



March 4, 2016

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

Regarding:	Notice of Exempt Modification – Antenna Swap & Addition of Three Radio Heads & DC/Fiber Squid
Property Address:	100 Northrop Road, Wallingford, CT (the “Property”)
Applicant:	AT&T Mobility (AT&T)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 150 - foot monopole at the above-referenced address, latitude 41.4894, longitude -72.7682. Said monopole is owned by American Tower Corporation. The existing equipment shelter is 11.25' x 26' totaling 292.5 square feet.

AT&T desires to modify its existing telecommunications facility by swapping three (3) antennas, adding three remote-radio heads (“RRHs”) and a DC/Fiber Squid. The centerline height of said antennas is and will remain at 123 feet. Antennas are mounted utilizing a platform with hand rails.

Please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16-50j-72 (b)(2). A copy of this letter is being sent to the Honorable William W. Dickinson, Jr., Mayor of the Town of Wallingford and to the Town Planner, Kacie Costello. A copy is also being sent to American Tower, the owner of the monopole, as well as the landowner, Cogent Management.

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

1. The planned modification will not result in an increase in the height of the existing structure. The antennas to be swapped will be installed at the existing height of 123 feet on the 150-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment, and therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above Federal Communications Commission (FCC) safety standard. An RF emissions calculation (attached) for AT&T's modified facility is herein provided.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The monopole and its foundation can support AT&T's proposed modifications (please see attached structural analysis completed by American Tower dated January 11, 2016).

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

Sincerely,



Sarah Snell
Site Acquisition Specialist

cc: Honorable William W. Dickinson, Jr., Mayor of the Town of Wallingford
Town Planner, Kacie Costello
American Tower Corporation
Cogent Management.

GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING FOR COMPLIANCE WITH THE NEC (AS DESIGNED AND SPECIFIED) AND THE LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND SPECIFIED) FOR COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHA), THE STATE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ALL VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GESS) 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 1100 AND 817 FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH ALL THE NECESSARY MATERIALS AND EQUIPMENT FOR THE TESTING. THE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PFS-EG000-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RAILWAY 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 ITS EQUIPMENT.
5. EACH BITS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BITS; 2 AWG STRANDED COPPER FOR OUTDOOR BITS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDING 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.
12. 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 FLOORS, WALLS, METAL SUPPORT CLIPS OR SLEEVES. IF IT IS NECESSARY TO PASS THROUGH SUCH AREAS, THE CONDUCTOR SHALL BE REQUIRED TO BE COVERED WITH 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.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BUNDLED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BUNDLED GROUND RING SHALL BE 2 AWG TO 4 AWG. THE BUNDLED GROUND RING SHALL BE 2 AWG TO 4 AWG. IN ADDITION, THE MINIMUM GROUNDING OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING #2 AWG COPPER WIRE. PER NEC CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - AT&T MOBILITY
OSM - ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR (EMPIRE TELECOM).
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND STANDARDS. SUBCONTRACTOR SHALL ISSUE ALL NECESSARY NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE FEDERAL AND UTILITY COMPANY. WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, TOOLS, UTILITIES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES. GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND T1 CABLES PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING CONDUIT AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRACING SHALL BE APPROVED BY THE CONTRACTOR.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM AN EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
14. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH ALL SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36. ALL STEEL SHALL BE HOT DIP GALVANIZED TO MEET ALL SPECIFICATIONS. ALL SCRAPCHES STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED TO MEET ALL SPECIFICATIONS. AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3AP5-400Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALL WORK MUST BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY MAINTENANCE. WORKERS SHOULD BE AWARE THAT PERSONAL PROTECTIVE EQUIPMENT MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL JURISDICTION (AHJ) FOR THE LOCATION OF THE WORK. THE FOLLOWING LISTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

- INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
 - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
 - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
- AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
 - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
 - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES
 - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
 - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
 - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, CURRENT AND IMPEDANCE AND EARTH SURFACE POTENTIALS OF A GROUND GROUNDING OF ELECTRONIC EQUIPMENT
 - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS NO SPECIFIC REQUIREMENT, THE GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.
22. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.
23. INFORMATION SHOWN ON THIS SET OF PLANS TAKEN FROM DRAWINGS PREPARED BY CENTEK ENGINEERING FOR A RECENT UPGRADE DATED 05/02/2012. CONTRACTOR TO NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

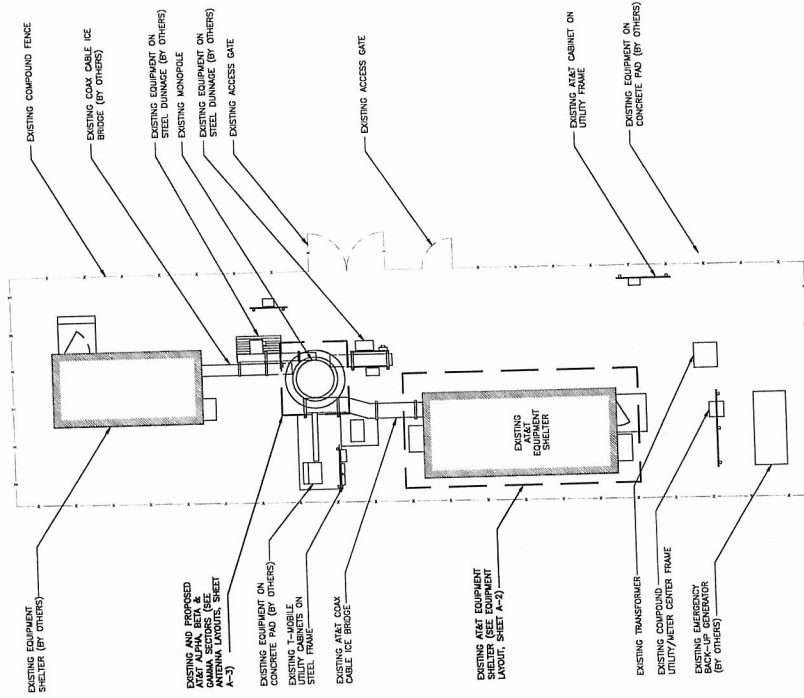


SITE NUMBER: CTU2221
SITE NAME: WALLINGFORD-
NORTHROP RD
100 NORTHROP RD
WALLINGFORD, CT 06492
NEW HAVEN COUNTY



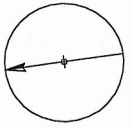
COM-EX
Consultants
4 SOUTH ZON
WALLINGFORD, CT 06492
PHONE: 860.238.1300
FAX: 860.238.1301

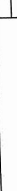
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REVISIONS				BY CHK (PWT)			
DESIGNED BY: N/A				DRAWN BY: DR			
SCALE AS SHOWN							

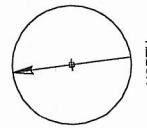
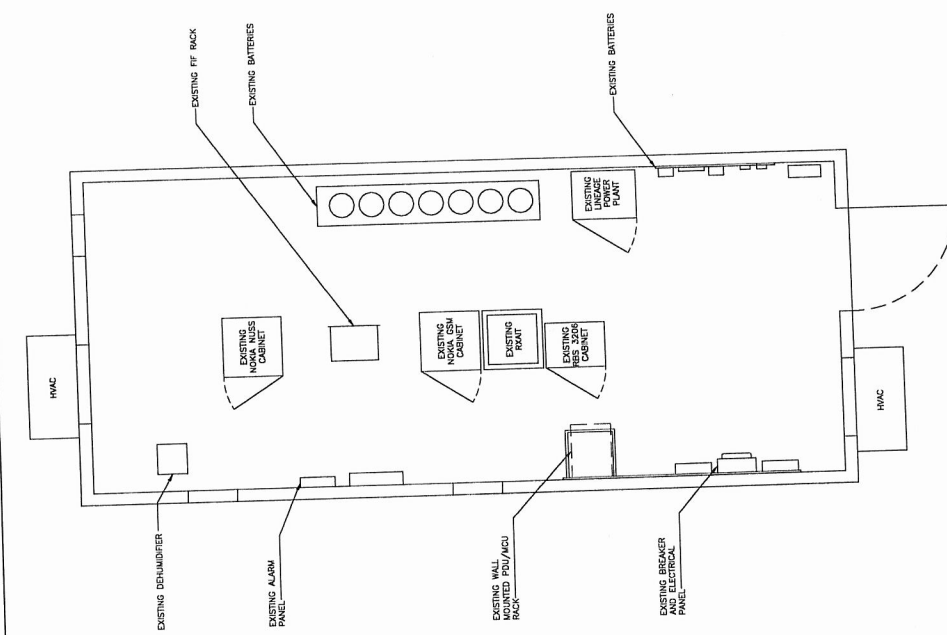


NOTE: CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND LOCATIONS OF ALL UTILITIES AND STRUCTURES IN THE FIELD PRIOR TO THE INSTALLATION OF ANY STRUCTURES IN THE FIELD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DISCREPANCIES FROM THE DRAWINGS.

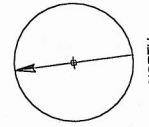
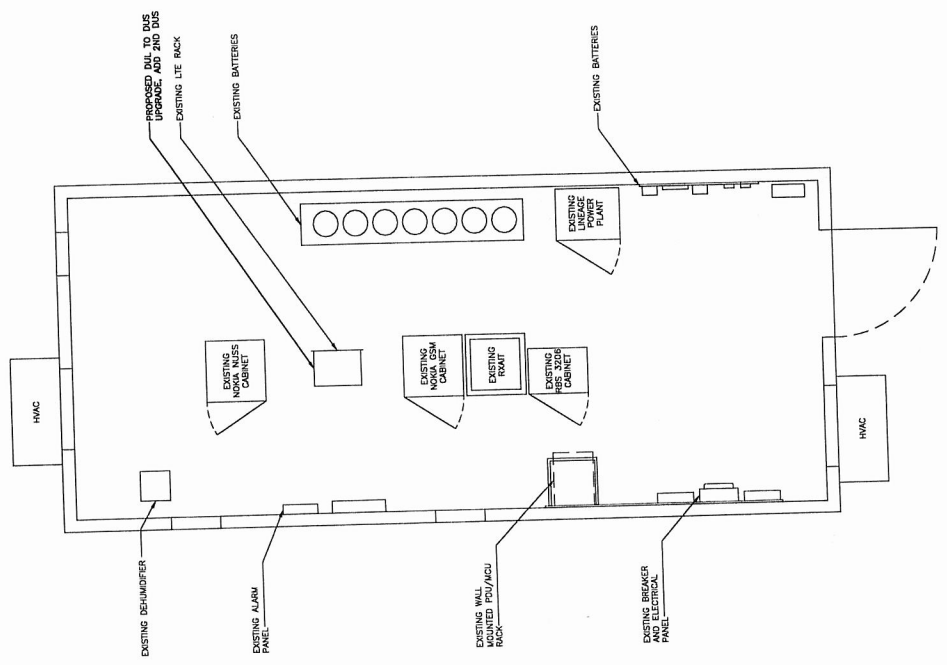
COMPOUND LAYOUT
SCALE: 1/8" = 1'-0"



NORTH										SITE NUMBER: CTU2221										SITE NAME: WALLINGFORD-NORTHROP RD										550 COCHITUATE ROAD FRAMINGHAM, MA 01701										DRAWING TITLE: COMPOUND LAYOUT										JOB NUMBER: 15185-EMP										DRAWING NUMBER: A-1										SHEET: A																													
COM-EX CONSULTANTS 1000 W. 10TH STREET SUITE 200 FARMINGTON, CT 06030 PHONE 860-299-0000 FAX 860-299-0001										EMPIRE telecom 16 ESQUIRE ROAD BILLERICA, MA 01821										100 NORTHROP ROAD WALLINGFORD, CT 06492 NEW HAVEN COUNTY										 550 COCHITUATE ROAD FRAMINGHAM, MA 01701										NO. DATE A 11/07/15										INITIAL SUBMISSION REVISIONS										DESIGNED BY: NJM DRAWN BY: GR										CHECKED BY: NDB APPROVED BY: CHK, APD										SCALE AS SHOWN										AT&T									



EXISTING EQUIPMENT LAYOUT
SCALE: 1" = 2'-0"
(1/8" inch = 1 foot)



PROPOSED EQUIPMENT LAYOUT
SCALE: 1" = 2'-0"
(1/8" inch = 1 foot)

COM-EX
Consultants
4 SECOND AVENUE
DORSET, VT 05834
PHONE 802.229.4301

EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CTU2221
SITE NAME: WALLINGFORD-
NORTHROP RD
101 NORTHROP ROAD
WALLINGFORD, CT 06492
NEW HAVEN COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

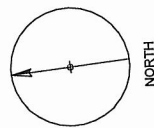
NORTH

AT&T

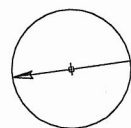
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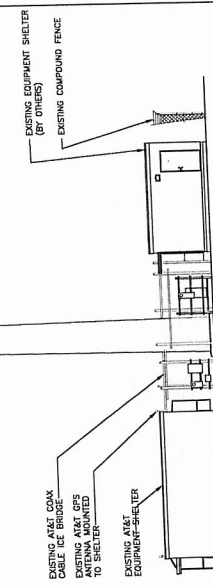
NO.	DATE	INITIAL SUBMISSION	REVISIONS	DESIGNED BY: N.M.	DRAWN BY: G.R.
A	11/07/75				



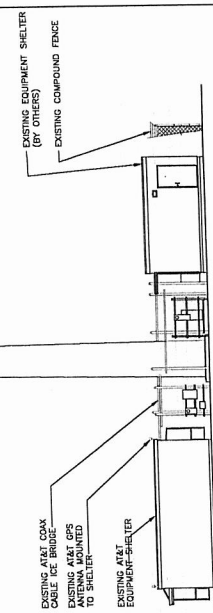
FILE: N.T.S.



ALICE NYS.



WEH
CARE, MTS



SCALE: NTS

NORTH

COM-EX
Consultants

EMPIRE
telecom

SITE NUMBER: CTU2221
**SITE NAME: WALLINGFORD-
NORTHROP RD**
100 NORTHROP ROAD
WALLINGFORD, CT 06492
NEW HAVEN COUNTY

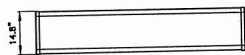


550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T

DRAWING TITLE:
ANTENNA LAYOUTS & ELEVATIONS

JOB NUMBER	DRAWING NUMBER
	A-3



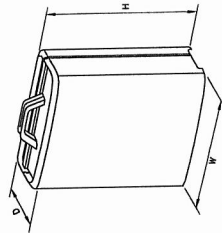
FRONT VIEW



SIZE VIEW

MANUFACTURER	MODEL	WEIGHT
CC	HPA-65R-BUJ-H6	50.7 LBS

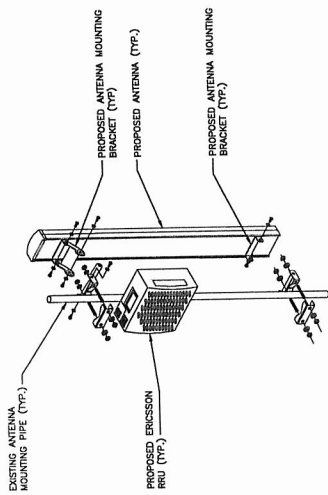
LTE ANTENNA DETAIL
SCALE: N.T.S.



MODEL	L x W x H	WEIGHT
AZ MODULE	16.4" x 15.2" x 3.4"	22 LBS
RRUS-12	20.4" x 18.5" x 2.5"	58 LBS
RRUS-11	19.7" x 16.9" x 2.2"	50.7 LBS
RRUS-32	29.9" x 13.3" x 9.5"	77 LBS

*DIMENSIONS EXISTING.

RRU DETAIL
SCALE: N.T.S.



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

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	POWERWAVE	7770	55"x11"x5"
	A3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	A4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	POWERWAVE	7770	55"x11"x5"
	B3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	B4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	POWERWAVE	7770	55"x11"x5"
	G3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	G4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770	55"x11"x5"
	A2	CC	HPA-65R-BUJ-H6	72"x14.8"x9"
	A3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	A4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
BETA	B1	POWERWAVE	7770	55"x11"x5"
	B2	CC	HPA-65R-BUJ-H6	72"x14.8"x9"
	B3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	B4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
GAMMA	G1	POWERWAVE	7770	55"x11"x5"
	G2	CC	HPA-65R-BUJ-H6	72"x14.8"x9"
	G3	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	G4	CC	OPA-65R-LCUU-H6	72"x14.8"x7.4"

PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND STABILITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANALYSIS AND INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-32	29.9"x13.3"x9.5"	—	—
	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"	—	—
	ERICSSON	RRUS-32	29.9"x13.3"x9.5"	—	—
BETA	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"	—	—
	ERICSSON	RRUS-32	29.9"x13.3"x9.5"	—	—
	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"
GAMMA	ERICSSON	RRUS-11 (EXISTING)	19.7"x16.9"x7.2"	—	—
	ERICSSON	RRUS-12 (EXISTING)	20.4"x18.5"x9.5"	ERICSSON A2 MODULE	16.4"x15.2"x3.4"

COM-EX
Consultants
4 SECOND AVENUE
DENVER, CO 80202
PHONE: 303.733.4300
FAX: 303.733.4301

EMPIRE
telecom
16 ESCUPEL ROAD
BILLERICA, MA 01821

SITE NUMBER: CTU2221
SITE NAME: WALLINGFORD-
NORTHROP RD
100 NORTHROP ROAD
WALLINGFORD, CT 06492
NEW HAVEN COUNTY

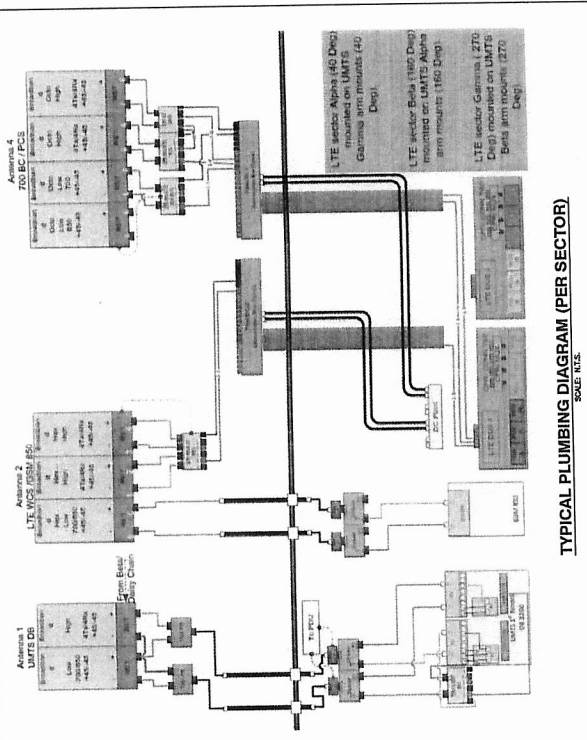
at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T

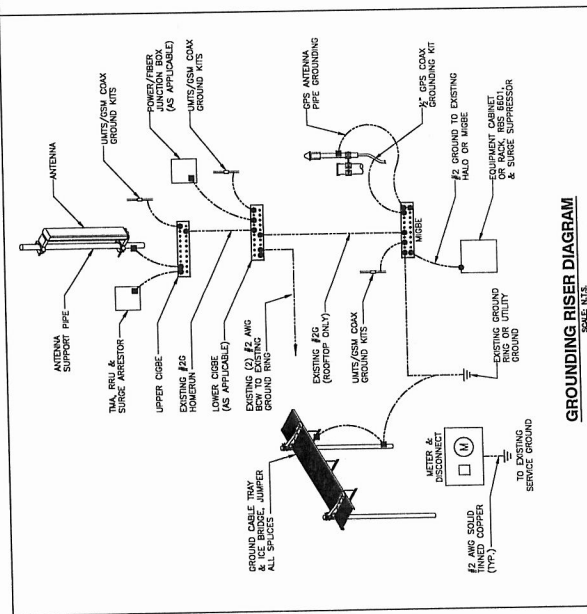
DRAWING TITLE

DETAILS

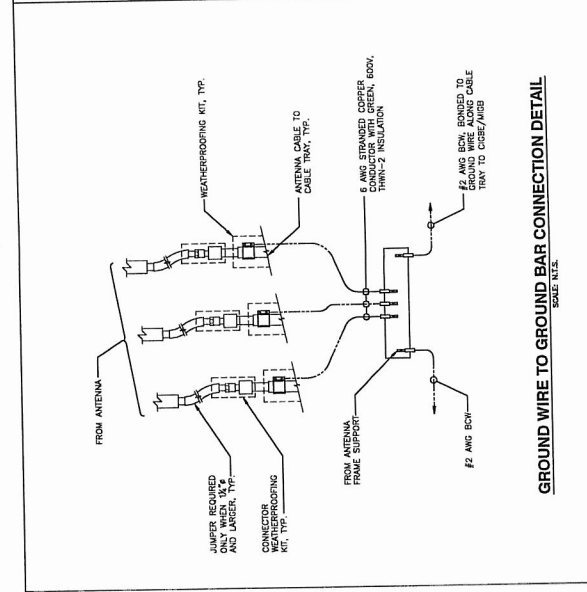
REV	DATE	DESCRIPTION
1	11/07/15	INITIAL SUBMISSION
2	11/07/15	REVISIONS
3	11/07/15	DESIGNED BY: NAM
4	11/07/15	SCALE: AS SHOWN
5	11/07/15	NO. DATE
6	11/07/15	BY: [C]K [P]FD
7	11/07/15	DOWN BY: UT
8	11/07/15	JOB NUMBER
9	11/07/15	15185-EMP
10	11/07/15	A-4



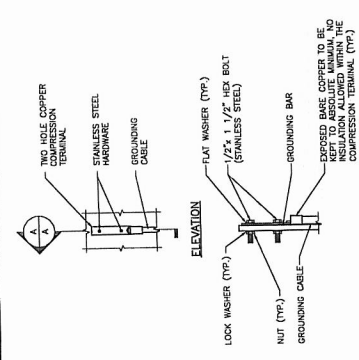
TYPICAL PLUMBING DIAGRAM (PER SECTOR)
SCALE: N.T.S.



