



December 2, 2016

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

Regarding: Notice of Exempt Modification – Radio Head (“RRHs”) Swap

Property Address: 99 Meadow Street, Hartford, CT (the “Property”)

Applicant: AT&T Mobility (“AT&T”) Site CT5127

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 147.9-foot monopole at the above-referenced address, latitude 41.7438919, longitude -72.6682989. Said monopole is owned by American Tower Corporation. The existing equipment shelter is 19.667' x 11.5' totaling 226.17 square feet.

AT&T desires to modify its existing telecommunications facility by swapping three (3) three remote-radio heads (“RRHs”). The centerline height of antennas is and will remain at 135 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 Luke Bronin, Mayor of the City of Hartford. A copy is also being sent to the monopole owner American Tower Corporation as well as the landowner, Meadow Street Realty, LLC.

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 135 feet on the 147.9-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 October 28, 2016).

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

Sincerely,

*Sarah Snell*

Sarah Snell  
Site Acquisition Specialist

cc: The Honorable Luke Bronin, Mayor, City of Hartford  
American Tower Corporation  
Meadow Street Realty, LLC

Parcel ID: 275690115  
Property Address: 99 MEADOW ST  
Owner Name: MEADOW STREET REALTY LLC  
Mailing Address 1: 99 MEADOW ST  
Mailing Address 2:  
City: HARTFORD  
State: CT  
Zip: 06114-1506

Zoom to

**PROJECT TEAM**

**CLIENT REPRESENTATIVE:**

EMPIRE TELECOM  
16 ESQUIRE ROAD  
BILLERICA, MA 01821  
DAVID COOPER  
617-639-4908  
dcooper@empiretelecomm.com

**SITE ACQUISITION & ZONING:**

EMPIRE TELECOM  
16 ESQUIRE ROAD  
BILLERICA, MA 01821  
DAVID COOPER  
617-639-4908  
dcooper@empiretelecomm.com

**ENGINEERING:**

TRYLON TSF  
1825 W. WALNUT HILL LANE SUITE 302  
IRVING, TX 75038  
KATYA SERAVALLE  
PHONE: 519-465-4125

**RF ENGINEER:**

AT&T MOBILITY - NEW ENGLAND  
550 COCHITUATE ROAD  
SUITE 550 13 & 14  
FRAMINGHAM, MA 01701  
CAMERON SYME  
508-596-7146  
cs6970@att.com

**CONSTRUCTION MANAGEMENT:**

EMPIRE TELECOM  
16 ESQUIRE ROAD  
BILLERICA, MA 01821  
GRZEGORZ "GREG" DORMAN  
484-683-1750  
gdorman@empiretelecomm.com

**TOWER OWNER:**

UNKNOWN

**GENERAL NOTES**

**DO NOT SCALE DRAWINGS**

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

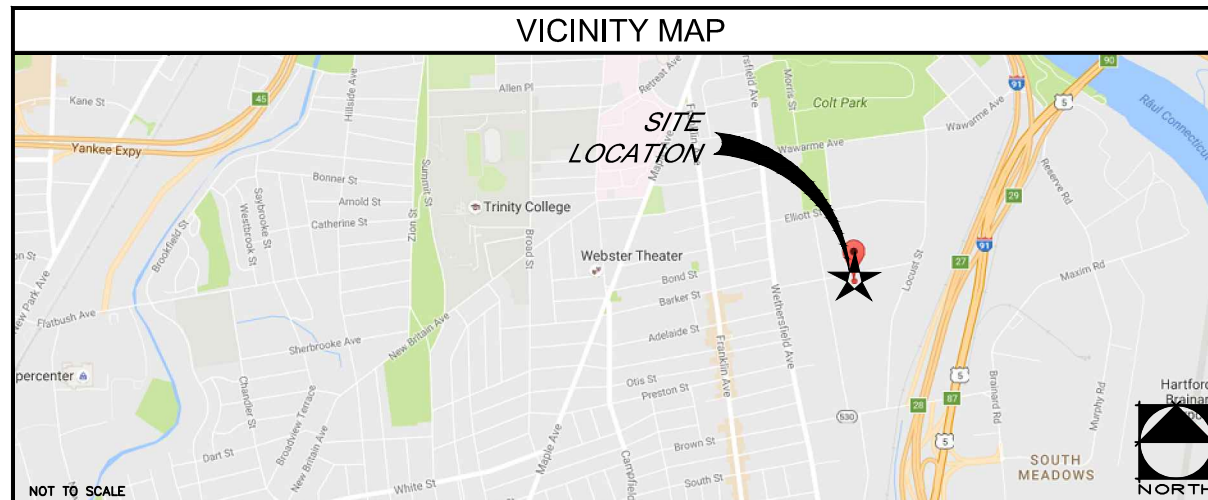
THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

**SITE INFORMATION**

LATITUDE: 41° 44' 38.01084" N  
LONGITUDE: 72° 40' 5.87605" W  
LAT./LONG. TYPE: NAD 83  
GROUND ELEVATION: N/A  
APN/UPC: N/A  
AREA OF CONSTRUCTION: EXISTING  
ZONING/JURISDICTION: CITY OF HARTFORD  
CURRENT ZONING: N/A  
EXISTING USE: TELECOMMUNICATIONS FACILITY  
COUNTY: HARTFORD COUNTY  
HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.



**LTE BWE EXPANSION  
CT5127  
1 91 AND 5 SPLIT  
99 MEADOW STREET  
HARTFORD, CT 06114  
FA CODE: 10070908**



**DRIVING DIRECTIONS**

UPDATED 3/201191-RT. 5 SPLIT CT-1271-91 NORTH TO EXIT 27 AIRPORT RD AT END OF RAMP TURN LEFT ONTO BRAINARD RD THEN AT LIGHT TURN LEFT ON AIRPORT RD. AT SECOND LIGHT TURN RIGHT. ONTO LOCUST ST GO 4/10 OF A MILE AND TURN LEFT ONTO MEADOW ST. SITE WILL BE ON YOUR LEFT.

**CODE COMPLIANCE**

BUILDING CODE: 2012 CONNECTICUT COMMERCIAL BUILDING CODE  
ELECTRICAL CODE: 2014 CONNECTICUT ELECTRICAL CODE  
LIGHTNING PROTECTION CODE: NFPA 780 - 2000, LIGHTNING PROTECTION CODE

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

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 CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



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

**APPROVALS**

AT&T (RF): \_\_\_\_\_ DATE: \_\_\_\_\_  
AT&T (CONST.): \_\_\_\_\_ DATE: \_\_\_\_\_  
AT&T (OPS): \_\_\_\_\_ DATE: \_\_\_\_\_  
TOWER OWNER: \_\_\_\_\_ DATE: \_\_\_\_\_

**JURISDICTIONAL APPROVAL**

BASED ON INFORMATION PROVIDED BY AT&T REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW OR ADMINISTRATIVE REVIEW).

**PROJECT DESCRIPTION**

**THIS PROJECT WILL BE COMPRISED OF:  
CHANGES ON THE EXISTING MONOPOLE TOWER:**

- REMOVE (3) EXISTING RRUS-11 + RRUS-A2 (1) PER SECTOR FOR (3) SECTORS.
- INSTALL (3) NEW RRUS-32 B2, (1) PER SECTOR FOR (3) SECTORS.
- REUSE (2) EXISTING DC6 SQUID.
- REUSE (4) EXISTING DC TRUNK.
- REUSE (2) EXISTING FIBER TRUNK.
- REUSE (12) EXISTING 1-5/8" RF CABLES.

**CHANGES IN THE EXISTING AT&T EQUIPMENT ENCLOSURE AREA:**

- INSTALL (1) NEW XMU AND IDL 2.

**SHEET**

**DESCRIPTION**

T-1	TITLE SHEET
GN-1	GROUNDING & GENERAL NOTES
A-1	COMPOUND PLAN
A-2	EQUIPMENT LAYOUTS
A-3	ANTENNA LAYOUTS
A-4	TOWER ELEVATION
A-5	DETAILS
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS



1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419



**PLANS PREPARED BY:**



1825 W. WALNUT HILL LANE SUITE 302  
IRVING, TX 75038

NO.	DATE	DESCRIPTION	BY
A	10/28/16	FOR REVIEW	OS
0	11/17/16	FOR CONSTRUCTION	OS

**SITE INFORMATION:**

CT5127  
1 91 AND 5 SPLIT  
FA CODE: 10070908

99 MEADOW STREET  
HARTFORD, CT 06114

**SEAL:**



**SHEET TITLE:**

TITLE SHEET

**SHEET NUMBER:**

T-1

**GENERAL NOTES:**

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
 CONTRACTOR - EMPIRE TELECOM  
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)  
 OWNER - AT&T MOBILITY  
 OEM - ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCR1 'AP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
13. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION 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 AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
15. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION 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. ALSO, WORK MAY NEED TO 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 WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
19. SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
  - INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS
  - NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS
  - FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
20. SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
  - AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
  - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION
  - AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM
  - TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
  - TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS
  - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA
  - INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT
  - TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
21. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

**GROUNDING NOTES:**

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GESS'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED 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 GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
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 METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
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 BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.



1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419



16 ESQUIRE ROAD  
BILLERICA, MA 01821

PLANS PREPARED BY:



1825 W. WALNUT HILL LANE SUITE 302  
IRVING, TX 75038

NO.	DATE	DESCRIPTION	BY
A	10/28/16	FOR REVIEW	OS
0	11/17/16	FOR CONSTRUCTION	OS

SITE INFORMATION:

CT5127  
1 91 AND 5 SPLIT  
FA CODE: 10070908  
99 MEADOW STREET  
HARTFORD, CT 06114

SEAL:



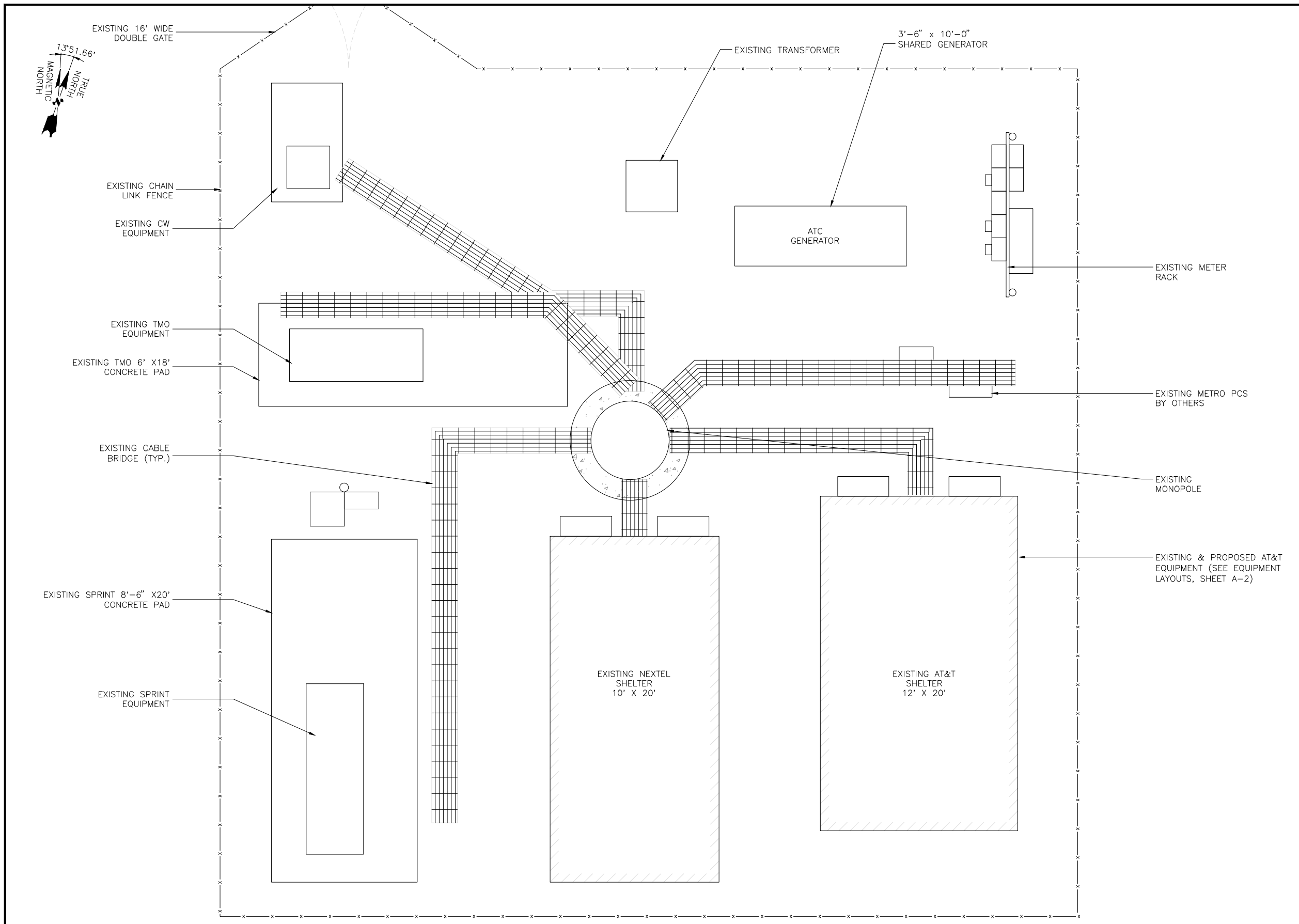
MICHAEL F. PLAHOVINSAK, P.E. #25849  
Sole Proprietor - Independent Engineer  
18301 S.R. 161, Plain City, OH 43064  
614-398-6250 / mike@mpeng.com

SHEET TITLE:

GENERAL NOTES &  
GROUNDING NOTES

SHEET NUMBER:

