		213.27	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		241.25	1.2D + 1.6W Normal	0.00	0		
Bot Tension		250.74	0.9D + 1.6W 60 deg	436.14	57	8	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

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### Force/Stress Summary

Section: 5		11N223		Bot Elev (ft): 80.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PSP - ROHN 6 EHS	-232.32	1.2D + 1.6W Normal	6.51	100	100	100	35.1	50.0	275.92	0	0	0.00	0.00	84 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	-9.80	1.2D + 1.6W 90 deg	15.90	50	50	50	161.2	50.0	12.52	1	1	17.89	23.40	78 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PSP - ROHN 6 EHS	211.38	1.2D + 1.6W 60 deg	50	65	301.95	0	0	0.00	0.00		70	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	9.62	1.2D + 1.6W 90 deg	50	65	44.65	1	1	17.89	14.14	14.93	68	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		173.40	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		196.30	1.2D + 1.6W Normal	0.00	0		
Bot Tension		213.27	0.9D + 1.6W 60 deg	327.10	65	6	1 A325
Bot Compression		0.00		0.00	0		

Section: 6		10N152		Bot Elev (ft): 100.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-188.09	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.98	0	0	0.00	0.00	78 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 - 2.5X2.5X0.25	-8.24	1.2D + 1.6W 90 deg	14.13	50	50	50	172.8	36.0	9.01	1	1	12.43	17.40	91 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	173.68	0.9D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		63	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	8.35	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	80	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		134.33	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		152.90	1.2D + 1.6W Normal	0.00	0		
Bot Tension		173.40	0.9D + 1.6W 60 deg	327.10	53	6	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-G

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Engineering Number: OAA739691\_C3\_02

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Customer: AT&T MOBILITY

### Force/Stress Summary

Section: 7		9N216		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	-143.98	1.2D + 1.6W Normal	6.51	100	100	100	42.5	50.0	240.99	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 - 2.5X2.5X0.25	-7.98	1.2D + 1.6W 90 deg	12.33	50	50	50	150.8	36.0	11.83	1	1	12.43	17.40	67 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 5" DIA PIPE	133.03	1.2D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00		48	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	8.21	1.2D + 1.6W 90 deg	36	58	32.71	1	1	12.43	10.44	11.83	78	Bolt Bear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		90.47	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		104.98	1.2D + 1.6W Normal	0.00	0		
Bot Tension		134.33	0.9D + 1.6W 60 deg	218.07	62	4	1 A325
Bot Compression		0.00		0.00	0		

Section: 8		A780252		Bot Elev (ft): 140.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	-98.05	1.2D + 1.6W Normal	4.88	100	100	100	39.6	50.0	176.95	0	0	0.00	0.00	55 Member X
HORIZ	SAE - 2X2X0.125	-0.37	1.2D + 1.6W 60 deg	6.760	100	100	100	203.8	36.0	2.61	1	1	12.43	8.70	14 Member Z
DIAG	SAE - 2X2X0.25	-6.83	1.2D + 1.6W 90 deg	9.848	50	50	50	151.1	36.0	9.30	1	1	12.43	17.40	73 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	89.48	1.2D + 1.6W 60 deg	50	65	198.45	0	0	0.00	0.00		45	Member
HORIZ	SAE - 2X2X0.125	0.29	1.2D + 1.6W Normal	36	58	12.60	1	1	12.43	5.22	4.55	6	Blk Shear
DIAG	SAE - 2X2X0.25	6.83	1.2D + 1.6W 90 deg	36	58	24.55	1	1	12.43	10.44	9.11	75	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		45.56	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		55.28	1.2D + 1.6W Normal	0.00	0		
Bot Tension		90.47	0.9D + 1.6W 60 deg	218.07	41	4	1 A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

Code: ANSI/TIA-222-G

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Engineering Number: OAA739691\_C3\_02

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### Force/Stress Summary

Section: 9		A780178		Bot Elev (ft): 160.0				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	-54.59	1.2D + 1.6W Normal	0.25	100	100	100	2.6	50.0	135.83	0	0	0.00	0.00	40 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 - 2X2X0.1875	-6.86	1.2D + 1.6W 90 deg	7.798	50	50	50	119.1	36.0	10.98	2	1	24.85	26.10	62 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PX - 3" DIA PIPE	45.24	0.9D + 1.6W 60 deg	50	65	135.90	0	0	0.00	0.00		33	Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	6.78	1.2D + 1.6W 90 deg	36	58	18.74	2	1	24.85	20.88	12.34	54	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		4.30	0.9D + 1.6W 60 deg	0.00	0	0	
Top Compression		7.06	1.2D + 1.6W Normal	0.00	0		
Bot Tension		45.56	0.9D + 1.6W 60 deg	166.22	27	4	0.875" A325
Bot Compression		0.00		0.00	0		

Section: 10		A780178		Bot Elev (ft): 180.0				Height (ft): 16.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	-6.95	1.2D + 1.6W Normal	0.25	100	100	100	3.2	50.0	76.62	0	0	0.00	0.00	9 Member X
HORIZ	SAE - 2X2X0.125	-0.11	1.2D + 1.6W 90 deg	6.647	100	100	100	200.4	36.0	2.70	1	1	12.43	8.70	4 Member Z
DIAG	SAE - 1.75X1.75X0.18	-1.93	1.2D + 1.6W Normal	7.758	50	50	50	135.7	36.0	7.62	1	1	12.43	13.05	25 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)	Blk Shear phit Pn (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	4.10	1.2D + 1.6W 60 deg	50	65	76.68	0	0	0.00	0.00		5	Member
HORIZ	SAE - 2X2X0.125	0.12	1.2D + 1.6W 60 deg	36	58	12.60	1	1	12.43	5.22	4.55	2	Blk Shear
DIAG	SAE - 1.75X1.75X0.18	1.92	1.2D + 1.6W 90 deg	36	58	15.67	1	1	12.43	7.83	5.81	32	Blk Shear

Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension		0.00		0.00	0	0	
Top Compression		0.27	1.2D + 1.0Di + 1.0Wi	0.00	0		
Bot Tension		4.30	0.9D + 1.6W 60 deg	120.41	4	4	0.75" A325
Bot Compression		0.00		0.00	0		

Site Number: 302470

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

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Customer: AT&T MOBILITY

### Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	13.28	00.00	0	1	0.00	401.08	-41.53	
	13.28	00.00	120	1a	14.35	-172.15	-13.50	
	13.28	00.00	240	1b	-14.35	-172.15	-13.50	
1.2D + 1.6W 60 deg	13.28	00.00	0	1	-4.10	202.28	-20.41	
	13.28	00.00	120	1a	-19.71	201.99	6.66	
	13.28	00.00	240	1b	-32.57	-347.48	-18.80	
1.2D + 1.6W 90 deg	13.28	00.00	0	1	-4.89	18.94	-1.14	
	13.28	00.00	120	1a	-31.39	339.50	15.38	
	13.28	00.00	240	1b	-29.68	-301.65	-14.24	
0.9D + 1.6W Normal	13.28	00.00	0	1	0.00	395.85	-41.22	
	13.28	00.00	120	1a	14.60	-176.63	-13.66	
	13.28	00.00	240	1b	-14.60	-176.63	-13.66	
0.9D + 1.6W 60 deg	13.28	00.00	0	1	-4.10	197.31	-20.10	
	13.28	00.00	120	1a	-19.45	197.01	6.50	
	13.28	00.00	240	1b	-32.82	-351.73	-18.95	
0.9D + 1.6W 90 deg	13.28	00.00	0	1	-4.90	14.20	-0.84	
	13.28	00.00	120	1a	-31.12	334.35	15.22	
	13.28	00.00	240	1b	-29.94	-305.96	-14.38	
1.2D + 1.0Di + 1.0Wi Normal	13.28	00.00	0	1	0.00	187.87	-14.28	
	13.28	00.00	120	1a	5.13	-7.67	-4.78	
	13.28	00.00	240	1b	-5.13	-7.67	-4.78	
1.2D + 1.0Di + 1.0Wi 60 deg	13.28	00.00	0	1	-1.51	121.68	-7.12	
	13.28	00.00	120	1a	-6.92	121.61	2.25	
	13.28	00.00	240	1b	-11.80	-70.76	-6.81	
1.2D + 1.0Di + 1.0Wi 90 deg	13.28	00.00	0	1	-1.77	57.51	-0.21	
	13.28	00.00	120	1a	-11.02	169.02	5.35	
	13.28	00.00	240	1b	-10.69	-54.00	-5.14	
(1.2 + 0.2Sds) * DL + E Normal M1	13.28	00.00	0	1	0.00	33.12	-2.50	
	13.28	00.00	120	1a	-0.58	12.11	0.24	
	13.28	00.00	240	1b	0.58	12.11	0.24	
(1.2 + 0.2Sds) * DL + E Normal M2	13.28	00.00	0	1	0.00	30.00	-2.19	
	13.28	00.00	120	1a	-0.70	13.68	0.34	
	13.28	00.00	240	1b	0.70	13.68	0.34	
(1.2 + 0.2Sds) * DL + E 60 deg M1	13.28	00.00	0	1	-0.08	26.12	-1.88	
	13.28	00.00	120	1a	-1.66	26.12	0.87	
	13.28	00.00	240	1b	0.00	5.11	0.00	
(1.2 + 0.2Sds) * DL + E 60 deg M2	13.28	00.00	0	1	-0.05	24.56	-1.72	
	13.28	00.00	120	1a	-1.52	24.56	0.82	
	13.28	00.00	240	1b	0.26	8.24	0.15	
(1.2 + 0.2Sds) * DL + E 90 deg M1	13.28	00.00	0	1	-0.09	19.12	-1.25	
	13.28	00.00	120	1a	-2.04	31.25	1.13	
	13.28	00.00	240	1b	0.12	6.99	0.12	
(1.2 + 0.2Sds) * DL + E 90 deg M2	13.28	00.00	0	1	-0.06	19.12	-1.25	
	13.28	00.00	120	1a	-1.81	28.54	1.01	

Site Number: 302470

Code:

ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

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	13.28	00.00	240	1b	0.36	9.70	0.24
(0.9 - 0.2Sds) * DL + E Normal M1	13.28	00.00	0	1	0.00	27.23	-2.12
	13.28	00.00	120	1a	-0.25	6.25	0.05
	13.28	00.00	240	1b	0.25	6.25	0.05
(0.9 - 0.2Sds) * DL + E Normal M2	13.28	00.00	0	1	0.00	24.10	-1.81
	13.28	00.00	120	1a	-0.37	7.82	0.15
	13.28	00.00	240	1b	0.37	7.82	0.15
(0.9 - 0.2Sds) * DL + E 60 deg M1	13.28	00.00	0	1	-0.08	20.24	-1.49
	13.28	00.00	120	1a	-1.33	20.24	0.68
	13.28	00.00	240	1b	-0.34	-0.74	-0.19
(0.9 - 0.2Sds) * DL + E 60 deg M2	13.28	00.00	0	1	-0.05	18.67	-1.34
	13.28	00.00	120	1a	-1.18	18.67	0.62
	13.28	00.00	240	1b	-0.07	2.39	-0.04
(0.9 - 0.2Sds) * DL + E 90 deg M1	13.28	00.00	0	1	-0.09	13.24	-0.87
	13.28	00.00	120	1a	-1.71	25.35	0.94
	13.28	00.00	240	1b	-0.21	1.14	-0.07
(0.9 - 0.2Sds) * DL + E 90 deg M2	13.28	00.00	0	1	-0.06	13.24	-0.87
	13.28	00.00	120	1a	-1.47	22.65	0.82
	13.28	00.00	240	1b	0.03	3.84	0.05
1.0D + 1.0W Service Normal	13.28	00.00	0	1	0.00	108.13	-10.87
	13.28	00.00	120	1a	2.86	-30.40	-2.93
	13.28	00.00	240	1b	-2.86	-30.40	-2.93
1.0D + 1.0W Service 60 deg	13.28	00.00	0	1	-1.03	60.24	-5.72
	13.28	00.00	120	1a	-5.46	60.17	1.97
	13.28	00.00	240	1b	-7.31	-73.09	-4.22
1.0D + 1.0W Service 90 deg	13.28	00.00	0	1	-1.21	15.77	-1.00
	13.28	00.00	120	1a	-8.32	93.51	4.11
	13.28	00.00	240	1b	-6.60	-61.96	-3.11

Max Uplift:	351.73(kip)	Moment Ice:	2,596.59 (kip-ft)	Moment:	7,611.92 (kip-ft)	1.2D + 1.6W Normal
Max Down:	401.08(kip)	Total Down Ice:	172.53 (kip)	Total Down:	56.79 (kip)	
Max Shear:	41.53 (kip)	Total Shear Ice:	23.83 (kip)	Total Shear:	68.54 (kip)	



Site Number: 302470

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Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

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### Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
97 mph Normal with No Ice	79.75	0.326	0.0197	0.5203	0.5203
97 mph Normal with No Ice	80.00	0.328	0.0198	0.5248	0.5248
97 mph Normal with No Ice	86.75	0.387	0.0196	0.5086	0.5090
97 mph Normal with No Ice	100.25	0.521	0.0237	0.6692	0.6692
97 mph Normal with No Ice	126.75	0.852	0.0256	0.7979	0.7983
97 mph Normal with No Ice	150.00	1.213	0.0282	0.9822	0.9822
97 mph Normal with No Ice	154.88	1.297	0.0279	0.9860	0.9864
97 mph Normal with No Ice	168.05	1.541	0.0295	1.0984	1.0988
97 mph Normal with No Ice	175.85	1.690	0.0285	1.1432	1.1436
97 mph Normal with No Ice	179.75	1.766	0.0276	1.1758	1.1758
97 mph Normal with No Ice	184.19	1.852	0.0279	1.1305	1.1309
97 mph Normal with No Ice	188.13	1.927	0.0275	1.0976	1.0976
97 mph Normal with No Ice	192.06	2.003	0.0277	1.1050	1.1054
97 mph 60 degree with No Ice	79.75	0.314	0.0304	0.5003	0.5005
97 mph 60 degree with No Ice	80.00	0.316	0.0305	0.5043	0.5045
97 mph 60 degree with No Ice	86.75	0.372	0.0319	0.4900	0.4902
97 mph 60 degree with No Ice	100.25	0.502	0.0401	0.6436	0.6438
97 mph 60 degree with No Ice	126.75	0.821	0.0535	0.7683	0.7685
97 mph 60 degree with No Ice	150.00	1.169	0.0683	0.9471	0.9480
97 mph 60 degree with No Ice	154.88	1.250	0.0710	0.9512	0.9512
97 mph 60 degree with No Ice	168.05	1.484	0.0928	1.0553	1.0580
97 mph 60 degree with No Ice	175.85	1.628	0.1060	1.0418	1.0472
97 mph 60 degree with No Ice	179.75	1.701	0.1095	1.1556	1.1586
97 mph 60 degree with No Ice	184.19	1.784	0.1132	1.0321	1.0383
97 mph 60 degree with No Ice	188.13	1.857	0.1142	1.0688	1.0725
97 mph 60 degree with No Ice	192.06	1.929	0.1138	1.0595	1.0645
97 mph 90 degree with No Ice	79.75	0.316	-0.0285	0.4999	0.5001
97 mph 90 degree with No Ice	80.00	0.318	-0.0286	0.5036	0.5038
97 mph 90 degree with No Ice	86.75	0.375	-0.0292	0.4950	0.4959
97 mph 90 degree with No Ice	100.25	0.506	-0.0361	0.6423	0.6426
97 mph 90 degree with No Ice	126.75	0.828	-0.0444	0.7732	0.7745
97 mph 90 degree with No Ice	150.00	1.179	-0.0496	0.9509	0.9513
97 mph 90 degree with No Ice	154.88	1.260	-0.0494	0.9612	0.9625
97 mph 90 degree with No Ice	168.05	1.496	-0.0553	1.0609	1.0621
97 mph 90 degree with No Ice	175.85	1.641	-0.0569	1.0317	1.0333
97 mph 90 degree with No Ice	179.75	1.714	-0.0572	1.1587	1.1591
97 mph 90 degree with No Ice	184.19	1.798	-0.0576	1.0229	1.0245
97 mph 90 degree with No Ice	188.13	1.871	-0.0577	1.0771	1.0774
97 mph 90 degree with No Ice	192.06	1.944	-0.0577	1.0674	1.0689
97 mph Normal with No Ice (Reduced DL)	79.75	0.326	0.0197	0.5196	0.5196
97 mph Normal with No Ice (Reduced DL)	80.00	0.328	0.0197	0.5241	0.5241
97 mph Normal with No Ice (Reduced DL)	86.75	0.386	0.0195	0.5077	0.5080
97 mph Normal with No Ice (Reduced DL)	100.25	0.520	0.0236	0.6679	0.6679
97 mph Normal with No Ice (Reduced DL)	126.75	0.851	0.0255	0.7962	0.7966
97 mph Normal with No Ice (Reduced DL)	150.00	1.211	0.0281	0.9799	0.9799
97 mph Normal with No Ice (Reduced DL)	154.88	1.294	0.0278	0.9836	0.9840
97 mph Normal with No Ice (Reduced DL)	168.05	1.537	0.0294	1.0957	1.0961
97 mph Normal with No Ice (Reduced DL)	175.85	1.687	0.0284	1.1405	1.1408
97 mph Normal with No Ice (Reduced DL)	179.75	1.762	0.0275	1.1727	1.1727
97 mph Normal with No Ice (Reduced DL)	184.19	1.848	0.0278	1.1279	1.1282
97 mph Normal with No Ice (Reduced DL)	188.13	1.923	0.0274	1.0949	1.0949
97 mph Normal with No Ice (Reduced DL)	192.06	1.999	0.0276	1.1024	1.1027
97 mph 60 deg with No Ice (Reduced DL)	79.75	0.313	0.0303	0.4993	0.4994
97 mph 60 deg with No Ice (Reduced DL)	80.00	0.315	0.0304	0.5033	0.5034
97 mph 60 deg with No Ice (Reduced DL)	86.75	0.372	0.0319	0.4891	0.4893

Site Number: 302470

Code:

ANSI/TIA-222-G

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Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

