



November 16, 2018

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

Regarding:	Notice of Exempt Modification – Antenna Modification
Property Address:	53 Dayton Road Waterford, CT 06385 (the “Property”)
Applicant:	AT&T Mobility (“AT&T”, Site # CT5221)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 182-foot self-support tower at the above-referenced address, latitude 41.3778416666667°, longitude -72.1393611111111°. Said tower is owned by American Tower Corporation and the underlying property owner is COHANZIE FIRE COMPANY NO 5 INC.

AT&T desires to modify its existing telecommunications facility by adding three (3) antennas, removing (3) RRUs with A2 units and replacing with (9) RRUs for a net increase of (6), removing (6) diplexers and replacing with (6) new diplexers (low band combiners), and adding (1) squid surge suppressor with associated cables. The American Tower Structural Analysis reflects removal and replacement of (3) BOB/Squid Surge Suppressors; however, this is only an administrative change to correct the model information for the surge suppressors AT&T has leased. The centerline height of the existing antennas is, and will remain at, 157 feet.

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 Daniel M. Steward, First Selectman of 15 Rope Ferry Road, Waterford, CT 06385, Jay Murphy, Building Official of 15 Rope Ferry Road, Waterford, CT 06385, Abby Piersall, AICP, Planning Director of 15 Rope Ferry Road, Waterford, CT 06385, COHANZIE FIRE COMPANY NO 5 INC as Property Owner of 53 Dayton Road, Waterford, CT 06385, American Tower Corporation, as Tower Owner.

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 and accessory equipment along with equipment to be swapped will be installed at the existing height of 157 feet on the 182-foot tower.

2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (enclosed) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support AT&T's proposed modifications (please see enclosed structural analysis completed by American Tower Corporation, dated November 9, 2018; stamped on Nov 9, 2018).

For the foregoing reasons, AT&T respectfully requests that the proposed remote-radio head 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

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

cc:

- Hon. Daniel M. Steward, First Selectman | Town of Waterford | 15 Rope Ferry Road | Waterford, CT 06385-2886;
- Mr. Jay Murphy, Building Official | Town of Waterford Building Dept. | 15 Rope Ferry Road | Waterford, CT 06385-2886;
- Ms. Abby Piersall, AICP, Planning Director | Town of Waterford Planning Dept. | 15 Rope Ferry Road, Waterford, CT 06385-2886;
- COHANZIE FIRE COMPANY NO 5 | 53 Dayton Road | Waterford, CT 06385-2886;
- American Tower Corporation | Attn: Ryan Tierney 10 Presidential Way | Woburn, MA 01801

53 DAYTON ROAD

Location 53 DAYTON ROAD

Mblu 92/ / 1844/ /

Acct# 00158300

Owner COHANZIE FIRE COMPANY
NO 5 INC

Assessment \$1,335,410

Appraisal \$1,907,740

PID 1844

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$981,150	\$926,590	\$1,907,740
Assessment			
Valuation Year	Improvements	Land	Total
2017	\$686,800	\$648,610	\$1,335,410

Parcel Addresses

Additional Addresses		
Address	City, State Zip	Type
53 DAYTON ROAD		Primary
53 DAYTON ROAD		Secondary

Owner of Record

Owner COHANZIE FIRE COMPANY NO 5 INC
Co-Owner

Sale Price \$0
Certificate
Book & Page 95/ 157
Sale Date 11/12/1952
Instrument 00

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
COHANZIE FIRE COMPANY NO 5 INC	\$0		95/ 157	00	11/12/1952

Building Information

Building 1 : Section 1

Year Built: 1950
Living Area: 8,615
Replacement Cost: \$803,074
Building Percent Good: 68

Building Attributes	
Field	Description
STYLE	Fire Station
MODEL	Comm/Ind
Grade	Above Ave
Stories:	1.00
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick Veneer
Roof Structure	Gambrel
Roof Cover	Asphalt
Interior Wall 1	Plaster
Interior Wall 2	Drywall
Interior Floor 1	Concrete
Interior Floor 2	Comp Tile
Heating Fuel	Oil
Heating Type	Hot Water
% Central Air	0
Foundation	Poured Conc
Bldg Use	Exempt Comm
Total Rooms	0
Total Bedrms	0
Total Fixtures	22
% Wet Sprinkler	100
% Dry Sprinkler	
1st Floor Use	
Heat/AC	Typical
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
% Finished	60
Class	C
Wall Height	11

Building 2 : Section 1

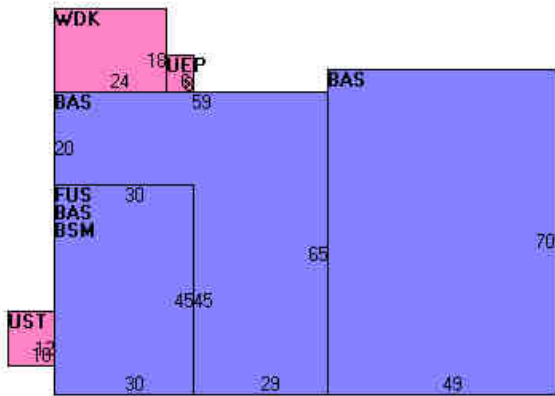
Year Built: 1950
Living Area: 3,360
Replacement Cost: \$368,762

Building Photo



(http://images.vgsi.com/photos/WaterfordCTPhotos/\/00\00\88/:

Building Layout



(http://images.vgsi.com/photos/WaterfordCTPhotos//Sketches/18

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	7,265	7,265
FUS	Finished Upper Story	1,350	1,350
BSM	Basement	1,350	0
UEP	Unfin. Enclosed Porch	48	0
UST	Unfinished Utility Area	120	0
WDK	Deck	432	0
		10,565	8,615

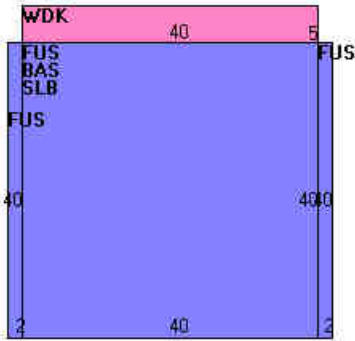
Building Attributes : Bldg 2 of 2	
Field	Description
STYLE	Fire Station
MODEL	Comm/Ind
Grade	Above Ave
Stories:	2.00
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick Veneer
Roof Structure	Gambrel
Roof Cover	Asphalt
Interior Wall 1	Plaster
Interior Wall 2	Drywall
Interior Floor 1	Concrete
Interior Floor 2	Comp Tile
Heating Fuel	Oil
Heating Type	Forced Hot Air
% Central Air	0
Foundation	Poured Conc
Bldg Use	Exempt Comm
Total Rooms	0
Total Bedrms	0
Total Fixtures	0
% Wet Sprinkler	
% Dry Sprinkler	
1st Floor Use	
Heat/AC	Typical
Frame Type	MASONRY
Baths/Plumbing	LIGHT
% Finished	0
Class	C
Wall Height	11

Building Photo



(http://images.vgsi.com/photos/WaterfordCTPhotos//default.jpg)

Building Layout



(http://images.vgsi.com/photos/WaterfordCTPhotos//Sketches/18)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
FUS	Finished Upper Story	1,760	1,760
BAS	First Floor	1,600	1,600
SLB	Slab	1,600	0
WDK	Deck	200	0
		5,160	3,360

Extra Features

Extra Features					Legend
Code	Description	Size	Value	Bldg #	
FBM	Finished Bsmt	475 S.F.	\$3,230	1	

Land

Land Use

Use Code 920
Description Exempt Comm
Zone R-40
Neighborhood 200
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 9.91
Frontage 0
Depth 0
Assessed Value \$648,610
Appraised Value \$926,590

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN1	Fence			928 L.F.	\$7,660	2
FGR1	Garage	MS	Masonry	220 S.F.	\$3,300	1
LSUM	Lump Sum			120000 UNITS	\$90,000	2
PAV1	Paving	AS	Asphalt	39900 S.F.	\$62,340	1
SHD1	Shed	FR	Frame	800 S.F.	\$6,000	1
FN1	Fence			1408 L.F.	\$7,740	1
FOP	Porch			1600 S.F.	\$24,000	1
LSUM	Lump Sum			4320 UNITS	\$2,160	1

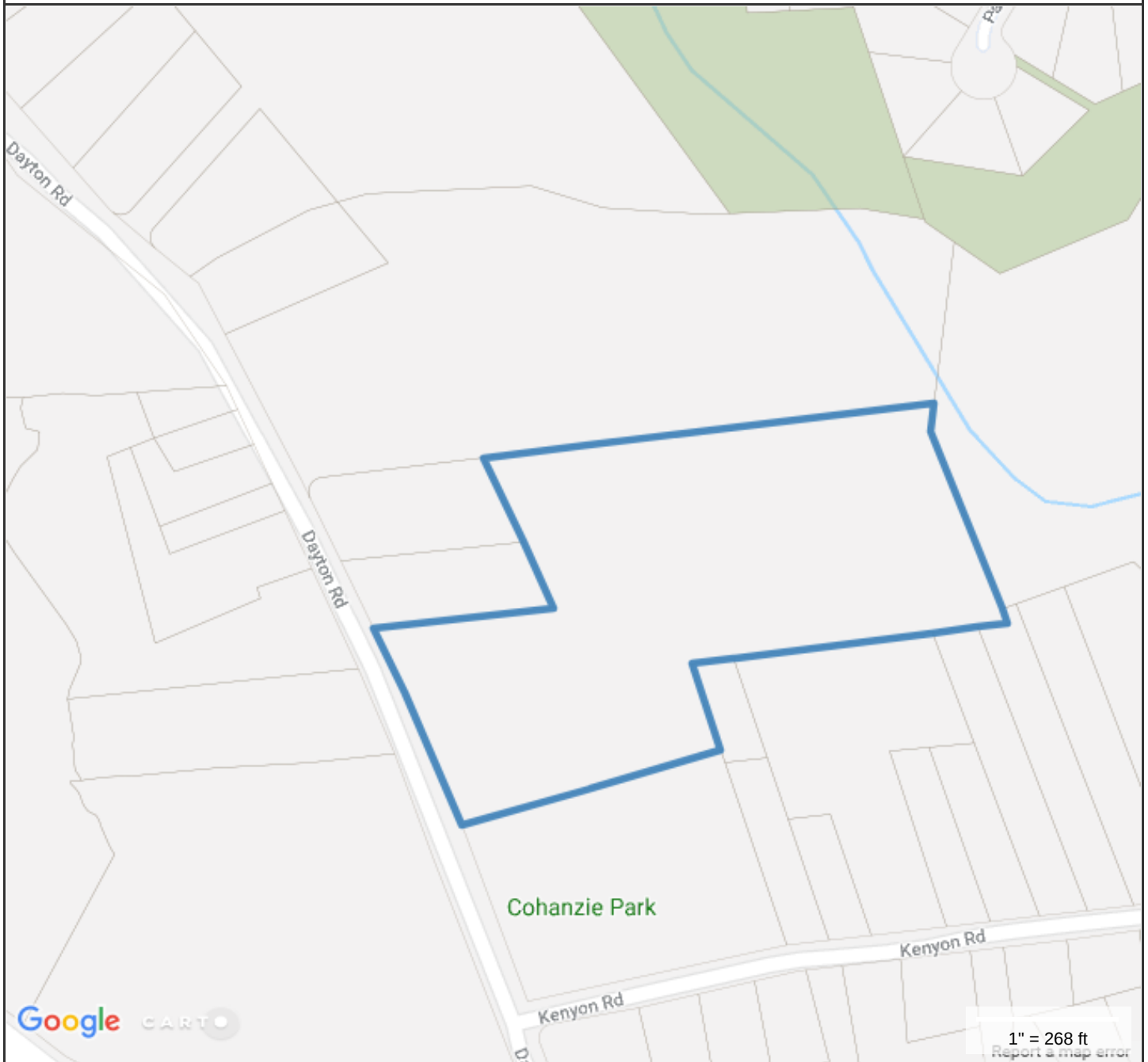
Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$923,090	\$926,590	\$1,849,680
2013	\$923,090	\$926,590	\$1,849,680
2010	\$0	\$0	\$3,234,857

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$646,170	\$648,610	\$1,294,780
2013	\$646,170	\$648,610	\$1,294,780
2010	\$0	\$0	\$2,264,400

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Location of tower at 53 Dayton Road, Waterford, CT

**Property Information**

Property ID 152-0158300
Location 53 DAYTON ROAD
Owner COHANZIE FIRE COMPANY NO 5 INC

**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

SCCOG makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 05/31/2017
Properties updated 10/1/2013

2:10071307_AE201_181008_CT5221_REV I__CT_CD.dwg(T-I) By: ACOIA

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at&t

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. 2016 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2012 IBC	8. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81 IEEE C2 LATEST EDITION
2. 2014 NATIONAL ELECTRICAL CODE - NFPA 70	9. TELCORDIA GR-1275
3. 2012 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

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PROJECT INFORMATION	
<u>SITE INFORMATION</u>	
LATITUDE:	41.3738919° N
LONGITUDE:	72.1392989° W
JURISDICTION:	TOWN OF WATERFORD
<u>APPLICANT/LESSEE</u>	
COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701
<u>STRUCTURE OWNER</u>	
COMPANY:	T.B.D.
ADDRESS:	T.B.D.
CITY, STATE, ZIP:	T.B.D.
<u>CLIENT REPRESENTATIVE</u>	
COMPANY:	EMPIRE TELECOM
ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETELECOM.COM
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<u>ENGINEER</u>	
COMPANY:	MASER CONSULTING CONNECTICUT
ADDRESS:	331 NEWMAN SPRINGS ROAD
CITY, STATE, ZIP:	RED BANK, NJ 07701-5669
CONTACT:	ROBERT ANDREWS
PHONE:	(856) 797-0412
E-MAIL:	RANDREWS@MASERCONSULTING.COM

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CITY, STATE, ZIP:	RED BANK, NJ 07701-5669
CONTACT:	ROBERT ANDREWS
PHONE:	(856) 797-0412
E-MAIL:	RANDREWS@MASERCONSULTING.COM

PROJECT INFORMATION	
<u>SITE INFORMATION</u>	
LATITUDE:	41.3738919° N
LONGITUDE:	72.1392989° W
JURISDICTION:	TOWN OF WATERFORD
<u>APPLICANT/LESSEE</u>	
COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701
<u>STRUCTURE OWNER</u>	
COMPANY:	T.B.D.
ADDRESS:	T.B.D.
CITY, STATE, ZIP:	T.B.D.
<u>CLIENT REPRESENTATIVE</u>	
COMPANY:	EMPIRE TELECOM
ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETELECOM.COM
<u>SITE ACQUISITION</u>	
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ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETELECOM.COM
<u>ENGINEER</u>	
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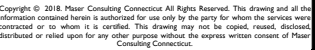
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- [illegible]

[illegible][illegible][illegible]

EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01862



Now what's below.
Call before you dig.

Now what's below.
Call before you dig.

Now what's below.
Call before you dig.

SCALE: AS SHOWN	JOB NUMBER: 18963018A
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SCALE		JOB NUMBER	
AS SHOWN		18963018A	
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-	-	-	-
0	10/26/18	FOR CONSTRUCTION	RA
I	10/08/18	ISSUED FOR REVIEW	RA
REV	DATE	DESCRIPTION	DRAWN BY CHECKED BY



PETROS L. TSOUKALAS
 CONNECTICUT PROFESSIONAL
 ENGINEER - LICENSE NUMBER: 32577

32577

IT IS THE POLICY OF CERTAINLY PERSONS, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:
WATERFORD EAST
FA# 10071307
SITE# CT5221
53 DAYTON ROAD
WATERFORD, CT 16725
NEW LONDON COUNTY

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NEW LONDON COUNTY



SHEET TITLE :

TITLE SHEET

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TITLE SHEET

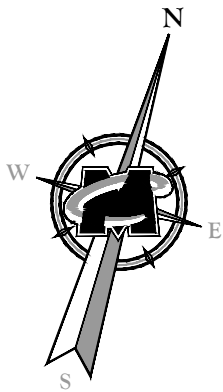
SHEET NUMBER : T-1

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- 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:

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.