GN-1



1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419

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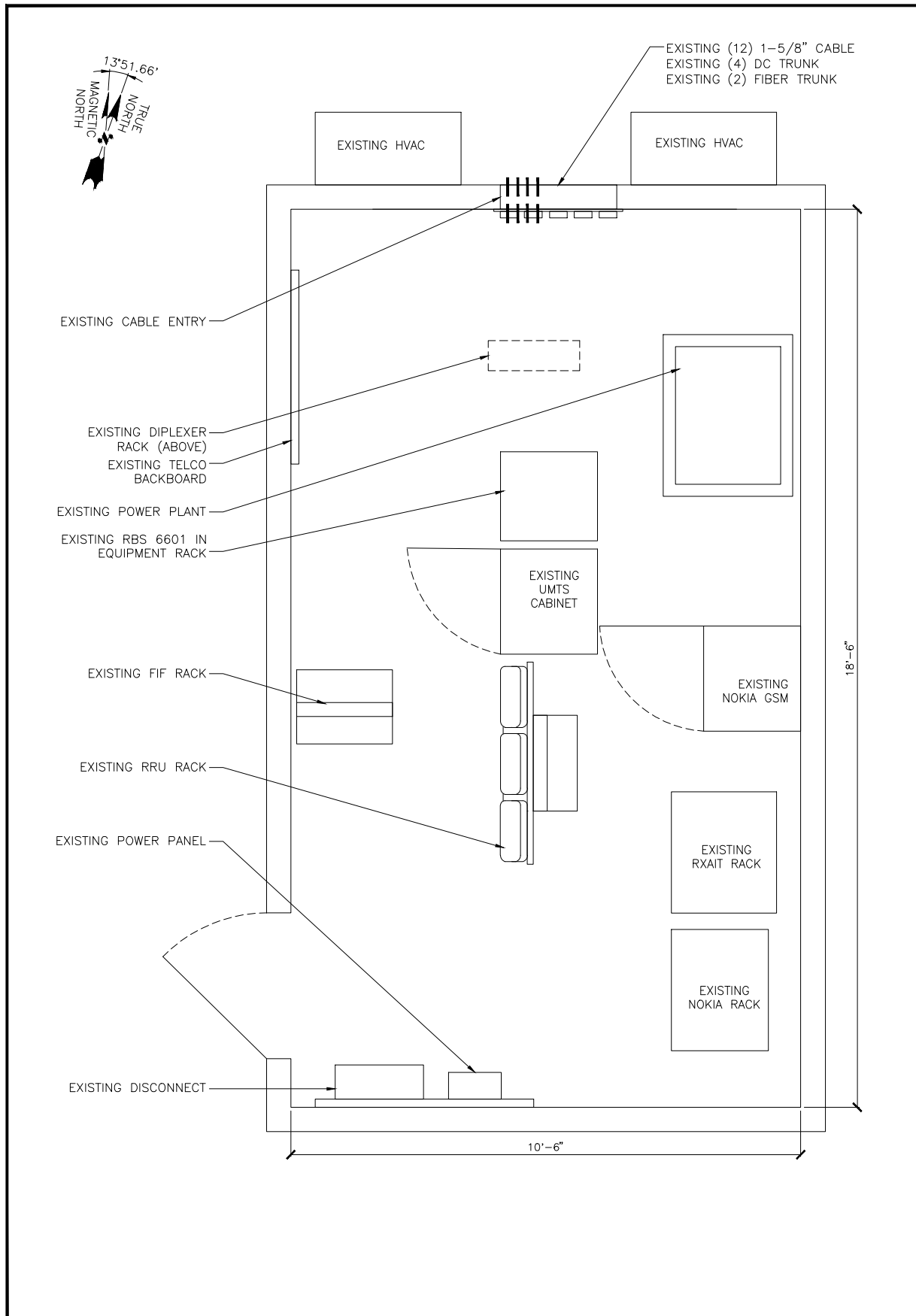
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 Sole Proprietor - Independent Engineer  
 18301 S.R. 161, Plain City, OH 43064  
 614-398-6250 / mike@mpeng.com

SHEET TITLE:

**COMPOUND PLAN**

SHEET NUMBER:

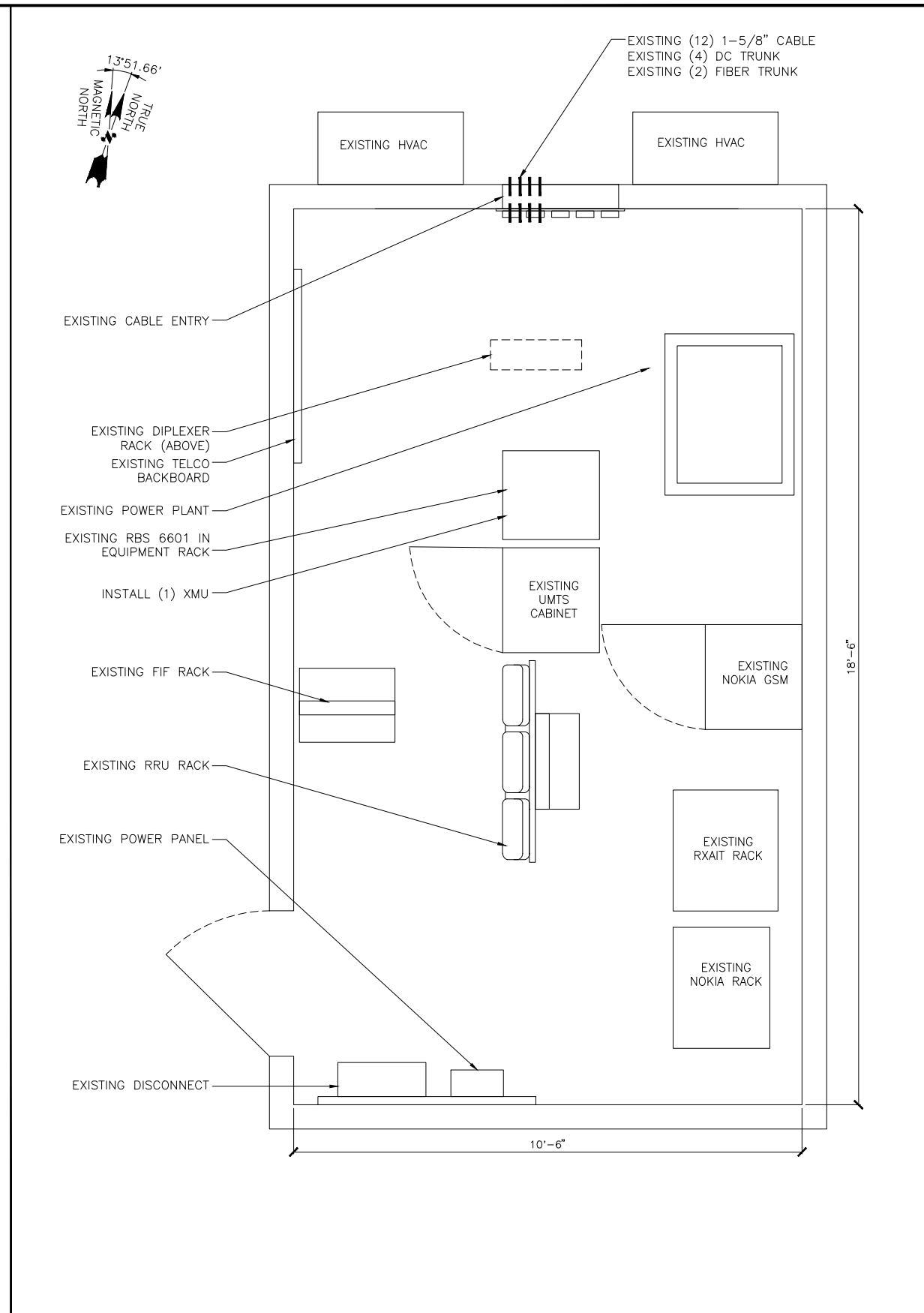
**A-1**



EXISTING EQUIPMENT LAYOUT

22"x34" SCALE: 3/4" = 1'-0"  
11"x17" SCALE: 3/8" = 1'-0"

1



PROPOSED EQUIPMENT LAYOUT

22"x34" SCALE: 3/4" = 1'-0"  
11"x17" SCALE: 3/8" = 1'-0"

2

1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419

16 ESQUIRE ROAD  
BILLERICA, MA 01821

PLANS PREPARED BY:

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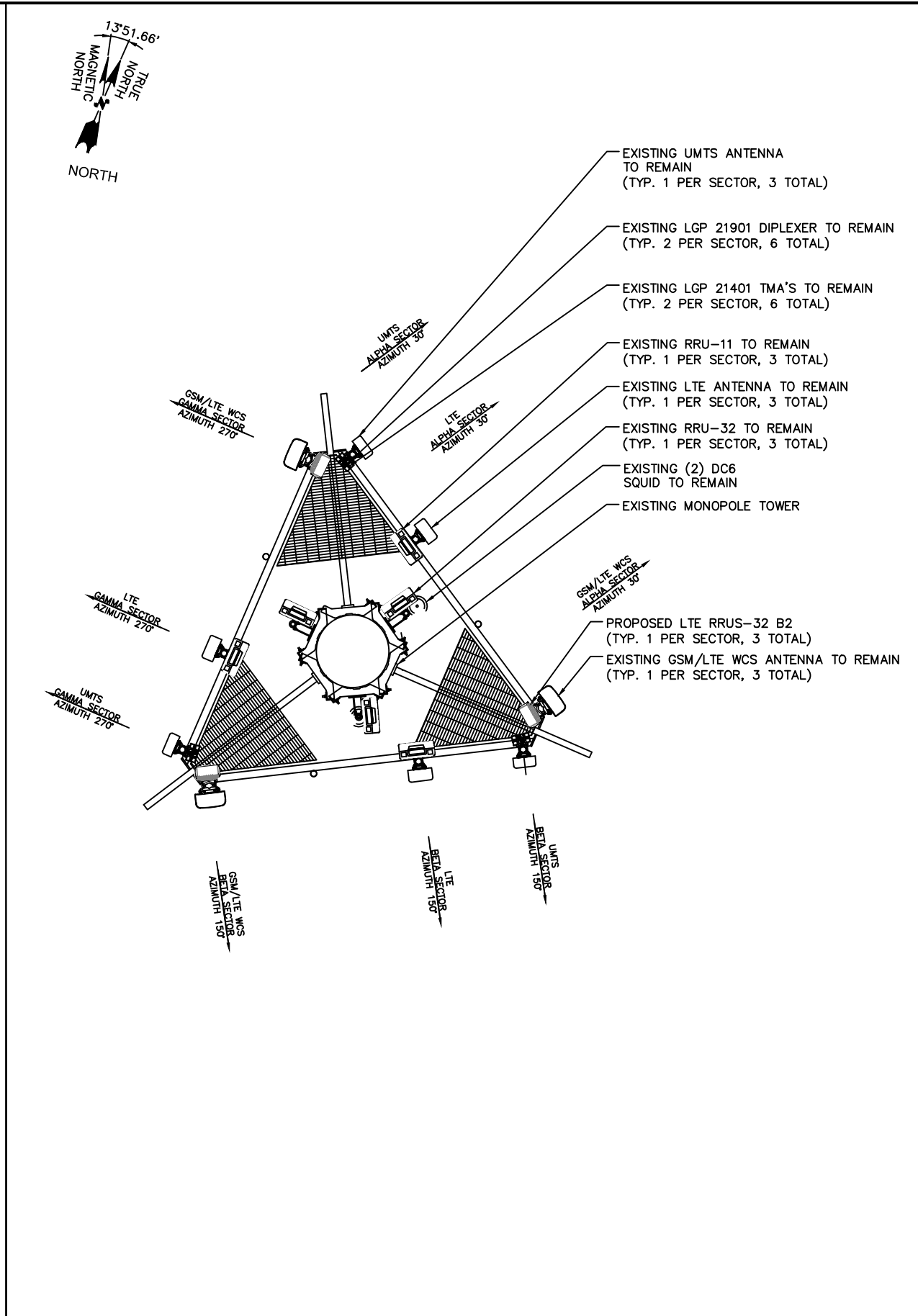
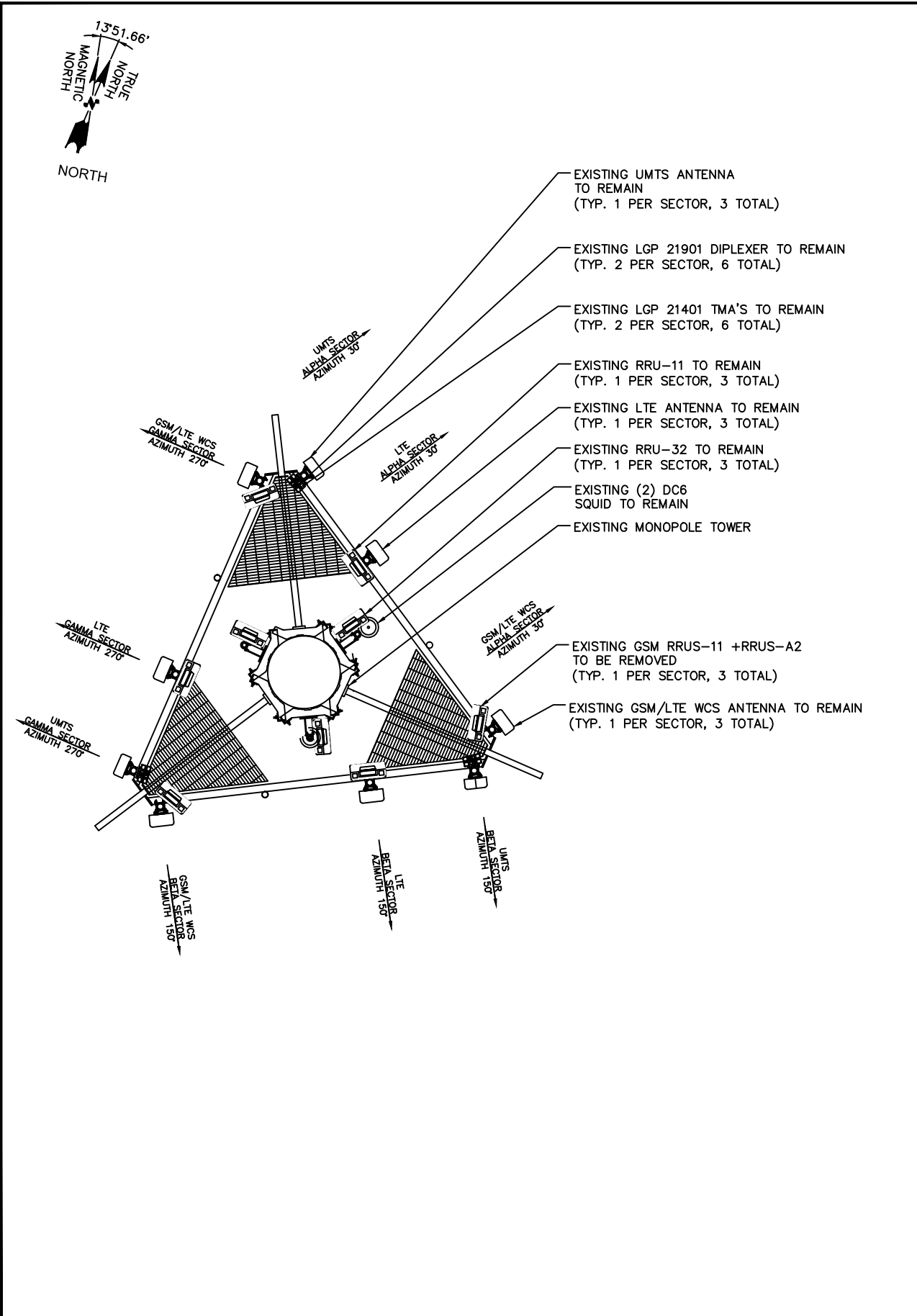
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Sole Proprietor - Independent Engineer  
18301 S.R. 161, Plain City, OH 43064  
614-398-6250 / mike@mpeng.com