Customer: AT&T MOBILITY

97 mph 60 deg with No Ice (Reduced DL)	100.25	0.501	0.0401	0.6423	0.6425
97 mph 60 deg with No Ice (Reduced DL)	126.75	0.820	0.0534	0.7666	0.7668
97 mph 60 deg with No Ice (Reduced DL)	150.00	1.167	0.0682	0.9450	0.9459
97 mph 60 deg with No Ice (Reduced DL)	154.88	1.248	0.0708	0.9490	0.9490
97 mph 60 deg with No Ice (Reduced DL)	168.05	1.481	0.0925	1.0525	1.0555
97 mph 60 deg with No Ice (Reduced DL)	175.85	1.625	0.1058	1.0393	1.0446
97 mph 60 deg with No Ice (Reduced DL)	179.75	1.698	0.1092	1.1528	1.1558
97 mph 60 deg with No Ice (Reduced DL)	184.19	1.780	0.1129	1.0296	1.0358
97 mph 60 deg with No Ice (Reduced DL)	188.13	1.853	0.1139	1.0662	1.0699
97 mph 60 deg with No Ice (Reduced DL)	192.06	1.925	0.1135	1.0569	1.0619
97 mph 90 deg with No Ice (Reduced DL)	79.75	0.316	-0.0284	0.4993	0.4995
97 mph 90 deg with No Ice (Reduced DL)	80.00	0.318	-0.0285	0.5029	0.5031
97 mph 90 deg with No Ice (Reduced DL)	86.75	0.375	-0.0292	0.4941	0.4950
97 mph 90 deg with No Ice (Reduced DL)	100.25	0.505	-0.0361	0.6411	0.6414
97 mph 90 deg with No Ice (Reduced DL)	126.75	0.826	-0.0443	0.7715	0.7728
97 mph 90 deg with No Ice (Reduced DL)	150.00	1.177	-0.0494	0.9487	0.9491
97 mph 90 deg with No Ice (Reduced DL)	154.88	1.258	-0.0493	0.9590	0.9603
97 mph 90 deg with No Ice (Reduced DL)	168.05	1.493	-0.0552	1.0581	1.0595
97 mph 90 deg with No Ice (Reduced DL)	175.85	1.638	-0.0568	1.0291	1.0306
97 mph 90 deg with No Ice (Reduced DL)	179.75	1.711	-0.0571	1.1558	1.1561
97 mph 90 deg with No Ice (Reduced DL)	184.19	1.794	-0.0575	1.0204	1.0220
97 mph 90 deg with No Ice (Reduced DL)	188.13	1.867	-0.0576	1.0745	1.0749
97 mph 90 deg with No Ice (Reduced DL)	192.06	1.940	-0.0576	1.0648	1.0663
50 mph Normal with 0.75 in Radial Ice	79.75	0.111	0.0072	0.1736	0.1736
50 mph Normal with 0.75 in Radial Ice	80.00	0.112	0.0072	0.1753	0.1753
50 mph Normal with 0.75 in Radial Ice	86.75	0.132	0.0071	0.1700	0.1701
50 mph Normal with 0.75 in Radial Ice	100.25	0.176	0.0086	0.2233	0.2233
50 mph Normal with 0.75 in Radial Ice	126.75	0.285	0.0093	0.2598	0.2600
50 mph Normal with 0.75 in Radial Ice	150.00	0.402	0.0103	0.3153	0.3153
50 mph Normal with 0.75 in Radial Ice	154.88	0.429	0.0101	0.3160	0.3162
50 mph Normal with 0.75 in Radial Ice	168.05	0.507	0.0107	0.3486	0.3488
50 mph Normal with 0.75 in Radial Ice	175.85	0.554	0.0104	0.3586	0.3588
50 mph Normal with 0.75 in Radial Ice	179.75	0.578	0.0102	0.3709	0.3709
50 mph Normal with 0.75 in Radial Ice	184.19	0.605	0.0101	0.3552	0.3554
50 mph Normal with 0.75 in Radial Ice	188.13	0.629	0.0101	0.3475	0.3475
50 mph Normal with 0.75 in Radial Ice	192.06	0.653	0.0101	0.3490	0.3491
50 mph 60 deg with 0.75 in Radial Ice	79.75	0.111	0.0085	0.1769	0.1770
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.111	0.0085	0.1782	0.1782
50 mph 60 deg with 0.75 in Radial Ice	86.75	0.131	0.0086	0.1675	0.1677
50 mph 60 deg with 0.75 in Radial Ice	100.25	0.175	0.0106	0.2210	0.2210
50 mph 60 deg with 0.75 in Radial Ice	126.75	0.282	0.0127	0.2560	0.2562
50 mph 60 deg with 0.75 in Radial Ice	150.00	0.397	0.0147	0.3099	0.3099
50 mph 60 deg with 0.75 in Radial Ice	154.88	0.423	0.0148	0.3104	0.3106
50 mph 60 deg with 0.75 in Radial Ice	168.05	0.499	0.0171	0.3433	0.3434
50 mph 60 deg with 0.75 in Radial Ice	175.85	0.546	0.0180	0.3383	0.3387
50 mph 60 deg with 0.75 in Radial Ice	179.75	0.569	0.0183	0.3686	0.3687
50 mph 60 deg with 0.75 in Radial Ice	184.19	0.596	0.0185	0.3346	0.3351
50 mph 60 deg with 0.75 in Radial Ice	188.13	0.620	0.0186	0.3452	0.3453
50 mph 60 deg with 0.75 in Radial Ice	192.06	0.643	0.0185	0.3424	0.3427
50 mph 90 deg with 0.75 in Radial Ice	79.75	0.111	-0.0098	0.1751	0.1751
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.112	-0.0098	0.1762	0.1762
50 mph 90 deg with 0.75 in Radial Ice	86.75	0.131	-0.0099	0.1684	0.1687
50 mph 90 deg with 0.75 in Radial Ice	100.25	0.175	-0.0122	0.2187	0.2188
50 mph 90 deg with 0.75 in Radial Ice	126.75	0.283	-0.0146	0.2565	0.2569
50 mph 90 deg with 0.75 in Radial Ice	150.00	0.398	-0.0162	0.3104	0.3106
50 mph 90 deg with 0.75 in Radial Ice	154.88	0.424	-0.0162	0.3129	0.3133
50 mph 90 deg with 0.75 in Radial Ice	168.05	0.501	-0.0178	0.3435	0.3436
50 mph 90 deg with 0.75 in Radial Ice	175.85	0.547	-0.0181	0.3360	0.3365
50 mph 90 deg with 0.75 in Radial Ice	179.75	0.571	-0.0182	0.3697	0.3698
50 mph 90 deg with 0.75 in Radial Ice	184.19	0.598	-0.0182	0.3320	0.3325
50 mph 90 deg with 0.75 in Radial Ice	188.13	0.621	-0.0182	0.3462	0.3463
50 mph 90 deg with 0.75 in Radial Ice	192.06	0.645	-0.0182	0.3433	0.3437

Site Number: 302470

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ANSI/TIA-222-G

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2/27/2019 11:30:00 AM

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Seismic Normal M1	79.75	0.012	0.0008	0.0202	0.0203
Seismic Normal M1	80.00	0.012	0.0008	0.0203	0.0203
Seismic Normal M1	86.75	0.015	0.0008	0.0204	0.0204
Seismic Normal M1	100.25	0.020	0.0010	0.0269	0.0269
Seismic Normal M1	126.75	0.034	0.0011	0.0333	0.0333
Seismic Normal M1	150.00	0.049	0.0011	0.0422	0.0422
Seismic Normal M1	154.88	0.053	0.0011	0.0425	0.0425
Seismic Normal M1	168.05	0.063	0.0012	0.0478	0.0478
Seismic Normal M1	175.85	0.069	0.0011	0.0478	0.0478
Seismic Normal M1	179.75	0.073	0.0011	0.0525	0.0525
Seismic Normal M1	184.19	0.076	0.0011	0.0474	0.0474
Seismic Normal M1	188.13	0.080	0.0010	0.0485	0.0485
Seismic Normal M1	192.06	0.083	0.0010	0.0481	0.0481
Seismic Normal M2	79.75	0.010	0.0005	0.0159	0.0159
Seismic Normal M2	80.00	0.010	0.0005	0.0159	0.0159
Seismic Normal M2	86.75	0.011	0.0005	0.0163	0.0163
Seismic Normal M2	100.25	0.016	0.0007	0.0213	0.0213
Seismic Normal M2	126.75	0.027	0.0007	0.0284	0.0284
Seismic Normal M2	150.00	0.040	0.0007	0.0378	0.0378
Seismic Normal M2	154.88	0.044	0.0007	0.0384	0.0384
Seismic Normal M2	168.05	0.053	0.0008	0.0449	0.0449
Seismic Normal M2	175.85	0.059	0.0008	0.0452	0.0452
Seismic Normal M2	179.75	0.062	0.0008	0.0518	0.0518
Seismic Normal M2	184.19	0.066	0.0007	0.0450	0.0450
Seismic Normal M2	188.13	0.069	0.0007	0.0464	0.0465
Seismic Normal M2	192.06	0.072	0.0007	0.0459	0.0459
Seismic 60 deg M1	79.75	0.012	0.0008	0.0212	0.0212
Seismic 60 deg M1	80.00	0.012	0.0008	0.0213	0.0213
Seismic 60 deg M1	86.75	0.015	0.0008	0.0204	0.0205
Seismic 60 deg M1	100.25	0.020	0.0010	0.0271	0.0271
Seismic 60 deg M1	126.75	0.034	0.0011	0.0333	0.0334
Seismic 60 deg M1	150.00	0.049	0.0012	0.0416	0.0416
Seismic 60 deg M1	154.88	0.053	0.0011	0.0421	0.0421
Seismic 60 deg M1	168.05	0.063	0.0012	0.0479	0.0479
Seismic 60 deg M1	175.85	0.069	-0.0011	0.0475	0.0475
Seismic 60 deg M1	179.75	0.073	-0.0011	0.0523	0.0523
Seismic 60 deg M1	184.19	0.076	-0.0011	0.0472	0.0472
Seismic 60 deg M1	188.13	0.080	-0.0010	0.0485	0.0485
Seismic 60 deg M1	192.06	0.083	-0.0010	0.0482	0.0482
Seismic 60 deg M2	79.75	0.009	0.0005	0.0165	0.0165
Seismic 60 deg M2	80.00	0.010	0.0005	0.0166	0.0166
Seismic 60 deg M2	86.75	0.011	0.0005	0.0164	0.0164
Seismic 60 deg M2	100.25	0.016	0.0007	0.0215	0.0215
Seismic 60 deg M2	126.75	0.027	0.0007	0.0284	0.0284
Seismic 60 deg M2	150.00	0.040	0.0007	0.0371	0.0371
Seismic 60 deg M2	154.88	0.044	0.0007	0.0380	0.0380
Seismic 60 deg M2	168.05	0.053	-0.0008	0.0449	0.0449
Seismic 60 deg M2	175.85	0.059	-0.0008	0.0448	0.0449
Seismic 60 deg M2	179.75	0.062	-0.0007	0.0516	0.0516
Seismic 60 deg M2	184.19	0.066	-0.0007	0.0448	0.0449
Seismic 60 deg M2	188.13	0.069	-0.0007	0.0465	0.0465
Seismic 60 deg M2	192.06	0.072	-0.0007	0.0460	0.0460
Seismic 90 deg M1	79.75	0.012	-0.0009	0.0209	0.0209
Seismic 90 deg M1	80.00	0.012	-0.0009	0.0210	0.0210
Seismic 90 deg M1	86.75	0.015	-0.0009	0.0205	0.0205
Seismic 90 deg M1	100.25	0.020	-0.0011	0.0268	0.0268
Seismic 90 deg M1	126.75	0.034	-0.0013	0.0333	0.0334
Seismic 90 deg M1	150.00	0.049	-0.0013	0.0420	0.0420
Seismic 90 deg M1	154.88	0.053	-0.0013	0.0426	0.0426
Seismic 90 deg M1	168.05	0.063	-0.0013	0.0478	0.0479
Seismic 90 deg M1	175.85	0.069	-0.0013	0.0479	0.0479
Seismic 90 deg M1	179.75	0.073	-0.0013	0.0520	0.0520