Existing Building

Existing Chain Link
Fence With Barbed Wire

Existing Cable Bridge
(Typ.)

(2) PROPOSED 6/C DC
CABLES AND (1) PROPOSED
18-PAIR FIBER TRUNK

Existing Concrete Pad

Existing Access Gates
(Typ.)

Existing Lattice Tower
(SEE ELEVATION VIEW ON SHEET C-2)

Existing AT&T Equipment Room Inside Building
(SEE EQUIPMENT LAYOUT ON SHEET C-2)

COMPOUND PLAN



SCALE : 1" = 4' FOR 22"X34"
(SCALE : 1" = 8' FOR 11"X17")



Customer Loyalty through Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

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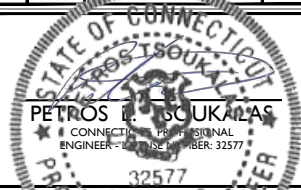
16 ESQUIRE ROAD
BILLERICA, MA 01862



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EXCAVATORS, DESIGNERS, OR ANY PERSON
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SURFACE ANYWHERE IN ANY STATE
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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT:
WWW.CALL811.COM

SCALE: AS SHOWN JOB NUMBER: 18963018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	10/26/18	FOR CONSTRUCTION	AJC	RA
1	10/08/18	ISSUED FOR REVIEW	AJC	RA



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS
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REPRODUCE OR ALTER THIS DOCUMENT.

SITE NAME:

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FA# 10071307
SITE# CT5221

53 DAYTON ROAD
WATERFORD, CT 16725
NEW LONDON COUNTY



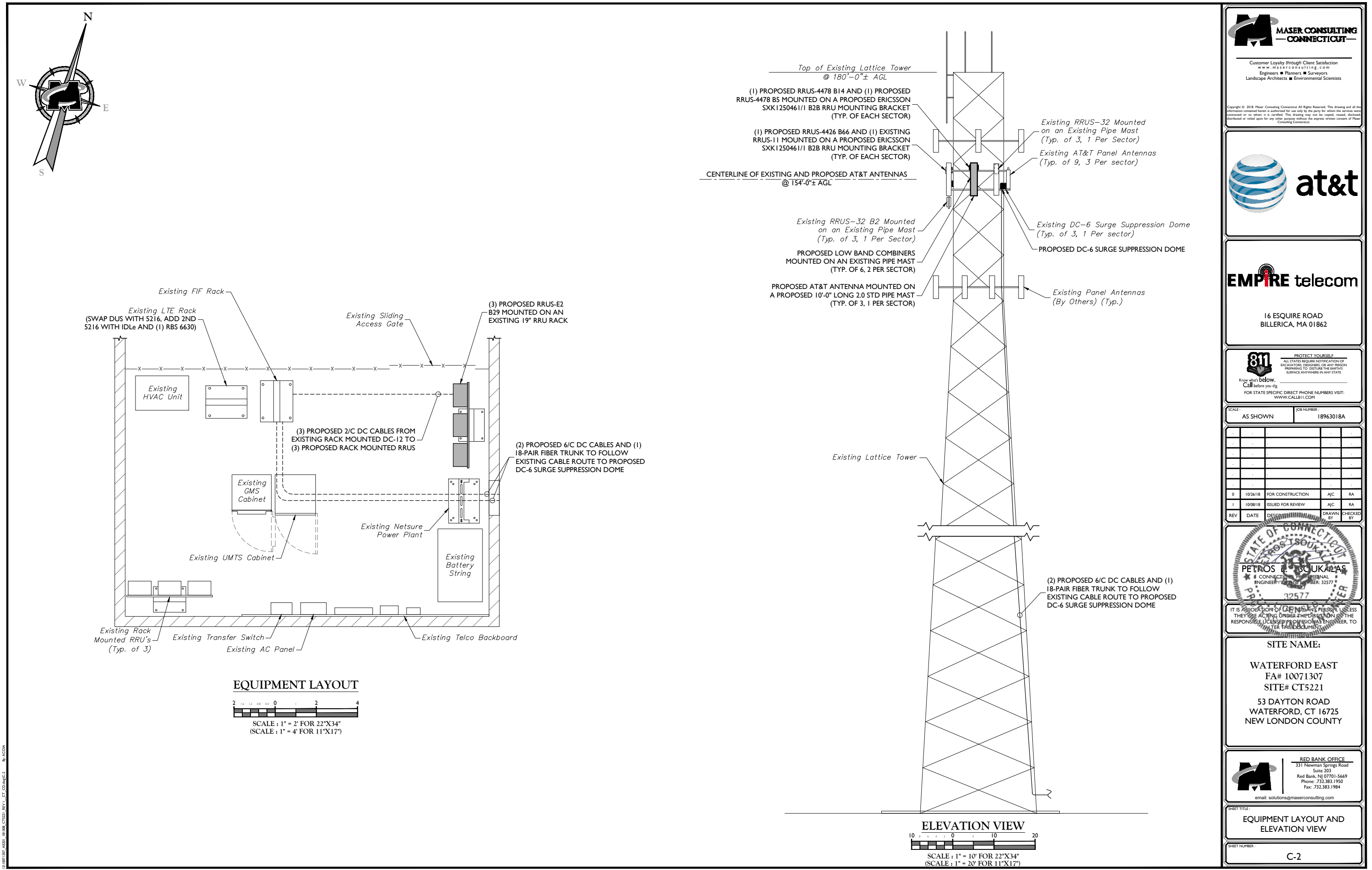
RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5669
Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

SHEET TITLE:

COMPOUND PLAN

SHEET NUMBER:

C-1



EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

811 PROTECT YOURSELF
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CONNECTICUT PROFESSIONAL ENGINEER - LICENSE NUMBER: 32577

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FA# 10071307
SITE# CT5221

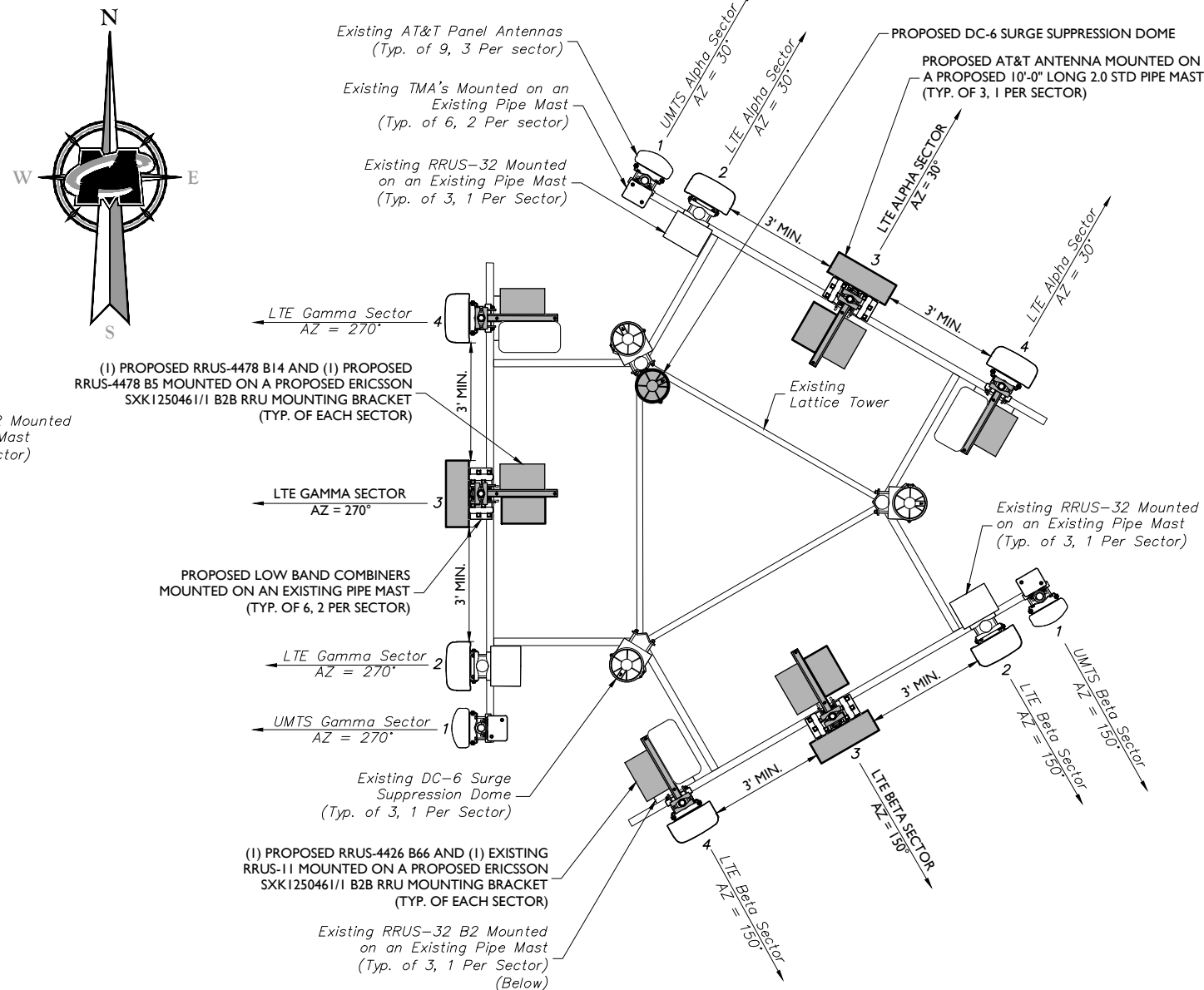
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RED BANK OFFICE
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Suite 203
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Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

SHEET TITLE:
EQUIPMENT LAYOUT AND ELEVATION VIEW

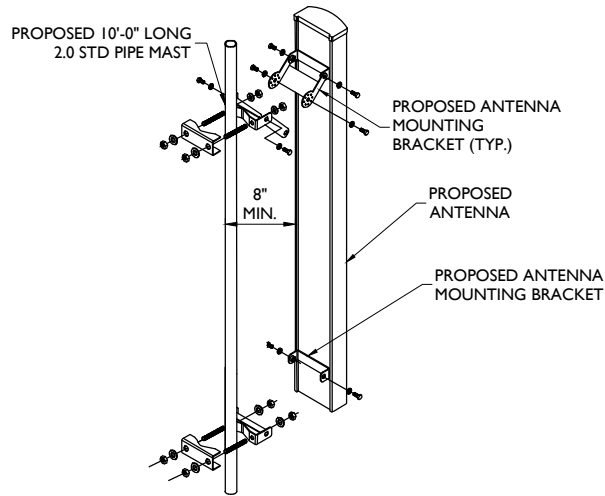
SHEET NUMBER:
C-2

11/0071307_AED01 18108 CT5221 REV1 CT CD 4/6/23 By: ACOA



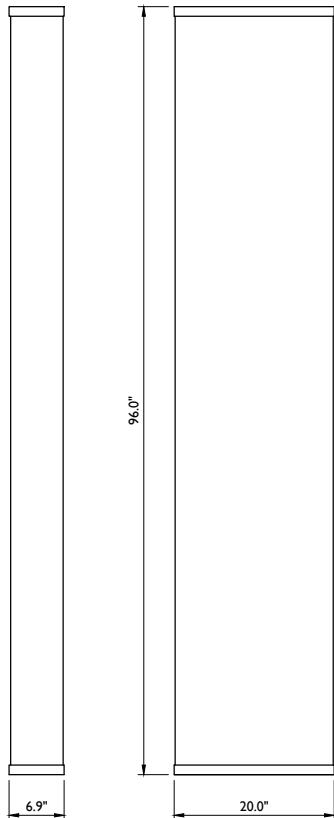
PROPOSED ANTENNA LAYOUT
NOT TO SCALE

ANTENNA SCHEDULE															
SECTOR		EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (m)	WIDTH (m)	DEPTH (m)	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	EXISTING	55.00	11.00	5.00	35.00	30°	154°	(2) LCP 13519 DIPLEXER (2) LCP 21401 TMA	2	1 5/8" COAX	EXISTING
	2	CCI HPA-6SR-BUUU-H8	CCI HPA-6SR-BUUU-H8	LTE	EXISTING	92.80	14.40	7.30	65.60	30°	154°	(1) RRUS-E2 B29 (AT GRADE) (1) RRUS-32 (2) LCP 13519 DIPLEXER (1) 782-10253 TMA (1) 782-10254 TMA	2	1 5/8" COAX	EXISTING
	3		KATHREIN 80010966	LTE	PROPOSED	96.00	20.00	6.90	125.70	30°	154°	(1) RRUS-4478 B14 (1) RRUS 4478 B5 (2) DBCT108F1V92-I	1/2	FIBER/DC	PROPOSED
	4	CCI TPA-6SR-LCUUUU-H8	CCI TPA-6SR-LCUUUU-H8	LTE	EXISTING	96.00	14.40	8.60	87.60	30°	154°	(1) RRUS-426 B66 (1) RRUS-11 (1) RRUS-32 B2	1/2	FIBER/DC	EXISTING
Sector 2	1	POWERWAVE 7770	POWERWAVE 7770	UMTS	EXISTING	55.00	11.00	5.00	35.00	150°	154°	(2) LCP 13519 DIPLEXER (2) LCP 21401 TMA	2	1 5/8" COAX	EXISTING
	2	CCI HPA-6SR-BUUU-H8	CCI HPA-6SR-BUUU-H8	LTE	EXISTING	92.80	14.40	7.30	65.60	150°	154°	(1) RRUS-E2 B29 (AT GRADE) (1) RRUS-32 (2) LCP 13519 DIPLEXER (1) 782-10253 TMA (1) 782-10254 TMA	2	1 5/8" COAX	EXISTING
	3		KATHREIN 80010966	LTE	PROPOSED	96.00	20.00	6.90	125.70	150°	154°	(1) RRUS-4478 B14 (1) RRUS 4478 B5 (2) DBCT108F1V92-I			
	4	CCI TPA-6SR-LCUUUU-H8	CCI TPA-6SR-LCUUUU-H8	LTE	EXISTING	96.00	14.40	8.60	87.60	150°	154°	(1) RRUS-426 B66 (1) RRUS-11 (1) RRUS-32 B2	1/2	FIBER/DC	EXISTING
Sector 3	1	POWERWAVE 7770	POWERWAVE 7770	UMTS	EXISTING	55.00	11.00	5.00	35.00	270°	154°	(2) LCP 13519 DIPLEXER (2) LCP 21401 TMA	2	1 5/8" COAX	EXISTING
	2	CCI HPA-6SR-BUUU-H8	CCI HPA-6SR-BUUU-H8	LTE	EXISTING	92.80	14.40	7.30	65.60	270°	154°	(1) RRUS-E2 B29 (AT GRADE) (1) RRUS-32 (2) LCP 13519 DIPLEXER (1) 782-10253 TMA (1) 782-10254 TMA	2	1 5/8" COAX	EXISTING
	3		KATHREIN 80010966	LTE	PROPOSED	96.00	20.00	6.90	125.70	270°	154°	(1) RRUS-4478 B14 (1) RRUS 4478 B5 (2) DBCT108F1V92-I			
	4	CCI TPA-6SR-LCUUUU-H8	CCI TPA-6SR-LCUUUU-H8	LTE	EXISTING	96.00	14.40	8.60	87.60	270°	154°	(1) RRUS-426 B66 (1) RRUS-11 (1) RRUS-32 B2	1/2	FIBER/DC	EXISTING