SHEET TITLE:

EQUIPMENT LAYOUTS

SHEET NUMBER:

A-2



EXISTING ANTENNA LAYOUT NOT TO SCALE 1

PROPOSED ANTENNA LAYOUT NOT TO SCALE 2



PLANS PREPARED BY:

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Solo Proprietor - Independent Engineer  
18301 S.R. 161, Plain City, OH 43064  
614-398-6250 / mike@mpeng.com

SHEET TITLE:

ANTENNA LAYOUTS

SHEET NUMBER:

A-3





1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419



16 ESQUIRE ROAD  
BILLERICA, MA 01821

PLANS PREPARED BY:



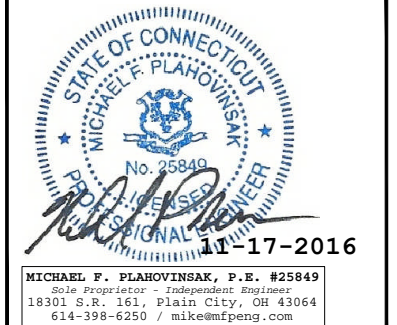
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1 91 AND 5 SPLIT  
FA CODE: 10070908  
99 MEADOW STREET  
HARTFORD, CT 06114

SEAL:

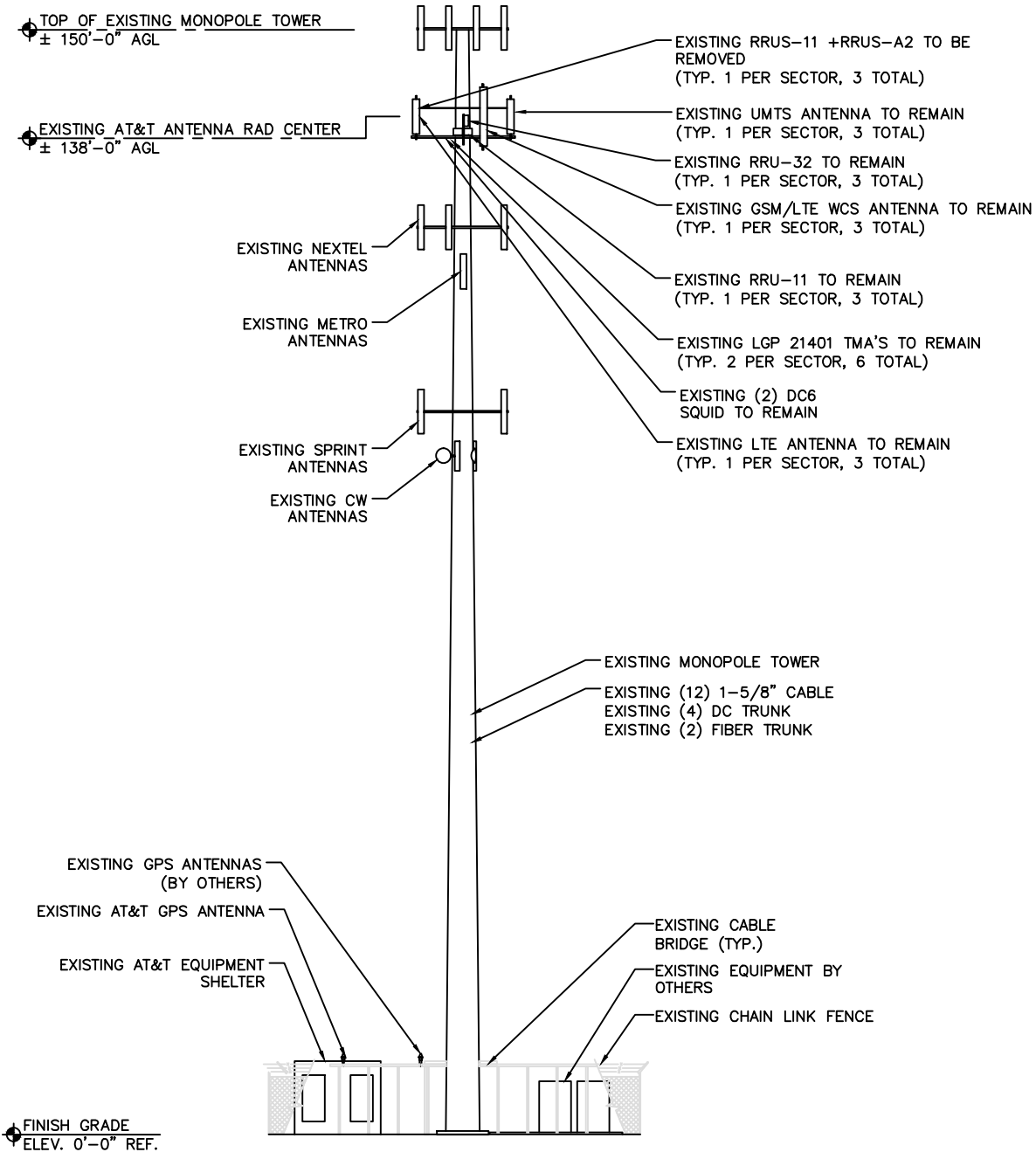


SHEET TITLE:

TOWER ELEVATION

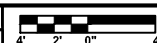
SHEET NUMBER:

A-4

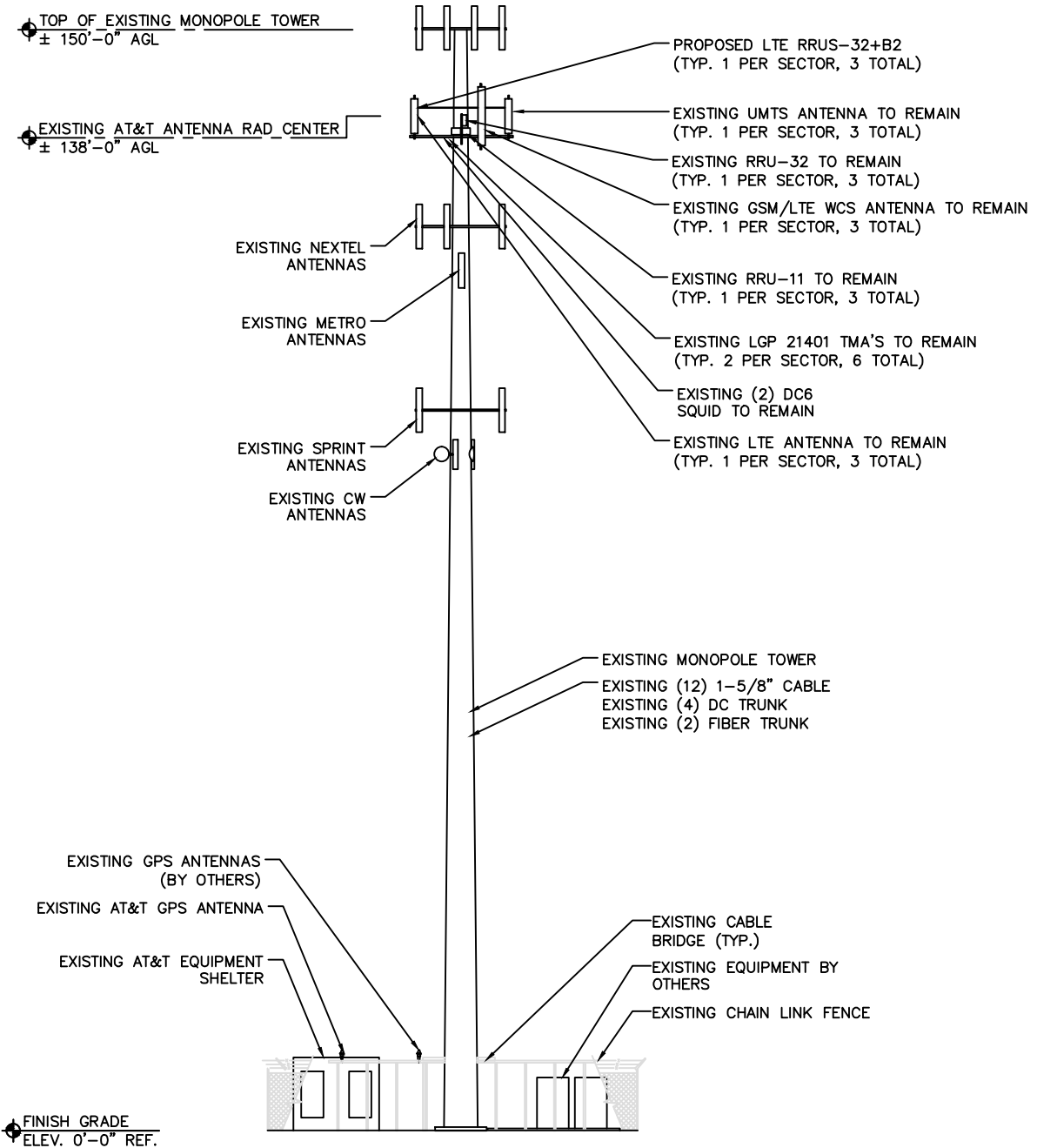


EXISTING TOWER ELEVATION

22"x34" SCALE: 3/16" = 1'-0"  
11"x17" SCALE: 3/32" = 1'-0"

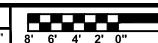


1



PROPOSED TOWER ELEVATION

22"x34" SCALE: 1/8" = 1'-0"  
11"x17" SCALE: 1/16" = 1'-0"



2



1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419

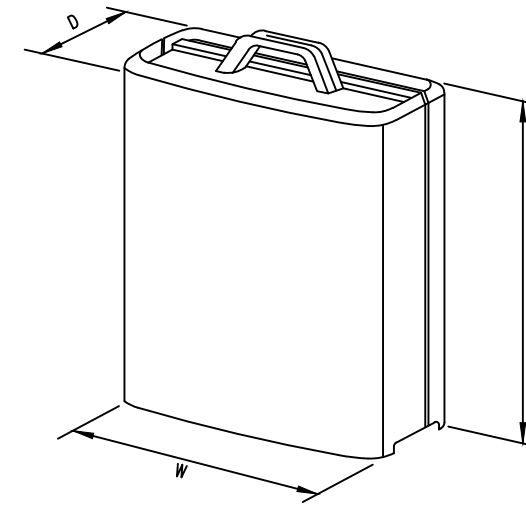


16 ESQUIRE ROAD  
BILLERICA, MA 01821

PLANS PREPARED BY:



1825 W. WALNUT HILL LANE SUITE 302  
IRVING, TX 75038



MODEL	L x W x H	WEIGHT
RRUS-11	19.69' x 16.97' x 7.17'	50.7 LBS
RRUS-12	20.4' x 18.5' x 7.5'	58 LBS
RRUS-32	29.9' x 13.3' x 9.5'	77 LBS
RRUS-32 B2	20.9' x 9.5' x 3.3'	77 LBS
RRUS-E2	20.4' x 18.5' x 7.5'	58 LBS
A2 MODULE	16.4' x 15.2' x 3.4'	22 LBS

NO.	DATE	DESCRIPTION	BY
A	10/28/16	FOR REVIEW	OS
0	11/17/16	FOR CONSTRUCTION	OS

NOT USED

N.T.S 1

RRUS DETAILS

N.T.S 2

SITE INFORMATION:

CT5127  
1 91 AND 5 SPLIT  
FA CODE: 10070908  
99 MEADOW STREET  
HARTFORD, CT 06114

SEAL:



MICHAEL F. PLAHOVINSAK, P.E. #25849  
Sole Proprietor - Independent Engineer  
18301 S.R. 161, Plain City, OH 43064  
614-398-6250 / mike@mfpeng.com

SHEET TITLE:

DETAILS

SHEET NUMBER:

A-5

NOT USED

N.T.S 3

NOT USED

N.T.S 4



1355 WEST UNIVERSITY DRIVE  
MESA, AZ 85201-5419



16 ESQUIRE ROAD  
BILLERICA, MA 01821

PLANS PREPARED BY:



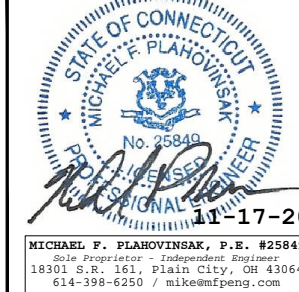
1825 W. WALNUT HILL LANE SUITE 302  
IRVING, TX 75038

NO.	DATE	DESCRIPTION	BY
A	10/28/16	FOR REVIEW	OS
0	11/17/16	FOR CONSTRUCTION	OS

SITE INFORMATION:

CT5127  
1 91 AND 5 SPLIT  
FA CODE: 10070908  
99 MEADOW STREET  
HARTFORD, CT 06114

SEAL:

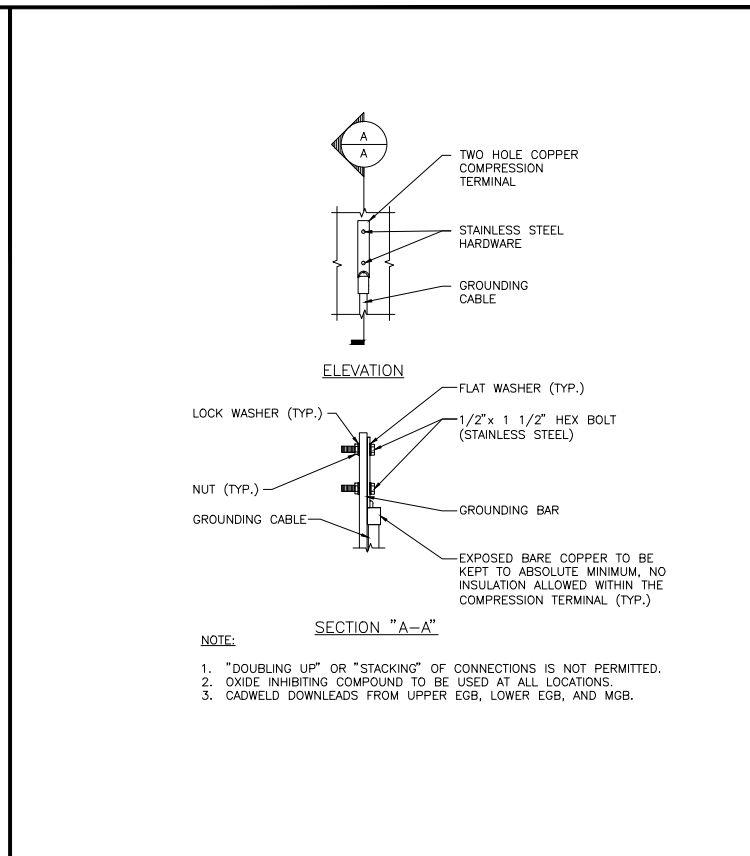
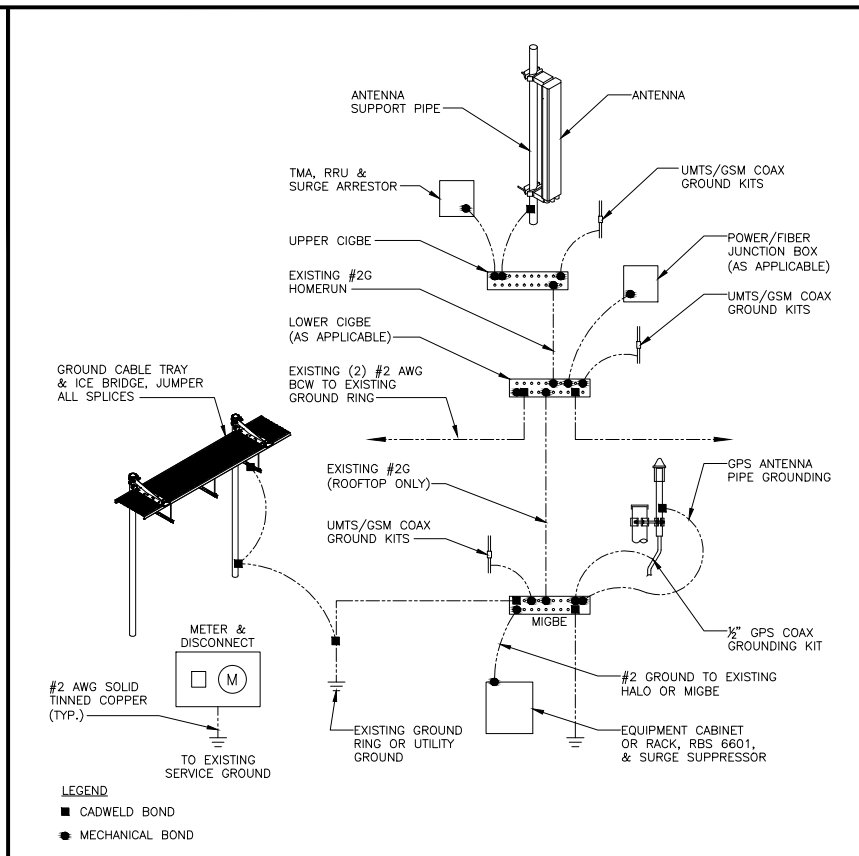
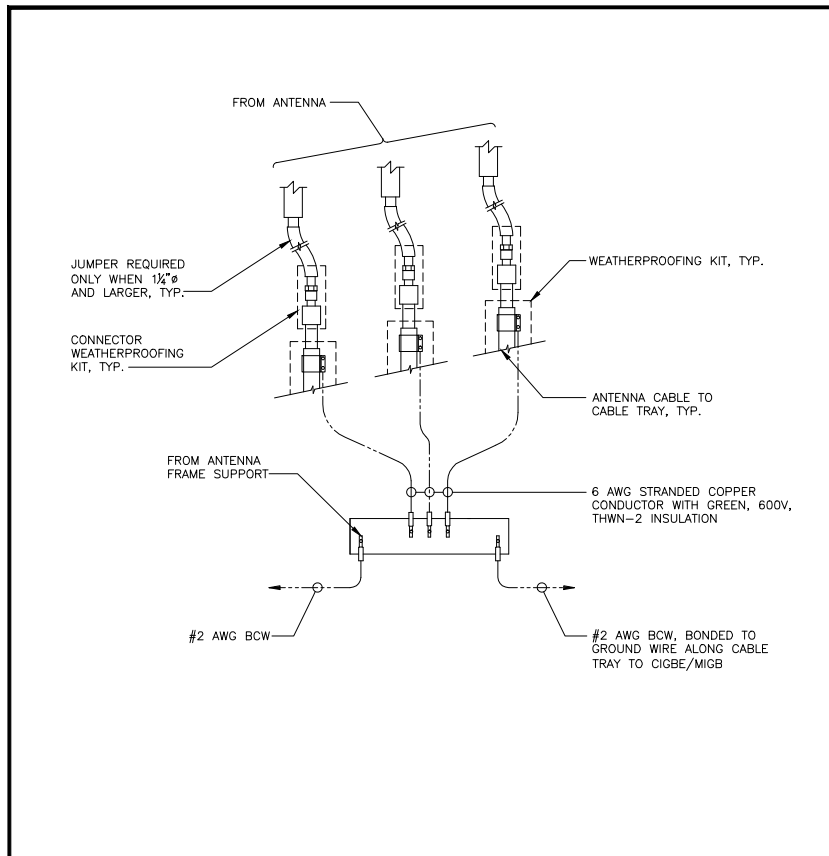


SHEET TITLE:

GROUNDING, ONE-LINE  
DIAGRAM & DETAILS

SHEET NUMBER:

G-1



GROUND WIRE TO GROUND BAR CONNECTION DETAILS

N.T.S

1

GROUND RISER DIAGRAM

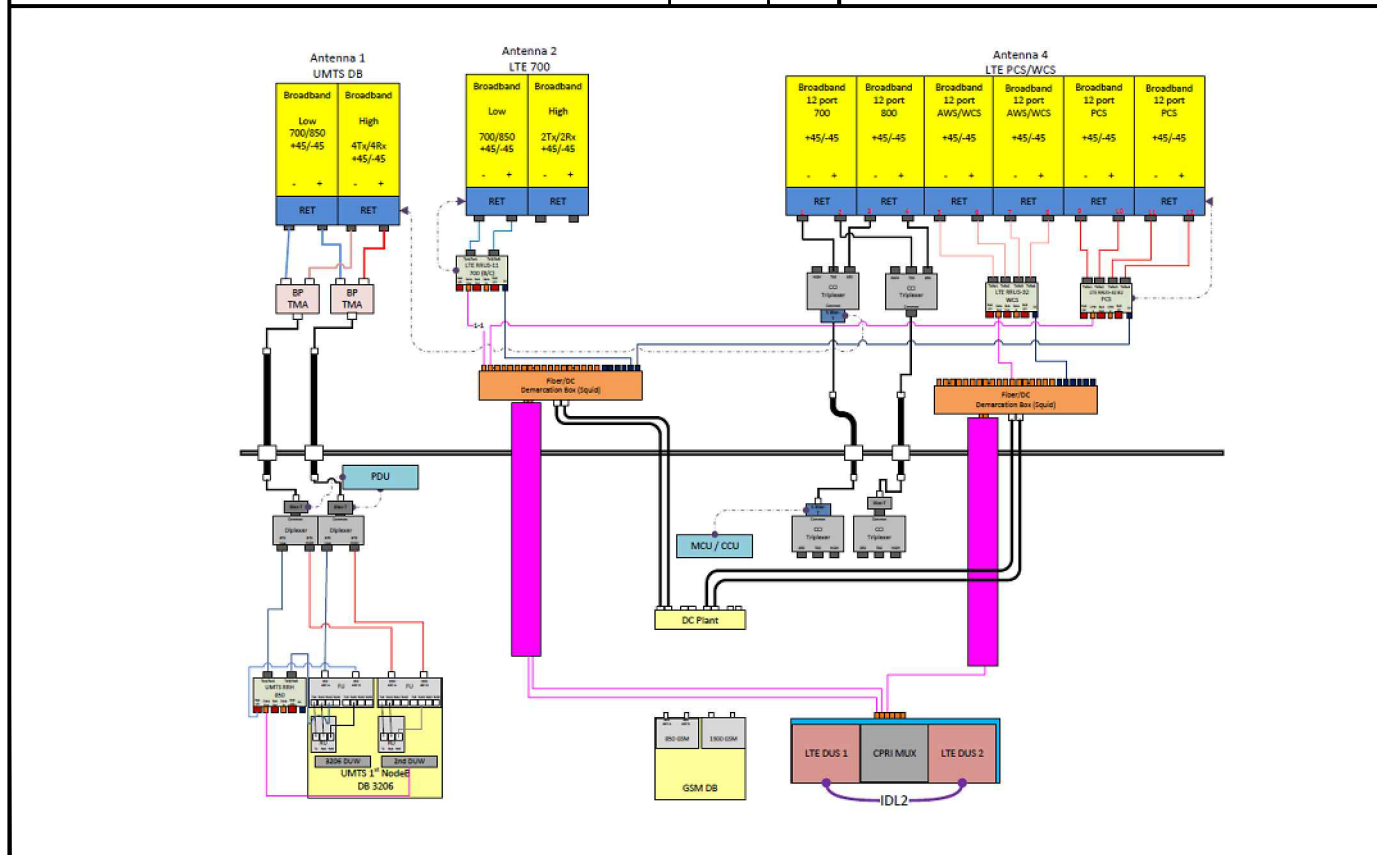
N.T.S

2

TYPICAL GROUND BAR CONNECTION DETAILS

N.T.S

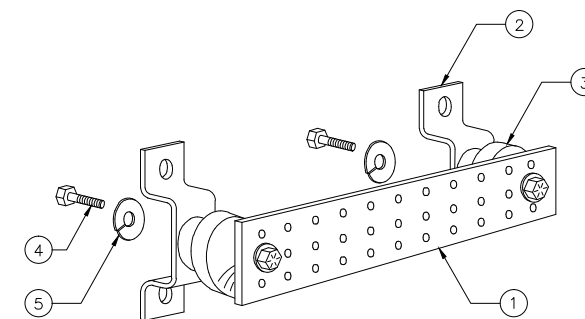
3



PLUMBING DIAGRAM

N.T.S 4

GROUND BAR DETAILS



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

NOTES:

EACH GROUND CONDUCTOR TERMINATING AT ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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

N.T.S 5



**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 147.9 ft Monopole  
**ATC Site Name** : Petro Lock, CT  
**ATC Site Number** : 302468  
**Engineering Number** : OAA688004\_C3\_01  
**Proposed Carrier** : AT&T Mobility  
**Carrier Site Name** : 1 91 AND 5 Split  
**Carrier Site Number** : CT5127  
**Site Location** : 99 Meadow St  
Hartford, CT 06114-1598  
41.743197,-72.667500  
**County** : Hartford  
**Date** : October 28, 2016  
**Max Usage** : 61%  
**Result** : Pass

Prepared By:  
Amir H. Tabarestani, E.I.  
Structural Engineer II

Reviewed By:

**COA: PEC.0001553**



**Table of Contents**

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Standard Conditions .....	4
Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 147.9 ft monopole to reflect the change in loading by AT&T Mobility.

## Supporting Documents

<b>Tower Drawings</b>	FWT Job #21719000 Rev. 1, dated July 18, 2000
<b>Foundation Drawing</b>	FWT Job #21719000 Rev. 1, dated July 18, 2000
<b>Geotechnical Report</b>	Osprey Environmental Engineering Job #98083-01, dated August 28, 1998

## Analysis

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

<b>Basic Wind Speed:</b>	95.3 mph (3-Second Gust, $V_{ASD}$ ), 123 mph (3-Second Gust, $V_{ULT}$ )
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 1" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Spectral Response:</b>	$S_s = 0.18$ , $S_1 = 0.06$
<b>Site Class:</b>	D - Stiff Soil

## Conclusion

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

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



**Existing and Reserved Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
149.0	149.0	4	Decibel DB844H90E-XY	Platform w/ Handrails	(12) 1 5/8" Coax (1) 1/2" Coax	Sprint Nextel
		8	Andrew 844G65VTZASX			
137.0	137.0	6	Powerwave LGP21401	Platform w/ Handrails	(12) 1 5/8" Coax (4) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (1) 3" Conduit	AT&T Mobility
		2	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Powerwave 7750.00			
		2	KMW AM-X-CD-16-65-00T-RET			
		2	Quintel QS66512-3 (112 lbs.)			
		1	Andrew SBNH-1D6565C			
		1	CCI TPA-65R-LCUUUU-H8			
123.0	123.0	3	Kathrein Smart Bias Tee	T-Arms	(18) 1 5/8" Coax (1) 1 5/8" Fiber	T-Mobile
		3	Ericsson KRY 112 144/1			
		3	Ericsson KRY 112 489/1			
		3	Ericsson AIR 32 B4A-B2P			
		3	RFS APX16DWV-16DWVS-E-A20			
		3	Andrew LNX-6515DS-VTM			
113.0	113.0	3	RFS APXV18-206517	Flush	(6) 1 5/8" Coax	Metro PCS
98.0	98.0	3	RFS IBC1900BB-1	Low Profile Platform	(4) 1 1/4" Hybriflex	Sprint Nextel
		3	RFS IBC1900HG-2A			
		3	Alcatel-Lucent 800MHz 2X50W RRH w/ Filter			
		3	Alcatel-Lucent 4x40W RRH (88 lb)			
		3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
		3	RFS APXVTM14-C-I20			
		3	RFS APXVSP18-C-A20			
89.0	89.0	3	DragonWave Horizon Compact	Side Arms	(6) 5/16" Coax (3) 1/2" Coax (1) 2" Conduit	Clearwire
		3	NextNet BTS-2500			
		3	Argus LLPX310R			
		2	DragonWave A-ANT-18G-2-C			
		1	DragonWave A-ANT-11G-2.5-C			
79.0	79.0	3	Alcatel-Lucent RRH2X60-AWS	Low Profile Platform	(2) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent RRH2x60 700			
		3	Alcatel-Lucent RRH2x60			
		2	RFS DB-T1-6Z-8AB-0Z			
		12	Commscope SBNHH-1D65B			
20.0	20.0	1	Lucent KS-24019	Flush	(1) 1/2" Coax	Sprint Nextel