Site Number: 302470

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ANSI/TIA-222-G

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2/27/2019 11:30:00 AM

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Seismic 90 deg M1	184.19	0.076	-0.0012	0.0474	0.0475
Seismic 90 deg M1	188.13	0.080	-0.0012	0.0485	0.0485
Seismic 90 deg M1	192.06	0.083	-0.0012	0.0482	0.0482
Seismic 90 deg M2	79.75	0.010	-0.0006	0.0164	0.0164
Seismic 90 deg M2	80.00	0.010	-0.0006	0.0164	0.0164
Seismic 90 deg M2	86.75	0.011	-0.0006	0.0164	0.0164
Seismic 90 deg M2	100.25	0.016	-0.0008	0.0213	0.0213
Seismic 90 deg M2	126.75	0.027	-0.0008	0.0284	0.0284
Seismic 90 deg M2	150.00	0.040	-0.0008	0.0376	0.0376
Seismic 90 deg M2	154.88	0.044	-0.0008	0.0385	0.0385
Seismic 90 deg M2	168.05	0.053	-0.0009	0.0449	0.0449
Seismic 90 deg M2	175.85	0.059	-0.0009	0.0453	0.0454
Seismic 90 deg M2	179.75	0.062	-0.0009	0.0512	0.0512
Seismic 90 deg M2	184.19	0.066	-0.0008	0.0451	0.0451
Seismic 90 deg M2	188.13	0.069	-0.0008	0.0465	0.0465
Seismic 90 deg M2	192.06	0.072	-0.0008	0.0460	0.0460
Seismic (Reduced DL) Normal M1	79.75	0.012	0.0008	0.0200	0.0201
Seismic (Reduced DL) Normal M1	80.00	0.012	0.0008	0.0201	0.0201
Seismic (Reduced DL) Normal M1	86.75	0.015	0.0008	0.0203	0.0204
Seismic (Reduced DL) Normal M1	100.25	0.020	0.0010	0.0268	0.0268
Seismic (Reduced DL) Normal M1	126.75	0.034	0.0011	0.0332	0.0332
Seismic (Reduced DL) Normal M1	150.00	0.049	0.0011	0.0420	0.0420
Seismic (Reduced DL) Normal M1	154.88	0.052	0.0011	0.0423	0.0423
Seismic (Reduced DL) Normal M1	168.05	0.063	0.0012	0.0475	0.0476
Seismic (Reduced DL) Normal M1	175.85	0.069	0.0011	0.0476	0.0477
Seismic (Reduced DL) Normal M1	179.75	0.073	0.0011	0.0523	0.0523
Seismic (Reduced DL) Normal M1	184.19	0.076	0.0011	0.0472	0.0473
Seismic (Reduced DL) Normal M1	188.13	0.080	0.0010	0.0484	0.0484
Seismic (Reduced DL) Normal M1	192.06	0.083	0.0010	0.0479	0.0479
Seismic (Reduced DL) Normal M2	79.75	0.010	0.0005	0.0157	0.0157
Seismic (Reduced DL) Normal M2	80.00	0.010	0.0005	0.0158	0.0158
Seismic (Reduced DL) Normal M2	86.75	0.011	0.0005	0.0163	0.0163
Seismic (Reduced DL) Normal M2	100.25	0.016	0.0006	0.0213	0.0213
Seismic (Reduced DL) Normal M2	126.75	0.027	0.0007	0.0283	0.0283
Seismic (Reduced DL) Normal M2	150.00	0.040	0.0007	0.0376	0.0376
Seismic (Reduced DL) Normal M2	154.88	0.044	0.0007	0.0382	0.0382
Seismic (Reduced DL) Normal M2	168.05	0.053	0.0008	0.0447	0.0447
Seismic (Reduced DL) Normal M2	175.85	0.059	0.0008	0.0450	0.0450
Seismic (Reduced DL) Normal M2	179.75	0.062	0.0008	0.0517	0.0517
Seismic (Reduced DL) Normal M2	184.19	0.066	0.0007	0.0449	0.0449
Seismic (Reduced DL) Normal M2	188.13	0.069	0.0007	0.0463	0.0463
Seismic (Reduced DL) Normal M2	192.06	0.072	0.0007	0.0458	0.0458
Seismic (Reduced DL) 60 deg M1	79.75	0.012	0.0008	0.0208	0.0208
Seismic (Reduced DL) 60 deg M1	80.00	0.012	0.0008	0.0209	0.0209
Seismic (Reduced DL) 60 deg M1	86.75	0.015	0.0008	0.0204	0.0204
Seismic (Reduced DL) 60 deg M1	100.25	0.020	0.0010	0.0270	0.0270
Seismic (Reduced DL) 60 deg M1	126.75	0.034	0.0011	0.0332	0.0333
Seismic (Reduced DL) 60 deg M1	150.00	0.049	0.0012	0.0416	0.0416
Seismic (Reduced DL) 60 deg M1	154.88	0.052	0.0011	0.0420	0.0421
Seismic (Reduced DL) 60 deg M1	168.05	0.063	0.0012	0.0475	0.0475
Seismic (Reduced DL) 60 deg M1	175.85	0.069	-0.0011	0.0474	0.0474
Seismic (Reduced DL) 60 deg M1	179.75	0.073	-0.0011	0.0521	0.0521
Seismic (Reduced DL) 60 deg M1	184.19	0.076	-0.0011	0.0471	0.0471
Seismic (Reduced DL) 60 deg M1	188.13	0.080	-0.0010	0.0483	0.0484
Seismic (Reduced DL) 60 deg M1	192.06	0.083	-0.0010	0.0480	0.0480
Seismic (Reduced DL) 60 deg M2	79.75	0.009	0.0005	0.0162	0.0162
Seismic (Reduced DL) 60 deg M2	80.00	0.010	0.0005	0.0163	0.0163
Seismic (Reduced DL) 60 deg M2	86.75	0.011	0.0005	0.0163	0.0163
Seismic (Reduced DL) 60 deg M2	100.25	0.016	0.0007	0.0214	0.0214
Seismic (Reduced DL) 60 deg M2	126.75	0.027	0.0007	0.0283	0.0283
Seismic (Reduced DL) 60 deg M2	150.00	0.040	0.0007	0.0371	0.0371
Seismic (Reduced DL) 60 deg M2	154.88	0.043	0.0007	0.0379	0.0379

Site Number: 302470

Code:

ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

Customer: AT&T MOBILITY

Seismic (Reduced DL) 60 deg M2	168.05	0.053	-0.0008	0.0446	0.0446
Seismic (Reduced DL) 60 deg M2	175.85	0.059	-0.0007	0.0448	0.0448
Seismic (Reduced DL) 60 deg M2	179.75	0.062	-0.0007	0.0515	0.0515
Seismic (Reduced DL) 60 deg M2	184.19	0.066	-0.0007	0.0448	0.0448
Seismic (Reduced DL) 60 deg M2	188.13	0.069	-0.0007	0.0464	0.0464
Seismic (Reduced DL) 60 deg M2	192.06	0.072	-0.0007	0.0458	0.0458
Seismic (Reduced DL) 90 deg M1	79.75	0.012	-0.0009	0.0206	0.0206
Seismic (Reduced DL) 90 deg M1	80.00	0.012	-0.0009	0.0207	0.0207
Seismic (Reduced DL) 90 deg M1	86.75	0.015	-0.0009	0.0204	0.0204
Seismic (Reduced DL) 90 deg M1	100.25	0.020	-0.0011	0.0267	0.0267
Seismic (Reduced DL) 90 deg M1	126.75	0.034	-0.0013	0.0333	0.0333
Seismic (Reduced DL) 90 deg M1	150.00	0.049	-0.0013	0.0418	0.0418
Seismic (Reduced DL) 90 deg M1	154.88	0.052	-0.0013	0.0425	0.0425
Seismic (Reduced DL) 90 deg M1	168.05	0.063	-0.0013	0.0475	0.0475
Seismic (Reduced DL) 90 deg M1	175.85	0.069	-0.0013	0.0478	0.0478
Seismic (Reduced DL) 90 deg M1	179.75	0.073	-0.0013	0.0518	0.0518
Seismic (Reduced DL) 90 deg M1	184.19	0.076	-0.0012	0.0473	0.0473
Seismic (Reduced DL) 90 deg M1	188.13	0.080	-0.0012	0.0484	0.0484
Seismic (Reduced DL) 90 deg M1	192.06	0.083	-0.0012	0.0480	0.0480
Seismic (Reduced DL) 90 deg M2	79.75	0.010	-0.0006	0.0161	0.0161
Seismic (Reduced DL) 90 deg M2	80.00	0.010	-0.0006	0.0161	0.0161
Seismic (Reduced DL) 90 deg M2	86.75	0.011	-0.0006	0.0163	0.0163
Seismic (Reduced DL) 90 deg M2	100.25	0.016	-0.0008	0.0212	0.0212
Seismic (Reduced DL) 90 deg M2	126.75	0.027	-0.0008	0.0283	0.0283
Seismic (Reduced DL) 90 deg M2	150.00	0.040	-0.0008	0.0374	0.0374
Seismic (Reduced DL) 90 deg M2	154.88	0.043	-0.0008	0.0384	0.0384
Seismic (Reduced DL) 90 deg M2	168.05	0.053	-0.0009	0.0446	0.0446
Seismic (Reduced DL) 90 deg M2	175.85	0.059	-0.0009	0.0452	0.0452
Seismic (Reduced DL) 90 deg M2	179.75	0.062	-0.0009	0.0510	0.0510
Seismic (Reduced DL) 90 deg M2	184.19	0.066	-0.0008	0.0450	0.0450
Seismic (Reduced DL) 90 deg M2	188.13	0.069	-0.0008	0.0464	0.0464
Seismic (Reduced DL) 90 deg M2	192.06	0.072	-0.0008	0.0458	0.0458
Serviceability - 60 mph Wind Normal	79.75	0.079	0.0047	0.1246	0.1246
Serviceability - 60 mph Wind Normal	80.00	0.079	0.0047	0.1258	0.1258
Serviceability - 60 mph Wind Normal	86.75	0.094	0.0046	0.1223	0.1224
Serviceability - 60 mph Wind Normal	100.25	0.126	0.0056	0.1607	0.1607
Serviceability - 60 mph Wind Normal	126.75	0.205	0.0060	0.1914	0.1914
Serviceability - 60 mph Wind Normal	150.00	0.292	0.0065	0.2353	0.2353
Serviceability - 60 mph Wind Normal	154.88	0.312	0.0063	0.2362	0.2363
Serviceability - 60 mph Wind Normal	168.05	0.370	0.0066	0.2631	0.2631
Serviceability - 60 mph Wind Normal	175.85	0.406	0.0062	0.2736	0.2737
Serviceability - 60 mph Wind Normal	179.75	0.424	0.0061	0.2813	0.2813
Serviceability - 60 mph Wind Normal	184.19	0.445	0.0059	0.2706	0.2707
Serviceability - 60 mph Wind Normal	188.13	0.463	0.0058	0.2625	0.2625
Serviceability - 60 mph Wind Normal	192.06	0.481	0.0058	0.2643	0.2644
Serviceability - 60 mph Wind 60 deg	79.75	0.076	0.0057	0.1218	0.1218
Serviceability - 60 mph Wind 60 deg	80.00	0.076	0.0057	0.1227	0.1227
Serviceability - 60 mph Wind 60 deg	86.75	0.090	0.0058	0.1182	0.1183
Serviceability - 60 mph Wind 60 deg	100.25	0.121	0.0072	0.1555	0.1555
Serviceability - 60 mph Wind 60 deg	126.75	0.198	0.0086	0.1848	0.1850
Serviceability - 60 mph Wind 60 deg	150.00	0.282	0.0100	0.2276	0.2276
Serviceability - 60 mph Wind 60 deg	154.88	0.301	0.0101	0.2282	0.2283
Serviceability - 60 mph Wind 60 deg	168.05	0.358	0.0118	0.2539	0.2540
Serviceability - 60 mph Wind 60 deg	175.85	0.392	0.0124	0.2501	0.2504
Serviceability - 60 mph Wind 60 deg	179.75	0.410	0.0126	0.2772	0.2772
Serviceability - 60 mph Wind 60 deg	184.19	0.430	0.0127	0.2478	0.2481
Serviceability - 60 mph Wind 60 deg	188.13	0.447	0.0127	0.2567	0.2568
Serviceability - 60 mph Wind 60 deg	192.06	0.465	0.0127	0.2544	0.2545
Serviceability - 60 mph Wind 90 deg	79.75	0.077	-0.0068	0.1215	0.1215
Serviceability - 60 mph Wind 90 deg	80.00	0.077	-0.0068	0.1223	0.1223
Serviceability - 60 mph Wind 90 deg	86.75	0.091	-0.0069	0.1195	0.1197
Serviceability - 60 mph Wind 90 deg	100.25	0.122	-0.0086	0.1550	0.1550