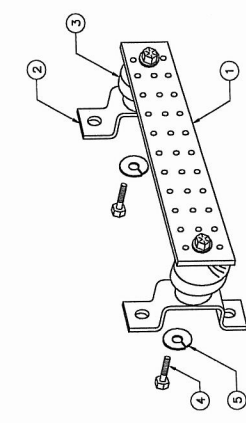
GROUNDING RISER DIAGRAM
SCALE: N.T.S.



GROUND WIRE TO GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20"x 4"x 1/2")
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	5/8"-11x1" F.H.I.C.S.
5	4	5/8" LOCK WASHER

GROUND BAR DETAIL
SCALE: N.T.S.

- NOTES:**
- EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE ENOUGH LEAD TO PASS OVER EACH END OF THE BAR AND BE SECURED BY A NUT AND WASHER.
 - SECTION "X" - SURGE PROTECTORS
 - CABLE ENTRY PORTS (W/ AVAILABLE) (#2)
 - GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
 - COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
 - +24V POWER SUPPLY RETURN BOND (#2)
 - RECIRCULATING RETURN BOND (#2)
 - SECTION "X" - SURGE ABSORBERS
 - INTERIOR GROUND RING (#2)
 - INTERIOR GROUND RING (#2)
 - METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
 - BUILDING STEEL (IF AVAILABLE) (#2)

COM-Ex
Consultants
SUITE 200
16 ESQUIRE ROAD
FRAMINGHAM, MA 01901
PHONE: 857.399.4500
FAX: 857.479.4501

EMPIRE
telecom
16 ESQUIRE ROAD
FRAMINGHAM, MA 01901

SITE NUMBER: CTU2221
SITE NAME: WALLINGFORD-
NORTHROP RD
100 NORTHROP ROAD
WALLINGFORD, CT 06492
NEW HAVEN COUNTY

at&t
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T

DRAWING TITLE: GROUNDING, ONE-LINE DIAGRAM & DETAILS

JOB NUMBER: 15185-EMP

DRAWING NUMBER: G-1

SCALE: AS SHOWN

DESIGNED BY: N.M.

CHECKED BY: C.H.

DATE: 11/07/15

INITIAL SUBMISSION: N.M.

REVISIONS: N.M.

NO. DATE

SCALE: AS SHOWN

DESIGNED BY: N.M.

CHECKED BY: C.H.

DATE: 11/07/15

INITIAL SUBMISSION: N.M.

REVISIONS: N.M.

NO. DATE



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CORPORATION

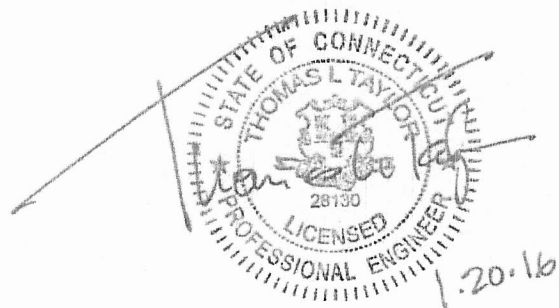
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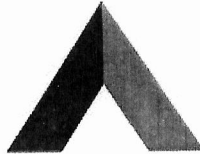


Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Parsonage Hill AKA Wallingford, CT
ATC Site Number : 302538
Engineering Number : 64761421
Proposed Carrier : AT&T Mobility
Carrier Site Name : Wallingford-Northrop Rd
Carrier Site Number : CT2221/FA#10035227
Site Location : 922 Northrop Road
Wallingford, CT 06492-1910
41.489347, -72.768253
County : New Haven
Date : January 18, 2016
Max Usage : 98%
Result : Pass

Prepared By:
Kyle Klabunde
SES Structural Engineer





AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



Structural Analysis Report

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Kyle Klabunde
SES Structural Engineer



Eng. Number 64761421
January 18, 2016

Table of Contents

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Valmont Drawing #DC1776A, dated June 29, 1994
Foundation Drawing	SAC Engineering, Valmont Order #11715-94, dated July 21, 1994
Geotechnical Report	AET Project #91294, dated July 8, 1994

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)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Spectral Response:	$S_s = 0.18$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	149.0	1	72" x 4" Panel	T-Arms	(12) 1 5/8" Coax	Sprint Nextel
		12	52" x 12" Panel			
148.0	153.0	1	10' Dipole	Flush	(1) 7/8" Coax	Double A Transportation
139.0	139.0	3	Ericsson KRY 112 144/1	T-Arms	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson RRUS 11 B12			
		3	Ericsson AIR 21 B4A/B12P-B5P 6FT			
133.5	134.0	2	Horizon Compact	Flush Collar Mount	(6) 5/16" Coax (2) 1/2" Coax (2) 2" Conduit Exposed	Clearwire Corporation
		3	Argus LLPX310R			
		1	DragonWave A-ANT-11G-2-C			
		1	DragonWave A-ANT-18G-2-C			
	132.0	3	NextNet BTS-2500			
123.0	123.0	6	Powerwave LGP21401	Platform w/ Handrails	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk (1) 3" Conduit	AT&T Mobility
		1	Raycap DC6-48-60-18-8F			
		3	Powerwave 7770.00			
		3	CCI OPA-65R-LCUU-H6			
		3	Ericsson RRUS-11			
		3	Ericsson RRUS 12 w/ RRUS A2			
111.0	111.0	-	-	Empty Platform w/ Handrails	-	-
105.0	105.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	Metro PCS, Inc.

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
123.0	123.0	3	Powerwave 7770.00	-	-	AT&T Mobility

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
123.0	123.0	1	Raycap DC6-48-60-18-8F	Platform w/ Handrails	-	AT&T Mobility
		3	CCI OPA-65R-LCUU-H6			
		3	Ericsson RRUS-32			

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
Anchor Bolts	93%	Pass
Shaft	98%	Pass
Base Plate	59%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,168.6	50%
Axial (Kips)	74.8	2%
Shear (Kips)	43.7	78%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
133.5	DragonWave A-ANT-11G-2-C	Clearwire Corporation	1.661	1.278
	DragonWave A-ANT-18G-2-C			
123.0	Raycap DC6-48-60-18-8F	AT&T Mobility	1.430	1.241
	Ericsson RRUS-32			
	CCI OPA-65R-LCUU-H6			

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



Standard Conditions

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

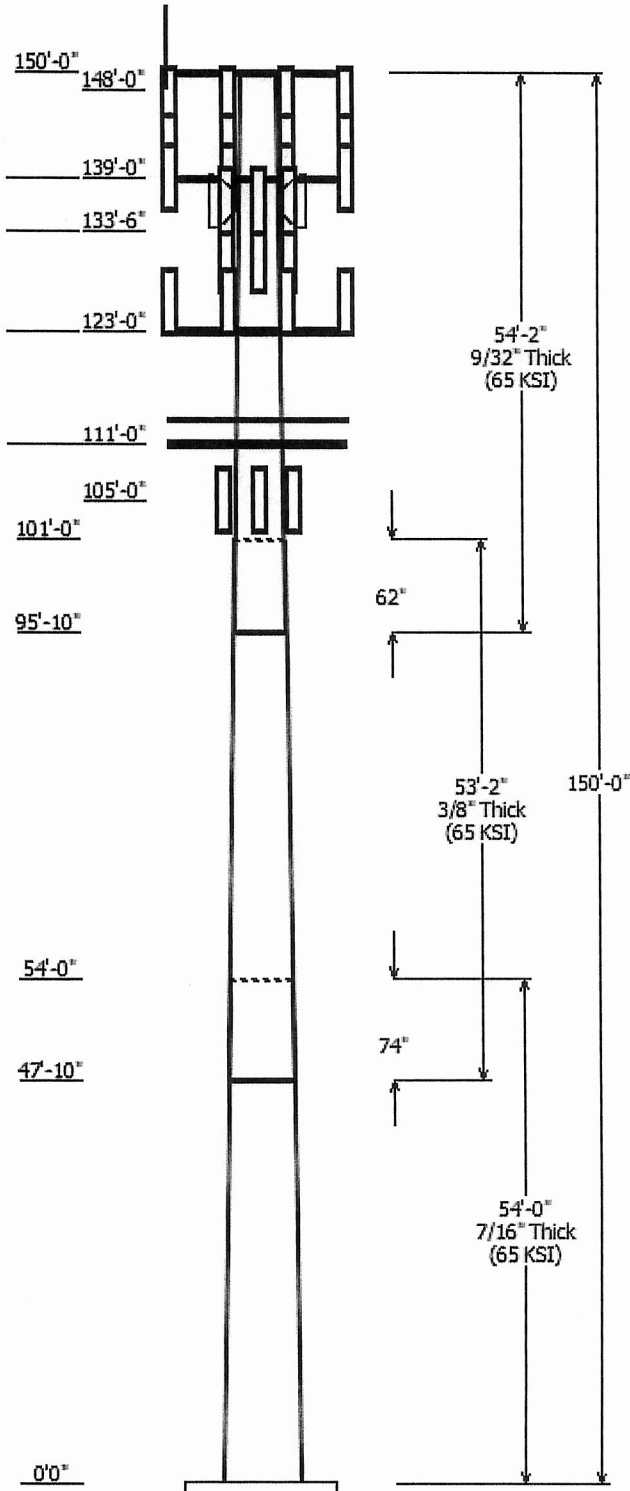
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements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

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

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

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

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Job Information

Pole : 302538 Code: ANSI/TIA-222-G
 Description : 150 ft Valmont Monopole
 Client : AT&T Mobility Struct Class : II
 Location : Parsonage Hill AKA Wallingford, CT
 Shape : 12 Sides Exposure : C
 Height : 150.00 (ft) Topo : 1
 Base Elev (ft): 0.00
 Taper: 0.18200(in/ft)

Sections Properties

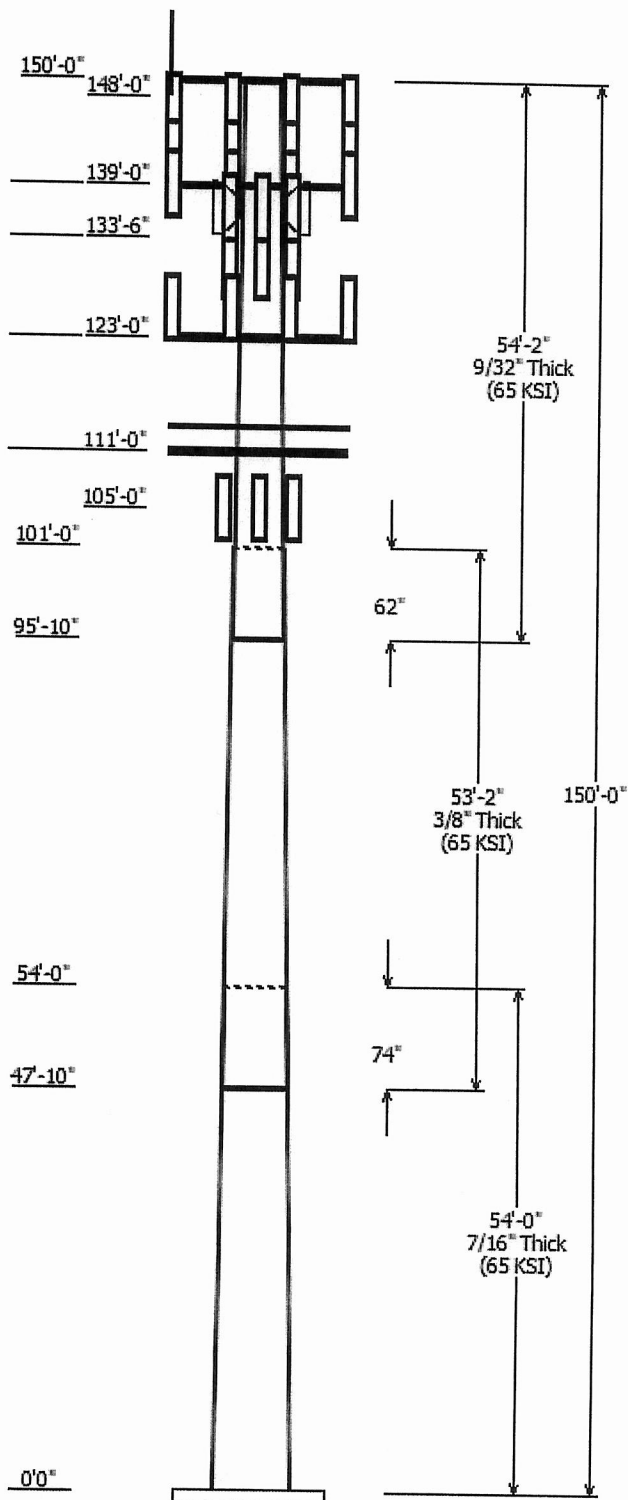
Shaft Section	Length (ft)	Diameter (in)		Thick Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom				
1	54.000	39.77	49.60	0.438	0.000	0.182000	65
2	53.167	31.96	41.64	0.375 Slip Joint	74.000	0.182000	65
3	54.167	23.61	33.47	0.281 Slip Joint	62.000	0.182000	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	150.000	3	Round T-Arm
150.000	149.000	1	72" x 4" Panel
150.000	149.000	12	52" x 12" Panel
148.000	153.000	1	10' Dipole
139.000	139.000	3	Round T-Arm
139.000	139.000	3	Ericsson AIR 21, 1.3 M, B2A B4
139.000	139.000	3	Ericsson KRY 112 144/1
139.000	139.000	3	Ericsson AIR 21 B4A/B12P-B5P
139.000	141.000	3	Ericsson RRUS 11 B12
133.500	133.500	3	Flush Mounts
133.500	134.000	1	DragonWave A-ANT-18G-2-C
133.500	134.000	1	DragonWave A-ANT-11G-2-C
133.500	134.000	3	Argus LLPX310R
133.500	132.000	3	NextNet BTS-2500
133.500	134.000	2	Horizon Compact
123.000	127.000	3	CCI OPA-65R-LCUU-H6
123.000	126.000	3	Ericsson RRUS-32
123.000	126.000	3	Ericsson RRUS-11
123.000	127.000	1	Raycap DC6-48-60-18-8F
123.000	127.000	1	Raycap DC6-48-60-18-8F
123.000	127.000	6	Powerwave Allgon LGP21401
123.000	126.000	3	Ericsson RRUS 12 w/ RRUS A2
123.000	123.000	1	Platform w/ Handrails
123.000	127.000	3	CCI OPA-65R-LCUU-H6
123.000	127.000	3	Powerwave 7770.00
111.000	111.000	1	Empty Platform w/ Handrails
105.000	105.000	3	RFS APXV18-206517S-C

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
0.000	105.0	1 5/8" Coax	No
0.000	123.0	0.39" Fiber Trunk	No
0.000	123.0	0.78" 8 AWG 6	No
0.000	123.0	1 5/8" Coax	No
0.000	123.0	3" Conduit	No
0.000	133.5	1/2" Coax	Yes
0.000	133.5	2" Conduit	Yes
0.000	133.5	5/16" Coax	No
0.000	139.0	1 1/4" Hybriflex	No
0.000	139.0	1 5/8" Coax	No