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
137.0	137.0	6	LGP LGP21903	-	-	AT&T Mobility
		3	Ericsson RRUS 11 w/ RRUS A2			



**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
137.0	137.0	6	Powerwave LGP21901	Platform w/ Handrails	-	AT&T Mobility
		6	Powerwave 7020.00 Dual Band RET			
		3	Ericsson RRUS 32 B2			

<sup>1</sup>Mount 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	59%	Pass
Shaft	61%	Pass
Base Plate	30%	Pass

**Foundations**

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,011.4	61%
Shear (Kips)	29.1	61%

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) (°)
137.0	Powerwave LGP21901	AT&T Mobility	1.176	0.847
	Powerwave 7020.00 Dual Band RET			
	Ericsson RRUS 32 B2			
123.0	Ericsson AIR 32 B4A-B2P	T-Mobile	0.972	0.817
89.0	DragonWave A-ANT-18G-2-C	Clearwire	0.531	0.654
	DragonWave A-ANT-11G-2.5-C			

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





## **Standard Conditions**

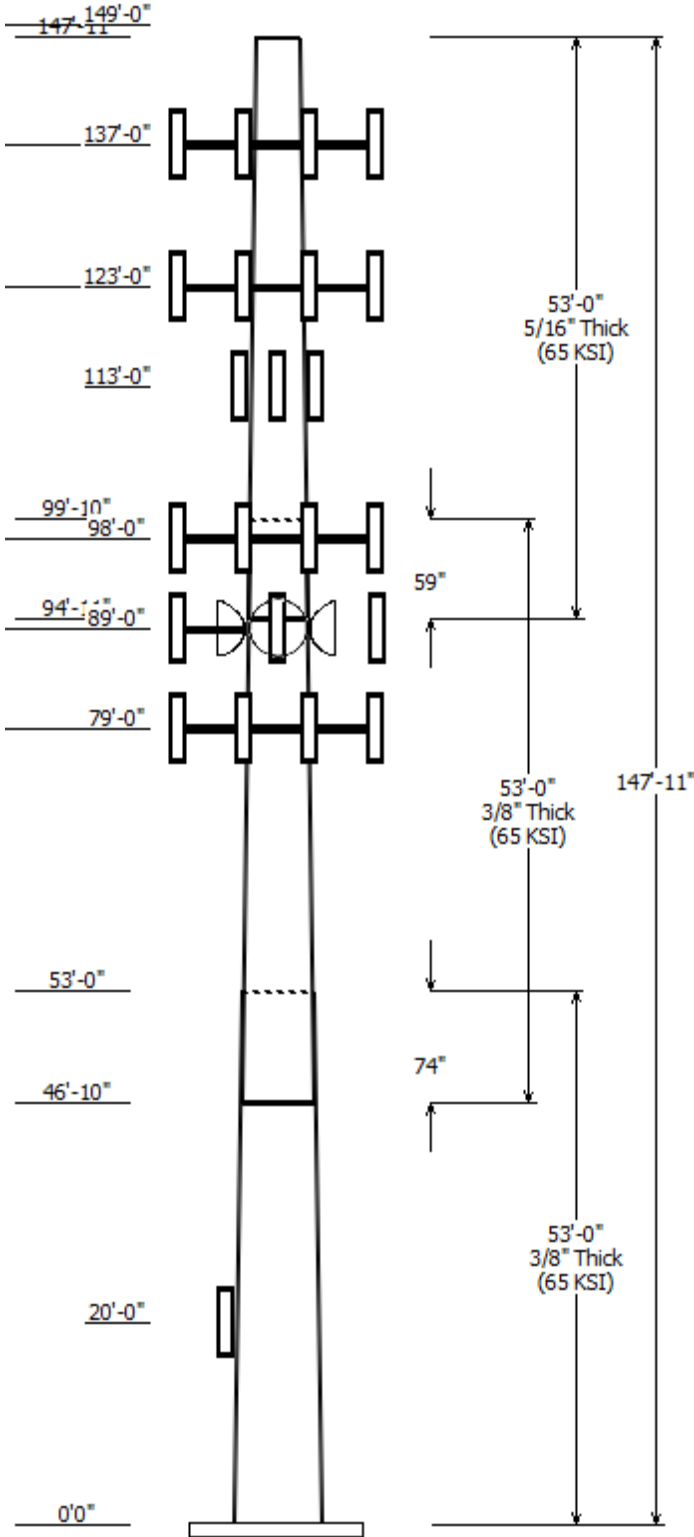
All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- 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 A.T. Engineering Service, PLLC 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 the client and American Tower Corporation, 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.

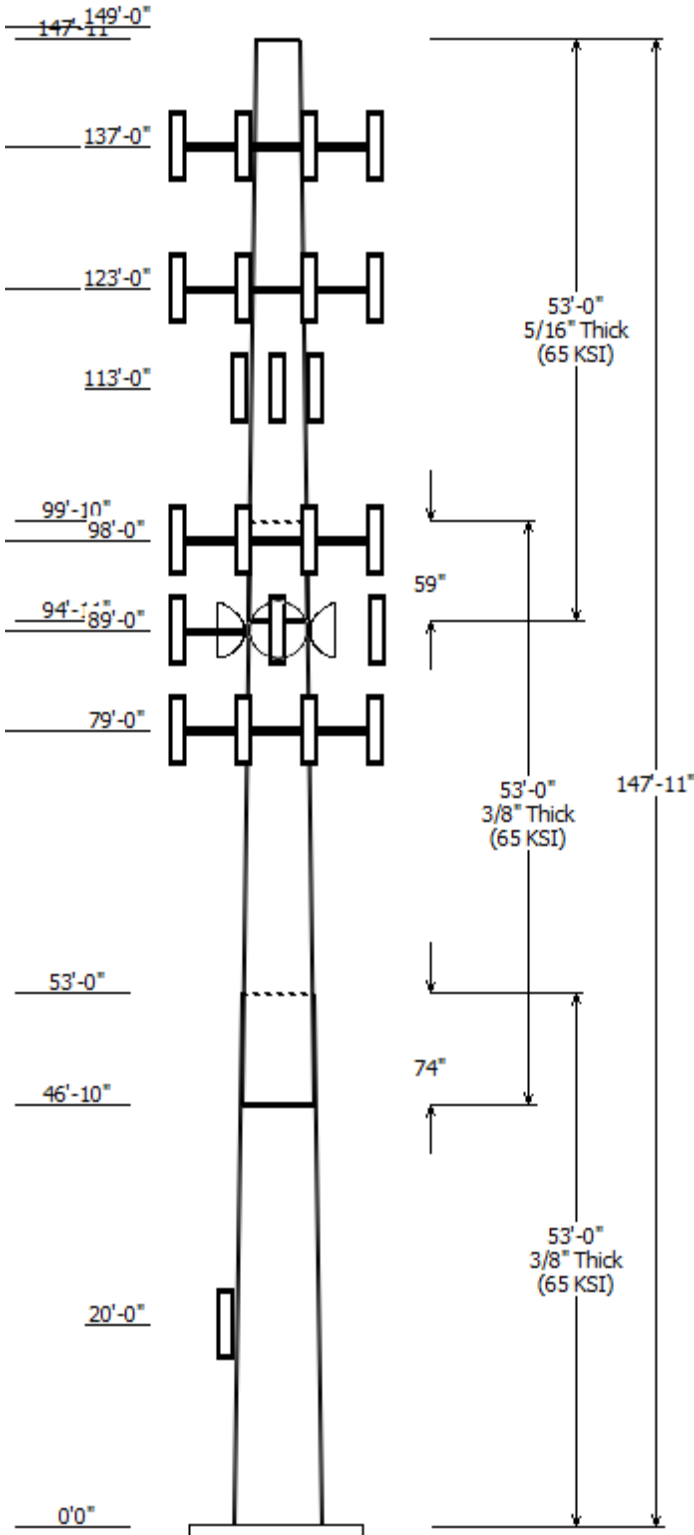
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



Job Information	
Pole :	302468
Code:	ANSI/TIA-222-G
Description :	148' FWT Monopole
Client :	AT&T Mobility
Struct Class :	II
Location :	Petro Lock, CT
Shape :	18 Sides
Exposure :	B
Height :	147.92 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.214564in/ft)

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Overlap Length (in)	Steel Taper (in/ft)	Steel Grade (ksi)
		Top	Bottom				
1	53.000	45.20	56.58	0.375	0.000	0.214600	65
2	53.000	35.90	47.28	0.375 Slip Joint	74.000	0.214600	65
3	53.000	26.21	37.58	0.313 Slip Joint	59.000	0.214600	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
149.000	149.000	1	Flat Platform w/ Handrails
149.000	149.000	8	Andrew 844G65VTZASX
149.000	149.000	4	Decibel DB844H90E-XY
137.000	137.000	1	Flat Platform w/ Handrails
137.000	137.000	1	CCI TPA-65R-LCUUUU-H8
137.000	137.000	1	Andrew SBNH-1D6565C
137.000	137.000	2	Qintel QS66512-3 (112 lbs.)
137.000	137.000	2	KMW AM-X-CD-16-65-00T-RET
137.000	137.000	3	Powerwave Allgon 7750.00
137.000	137.000	3	Ericsson RRUS-32 (77 lbs)
137.000	137.000	3	Ericsson RRUS 32 B2
137.000	137.000	3	Ericsson RRUS 11 (Band 12) (55
137.000	137.000	2	Raycap DC6-48-60-18-8F
137.000	137.000	6	Powerwave LGP21401
137.000	137.000	6	Powerwave 7020.00 Dual Band
137.000	137.000	6	Powerwave LGP21901
123.000	123.000	3	Ericsson AIR 32 B4A-B2P
123.000	123.000	3	Andrew LNX-6515DS-VTM
123.000	123.000	3	RFS APX16DWV-16DWVS-E-A20
123.000	123.000	3	Ericsson KRY 112 489/1
123.000	123.000	3	Ericsson KRY 112 144/1
123.000	123.000	3	Kathrein Scala Smart Bias Tee
123.000	123.000	3	Round T-Arms
113.000	113.000	3	RFS APXV18-206517
98.000	98.000	3	RFS APXVTM14-C-I20
98.000	98.000	3	Alcatel-Lucent TD-RRH8x20-25
98.000	98.000	3	RFS IBC1900HG-2A
98.000	98.000	3	RFS IBC1900BB-1
98.000	98.000	3	Alcatel-Lucent 800 MHz 2X50W
98.000	98.000	3	Alcatel-Lucent 4x40W RRH (88 I
98.000	98.000	3	RFS APXVSP18-C-A20
98.000	98.000	1	Round Low Profile Platform
89.000	89.000	1	DragonWave A-ANT-11G-2.5-C
89.000	89.000	1	Side Arms
89.000	89.000	3	NextNet BTS-2500
89.000	89.000	3	Argus LLPX310R
89.000	89.000	3	DragonWave Horizon Compact
89.000	89.000	2	DragonWave A-ANT-18G-2-C
79.000	79.000	1	Flat Low Profile Platform
79.000	79.000	12	Commscope SBNHH-1D65B
79.000	79.000	2	RFS DB-T1-6Z-8AB-0Z
79.000	79.000	3	Alcatel-Lucent RRH2x60
79.000	79.000	3	Alcatel-Lucent RRH2X60-AWS
79.000	79.000	3	Alcatel-Lucent RRH2x60 700
20.000	20.000	1	Lucent KS-24019



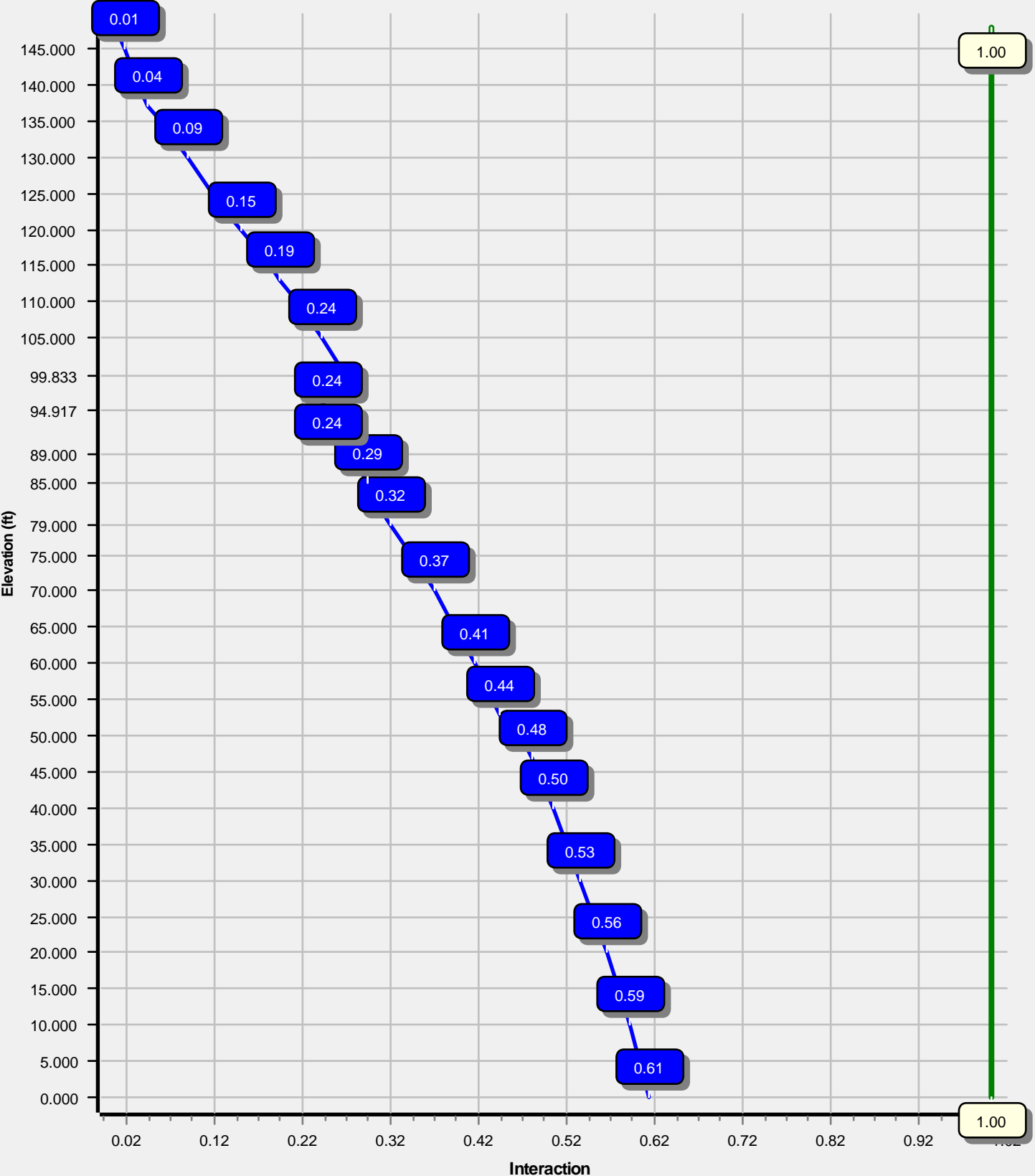
Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
5.000	20.000	1/2" Coax	No
5.000	79.000	1 5/8" Hybriflex	Yes
5.000	89.000	1/2" Coax	No
5.000	89.000	2" Conduit	Yes
5.000	89.000	5/16" Coax	No
5.000	98.000	1 1/4" Hybriflex	No
5.000	113.0	1 5/8" Coax	No
5.000	123.0	1 5/8" Coax	No
5.000	123.0	1 5/8" Coax	Yes
5.000	123.0	1 5/8" Fiber	Yes
5.000	137.0	0.39" Fiber Trunk	No
5.000	137.0	0.78" 8 AWG 6	No
5.000	137.0	1 5/8" Coax	No
5.000	137.0	3" Conduit	No
5.000	149.0	1 5/8" Coax	No
5.000	149.0	1/2" Coax	No