Site Number: 302470

Code:

ANSI/TIA-222-G

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Site Name: Ansonia Wakelee, CT

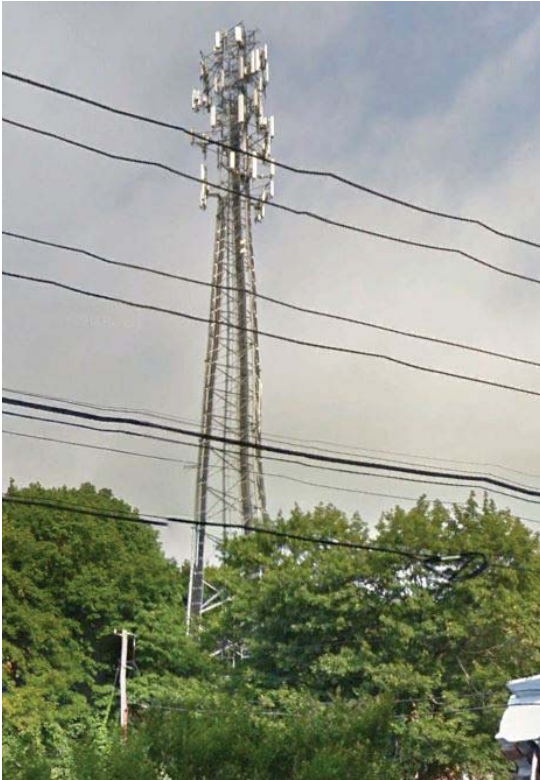
Engineering Number: OAA739691\_C3\_02

2/27/2019 11:30:00 AM

Customer: AT&T MOBILITY

Serviceability - 60 mph Wind 90 deg	126.75	0.200	-0.0105	0.1862	0.1865
Serviceability - 60 mph Wind 90 deg	150.00	0.284	-0.0116	0.2287	0.2288
Serviceability - 60 mph Wind 90 deg	154.88	0.304	-0.0115	0.2311	0.2314
Serviceability - 60 mph Wind 90 deg	168.05	0.361	-0.0128	0.2553	0.2554
Serviceability - 60 mph Wind 90 deg	175.85	0.395	-0.0131	0.2479	0.2482
Serviceability - 60 mph Wind 90 deg	179.75	0.413	-0.0132	0.2784	0.2785
Serviceability - 60 mph Wind 90 deg	184.19	0.433	-0.0132	0.2458	0.2461
Serviceability - 60 mph Wind 90 deg	188.13	0.451	-0.0132	0.2587	0.2588
Serviceability - 60 mph Wind 90 deg	192.06	0.468	-0.0132	0.2564	0.2567

# **EXHIBIT 4**



**Empire Telecom on behalf of  
AT&T Mobility LLC  
Site FA – 10035308  
USID – 44824  
Site ID – CT2091  
(MRCTB030979-MRCTB031060-  
MRCTB032143)  
Site Name – ANSONIA NW  
SPECTRASITE TOWER**

**401 WAKELEE AVENUE  
ANSONIA, CT 06401**

Latitude: N41-21-21.87  
Longitude: W73-5-31.30  
Structure Type: Self-Support

Report generated date: April 22, 2019  
Report by: Scott Broyles  
Customer Contact: - New England Compliance

---

**AT&T Mobility LLC will be compliant when the  
remediation recommended in Section 5.2 or  
other appropriate remediation is implemented.**

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# Table of Contents

<b>1</b>	<b>GENERAL SITE SUMMARY.....</b>	<b>2</b>
1.1	REPORT SUMMARY .....	2
1.2	FALL ARREST ANCHOR POINT SUMMARY .....	2
1.3	SIGNAGE SUMMARY .....	3
<b>2</b>	<b>SCALE MAPS OF SITE.....</b>	<b>4</b>
<b>3</b>	<b>ANTENNA INVENTORY .....</b>	<b>6</b>
<b>4</b>	<b>EMISSION PREDICTIONS .....</b>	<b>9</b>
<b>5</b>	<b>SITE COMPLIANCE .....</b>	<b>13</b>
5.1	SITE COMPLIANCE STATEMENT .....	13
5.2	ACTIONS FOR SITE COMPLIANCE .....	13
<b>6</b>	<b>REVIEWER CERTIFICATION .....</b>	<b>14</b>
	<b>APPENDIX A – STATEMENT OF LIMITING CONDITIONS .....</b>	<b>15</b>
	<b>APPENDIX B – REGULATORY BACKGROUND INFORMATION .....</b>	<b>16</b>
	FCC RULES AND REGULATIONS .....	16
	OSHA STATEMENT.....	17
	<b>APPENDIX C – SAFETY PLAN AND PROCEDURES.....</b>	<b>18</b>
	<b>APPENDIX D – RF EMISSIONS.....</b>	<b>19</b>
	<b>APPENDIX E – ASSUMPTIONS AND DEFINITIONS.....</b>	<b>20</b>
	GENERAL MODEL ASSUMPTIONS .....	20
	USE OF GENERIC ANTENNAS.....	20
	DEFINITIONS .....	21
	<b>APPENDIX F – REFERENCES .....</b>	<b>23</b>

# 1 General Site Summary

## 1.1 Report Summary

<b>AT&amp;T Mobility LLC</b>	<b>Summary</b>
<b>Max Cumulative Simulated RFE Level on the Ground</b>	<1% General Public Limit
<b>Compliant per FCC Rules and Regulations?</b>	Will Be Compliant
<b>Compliant per AT&amp;T Mobility, LLC's Policy?</b>	No

The following documents were provided by the client and were utilized to create this report:

RFDS: 10035308.PM201.RFDS.04062018.Final-Approved.CT2091

CD's: 10035308.AE201.FINAL S&S CDS.190304.REV 3.CT2091




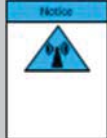





RF Powers Used: AT&T Default Powers

## 1.2 Fall Arrest Anchor Point Summary










Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	N/A	N

### 1.3 Signage Summary

#### a. Existing AT&T Signage

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)									
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

#### b. Proposed AT&T Signage

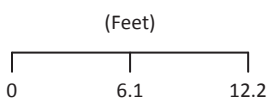
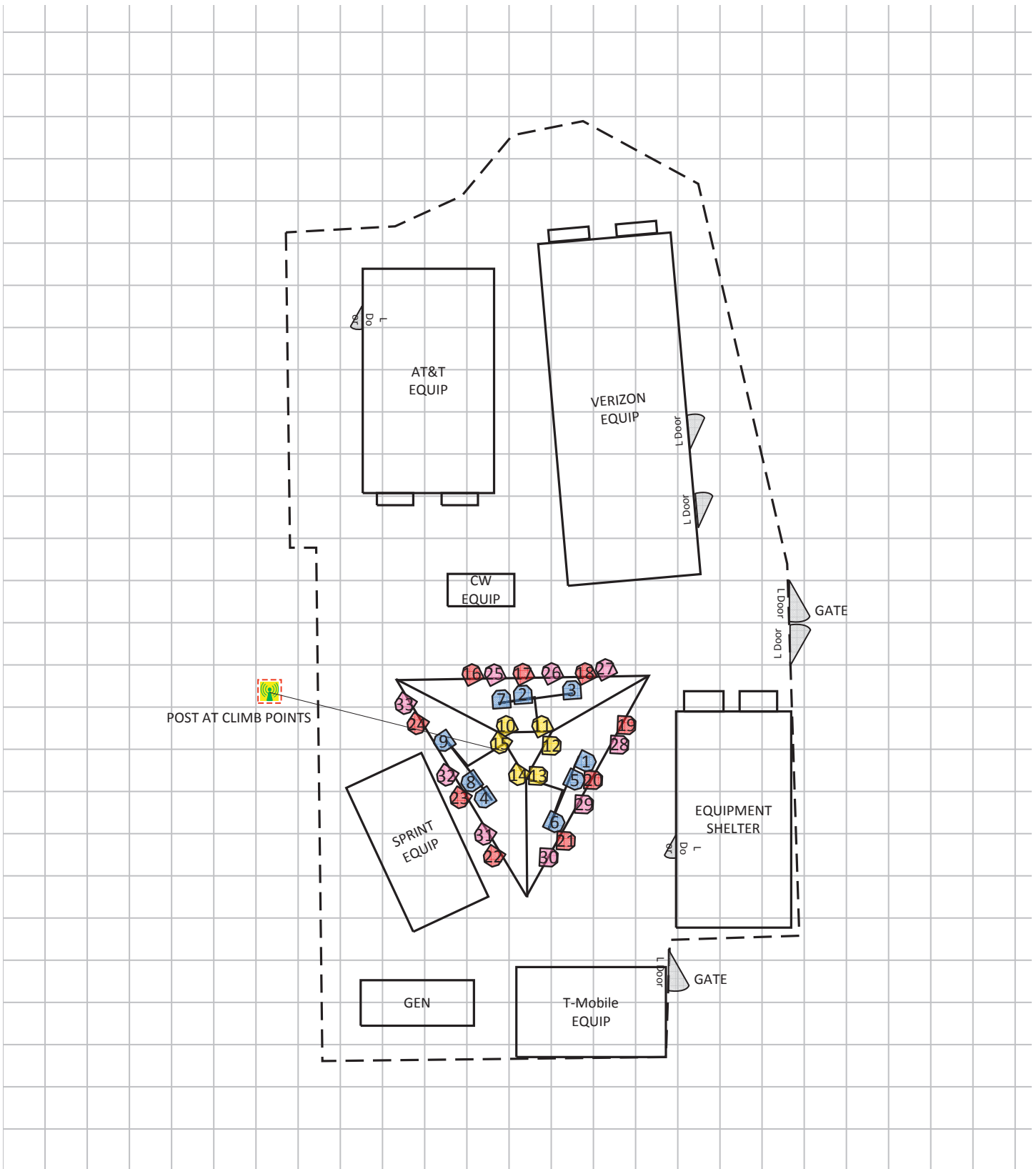
AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Access Point(s)						1			
Alpha									
Beta									
Gamma									
Delta									
Epsilon									