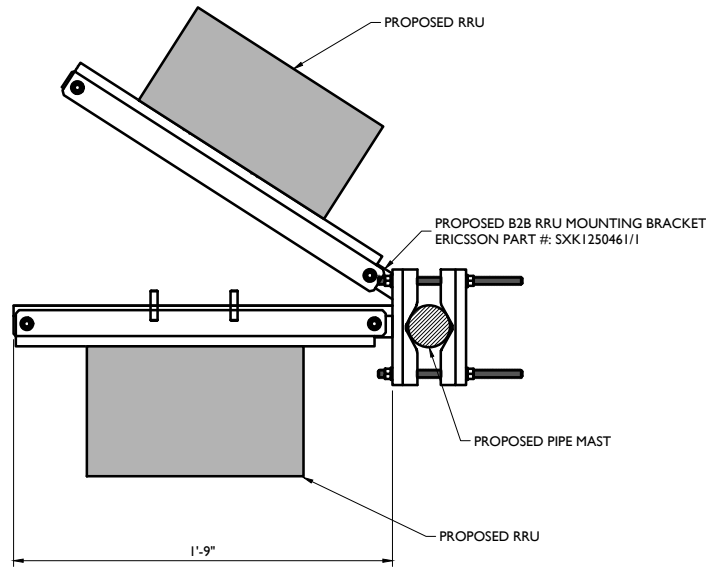
ANTENNA MOUNTING DETAIL
NOT TO SCALE

3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE
8 INCH MINIMUM SEPARATION BETWEEN BACK OF PANEL
ANTENNA AND EXISTING/PROPOSED EQUIPMENT

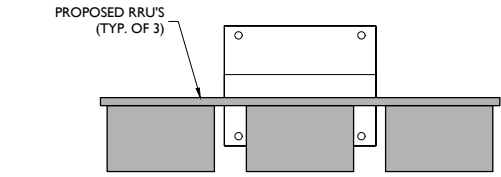


KATHREIN 800-10966

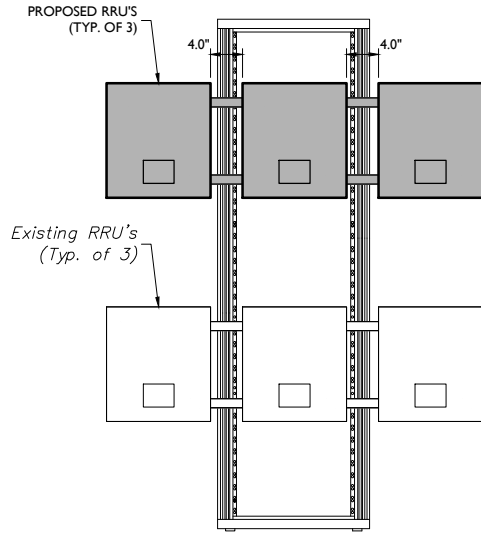
ANTENNA DETAIL
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RRU MOUNTING DETAIL
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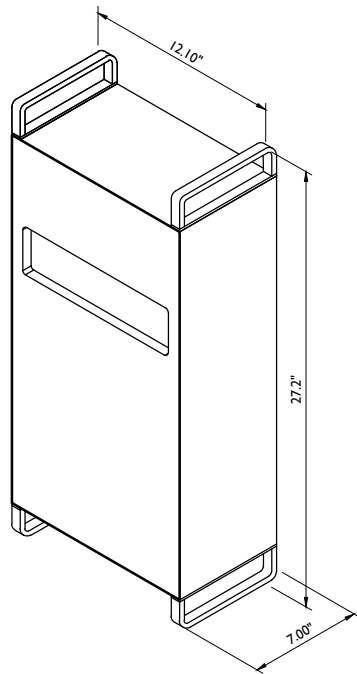
PLAN VIEW
TO SCALE



NOTE:

MOUNT RRUS TO UNISTRUT WITH 3/8"Ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS THROUGH EQUIPMENT MOUNTING HOLES. SUBCONTRACTOR SHALL SUPPLY.

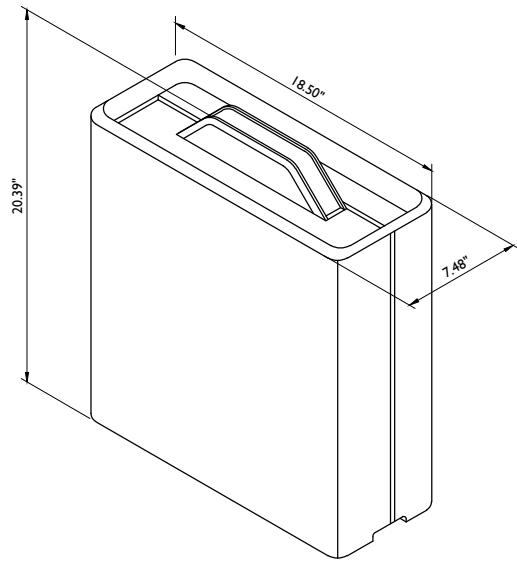
RRU RACK MOUNTED DETAIL
NOT TO SCALE



RRUS-4426 B66 DIMENSIONS (H X W X D): 27.2" X 12.1" X 7.0"
(INCLUDES HANDLES, FEET AND SUNSHIELD)

WEIGHT: 53 LBS

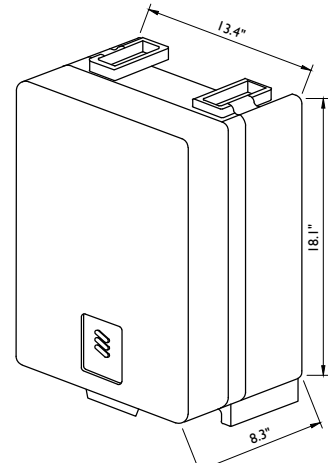
4426 B66 DETAIL
NOT TO SCALE



RRUS-32 B66 DIMENSIONS (H X W X D): 20.39" X 18.5" X 7.48"
(INCLUDES HANDLES)

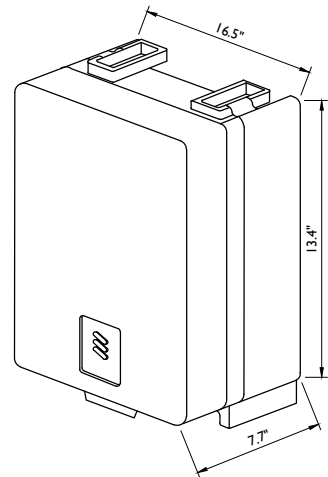
WEIGHT: 53 LBS

RRUS E2 DETAIL
NOT TO SCALE



DIMENSIONS (H X W X D): 18.1"H X 13.4"W X 8.3"D (INCLUDES SUNSHIELD)
WEIGHT: 59.4 LBS

RRUS-4478 B14 DETAIL
NOT TO SCALE



DIMENSIONS (H X W X D): 16.5"H X 13.4"W X 7.7"D (INCLUDES SUNSHIELD)
WEIGHT: 59.9 LBS

RRU-4478-B5 DETAIL
NOT TO SCALE



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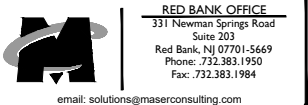
SCALE:		JOB NUMBER:	
AS SHOWN		18963018A	
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I	10/08/18	ISSUED FOR REVIEW	AJC RA
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53 DAYTON ROAD
WATERFORD, CT 16725
NEW LONDON COUNTY



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331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5669
Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

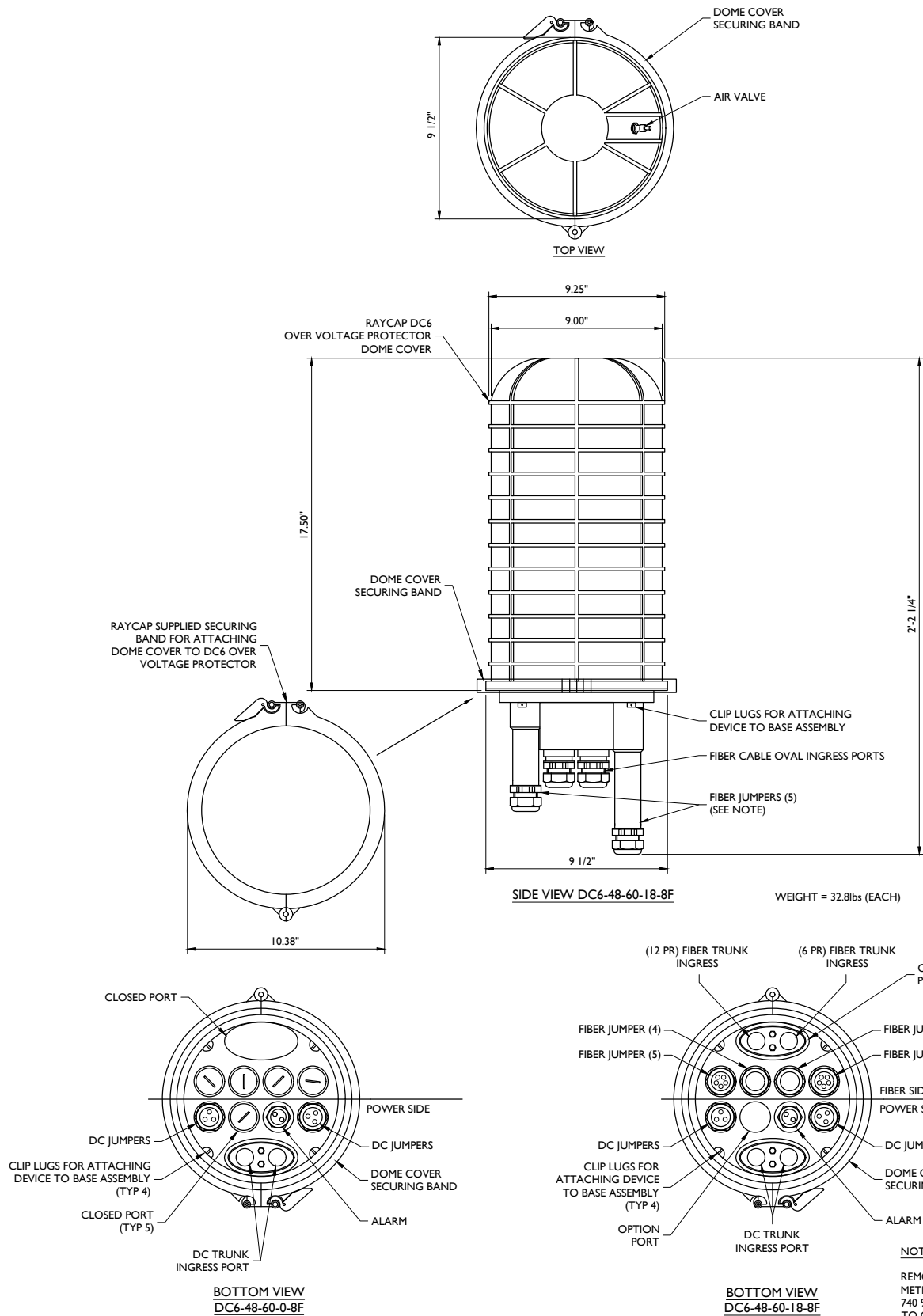
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DETAILS

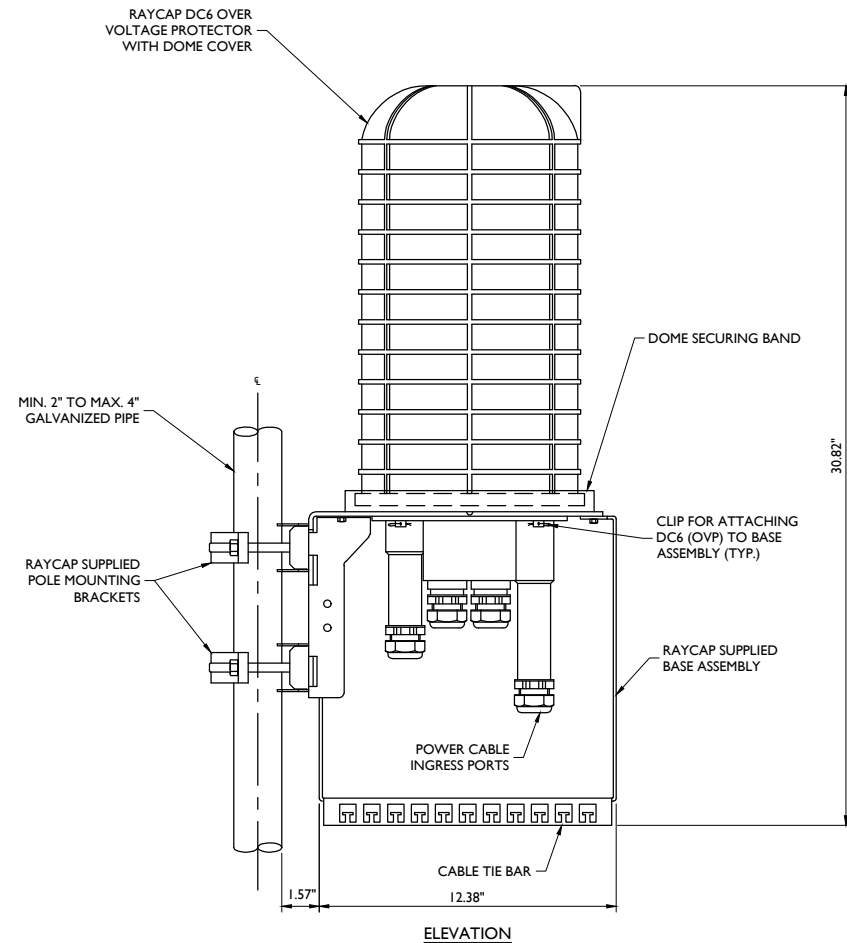
SHEET NUMBER:

A-1

11/0071307_AED01 (81)08_CTS01_REV1_CTD.dwg#A-2 By: ACDA



DC6 SURGE SUPPRESSION DOME DETAIL
NOT TO SCALE



NOTES:

RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

**RAYCAP DC6-48-60-18-8F & DC6-48-60-0-8F
DC POWER OVER VOLTAGE PROTECTOR (OVP)
POLE MOUNT BASE ASSEMBLY**
NOT TO SCALE

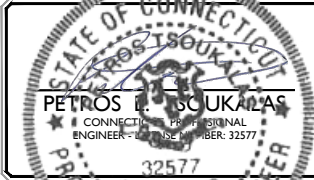
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53 DAYTON ROAD
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331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5669
Phone: 732.383.1950
Fax: 732.383.1984
email: solutions@maserconsulting.com

SHEET TITLE:

DETAILS

SHEET NUMBER:

A-2

STATE OF CONNECTICUT
 PETROS I. TSOUKALAS
 CONNECTICUT PROFESSIONAL
 ENGINEER - LICENSE NUMBER: 32577
 32577

SITE NAME:

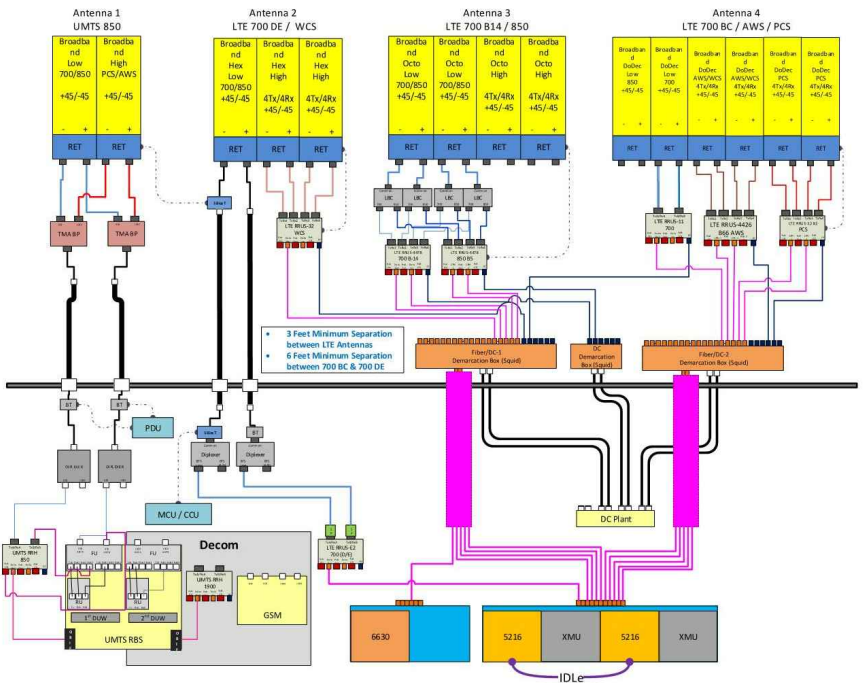
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FA# 10071307
SITE# CT5221

53 DAYTON ROAD
WATERFORD, CT 16725
NEW LONDON COUNTY

SHEET TITLE :

RF PLUMBING DIAGRAM

SHEET NUMBER : A-3

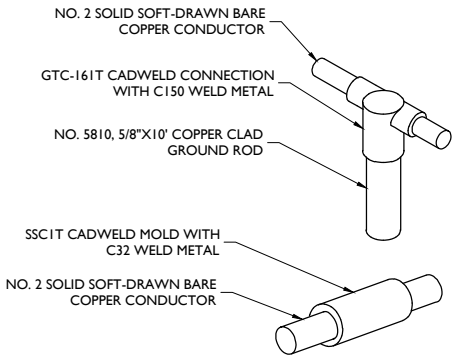


GAMMA SECTOR

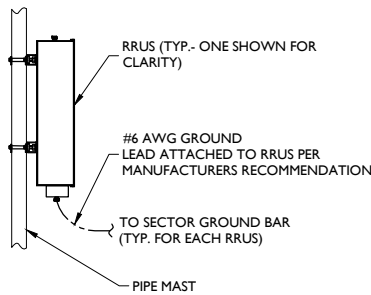
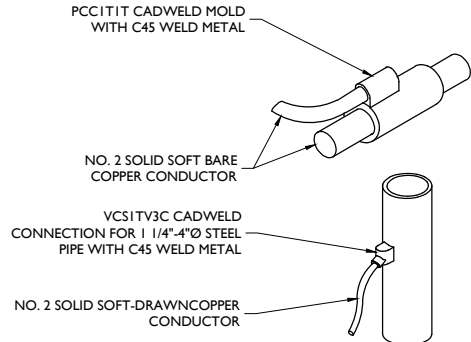
BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_CONNECTICUT_CT5221_2018-LTE-Next-Carrier_LTE_ak975u_2051A0B96D_10071307_16725_04-19-2017_Preliminary-Submitted-for-Approval_v2.00", LAST REVISED 06/18/2018.

RF PLUMBING DIAGRAMS

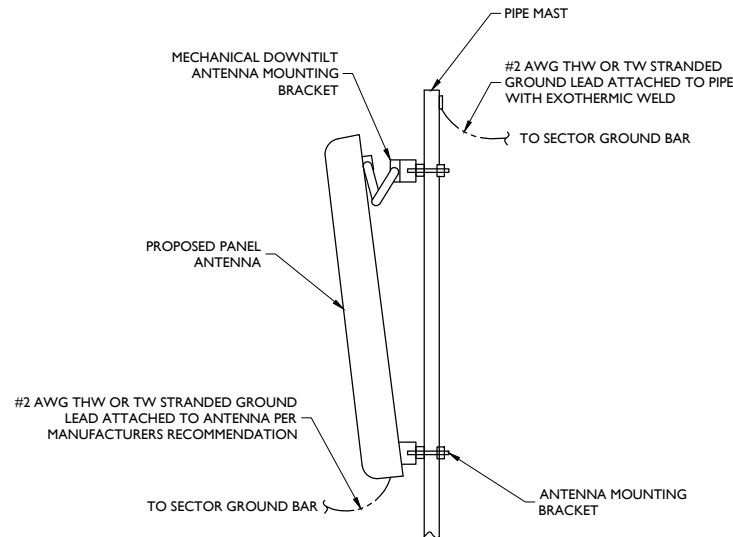
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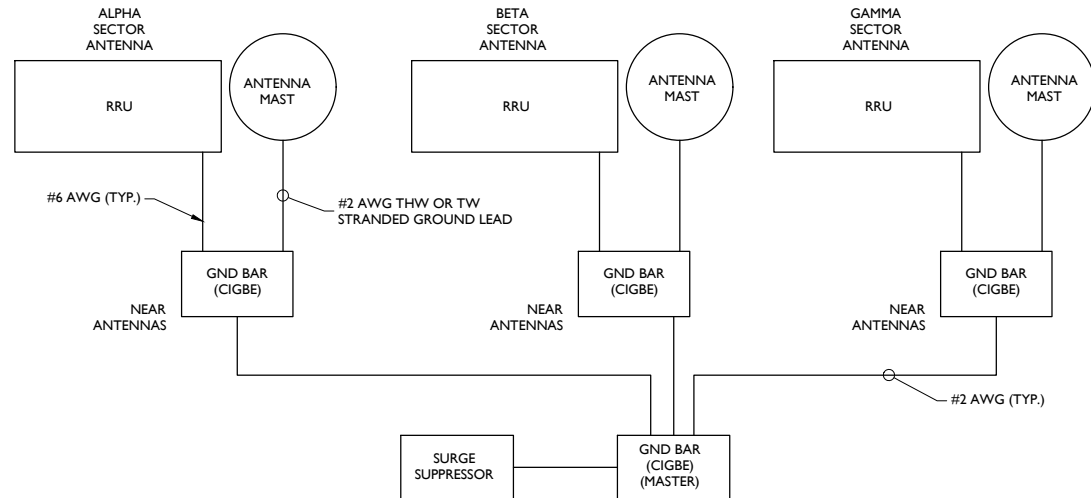
CADWELD DETAILS
NOT TO SCALE



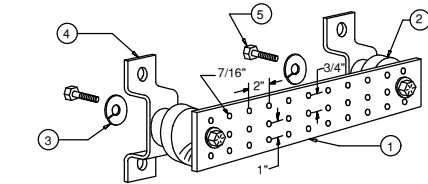
RRU GROUNDING
NOT TO SCALE



ANTENNA GROUNDING
NOT TO SCALE



SCHEMATIC DIAGRAM GROUNDING SYSTEM



- LEGEND
- 1- TINNED COPPER GROUND BAR, 1/4"x4"x20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 - 2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
 - 3- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
 - 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-5056
 - 5- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
 - 6- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

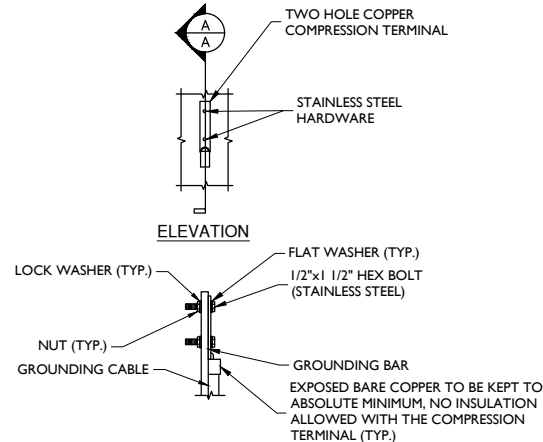
SECTION "P" - SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

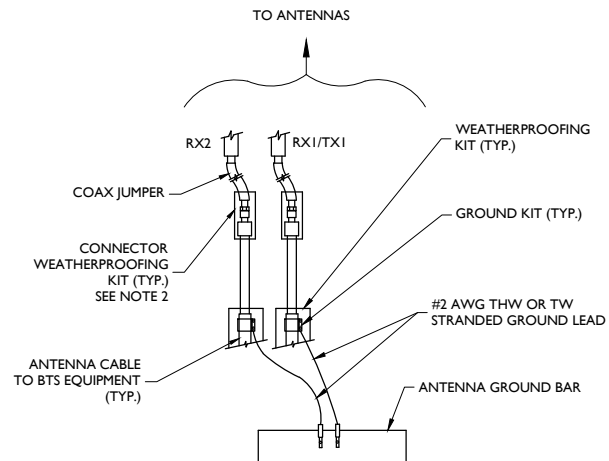
SECTION "A" - SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)

MASTER GROUND BAR
NOT TO SCALE



TYPICAL GROUND BAR
CONNECTION DETAIL
NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

TYPICAL GROUND WIRE
TO GROUNDING BAR
NOT TO SCALE

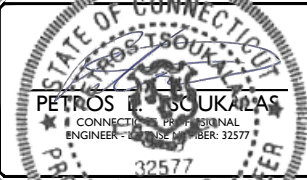


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SITE NAME:

WATERFORD EAST
FA# 10071307
SITE# CT5221
53 DAYTON ROAD
WATERFORD, CT 16725
NEW LONDON COUNTY



SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
G-1



AMERICAN TOWER®
C O R P O R A T I O N

Structural Analysis Report

Structure : 180 ft Self Supported Tower
ATC Site Name : Waterford CT, CT
ATC Site Number : 411183
Engineering Number : OAA741535_C3_01
Proposed Carrier : AT&T Mobility
Carrier Site Name : Waterford East
Carrier Site Number : CT5221
Site Location : 53 Dayton Rd.
Waterford, CT 06385-4274
41.377800, -72.141400
County : New London
Date : November 9, 2018
Max Usage : 43%
Result : Pass

Prepared By:
Alexander Cartledge
Structural Engineer I

Reviewed By:



Authorized by "EOR"
Nov 9 2018 4:47 PM

cosign

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Rohn Drawing #A982166, dated August 20, 1998
Foundation Drawing	Rohn Drawing #A982167-1, dated August 20, 1998
Geotechnical Report	Clarence Welti Site Name Cohenzie Fire Station; Waterford, CT, dated March 24, 1997

Analysis

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

Basic Wind Speed:	105 mph (3-Second Gust, Vasd) / 135 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.16$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	187.0	4	15' Omni	Side Arms	(7) 7/8" Coax	Town Of Waterford Police Dept
	184.0	2	8' Omni			
	182.0	1	5' Omni			
	181.0	1	dbSpectra ATS4TMA4-4			
	174.0	1	13' Omni			
166.0	166.0	3	RFS APXVAARR24_43-U-NA20	Sector Frames	(2) 1 1/4" Hybriflex (12) 1 5/8" Coax (1) 1 5/8" Hybriflex	T-Mobile
		3	Ericsson AIR32 B66Aa/B2a			
		3	Ericsson AIR 21			
		3	Ericsson Radio 4449 B12,B71			
157.0	157.0	3	CCI TPA-65R-LCUUUU-H8	Sector Frames	(3) 0.39" Fiber Trunk (6) 0.78" 8 AWG 6 (12) 1 5/8" Coax (1) 2" conduit	AT&T Mobility
		3	CCI HPA-65R-BUU-H8			
		3	Powerwave 7770.00			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Ericsson RRUS 32 B2			
		3	Ericsson RRUS-11 (50 lbs.)			
		6	Powerwave LGP21401			
156.0	163.0	1	15' Omni	Side Arm	(1) 1 5/8" Coax	Town Of Waterford Police Dept
132.0	132.0	1	VZW Unused Reserve: 17,576 sq in	Sector Frames	(18) 1 5/8" Coax (3) 1 1/4" Hybriflex	Verizon
		2	Swedcom SLCP 2x6015			
		1	Antel BXA-70063-6CF-EDIN-2			
		2	Antel LPA-80063-4CF-EDIN-X			
		1	Swedcom SACP 2x5516			
		6	48" x 12" x 7" Panel			
		3	Antel BXA-171063-8CF-EDIN-X			
		3	Alcatel-Lucent B25 RRH4x30			
		6	Alcatel-Lucent B66A RRH 4x45			
		3	Raycap RRFDC-1064-PF-48			
125.0	125.0	6	Kathrein 800 10504	Sector Frames	-	Metro PCS
		1	MicroPulse GPS-QBW-26N			
50.0	50.0	1	GPS	Stand-Off	(1) 1/2" Coax	Verizon

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
157.0	157.0	3	Kathrein 782 10253	-	-	AT&T Mobility
		6	Powerwave LGP13519			
		3	Ericsson RRUS 11 w/ RRUS A2			
		3	Raycap DC6-48-60-0-8F			



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
157.0	157.0	3	Kathrein 80010966	Sector Frames	-	AT&T Mobility
		3	Ericsson RRUS 4478 B5 (56.1 lbs)			
		3	Ericsson RRUS 4478 B14			
		3	Ericsson RRUS 4426 B66			
		3	Raycap DC6-48-60-18-8F (23.5" Height)			
		6	Kaelus DBCT108F1V92-1			

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

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	42%	Pass
Diagonals	43%	Pass
Horizontals	41%	Pass
Anchor Bolts	20%	Pass
Leg Bolts	28%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	621.3	838.8	243.0	29%
Axial (Kips)	732.9	989.4	330.1	33%
Shear (Kips)	141.8	191.4	35.7	19%

* 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) (°)
157.0	Kaelus DBCT108F1V92-1	AT&T Mobility	0.117	0.005	0.091
	Raycap DC6-48-60-18-8F (23.5" Height)				
	Ericsson RRUS 4426 B66				
	Ericsson RRUS 4478 B14				
	Ericsson RRUS 4478 B5 (56.1 lbs)				
	Kathrein Scala 80010966				

*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:

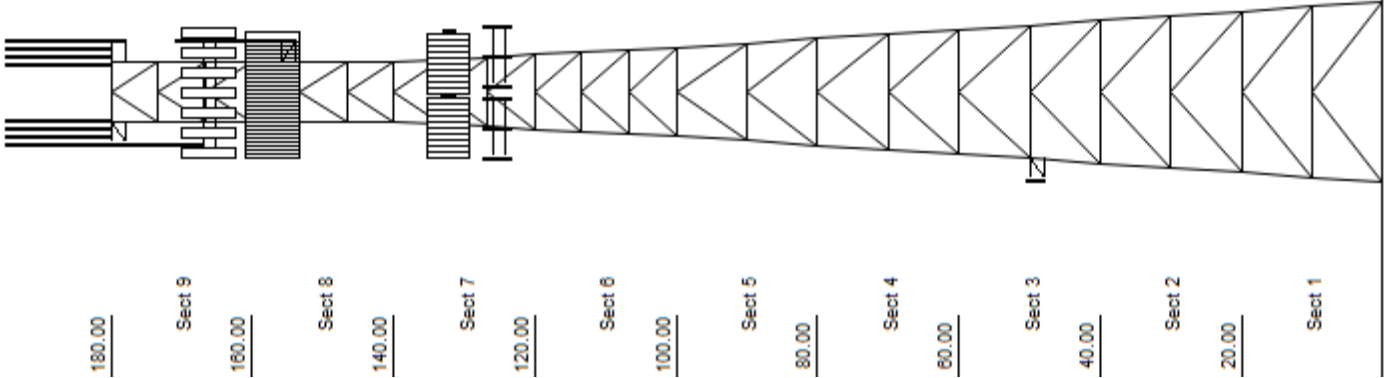
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



Loads: 105 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.16 S1: 0.06
60 mph Serviceability