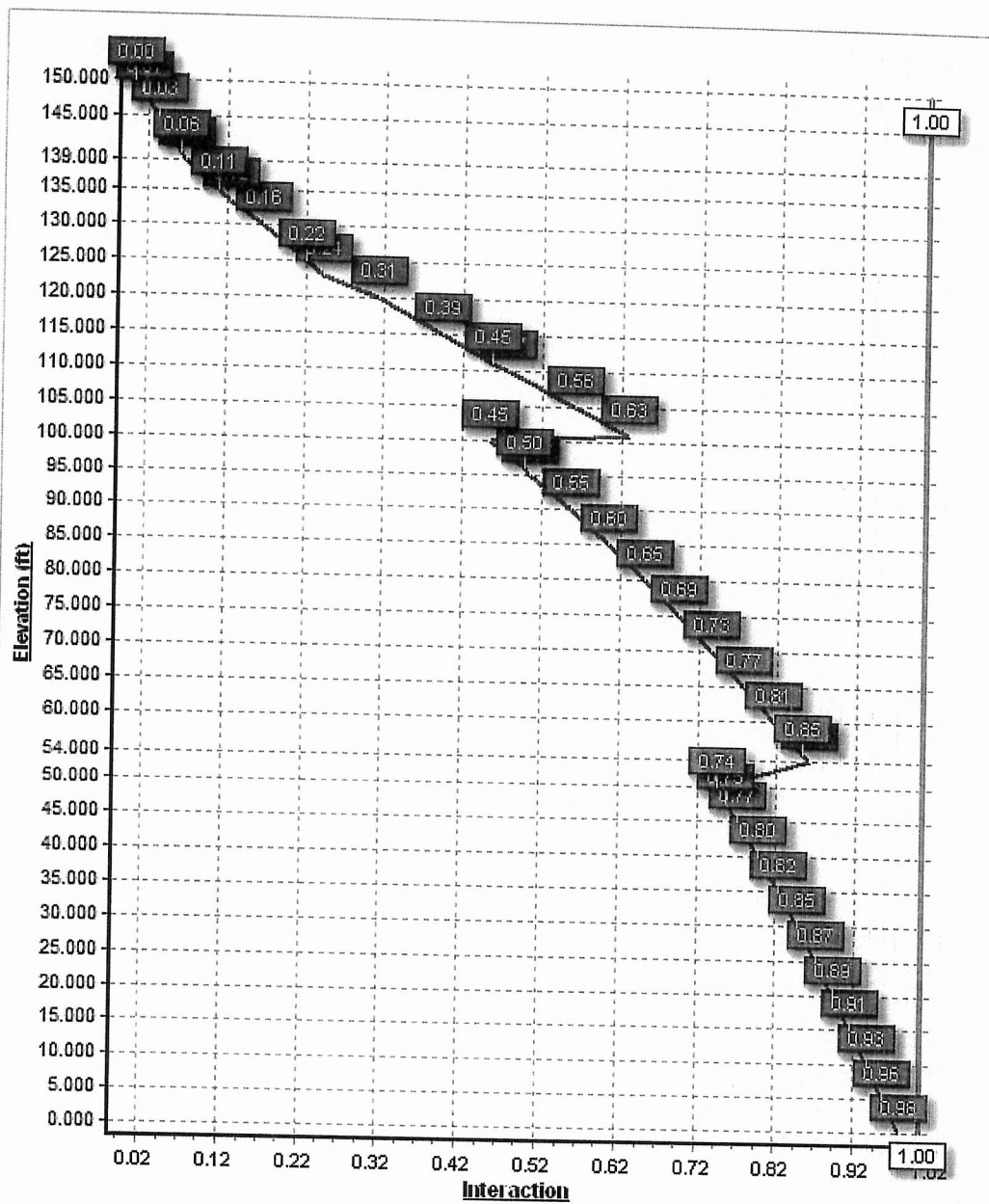


0.000	148.0	7/8" Coax	No
0.000	150.0	1 5/8" Coax	No

Load Cases	
1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4484.65	43.71	47.97
0.9D + 1.6W	4433.75	43.68	35.95
1.2D + 1.0Di + 1.0Wi	900.17	8.32	74.77
(1.2 + 0.2Sds) * DL + E ELFM	184.98	1.57	47.87
(1.2 + 0.2Sds) * DL + E EMAM	205.59	1.87	47.87
(0.9 - 0.2Sds) * DL + E ELFM	182.39	1.57	33.27
(0.9 - 0.2Sds) * DL + E EMAM	202.55	1.87	33.27
1.0D + 1.0W	910.22	8.92	40.06

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	133.50	21.750	1.407
1.0D + 1.0W	133.50	21.750	1.407



Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	150
Code:	ANSI/TIA-222-G	Base Diameter (in):	49.60
Shape:	12 Sides	Top Diameter (in):	23.61
Pole Type:	Taper	Taper (in/ft) :	0.182
Pole Manufacturer:	Valmont		

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	105 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 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):	2.29		
T_L (sec):	6	p :	1.3
S_s :	0.182	S_1 :	0.063
F_a :	1.600	F_v :	2.400
S_{ds} :	0.194	S_{d1} :	0.101
		C_s :	0.030
		C_s Max:	0.030
		C_s Min:	0.030

Load Cases

1.2D + 1.6W	105 mph with No Ice
0.9D + 1.6W	105 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 + 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 + 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford Engineering Number: 64761421

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Customer: AT&T Mobility

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom						Top						Taper (in/ft)
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	
1-12	54.000	0.4375	65		0.00	11,454	49.60	0.00	69.26	21365.7	27.70	113.37	39.77	54.00	55.41	10942.9	21.68	90.91	0.182000
2-12	53.167	0.3750	65	Slip	74.00	7,958	41.64	47.83	49.83	10833.0	27.08	111.05	31.96	101.00	38.15	4860.0	20.16	85.25	0.182000
3-12	54.167	0.2812	65	Slip	62.00	4,716	33.47	95.83	30.05	4225.3	29.21	119.03	23.61	150.00	21.13	1467.8	19.82	83.97	0.182000
Shaft Weight						24,129													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
150.00	52" x 12" Panel	12	40.00	5.550	0.78	182.82	6.587	0.78	0.000	-1.000
150.00	72" x 4" Panel	1	40.00	3.530	0.78	157.81	4.678	0.78	0.000	-1.000
150.00	Round T-Arm	3	250.00	9.700	0.67	459.29	17.955	0.67	0.000	0.000
148.00	10' Dipole	1	30.00	3.760	1.00	141.32	9.746	1.00	0.000	5.000
139.00	Ericsson AIR 21 B4A/B12P-	3	110.00	10.610	0.82	369.52	12.038	0.82	0.000	0.000
139.00	Ericsson AIR 21, 1.3 M, B2A	3	83.00	6.050	0.86	250.22	7.138	0.86	0.000	0.000
139.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.50	27.16	0.632	0.50	0.000	0.000
139.00	Ericsson RRUS 11 B12	3	50.70	2.790	0.67	136.16	3.463	0.67	0.000	2.000
139.00	Round T-Arm	3	250.00	9.700	0.67	457.54	17.886	0.67	0.000	0.000
133.50	Argus LLPX310R	3	28.60	4.290	0.73	134.72	5.177	0.73	0.000	0.500
133.50	DragonWave A-ANT-11G-2-C	1	27.00	4.690	1.00	123.17	5.950	1.00	0.000	0.500
133.50	DragonWave A-ANT-18G-2-C	1	27.10	4.690	1.00	123.63	5.950	1.00	0.000	0.500
133.50	Flush Mounts	3	200.00	3.500	1.00	544.54	7.118	1.00	0.000	0.000
133.50	Horizon Compact	2	10.60	0.430	0.50	40.32	0.657	0.50	0.000	0.500
133.50	NextNet BTS-2500	3	35.00	1.820	0.50	91.88	2.390	0.50	0.000	-1.500
123.00	CCI OPA-65R-LCUU-H6	3	73.00	9.660	0.79	299.12	10.996	0.79	0.000	4.000
123.00	CCI OPA-65R-LCUU-H6	3	73.00	9.660	0.79	299.12	10.996	0.79	0.000	4.000
123.00	Ericsson RRUS 12 w/ RRUS	3	71.40	3.150	0.67	169.11	4.289	0.67	0.000	3.000
123.00	Ericsson RRUS-11	3	50.00	2.570	0.67	129.40	3.206	0.67	0.000	3.000
123.00	Ericsson RRUS-32	3	77.00	3.870	0.67	172.42	5.341	0.67	0.000	3.000
123.00	Platform w/ Handrails	1	2000.00	42.400	1.00	3,394.39	62.977	1.00	0.000	0.000
123.00	Powerwave 7770.00	3	35.00	5.510	0.77	166.64	6.536	0.77	0.000	4.000
123.00	Powerwave Allgon LGP21401	6	14.10	1.100	0.50	46.78	1.553	0.50	0.000	4.000
123.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	122.39	2.838	1.00	0.000	4.000
123.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	122.39	2.838	1.00	0.000	4.000
111.00	Empty Platform w/ Handrails	1	2000.00	42.400	1.00	3,381.22	62.783	1.00	0.000	0.000
105.00	RFS APXV18-206517S-C	3	26.40	5.170	0.80	138.47	6.359	0.80	0.000	0.000
Totals		76	9045.80			21,657.43			Number of Loadings : 27	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N	0.00	Sprint Nextel
0.00	148.00	1	7/8" Coax	1.09	0.33	N	0.00	Double A Transportation
0.00	139.00	1	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	T-Mobile
0.00	139.00	12	1 5/8" Coax	1.98	0.82	N	0.00	T-Mobile
0.00	133.50	2	1/2" Coax	0.63	0.15	N	0.00	Clearwire
0.00	133.50	2	2" Conduit	2.38	3.65	N	2.38	Clearwire
0.00	133.50	6	5/16" Coax	0.31	0.05	N	0.00	Clearwire
0.00	123.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	AT&T Mobility
0.00	123.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	AT&T Mobility

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

0.00	123.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	123.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
0.00	105.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Metro PCS

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:50:54 PM

Customer: AT&T Mobility

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.4375	49.600	69.257	21,365.7	27.70	113.37	74.5	832.2	0.0	0.0
5.00		0.4375	48.690	67.975	20,201.1	27.14	111.29	75.1	801.5	0.0	1,167.4
10.00		0.4375	47.780	66.693	19,079.5	26.58	109.21	75.7	771.4	0.0	1,145.6
15.00		0.4375	46.870	65.412	18,000.3	26.03	107.13	76.3	741.9	0.0	1,123.8
20.00		0.4375	45.960	64.130	16,962.6	25.47	105.05	76.9	713.0	0.0	1,102.0
25.00		0.4375	45.050	62.848	15,965.5	24.91	102.97	77.5	684.6	0.0	1,080.2
30.00		0.4375	44.140	61.566	15,008.3	24.35	100.89	78.2	656.9	0.0	1,058.4
35.00		0.4375	43.230	60.284	14,090.2	23.80	98.81	78.8	629.7	0.0	1,036.6
40.00		0.4375	42.320	59.002	13,210.3	23.24	96.73	79.4	603.0	0.0	1,014.8
45.00		0.4375	41.410	57.720	12,367.8	22.68	94.65	80.0	577.0	0.0	992.9
47.83	Bot - Section 2	0.4375	40.894	56.993	11,906.6	22.37	93.47	80.3	562.5	0.0	553.0
50.00		0.4375	40.500	56.438	11,561.9	22.12	92.57	80.6	551.5	0.0	783.8
54.00	Top - Section 1	0.3750	40.522	48.477	9,973.0	26.27	108.06	76.1	475.5	0.0	1,427.0
55.00		0.3750	40.340	48.257	9,838.0	26.14	107.57	76.2	471.1	0.0	164.6
60.00		0.3750	39.430	47.159	9,181.1	25.49	105.15	76.9	449.8	0.0	811.7
65.00		0.3750	38.520	46.060	8,554.2	24.84	102.72	77.6	429.0	0.0	793.0
70.00		0.3750	37.610	44.961	7,956.5	24.19	100.29	78.3	408.7	0.0	774.3
75.00		0.3750	36.700	43.862	7,387.3	23.54	97.87	79.0	388.9	0.0	755.6
80.00		0.3750	35.790	42.763	6,845.9	22.89	95.44	79.7	369.5	0.0	736.9
85.00		0.3750	34.880	41.665	6,331.6	22.24	93.01	80.5	350.7	0.0	718.2
90.00		0.3750	33.970	40.566	5,843.7	21.59	90.59	81.2	332.3	0.0	699.5
95.00		0.3750	33.060	39.467	5,381.6	20.94	88.16	81.9	314.5	0.0	680.8
95.83	Bot - Section 3	0.3750	32.908	39.284	5,307.0	20.83	87.76	81.9	311.5	0.0	111.6
100.0		0.3750	32.150	38.368	4,944.5	20.29	85.73	81.9	297.1	0.0	971.7
101.0	Top - Section 2	0.2812	32.530	29.200	3,876.2	28.32	115.68	73.8	230.2	0.0	229.8
105.0		0.2812	31.802	28.541	3,619.6	27.62	113.09	74.6	219.9	0.0	393.0
110.0		0.2812	30.892	27.717	3,315.0	26.76	109.86	75.5	207.3	0.0	478.6
111.0		0.2812	30.710	27.552	3,256.3	26.58	109.21	75.7	204.8	0.0	94.0
115.0		0.2812	29.982	26.893	3,028.1	25.89	106.62	76.5	195.1	0.0	370.5
120.0		0.2812	29.072	26.069	2,758.2	25.02	103.39	77.4	183.3	0.0	450.5
123.0		0.2812	28.526	25.575	2,604.2	24.50	101.44	78.0	176.4	0.0	263.6
125.0		0.2812	28.162	25.245	2,504.9	24.16	100.15	78.4	171.8	0.0	172.9
130.0		0.2812	27.252	24.421	2,267.5	23.29	96.91	79.3	160.7	0.0	422.5
133.5		0.2812	26.615	23.844	2,110.6	22.68	94.65	80.0	153.2	0.0	287.4
135.0		0.2812	26.342	23.597	2,045.6	22.42	93.68	80.3	150.0	0.0	121.1
139.0		0.2812	25.614	22.938	1,879.0	21.73	91.09	81.0	141.7	0.0	316.7
140.0		0.2812	25.432	22.773	1,838.8	21.55	90.44	81.2	139.7	0.0	77.8
145.0		0.2812	24.522	21.949	1,646.3	20.69	87.21	81.9	129.7	0.0	380.5
148.0		0.2812	23.976	21.455	1,537.5	20.17	85.26	81.9	123.9	0.0	221.5
150.0		0.2812	23.612	21.125	1,467.8	19.82	83.97	81.9	120.1	0.0	144.9
											24,128.9

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:50:54 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W

105 mph with No Ice

25 Iterations

Gust Response Factor : 1.10

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Dead Load (lb)	Linear Forces		Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		425.2	0.0					0.0	0.0	425.2	0.0	0.0	0.0
5.00		842.5	1,400.9					0.0	314.8	842.5	1,715.7	0.0	0.0
10.00		826.7	1,374.7					0.0	314.8	826.7	1,689.5	0.0	0.0
15.00		823.7	1,348.6					0.0	314.8	823.7	1,663.3	0.0	0.0
20.00		842.5	1,322.4					0.0	314.8	842.5	1,637.2	0.0	0.0
25.00		865.9	1,296.2					0.0	314.8	865.9	1,611.0	0.0	0.0
30.00		881.9	1,270.1					0.0	314.8	881.9	1,584.8	0.0	0.0
35.00		892.4	1,243.9					0.0	314.8	892.4	1,558.6	0.0	0.0
40.00		898.6	1,217.7					0.0	314.8	898.6	1,532.5	0.0	0.0
45.00		706.0	1,191.5					0.0	314.8	706.0	1,506.3	0.0	0.0
47.83	Bot - Section 2	454.6	663.6					0.0	178.4	454.6	841.9	0.0	0.0
50.00		566.2	940.5					0.0	136.4	566.2	1,076.9	0.0	0.0
54.00	Top - Section 1	458.8	1,712.4					0.0	251.8	458.8	1,964.2	0.0	0.0
55.00		549.0	197.5					0.0	63.0	549.0	260.5	0.0	0.0
60.00		912.0	974.0					0.0	314.8	912.0	1,288.8	0.0	0.0
65.00		906.2	951.6					0.0	314.8	906.2	1,266.4	0.0	0.0
70.00		898.7	929.2					0.0	314.8	898.7	1,243.9	0.0	0.0
75.00		889.8	906.7					0.0	314.8	889.8	1,221.5	0.0	0.0
80.00		879.6	884.3					0.0	314.8	879.6	1,199.1	0.0	0.0
85.00		868.3	861.9					0.0	314.8	868.3	1,176.6	0.0	0.0
90.00		855.9	839.4					0.0	314.8	855.9	1,154.2	0.0	0.0
95.00		494.8	817.0					0.0	314.8	494.8	1,131.8	0.0	0.0
95.83	Bot - Section 3	423.8	134.0					0.0	52.5	423.8	186.4	0.0	0.0
100.00		437.8	1,166.1					0.0	262.3	437.8	1,428.4	0.0	0.0
101.00	Top - Section 2	417.7	275.8					0.0	62.9	417.7	338.7	0.0	0.0
105.00	Appertunance(s)	743.6	471.6	748.7	0.0	0.0	95.0	0.0	251.8	1,492.3	818.4	0.0	0.0
110.00		491.0	574.3					0.0	285.2	491.0	859.5	0.0	0.0
111.00	Appertunance(s)	401.9	112.8	2,588.6	0.0	0.0	2,400.0	0.0	57.0	2,990.5	2,569.9	0.0	0.0
115.00		714.4	444.6					0.0	228.2	714.4	672.8	0.0	0.0
120.00		625.4	540.7					0.0	285.2	625.4	825.9	0.0	0.0
123.00	Appertunance(s)	384.7	316.3	6,584.1	0.0	14,849.5	3,943.7	0.0	171.1	6,968.9	4,431.1	0.0	0.0
125.00		528.5	207.5					0.0	69.3	528.5	276.8	0.0	0.0
130.00		633.0	507.0					0.0	173.3	633.0	680.3	0.0	0.0
133.50	Appertunance(s)	366.3	344.9	1,614.1	0.0	280.5	1,039.3	0.0	121.3	1,980.3	1,505.5	0.0	0.0
135.00		394.9	145.3					0.0	37.8	394.9	183.1	0.0	0.0
139.00	Appertunance(s)	356.6	380.0	3,391.5	0.0	576.1	1,816.9	0.0	100.8	3,748.1	2,297.8	0.0	0.0
140.00		417.2	93.3					0.0	12.2	417.2	105.5	0.0	0.0
145.00		549.8	456.5					0.0	61.0	549.8	517.6	0.0	0.0
148.00	Appertunance(s)	336.5	265.9	196.5	0.0	982.4	36.0	0.0	36.6	532.9	338.5	0.0	0.0
150.00	Appertunance(s)	133.3	173.9	3,793.7	0.0	-2,842.5	1,524.0	0.0	23.6	3,927.0	1,721.5	0.0	0.0
Totals:										44,012.5	48,082.5	0.00	0.00

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:50:56 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W