Load Cases	
1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3011.41	29.11	55.11
0.9D + 1.6W	2978.42	29.06	41.32
1.2D + 1.0Di + 1.0Wi	879.58	8.41	101.42
(1.2 + 0.2Sds) * DL + E ELFM	181.54	1.67	52.82
(1.2 + 0.2Sds) * DL + E EMAM	169.14	1.65	52.82
(0.9 - 0.2Sds) * DL + E ELFM	179.65	1.67	36.74
(0.9 - 0.2Sds) * DL + E EMAM	167.26	1.65	36.74
1.0D + 1.0W	740.62	7.20	45.96

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	89.00	6.377	0.654
1.0D + 1.0W	89.00	6.377	0.654

Load Case : 1.2D + 1.6W  
Max Ratio 61.13% at 0.0 ft



Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:06 AM

Customer: AT&T Mobility

### Analysis Parameters

Location:	Hartford County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	147.
Shape:	18 Sides	Base Diameter (in):	56.58
Pole Type:	Taper	Top Diameter (in):	26.22
Pole Manufacturer:	FWT Inc	Taper (in/ft) :	0.215

### Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	95 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	1.00 in

### Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.14		
$T_L$ (sec):	6	$p$ :	1.3
$S_s$ :	0.181	$S_1$ :	0.064
$F_a$ :	1.600	$F_v$ :	2.400
$S_{ds}$ :	0.193	$S_{d1}$ :	0.102
		$C_s$ :	0.032
		$C_s$ Max:	0.032
		$C_s$ Min:	0.030

### Load Cases

1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:06 AM

Customer: AT&T Mobility

**Shaft Section Properties**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.000	0.3750	65		0.00	10,844	56.58	0.00	66.90	26698.9	24.84	150.88	45.20	53.00	53.36	13550.6	19.49	120.55	0.214568
2-18	53.000	0.3750	65	Slip	74.00	8,848	47.28	46.83	55.83	15518.7	20.47	126.08	35.90	99.83	42.29	6746.8	15.12	95.76	0.214568
3-18	53.000	0.3125	65	Slip	59.00	5,651	37.58	94.92	36.97	6490.6	19.45	120.28	26.21	147.92	25.69	2178.2	13.03	83.89	0.214568
Shaft Weight						25,342													

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
149.00	Andrew 844G65VTZASX	8	16.00	5.890	0.70	236.95	6.671	0.70	0.000	0.000
149.00	Decibel DB844H90E-XY	4	14.00	3.733	0.91	173.45	4.838	0.91	0.000	0.000
149.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,894.24	70.353	1.00	0.000	0.000
137.00	Andrew SBNH-1D6565C	1	66.10	11.440	1.00	434.72	13.654	1.00	0.000	0.000
137.00	CCI TPA-65R-LCUUUU-H8	1	82.10	13.440	1.00	515.44	15.517	1.00	0.000	0.000
137.00	Ericsson RRUS 11 (Band 12)	3	55.00	2.520	0.67	169.52	3.398	0.67	0.000	0.000
137.00	Ericsson RRUS 32 B2	3	53.00	2.740	0.67	178.42	3.731	0.67	0.000	0.000
137.00	Ericsson RRUS-32 (77 lbs)	3	77.00	3.310	0.67	205.67	5.006	0.67	0.000	0.000
137.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,880.26	70.147	1.00	0.000	0.000
137.00	KMW AM-X-CD-16-65-00T-	2	48.50	8.020	0.75	314.14	9.766	0.75	0.000	0.000
137.00	Powerwave 7020.00 Dual	6	2.20	0.400	0.67	26.91	0.738	0.67	0.000	0.000
137.00	Powerwave Allgon 7750.00	3	27.00	5.560	0.65	218.56	6.931	0.65	0.000	0.000
137.00	Powerwave LGP21401	6	14.10	1.100	0.50	64.25	1.736	0.50	0.000	0.000
137.00	Powerwave LGP21901	6	5.50	0.230	0.50	25.68	0.527	0.50	0.000	0.000
137.00	Quintel QS66512-3 (112 lbs.)	2	112.00	8.130	0.80	429.07	9.882	0.80	0.000	0.000
137.00	Raycap DC6-48-60-18-8F	2	20.00	1.260	1.00	134.83	2.746	1.00	0.000	0.000
123.00	Andrew LNX-6515DS-VTM	3	51.30	11.430	0.70	414.64	13.619	0.70	0.000	0.000
123.00	Ericsson AIR 32 B4A-B2P	3	105.80	6.520	0.71	359.23	8.027	0.71	0.000	0.000
123.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.50	36.15	0.744	0.50	0.000	0.000
123.00	Ericsson KRY 112 489/1	3	15.40	0.650	0.50	52.35	1.039	0.50	0.000	0.000
123.00	Kathrein Scala Smart Bias	3	3.30	0.090	0.50	14.27	0.305	0.50	0.000	0.000
123.00	RFS APX16DWV-16DWVS-E-	3	40.70	6.590	0.66	233.95	8.082	0.66	0.000	0.000
123.00	Round T-Arms	3	250.00	9.700	0.67	523.41	20.485	0.67	0.000	0.000
113.00	RFS APXV18-206517	3	26.40	5.050	0.80	189.27	6.650	0.80	0.000	0.000
98.00	Alcatel-Lucent 4x40W RRH	3	88.00	2.910	0.67	257.14	3.341	0.67	0.000	0.000
98.00	Alcatel-Lucent 800 MHz	3	64.00	2.400	0.67	238.43	4.402	0.67	0.000	0.000
98.00	Alcatel-Lucent TD-RRH8x20-	3	70.00	4.720	0.67	219.43	5.120	0.67	0.000	0.000
98.00	RFS APXVSP18-C-A20	3	57.00	8.020	0.69	325.48	9.702	0.69	0.000	0.000
98.00	RFS APXVTM14-C-I20	3	52.90	6.340	0.66	269.04	7.783	0.66	0.000	0.000
98.00	RFS IBC1900BB-1	3	22.00	1.130	0.50	72.27	1.534	0.50	0.000	0.000
98.00	RFS IBC1900HG-2A	3	22.00	1.130	0.50	72.27	1.534	0.50	0.000	0.000
98.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,328.27	46.244	1.00	0.000	0.000
89.00	Argus LLPX310R	3	28.60	4.290	0.63	173.43	5.447	0.63	0.000	0.000
89.00	DragonWave A-ANT-11G-2.5-	1	47.60	8.670	1.00	208.92	10.856	1.00	0.000	0.000
89.00	DragonWave A-ANT-18G-2-C	2	27.10	4.690	1.00	150.57	6.302	1.00	0.000	0.000
89.00	DragonWave Horizon	3	10.60	0.430	0.50	52.89	0.759	0.50	0.000	0.000
89.00	NextNet BTS-2500	3	35.00	1.820	0.67	112.79	2.533	0.67	0.000	0.000
89.00	Side Arms	1	560.00	8.500	1.00	1,152.32	17.491	1.00	0.000	0.000
79.00	Alcatel-Lucent RRH2x60	3	60.00	3.960	0.67	158.90	6.036	0.67	0.000	0.000
79.00	Alcatel-Lucent RRH2x60 700	3	56.70	2.510	0.67	164.35	2.949	0.67	0.000	0.000
79.00	Alcatel-Lucent RRH2X60-	3	44.00	2.190	0.67	136.09	2.637	0.67	0.000	0.000
79.00	Commscope SBNHH-1D65B	12	50.70	8.170	0.69	316.58	9.827	0.69	0.000	0.000
79.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,309.79	49.963	1.00	0.000	0.000
79.00	RFS DB-T1-6Z-8AB-0Z	2	44.00	5.600	0.67	231.29	5.908	0.67	0.000	0.000
20.00	Lucent KS-24019	1	4.00	0.910	1.00	42.95	1.430	1.00	0.000	0.000
Totals		136	13166.30			38,920.00			Number of Loadings :	45

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:06 AM

Customer: AT&T Mobility

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
5.00	149.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
5.00	149.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel
5.00	137.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
5.00	137.00	4	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
5.00	137.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
5.00	137.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
5.00	123.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
5.00	123.00	6	1 5/8" Coax	1.98	0.82	N	1.98	Y	T-Mobile
5.00	123.00	1	1 5/8" Fiber	1.63	1.61	N	0.00	Y	T-Mobile
5.00	113.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Metro PCS
5.00	98.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0.00	N	Sprint Nextel
5.00	89.00	3	1/2" Coax	0.63	0.15	N	0.00	N	Clearwire
5.00	89.00	1	2" Conduit	2.38	3.65	N	2.38	Y	Clearwire
5.00	89.00	6	5/16" Coax	0.31	0.05	N	0.00	N	Clearwire
5.00	79.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	Y	Verizon
5.00	20.00	1	1/2" Coax	0.63	0.15	N	0.00	N	Sprint Nextel

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.3750	56.580	66.895	26,698.9	24.84	150.88	72.2	929.4	0.0	0.0
5.00		0.3750	55.507	65.618	25,199.0	24.34	148.02	72.8	894.2	0.0	1,127.3
10.00		0.3750	54.434	64.341	23,756.4	23.83	145.16	73.4	859.6	0.0	1,105.6
15.00		0.3750	53.361	63.065	22,369.9	23.33	142.30	74.0	825.7	0.0	1,083.8
20.00		0.3750	52.288	61.788	21,038.4	22.82	139.44	74.6	792.5	0.0	1,062.1
25.00		0.3750	51.216	60.511	19,760.8	22.32	136.57	75.2	760.0	0.0	1,040.4
30.00		0.3750	50.143	59.234	18,536.1	21.81	133.71	75.7	728.1	0.0	1,018.7
35.00		0.3750	49.070	57.957	17,363.0	21.31	130.85	76.3	696.9	0.0	996.9
40.00		0.3750	47.997	56.680	16,240.5	20.81	127.99	76.9	666.4	0.0	975.2
45.00		0.3750	46.924	55.403	15,167.4	20.30	125.13	77.5	636.6	0.0	953.5
46.83	Bot - Section 2	0.3750	46.531	54.935	14,786.1	20.12	124.08	77.7	625.9	0.0	344.2
50.00		0.3750	45.851	54.126	14,142.7	19.80	122.27	78.1	607.5	0.0	1,184.8
53.00	Top - Section 1	0.3750	45.958	54.253	14,242.1	19.85	122.55	78.1	610.4	0.0	1,106.4
55.00		0.3750	45.528	53.742	13,843.6	19.64	121.41	78.3	598.9	0.0	367.5
60.00		0.3750	44.456	52.465	12,880.1	19.14	118.55	78.9	570.7	0.0	903.5
65.00		0.3750	43.383	51.188	11,962.4	18.64	115.69	79.5	543.1	0.0	881.8
70.00		0.3750	42.310	49.911	11,089.3	18.13	112.83	80.1	516.2	0.0	860.0
75.00		0.3750	41.237	48.634	10,259.8	17.63	109.97	80.7	490.0	0.0	838.3
79.00		0.3750	40.379	47.613	9,626.8	17.22	107.68	81.1	469.6	0.0	655.0
80.00		0.3750	40.164	47.357	9,472.7	17.12	107.10	81.3	464.5	0.0	161.6
85.00		0.3750	39.091	46.081	8,726.9	16.62	104.24	81.9	439.7	0.0	794.9
89.00		0.3750	38.233	45.059	8,159.3	16.21	101.96	82.3	420.3	0.0	620.3
90.00		0.3750	38.019	44.804	8,021.4	16.11	101.38	82.4	415.6	0.0	152.9
94.92	Bot - Section 3	0.3750	36.964	43.548	7,365.7	15.62	98.57	82.6	392.5	0.0	739.1
95.00		0.3750	36.946	43.527	7,354.9	15.61	98.52	82.6	392.1	0.0	22.8
98.00		0.3750	36.302	42.761	6,973.3	15.31	96.81	82.6	378.3	0.0	814.4
99.83	Top - Section 2	0.3125	36.534	35.926	5,955.0	18.85	116.91	79.2	321.0	0.0	490.6
100.0		0.3125	36.498	35.890	5,937.4	18.83	116.79	79.3	320.4	0.0	20.4
105.0		0.3125	35.425	34.826	5,424.8	18.23	113.36	80.0	301.6	0.0	601.6
110.0		0.3125	34.352	33.762	4,942.6	17.62	109.93	80.7	283.4	0.0	583.5
113.0		0.3125	33.709	33.124	4,667.5	17.26	107.87	81.1	272.7	0.0	341.4
115.0		0.3125	33.279	32.698	4,489.8	17.01	106.49	81.4	265.7	0.0	224.0
120.0		0.3125	32.207	31.634	4,065.6	16.41	103.06	82.1	248.6	0.0	547.3
123.0		0.3125	31.563	30.995	3,824.4	16.05	101.00	82.5	238.7	0.0	319.7
125.0		0.3125	31.134	30.570	3,669.0	15.80	99.63	82.6	232.1	0.0	209.5
130.0		0.3125	30.061	29.506	3,299.0	15.20	96.19	82.6	216.2	0.0	511.1
135.0		0.3125	28.988	28.442	2,954.8	14.59	92.76	82.6	200.8	0.0	493.0
137.0		0.3125	28.559	28.016	2,824.1	14.35	91.39	82.6	194.8	0.0	192.1
140.0		0.3125	27.915	27.377	2,635.4	13.99	89.33	82.6	185.9	0.0	282.7
145.0		0.3125	26.842	26.313	2,339.9	13.38	85.90	82.6	171.7	0.0	456.7
147.9		0.3125	26.216	25.693	2,178.2	13.03	83.89	82.6	163.6	0.0	258.1
											25,342.4