Job Information

Tower : 411183

Location : WATERFORD CT, Base Width : 25.55 ft

Client : AT&T Mobility

Top Width : 8.50 ft

Code : ANSI/TIA-222-G

Tower Ht : 180.00 ft

Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	PX 50 ksi 12" DIA PIPE	PST 50 ksi 3-1/2" DIA PIPE	PST 50 ksi 3" DIA PIPE
3 - 4	PX 50 ksi 10" DIA PIPE	PX 50 ksi 3" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
5	PX 50 ksi 8" DIA PIPE	PX 50 ksi 3" DIA PIPE	PX 50 ksi 2" DIA PIPE
6	PX 50 ksi 6" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
7	PX 50 ksi 5" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 1-1/2" DIA PIPE
8	PST 50 ksi 4" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
9	PST 50 ksi 3" DIA PIPE	PST 50 ksi 2" DIA PIPE	PST 50 ksi 1-1/2" DIA PIPE

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
180.00	Mounting Frame	1	Round Sector Frame
180.00	Straight Arm	2	Round Side Arm
180.00	Whip	2	15' Omni
180.00	Whip	1	15' Omni
180.00	Whip	1	15' Omni
180.00	Whip	1	13' Omni
180.00	Whip	2	8' Omni
180.00	Whip	1	dbSpectra ATS4TMA4-4
180.00	Whip	1	5' Omni
166.00	Panel	3	RFS APXVAARR24_43-U-NA20
166.00	Mounting Frame	3	Round Sector Frame
166.00	Panel	3	Ericsson AIR32 B66Aa/B2a
166.00	Panel	3	Ericsson AIR 21
166.00	Panel	3	Ericsson Radio 4449 B12,B71
157.00	Panel	3	Kathrein Scala 80010966
157.00	Panel	3	Ericsson RRUS 4478 B5(56.1 lb
157.00	Panel	3	Ericsson RRUS 4478 B14
157.00	Panel	3	Ericsson RRUS 4426 B66
157.00	Panel	3	Raycap DC6-48-60-18-8F (23.5"
157.00	Panel	6	Kaelus DBCT108F1V92-1
157.00	Mounting Frame	3	Round Sector Frame
157.00	Panel	3	CCI TPA-65R-LCUUUU-H8
157.00	Panel	3	CCI HPA-65R-BUUU-H8
157.00	Panel	3	Powerwave Alligon 7770.00
157.00	Panel	3	Ericsson RRUS-32 (77 lbs)
157.00	Panel	3	Ericsson RRUS 32 B2
157.00	Panel	3	Ericsson RRUS-11 (50 lbs.)
157.00	Panel	6	Powerwave Alligon LGP21401
156.00	Straight Arm	1	Round Side Arm
156.00	Whip	1	15' Omni
132.00	Panel	1	VZW Unused Reserve: 17,576 sq
132.00	Mounting Frame	3	Round Sector Frame
132.00	Panel	2	Swedcom SLC P 2x6015
132.00	Panel	1	Amphenol Antel BXA-70063-6CF-E
132.00	Panel	2	Amphenol Antel LPA-80063-4CF-E
132.00	Panel	1	Swedcom SACP 2x5516
132.00	Panel	6	48" x 12" x 7" Panel
132.00	Panel	3	Amphenol Antel BXA-171063-8CF-
132.00	Panel	3	Alcatel-Lucent B25 RRH4x30
132.00	Panel	6	Alcatel-Lucent B66A RRH 4x45
132.00	Panel	3	Raycap RRFDC-1064-PF-48
125.00	Mounting Frame	3	Flat Light Sector Frame
125.00	Panel	6	Kathrein Scala 800 10504
125.00	Panel	1	MicroPulse GPS-QBW-26N
50.00	Straight Arm	1	Stand-Off
50.00	Whip	1	GPS

Job Information		
Tower : 411183	Location : WATERFORD CT,	Base Width : 25.55 ft
Client : AT&T Mobility		Top Width : 8.50 ft
Code : ANSI/TIA-222-G		Tower Ht : 180.00 ft
		Shape : Triangle

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Linear Appurtenance			
Elev (ft)		Qty	Description
From	To		
30.00	180.00	1	Waveguide
30.00	180.00	7	7/8" Coax
0.00	180.00	1	Waveguide
30.00	166.00	1	1 5/8" Hybriflex
30.00	166.00	12	1 5/8" Coax
30.00	166.00	2	1 1/4" Hybriflex Cab
0.00	166.00	1	Waveguide
30.00	157.00	1	Waveguide
30.00	157.00	1	2" conduit
30.00	157.00	12	1 5/8" Coax
30.00	157.00	6	0.78" 8 AWG 6
30.00	157.00	3	0.39" Fiber Trunk
30.00	156.00	1	1 5/8" Coax
30.00	132.00	18	1 5/8" Coax
30.00	132.00	3	1 1/4" Hybriflex Cab
30.00	50.00	1	1/2" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	6,207.60	148.67	54.65
DL + WL + IL	1,483.10	234.96	12.94

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
330.10	243.01	35.70

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Analysis Parameters

Location:	NEW LONDON County, CT	Height (ft):	180
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	25.55
Tower Manufacturer:	Rohn	Top Face Width (ft):	8.50
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	105 mph
Exposure Category:	B	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):	0.81		
T_L (sec):	6	p:	1.3
S_S :	0.163	S_1 :	0.059
F_a :	1.600	F_v :	2.400
S_{ds} :	0.174	S_{d1} :	0.094
		C_s :	0.039
		C_s , Max:	0.039
		C_s , Min:	0.030

Load Cases

1.2D + 1.6W Normal	105 mph Normal with No Ice
1.2D + 1.6W 60 deg	105 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	105 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	105 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	105 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	105 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	105 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	105 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	105 mph 330 degree with No Ice
0.9D + 1.6W Normal	105 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	105 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	105 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 120 deg	105 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	105 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 210 deg	105 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.6W 240 deg	105 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.6W 300 deg	105 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.6W 330 deg	105 mph 330 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Analysis Parameters

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
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 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
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 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
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 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
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Tower Loading**Discrete Appurtenance Properties** 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	2.0	76.5	28.13	38	12
180.0	8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	736.9	28.22	184	60
180.0	dbSpectra	1	50	3.5	2.6	13.3	11.5	1.00	0.67	1.0	88.8	28.09	89	60
180.0	13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	-6.0	883.9	27.77	147	48
180.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1214.5	28.35	174	48
180.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1214.5	28.35	174	48
180.0	15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	2429.1	28.35	347	96
180.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	28.04	321	360
180.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.04	549	360
166.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	27.40	73	266
166.0	Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	0.0	0.0	27.40	379	328
166.0	Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	27.40	413	476
166.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.40	809	1080
166.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	27.40	1140	460
157.0	Kaelus	6	14	0.7	0.9	7.1	6.8	0.80	0.50	0.0	0.0	26.97	65	100
157.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	26.97	97	102
157.0	Raycap DC6-48-60-	3	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.97	98	72
157.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	26.97	73	174
157.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	26.97	119	214
157.0	Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	26.97	120	202
157.0	Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	0.0	0.0	26.97	152	180
157.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	26.97	162	191
157.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.67	0.0	0.0	26.97	195	277
157.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	26.97	315	126
157.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.0	26.97	766	245
157.0	CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	0.0	0.0	26.97	808	294
157.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.97	796	1080
157.0	Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	26.97	963	413
156.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1167.8	27.26	167	48
156.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.92	190	180
132.0	Raycap RRFDC-1064-	3	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	25.67	49	50
132.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	25.67	119	191
132.0	Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	25.67	290	482
132.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	25.67	175	38
132.0	48" x 12" x 7" Panel	6	35	5.1	4.0	12.0	7.0	0.80	0.68	0.0	0.0	25.67	578	252
132.0	Swedcom SACP	1	16	5.1	4.7	9.7	6.5	0.80	1.00	0.0	0.0	25.67	142	19
132.0	Amphenol Antel LPA-	2	20	6.1	4.0	15.2	13.1	0.80	0.82	0.0	0.0	25.67	281	48
132.0	Amphenol Antel BXA-	1	17	7.6	5.9	11.2	5.2	0.80	1.00	0.0	0.0	25.67	211	20
132.0	Swedcom SLCP	2	30	10.0	6.4	14.0	11.0	0.80	0.80	0.0	0.0	25.67	446	72
132.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.67	758	1080
132.0	VZW Unused	1	1513	122.2	2.2	26.0	26.0	1.00	1.00	0.0	0.0	25.67	4264	1815
125.0	MicroPulse GPS-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	25.27	2	1
125.0	Kathrein Scala 800	6	18	3.3	4.5	6.1	2.7	0.80	0.67	0.0	0.0	25.27	370	127
125.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	25.27	1038	1440
50.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	19.45	26	12
50.00	Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	19.45	43	48
Totals		120	11079	811.5									18715	13295

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
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Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Tower Loading

180.0 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	2.0	76.5	28.13	38	9
180.0 8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	736.9	28.22	184	45
180.0 dbSpectra	1	50	3.5	2.6	13.3	11.5	1.00	0.67	1.0	88.8	28.09	89	45
180.0 13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	-6.0	883.9	27.77	147	36
180.0 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1214.5	28.35	174	36
180.0 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1214.5	28.35	174	36
180.0 15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	2429.1	28.35	347	72
180.0 Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	28.04	321	270
180.0 Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.04	549	270
166.0 Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	27.40	73	200
166.0 Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	0.0	0.0	27.40	379	246
166.0 Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	27.40	413	357
166.0 Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	27.40	809	810
166.0 RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	27.40	1140	345
157.0 Kaelus	6	14	0.7	0.9	7.1	6.8	0.80	0.50	0.0	0.0	26.97	65	75
157.0 Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	26.97	97	76
157.0 Raycap DC6-48-60-	3	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.97	98	54
157.0 Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	26.97	73	131
157.0 Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	26.97	119	160
157.0 Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	26.97	120	151
157.0 Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	0.0	0.0	26.97	152	135
157.0 Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	26.97	162	143
157.0 Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.67	0.0	0.0	26.97	195	208
157.0 Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	26.97	315	95
157.0 CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.0	26.97	766	184
157.0 CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	0.0	0.0	26.97	808	220
157.0 Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.97	796	810
157.0 Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	26.97	963	309
156.0 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	1167.8	27.26	167	36
156.0 Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.92	190	135
132.0 Raycap RRFDC-1064-	3	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	25.67	49	38
132.0 Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	25.67	119	143
132.0 Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	25.67	290	362
132.0 Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	25.67	175	28
132.0 48" x 12" x 7" Panel	6	35	5.1	4.0	12.0	7.0	0.80	0.68	0.0	0.0	25.67	578	189
132.0 Swedcom SACP	1	16	5.1	4.7	9.7	6.5	0.80	1.00	0.0	0.0	25.67	142	14
132.0 Amphenol Antel LPA-	2	20	6.1	4.0	15.2	13.1	0.80	0.82	0.0	0.0	25.67	281	36
132.0 Amphenol Antel BXA-	1	17	7.6	5.9	11.2	5.2	0.80	1.00	0.0	0.0	25.67	211	15
132.0 Swedcom SLCP	2	30	10.0	6.4	14.0	11.0	0.80	0.80	0.0	0.0	25.67	446	54
132.0 Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.67	758	810
132.0 VZW Unused	1	1513	122.2	2.2	26.0	26.0	1.00	1.00	0.0	0.0	25.67	4264	1361
125.0 MicroPulse GPS-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	25.27	2	1
125.0 Kathrein Scala 800	6	18	3.3	4.5	6.1	2.7	0.80	0.67	0.0	0.0	25.27	370	95
125.0 Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	25.27	1038	1080
50.00 GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	19.45	26	9
50.00 Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	19.45	43	36
Totals	120	11079	811.5									18715	9971

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	5' Omni	1	65	2.2	5.0	2.0	2.0	1.00	1.00	2.0	23.8	6.38	12	67
180.0	8' Omni	2	135	4.4	8.0	3.0	3.0	1.00	1.00	4.0	193.2	6.40	48	279
180.0	dbSpectra	1	85	5.9	2.6	13.3	11.5	1.00	0.67	1.0	21.5	6.37	21	95
180.0	13' Omni	1	162	9.2	13.0	3.0	3.0	1.00	1.00	-6.0	296.2	6.30	49	170

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Tower Loading

180.0	15' Omni	1	241	10.0	15.0	3.0	3.0	1.00	1.00	7.0	382.3	6.43	55	249
180.0	15' Omni	1	241	10.0	15.0	3.0	3.0	1.00	1.00	7.0	382.3	6.43	55	249
180.0	15' Omni	2	241	10.0	15.0	3.0	3.0	1.00	1.00	7.0	764.6	6.43	109	499
180.0	Round Side Arm	2	224	8.0	0.0	0.0	0.0	0.90	0.90	0.0	0.0	6.36	70	508
180.0	Round Sector Frame	1	673	31.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.36	169	733
166.0	Ericsson Radio 4449	3	143	2.2	1.2	13.2	9.3	0.80	0.50	0.0	0.0	6.21	14	473
166.0	Ericsson AIR 21	3	262	7.2	4.7	12.0	7.9	0.80	0.70	0.0	0.0	6.21	64	840
166.0	Ericsson AIR32	3	318	7.7	4.7	12.9	8.7	0.80	0.71	0.0	0.0	6.21	69	1034
166.0	Round Sector Frame	3	673	31.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	6.21	248	2200
166.0	RFS	3	564	22.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	6.21	177	1770
157.0	Kaelus	6	47	1.0	0.9	7.1	6.8	0.80	0.50	0.0	0.0	6.12	12	300
157.0	Powerwave Allgon	6	24	1.9	1.2	9.2	2.6	0.80	0.50	0.0	0.0	6.12	23	161
157.0	Raycap DC6-48-60-	3	101	2.5	2.0	9.7	9.7	0.80	1.00	0.0	0.0	6.12	31	314
157.0	Ericsson RRUS 4426	3	104	2.2	1.3	13.2	5.8	0.80	0.50	0.0	0.0	6.12	14	341
157.0	Ericsson RRUS 4478	3	134	2.6	1.5	13.4	8.3	0.80	0.67	0.0	0.0	6.12	22	436
157.0	Ericsson RRUS 4478	3	129	2.6	1.5	13.5	7.8	0.80	0.67	0.0	0.0	6.12	22	419
157.0	Ericsson RRUS-11	3	131	3.2	1.5	17.3	7.2	0.80	0.67	0.0	0.0	6.12	27	424
157.0	Ericsson RRUS 32 B2	3	141	3.5	2.3	12.1	7.0	0.80	0.67	0.0	0.0	6.12	29	455
157.0	Ericsson RRUS-32	3	174	4.6	2.5	13.3	9.5	0.80	0.67	0.0	0.0	6.12	38	570
157.0	Powerwave Allgon	3	170	6.6	4.6	11.0	5.0	0.80	0.65	0.0	0.0	6.12	53	532
157.0	CCI HPA-65R-BUU-H8	3	359	14.6	7.7	14.8	7.4	0.80	0.67	0.0	0.0	6.12	122	1118
157.0	CCI TPA-65R-	3	394	14.9	8.0	14.4	8.6	0.80	0.69	0.0	0.0	6.12	129	1230
157.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	6.12	243	2186
157.0	Kathrein Scala	3	472	19.2	8.0	20.0	6.9	0.80	0.63	0.0	0.0	6.12	151	1485
156.0	15' Omni	1	238	9.9	15.0	3.0	3.0	1.00	1.00	7.0	365.0	6.18	52	246
156.0	Round Side Arm	1	223	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.10	41	253
132.0	Raycap RRFDC-1064-	3	65	1.6	1.1	10.2	8.2	0.80	0.50	0.0	0.0	5.82	10	203
132.0	Alcatel-Lucent B25	3	125	2.7	1.8	12.0	7.2	0.80	0.67	0.0	0.0	5.82	22	407
132.0	Alcatel-Lucent B66A	6	151	3.3	2.2	12.0	7.3	0.80	0.67	0.0	0.0	5.82	52	986
132.0	Amphenol Antel BXA-	3	92	3.8	4.0	6.1	4.1	0.80	0.71	0.0	0.0	5.82	32	283
132.0	48" x 12" x 7" Panel	6	173	6.0	4.0	12.0	7.0	0.80	0.68	0.0	0.0	5.82	97	1081
132.0	Swedcom SACP	1	153	6.1	4.7	9.7	6.5	0.80	1.00	0.0	0.0	5.82	24	157
132.0	Amphenol Antel LPA-	2	222	7.2	4.0	15.2	13.1	0.80	0.82	0.0	0.0	5.82	47	452
132.0	Amphenol Antel BXA-	1	188	8.8	5.9	11.2	5.2	0.80	1.00	0.0	0.0	5.82	35	192
132.0	Swedcom SLCP	2	302	11.4	6.4	14.0	11.0	0.80	0.80	0.0	0.0	5.82	72	617
132.0	Round Sector Frame	3	663	30.8	0.0	0.0	0.0	0.75	0.67	0.0	0.0	5.82	229	2170
132.0	VZW Unused	1	2553	206.2	2.2	26.0	26.0	1.00	1.00	0.0	0.0	5.82	1020	2856
125.0	MicroPulse GPS-	1	11	0.3	0.4	3.2	3.2	0.80	1.00	0.0	0.0	5.73	1	11
125.0	Kathrein Scala 800	6	98	4.3	4.5	6.1	2.7	0.80	0.67	0.0	0.0	5.73	67	608
125.0	Flat Light Sector	3	697	32.8	0.0	0.0	0.0	0.75	0.75	0.0	0.0	5.73	270	2332
50.00	GPS	1	43	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	4.41	3	45
50.00	Stand-Off	1	82	2.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.41	10	90
Totals		120	29912	1240.6									4160	32128