## 2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- RF Exposure Diagram – Elevation View
- AT&T Mobility, LLC Contribution

# Site Scale Map For: ANSONIA NW SPECTRASITE TOWER



www.sitesafe.com  
 Site Name: ANSONIA NW SPECTRASITE TOWER  
 4/22/2019 3:37:58 PM



- Carrier Identification**
- AT&T MOBILITY LLC
  - VERIZON WIRELESS
  - T-MOBILE
  - SPRINT
  - UNKNOWN CARRIER

**Sign Legend**

- Caution 1
  - Caution 2
  - Notice 2
  - Notice 1
  - Warning
  - Warning 2
  - Info 1
  - Info 2
- Barrier**  **Proposed Barriers/ Signs**



### 3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	143	82	4.6	40	TPO	Watt	0	1	566.3	11.51	164.7'	0°	0°
2	AT&T MOBILITY LLC	Cci Products OPA-65R-LCUU-H6	Panel	737	LTE	23	66	6	60	TPO	Watt	0	1	879.3	11.66	164'	0°	4°
2	AT&T MOBILITY LLC	Cci Products OPA-65R-LCUU-H6	Panel	2300	LTE	23	60	6	100	TPO	Watt	0	1	3515.6	15.46	164'	0°	3°
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	763	LTE	23	68.5	5.9	160	TPO	Watt	0	1	2399.5	11.76	164'	0°	4°
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	850	LTE	23	65.3	5.9	80	TPO	Watt	0	1	1409.6	12.46	164'	0°	4°
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	5G	LTE	23	65.3	5.9	80	TPO	Watt	0	1	1409.6	12.46	164'	0°	4°
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	1900	LTE	23	63.2	5.9	160	TPO	Watt	0	1	4572.1	14.56	164'	0°	3°
3	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	2100	LTE	23	60.6	5.9	160	TPO	Watt	0	1	5756	15.56	164'	0°	3°
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	263	82	4.6	40	TPO	Watt	0	1	566.3	11.51	164.7'	0°	0°
5	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H8	Panel	737	LTE	143	63.9	7.7	60	TPO	Watt	0	1	1009.6	12.26	163.1'	0°	3°
5	AT&T MOBILITY LLC	CCI Antennas OPA-65R-LCUU-H8	Panel	2300	LTE	143	63.7	7.7	100	TPO	Watt	0	1	2924.2	14.66	163.1'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU8D	Panel	763	LTE	143	73	8	160	TPO	Watt	0	1	3549.1	13.46	163'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU8D	Panel	850	LTE	143	64	8	80	TPO	Watt	0	1	2133.5	14.26	163'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU8D	Panel	5G	LTE	143	64	8	80	TPO	Watt	0	1	2133.5	14.26	163'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU8D	Panel	1900	LTE	143	66	8	160	TPO	Watt	0	1	6311.3	15.96	163'	0°	3°
6	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU8D	Panel	2100	LTE	143	66	8	160	TPO	Watt	0	1	6608.8	16.16	163'	0°	4°
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	UMTS	23	82	4.6	40	TPO	Watt	0	1	566.3	11.51	164.7'	0°	0°
8	AT&T MOBILITY LLC	Cci Products OPA-65R-LCUU-H6	Panel	737	LTE	263	66	6	60	TPO	Watt	0	1	879.3	11.66	164'	0°	3°
8	AT&T MOBILITY LLC	Cci Products OPA-65R-LCUU-H6	Panel	2300	LTE	263	60	6	100	TPO	Watt	0	1	3515.6	15.46	164'	0°	4°
9	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	763	LTE	263	68.5	5.9	160	TPO	Watt	0	1	2399.5	11.76	164'	0°	3°



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
9	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	850	LTE	263	65.3	5.9	80	TPO	Watt	0	1	1409.6	12.46	164'	0°	3°
9	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	5G	LTE	263	65.3	5.9	80	TPO	Watt	0	1	1409.6	12.46	164'	0°	3°
9	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	1900	LTE	263	63.2	5.9	160	TPO	Watt	0	1	4572.1	14.56	164'	0°	3°
9	AT&T MOBILITY LLC (Proposed)	CCI Antennas TPA65R-BU6D	Panel	2100	LTE	263	60.6	5.9	160	TPO	Watt	0	1	5756	15.56	164'	0°	3°
10	SPRINT	KMW AM-X-CD-17-65-00T	Panel	1900		0	68	8	90	TPO	Watt	0		2952.9	15.16	190'	0°	0°
11	SPRINT	KMW AM-X-CD-17-65-00T	Panel	850		0	63	8	100	TPO	Watt	0		3435.6	15.36	190'	0°	0°
12	SPRINT	KMW AM-X-CD-17-65-00T	Panel	1900		120	68	8	90	TPO	Watt	0		2952.9	15.16	190'	0°	0°
13	SPRINT	KMW AM-X-CD-17-65-00T	Panel	850		120	63	8	100	TPO	Watt	0		3435.6	15.36	190'	0°	0°
14	SPRINT	KMW AM-X-CD-17-65-00T	Panel	1900		240	68	8	90	TPO	Watt	0		2952.9	15.16	190'	0°	0°
15	SPRINT	KMW AM-X-CD-17-65-00T	Panel	850		240	63	8	100	TPO	Watt	0		3435.6	15.36	190'	0°	0°
16	VERIZON WIRELESS	Antel BXA-70063-6CF	Panel	700		0	65	5.9	160	TPO	Watt	0		4028.3	14.01	174'	0°	0°
17	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	1900		0	66	6	160	TPO	Watt	0		6111.1	15.82	174'	0°	0°
18	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	2100		0	63	6	180	TPO	Watt	0		7731.7	16.33	174'	0°	0°
19	VERIZON WIRELESS	Antel BXA-70063-6CF	Panel	700		120	65	5.9	160	TPO	Watt	0		4028.3	14.01	174'	0°	0°
20	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	1900		120	66	6	160	TPO	Watt	0		6111.1	15.82	174'	0°	0°
21	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	2100		120	63	6	180	TPO	Watt	0		7731.7	16.33	174'	0°	0°
22	VERIZON WIRELESS	Antel BXA-70063-6CF	Panel	700		240	65	5.9	160	TPO	Watt	0		4028.3	14.01	174'	0°	0°
23	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	1900		240	66	6	160	TPO	Watt	0		6111.1	15.82	174'	0°	0°
24	VERIZON WIRELESS	Andrew SBNHH-1D65B	Panel	2100		240	63	6	189	TPO	Watt	0		8118.2	16.33	174'	0°	0°
25	T-MOBILE	Kathrein-Scala 742-213	Panel	1900		0	65.3	6.4	60	TPO	Watt	0		3056	17.07	144.8'	0°	0°
26	T-MOBILE	Andrew LNX-6515DS-VTM	Panel	850		0	65	8	60	TPO	Watt	0		1833	14.85	144'	0°	0°
27	T-MOBILE	Ericsson AIR 21-1.3m B4A LBP	Panel	2100		0	63	4.5	60	TPO	Watt	0		2312.9	15.86	145.8'	0°	0°
28	T-MOBILE	Kathrein-Scala 742-213	Panel	1900		120	65.3	6.4	60	TPO	Watt	0		3056	17.07	144.8'	0°	0°
29	T-MOBILE	Andrew LNX-6515DS-VTM	Panel	850		120	65	8	60	TPO	Watt	0		1833	14.85	144'	0°	0°
30	T-MOBILE	Ericsson AIR 21-1.3m B4A LBP	Panel	2100		120	63	4.5	60	TPO	Watt	0		2312.9	15.86	145.8'	0°	0°



Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Misc Loss	TX Count	Total ERP (Watts)	Ant Gain (dBd)	Z	MDT	EDT
31	T-MOBILE	Kathrein-Scala 742-213	Panel	1900		240	65.3	6.4	60	TPO	Watt	0		3056	17.07	144.8'	0°	0°
32	T-MOBILE	Andrew LNX-6515DS-VTM	Panel	850		240	65	8	60	TPO	Watt	0		1833	14.85	144'	0°	0°
33	T-MOBILE	Ericsson AIR 21-1-.3m B4A LBP	Panel	2100		240	63	4.5	60	TPO	Watt	0		2312.9	15.86	145.8'	0°	0°

NOTE: X, Y and Z indicate relative position of the antenna to the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed.