<b>Load Case:</b> 1.2D + 1.6W	95 mph with No Ice	23 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		209.7	0.0					0.0	0.0	209.7	0.0	0.0	0.0
5.00		415.4	1,352.7					0.0	0.0	415.4	1,352.7	0.0	0.0
10.00		407.4	1,326.7					0.0	373.8	407.4	1,700.4	0.0	0.0
15.00		399.3	1,300.6					0.0	373.8	399.3	1,674.4	0.0	0.0
20.00	Appertunance(s)	391.3	1,274.5	24.8	0.0	0.0	4.8	0.0	373.8	416.1	1,653.1	0.0	0.0
25.00		383.3	1,248.5					0.0	372.9	383.3	1,621.3	0.0	0.0
30.00		379.7	1,222.4					0.0	372.9	379.7	1,595.3	0.0	0.0
35.00		383.8	1,196.3					0.0	372.9	383.8	1,569.2	0.0	0.0
40.00		390.1	1,170.3					0.0	372.9	390.1	1,543.1	0.0	0.0
45.00		268.8	1,144.2					0.0	372.9	268.8	1,517.1	0.0	0.0
46.83	Bot - Section 2	200.1	413.0					0.0	136.7	200.1	549.7	0.0	0.0
50.00		249.0	1,421.8					0.0	236.2	249.0	1,657.9	0.0	0.0
53.00	Top - Section 1	202.4	1,327.6					0.0	223.7	202.4	1,551.4	0.0	0.0
55.00		284.0	441.0					0.0	149.1	284.0	590.1	0.0	0.0
60.00		405.8	1,084.2					0.0	372.9	405.8	1,457.1	0.0	0.0
65.00		405.3	1,058.1					0.0	372.9	405.3	1,431.0	0.0	0.0
70.00		405.4	1,032.1					0.0	372.9	405.4	1,404.9	0.0	0.0
75.00		365.5	1,006.0					0.0	372.9	365.5	1,378.9	0.0	0.0
79.00	Appertunance(s)	203.2	786.0	3,596.7	0.0	0.0	3,214.2	0.0	298.3	3,799.9	4,298.5	0.0	0.0
80.00		243.7	193.9					0.0	71.5	243.7	265.4	0.0	0.0
85.00		365.3	953.8					0.0	357.3	365.3	1,311.1	0.0	0.0
89.00	Appertunance(s)	201.2	744.3	1,221.4	0.0	0.0	1,061.3	0.0	285.8	1,422.6	2,091.4	0.0	0.0
90.00		229.5	183.5					0.0	66.2	229.5	249.7	0.0	0.0
94.92	Bot - Section 3	193.7	886.9					0.0	325.5	193.7	1,212.4	0.0	0.0
95.00		120.1	27.4					0.0	5.5	120.1	32.9	0.0	0.0
98.00	Appertunance(s)	187.8	977.3	2,439.3	0.0	0.0	3,153.2	0.0	198.6	2,627.1	4,329.2	0.0	0.0
99.83	Top - Section 2	77.4	588.8					0.0	112.6	77.4	701.3	0.0	0.0
100.00		197.7	24.4					0.0	10.2	197.7	34.7	0.0	0.0
105.00		379.5	721.9					0.0	307.1	379.5	1,028.9	0.0	0.0
110.00		299.4	700.2					0.0	307.1	299.4	1,007.2	0.0	0.0
113.00	Appertunance(s)	184.7	409.7	482.2	0.0	0.0	95.0	0.0	184.2	666.9	688.9	0.0	0.0
115.00		254.6	268.8					0.0	111.0	254.6	379.8	0.0	0.0
120.00		288.0	656.7					0.0	277.5	288.0	934.3	0.0	0.0
123.00	Appertunance(s)	177.3	383.6	2,313.1	0.0	0.0	1,719.0	0.0	166.5	2,490.4	2,269.1	0.0	0.0
125.00		243.7	251.4					0.0	71.7	243.7	323.1	0.0	0.0
130.00		342.3	613.3					0.0	179.3	342.3	792.6	0.0	0.0
135.00		235.4	591.5					0.0	179.3	235.4	770.9	0.0	0.0
137.00	Appertunance(s)	164.6	230.5	4,496.5	0.0	0.0	3,931.2	0.0	71.7	4,661.1	4,233.5	0.0	0.0
140.00		258.3	339.3					0.0	36.0	258.3	375.2	0.0	0.0
145.00		251.2	548.1					0.0	59.9	251.2	608.0	0.0	0.0
147.92		91.2	309.7					0.0	35.0	91.2	344.7	0.0	0.0
<b>Totals:</b>										25,909.9	52,530.4	0.00	0.00

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:09 AM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W

95 mph with No Ice

23 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	-55.11	-29.11	0.00	-3,011.41	0.00	3,011.41	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.611
5.00	-53.68	-28.84	0.00	-2,865.88	0.00	2,865.88	4,297.95	2,148.97	9,746.71	4,880.60	0.08	-0.16	0.600
10.00	-51.90	-28.57	0.00	-2,721.70	0.00	2,721.70	4,248.67	2,124.33	9,446.20	4,730.12	0.33	-0.31	0.588
15.00	-50.15	-28.29	0.00	-2,578.87	0.00	2,578.87	4,198.03	2,099.01	9,147.09	4,580.35	0.75	-0.47	0.575
20.00	-48.42	-28.00	0.00	-2,437.41	0.00	2,437.41	4,146.02	2,073.01	8,849.58	4,431.37	1.33	-0.63	0.562
25.00	-46.73	-27.72	0.00	-2,297.42	0.00	2,297.42	4,092.65	2,046.32	8,553.84	4,283.28	2.08	-0.79	0.548
30.00	-45.07	-27.45	0.00	-2,158.80	0.00	2,158.80	4,037.92	2,018.96	8,260.05	4,136.16	3.00	-0.95	0.533
35.00	-43.43	-27.16	0.00	-2,021.57	0.00	2,021.57	3,981.82	1,990.91	7,968.40	3,990.12	4.08	-1.11	0.518
40.00	-41.82	-26.85	0.00	-1,885.79	0.00	1,885.79	3,924.36	1,962.18	7,679.06	3,845.24	5.33	-1.27	0.501
45.00	-40.26	-26.62	0.00	-1,751.54	0.00	1,751.54	3,865.53	1,932.77	7,392.22	3,701.60	6.75	-1.43	0.484
46.83	-39.68	-26.46	0.00	-1,702.73	0.00	1,702.73	3,843.62	1,921.81	7,287.71	3,649.27	7.31	-1.49	0.477
50.00	-37.98	-26.24	0.00	-1,618.93	0.00	1,618.93	3,805.35	1,902.67	7,108.06	3,559.31	8.34	-1.59	0.465
53.00	-36.40	-26.04	0.00	-1,540.23	0.00	1,540.23	3,811.37	1,905.68	7,136.09	3,573.35	9.37	-1.69	0.441
55.00	-35.77	-25.80	0.00	-1,488.15	0.00	1,488.15	3,786.97	1,893.48	7,023.10	3,516.77	10.09	-1.75	0.433
60.00	-34.26	-25.44	0.00	-1,359.13	0.00	1,359.13	3,725.00	1,862.50	6,742.70	3,376.36	12.01	-1.90	0.412
65.00	-32.79	-25.07	0.00	-1,231.94	0.00	1,231.94	3,661.68	1,830.84	6,465.40	3,237.50	14.07	-2.04	0.390
70.00	-31.34	-24.68	0.00	-1,106.62	0.00	1,106.62	3,596.99	1,798.49	6,191.38	3,100.29	16.29	-2.18	0.366
75.00	-29.92	-24.33	0.00	-983.20	0.00	983.20	3,530.94	1,765.47	5,920.82	2,964.81	18.64	-2.31	0.340
79.00	-25.76	-20.38	0.00	-885.90	0.00	885.90	3,477.11	1,738.56	5,706.98	2,857.73	20.63	-2.42	0.318
80.00	-25.48	-20.16	0.00	-865.52	0.00	865.52	3,463.52	1,731.76	5,653.90	2,831.15	21.14	-2.44	0.313
85.00	-24.15	-19.78	0.00	-764.73	0.00	764.73	3,394.74	1,697.37	5,390.81	2,699.41	23.76	-2.57	0.291
89.00	-22.11	-18.29	0.00	-685.61	0.00	685.61	3,338.73	1,669.37	5,183.21	2,595.46	25.95	-2.66	0.271
90.00	-21.85	-18.07	0.00	-667.32	0.00	667.32	3,324.59	1,662.30	5,131.72	2,569.67	26.51	-2.68	0.266
94.92	-20.63	-17.84	0.00	-578.46	0.00	578.46	3,235.40	1,617.70	4,852.71	2,429.96	29.34	-2.79	0.245
95.00	-20.59	-17.73	0.00	-576.98	0.00	576.98	3,233.82	1,616.91	4,847.95	2,427.58	29.38	-2.80	0.244
98.00	-16.38	-14.91	0.00	-523.78	0.00	523.78	3,176.90	1,588.45	4,677.94	2,342.44	31.16	-2.86	0.229
99.83	-15.68	-14.80	0.00	-496.45	0.00	496.45	2,561.71	1,280.85	3,809.78	1,907.72	32.27	-2.90	0.266
100.00	-15.64	-14.62	0.00	-493.99	0.00	493.99	2,559.94	1,279.97	3,803.37	1,904.51	32.37	-2.90	0.266
105.00	-14.61	-14.21	0.00	-420.90	0.00	420.90	2,506.36	1,253.18	3,612.41	1,808.89	35.46	-3.01	0.239
110.00	-13.60	-13.88	0.00	-349.84	0.00	349.84	2,451.42	1,225.71	3,424.31	1,714.70	38.67	-3.11	0.210
113.00	-12.94	-13.19	0.00	-308.20	0.00	308.20	2,417.79	1,208.90	3,312.90	1,658.91	40.65	-3.17	0.191
115.00	-12.56	-12.92	0.00	-281.83	0.00	281.83	2,395.11	1,197.55	3,239.25	1,622.03	41.98	-3.20	0.179
120.00	-11.63	-12.59	0.00	-217.22	0.00	217.22	2,337.43	1,168.72	3,057.40	1,530.97	45.38	-3.28	0.147
123.00	-9.50	-9.98	0.00	-179.44	0.00	179.44	2,302.17	1,151.09	2,949.92	1,477.15	47.45	-3.32	0.126
125.00	-9.19	-9.73	0.00	-159.47	0.00	159.47	2,271.18	1,135.59	2,869.84	1,437.05	48.85	-3.35	0.115
130.00	-8.41	-9.35	0.00	-110.84	0.00	110.84	2,192.12	1,096.06	2,672.56	1,338.27	52.39	-3.40	0.087
135.00	-7.65	-9.07	0.00	-64.11	0.00	64.11	2,113.07	1,056.53	2,482.31	1,243.00	55.97	-3.44	0.055
137.00	-3.70	-4.16	0.00	-45.98	0.00	45.98	2,081.44	1,040.72	2,408.17	1,205.88	57.42	-3.45	0.040
140.00	-3.34	-3.88	0.00	-33.49	0.00	33.49	2,034.01	1,017.00	2,299.08	1,151.25	59.59	-3.46	0.031
145.00	-2.75	-3.59	0.00	-14.09	0.00	14.09	1,954.95	977.48	2,122.87	1,063.01	63.22	-3.48	0.015
147.92	0.00	-3.42	0.00	-3.61	0.00	3.61	1,908.83	954.42	2,023.32	1,013.16	65.34	-3.48	0.004

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:09 AM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W

95 mph with No Ice (Reduced DL)