105 mph with No Ice

25 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.97	-43.71	0.00	-4,484.65	0.00	4,484.65	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.975
5.00	-46.04	-43.10	0.00	-4,266.09	0.00	4,266.09	4,595.29	2,297.65	9,142.89	4,515.33	0.16	-0.29	0.955
10.00	-44.14	-42.49	0.00	-4,050.60	0.00	4,050.60	4,545.11	2,272.56	8,870.98	4,381.04	0.62	-0.58	0.935
15.00	-42.27	-41.86	0.00	-3,838.17	0.00	3,838.17	4,493.53	2,246.77	8,600.18	4,247.31	1.39	-0.88	0.913
20.00	-40.43	-41.20	0.00	-3,628.87	0.00	3,628.87	4,440.55	2,220.28	8,330.66	4,114.20	2.47	-1.17	0.891
25.00	-38.64	-40.49	0.00	-3,422.89	0.00	3,422.89	4,386.17	2,193.08	8,062.58	3,981.80	3.85	-1.47	0.869
30.00	-36.87	-39.76	0.00	-3,220.42	0.00	3,220.42	4,330.38	2,165.19	7,796.08	3,850.19	5.55	-1.76	0.845
35.00	-35.14	-39.00	0.00	-3,021.63	0.00	3,021.63	4,273.19	2,136.59	7,531.34	3,719.45	7.56	-2.06	0.821
40.00	-33.45	-38.21	0.00	-2,826.65	0.00	2,826.65	4,214.59	2,107.30	7,268.52	3,589.65	9.87	-2.36	0.796
45.00	-31.83	-37.57	0.00	-2,635.59	0.00	2,635.59	4,154.60	2,077.30	7,007.76	3,460.87	12.50	-2.65	0.770
47.83	-30.91	-37.16	0.00	-2,529.15	0.00	2,529.15	4,119.98	2,059.99	6,860.98	3,388.38	14.12	-2.82	0.754
50.00	-29.75	-36.63	0.00	-2,448.64	0.00	2,448.64	4,093.20	2,046.60	6,749.23	3,333.19	15.43	-2.95	0.742
54.00	-27.72	-36.14	0.00	-2,302.13	0.00	2,302.13	3,318.39	1,659.20	5,491.78	2,712.18	18.00	-3.18	0.858
55.00	-27.37	-35.67	0.00	-2,265.99	0.00	2,265.99	3,309.51	1,654.75	5,452.02	2,692.55	18.67	-3.24	0.850
60.00	-25.95	-34.82	0.00	-2,087.66	0.00	2,087.66	3,264.25	1,632.12	5,253.88	2,594.69	22.23	-3.56	0.813
65.00	-24.56	-33.97	0.00	-1,913.56	0.00	1,913.56	3,217.59	1,608.79	5,056.96	2,497.44	26.12	-3.87	0.774
70.00	-23.21	-33.11	0.00	-1,743.74	0.00	1,743.74	3,169.52	1,584.76	4,861.43	2,400.88	30.33	-4.17	0.734
75.00	-21.90	-32.24	0.00	-1,578.21	0.00	1,578.21	3,120.06	1,560.03	4,667.43	2,305.07	34.85	-4.47	0.692
80.00	-20.62	-31.37	0.00	-1,417.03	0.00	1,417.03	3,069.19	1,534.59	4,475.14	2,210.10	39.68	-4.75	0.648
85.00	-19.37	-30.49	0.00	-1,260.19	0.00	1,260.19	3,016.92	1,508.46	4,284.71	2,116.06	44.81	-5.03	0.602
90.00	-18.17	-29.62	0.00	-1,107.73	0.00	1,107.73	2,963.24	1,481.62	4,096.29	2,023.00	50.21	-5.30	0.554
95.00	-17.02	-29.06	0.00	-959.63	0.00	959.63	2,909.11	1,454.55	3,911.32	1,931.65	55.89	-5.55	0.503
95.83	-16.81	-28.66	0.00	-935.41	0.00	935.41	2,895.61	1,447.80	3,874.90	1,913.67	56.86	-5.59	0.495
100.00	-15.37	-28.11	0.00	-816.00	0.00	816.00	2,828.11	1,414.06	3,695.36	1,825.00	61.83	-5.79	0.453
101.00	-15.03	-27.69	0.00	-787.89	0.00	787.89	1,940.27	970.14	2,580.96	1,274.64	63.04	-5.83	0.627
105.00	-14.27	-26.18	0.00	-677.12	0.00	677.12	1,915.90	957.95	2,490.51	1,229.97	68.00	-6.01	0.559
110.00	-13.41	-25.63	0.00	-546.24	0.00	546.24	1,884.18	942.09	2,377.95	1,174.38	74.41	-6.25	0.473
111.00	-11.14	-22.40	0.00	-520.61	0.00	520.61	1,877.67	938.84	2,355.51	1,163.30	75.72	-6.29	0.454
115.00	-10.48	-21.64	0.00	-431.03	0.00	431.03	1,851.06	925.53	2,266.06	1,119.12	81.05	-6.46	0.391
120.00	-9.68	-20.95	0.00	-322.81	0.00	322.81	1,816.54	908.27	2,155.03	1,064.29	87.90	-6.63	0.309
123.00	-6.08	-13.52	0.00	-245.11	0.00	245.11	1,795.15	897.57	2,088.87	1,031.62	92.09	-6.73	0.241
125.00	-5.85	-12.97	0.00	-218.07	0.00	218.07	1,780.61	890.30	2,044.99	1,009.94	94.91	-6.78	0.219
130.00	-5.23	-12.27	0.00	-153.22	0.00	153.22	1,743.28	871.64	1,936.12	956.18	102.05	-6.88	0.163
133.50	-3.97	-10.12	0.00	-110.00	0.00	110.00	1,716.31	858.16	1,860.69	918.92	107.11	-6.94	0.122
135.00	-3.83	-9.71	0.00	-94.81	0.00	94.81	1,704.55	852.27	1,828.57	903.06	109.29	-6.96	0.107
139.00	-2.00	-5.71	0.00	-55.39	0.00	55.39	1,672.55	836.27	1,743.59	861.09	115.12	-7.00	0.066
140.00	-1.95	-5.29	0.00	-49.67	0.00	49.67	1,664.41	832.21	1,722.50	850.68	116.59	-7.01	0.060
145.00	-1.50	-4.68	0.00	-23.24	0.00	23.24	1,617.89	808.94	1,613.10	796.65	123.92	-7.04	0.030
148.00	-1.23	-4.11	0.00	-8.22	0.00	8.22	1,581.45	790.72	1,540.85	760.97	128.34	-7.05	0.012
150.00	0.00	-3.93	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	131.28	-7.05	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:50:56 PM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W**105 mph with No Ice (Reduced DL)****25 Iterations****Gust Response Factor : 1.10****Wind Importance Factor : 1.00****Dead Load Factor : 0.90****Wind Load Factor : 1.60****Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		425.2	0.0					0.0	0.0	425.2	0.0	0.0	0.0
5.00		842.5	1,050.7					0.0	236.1	842.5	1,286.8	0.0	0.0
10.00		826.7	1,031.1					0.0	236.1	826.7	1,267.1	0.0	0.0
15.00		823.7	1,011.4					0.0	236.1	823.7	1,247.5	0.0	0.0
20.00		842.5	991.8					0.0	236.1	842.5	1,227.9	0.0	0.0
25.00		865.9	972.2					0.0	236.1	865.9	1,208.2	0.0	0.0
30.00		881.9	952.5					0.0	236.1	881.9	1,188.6	0.0	0.0
35.00		892.4	932.9					0.0	236.1	892.4	1,169.0	0.0	0.0
40.00		898.6	913.3					0.0	236.1	898.6	1,149.3	0.0	0.0
45.00		706.0	893.6					0.0	236.1	706.0	1,129.7	0.0	0.0
47.83	Bot - Section 2	454.6	497.7					0.0	133.8	454.6	631.5	0.0	0.0
50.00		566.2	705.4					0.0	102.3	566.2	807.7	0.0	0.0
54.00	Top - Section 1	458.8	1,284.3					0.0	188.9	458.8	1,473.2	0.0	0.0
55.00		549.0	148.1					0.0	47.2	549.0	195.3	0.0	0.0
60.00		912.0	730.5					0.0	236.1	912.0	966.6	0.0	0.0
65.00		906.2	713.7					0.0	236.1	906.2	949.8	0.0	0.0
70.00		898.7	696.9					0.0	236.1	898.7	932.9	0.0	0.0
75.00		889.8	680.1					0.0	236.1	889.8	916.1	0.0	0.0
80.00		879.6	663.2					0.0	236.1	879.6	899.3	0.0	0.0
85.00		868.3	646.4					0.0	236.1	868.3	882.5	0.0	0.0
90.00		855.9	629.6					0.0	236.1	855.9	865.6	0.0	0.0
95.00		494.8	612.7					0.0	236.1	494.8	848.8	0.0	0.0
95.83	Bot - Section 3	423.8	100.5					0.0	39.3	423.8	139.8	0.0	0.0
100.00		437.8	874.5					0.0	196.7	437.8	1,071.3	0.0	0.0
101.00	Top - Section 2	417.7	206.8					0.0	47.2	417.7	254.0	0.0	0.0
105.00	Appertunance(s)	743.6	353.7	748.7	0.0	0.0	71.3	0.0	188.9	1,492.3	613.8	0.0	0.0
110.00		491.0	430.7					0.0	213.9	491.0	644.7	0.0	0.0
111.00	Appertunance(s)	401.9	84.6	2,588.6	0.0	0.0	1,800.0	0.0	42.8	2,990.5	1,927.4	0.0	0.0
115.00		714.4	333.5					0.0	171.1	714.4	504.6	0.0	0.0
120.00		625.4	405.5					0.0	213.9	625.4	619.4	0.0	0.0
123.00	Appertunance(s)	384.7	237.2	6,584.1	0.0	14,849.5	2,957.8	0.0	128.4	6,968.9	3,323.4	0.0	0.0
125.00		528.5	155.6					0.0	52.0	528.5	207.6	0.0	0.0
130.00		633.0	380.3					0.0	130.0	633.0	510.2	0.0	0.0
133.50	Appertunance(s)	366.3	258.7	1,614.1	0.0	280.5	779.5	0.0	91.0	1,980.3	1,129.1	0.0	0.0
135.00		394.9	109.0					0.0	28.4	394.9	137.3	0.0	0.0
139.00	Appertunance(s)	356.6	285.0	3,391.5	0.0	576.1	1,362.7	0.0	75.6	3,748.1	1,723.4	0.0	0.0
140.00		417.2	70.0					0.0	9.2	417.2	79.1	0.0	0.0
145.00		549.8	342.4					0.0	45.8	549.8	388.2	0.0	0.0
148.00	Appertunance(s)	336.5	199.4	196.5	0.0	982.4	27.0	0.0	27.5	532.9	253.8	0.0	0.0
150.00	Appertunance(s)	133.3	130.4	3,793.7	0.0	-2,842.5	1,143.0	0.0	17.7	3,927.0	1,291.1	0.0	0.0
Totals:										44,012.5	36,061.8	0.00	0.00

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:50:58 PM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W

105 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-35.95	-43.68	0.00	-4,433.75	0.00	4,433.75	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.962
5.00	-34.45	-43.01	0.00	-4,215.36	0.00	4,215.36	4,595.29	2,297.65	9,142.89	4,515.33	0.15	-0.29	0.941
10.00	-32.97	-42.34	0.00	-4,000.32	0.00	4,000.32	4,545.11	2,272.56	8,870.98	4,381.04	0.61	-0.58	0.921
15.00	-31.53	-41.66	0.00	-3,788.63	0.00	3,788.63	4,493.53	2,246.77	8,600.18	4,247.31	1.37	-0.87	0.899
20.00	-30.11	-40.95	0.00	-3,580.34	0.00	3,580.34	4,440.55	2,220.28	8,330.66	4,114.20	2.44	-1.16	0.877
25.00	-28.71	-40.20	0.00	-3,375.59	0.00	3,375.59	4,386.17	2,193.08	8,062.58	3,981.80	3.81	-1.45	0.855
30.00	-27.35	-39.43	0.00	-3,174.58	0.00	3,174.58	4,330.38	2,165.19	7,796.08	3,850.19	5.48	-1.74	0.831
35.00	-26.01	-38.63	0.00	-2,977.44	0.00	2,977.44	4,273.19	2,136.59	7,531.34	3,719.45	7.46	-2.03	0.807
40.00	-24.71	-37.81	0.00	-2,784.30	0.00	2,784.30	4,214.59	2,107.30	7,268.52	3,589.65	9.75	-2.32	0.782
45.00	-23.46	-37.15	0.00	-2,595.23	0.00	2,595.23	4,154.60	2,077.30	7,007.76	3,460.87	12.34	-2.61	0.756
47.83	-22.76	-36.73	0.00	-2,489.96	0.00	2,489.96	4,119.98	2,059.99	6,860.98	3,388.38	13.94	-2.78	0.741
50.00	-21.87	-36.19	0.00	-2,410.39	0.00	2,410.39	4,093.20	2,046.60	6,749.23	3,333.19	15.23	-2.91	0.729
54.00	-20.33	-35.71	0.00	-2,265.63	0.00	2,265.63	3,318.39	1,659.20	5,491.78	2,712.18	17.77	-3.14	0.842
55.00	-20.05	-35.21	0.00	-2,229.92	0.00	2,229.92	3,309.51	1,654.75	5,452.02	2,692.55	18.43	-3.20	0.835
60.00	-18.96	-34.35	0.00	-2,053.86	0.00	2,053.86	3,264.25	1,632.12	5,253.88	2,594.69	21.94	-3.51	0.798
65.00	-17.89	-33.48	0.00	-1,882.13	0.00	1,882.13	3,217.59	1,608.79	5,056.96	2,497.44	25.77	-3.81	0.760
70.00	-16.86	-32.60	0.00	-1,714.75	0.00	1,714.75	3,169.52	1,584.76	4,861.43	2,400.88	29.92	-4.11	0.720
75.00	-15.85	-31.73	0.00	-1,551.73	0.00	1,551.73	3,120.06	1,560.03	4,667.43	2,305.07	34.38	-4.40	0.679
80.00	-14.87	-30.85	0.00	-1,393.09	0.00	1,393.09	3,069.19	1,534.59	4,475.14	2,210.10	39.14	-4.68	0.636
85.00	-13.93	-29.98	0.00	-1,238.83	0.00	1,238.83	3,016.92	1,508.46	4,284.71	2,116.06	44.19	-4.96	0.590
90.00	-13.01	-29.11	0.00	-1,088.94	0.00	1,088.94	2,963.24	1,481.62	4,096.29	2,023.00	49.51	-5.22	0.543
95.00	-12.14	-28.57	0.00	-943.40	0.00	943.40	2,909.11	1,454.55	3,911.32	1,931.65	55.11	-5.47	0.493
95.83	-11.98	-28.16	0.00	-919.60	0.00	919.60	2,895.61	1,447.80	3,874.90	1,913.67	56.06	-5.51	0.485
100.00	-10.90	-27.64	0.00	-802.29	0.00	802.29	2,828.11	1,414.06	3,695.36	1,825.00	60.95	-5.70	0.444
101.00	-10.64	-27.22	0.00	-774.65	0.00	774.65	1,940.27	970.14	2,580.96	1,274.64	62.15	-5.75	0.614
105.00	-10.09	-25.71	0.00	-665.78	0.00	665.78	1,915.90	957.95	2,490.51	1,229.97	67.03	-5.91	0.547
110.00	-9.44	-25.17	0.00	-537.26	0.00	537.26	1,884.18	942.09	2,377.95	1,174.38	73.34	-6.15	0.463
111.00	-7.81	-22.01	0.00	-512.08	0.00	512.08	1,877.67	938.84	2,355.51	1,163.30	74.63	-6.20	0.445
115.00	-7.32	-21.26	0.00	-424.06	0.00	424.06	1,851.06	925.53	2,266.06	1,119.12	79.88	-6.36	0.383
120.00	-6.73	-20.59	0.00	-317.74	0.00	317.74	1,816.54	908.27	2,155.03	1,064.29	86.63	-6.53	0.303
123.00	-4.21	-13.29	0.00	-241.13	0.00	241.13	1,795.15	897.57	2,088.87	1,031.62	90.76	-6.62	0.236
125.00	-4.05	-12.75	0.00	-214.56	0.00	214.56	1,780.61	890.30	2,044.99	1,009.94	93.53	-6.67	0.215
130.00	-3.60	-12.06	0.00	-150.83	0.00	150.83	1,743.28	871.64	1,936.12	956.18	100.57	-6.78	0.160
133.50	-2.70	-9.96	0.00	-108.34	0.00	108.34	1,716.31	858.16	1,860.69	918.92	105.54	-6.83	0.120
135.00	-2.61	-9.56	0.00	-93.39	0.00	93.39	1,704.55	852.27	1,828.57	903.06	107.69	-6.85	0.105
139.00	-1.35	-5.63	0.00	-54.59	0.00	54.59	1,672.55	836.27	1,743.59	861.09	113.44	-6.89	0.064
140.00	-1.32	-5.21	0.00	-48.96	0.00	48.96	1,664.41	832.21	1,722.50	850.68	114.88	-6.90	0.058
145.00	-1.00	-4.61	0.00	-22.93	0.00	22.93	1,617.89	808.94	1,613.10	796.65	122.11	-6.93	0.029
148.00	-0.81	-4.05	0.00	-8.11	0.00	8.11	1,581.45	790.72	1,540.85	760.97	126.45	-6.94	0.011
150.00	0.00	-3.93	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	129.35	-6.94	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford Engineering Number: 64761421

1/19/2016 3:50:58 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Dead Load (lb)	Linear Forces		Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		75.6	0.0					0.0	0.0	75.6	0.0	0.0	0.0
5.00		150.2	1,775.1					0.0	363.4	150.2	2,138.4	0.0	0.0
10.00		148.1	1,785.8					0.0	370.5	148.1	2,156.3	0.0	0.0
15.00		148.1	1,773.7					0.0	374.3	148.1	2,148.1	0.0	0.0
20.00		151.9	1,754.2					0.0	377.0	151.9	2,131.2	0.0	0.0
25.00		156.5	1,730.8					0.0	379.1	156.5	2,109.9	0.0	0.0
30.00		159.7	1,705.1					0.0	380.8	159.7	2,085.9	0.0	0.0
35.00		162.0	1,677.6					0.0	382.3	162.0	2,059.9	0.0	0.0
40.00		163.5	1,648.9					0.0	383.6	163.5	2,032.5	0.0	0.0
45.00		128.7	1,619.3					0.0	384.8	128.7	2,004.0	0.0	0.0
47.83	Bot - Section 2	82.9	905.3					0.0	218.5	82.9	1,123.8	0.0	0.0
50.00		103.4	1,127.9					0.0	167.3	103.4	1,295.2	0.0	0.0
54.00	Top - Section 1	83.8	2,054.6					0.0	309.3	83.8	2,364.0	0.0	0.0
55.00		100.5	283.1					0.0	77.4	100.5	360.5	0.0	0.0
60.00		167.2	1,395.0					0.0	387.7	167.2	1,782.7	0.0	0.0
65.00		166.5	1,366.8					0.0	388.5	166.5	1,755.3	0.0	0.0
70.00		165.5	1,338.2					0.0	389.3	165.5	1,727.5	0.0	0.0
75.00		164.3	1,309.3					0.0	390.0	164.3	1,699.3	0.0	0.0
80.00		162.8	1,280.0					0.0	390.7	162.8	1,670.7	0.0	0.0
85.00		161.1	1,250.5					0.0	391.3	161.1	1,641.8	0.0	0.0
90.00		159.3	1,220.7					0.0	391.9	159.3	1,612.6	0.0	0.0
95.00		92.2	1,190.7					0.0	392.5	92.2	1,583.2	0.0	0.0
95.83	Bot - Section 3	79.1	196.2					0.0	65.5	79.1	261.6	0.0	0.0
100.00		81.7	1,476.2					0.0	327.6	81.7	1,803.8	0.0	0.0
101.00	Top - Section 2	78.2	350.0					0.0	78.7	78.2	428.7	0.0	0.0
105.00	Appertunance(s)	139.4	762.9	130.5	0.0	0.0	431.3	0.0	315.0	270.0	1,509.1	0.0	0.0
110.00		92.2	930.2					0.0	364.6	92.2	1,294.8	0.0	0.0
111.00	Appertunance(s)	75.7	183.8	543.2	0.0	0.0	5,781.2	0.0	73.0	618.9	6,038.0	0.0	0.0
115.00		134.8	722.8					0.0	292.1	134.8	1,015.0	0.0	0.0
120.00		118.3	879.8					0.0	365.6	118.3	1,245.4	0.0	0.0
123.00	Appertunance(s)	73.0	516.9	1,246.5	0.0	2,586.9	7,721.4	0.0	219.6	1,319.5	8,457.9	0.0	0.0
125.00		100.6	339.9					0.0	101.7	100.6	441.6	0.0	0.0
130.00		120.7	828.8					0.0	254.6	120.7	1,083.4	0.0	0.0
133.50	Appertunance(s)	70.0	565.9	341.9	0.0	47.4	2,458.0	0.0	178.4	411.9	3,202.4	0.0	0.0
135.00		75.8	239.3					0.0	37.8	75.8	277.1	0.0	0.0
139.00	Appertunance(s)	68.5	624.7	650.7	0.0	101.3	3,832.6	0.0	100.8	719.2	4,558.2	0.0	0.0
140.00		80.4	154.2					0.0	12.2	80.4	166.4	0.0	0.0
145.00		106.2	751.4					0.0	61.0	106.2	812.4	0.0	0.0
148.00	Appertunance(s)	65.2	439.6	72.2	0.0	360.9	115.3	0.0	36.6	137.4	591.5	0.0	0.0
150.00	Appertunance(s)	25.9	288.3	730.4	0.0	-480.9	3,791.5	0.0	23.6	756.3	4,103.4	0.0	0.0
Totals:										8,355.41	74,773.4	0.00	0.00

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford Engineering Number: 64761421