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
180.0	5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	2.0	15.6	9.19	8	10
180.0	8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	4.0	150.4	9.21	38	50
180.0	dbSpectra	1	50	3.5	2.6	13.3	11.5	1.00	0.67	1.0	18.1	9.17	18	50
180.0	13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	-6.0	180.4	9.07	30	40
180.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	247.9	9.26	35	40
180.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	247.9	9.26	35	40
180.0	15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	495.7	9.26	71	80
180.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	9.16	66	300

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Tower Loading

180.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.16	112	300
166.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	8.95	15	222
166.0	Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	0.0	0.0	8.95	77	273
166.0	Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	8.95	84	397
166.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.95	165	900
166.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	8.95	233	384
157.0	Kaelus	6	14	0.7	0.9	7.1	6.8	0.80	0.50	0.0	0.0	8.81	13	83
157.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	8.81	20	85
157.0	Raycap DC6-48-60-	3	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	8.81	20	60
157.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	8.81	15	145
157.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	8.81	24	178
157.0	Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	8.81	25	168
157.0	Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	0.0	0.0	8.81	31	150
157.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	8.81	33	159
157.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.67	0.0	0.0	8.81	40	231
157.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	8.81	64	105
157.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	0.0	0.0	8.81	156	204
157.0	CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	0.0	0.0	8.81	165	245
157.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.81	162	900
157.0	Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	8.81	196	344
156.0	15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	238.3	8.90	34	40
156.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.79	39	150
132.0	Raycap RRFDC-1064-	3	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	8.38	10	42
132.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	8.38	24	159
132.0	Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	8.38	59	402
132.0	Amphenol Antel BXA-	3	11	2.9	4.0	6.1	4.1	0.80	0.71	0.0	0.0	8.38	36	32
132.0	48" x 12" x 7" Panel	6	35	5.1	4.0	12.0	7.0	0.80	0.68	0.0	0.0	8.38	118	210
132.0	Swedcom SACP	1	16	5.1	4.7	9.7	6.5	0.80	1.00	0.0	0.0	8.38	29	16
132.0	Amphenol Antel LPA-	2	20	6.1	4.0	15.2	13.1	0.80	0.82	0.0	0.0	8.38	57	40
132.0	Amphenol Antel BXA-	1	17	7.6	5.9	11.2	5.2	0.80	1.00	0.0	0.0	8.38	43	17
132.0	Swedcom SLCP	2	30	10.0	6.4	14.0	11.0	0.80	0.80	0.0	0.0	8.38	91	60
132.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.38	155	900
132.0	VZW Unused	1	1513	122.2	2.2	26.0	26.0	1.00	1.00	0.0	0.0	8.38	870	1513
125.0	MicroPulse GPS-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	8.25	1	1
125.0	Kathrein Scala 800	6	18	3.3	4.5	6.1	2.7	0.80	0.67	0.0	0.0	8.25	76	106
125.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.25	212	1200
50.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	6.35	5	10
50.00	Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.35	9	40
Totals		120	11079	811.5									3819	11079

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Tower Loading**Linear Appurtenance Properties**

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.0	Waveguide	1	2.00	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
30.00	180.0	7/8" Coax	7	1.09	0.33	0	1	Cluster	3.22	N	0.00	1.00	0.00
30.00	180.0	Waveguide	1	2.00	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	Waveguide	1	2.00	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
30.00	166.0	1 1/4" Hybriflex	2	1.54	1.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
30.00	166.0	1 5/8" Coax	12	1.98	14.7	50	1	Block	0.00	N	0.50	1.00	0.00
30.00	166.0	1 5/8" Hybriflex	1	1.98	1.30	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	157.0	0.39" Fiber Trunk	3	0.39	0.06	0	2	Individual	0.00	N	1.00	1.00	0.01
30.00	157.0	0.78" 8 AWG 6	6	0.78	1.18	0	2	Individual	0.00	N	1.00	1.00	0.01
30.00	157.0	1 5/8" Coax	12	1.98	9.84	50	2	Block	0.00	N	0.50	1.00	0.00
30.00	157.0	2" conduit	1	2.38	3.65	0	2	Individual	0.00	N	1.00	1.00	0.00
30.00	157.0	Waveguide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
30.00	156.0	1 5/8" Coax	1	1.98	0.82	0	1	Individual	0.00	N	1.00	1.00	0.01
30.00	132.0	1 1/4" Hybriflex	3	1.54	3.00	0	1	Individual	0.00	N	1.00	1.00	0.01
30.00	132.0	1 5/8" Coax	18	1.98	14.7	33	1	Block	0.00	N	0.50	1.00	0.00
30.00	50.00	1/2" Coax	1	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.01

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Lateral Force Method

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

Spectral Response Acceleration for Short Period (S_g):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s :	0.04
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.81
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.16
Total Unfactored Dead Load:	123.89 k
Seismic Base Shear (E):	6.23 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)
9	170.00	2,695	1,024,64	0.046	285	3,327
8	150.00	8,224	2,705,67	0.121	753	10,155
7	130.00	12,491	3,482,54	0.156	969	15,424
6	110.00	15,448	3,550,06	0.159	988	19,074
5	90.00	16,969	3,091,89	0.138	860	20,953
4	70.00	17,974	2,448,81	0.109	681	22,194
3	50.00	18,214	1,681,43	0.075	468	22,490
2	30.00	13,253	677,619	0.030	189	16,365
1	10.00	7,543	108,211	0.005	30	9,313
5' Omni	180.00	10	4,062	0.000	1	12
8' Omni	180.00	50	20,312	0.001	6	62
dbSpectra ATS4TMA4-4	180.00	50	20,312	0.001	6	62
13' Omni	180.00	40	16,250	0.001	5	49
15' Omni	180.00	40	16,250	0.001	5	49
15' Omni	180.00	40	16,250	0.001	5	49
15' Omni	180.00	80	32,499	0.001	9	99
Round Side Arm	180.00	300	121,872	0.005	34	370
Round Sector Frame	180.00	300	121,872	0.005	34	370
Ericsson Radio 4449 B12,B71	166.00	222	82,122	0.004	23	274
Ericsson AIR 21	166.00	273	100,987	0.005	28	337
Ericsson AIR32 B66Aa/B2a	166.00	397	146,709	0.007	41	490
Round Sector Frame	166.00	900	332,926	0.015	93	1,111
RFS APXVAARR24_43-U-NA20	166.00	384	141,937	0.006	40	474

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Lateral Force Method

Kaelus DBCT108F1V92-1	157.00	83	28,925	0.001	8	103
Powerwave Allgon LGP21401	157.00	85	29,341	0.001	8	104
Raycap DC6-48-60-18-8F (23.5" Height)	157.00	60	20,809	0.001	6	74
Ericsson RRUS 4426 B66	157.00	145	50,358	0.002	14	179
Ericsson RRUS 4478 B14	157.00	178	61,803	0.003	17	220
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	58,370	0.003	16	208
Ericsson RRUS-11 (50 lbs.)	157.00	150	52,023	0.002	14	185
Ericsson RRUS 32 B2	157.00	159	55,144	0.002	15	196
Ericsson RRUS-32 (77 lbs)	157.00	231	80,115	0.004	22	285
Powerwave Allgon 7770.00	157.00	105	36,416	0.002	10	130
CCI HPA-65R-BUU-H8	157.00	204	70,751	0.003	20	252
CCI TPA-65R-LCUUUU-H8	157.00	245	84,901	0.004	24	302
Round Sector Frame	157.00	900	312,136	0.014	87	1,111
Kathrein Scala 80010966	157.00	344	119,236	0.005	33	425
15' Omni	156.00	40	13,771	0.001	4	49
Round Side Arm	156.00	150	51,640	0.002	14	185
Raycap RRFDC-1064-PF-48	132.00	42	11,918	0.001	3	52
Alcatel-Lucent B25 RRH4x30	132.00	159	45,120	0.002	13	196
Alcatel-Lucent B66A RRH 4x45	132.00	402	114,076	0.005	32	496
Amphenol Antel BXA-171063-8CF-EDIN-X	132.00	32	8,939	0.000	2	39
48" x 12" x 7" Panel	132.00	210	59,592	0.003	17	259
Swedcom SACP 2x5516	132.00	16	4,540	0.000	1	20
Amphenol Antel LPA-80063-4CF-EDIN-X	132.00	40	11,351	0.001	3	49
Amphenol Antel BXA-70063-6CF-EDIN-2	132.00	17	4,824	0.000	1	21
Swedcom SLCP 2x6015	132.00	60	17,026	0.001	5	74
Round Sector Frame	132.00	900	255,394	0.011	71	1,111
VZW Unused Reserve: 17,576 sq in	132.00	1,513	429,205	0.019	119	1,868
MicroPulse GPS-QBW-26N	125.00	1	160	0.000	0	1
Kathrein Scala 800 10504	125.00	106	28,136	0.001	8	130
Flat Light Sector Frame	125.00	1,200	319,725	0.014	89	1,482
GPS	50.00	10	923	0.000	0	12
Stand-Off	50.00	40	3,693	0.000	1	49
		123,889	22,385,611	1.000	6,230	152,975

LoadCase (0.9 - 0.2Sds) * DL + E**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	2,695	1,024,64	0.046	285	2,331
8	150.00	8,224	2,705,67	0.121	753	7,116
7	130.00	12,491	3,482,54	0.156	969	10,808
6	110.00	15,448	3,550,06	0.159	988	13,366
5	90.00	16,969	3,091,89	0.138	860	14,682
4	70.00	17,974	2,448,81	0.109	681	15,552
3	50.00	18,214	1,681,43	0.075	468	15,759
2	30.00	13,253	677,619	0.030	189	11,467
1	10.00	7,543	108,211	0.005	30	6,526
5' Omni	180.00	10	4,062	0.000	1	9
8' Omni	180.00	50	20,312	0.001	6	43
dbSpectra ATS4TMA4-4	180.00	50	20,312	0.001	6	43
13' Omni	180.00	40	16,250	0.001	5	35
15' Omni	180.00	40	16,250	0.001	5	35
15' Omni	180.00	40	16,250	0.001	5	35
15' Omni	180.00	80	32,499	0.001	9	69

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Lateral Force Method

Round Side Arm	180.00	300	121,872	0.005	34	260
Round Sector Frame	180.00	300	121,872	0.005	34	260
Ericsson Radio 4449 B12,B71	166.00	222	82,122	0.004	23	192
Ericsson AIR 21	166.00	273	100,987	0.005	28	236
Ericsson AIR32 B66Aa/B2a	166.00	397	146,709	0.007	41	343
Round Sector Frame	166.00	900	332,926	0.015	93	779
RFS APXVAARR24_43-U-NA20	166.00	384	141,937	0.006	40	332
Kaelus DBCT108F1V92-1	157.00	83	28,925	0.001	8	72
Powerwave Allgon LGP21401	157.00	85	29,341	0.001	8	73
Raycap DC6-48-60-18-8F (23.5" Height)	157.00	60	20,809	0.001	6	52
Ericsson RRUS 4426 B66	157.00	145	50,358	0.002	14	126
Ericsson RRUS 4478 B14	157.00	178	61,803	0.003	17	154
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	58,370	0.003	16	146
Ericsson RRUS-11 (50 lbs.)	157.00	150	52,023	0.002	14	130
Ericsson RRUS 32 B2	157.00	159	55,144	0.002	15	138
Ericsson RRUS-32 (77 lbs)	157.00	231	80,115	0.004	22	200
Powerwave Allgon 7770.00	157.00	105	36,416	0.002	10	91
CCI HPA-65R-BUU-H8	157.00	204	70,751	0.003	20	177
CCI TPA-65R-LCUUUU-H8	157.00	245	84,901	0.004	24	212
Round Sector Frame	157.00	900	312,136	0.014	87	779
Kathrein Scala 80010966	157.00	344	119,236	0.005	33	297
15' Omni	156.00	40	13,771	0.001	4	35
Round Side Arm	156.00	150	51,640	0.002	14	130
Raycap RRFDC-1064-PF-48	132.00	42	11,918	0.001	3	36
Alcatel-Lucent B25 RRH4x30	132.00	159	45,120	0.002	13	138
Alcatel-Lucent B66A RRH 4x45	132.00	402	114,076	0.005	32	348
Amphenol Antel BXA-171063-8CF-EDIN-X	132.00	32	8,939	0.000	2	27
48" x 12" x 7" Panel	132.00	210	59,592	0.003	17	182
Swedcom SACP 2x5516	132.00	16	4,540	0.000	1	14
Amphenol Antel LPA-80063-4CF-EDIN-X	132.00	40	11,351	0.001	3	35
Amphenol Antel BXA-70063-6CF-EDIN-2	132.00	17	4,824	0.000	1	15
Swedcom SLCP 2x6015	132.00	60	17,026	0.001	5	52
Round Sector Frame	132.00	900	255,394	0.011	71	779
VZW Unused Reserve: 17,576 sq in	132.00	1,513	429,205	0.019	119	1,309
MicroPulse GPS-QBW-26N	125.00	1	160	0.000	0	1
Kathrein Scala 800 10504	125.00	106	28,136	0.001	8	91
Flat Light Sector Frame	125.00	1,200	319,725	0.014	89	1,038
GPS	50.00	10	923	0.000	0	9
Stand-Off	50.00	40	3,693	0.000	1	35
		123,889	22,385,611	1.000	6,230	107,192

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period (S_s):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	0.81
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E**Seismic**