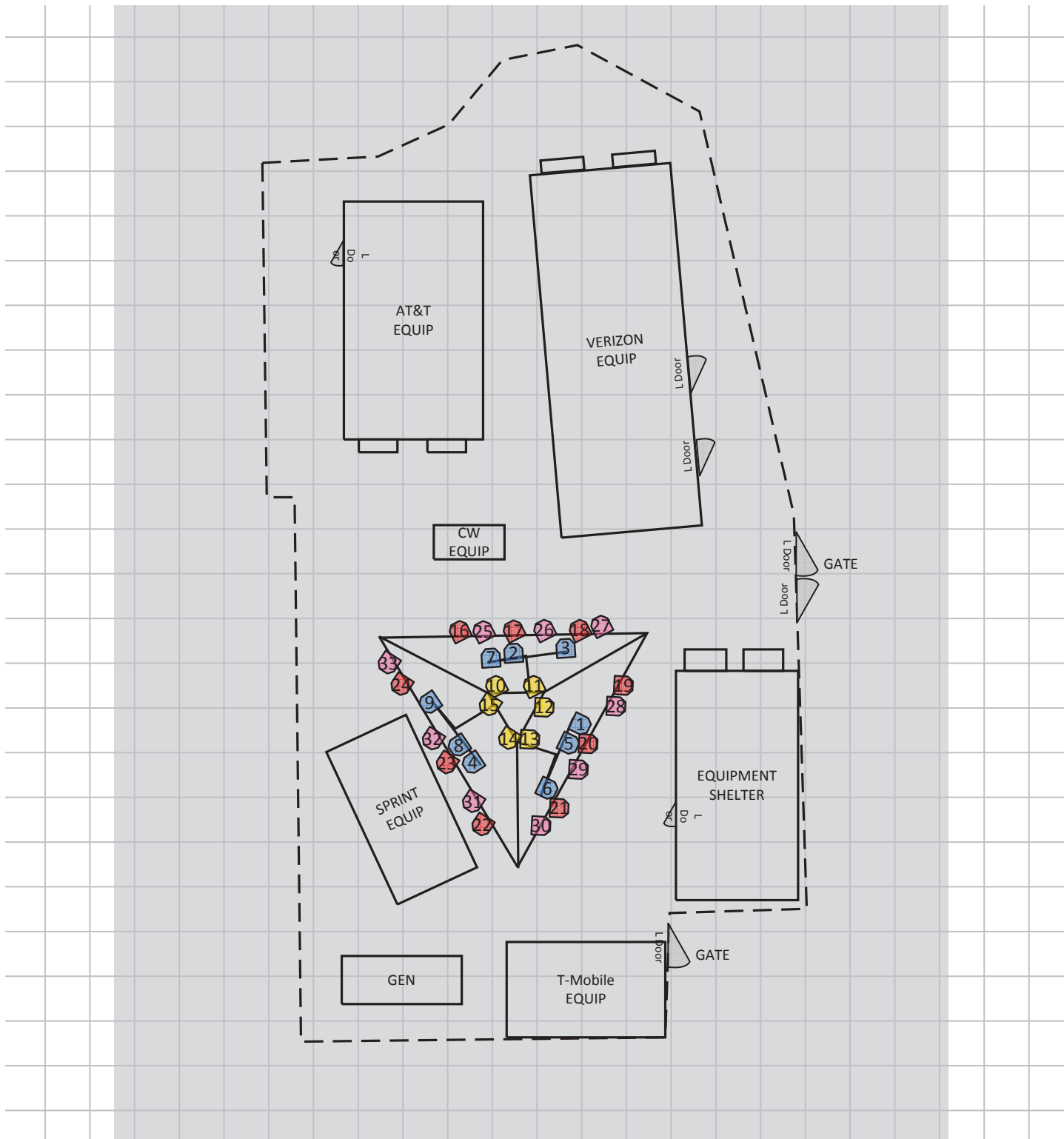
## 4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

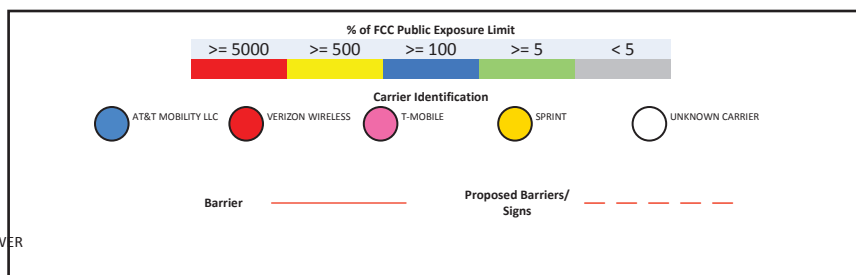
- Ground = 0'

The Antenna Inventory heights are referenced to the same level.

# RF Exposure Simulation For: ANSONIA NW SPECTRASITE TOWER Composite View



% of FCC Public Exposure Limit  
Spatial average 0' - 6'

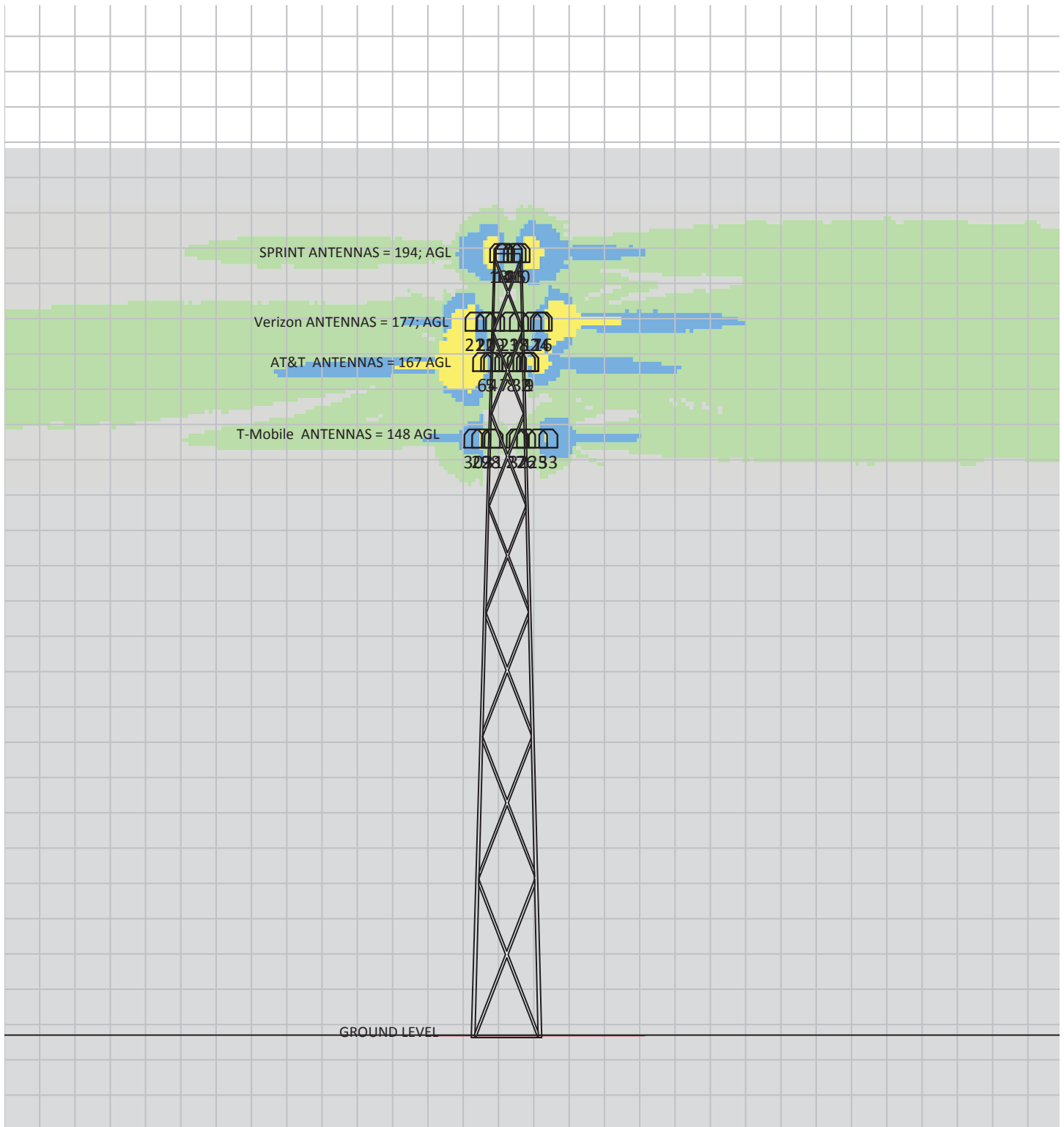


(Feet)  
0      6.3      12.7  
www.sitesafe.com  
Site Name: ANSONIA NW SPECTRASITE TOWER  
4/22/2019 3:35:46 PM

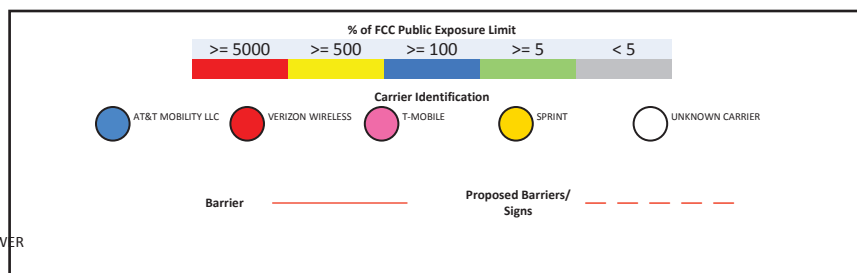
Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged

# RF Exposure Simulation For: ANSONIA NW SPECTRASITE TOWER

## Elevation View



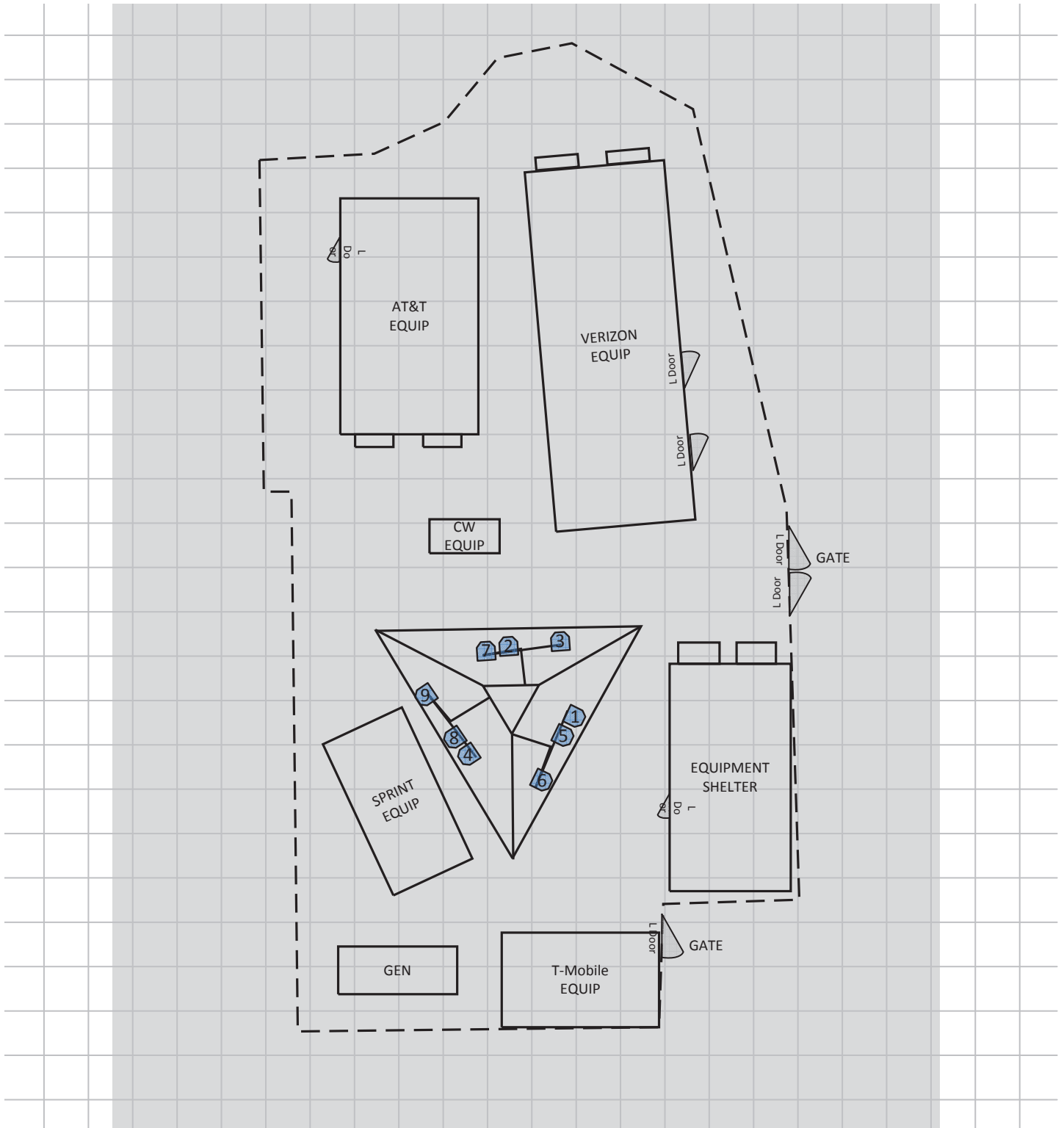
% of FCC Public Exposure Limit  
Spatial average 0' - 6'