1/19/2016 3:51:00 PM

Customer: AT&T Mobility

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-74.77	-8.32	0.00	-900.17	0.00	900.17	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.210
5.00	-72.62	-8.24	0.00	-858.58	0.00	858.58	4,595.29	2,297.65	9,142.89	4,515.33	0.03	-0.06	0.206
10.00	-70.46	-8.16	0.00	-817.37	0.00	817.37	4,545.11	2,272.56	8,870.98	4,381.04	0.12	-0.12	0.202
15.00	-68.30	-8.08	0.00	-776.56	0.00	776.56	4,493.53	2,246.77	8,600.18	4,247.31	0.28	-0.18	0.198
20.00	-66.16	-7.99	0.00	-736.16	0.00	736.16	4,440.55	2,220.28	8,330.66	4,114.20	0.50	-0.24	0.194
25.00	-64.05	-7.89	0.00	-696.21	0.00	696.21	4,386.17	2,193.08	8,062.58	3,981.80	0.78	-0.30	0.189
30.00	-61.95	-7.78	0.00	-656.76	0.00	656.76	4,330.38	2,165.19	7,796.08	3,850.19	1.12	-0.36	0.185
35.00	-59.89	-7.67	0.00	-617.84	0.00	617.84	4,273.19	2,136.59	7,531.34	3,719.45	1.53	-0.42	0.180
40.00	-57.85	-7.55	0.00	-579.48	0.00	579.48	4,214.59	2,107.30	7,268.52	3,589.65	2.00	-0.48	0.175
45.00	-55.84	-7.45	0.00	-541.72	0.00	541.72	4,154.60	2,077.30	7,007.76	3,460.87	2.53	-0.54	0.170
47.83	-54.71	-7.39	0.00	-520.60	0.00	520.60	4,119.98	2,059.99	6,860.98	3,388.38	2.86	-0.57	0.167
50.00	-53.41	-7.31	0.00	-504.59	0.00	504.59	4,093.20	2,046.60	6,749.23	3,333.19	3.13	-0.60	0.164
54.00	-51.05	-7.22	0.00	-475.37	0.00	475.37	3,318.39	1,659.20	5,491.78	2,712.18	3.65	-0.65	0.191
55.00	-50.68	-7.15	0.00	-468.14	0.00	468.14	3,309.51	1,654.75	5,452.02	2,692.55	3.79	-0.66	0.189
60.00	-48.89	-7.02	0.00	-432.38	0.00	432.38	3,264.25	1,632.12	5,253.88	2,594.69	4.51	-0.73	0.182
65.00	-47.13	-6.88	0.00	-397.28	0.00	397.28	3,217.59	1,608.79	5,056.96	2,497.44	5.31	-0.79	0.174
70.00	-45.40	-6.74	0.00	-362.86	0.00	362.86	3,169.52	1,584.76	4,861.43	2,400.88	6.17	-0.85	0.165
75.00	-43.70	-6.60	0.00	-329.15	0.00	329.15	3,120.06	1,560.03	4,667.43	2,305.07	7.09	-0.91	0.157
80.00	-42.02	-6.45	0.00	-296.16	0.00	296.16	3,069.19	1,534.59	4,475.14	2,210.10	8.08	-0.97	0.148
85.00	-40.38	-6.30	0.00	-263.91	0.00	263.91	3,016.92	1,508.46	4,284.71	2,116.06	9.13	-1.03	0.138
90.00	-38.76	-6.15	0.00	-232.40	0.00	232.40	2,963.24	1,481.62	4,096.29	2,023.00	10.25	-1.09	0.128
95.00	-37.18	-6.05	0.00	-201.65	0.00	201.65	2,909.11	1,454.55	3,911.32	1,931.65	11.42	-1.14	0.117
95.83	-36.91	-5.98	0.00	-196.62	0.00	196.62	2,895.61	1,447.80	3,874.90	1,913.67	11.62	-1.15	0.116
100.00	-35.11	-5.87	0.00	-171.71	0.00	171.71	2,828.11	1,414.06	3,695.36	1,825.00	12.64	-1.19	0.107
101.00	-34.68	-5.80	0.00	-165.83	0.00	165.83	1,940.27	970.14	2,580.96	1,274.64	12.89	-1.20	0.148
105.00	-33.17	-5.53	0.00	-142.63	0.00	142.63	1,915.90	957.95	2,490.51	1,229.97	13.91	-1.24	0.133
110.00	-31.88	-5.42	0.00	-115.00	0.00	115.00	1,884.18	942.09	2,377.95	1,174.38	15.23	-1.29	0.115
111.00	-25.85	-4.68	0.00	-109.58	0.00	109.58	1,877.67	938.84	2,355.51	1,163.30	15.51	-1.30	0.108
115.00	-24.84	-4.53	0.00	-90.88	0.00	90.88	1,851.06	925.53	2,266.06	1,119.12	16.61	-1.33	0.095
120.00	-23.60	-4.40	0.00	-68.21	0.00	68.21	1,816.54	908.27	2,155.03	1,064.29	18.02	-1.37	0.077
123.00	-15.17	-2.88	0.00	-52.43	0.00	52.43	1,795.15	897.57	2,088.87	1,031.62	18.89	-1.39	0.059
125.00	-14.73	-2.77	0.00	-46.68	0.00	46.68	1,780.61	890.30	2,044.99	1,009.94	19.48	-1.40	0.055
130.00	-13.65	-2.63	0.00	-32.82	0.00	32.82	1,743.28	871.64	1,936.12	956.18	20.95	-1.42	0.042
133.50	-10.46	-2.14	0.00	-23.57	0.00	23.57	1,716.31	858.16	1,860.69	918.92	22.00	-1.43	0.032
135.00	-10.18	-2.06	0.00	-20.37	0.00	20.37	1,704.55	852.27	1,828.57	903.06	22.45	-1.44	0.029
139.00	-5.64	-1.22	0.00	-12.04	0.00	12.04	1,672.55	836.27	1,743.59	861.09	23.66	-1.45	0.017
140.00	-5.48	-1.14	0.00	-10.82	0.00	10.82	1,664.41	832.21	1,722.50	850.68	23.97	-1.45	0.016
145.00	-4.67	-1.01	0.00	-5.12	0.00	5.12	1,617.89	808.94	1,613.10	796.65	25.49	-1.46	0.009
148.00	-4.08	-0.86	0.00	-1.72	0.00	1.72	1,581.45	790.72	1,540.85	760.97	26.40	-1.46	0.005
150.00	0.00	-0.76	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	27.01	-1.46	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:51:00 PM

Customer: AT&T Mobility

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		86.8	0.0					0.0	0.0	86.8	0.0	0.0	0.0
5.00		171.9	1,167.4					0.0	262.3	171.9	1,429.7	0.0	0.0
10.00		168.7	1,145.6					0.0	262.3	168.7	1,407.9	0.0	0.0
15.00		168.1	1,123.8					0.0	262.3	168.1	1,386.1	0.0	0.0
20.00		171.9	1,102.0					0.0	262.3	171.9	1,364.3	0.0	0.0
25.00		176.7	1,080.2					0.0	262.3	176.7	1,342.5	0.0	0.0
30.00		180.0	1,058.4					0.0	262.3	180.0	1,320.7	0.0	0.0
35.00		182.1	1,036.6					0.0	262.3	182.1	1,298.9	0.0	0.0
40.00		183.4	1,014.8					0.0	262.3	183.4	1,277.1	0.0	0.0
45.00		144.1	992.9					0.0	262.3	144.1	1,255.2	0.0	0.0
47.83	Bot - Section 2	92.8	553.0					0.0	148.6	92.8	701.6	0.0	0.0
50.00		115.5	783.8					0.0	113.7	115.5	897.5	0.0	0.0
54.00	Top - Section 1	93.6	1,427.0					0.0	209.8	93.6	1,636.9	0.0	0.0
55.00		112.0	164.6					0.0	52.5	112.0	217.0	0.0	0.0
60.00		186.1	811.7					0.0	262.3	186.1	1,074.0	0.0	0.0
65.00		184.9	793.0					0.0	262.3	184.9	1,055.3	0.0	0.0
70.00		183.4	774.3					0.0	262.3	183.4	1,036.6	0.0	0.0
75.00		181.6	755.6					0.0	262.3	181.6	1,017.9	0.0	0.0
80.00		179.5	736.9					0.0	262.3	179.5	999.2	0.0	0.0
85.00		177.2	718.2					0.0	262.3	177.2	980.5	0.0	0.0
90.00		174.7	699.5					0.0	262.3	174.7	961.8	0.0	0.0
95.00		101.0	680.8					0.0	262.3	101.0	943.1	0.0	0.0
95.83	Bot - Section 3	86.5	111.6					0.0	43.7	86.5	155.4	0.0	0.0
100.00		89.3	971.7					0.0	218.6	89.3	1,190.3	0.0	0.0
101.00	Top - Section 2	85.2	229.8					0.0	52.5	85.2	282.3	0.0	0.0
105.00	Appertunance(s)	151.7	393.0	152.8	0.0	0.0	79.2	0.0	209.8	304.5	682.0	0.0	0.0
110.00		100.2	478.6					0.0	237.7	100.2	716.3	0.0	0.0
111.00	Appertunance(s)	82.0	94.0	528.3	0.0	0.0	2,000.0	0.0	47.5	610.3	2,141.6	0.0	0.0
115.00		145.8	370.5					0.0	190.2	145.8	560.7	0.0	0.0
120.00		127.6	450.5					0.0	237.7	127.6	688.2	0.0	0.0
123.00	Appertunance(s)	78.5	263.6	1,343.7	0.0	3,030.5	3,286.4	0.0	142.6	1,422.2	3,692.6	0.0	0.0
125.00		107.8	172.9					0.0	57.8	107.8	230.7	0.0	0.0
130.00		129.2	422.5					0.0	144.4	129.2	566.9	0.0	0.0
133.50	Appertunance(s)	74.7	287.4	329.4	0.0	57.3	866.1	0.0	101.1	404.1	1,254.6	0.0	0.0
135.00		80.6	121.1					0.0	31.5	80.6	152.6	0.0	0.0
139.00	Appertunance(s)	72.8	316.7	692.1	0.0	117.6	1,514.1	0.0	84.0	764.9	1,914.8	0.0	0.0
140.00		85.1	77.8					0.0	10.2	85.1	87.9	0.0	0.0
145.00		112.2	380.5					0.0	50.9	112.2	431.3	0.0	0.0
148.00	Appertunance(s)	68.7	221.5	40.1	0.0	200.5	30.0	0.0	30.5	108.8	282.1	0.0	0.0
150.00	Appertunance(s)	27.2	144.9	774.2	0.0	-580.1	1,270.0	0.0	19.7	801.4	1,434.6	0.0	0.0
Totals:										8,982.16	40,068.7	0.00	0.00

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:51:02 PM

Customer: AT&T Mobility

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-40.06	-8.92	0.00	-910.22	0.00	910.22	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.204
5.00	-38.63	-8.78	0.00	-865.65	0.00	865.65	4,595.29	2,297.65	9,142.89	4,515.33	0.03	-0.06	0.200
10.00	-37.21	-8.65	0.00	-821.74	0.00	821.74	4,545.11	2,272.56	8,870.98	4,381.04	0.13	-0.12	0.196
15.00	-35.81	-8.52	0.00	-778.49	0.00	778.49	4,493.53	2,246.77	8,600.18	4,247.31	0.28	-0.18	0.191
20.00	-34.44	-8.37	0.00	-735.91	0.00	735.91	4,440.55	2,220.28	8,330.66	4,114.20	0.50	-0.24	0.187
25.00	-33.09	-8.23	0.00	-694.04	0.00	694.04	4,386.17	2,193.08	8,062.58	3,981.80	0.78	-0.30	0.182
30.00	-31.76	-8.07	0.00	-652.91	0.00	652.91	4,330.38	2,165.19	7,796.08	3,850.19	1.13	-0.36	0.177
35.00	-30.46	-7.91	0.00	-612.55	0.00	612.55	4,273.19	2,136.59	7,531.34	3,719.45	1.53	-0.42	0.172
40.00	-29.17	-7.75	0.00	-572.98	0.00	572.98	4,214.59	2,107.30	7,268.52	3,589.65	2.00	-0.48	0.167
45.00	-27.91	-7.62	0.00	-534.23	0.00	534.23	4,154.60	2,077.30	7,007.76	3,460.87	2.54	-0.54	0.161
47.83	-27.21	-7.53	0.00	-512.65	0.00	512.65	4,119.98	2,059.99	6,860.98	3,388.38	2.87	-0.57	0.158
50.00	-26.31	-7.42	0.00	-496.33	0.00	496.33	4,093.20	2,046.60	6,749.23	3,333.19	3.13	-0.60	0.155
54.00	-24.67	-7.33	0.00	-466.63	0.00	466.63	3,318.39	1,659.20	5,491.78	2,712.18	3.65	-0.65	0.180
55.00	-24.45	-7.23	0.00	-459.30	0.00	459.30	3,309.51	1,654.75	5,452.02	2,692.55	3.79	-0.66	0.178
60.00	-23.37	-7.05	0.00	-423.16	0.00	423.16	3,264.25	1,632.12	5,253.88	2,594.69	4.51	-0.72	0.170
65.00	-22.31	-6.88	0.00	-387.89	0.00	387.89	3,217.59	1,608.79	5,056.96	2,497.44	5.30	-0.78	0.162
70.00	-21.27	-6.70	0.00	-353.49	0.00	353.49	3,169.52	1,584.76	4,861.43	2,400.88	6.15	-0.85	0.154
75.00	-20.25	-6.53	0.00	-319.97	0.00	319.97	3,120.06	1,560.03	4,667.43	2,305.07	7.07	-0.91	0.145
80.00	-19.24	-6.35	0.00	-287.33	0.00	287.33	3,069.19	1,534.59	4,475.14	2,210.10	8.05	-0.96	0.136
85.00	-18.26	-6.18	0.00	-255.57	0.00	255.57	3,016.92	1,508.46	4,284.71	2,116.06	9.09	-1.02	0.127
90.00	-17.30	-6.00	0.00	-224.69	0.00	224.69	2,963.24	1,481.62	4,096.29	2,023.00	10.19	-1.07	0.117
95.00	-16.35	-5.89	0.00	-194.69	0.00	194.69	2,909.11	1,454.55	3,911.32	1,931.65	11.34	-1.13	0.106
95.83	-16.20	-5.81	0.00	-189.79	0.00	189.79	2,895.61	1,447.80	3,874.90	1,913.67	11.54	-1.13	0.105
100.00	-15.01	-5.70	0.00	-165.59	0.00	165.59	2,828.11	1,414.06	3,695.36	1,825.00	12.55	-1.17	0.096
101.00	-14.72	-5.61	0.00	-159.90	0.00	159.90	1,940.27	970.14	2,580.96	1,274.64	12.79	-1.18	0.133
105.00	-14.04	-5.31	0.00	-137.44	0.00	137.44	1,915.90	957.95	2,490.51	1,229.97	13.80	-1.22	0.119
110.00	-13.33	-5.20	0.00	-110.91	0.00	110.91	1,884.18	942.09	2,377.95	1,174.38	15.10	-1.27	0.102
111.00	-11.20	-4.54	0.00	-105.72	0.00	105.72	1,877.67	938.84	2,355.51	1,163.30	15.37	-1.28	0.097
115.00	-10.64	-4.39	0.00	-87.55	0.00	87.55	1,851.06	925.53	2,266.06	1,119.12	16.45	-1.31	0.084
120.00	-9.95	-4.25	0.00	-65.59	0.00	65.59	1,816.54	908.27	2,155.03	1,064.29	17.85	-1.35	0.067
123.00	-6.29	-2.74	0.00	-49.80	0.00	49.80	1,795.15	897.57	2,088.87	1,031.62	18.70	-1.36	0.052
125.00	-6.06	-2.63	0.00	-44.31	0.00	44.31	1,780.61	890.30	2,044.99	1,009.94	19.27	-1.37	0.047
130.00	-5.50	-2.49	0.00	-31.15	0.00	31.15	1,743.28	871.64	1,936.12	956.18	20.72	-1.40	0.036
133.50	-4.25	-2.06	0.00	-22.37	0.00	22.37	1,716.31	858.16	1,860.69	918.92	21.75	-1.41	0.027
135.00	-4.10	-1.97	0.00	-19.28	0.00	19.28	1,704.55	852.27	1,828.57	903.06	22.19	-1.41	0.024
139.00	-2.21	-1.16	0.00	-11.27	0.00	11.27	1,672.55	836.27	1,743.59	861.09	23.38	-1.42	0.014
140.00	-2.12	-1.08	0.00	-10.11	0.00	10.11	1,664.41	832.21	1,722.50	850.68	23.68	-1.42	0.013
145.00	-1.69	-0.95	0.00	-4.73	0.00	4.73	1,617.89	808.94	1,613.10	796.65	25.17	-1.43	0.007
148.00	-1.41	-0.84	0.00	-1.67	0.00	1.67	1,581.45	790.72	1,540.85	760.97	26.07	-1.43	0.003
150.00	0.00	-0.80	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	26.67	-1.43	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:51:02 PM

Customer: AT&T Mobility

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.29
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.89
Total Unfactored Dead Load:	40.07 k
Seismic Base Shear (E):	1.56 k

Load Case (1.2 + 0.2Sds) * DL + E ELMF

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	149.00	165	2,148	0.011	18	204
38	146.50	252	3,186	0.017	26	312
37	142.50	431	5,173	0.027	42	534
36	139.50	88	1,013	0.005	8	109
35	137.00	401	4,461	0.023	36	496
34	134.25	153	1,635	0.009	13	189
33	131.75	388	4,017	0.021	33	481
32	127.50	567	5,508	0.029	45	702
31	124.00	231	2,126	0.011	17	286
30	121.50	406	3,603	0.019	29	503
29	117.50	688	5,729	0.030	47	853
28	113.00	561	4,334	0.023	35	695
27	110.50	142	1,049	0.005	9	175
26	107.50	716	5,038	0.026	41	887
25	103.00	603	3,910	0.020	32	747
24	100.50	282	1,748	0.009	14	350
23	97.92	1,190	7,015	0.037	57	1,475
22	95.42	155	872	0.005	7	192
21	92.50	943	4,990	0.026	41	1,168
20	87.50	962	4,581	0.024	37	1,192
19	82.50	981	4,178	0.022	34	1,215
18	77.50	999	3,782	0.020	31	1,238
17	72.50	1,018	3,395	0.018	28	1,261

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

16	67.50	1,037	3,020	0.016	25	1,284
15	62.50	1,055	2,658	0.014	22	1,307
14	57.50	1,074	2,310	0.012	19	1,330
13	54.50	217	422	0.002	3	269
12	52.00	1,637	2,910	0.015	24	2,028
11	48.92	897	1,421	0.007	12	1,112
10	46.42	702	1,006	0.005	8	869
9	42.50	1,255	1,523	0.008	12	1,555
8	37.50	1,277	1,222	0.006	10	1,582
7	32.50	1,299	948	0.005	8	1,609
6	27.50	1,321	703	0.004	6	1,636
5	22.50	1,342	488	0.003	4	1,663
4	17.50	1,364	308	0.002	3	1,690
3	12.50	1,386	166	0.001	1	1,717
2	7.50	1,408	64	0.000	1	1,744
1	2.50	1,430	8	0.000	0	1,771
72" x 4" Panel	150.00	40	529	0.003	4	50
52" x 12" Panel	150.00	480	6,345	0.033	52	595
Round T-Arm	150.00	750	9,914	0.052	81	929
10' Dipole	148.00	30	387	0.002	3	37
Ericsson KRY 112 144	139.00	33	378	0.002	3	41
Ericsson RRUS 11 B12	139.00	152	1,740	0.009	14	188
Ericsson AIR 21, 1.3	139.00	249	2,849	0.015	23	308
Round T-Arm	139.00	750	8,582	0.045	70	929
Ericsson AIR 21 B4A/	139.00	330	3,776	0.020	31	409
Horizon Compact	133.50	21	225	0.001	2	26
NextNet BTS-2500	133.50	105	1,113	0.006	9	130
Flush Mounts	133.50	600	6,360	0.033	52	743
Argus LLPX310R	133.50	86	910	0.005	7	106
DragonWave A-ANT-11G	133.50	27	286	0.001	2	33
DragonWave A-ANT-18G	133.50	27	287	0.001	2	34
Powerwave Allgon LGP	123.00	85	768	0.004	6	105
Raycap DC6-48-60-18-	123.00	32	289	0.002	2	39
Raycap DC6-48-60-18-	123.00	32	289	0.002	2	39
Ericsson RRUS-11	123.00	150	1,362	0.007	11	186
Ericsson RRUS 12 w/	123.00	214	1,944	0.010	16	265
Ericsson RRUS-32	123.00	231	2,097	0.011	17	286
Powerwave 7770.00	123.00	105	953	0.005	8	130
CCI OPA-65R-LCUU-H6	123.00	219	1,988	0.010	16	271
CCI OPA-65R-LCUU-H6	123.00	219	1,988	0.010	16	271
Platform w/ Handrail	123.00	2,000	18,154	0.095	148	2,478
Empty Platform w/ Ha	111.00	2,000	14,947	0.078	122	2,478
RFS APXV18-206517S-C	105.00	79	533	0.003	4	98
		40,069	191,657	1.000	1,563	49,638