Section	Height	Weight (lb)					Horizontal	Vertical
	Above Base (ft)		a	b	c	S_{az}	Force (lb)	Force (lb)
9	170.00	2,695	1.686	1.069	0.793	0.284	332	3,327
8	150.00	8,224	1.312	0.138	0.347	0.141	503	10,155
7	130.00	12,491	0.986	-0.113	0.124	0.075	406	15,424
6	110.00	15,448	0.706	-0.089	0.031	0.057	381	19,074
5	90.00	16,969	0.472	-0.006	0.006	0.053	388	20,953
4	70.00	17,974	0.286	0.048	0.013	0.045	351	22,194
3	50.00	18,214	0.146	0.068	0.031	0.034	265	22,490
2	30.00	13,253	0.053	0.071	0.042	0.024	135	16,365
1	10.00	7,543	0.006	0.047	0.027	0.013	41	9,313
5' Omni	180.00	10	1.890	1.980	1.140	0.390	2	12
8' Omni	180.00	50	1.890	1.980	1.140	0.390	8	62
dbSpectra ATS4TMA4-4	180.00	50	1.890	1.980	1.140	0.390	8	62
13' Omni	180.00	40	1.890	1.980	1.140	0.390	7	49
15' Omni	180.00	40	1.890	1.980	1.140	0.390	7	49
15' Omni	180.00	40	1.890	1.980	1.140	0.390	7	49
15' Omni	180.00	80	1.890	1.980	1.140	0.390	14	99
Round Side Arm	180.00	300	1.890	1.980	1.140	0.390	51	370
Round Sector Frame	180.00	300	1.890	1.980	1.140	0.390	51	370
Ericsson Radio 4449 B12,B71	166.00	222	1.607	0.802	0.680	0.249	24	274
Ericsson AIR 21	166.00	273	1.607	0.802	0.680	0.249	29	337
Ericsson AIR32 B66Aa/B2a	166.00	397	1.607	0.802	0.680	0.249	43	490
Round Sector Frame	166.00	900	1.607	0.802	0.680	0.249	97	1,111
RFS APXVAARR24_43-U-NA20	166.00	384	1.607	0.802	0.680	0.249	41	474
Kaelus DBCT108F1V92-1	157.00	83	1.438	0.359	0.472	0.182	7	103
Powerwave Allgon LGP21401	157.00	85	1.438	0.359	0.472	0.182	7	104
Raycap DC6-48-60-18-8F (23.5"	157.00	60	1.438	0.359	0.472	0.182	5	74
Ericsson RRUS 4426 B66	157.00	145	1.438	0.359	0.472	0.182	11	179
Ericsson RRUS 4478 B14	157.00	178	1.438	0.359	0.472	0.182	14	220
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	1.438	0.359	0.472	0.182	13	208
Ericsson RRUS-11 (50 lbs.)	157.00	150	1.438	0.359	0.472	0.182	12	185
Ericsson RRUS 32 B2	157.00	159	1.438	0.359	0.472	0.182	13	196
Ericsson RRUS-32 (77 lbs)	157.00	231	1.438	0.359	0.472	0.182	18	285
Powerwave Allgon 7770.00	157.00	105	1.438	0.359	0.472	0.182	8	130
CCI HPA-65R-BUU-H8	157.00	204	1.438	0.359	0.472	0.182	16	252
CCI TPA-65R-LCUUUU-H8	157.00	245	1.438	0.359	0.472	0.182	19	302
Round Sector Frame	157.00	900	1.438	0.359	0.472	0.182	71	1,111
Kathrein Scala 80010966	157.00	344	1.438	0.359	0.472	0.182	27	425
15' Omni	156.00	40	1.420	0.322	0.452	0.175	3	49

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Modal Analysis Method

Round Side Arm	156.00	150	1.420	0.322	0.452	0.175	11	185
Raycap RRFDC-1064-PF-48	132.00	42	1.016	-0.105	0.140	0.079	1	52
Alcatel-Lucent B25 RRH4x30	132.00	159	1.016	-0.105	0.140	0.079	5	196
Alcatel-Lucent B66A RRH 4x45	132.00	402	1.016	-0.105	0.140	0.079	14	496
Amphenol Antel BXA-171063-48" x 12" x 7" Panel	132.00	32	1.016	-0.105	0.140	0.079	1	39
Swedcom SACP 2x5516	132.00	210	1.016	-0.105	0.140	0.079	7	259
Amphenol Antel LPA-80063-4CF-	132.00	16	1.016	-0.105	0.140	0.079	1	20
Amphenol Antel BXA-70063-6CF-	132.00	40	1.016	-0.105	0.140	0.079	1	49
Swedcom SLCP 2x6015	132.00	17	1.016	-0.105	0.140	0.079	1	21
Round Sector Frame	132.00	60	1.016	-0.105	0.140	0.079	2	74
VZW Unused Reserve: 17,576 sq	132.00	900	1.016	-0.105	0.140	0.079	31	1,111
MicroPulse GPS-QBW-26N	125.00	1,513	1.016	-0.105	0.140	0.079	52	1,868
Kathrein Scala 800 10504	125.00	1	0.911	-0.122	0.092	0.067	0	1
Flat Light Sector Frame	125.00	106	0.911	-0.122	0.092	0.067	3	130
GPS	50.00	1,200	0.911	-0.122	0.092	0.067	35	1,482
Stand-Off	50.00	10	0.146	0.068	0.031	0.034	0	12
		40	0.146	0.068	0.031	0.034	1	49
		123,889	67.875	27.350	24.460	9.505	3,601	152,975

LoadCase (0.9 - 0.2Sds) * DL + E**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	2,695	1.686	1.069	0.793	0.284	332	2,331
8	150.00	8,224	1.312	0.138	0.347	0.141	503	7,116
7	130.00	12,491	0.986	-0.113	0.124	0.075	406	10,808
6	110.00	15,448	0.706	-0.089	0.031	0.057	381	13,366
5	90.00	16,969	0.472	-0.006	0.006	0.053	388	14,682
4	70.00	17,974	0.286	0.048	0.013	0.045	351	15,552
3	50.00	18,214	0.146	0.068	0.031	0.034	265	15,759
2	30.00	13,253	0.053	0.071	0.042	0.024	135	11,467
1	10.00	7,543	0.006	0.047	0.027	0.013	41	6,526
5' Omni	180.00	10	1.890	1.980	1.140	0.390	2	9
8' Omni	180.00	50	1.890	1.980	1.140	0.390	8	43
dbSpectra ATS4TMA4-4	180.00	50	1.890	1.980	1.140	0.390	8	43
13' Omni	180.00	40	1.890	1.980	1.140	0.390	7	35
15' Omni	180.00	40	1.890	1.980	1.140	0.390	7	35
15' Omni	180.00	40	1.890	1.980	1.140	0.390	7	35
15' Omni	180.00	80	1.890	1.980	1.140	0.390	14	69
Round Side Arm	180.00	300	1.890	1.980	1.140	0.390	51	260
Round Sector Frame	180.00	300	1.890	1.980	1.140	0.390	51	260
Ericsson Radio 4449 B12,B71	166.00	222	1.607	0.802	0.680	0.249	24	192
Ericsson AIR 21	166.00	273	1.607	0.802	0.680	0.249	29	236
Ericsson AIR32 B66Aa/B2a	166.00	397	1.607	0.802	0.680	0.249	43	343
Round Sector Frame	166.00	900	1.607	0.802	0.680	0.249	97	779
RFS APXVAARR24_43-U-NA20	166.00	384	1.607	0.802	0.680	0.249	41	332
Kaelus DBCT108F1V92-1	157.00	83	1.438	0.359	0.472	0.182	7	72
Powerwave Allgon LGP21401	157.00	85	1.438	0.359	0.472	0.182	7	73
Raycap DC6-48-60-18-8F (23.5")	157.00	60	1.438	0.359	0.472	0.182	5	52
Ericsson RRUS 4426 B66	157.00	145	1.438	0.359	0.472	0.182	11	126
Ericsson RRUS 4478 B14	157.00	178	1.438	0.359	0.472	0.182	14	154
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	1.438	0.359	0.472	0.182	13	146
Ericsson RRUS-11 (50 lbs.)	157.00	150	1.438	0.359	0.472	0.182	12	130
Ericsson RRUS 32 B2	157.00	159	1.438	0.359	0.472	0.182	13	138
Ericsson RRUS-32 (77 lbs)	157.00	231	1.438	0.359	0.472	0.182	18	200
Powerwave Allgon 7770.00	157.00	105	1.438	0.359	0.472	0.182	8	91
CCI HPA-65R-BUU-H8	157.00	204	1.438	0.359	0.472	0.182	16	177
CCI TPA-65R-LCUUUU-H8	157.00	245	1.438	0.359	0.472	0.182	19	212
Round Sector Frame	157.00	900	1.438	0.359	0.472	0.182	71	779
Kathrein Scala 80010966	157.00	344	1.438	0.359	0.472	0.182	27	297
15' Omni	156.00	40	1.420	0.322	0.452	0.175	3	35
Round Side Arm	156.00	150	1.420	0.322	0.452	0.175	11	130
Raycap RRFDC-1064-PF-48	132.00	42	1.016	-0.105	0.140	0.079	1	36

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Equivalent Modal Analysis Method

Alcatel-Lucent B25 RRH4x30	132.00	159	1.016	-0.105	0.140	0.079	5	138
Alcatel-Lucent B66A RRH 4x45	132.00	402	1.016	-0.105	0.140	0.079	14	348
Amphenol Antel BXA-171063-	132.00	32	1.016	-0.105	0.140	0.079	1	27
48" x 12" x 7" Panel	132.00	210	1.016	-0.105	0.140	0.079	7	182
Swedcom SACP 2x5516	132.00	16	1.016	-0.105	0.140	0.079	1	14
Amphenol Antel LPA-80063-4CF-	132.00	40	1.016	-0.105	0.140	0.079	1	35
Amphenol Antel BXA-70063-6CF-	132.00	17	1.016	-0.105	0.140	0.079	1	15
Swedcom SLCP 2x6015	132.00	60	1.016	-0.105	0.140	0.079	2	52
Round Sector Frame	132.00	900	1.016	-0.105	0.140	0.079	31	779
VZW Unused Reserve: 17,576 sq	132.00	1,513	1.016	-0.105	0.140	0.079	52	1,309
MicroPulse GPS-QBW-26N	125.00	1	0.911	-0.122	0.092	0.067	0	1
Kathrein Scala 800 10504	125.00	106	0.911	-0.122	0.092	0.067	3	91
Flat Light Sector Frame	125.00	1,200	0.911	-0.122	0.092	0.067	35	1,038
GPS	50.00	10	0.146	0.068	0.031	0.034	0	9
Stand-Off	50.00	40	0.146	0.068	0.031	0.034	1	35
		123,889	67.875	27.350	24.460	9.505	3,601	107,192

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PX - 12" DIA PIPE	-318.76	1.2D + 1.6W	10.02	100	100	100	27.8	50.0	816.60	0	0	0.00	0.00	39 Member X
HORIZ	PST - 3" DIA PIPE	-7.71	0.9D + 1.6W 90	12.17	100	100	100	125.9	50.0	31.77	2	0	0.00	0.00	24 Member X
DIAG	PST - 3-1/2" DIA PIP	-11.94	1.2D + 1.6W 90	15.75	100	100	100	141.1	50.0	30.41	3	0	0.00	0.00	39 Member X
Max Tension Member		Pu	Load Case		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use
		(kip)			(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phit	Pn	% Controls
LEG	PX - 12" DIA PIPE	233.60	0.9D + 1.6W 180	50	65	864.00	0	0	0	0.00	0.00				27 Member
HORIZ	PST - 3" DIA PIPE	9.54	1.2D + 1.6W 90	50	65	100.35	2	0	0	0.00	32.43		0.00		29 Bolt Bear
DIAG	PST - 3-1/2" DIA PIP	11.11	0.9D + 1.6W 90	50	65	120.60	3	0	0	0.00	55.09		0.00		20 Bolt Bear
Max Splice Forces		Pu	Load Case		phiRnt		Use	Num							
		(kip)			(kip)		%	Bolts	Bolt Type						
Top Tension		221.01	0.9D + 1.6W 180		0.00		0	0							
Top Compression		303.87	1.2D + 1.6W		0.00		0								
Bot Tension		244.87	0.9D + 1.6W 180		1453.79		20	24	1" A354-BC						
Bot Compression		331.16	1.2D + 1.6W		0.00		0								

Section: 2		1		Bot Elev (ft): 20.00				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	% Controls
LEG	PX - 12" DIA PIPE	-291.61	1.2D + 1.6W	10.03	100	100	100	27.8	50.0	816.53	0	0	0.00	0.00	35 Member X
HORIZ	PST - 3" DIA PIPE	-6.87	1.2D + 1.6W 90	10.88	100	100	100	112.6	50.0	39.73	2	0	0.00	0.00	17 Member X
DIAG	PST - 3-1/2" DIA PIP	-11.25	1.2D + 1.6W 90	15.29	100	100	100	137.0	50.0	32.26	3	0	0.00	0.00	34 Member X
Max Tension Member		Pu	Load Case		Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use
		(kip)			(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phit	Pn	% Controls
LEG	PX - 12" DIA PIPE	211.41	0.9D + 1.6W 60	50	65	864.00	0	0	0	0.00	0.00				24 Member
HORIZ	PST - 3" DIA PIPE	8.03	1.2D + 1.6W 90	50	65	100.35	2	0	0	0.00	32.43		0.00		24 Bolt Bear
DIAG	PST - 3-1/2" DIA PIP	9.47	0.9D + 1.6W 90	50	65	120.60	3	0	0	0.00	55.09		0.00		17 Bolt Bear
Max Splice Forces		Pu	Load Case		phiRnt		Use	Num							
		(kip)			(kip)		%	Bolts	Bolt Type						
Top Tension		201.10	0.9D + 1.6W 180		0.00		0	0							
Top Compression		276.03	1.2D + 1.6W		0.00		0								
Bot Tension		221.01	0.9D + 1.6W 180		872.27		25	16	1 A325						
Bot Compression		303.87	1.2D + 1.6W		0.00		0								

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Force/Stress Summary

Section: 3		1	Bot Elev (ft): 40.00				Height (ft): 20.000									
		Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PX - 10" DIA PIPE	-259.41	1.2D + 1.6W	10.03	100	100	100	33.1	50.0	668.58	0	0	0.00	0.00	38	Member X
HORIZ	PST - 2-1/2" DIA PIP	-7.50	0.9D + 1.6W 90	9.570	100	100	100	121.3	50.0	26.18	2	0	0.00	0.00	28	Member X
DIAG	PX - 3" DIA PIPE	-13.02	1.2D + 1.6W 90	14.28	100	100	100	150.4	50.0	30.17	3	0	0.00	0.00	43	Member X

		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	phiRnv	phiRn	phiRn	phiRn	%	
LEG	PX - 10" DIA PIPE	189.38	0.9D + 1.6W 60	50	65	724.50	0	0	0.00	0.00					26	Member
HORIZ	PST - 2-1/2" DIA PIP	8.65	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	30.48			0.00		28	Bolt Bear
DIAG	PX - 3" DIA PIPE	10.42	1.2D + 1.6W 90	50	65	135.90	3	0	0.00	73.13			0.00		14	Bolt Bear

Max Splice Forces		Pu			phiRnt	Use	Num		
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type		
Top Tension		177.16	0.9D + 1.6W 180	0.00	0	0			
Top Compression		240.05	1.2D + 1.6W	0.00	0				
Bot Tension		201.10	0.9D + 1.6W 180	872.27	23	16	1 A325		
Bot Compression		276.03	1.2D + 1.6W	0.00	0				

Section: 4		1	Bot Elev (ft): 60.00				Height (ft): 20.000										
			Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear phiRnv	Bear phiRn	Use	
Max Compression Member			(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PX - 10" DIA PIPE		-222.43	1.2D + 1.6W	10.03	100	100	100	33.2	50.0	668.56	0	0	0.00	0.00	33	Member X
HORIZ	PST - 2-1/2" DIA PIP		-6.91	0.9D + 1.6W 90	8.297	100	100	100	105.1	50.0	34.17	2	0	0.00	0.00	20	Member X
DIAG	PX - 3" DIA PIPE		-12.80	1.2D + 1.6W 90	13.42	100	100	100	141.3	50.0	34.18	3	0	0.00	0.00	37	Member X