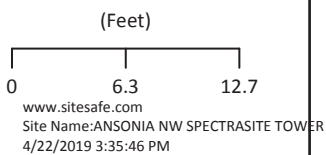
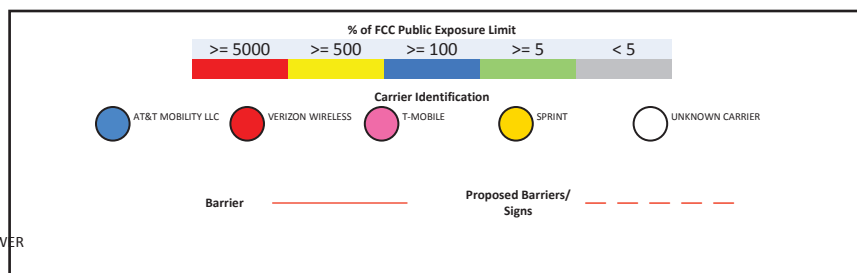
(Feet)  
 0      17.4      34.9  
 www.sitesafe.com  
 Site Name: ANSONIA NW SPECTRASITE TOWER  
 4/22/2019 12:44:11 PM

Sitesafe OET-65 Model  
 Near Field Boundary:  
 1.5 \* Aperture  
 Reflection Factor: 1  
 Single Level (0)

# RF Exposure Simulation For: ANSONIA NW SPECTRASITE TOWER AT&T Mobility, LLC Contribution



% of FCC Public Exposure Limit  
Spatial average 0' - 6'



Sitesafe OET-65 Model  
Near Field Boundary:  
1.5 \* Aperture  
Reflection Factor: 1  
Spatially Averaged

## 5 Site Compliance

### 5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

### 5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

#### **Tower Access Location**

(1) Yellow Caution 2 sign(s) required at each climb point.

#### **Notes:**

- This report's diagrams do not show the Access locations because the data provided did not include them.
- Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.
- Any existing signage that conflicts with the proposed signage in this report should be removed per AT&T Signage Posting Rules.

## 6 Reviewer Certification


The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, LLC., in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Scott Broyles.

April 22, 2019

 A handwritten signature in black ink, appearing to read "Young Min Kim".  
Young Min Kim

## Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

## Appendix B – Regulatory Background Information

### FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 (“OET Bulletin 65”), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or “Controlled environment” and General Public or “Uncontrolled environment”. The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

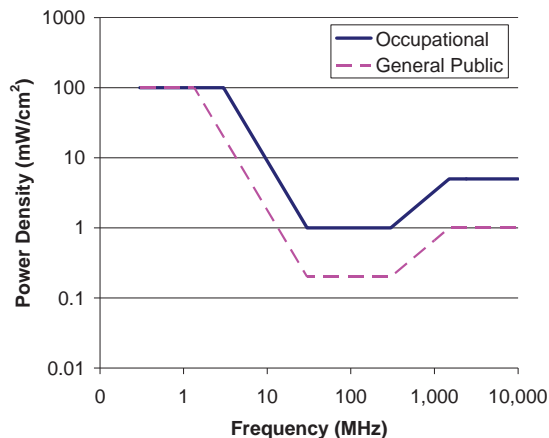
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

**FCC Limits for Maximum Permissible Exposure (MPE)**  
Plane-wave Equivalent Power Density





### Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

### Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

### OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

## Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

**General Maintenance Work:** Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

**Training and Qualification Verification:** All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

**Physical Access Control:** Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

**RF Signage:** Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

**Assume all antennas are active:** Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

**Maintain a 3 foot clearance from all antennas:** There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

**Site RF Emissions Diagram:** Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

## Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

## Appendix E – Assumptions and Definitions

### General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

### Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

## Definitions

**5% Rule** – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

**Compliance** – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

**Decibel (dB)** – A unit for measuring power or strength of a signal.

**Duty Cycle** – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

**Effective (or Equivalent) Isotropic Radiated Power (EIRP)** – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

**Effective Radiated Power (ERP)** – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

**Gain (of an antenna)** – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

**General Population/Uncontrolled Environment** – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

**Generic Antenna** – For the purposes of this report, the use of “Generic” as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

**Isotropic Antenna** – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

**Maximum Measurement** – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

**Maximum Permissible Exposure (MPE)** – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

**Occupational/Controlled Environment** – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are aware of the



potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

***OET Bulletin 65*** – Technical guideline developed by the FCC’s Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

***OSHA (Occupational Safety and Health Administration)*** – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA’s role is to promote the safety and health of America’s working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit [www.osha.gov](http://www.osha.gov).

***Radio Frequency (RF)*** – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

***Radio Frequency Exposure (RFE)*** – The amount of RF power density that a person is or might be exposed to.

***Spatial Average Measurement*** – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

***Transmitter Power Output (TPO)*** – The radio frequency output power of a transmitter’s final radio frequency stage as measured at the output terminal while connected to a load.

## Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.

<http://www.sitesafe.com>

FCC Radio Frequency Safety

<http://www.fcc.gov/encyclopedia/radio-frequency-safety>

National Council on Radiation Protection and Measurements (NCRP)

<http://www.ncrponline.org>

Institute of Electrical and Electronics Engineers, Inc., (IEEE)

<http://www.ieee.org>

American National Standards Institute (ANSI)

<http://www.ansi.org>

Environmental Protection Agency (EPA)

<http://www.epa.gov/radtown/wireless-tech.html>

National Institutes of Health (NIH)

<http://www.niehs.nih.gov/health/topics/agents/emf/>

Occupational Safety and Health Agency (OSHA)

<http://www.osha.gov/SLTC/radiofrequencyradiation/>

International Commission on Non-Ionizing Radiation Protection (ICNIRP)

<http://www.icnirp.org>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en/>

National Cancer Institute

<http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones>

American Cancer Society (ACS)

[http://www.cancer.org/docroot/PED/content/PED\\_1\\_3X\\_Cellular\\_Phone\\_Towers.asp?sitearea=PED](http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?sitearea=PED)

European Commission Scientific Committee on Emerging and Newly Identified Health Risks

[http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihr/docs/scenihr\\_o\\_022.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf)

Fairfax County, Virginia Public School Survey

<http://www.fcps.edu/fts/safety-security/RFEESurvey/>

UK Health Protection Agency Advisory Group on Non-ionising Radiation

[http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb\\_C/1317133826368](http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368)

Norwegian Institute of Public Health

<http://www.fhi.no/dokumenter/545eea7147.pdf>

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ANSONIA, CT 06401

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**\*NOTE: Black and white (grayscale) images show the outside, front of letter-sized envelopes and mailpieces that are processed through USPS automated equipment.**

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Your item was delivered in or at the mailbox at 9:06 am on April 29, 2019 in ANSONIA, CT 06401.

### **Delivered**

April 29, 2019 at 9:06 am  
Delivered, In/At Mailbox  
ANSONIA, CT 06401

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**Text & Email Updates**



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**Tracking History**



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**Product Information**



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Feedback

## Can't find what you're looking for?

Go to our [FAQs](#) section to find answers to your tracking questions.

[FAQs \(https://www.usps.com/faqs/uspstracking-faqs.htm\)](https://www.usps.com/faqs/uspstracking-faqs.htm)

**The easiest tracking number is the one you don't have to know.**

With Informed Delivery®, you never have to type in another tracking number. Sign up to:

- See images\* of incoming mail.
- Automatically track the packages you're expecting.
- Set up email and text alerts so you don't need to enter tracking numbers.
- Enter USPS Delivery Instructions™ for your mail carrier.

### Sign Up

[https://reg.usps.com/entreg/RegistrationAction\\_input?](https://reg.usps.com/entreg/RegistrationAction_input?app=UspTools&appURL=https%3A%2F%2Ftools.usps.com%2Fgo%2FTrackConfirmAction%21input)

\*NOTE: Black and white (grayscale) images show the outside, front of letter-sized envelopes and mailpieces that are processed through USPS automated equipment. [app=UspTools&appURL=https%3A%2F%2Ftools.usps.com%2Fgo%2FTrackConfirmAction%21input](https://tools.usps.com/go/TrackConfirmAction?app=UspTools&appURL=https%3A%2F%2Ftools.usps.com%2Fgo%2FTrackConfirmAction%21input)

## Track Another Package +

**Tracking Number:** 9405503699300488674778

Remove X

**On Time**

**Expected Delivery on**

**FRIDAY**

**26** APRIL 2019 ⓘ by **8:00pm** ⓘ

 **Delivered**

April 26, 2019 at 10:26 am  
Delivered, Front Desk/Reception/Mail Room  
WOBURN, MA 01801

Get Updates ▾

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**Text & Email Updates** ▾

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**Tracking History** ▾

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