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

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
39	149.00	165	2,148	0.011	18	142
38	146.50	252	3,186	0.017	26	217
37	142.50	431	5,173	0.027	42	371
36	139.50	88	1,013	0.005	8	76
35	137.00	401	4,461	0.023	36	345
34	134.25	153	1,635	0.009	13	131
33	131.75	388	4,017	0.021	33	335
32	127.50	567	5,508	0.029	45	488
31	124.00	231	2,126	0.011	17	199
30	121.50	406	3,603	0.019	29	350
29	117.50	688	5,729	0.030	47	593

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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28	113.00	561	4,334	0.023	35	483
27	110.50	142	1,049	0.005	9	122
26	107.50	716	5,038	0.026	41	617
25	103.00	603	3,910	0.020	32	519
24	100.50	282	1,748	0.009	14	243
23	97.92	1,190	7,015	0.037	57	1,025
22	95.42	155	872	0.005	7	134
21	92.50	943	4,990	0.026	41	812
20	87.50	962	4,581	0.024	37	828
19	82.50	981	4,178	0.022	34	844
18	77.50	999	3,782	0.020	31	861
17	72.50	1,018	3,395	0.018	28	877
16	67.50	1,037	3,020	0.016	25	893
15	62.50	1,055	2,658	0.014	22	909
14	57.50	1,074	2,310	0.012	19	925
13	54.50	217	422	0.002	3	187
12	52.00	1,637	2,910	0.015	24	1,410
11	48.92	897	1,421	0.007	12	773
10	46.42	702	1,006	0.005	8	604
9	42.50	1,255	1,523	0.008	12	1,081
8	37.50	1,277	1,222	0.006	10	1,100
7	32.50	1,299	948	0.005	8	1,119
6	27.50	1,321	703	0.004	6	1,137
5	22.50	1,342	488	0.003	4	1,156
4	17.50	1,364	308	0.002	3	1,175
3	12.50	1,386	166	0.001	1	1,194
2	7.50	1,408	64	0.000	1	1,212
1	2.50	1,430	8	0.000	0	1,231
72" x 4" Panel	150.00	40	529	0.003	4	34
52" x 12" Panel	150.00	480	6,345	0.033	52	413
Round T-Arm	150.00	750	9,914	0.052	81	646
10' Dipole	148.00	30	387	0.002	3	26
Ericsson KRY 112 144	139.00	33	378	0.002	3	28
Ericsson RRUS 11 B12	139.00	152	1,740	0.009	14	131
Ericsson AIR 21, 1.3	139.00	249	2,849	0.015	23	214
Round T-Arm	139.00	750	8,582	0.045	70	646
Ericsson AIR 21 B4A/	139.00	330	3,776	0.020	31	284
Horizon Compact	133.50	21	225	0.001	2	18
NextNet BTS-2500	133.50	105	1,113	0.006	9	90
Flush Mounts	133.50	600	6,360	0.033	52	517
Argus LLPX310R	133.50	86	910	0.005	7	74
DragonWave A-ANT-11G	133.50	27	286	0.001	2	23
DragonWave A-ANT-18G	133.50	27	287	0.001	2	23
Powerwave Allgon LGP	123.00	85	768	0.004	6	73
Raycap DC6-48-60-18-	123.00	32	289	0.002	2	27
Raycap DC6-48-60-18-	123.00	32	289	0.002	2	27
Ericsson RRUS-11	123.00	150	1,362	0.007	11	129
Ericsson RRUS 12 w/	123.00	214	1,944	0.010	16	184
Ericsson RRUS-32	123.00	231	2,097	0.011	17	199
Powerwave 7770.00	123.00	105	953	0.005	8	90
CCI OPA-65R-LCUU-H6	123.00	219	1,988	0.010	16	189
CCI OPA-65R-LCUU-H6	123.00	219	1,988	0.010	16	189
Platform w/ Handrail	123.00	2,000	18,154	0.095	148	1,722
Empty Platform w/ Ha	111.00	2,000	14,947	0.078	122	1,722
RFS APXV18-206517S-C	105.00	79	533	0.003	4	68
		40,069	191,657	1.000	1,563	34,506

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

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

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.87	-1.57	0.00	-184.98	0.00	184.98	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.050
5.00	-46.12	-1.58	0.00	-177.14	0.00	177.14	4,595.29	2,297.65	9,142.89	4,515.33	0.01	-0.01	0.049
10.00	-44.40	-1.58	0.00	-169.26	0.00	169.26	4,545.11	2,272.56	8,870.98	4,381.04	0.03	-0.02	0.048
15.00	-42.71	-1.59	0.00	-161.35	0.00	161.35	4,493.53	2,246.77	8,600.18	4,247.31	0.06	-0.04	0.047
20.00	-41.05	-1.59	0.00	-153.40	0.00	153.40	4,440.55	2,220.28	8,330.66	4,114.20	0.10	-0.05	0.047
25.00	-39.41	-1.59	0.00	-145.44	0.00	145.44	4,386.17	2,193.08	8,062.58	3,981.80	0.16	-0.06	0.046
30.00	-37.81	-1.59	0.00	-137.47	0.00	137.47	4,330.38	2,165.19	7,796.08	3,850.19	0.23	-0.07	0.044
35.00	-36.22	-1.59	0.00	-129.50	0.00	129.50	4,273.19	2,136.59	7,531.34	3,719.45	0.32	-0.09	0.043
40.00	-34.67	-1.58	0.00	-121.56	0.00	121.56	4,214.59	2,107.30	7,268.52	3,589.65	0.41	-0.10	0.042
45.00	-33.80	-1.58	0.00	-113.65	0.00	113.65	4,154.60	2,077.30	7,007.76	3,460.87	0.52	-0.11	0.041
47.83	-32.69	-1.57	0.00	-109.18	0.00	109.18	4,119.98	2,059.99	6,860.98	3,388.38	0.59	-0.12	0.040
50.00	-30.66	-1.54	0.00	-105.78	0.00	105.78	4,093.20	2,046.60	6,749.23	3,333.19	0.65	-0.12	0.039
54.00	-30.39	-1.54	0.00	-99.61	0.00	99.61	3,318.39	1,659.20	5,491.78	2,712.18	0.76	-0.14	0.046
55.00	-29.06	-1.53	0.00	-98.07	0.00	98.07	3,309.51	1,654.75	5,452.02	2,692.55	0.79	-0.14	0.045
60.00	-27.75	-1.51	0.00	-90.44	0.00	90.44	3,264.25	1,632.12	5,253.88	2,594.69	0.94	-0.15	0.043
65.00	-26.47	-1.48	0.00	-82.91	0.00	82.91	3,217.59	1,608.79	5,056.96	2,497.44	1.10	-0.16	0.041
70.00	-25.20	-1.46	0.00	-75.49	0.00	75.49	3,169.52	1,584.76	4,861.43	2,400.88	1.28	-0.18	0.039
75.00	-23.97	-1.43	0.00	-68.19	0.00	68.19	3,120.06	1,560.03	4,667.43	2,305.07	1.48	-0.19	0.037
80.00	-22.75	-1.40	0.00	-61.05	0.00	61.05	3,069.19	1,534.59	4,475.14	2,210.10	1.68	-0.20	0.035
85.00	-21.56	-1.36	0.00	-54.07	0.00	54.07	3,016.92	1,508.46	4,284.71	2,116.06	1.90	-0.22	0.033
90.00	-20.39	-1.32	0.00	-47.27	0.00	47.27	2,963.24	1,481.62	4,096.29	2,023.00	2.13	-0.23	0.030
95.00	-20.20	-1.31	0.00	-40.69	0.00	40.69	2,909.11	1,454.55	3,911.32	1,931.65	2.38	-0.24	0.028
95.83	-18.72	-1.25	0.00	-39.59	0.00	39.59	2,895.61	1,447.80	3,874.90	1,913.67	2.42	-0.24	0.027
100.00	-18.38	-1.24	0.00	-34.38	0.00	34.38	2,828.11	1,414.06	3,695.36	1,825.00	2.63	-0.25	0.025
101.00	-17.63	-1.20	0.00	-33.15	0.00	33.15	1,940.27	970.14	2,580.96	1,274.64	2.68	-0.25	0.035
105.00	-16.64	-1.16	0.00	-28.34	0.00	28.34	1,915.90	957.95	2,490.51	1,229.97	2.90	-0.26	0.032
110.00	-16.47	-1.15	0.00	-22.56	0.00	22.56	1,884.18	942.09	2,377.95	1,174.38	3.17	-0.27	0.028
111.00	-13.30	-0.98	0.00	-21.41	0.00	21.41	1,877.67	938.84	2,355.51	1,163.30	3.23	-0.27	0.025
115.00	-12.44	-0.93	0.00	-17.51	0.00	17.51	1,851.06	925.53	2,266.06	1,119.12	3.45	-0.28	0.022
120.00	-11.94	-0.90	0.00	-12.87	0.00	12.87	1,816.54	908.27	2,155.03	1,064.29	3.75	-0.28	0.019
123.00	-7.58	-0.61	0.00	-10.18	0.00	10.18	1,795.15	897.57	2,088.87	1,031.62	3.92	-0.29	0.014
125.00	-6.88	-0.57	0.00	-8.95	0.00	8.95	1,780.61	890.30	2,044.99	1,009.94	4.04	-0.29	0.013
130.00	-6.40	-0.53	0.00	-6.12	0.00	6.12	1,743.28	871.64	1,936.12	956.18	4.35	-0.29	0.010
133.50	-5.14	-0.44	0.00	-4.25	0.00	4.25	1,716.31	858.16	1,860.69	918.92	4.56	-0.29	0.008
135.00	-4.64	-0.40	0.00	-3.60	0.00	3.60	1,704.55	852.27	1,828.57	903.06	4.66	-0.30	0.007
139.00	-2.66	-0.24	0.00	-2.00	0.00	2.00	1,672.55	836.27	1,743.59	861.09	4.90	-0.30	0.004
140.00	-2.13	-0.19	0.00	-1.76	0.00	1.76	1,664.41	832.21	1,722.50	850.68	4.97	-0.30	0.003
145.00	-1.81	-0.17	0.00	-0.79	0.00	0.79	1,617.89	808.94	1,613.10	796.65	5.28	-0.30	0.002
148.00	-1.57	-0.15	0.00	-0.29	0.00	0.29	1,581.45	790.72	1,540.85	760.97	5.46	-0.30	0.001
150.00	0.00	-0.14	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	5.59	-0.30	0.000

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

Customer: AT&T Mobility

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

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.27	-1.57	0.00	-182.39	0.00	182.39	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.046
5.00	-32.06	-1.57	0.00	-174.57	0.00	174.57	4,595.29	2,297.65	9,142.89	4,515.33	0.01	-0.01	0.046
10.00	-30.87	-1.58	0.00	-166.71	0.00	166.71	4,545.11	2,272.56	8,870.98	4,381.04	0.03	-0.02	0.045
15.00	-29.69	-1.58	0.00	-158.83	0.00	158.83	4,493.53	2,246.77	8,600.18	4,247.31	0.06	-0.04	0.044
20.00	-28.54	-1.58	0.00	-150.94	0.00	150.94	4,440.55	2,220.28	8,330.66	4,114.20	0.10	-0.05	0.043
25.00	-27.40	-1.58	0.00	-143.03	0.00	143.03	4,386.17	2,193.08	8,062.58	3,981.80	0.16	-0.06	0.042
30.00	-26.28	-1.58	0.00	-135.13	0.00	135.13	4,330.38	2,165.19	7,796.08	3,850.19	0.23	-0.07	0.041
35.00	-25.18	-1.57	0.00	-127.25	0.00	127.25	4,273.19	2,136.59	7,531.34	3,719.45	0.31	-0.09	0.040
40.00	-24.10	-1.56	0.00	-119.40	0.00	119.40	4,214.59	2,107.30	7,268.52	3,589.65	0.41	-0.10	0.039
45.00	-23.49	-1.56	0.00	-111.60	0.00	111.60	4,154.60	2,077.30	7,007.76	3,460.87	0.52	-0.11	0.038
47.83	-22.72	-1.55	0.00	-107.19	0.00	107.19	4,119.98	2,059.99	6,860.98	3,388.38	0.58	-0.12	0.037
50.00	-21.31	-1.52	0.00	-103.84	0.00	103.84	4,093.20	2,046.60	6,749.23	3,333.19	0.64	-0.12	0.036
54.00	-21.12	-1.52	0.00	-97.75	0.00	97.75	3,318.39	1,659.20	5,491.78	2,712.18	0.75	-0.13	0.042
55.00	-20.20	-1.50	0.00	-96.23	0.00	96.23	3,309.51	1,654.75	5,452.02	2,692.55	0.77	-0.14	0.042
60.00	-19.29	-1.48	0.00	-88.72	0.00	88.72	3,264.25	1,632.12	5,253.88	2,594.69	0.92	-0.15	0.040
65.00	-18.40	-1.46	0.00	-81.31	0.00	81.31	3,217.59	1,608.79	5,056.96	2,497.44	1.09	-0.16	0.038
70.00	-17.52	-1.43	0.00	-74.01	0.00	74.01	3,169.52	1,584.76	4,861.43	2,400.88	1.26	-0.17	0.036
75.00	-16.66	-1.40	0.00	-66.85	0.00	66.85	3,120.06	1,560.03	4,667.43	2,305.07	1.45	-0.19	0.034
80.00	-15.81	-1.37	0.00	-59.83	0.00	59.83	3,069.19	1,534.59	4,475.14	2,210.10	1.66	-0.20	0.032
85.00	-14.99	-1.33	0.00	-52.98	0.00	52.98	3,016.92	1,508.46	4,284.71	2,116.06	1.87	-0.21	0.030
90.00	-14.17	-1.29	0.00	-46.32	0.00	46.32	2,963.24	1,481.62	4,096.29	2,023.00	2.10	-0.22	0.028
95.00	-14.04	-1.29	0.00	-39.86	0.00	39.86	2,909.11	1,454.55	3,911.32	1,931.65	2.34	-0.23	0.025
95.83	-13.02	-1.22	0.00	-38.79	0.00	38.79	2,895.61	1,447.80	3,874.90	1,913.67	2.38	-0.23	0.025
100.00	-12.77	-1.21	0.00	-33.69	0.00	33.69	2,828.11	1,414.06	3,695.36	1,825.00	2.59	-0.24	0.023
101.00	-12.25	-1.18	0.00	-32.48	0.00	32.48	1,940.27	970.14	2,580.96	1,274.64	2.64	-0.24	0.032
105.00	-11.57	-1.13	0.00	-27.77	0.00	27.77	1,915.90	957.95	2,490.51	1,229.97	2.85	-0.25	0.029
110.00	-11.45	-1.12	0.00	-22.11	0.00	22.11	1,884.18	942.09	2,377.95	1,174.38	3.11	-0.26	0.025
111.00	-9.24	-0.96	0.00	-20.99	0.00	20.99	1,877.67	938.84	2,355.51	1,163.30	3.17	-0.26	0.023
115.00	-8.65	-0.91	0.00	-17.16	0.00	17.16	1,851.06	925.53	2,266.06	1,119.12	3.39	-0.27	0.020
120.00	-8.30	-0.88	0.00	-12.62	0.00	12.62	1,816.54	908.27	2,155.03	1,064.29	3.68	-0.28	0.016
123.00	-5.27	-0.60	0.00	-9.99	0.00	9.99	1,795.15	897.57	2,088.87	1,031.62	3.86	-0.28	0.013
125.00	-4.78	-0.56	0.00	-8.78	0.00	8.78	1,780.61	890.30	2,044.99	1,009.94	3.97	-0.28	0.011
130.00	-4.45	-0.52	0.00	-6.00	0.00	6.00	1,743.28	871.64	1,936.12	956.18	4.27	-0.29	0.009
133.50	-3.57	-0.43	0.00	-4.17	0.00	4.17	1,716.31	858.16	1,860.69	918.92	4.48	-0.29	0.007
135.00	-3.23	-0.39	0.00	-3.53	0.00	3.53	1,704.55	852.27	1,828.57	903.06	4.57	-0.29	0.006
139.00	-1.85	-0.23	0.00	-1.97	0.00	1.97	1,672.55	836.27	1,743.59	861.09	4.82	-0.29	0.003
140.00	-1.48	-0.19	0.00	-1.73	0.00	1.73	1,664.41	832.21	1,722.50	850.68	4.88	-0.29	0.003
145.00	-1.26	-0.16	0.00	-0.78	0.00	0.78	1,617.89	808.94	1,613.10	796.65	5.18	-0.29	0.002
148.00	-1.09	-0.14	0.00	-0.28	0.00	0.28	1,581.45	790.72	1,540.85	760.97	5.37	-0.29	0.001
150.00	0.00	-0.14	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	5.49	-0.29	0.000

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.29
Redundancy Factor (p):	1.30

Load Case (1.2 + 0.2S_{ds}) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
39	149.00	165	1.865	1.850	1.093	0.353	50	204
38	146.50	252	1.803	1.551	0.982	0.314	69	312
37	142.50	431	1.706	1.144	0.823	0.256	96	534
36	139.50	88	1.635	0.890	0.718	0.216	16	109
35	137.00	401	1.577	0.708	0.639	0.184	64	496
34	134.25	153	1.514	0.536	0.560	0.152	20	189
33	131.75	388	1.458	0.403	0.494	0.126	42	481
32	127.50	567	1.366	0.222	0.397	0.085	42	702
31	124.00	231	1.292	0.109	0.329	0.055	11	286
30	121.50	406	1.240	0.046	0.286	0.037	13	503
29	117.50	688	1.160	-0.030	0.226	0.011	7	853
28	113.00	561	1.073	-0.084	0.170	-0.012	-6	695
27	110.50	142	1.026	-0.103	0.144	-0.022	-3	175
26	107.50	716	0.971	-0.116	0.117	-0.031	-19	887
25	103.00	603	0.891	-0.122	0.084	-0.040	-21	747
24	100.50	282	0.848	-0.119	0.069	-0.042	-10	350
23	97.92	1,190	0.805	-0.113	0.055	-0.042	-44	1,475
22	95.42	155	0.765	-0.104	0.044	-0.041	-5	192
21	92.50	943	0.719	-0.092	0.034	-0.037	-30	1,168
20	87.50	962	0.643	-0.068	0.020	-0.025	-21	1,192
19	82.50	981	0.572	-0.043	0.012	-0.010	-9	1,215
18	77.50	999	0.505	-0.018	0.007	0.007	6	1,238
17	72.50	1,018	0.442	0.005	0.006	0.022	19	1,261
16	67.50	1,037	0.383	0.023	0.007	0.035	31	1,284
15	62.50	1,055	0.328	0.039	0.010	0.043	40	1,307
14	57.50	1,074	0.278	0.050	0.014	0.049	45	1,330
13	54.50	217	0.250	0.055	0.017	0.051	10	269
12	52.00	1,637	0.227	0.059	0.020	0.051	73	2,028
11	48.92	897	0.201	0.063	0.023	0.052	40	1,112
10	46.42	702	0.181	0.065	0.026	0.052	32	869
9	42.50	1,255	0.152	0.068	0.030	0.051	56	1,555
8	37.50	1,277	0.118	0.070	0.035	0.050	56	1,582
7	32.50	1,299	0.089	0.071	0.039	0.049	55	1,609
6	27.50	1,321	0.064	0.072	0.041	0.048	55	1,636