		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	phiRnv	phiRn	phiRn	phiRn	%	
LEG	PX - 10" DIA PIPE	165.12	0.9D + 1.6W 60	50	65	724.50	0	0	0.00	0.00					22	Member
HORIZ	PST - 2-1/2" DIA PIP	7.86	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	30.48			0.00		25	Bolt Bear
DIAG	PX - 3" DIA PIPE	10.39	1.2D + 1.6W 90	50	65	135.90	3	0	0.00	73.13			0.00		14	Bolt Bear

Max Splice Forces		Pu			phiRnt	Use	Num		
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type		
Top Tension		152.31	0.9D + 1.6W 180	0.00	0	0			
Top Compression		202.56	1.2D + 1.6W	0.00	0				
Bot Tension		177.16	0.9D + 1.6W 180	654.20	27	12	1 A325		
Bot Compression		240.05	1.2D + 1.6W	0.00	0				

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Force/Stress Summary

Section: 5		1	Bot Elev (ft): 80.00				Height (ft): 20.000										
			Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear phiRnv	Bear phiRn	Use	
Max Compression Member			(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PX - 8" DIA PIPE		-182.67	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.01	0	0	0.00	0.00	36	Member X
HORIZ	PX - 2" DIA PIPE		-6.88	0.9D + 1.6W 90	7.035	100	100	100	110.2	50.0	27.40	2	0	0.00	0.00	25	Member X
DIAG	PX - 3" DIA PIPE		-13.56	1.2D + 1.6W 90	12.59	100	100	100	132.6	50.0	38.81	3	0	0.00	0.00	34	Member X

		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	phiRnv	phiRn	phiRn	phiRn	%	
LEG	PX - 8" DIA PIPE	138.51	0.9D + 1.6W 180	50	65	576.00	0	0	0.00	0.00					24	Member
HORIZ	PX - 2" DIA PIPE	7.58	1.2D + 1.6W 90	50	65	66.60	2	0	0.00	32.73			0.00		23	Bolt Bear
DIAG	PX - 3" DIA PIPE	11.98	1.2D + 1.6W 90	50	65	135.90	3	0	0.00	73.13			0.00		16	Bolt Bear

Max Splice Forces		Pu			phiRnt	Use	Num		
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type		
Top Tension		122.02	0.9D + 1.6W 180	0.00	0	0			
Top Compression		160.15	1.2D + 1.6W	0.00	0				
Bot Tension		152.31	0.9D + 1.6W 180	654.20	23	12	1 A325		
Bot Compression		202.56	1.2D + 1.6W	0.00	0				

Section: 6		1	Bot Elev (ft): 100.0					Height (ft): 20.000									
			Pu		Len	Bracing %			F'y	Phic	Pn	Num	Num	Shear phiRnv	Bear phiRn	Use	
Max Compression Member			(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PX - 6" DIA PIPE		-144.29	1.2D + 1.6W	6.68	100	100	100	36.5	50.0	342.89	0	0	0.00	0.00	42	Member X
HORIZ	PST - 2" DIA PIPE		-7.04	1.2D + 1.6W 90	6.072	100	100	100	92.6	50.0	25.73	2	0	0.00	0.00	27	Member X
DIAG	PST - 2-1/2" DIA PIP		-11.77	1.2D + 1.6W 90	9.257	100	100	100	117.3	50.0	27.97	3	0	0.00	0.00	42	Member X

		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk	Shear	Use	Controls
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	phiRnv	phiRn	phiRn	phiRn	%	
LEG	PX - 6" DIA PIPE	110.09	0.9D + 1.6W 60	50	65	378.00	0	0	0.00	0.00					29	Member
HORIZ	PST - 2" DIA PIPE	7.74	1.2D + 1.6W 90	50	65	48.15	2	0	0.00	19.22			0.00		40	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	10.78	1.2D + 1.6W 90	50	65	76.68	3	0	0.00	41.17			0.00		26	Bolt Bear

Max Splice Forces		Pu			phiRnt	Use	Num		
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type		
Top Tension		83.59	0.9D + 1.6W 180	0.00	0	0			
Top Compression		109.58	1.2D + 1.6W	0.00	0				
Bot Tension		122.02	0.9D + 1.6W 180	436.14	28	8	1 A325		
Bot Compression		160.15	1.2D + 1.6W	0.00	0				

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Force/Stress Summary

Section: 7		1		Bot Elev (ft): 120.0				Height (ft): 20.000								
		Pu		Len		Bracing %		F'y		Phic Pn Num		Shear Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PX - 5" DIA PIPE	-92.18	1.2D + 1.6W	6.68	100	100	100	43.6	50.0	239.34	0	0	0.00	0.00	38	Member X
HORIZ	PST - 1-1/2" DIA PIP	-7.09	1.2D + 1.6W 90	5.030	100	100	100	96.9	50.0	18.10	2	0	0.00	0.00	39	Member X
DIAG	PST - 2-1/2" DIA PIP	-12.60	1.2D + 1.6W 90	8.566	100	100	100	108.5	50.0	32.40	3	0	0.00	0.00	38	Member X
		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk Shear		Use	
Max Tension Member		(kip)	Load Case		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phit Pn	(kip)	%	Controls
LEG	PX - 5" DIA PIPE	69.43	0.9D + 1.6W 180		50	65	274.95	0	0		0.00	0.00			25	Member
HORIZ	PST - 1-1/2" DIA PIP	7.54	1.2D + 1.6W 90		50	65	35.96	2	0		0.00	18.10		0.00	41	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	11.53	1.2D + 1.6W 90		50	65	76.68	3	0		0.00	41.17		0.00	28	Bolt Bear
Max Splice Forces		Pu			phiRnt		Use	Num								
		(kip)	Load Case		(kip)		%	Bolts	Bolt Type							
Top Tension		46.07	0.9D + 1.6W 180		0.00		0	0								
Top Compression		59.68	1.2D + 1.6W		0.00		0									
Bot Tension		83.59	0.9D + 1.6W 180		327.10		26	6	1 A325							
Bot Compression		109.58	1.2D + 1.6W		0.00		0									

Section: 8		1		Bot Elev (ft): 140.0				Height (ft): 20.000								
		Pu		Len		Bracing %		F'y		Phic Pn Num		Shear Bear		Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
LEG	PST - 4" DIA PIPE	-44.21	1.2D + 1.6W	6.67	100	100	100	53.0	50.0	116.18	0	0	0.00	0.00	38	Member X
HORIZ	PST - 2" DIA PIPE	-5.01	1.2D + 1.6W 90	4.325	100	100	100	65.9	50.0	35.03	2	0	0.00	0.00	14	Member X
DIAG	PST - 2-1/2" DIA PIP	-10.21	1.2D + 1.6W 90	7.955	100	100	100	100.8	50.0	36.48	3	0	0.00	0.00	27	Member X
		Pu			Fy	Fu	Phit	Pn	Num	Num	Shear	Bear	Blk Shear		Use	
Max Tension Member		(kip)	Load Case		(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	phiRn	phit Pn	(kip)	%	Controls
LEG	PST - 4" DIA PIPE	33.10	0.9D + 1.6W 180		50	65	142.65	0	0		0.00	0.00			23	Member
HORIZ	PST - 2" DIA PIPE	5.33	1.2D + 1.6W 90		50	65	48.15	2	0		0.00	19.22		0.00	27	Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	9.56	1.2D + 1.6W 90		50	65	76.68	3	0		0.00	41.17		0.00	23	Bolt Bear
Max Splice Forces		Pu			phiRnt		Use	Num								
		(kip)	Load Case		(kip)		%	Bolts	Bolt Type							
Top Tension		9.66	0.9D + 1.6W 180		0.00		0	0								
Top Compression		16.77	1.2D + 1.6W		0.00		0									
Bot Tension		46.07	0.9D + 1.6W 180		218.07		21	4	1 A325							
Bot Compression		59.68	1.2D + 1.6W		0.00		0									

Site Number: 411183

Code:

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Site Name: WATERFORD CT, CT

Engineering Number: OAA741535_C3_01

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Customer: AT&T Mobility

Force/Stress Summary

Section: 9		1	Bot Elev (ft): 160.0				Height (ft): 20.000										
			Pu		Len	Bracing %			F'y	Phic	Pn Num	Num	Shear phiRnv	Bear phiRn	Use		
Max Compression Member			(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PST - 3" DIA PIPE		-8.43	1.2D + 1.6W	6.67	100	100	100	69.0	50.0	70.87	0	0	0.00	0.00	11	Member X
HORIZ	PST - 1-1/2" DIA PIP		-2.23	1.2D + 1.6W	4.280	100	100	100	82.4	50.0	21.87	2	0	0.00	0.00	10	Member X
DIAG	PST - 2" DIA PIPE		-4.49	1.2D + 1.6W	7.930	100	100	100	120.9	50.0	16.53	3	0	0.00	0.00	27	Member X
			Pu		Fy	Fu	Phit	Pn	Num	Num	Shear phiRnv	Bear phiRn	Blk Shear phiRn	Use			
Max Tension Member			(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		(kip)	(kip)	(kip)	%		Controls	
LEG	PST - 3" DIA PIPE		4.20	1.2D + 1.6W	180	50	65	100.35	0	0	0.00	0.00			4	Member	
HORIZ	PST - 1-1/2" DIA PIP		2.35	1.2D + 1.6W	210	50	65	35.96	2	0	0.00	18.10	0.00		13	Bolt Bear	
DIAG	PST - 2" DIA PIPE		4.24	1.2D + 1.6W	90	50	65	48.15	3	0	0.00	31.23	0.00		13	Bolt Bear	
			Pu		phiRnt			Use	Num								
Max Splice Forces			(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension			0.00		0.00			0	0								
Top Compression			1.34	1.2D + 1.0Di +	0.00			0									
Bot Tension			9.66	0.9D + 1.6W	180	166.22			6	4	0.875" A325						
Bot Compression			16.77	1.2D + 1.6W	0.00			0									



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT5221

FA#: 10071307

Waterford East
53 Dayton Road
Waterford, CT 6385

October 25, 2018

Centerline Communications Project Number: 950006-141

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	12.56 %



October 25, 2018

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

Emissions Analysis for Site: **CT5221 – Waterford East**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **53 Dayton Road, Waterford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **53 Dayton Road, Waterford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
LTE	700 MHz	4	40
LTE	2300 MHz (WCS)	4	30
LTE	700 MHz (Band 14)	4	40
LTE	850 MHz	2	40
WiMAX	850 MHz	1	40
LTE	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	157
A	2	CCI HPA-65R-BUU-H8	157
A	3	Kathrein 800-10966	157
A	4	CCI TPA-65R-LCUUUU-H8	157
B	1	Powerwave 7770	157
B	2	CCI HPA-65R-BUU-H8	157
B	3	Kathrein 800-10966	157
B	4	CCI TPA-65R-LCUUUU-H8	157
C	1	Powerwave 7770	157
C	2	CCI HPA-65R-BUU-H8	157
C	3	Kathrein 800-10966	157
C	4	CCI TPA-65R-LCUUUU-H8	157

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.23
Antenna A2	CCI HPA-65R-BUU-H8	700 MHz / 2300 MHz (WCS)	13.15 / 15.55	6	200	5,959.37	1.24
Antenna A3	Kathrein 800-10966	700 MHz / 850 MHz	13.55 / 14.25	5	200	5,004.59	1.50
Antenna A4	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.75 / 14.25	10	360	8,565.01	1.63
Sector A Composite MPE%							4.60
Antenna B1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.23
Antenna B2	CCI HPA-65R-BUU-H8	700 MHz / 2300 MHz (WCS)	13.15 / 15.55	6	200	5,959.37	1.24
Antenna B3	Kathrein 800-10966	700 MHz / 850 MHz	13.55 / 14.25	5	200	5,004.59	1.50
Antenna B4	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.75 / 14.25	10	360	8,565.01	1.63
Sector B Composite MPE%							4.60
Antenna C1	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.23
Antenna C2	CCI HPA-65R-BUU-H8	700 MHz / 2300 MHz (WCS)	13.15 / 15.55	6	200	5,959.37	1.24
Antenna C3	Kathrein 800-10966	700 MHz / 850 MHz	13.55 / 14.25	5	200	5,004.59	1.50
Antenna C4	CCI TPA-65R-LCUUUU-H8	700 MHz / 1900 MHz (PCS) / 2100 MHz (AWS)	12.95 / 13.75 / 14.25	10	360	8,565.01	1.63
Sector C Composite MPE%							4.60

Table 3: AT&T Emissions Levels



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

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	4.60 %
T-Mobile	3.43 %
Verizon Wireless	3.76 %
MetroPCS	0.55 %
Public Safety	0.22 %
Site Total MPE %:	12.56 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.60 %
AT&T Sector B Total:	4.60 %
AT&T Sector C Total:	4.60 %
Site Total:	12.56 %

Table 5: Site MPE Summary



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

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS – Antenna 1	2	414.12	157	1.31	850 MHz	567	0.23%
AT&T 700 MHz LTE – Antenna 2	2	826.15	157	2.61	700 MHz	467	0.56%
AT&T 2300 MHz (WCS) LTE – Antenna 2	4	1,076.77	157	6.79	2300 MHz (WCS)	1000	0.68%
AT&T 700 MHz LTE (Band 14) – Antenna 3	2	905.86	157	2.86	700 MHz	467	0.61%
AT&T 850 MHz LTE – Antenna 3	2	1,064.29	157	3.36	850 MHz	567	0.59%
AT&T 850 MHz 5G – Antenna 3	1	1,064.29	157	1.68	850 MHz	567	0.30%
AT&T 700 MHz LTE – Antenna 4	2	788.97	157	2.49	700 MHz	467	0.53%
AT&T 1900 MHz (PCS) LTE – Antenna 4	4	948.55	157	5.98	1900 MHz (PCS)	1000	0.60%
AT&T 2100 MHz (AWS) LTE – Antenna 4	4	798.22	157	5.03	2100 MHz (AWS)	1000	0.50%
						Total:	4.60%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	4.60 %
Sector B:	4.60 %
Sector C:	4.60 %
AT&T Maximum Total (per sector):	4.60 %
Site Total:	12.56 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **12.56 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

A handwritten signature in blue ink, appearing to read 'Scott Heffernan', is positioned above the printed name.

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

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Ship Date: 11/19/18
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Weight: 3 lbs 0 oz
From: 01862

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HON. DANIEL M STEWARD, FIRST SELECTMAN
TOWN OF WATERFORD
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WATERFORD, CT 06385-2806

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Payment Status: Account Charged

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USPS Tracking® \$6.70
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Label Total: **\$6.70**

Order Total: **\$33.50**

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11-19-2018 09:55:04	LABEL PRINTED
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MR. JAY MURPHY BUILDING OFFICIAL
TOWN OF WATERFORD BUILDING DEPT.
15 ROPE FERRY RD
WATERFORD, CT 06385-2806

Package:

Ship Date: 11/19/18
Value: \$50.00
Weight: 3 lbs 0 oz
From: 01862

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Order Total: \$33.50

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Package:

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Value: \$50.00
Weight: 3 lbs 0 oz
From: 01862

Service:

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MS. ABBY PERSALL ACIP
TOWN OF WATERFORD BUILDING DEPT.
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Payment Status: Account Charged

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Label Total: \$6.70

Order Total: \$33.50

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AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN, MA 01801-1053

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Value: \$50.00
Weight: 3 lbs 0 oz
From: 01862

Service:

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Flat Rate Envelope
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Transaction Number: [449028411](#)

Transaction Type: Label

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Payment Status: Account Charged

Postage Cost
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Label Total: \$6.70

Order Total: \$33.50

Timestamp

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COHANZIE FIRE COMPANY NO.5
53 DAYTON RD
WATERFORD, CT 06385-4207

Package:

Ship Date: 11/19/18
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Weight: 3 lbs 0 oz
From: 01862

Service:

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Transaction Number: [449028411](#)

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Payment Method: AMEX-1005

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