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

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Customer: AT&T Mobility

5	22.50	1,342	0.043	0.070	0.042	0.046	54	1,663
4	17.50	1,364	0.026	0.067	0.040	0.044	52	1,690
3	12.50	1,386	0.013	0.059	0.034	0.039	47	1,717
2	7.50	1,408	0.005	0.044	0.025	0.031	38	1,744
1	2.50	1,430	0.001	0.018	0.010	0.014	18	1,771
72" x 4" Panel	150.00	40	1.890	1.980	1.140	0.369	13	50
52" x 12" Panel	150.00	480	1.890	1.980	1.140	0.369	154	595
Round T-Arm	150.00	750	1.890	1.980	1.140	0.369	240	929
10' Dipole	148.00	30	1.840	1.726	1.048	0.337	9	37
Ericsson KRY 112 144	139.00	33	1.623	0.851	0.702	0.209	6	41
Ericsson RRUS 11 B12	139.00	152	1.623	0.851	0.702	0.209	28	188
Ericsson AIR 21, 1.3	139.00	249	1.623	0.851	0.702	0.209	45	308
Round T-Arm	139.00	750	1.623	0.851	0.702	0.209	136	929
Ericsson AIR 21 B4A/	139.00	330	1.623	0.851	0.702	0.209	60	409
Horizon Compact	133.50	21	1.497	0.494	0.539	0.144	3	26
NextNet BTS-2500	133.50	105	1.497	0.494	0.539	0.144	13	130
Flush Mounts	133.50	600	1.497	0.494	0.539	0.144	75	743
Argus LLPX310R	133.50	86	1.497	0.494	0.539	0.144	11	106
DragonWave A-ANT-11G	133.50	27	1.497	0.494	0.539	0.144	3	33
DragonWave A-ANT-18G	133.50	27	1.497	0.494	0.539	0.144	3	34
Powerwave Allgon LGP	123.00	85	1.271	0.082	0.311	0.048	3	105
Raycap DC6-48-60-18-	123.00	32	1.271	0.082	0.311	0.048	1	39
Raycap DC6-48-60-18-	123.00	32	1.271	0.082	0.311	0.048	1	39
Ericsson RRUS-11	123.00	150	1.271	0.082	0.311	0.048	6	186
Ericsson RRUS 12 w/	123.00	214	1.271	0.082	0.311	0.048	9	265
Ericsson RRUS-32	123.00	231	1.271	0.082	0.311	0.048	10	286
Powerwave 7770.00	123.00	105	1.271	0.082	0.311	0.048	4	130
CCI OPA-65R-LCUU-H6	123.00	219	1.271	0.082	0.311	0.048	9	271
CCI OPA-65R-LCUU-H6	123.00	219	1.271	0.082	0.311	0.048	9	271
Platform w/ Handrail	123.00	2,000	1.271	0.082	0.311	0.048	82	2,478
Empty Platform w/ Ha	111.00	2,000	1.035	-0.099	0.149	-0.020	-35	2,478
RFS APXV18-206517S-C	105.00	79	0.926	-0.121	0.098	-0.037	-3	98
		40,069	67.504	22.831	22.289	5.996	1,883	49,638

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

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
39	149.00	165	1.865	1.850	1.093	0.353	50	142
38	146.50	252	1.803	1.551	0.982	0.314	69	217
37	142.50	431	1.706	1.144	0.823	0.256	96	371
36	139.50	88	1.635	0.890	0.718	0.216	16	76
35	137.00	401	1.577	0.708	0.639	0.184	64	345
34	134.25	153	1.514	0.536	0.560	0.152	20	131
33	131.75	388	1.458	0.403	0.494	0.126	42	335
32	127.50	567	1.366	0.222	0.397	0.085	42	488
31	124.00	231	1.292	0.109	0.329	0.055	11	199
30	121.50	406	1.240	0.046	0.286	0.037	13	350
29	117.50	688	1.160	-0.030	0.226	0.011	7	593
28	113.00	561	1.073	-0.084	0.170	-0.012	-6	483
27	110.50	142	1.026	-0.103	0.144	-0.022	-3	122
26	107.50	716	0.971	-0.116	0.117	-0.031	-19	617
25	103.00	603	0.891	-0.122	0.084	-0.040	-21	519
24	100.50	282	0.848	-0.119	0.069	-0.042	-10	243
23	97.92	1,190	0.805	-0.113	0.055	-0.042	-44	1,025
22	95.42	155	0.765	-0.104	0.044	-0.041	-5	134
21	92.50	943	0.719	-0.092	0.034	-0.037	-30	812
20	87.50	962	0.643	-0.068	0.020	-0.025	-21	828
19	82.50	981	0.572	-0.043	0.012	-0.010	-9	844

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

18	77.50	999	0.505	-0.018	0.007	0.007	6	861
17	72.50	1,018	0.442	0.005	0.006	0.022	19	877
16	67.50	1,037	0.383	0.023	0.007	0.035	31	893
15	62.50	1,055	0.328	0.039	0.010	0.043	40	909
14	57.50	1,074	0.278	0.050	0.014	0.049	45	925
13	54.50	217	0.250	0.055	0.017	0.051	10	187
12	52.00	1,637	0.227	0.059	0.020	0.051	73	1,410
11	48.92	897	0.201	0.063	0.023	0.052	40	773
10	46.42	702	0.181	0.065	0.026	0.052	32	604
9	42.50	1,255	0.152	0.068	0.030	0.051	56	1,081
8	37.50	1,277	0.118	0.070	0.035	0.050	56	1,100
7	32.50	1,299	0.089	0.071	0.039	0.049	55	1,119
6	27.50	1,321	0.064	0.072	0.041	0.048	55	1,137
5	22.50	1,342	0.043	0.070	0.042	0.046	54	1,156
4	17.50	1,364	0.026	0.067	0.040	0.044	52	1,175
3	12.50	1,386	0.013	0.059	0.034	0.039	47	1,194
2	7.50	1,408	0.005	0.044	0.025	0.031	38	1,212
1	2.50	1,430	0.001	0.018	0.010	0.014	18	1,231
72" x 4" Panel	150.00	40	1.890	1.980	1.140	0.369	13	34
52" x 12" Panel	150.00	480	1.890	1.980	1.140	0.369	154	413
Round T-Arm	150.00	750	1.890	1.980	1.140	0.369	240	646
10' Dipole	148.00	30	1.840	1.726	1.048	0.337	9	26
Ericsson KRY 112 144	139.00	33	1.623	0.851	0.702	0.209	6	28
Ericsson RRUS 11 B12	139.00	152	1.623	0.851	0.702	0.209	28	131
Ericsson AIR 21, 1.3	139.00	249	1.623	0.851	0.702	0.209	45	214
Round T-Arm	139.00	750	1.623	0.851	0.702	0.209	136	646
Ericsson AIR 21 B4A/	139.00	330	1.623	0.851	0.702	0.209	60	284
Horizon Compact	133.50	21	1.497	0.494	0.539	0.144	3	18
NextNet BTS-2500	133.50	105	1.497	0.494	0.539	0.144	13	90
Flush Mounts	133.50	600	1.497	0.494	0.539	0.144	75	517
Argus LLPX310R	133.50	86	1.497	0.494	0.539	0.144	11	74
DragonWave A-ANT-11G	133.50	27	1.497	0.494	0.539	0.144	3	23
DragonWave A-ANT-18G	133.50	27	1.497	0.494	0.539	0.144	3	23
Powerwave Allgon LGP	123.00	85	1.271	0.082	0.311	0.048	3	73
Raycap DC6-48-60-18-	123.00	32	1.271	0.082	0.311	0.048	1	27
Raycap DC6-48-60-18-	123.00	32	1.271	0.082	0.311	0.048	1	27
Ericsson RRUS-11	123.00	150	1.271	0.082	0.311	0.048	6	129
Ericsson RRUS 12 w/	123.00	214	1.271	0.082	0.311	0.048	9	184
Ericsson RRUS-32	123.00	231	1.271	0.082	0.311	0.048	10	199
Powerwave 7770.00	123.00	105	1.271	0.082	0.311	0.048	4	90
CCI OPA-65R-LCUU-H6	123.00	219	1.271	0.082	0.311	0.048	9	189
CCI OPA-65R-LCUU-H6	123.00	219	1.271	0.082	0.311	0.048	9	189
Platform w/ Handrail	123.00	2,000	1.271	0.082	0.311	0.048	82	1,722
Empty Platform w/ Ha	111.00	2,000	1.035	-0.099	0.149	-0.020	-35	1,722
RFS APXV18-206517S-C	105.00	79	0.926	-0.121	0.098	-0.037	-3	68
		40,069	67.504	22.831	22.289	5.996	1,883	34,506

Site Number: 302538

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

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Customer: AT&T Mobility

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

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-47.87	-1.87	0.00	-205.59	0.00	205.59	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.055
5.00	-46.12	-1.84	0.00	-196.24	0.00	196.24	4,595.29	2,297.65	9,142.89	4,515.33	0.01	-0.01	0.053
10.00	-44.40	-1.81	0.00	-187.03	0.00	187.03	4,545.11	2,272.56	8,870.98	4,381.04	0.03	-0.03	0.052
15.00	-42.71	-1.76	0.00	-178.00	0.00	178.00	4,493.53	2,246.77	8,600.18	4,247.31	0.06	-0.04	0.051
20.00	-41.05	-1.72	0.00	-169.18	0.00	169.18	4,440.55	2,220.28	8,330.66	4,114.20	0.11	-0.05	0.050
25.00	-39.41	-1.67	0.00	-160.59	0.00	160.59	4,386.17	2,193.08	8,062.58	3,981.80	0.18	-0.07	0.049
30.00	-37.80	-1.62	0.00	-152.24	0.00	152.24	4,330.38	2,165.19	7,796.08	3,850.19	0.26	-0.08	0.048
35.00	-36.22	-1.57	0.00	-144.12	0.00	144.12	4,273.19	2,136.59	7,531.34	3,719.45	0.35	-0.10	0.047
40.00	-34.67	-1.52	0.00	-136.26	0.00	136.26	4,214.59	2,107.30	7,268.52	3,589.65	0.46	-0.11	0.046
45.00	-33.80	-1.50	0.00	-128.64	0.00	128.64	4,154.60	2,077.30	7,007.76	3,460.87	0.58	-0.12	0.045
47.83	-32.69	-1.46	0.00	-124.40	0.00	124.40	4,119.98	2,059.99	6,860.98	3,388.38	0.66	-0.13	0.045
50.00	-30.66	-1.39	0.00	-121.24	0.00	121.24	4,093.20	2,046.60	6,749.23	3,333.19	0.72	-0.14	0.044
54.00	-30.39	-1.38	0.00	-115.70	0.00	115.70	3,318.39	1,659.20	5,491.78	2,712.18	0.84	-0.15	0.052
55.00	-29.06	-1.33	0.00	-114.32	0.00	114.32	3,309.51	1,654.75	5,452.02	2,692.55	0.87	-0.15	0.051
60.00	-27.75	-1.30	0.00	-107.65	0.00	107.65	3,264.25	1,632.12	5,253.88	2,594.69	1.04	-0.17	0.050
65.00	-26.47	-1.27	0.00	-101.15	0.00	101.15	3,217.59	1,608.79	5,056.96	2,497.44	1.23	-0.19	0.049
70.00	-25.21	-1.26	0.00	-94.80	0.00	94.80	3,169.52	1,584.76	4,861.43	2,400.88	1.43	-0.20	0.047
75.00	-23.97	-1.25	0.00	-88.52	0.00	88.52	3,120.06	1,560.03	4,667.43	2,305.07	1.65	-0.22	0.046
80.00	-22.75	-1.26	0.00	-82.26	0.00	82.26	3,069.19	1,534.59	4,475.14	2,210.10	1.89	-0.24	0.045
85.00	-21.56	-1.28	0.00	-75.95	0.00	75.95	3,016.92	1,508.46	4,284.71	2,116.06	2.14	-0.25	0.043
90.00	-20.39	-1.32	0.00	-69.53	0.00	69.53	2,963.24	1,481.62	4,096.29	2,023.00	2.42	-0.27	0.041
95.00	-20.20	-1.32	0.00	-62.95	0.00	62.95	2,909.11	1,454.55	3,911.32	1,931.65	2.71	-0.28	0.040
95.83	-18.72	-1.36	0.00	-61.85	0.00	61.85	2,895.61	1,447.80	3,874.90	1,913.67	2.76	-0.29	0.039
100.00	-18.37	-1.37	0.00	-56.18	0.00	56.18	2,828.11	1,414.06	3,695.36	1,825.00	3.01	-0.30	0.037
101.00	-17.63	-1.39	0.00	-54.80	0.00	54.80	1,940.27	970.14	2,580.96	1,274.64	3.08	-0.30	0.052
105.00	-16.64	-1.41	0.00	-49.23	0.00	49.23	1,915.90	957.95	2,490.51	1,229.97	3.33	-0.32	0.049
110.00	-16.46	-1.42	0.00	-42.17	0.00	42.17	1,884.18	942.09	2,377.95	1,174.38	3.67	-0.33	0.045
111.00	-13.29	-1.44	0.00	-40.75	0.00	40.75	1,877.67	938.84	2,355.51	1,163.30	3.74	-0.34	0.042
115.00	-12.44	-1.43	0.00	-34.98	0.00	34.98	1,851.06	925.53	2,266.06	1,119.12	4.03	-0.35	0.038
120.00	-11.94	-1.42	0.00	-27.81	0.00	27.81	1,816.54	908.27	2,155.03	1,064.29	4.41	-0.36	0.033
123.00	-7.58	-1.25	0.00	-23.55	0.00	23.55	1,795.15	897.57	2,088.87	1,031.62	4.64	-0.37	0.027
125.00	-6.88	-1.20	0.00	-21.06	0.00	21.06	1,780.61	890.30	2,044.99	1,009.94	4.80	-0.38	0.025
130.00	-6.40	-1.16	0.00	-15.05	0.00	15.05	1,743.28	871.64	1,936.12	956.18	5.20	-0.39	0.019
133.50	-5.14	-1.02	0.00	-11.00	0.00	11.00	1,716.31	858.16	1,860.69	918.92	5.48	-0.39	0.015
135.00	-4.64	-0.95	0.00	-9.47	0.00	9.47	1,704.55	852.27	1,828.57	903.06	5.61	-0.40	0.013
139.00	-2.66	-0.65	0.00	-5.66	0.00	5.66	1,672.55	836.27	1,743.59	861.09	5.94	-0.40	0.008
140.00	-2.12	-0.55	0.00	-5.02	0.00	5.02	1,664.41	832.21	1,722.50	850.68	6.03	-0.40	0.007
145.00	-1.81	-0.48	0.00	-2.27	0.00	2.27	1,617.89	808.94	1,613.10	796.65	6.45	-0.40	0.004
148.00	-1.57	-0.42	0.00	-0.84	0.00	0.84	1,581.45	790.72	1,540.85	760.97	6.70	-0.40	0.002
150.00	0.00	-0.41	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	6.87	-0.40	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:51:02 PM

Customer: AT&T Mobility

Load Case (0.9 - 0.2Sds) * DL + E EMAMSeismic (Reduced DL) Equivalent Modal Analysis MethodCalculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-33.27	-1.87	0.00	-202.55	0.00	202.55	4,644.06	2,322.03	9,415.76	4,650.09	0.00	0.00	0.051
5.00	-32.06	-1.84	0.00	-193.21	0.00	193.21	4,595.29	2,297.65	9,142.89	4,515.33	0.01	-0.01	0.050
10.00	-30.87	-1.80	0.00	-184.02	0.00	184.02	4,545.11	2,272.56	8,870.98	4,381.04	0.03	-0.03	0.049
15.00	-29.69	-1.75	0.00	-175.03	0.00	175.03	4,493.53	2,246.77	8,600.18	4,247.31	0.06	-0.04	0.048
20.00	-28.54	-1.70	0.00	-166.27	0.00	166.27	4,440.55	2,220.28	8,330.66	4,114.20	0.11	-0.05	0.047
25.00	-27.40	-1.65	0.00	-157.75	0.00	157.75	4,386.17	2,193.08	8,062.58	3,981.80	0.17	-0.07	0.046
30.00	-26.28	-1.60	0.00	-149.48	0.00	149.48	4,330.38	2,165.19	7,796.08	3,850.19	0.25	-0.08	0.045
35.00	-25.18	-1.55	0.00	-141.46	0.00	141.46	4,273.19	2,136.59	7,531.34	3,719.45	0.34	-0.09	0.044
40.00	-24.10	-1.50	0.00	-133.70	0.00	133.70	4,214.59	2,107.30	7,268.52	3,589.65	0.45	-0.11	0.043
45.00	-23.49	-1.47	0.00	-126.19	0.00	126.19	4,154.60	2,077.30	7,007.76	3,460.87	0.57	-0.12	0.042
47.83	-22.72	-1.43	0.00	-122.02	0.00	122.02	4,119.98	2,059.99	6,860.98	3,388.38	0.65	-0.13	0.042
50.00	-21.31	-1.36	0.00	-118.91	0.00	118.91	4,093.20	2,046.60	6,749.23	3,333.19	0.71	-0.14	0.041
54.00	-21.12	-1.35	0.00	-113.47	0.00	113.47	3,318.39	1,659.20	5,491.78	2,712.18	0.83	-0.15	0.048
55.00	-20.20	-1.31	0.00	-112.12	0.00	112.12	3,309.51	1,654.75	5,452.02	2,692.55	0.86	-0.15	0.048
60.00	-19.29	-1.27	0.00	-105.57	0.00	105.57	3,264.25	1,632.12	5,253.88	2,594.69	1.02	-0.17	0.047
65.00	-18.40	-1.24	0.00	-99.21	0.00	99.21	3,217.59	1,608.79	5,056.96	2,497.44	1.21	-0.18	0.045
70.00	-17.52	-1.23	0.00	-93.00	0.00	93.00	3,169.52	1,584.76	4,861.43	2,400.88	1.41	-0.20	0.044
75.00	-16.66	-1.22	0.00	-86.87	0.00	86.87	3,120.06	1,560.03	4,667.43	2,305.07	1.62	-0.21	0.043
80.00	-15.81	-1.23	0.00	-80.76	0.00	80.76	3,069.19	1,534.59	4,475.14	2,210.10	1.86	-0.23	0.042
85.00	-14.99	-1.25	0.00	-74.60	0.00	74.60	3,016.92	1,508.46	4,284.71	2,116.06	2.11	-0.25	0.040
90.00	-14.17	-1.28	0.00	-68.34	0.00	68.34	2,963.24	1,481.62	4,096.29	2,023.00	2.37	-0.26	0.039
95.00	-14.04	-1.29	0.00	-61.92	0.00	61.92	2,909.11	1,454.55	3,911.32	1,931.65	2.66	-0.28	0.037
95.83	-13.01	-1.33	0.00	-60.84	0.00	60.84	2,895.61	1,447.80	3,874.90	1,913.67	2.71	-0.28	0.036
100.00	-12.77	-1.34	0.00	-55.29	0.00	55.29	2,828.11	1,414.06	3,695.36	1,825.00	2.96	-0.29	0.035
101.00	-12.25	-1.36	0.00	-53.95	0.00	53.95	1,940.27	970.14	2,580.96	1,274.64	3.02	-0.30	0.049
105.00	-11.57	-1.38	0.00	-48.50	0.00	48.50	1,915.90	957.95	2,490.51	1,229.97	3.28	-0.31	0.045
110.00	-11.44	-1.39	0.00	-41.58	0.00	41.58	1,884.18	942.09	2,377.95	1,174.38	3.61	-0.33	0.041
111.00	-9.24	-1.42	0.00	-40.19	0.00	40.19	1,877.67	938.84	2,355.51	1,163.30	3.68	-0.33	0.039
115.00	-8.64	-1.41	0.00	-34.52	0.00	34.52	1,851.06	925.53	2,266.06	1,119.12	3.96	-0.34	0.036
120.00	-8.29	-1.40	0.00	-27.48	0.00	27.48	1,816.54	908.27	2,155.03	1,064.29	4.33	-0.36	0.030
123.00	-5.27	-1.23	0.00	-23.29	0.00	23.29	1,795.15	897.57	2,088.87	1,031.62	4.56	-0.37	0.026
125.00	-4.78	-1.19	0.00	-20.83	0.00	20.83	1,780.61	890.30	2,044.99	1,009.94	4.71	-0.37	0.023
130.00	-4.44	-1.14	0.00	-14.90	0.00	14.90	1,743.28	871.64	1,936.12	956.18	5.11	-0.38	0.018
133.50	-3.57	-1.01	0.00	-10.90	0.00	10.90	1,716.31	858.16	1,860.69	918.92	5.39	-0.39	0.014
135.00	-3.22	-0.94	0.00	-9.39	0.00	9.39	1,704.55	852.27	1,828.57	903.06	5.51	-0.39	0.012
139.00	-1.85	-0.64	0.00	-5.62	0.00	5.62	1,672.55	836.27	1,743.59	861.09	5.84	-0.39	0.008
140.00	-1.47	-0.54	0.00	-4.97	0.00	4.97	1,664.41	832.21	1,722.50	850.68	5.92	-0.39	0.007
145.00	-1.26	-0.47	0.00	-2.25	0.00	2.25	1,617.89	808.94	1,613.10	796.65	6.34	-0.40	0.004
148.00	-1.09	-0.41	0.00	-0.83	0.00	0.83	1,581.45	790.72	1,540.85	760.97	6.58	-0.40	0.002
150.00	0.00	-0.41	0.00	0.00	0.00	0.00	1,557.15	778.58	1,493.60	737.63	6.75	-0.40	0.000

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford Engineering Number: 64761421

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Customer: AT&T Mobility

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	43.71	0.00	47.97	0.00	0.00	4484.65	0.00	0.98
0.9D + 1.6W	43.68	0.00	35.95	0.00	0.00	4433.75	0.00	0.96
1.2D + 1.0Di + 1.0Wi	8.32	0.00	74.77	0.00	0.00	900.17	0.00	0.21
(1.2 + 0.2Sds) * DL + E ELFM	1.57	0.00	47.87	0.00	0.00	184.98	0.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	1.87	0.00	47.87	0.00	0.00	205.59	0.00	0.05
(0.9 - 0.2Sds) * DL + E ELFM	1.57	0.00	33.27	0.00	0.00	182.39	0.00	0.05
(0.9 - 0.2Sds) * DL + E EMAM	1.87	0.00	33.27	0.00	0.00	202.55	0.00	0.05
1.0D + 1.0W	8.92	0.00	40.06	0.00	0.00	910.22	0.00	0.20

Site Number: 302538

Code: ANSI/TIA-222-G

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Site Name: Parsonage Hill AKA Wallingford

Engineering Number: 64761421

1/19/2016 3:51:02 PM

Customer: AT&T Mobility

Base Summary

Reactions

Original Design			Analysis			Moment Design %
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	
3,567.17	35.87	30.48	4,484.65	74.77	43.71	93.13

Base Plate

Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
60.0	2.750	63.850	Polygon	12	0.00	44.755	2681.46	4569.19	0.59

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
57.85	16	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	237.24	260.00	0.93	227.89	260.00	0.90

Site Number: 302538
 Site Name: Parsonage Hill AKA Wallin
 Job Number: 64761421
 Engineer: K. Klabunde
 Date: 1/18/2016

Base Plate and Bolt Analysis

Moment: 4484.7 k-ft
 Shear/Leg: 43.7 k
 Compression/Leg: 74.8 k

TIA-222 Code Revision (F/G):

Anchor Bolt Arrangement: Round
 Monopole Shaft Diameter (Across Flats): 49.6 in
 Lower Monopole Thickness: 0.438 in
 # of Sides of Pole: 12
 Monopole Shaft Yield Strength: 65 ksi
 Baseplate Diameter / Length: 63.85
 Base Plate Thickness: 2.75 in
 Base Plate Yield Strength: 60 ksi
 Baseplate Detail Type: D
 Include Plate Thickness Beyond Bolt Circle: Y
 Stress Increase: 1.00
 Fillet Weld Size: 0.375 in
 Weld Type (CJP or F/F): CJP
 Weld Strength: 70 ksi

Anchor Bolts

Anchor Bolt Yield Strength: 75 ksi
 Anchor Bolt Ultimate Strength: 100 ksi
 Anchor Bolt Diameter: 2.25 in
 Anchor Bolt Circle: 57.85 in
 # of Anchor Bolts: 16
 Minimum Anchor Bolt Separation: 6.00 in
 Additional Anchor Bolts Installed: N

Failure Mode:	Effective Width (in)	Baseplate Flexural Capacity				Usage	Baseplate Shear Capacity			
		Moment (k-in)	S/Z (in ³)	Capacity (k-in)			Shear (k)	Area (in ²)	Capacity (k)	Usage
AA	35.27	1821.9	66.7	3601.2	0.51		675.9	97.0	3142.9	0.22
AB	43.72	2679.5	82.7	4463.4	0.60		675.9	120.2	3895.4	0.17
BA	32.14	1230.6	60.8	3281.6	0.38		675.9	88.4	2863.9	0.24
BB	40.83	2472.1	77.2	4168.4	0.59		675.9	112.3	3637.8	0.19

Anchor Bolt Capacity

Area of Bolt: 3.25 in²
 Inertia of Bolt: 0.84 in⁴
 Total Bolt Inertia: 21751.0 in⁴
 Maximum Bolt Tension: 227.7 k
 Maximum Bolt Compression: 237.1 k
 Bolt Shear: 2.7 k
 Tensile Bolt Capacity: 259.8 k
 Compressive Bolt Capacity: 259.8 k
 Shear Bolt Capacity: 140.3 k
 Interaction Equation: 0.94 Result: OK

Base Weld Capacity

Force / Weld: 22.3 k/in
 Weld Capacity: 32.2 k/in
 Interaction Equation: 0.69 Result: OK

SES Base Plate Design Moment: 978.0 k-in
 Design Stress: 53.1 ksi
 SES Base Plate Allowable Stress / Moment Capacity: 994.3 ksi / k-in
 Usage: 0.98

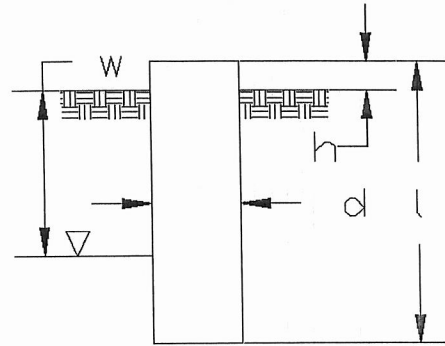
Moment Factor: 2.74
 Length Factor: 4.49

Site Name: Wallingford, CT
 Site Number: 302538
 Engineer: L. Paulson
 Engineering Number: 64761421
 Date: 01/18/16

Program Last Updated: 4/28/2013
 American Tower Corporation

Design Base Loads (Factored) - Analysis per TIA-222-G Standards

Analyze or Design a Foundation? Analyze
 Foundation Mapped: N
 Moment (M): 4484.7 k-ft
 Shear/Leg (V): 43.7 k
 Axial Load (P): 74.8 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP
 Diameter of Caisson (d):
 Caisson Embedment (L-h):
 Caisson Height Above Ground (h):
 Depth Below Ground Surface to Water Table (w):
 Unit Weight of Concrete:
 Unit Weight of Water:
 Tension Skin Friction/Compression Skin Friction:
 Pullout Angle:



6.5 ft
 21.0 ft
 1.0 ft
 99.0 ft
 150.0 pcf
 62.4 pcf
 1.00
 40.0 degrees

Engineer Notes

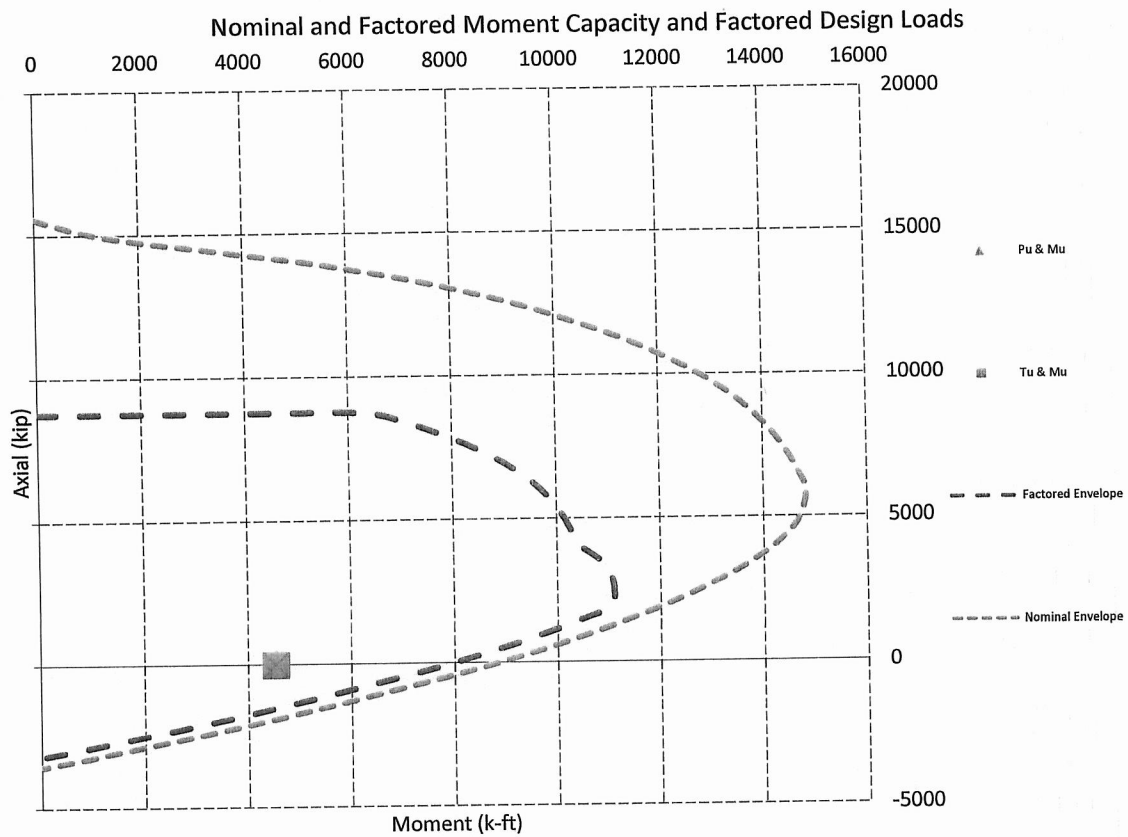
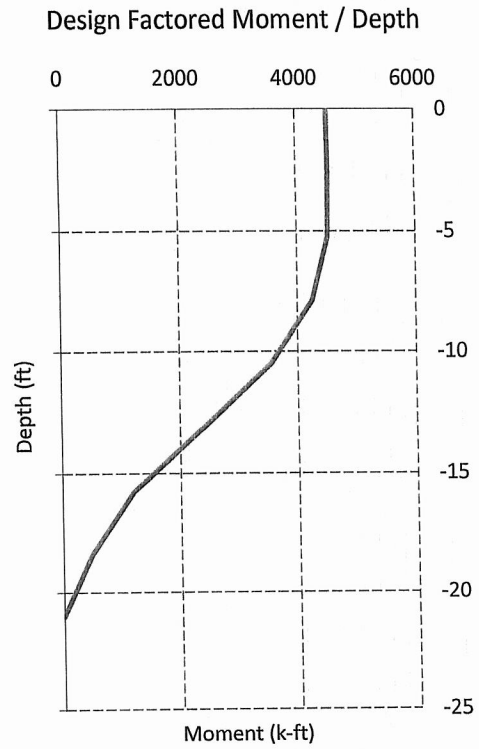
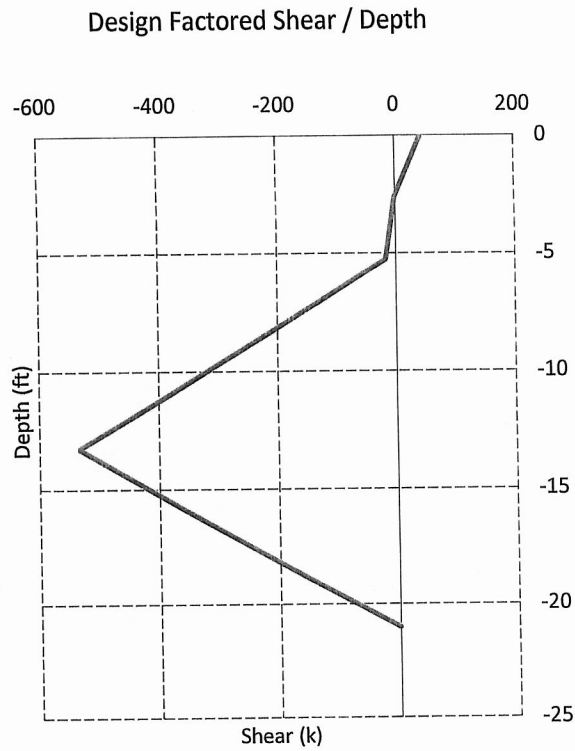
Soil Mechanical Properties

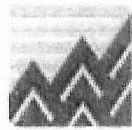
Depth (ft)		γ_{Soil} (pcf)	Cohesion (psf)	ϕ (degree)	Ultimate Skin Friction (psf)	Ultimate Bearing Pressure (psf)
Top	Bottom					
0.0	0.5	100	0	0	0	0
0.5	5.0	130	0	35	3000	0
5.0	22.0	140	6000	0	14000	20000

Required Embedment: 14.9 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 730.0 ft³ = 27.0 yd³
 Weight of Concrete (Buoyancy Effect Considered): 109.5 k
 Average Soil Unit Weight: 136.9 pcf
 Skin Friction Resistance: 4849.8 k
 Compressive Bearing Resistance: 663.7 k
 Pullout Weight (Minus Concrete Weight): 1452.1 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 1089.1 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 4135.1 k
 P_u : 85.7 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.02 Result: OK
 Total Lateral Resistance: 4715.8 k
 Inflection Point (Below Ground Surface): 13.2 ft
 Design Overturning Moment At Inflection Point (M_D): 5107.1 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 14232.7 k-ft
 $M_D / \phi_s M_n$: 0.36 Result: OK
 ϕ_s : 0.75

Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	38
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	6.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	70.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	4539.7 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	9135.1 k-ft - ACI318-05 - 10.2
$M_u / \phi_B M_n$:	0.50 Result: OK
Design Shear (V_u):	534.2 k
Nominal Shear Capacity ($\phi_V V_n$):	685.8 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.78 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	3201.1 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	85.7 k
Nominal Compression Capacity ($\phi_P P_n$):	6257.5 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.01 Result: OK
Bending Reinforcement Ratio:	0.012 ACI318-05 - 10.8.4 & 10.9.1
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.50 Result: OK





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

AT&T Existing Facility

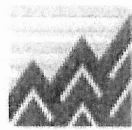
Site ID: CT2221

Wallingford - Northrop Road
100 Northrop Road
Wallingford, CT 06492

March 3, 2016

EBI Project Number: 6216000914

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	5.62 %



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March 3, 2016

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

Emissions Analysis for Site: **CT2221 – Wallingford - Northrop Road**

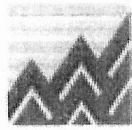
EBI Consulting was directed to analyze the proposed AT&T facility located at **100 Northrop Road, Wallingford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

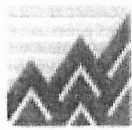
Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **100 Northrop Road, Wallingford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 GSM channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (WCS Band – 2300 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (PCS Band – 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

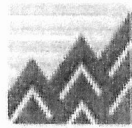


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- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antennas used in this modeling are the **CCI HPA-65R-BUU-H6, CCI OPA-65R-LCUU-H6 and the Powerwave 7770.00** for transmission in the 700 MHz, 850 MHz, 1900 MHz 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.
- 10) The antenna mounting height centerline of the proposed antennas is **127 feet** above ground level (AGL).
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



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AT&T Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00	Make / Model:	Powerwave 7770.00
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	127 feet	Height (AGL):	127 feet	Height (AGL):	127 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	0.68	Antenna B1 MPE%	0.68	Antenna C1 MPE%	0.68
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H6
Gain:	12.65 / 15.25 dBd	Gain:	12.65 / 15.25 dBd	Gain:	12.65 / 15.25 dBd
Height (AGL):	127 feet	Height (AGL):	127 feet	Height (AGL):	127 feet
Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	5,124.05	ERP (W):	5,124.05	ERP (W):	5,124.05
Antenna A2 MPE%	1.47	Antenna B2 MPE%	1.47	Antenna C2 MPE%	1.47
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H6
Gain:	11.65 / 14.85 dBd	Gain:	11.65 / 14.85 dBd	Gain:	11.65 / 14.85 dBd
Height (AGL):	127 feet	Height (AGL):	127 feet	Height (AGL):	127 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	5,420.52	ERP (W):	5,420.52	ERP (W):	5,420.52
Antenna A3 MPE%	1.82	Antenna B3 MPE%	1.82	Antenna C3 MPE%	1.82

Site Composite MPE%	
Carrier	MPE%
AT&T - Max per sector	3.97 %
MetroPCS	1.24 %
Nextel	0.28 %
Clearwire	0.11 %
T-Mobile	0.02 %
Site Total MPE %:	5.62 %

AT&T Sector 1 Total:	3.97 %
AT&T Sector 2 Total:	3.97 %
AT&T Sector 3 Total:	3.97 %
Site Total:	5.62 %

AT&T _ 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	2	414.12	127	2.03	850	567	0.36 %
AT&T 1900 MHz (PCS) UMTS	2	656.33	127	3.22	1900	1000	0.32 %
AT&T 850 MHz GSM	2	552.23	127	2.71	850	567	0.48 %
AT&T 2300 MHz (WCS) LTE	2	2009.79	127	9.87	2300	1000	0.99 %
AT&T 700 MHz LTE	2	877.31	127	4.31	700	467	0.92 %
AT&T 1900 MHz (PCS) LTE	2	1832.95	127	9.00	1900	1000	0.90 %
						Total:	3.97 %



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Summary

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

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

AT&T Sector	Power Density Value (%)
Sector 1:	3.97 %
Sector 2:	3.97 %
Sector 3 :	3.97 %
AT&T Maximum Total (per sector):	3.97 %
Site Total:	5.62 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **5.62%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

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