23 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

### Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		209.7	0.0					0.0	0.0	209.7	0.0	0.0	0.0
5.00		415.4	1,014.6					0.0	0.0	415.4	1,014.6	0.0	0.0
10.00		407.4	995.0					0.0	280.3	407.4	1,275.3	0.0	0.0
15.00		399.3	975.5					0.0	280.3	399.3	1,255.8	0.0	0.0
20.00	Appertunance(s)	391.3	955.9	24.8	0.0	0.0	3.6	0.0	280.3	416.1	1,239.8	0.0	0.0
25.00		383.3	936.3					0.0	279.7	383.3	1,216.0	0.0	0.0
30.00		379.7	916.8					0.0	279.7	379.7	1,196.4	0.0	0.0
35.00		383.8	897.2					0.0	279.7	383.8	1,176.9	0.0	0.0
40.00		390.1	877.7					0.0	279.7	390.1	1,157.3	0.0	0.0
45.00		268.8	858.1					0.0	279.7	268.8	1,137.8	0.0	0.0
46.83	Bot - Section 2	200.1	309.8					0.0	102.5	200.1	412.3	0.0	0.0
50.00		249.0	1,066.3					0.0	177.1	249.0	1,243.4	0.0	0.0
53.00	Top - Section 1	202.4	995.7					0.0	167.8	202.4	1,163.5	0.0	0.0
55.00		284.0	330.7					0.0	111.9	284.0	442.6	0.0	0.0
60.00		405.8	813.1					0.0	279.7	405.8	1,092.8	0.0	0.0
65.00		405.1	793.6					0.0	279.7	405.1	1,073.2	0.0	0.0
70.00		403.6	774.0					0.0	279.7	403.6	1,053.7	0.0	0.0
75.00		361.3	754.5					0.0	279.7	361.3	1,034.1	0.0	0.0
79.00	Appertunance(s)	199.9	589.5	3,596.7	0.0	0.0	2,410.6	0.0	223.7	3,796.6	3,223.9	0.0	0.0
80.00		238.0	145.4					0.0	53.6	238.0	199.0	0.0	0.0
85.00		355.2	715.4					0.0	268.0	355.2	983.3	0.0	0.0
89.00	Appertunance(s)	196.0	558.2	1,221.4	0.0	0.0	796.0	0.0	214.4	1,417.4	1,568.6	0.0	0.0
90.00		229.5	137.6					0.0	49.7	229.5	187.3	0.0	0.0
94.92	Bot - Section 3	193.7	665.2					0.0	244.2	193.7	909.3	0.0	0.0
95.00		120.1	20.5					0.0	4.1	120.1	24.7	0.0	0.0
98.00	Appertunance(s)	187.8	733.0	2,439.3	0.0	0.0	2,364.9	0.0	149.0	2,627.1	3,246.9	0.0	0.0
99.83	Top - Section 2	77.4	441.6					0.0	84.4	77.4	526.0	0.0	0.0
100.00		197.7	18.3					0.0	7.7	197.7	26.0	0.0	0.0
105.00		379.5	541.4					0.0	230.3	379.5	771.7	0.0	0.0
110.00		299.4	525.1					0.0	230.3	299.4	755.4	0.0	0.0
113.00	Appertunance(s)	184.7	307.3	482.2	0.0	0.0	71.3	0.0	138.2	666.9	516.7	0.0	0.0
115.00		254.6	201.6					0.0	83.3	254.6	284.8	0.0	0.0
120.00		288.0	492.5					0.0	208.2	288.0	700.7	0.0	0.0
123.00	Appertunance(s)	177.3	287.7	2,313.1	0.0	0.0	1,289.2	0.0	124.9	2,490.4	1,701.8	0.0	0.0
125.00		243.7	188.5					0.0	53.8	243.7	242.3	0.0	0.0
130.00		342.3	460.0					0.0	134.5	342.3	594.4	0.0	0.0
135.00		235.4	443.7					0.0	134.5	235.4	578.2	0.0	0.0
137.00	Appertunance(s)	164.6	172.9	4,496.5	0.0	0.0	2,948.4	0.0	53.8	4,661.1	3,175.1	0.0	0.0
140.00		258.3	254.5					0.0	27.0	258.3	281.4	0.0	0.0
145.00		251.2	411.1					0.0	44.9	251.2	456.0	0.0	0.0
147.92		91.2	232.3					0.0	26.2	91.2	258.5	0.0	0.0
Totals:										25,879.3	39,397.8	0.00	0.00

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:11 AM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W

95 mph with No Ice (Reduced DL)

23 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	-41.32	-29.06	0.00	-2,978.42	0.00	2,978.42	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.602
5.00	-40.23	-28.75	0.00	-2,833.14	0.00	2,833.14	4,297.95	2,148.97	9,746.71	4,880.60	0.08	-0.15	0.590
10.00	-38.88	-28.44	0.00	-2,689.40	0.00	2,689.40	4,248.67	2,124.33	9,446.20	4,730.12	0.33	-0.31	0.578
15.00	-37.55	-28.14	0.00	-2,547.20	0.00	2,547.20	4,198.03	2,099.01	9,147.09	4,580.35	0.74	-0.47	0.565
20.00	-36.24	-27.81	0.00	-2,406.51	0.00	2,406.51	4,146.02	2,073.01	8,849.58	4,431.37	1.31	-0.62	0.552
25.00	-34.95	-27.51	0.00	-2,267.47	0.00	2,267.47	4,092.65	2,046.32	8,553.84	4,283.28	2.05	-0.78	0.538
30.00	-33.69	-27.20	0.00	-2,129.93	0.00	2,129.93	4,037.92	2,018.96	8,260.05	4,136.16	2.96	-0.94	0.523
35.00	-32.44	-26.89	0.00	-1,993.92	0.00	1,993.92	3,981.82	1,990.91	7,968.40	3,990.12	4.03	-1.10	0.508
40.00	-31.22	-26.56	0.00	-1,859.48	0.00	1,859.48	3,924.36	1,962.18	7,679.06	3,845.24	5.27	-1.26	0.492
45.00	-30.04	-26.32	0.00	-1,726.69	0.00	1,726.69	3,865.53	1,932.77	7,392.22	3,701.60	6.67	-1.41	0.474
46.83	-29.60	-26.15	0.00	-1,678.43	0.00	1,678.43	3,843.62	1,921.81	7,287.71	3,649.27	7.22	-1.47	0.468
50.00	-28.32	-25.92	0.00	-1,595.62	0.00	1,595.62	3,805.35	1,902.67	7,108.06	3,559.31	8.24	-1.57	0.456
53.00	-27.12	-25.72	0.00	-1,517.87	0.00	1,517.87	3,811.37	1,905.68	7,136.09	3,573.35	9.26	-1.67	0.432
55.00	-26.64	-25.47	0.00	-1,466.43	0.00	1,466.43	3,786.97	1,893.48	7,023.10	3,516.77	9.97	-1.73	0.424
60.00	-25.50	-25.09	0.00	-1,339.08	0.00	1,339.08	3,725.00	1,862.50	6,742.70	3,376.36	11.86	-1.87	0.404
65.00	-24.38	-24.71	0.00	-1,213.61	0.00	1,213.61	3,661.68	1,830.84	6,465.40	3,237.50	13.89	-2.01	0.382
70.00	-23.29	-24.33	0.00	-1,090.05	0.00	1,090.05	3,596.99	1,798.49	6,191.38	3,100.29	16.08	-2.15	0.358
75.00	-22.22	-23.97	0.00	-968.43	0.00	968.43	3,530.94	1,765.47	5,920.82	2,964.81	18.40	-2.28	0.333
79.00	-19.13	-20.07	0.00	-872.55	0.00	872.55	3,477.11	1,738.56	5,706.98	2,857.73	20.36	-2.39	0.311
80.00	-18.92	-19.84	0.00	-852.49	0.00	852.49	3,463.52	1,731.76	5,653.90	2,831.15	20.86	-2.41	0.307
85.00	-17.91	-19.48	0.00	-753.27	0.00	753.27	3,394.74	1,697.37	5,390.81	2,699.41	23.45	-2.53	0.284
89.00	-16.39	-18.01	0.00	-675.35	0.00	675.35	3,338.73	1,669.37	5,183.21	2,595.46	25.61	-2.62	0.265
90.00	-16.19	-17.79	0.00	-657.34	0.00	657.34	3,324.59	1,662.30	5,131.72	2,569.67	26.17	-2.65	0.261
94.92	-15.28	-17.57	0.00	-569.87	0.00	569.87	3,235.40	1,617.70	4,852.71	2,429.96	28.95	-2.75	0.239
95.00	-15.25	-17.46	0.00	-568.41	0.00	568.41	3,233.82	1,616.91	4,847.95	2,427.58	29.00	-2.76	0.239
98.00	-12.12	-14.68	0.00	-516.04	0.00	516.04	3,176.90	1,588.45	4,677.94	2,342.44	30.75	-2.82	0.224
99.83	-11.60	-14.59	0.00	-489.12	0.00	489.12	2,561.71	1,280.85	3,809.78	1,907.72	31.84	-2.86	0.261
100.00	-11.56	-14.40	0.00	-486.69	0.00	486.69	2,559.94	1,279.97	3,803.37	1,904.51	31.94	-2.86	0.260
105.00	-10.79	-14.00	0.00	-414.70	0.00	414.70	2,506.36	1,253.18	3,612.41	1,808.89	35.00	-2.97	0.234
110.00	-10.03	-13.67	0.00	-344.70	0.00	344.70	2,451.42	1,225.71	3,424.31	1,714.70	38.16	-3.07	0.205
113.00	-9.54	-12.99	0.00	-303.68	0.00	303.68	2,417.79	1,208.90	3,312.90	1,658.91	40.10	-3.12	0.187
115.00	-9.26	-12.73	0.00	-277.70	0.00	277.70	2,395.11	1,197.55	3,239.25	1,622.03	41.42	-3.16	0.175
120.00	-8.56	-12.41	0.00	-214.06	0.00	214.06	2,337.43	1,168.72	3,057.40	1,530.97	44.77	-3.24	0.144
123.00	-7.00	-9.83	0.00	-176.84	0.00	176.84	2,302.17	1,151.09	2,949.92	1,477.15	46.82	-3.28	0.123
125.00	-6.76	-9.58	0.00	-157.18	0.00	157.18	2,271.18	1,135.59	2,869.84	1,437.05	48.20	-3.30	0.112
130.00	-6.18	-9.21	0.00	-109.29	0.00	109.29	2,192.12	1,096.06	2,672.56	1,338.27	51.68	-3.36	0.085
135.00	-5.62	-8.94	0.00	-63.25	0.00	63.25	2,113.07	1,056.53	2,482.31	1,243.00	55.22	-3.39	0.054
137.00	-2.72	-4.10	0.00	-45.37	0.00	45.37	2,081.44	1,040.72	2,408.17	1,205.88	56.64	-3.40	0.039
140.00	-2.46	-3.83	0.00	-33.08	0.00	33.08	2,034.01	1,017.00	2,299.08	1,151.25	58.78	-3.41	0.030
145.00	-2.02	-3.55	0.00	-13.95	0.00	13.95	1,954.95	977.48	2,122.87	1,063.01	62.36	-3.43	0.014
147.92	0.00	-3.42	0.00	-3.61	0.00	3.61	1,908.83	954.42	2,023.32	1,013.16	64.46	-3.43	0.004

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:12 AM

Customer: AT&T Mobility

**Load Case:** 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

### Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		70.2	0.0					0.0	0.0	70.2	0.0	0.0	0.0
5.00		139.6	1,904.9					0.0	0.0	139.6	1,904.9	0.0	0.0
10.00		137.7	1,933.3					0.0	596.1	137.7	2,529.4	0.0	0.0
15.00		135.5	1,927.9					0.0	610.9	135.5	2,538.8	0.0	0.0
20.00	Appertunance(s)	133.2	1,911.3	6.7	0.0	0.0	43.8	0.0	621.3	139.9	2,576.4	0.0	0.0
25.00		130.8	1,889.1					0.0	628.5	130.8	2,517.7	0.0	0.0
30.00		130.0	1,863.3					0.0	635.3	130.0	2,498.6	0.0	0.0
35.00		131.7	1,835.0					0.0	641.0	131.7	2,476.0	0.0	0.0
40.00		134.3	1,804.9					0.0	646.1	134.3	2,451.0	0.0	0.0
45.00		92.7	1,773.3					0.0	650.6	92.7	2,423.9	0.0	0.0
46.83	Bot - Section 2	69.1	643.7					0.0	239.6	69.1	883.3	0.0	0.0
50.00		86.1	1,823.0					0.0	415.1	86.1	2,238.1	0.0	0.0
53.00	Top - Section 1	70.0	1,705.2					0.0	394.6	70.0	2,099.8	0.0	0.0
55.00		98.5	691.6					0.0	263.8	98.5	955.4	0.0	0.0
60.00		141.0	1,700.8					0.0	661.9	141.0	2,362.6	0.0	0.0
65.00		141.2	1,665.8					0.0	665.1	141.2	2,330.8	0.0	0.0
70.00		141.1	1,630.2					0.0	668.1	141.1	2,298.2	0.0	0.0
75.00		126.6	1,594.0					0.0	670.9	126.6	2,264.9	0.0	0.0
79.00	Appertunance(s)	70.2	1,250.1	865.5	0.0	0.0	8,217.0	0.0	538.6	935.7	10,005.6	0.0	0.0
80.00		83.8	309.7					0.0	118.6	83.8	428.3	0.0	0.0
85.00		125.3	1,520.5					0.0	594.1	125.3	2,114.5	0.0	0.0
89.00	Appertunance(s)	69.3	1,190.7	316.3	0.0	0.0	2,611.2	0.0	476.6	385.6	4,278.4	0.0	0.0
90.00		81.3	294.8					0.0	103.5	81.3	398.3	0.0	0.0
94.92	Bot - Section 3	68.7	1,421.7					0.0	509.9	68.7	1,931.6	0.0	0.0
95.00		42.6	36.6					0.0	8.7	42.6	45.3	0.0	0.0
98.00	Appertunance(s)	66.7	1,304.8	650.6	0.0	0.0	7,016.0	0.0	311.7	717.3	8,632.5	0.0	0.0
99.83	Top - Section 2	27.5	787.4					0.0	181.9	27.5	969.3	0.0	0.0
100.00		70.5	42.5					0.0	16.5	70.5	59.0	0.0	0.0
105.00		135.6	1,250.1					0.0	497.0	135.6	1,747.1	0.0	0.0
110.00		107.3	1,216.0					0.0	498.1	107.3	1,714.1	0.0	0.0
113.00	Appertunance(s)	66.4	714.9	109.2	0.0	0.0	583.7	0.0	299.4	175.6	1,597.9	0.0	0.0
115.00		91.8	470.3					0.0	188.0	91.8	658.3	0.0	0.0
120.00		104.1	1,146.9					0.0	470.8	104.1	1,617.6	0.0	0.0
123.00	Appertunance(s)	64.3	673.2	580.2	0.0	0.0	4,996.5	0.0	283.0	644.5	5,952.7	0.0	0.0
125.00		88.7	442.4					0.0	71.7	88.7	514.2	0.0	0.0
130.00		125.1	1,076.9					0.0	179.3	125.1	1,256.2	0.0	0.0
135.00		86.3	1,041.6					0.0	179.3	86.3	1,221.0	0.0	0.0
137.00	Appertunance(s)	60.6	408.6	1,118.9	0.0	0.0	9,725.6	0.0	71.7	1,179.6	10,205.9	0.0	0.0
140.00		95.5	601.3					0.0	36.0	95.5	637.3	0.0	0.0
145.00		93.2	970.6					0.0	59.9	93.2	1,030.5	0.0	0.0
147.92		34.0	551.6					0.0	35.0	34.0	586.6	0.0	0.0
<b>Totals:</b>										7,615.54	94,952.1	0.00	0.00

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:14 AM

Customer: AT&T Mobility

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

22 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	-101.42	-8.41	0.00	-879.58	0.00	879.58	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.198
5.00	-99.51	-8.35	0.00	-837.52	0.00	837.52	4,297.95	2,148.97	9,746.71	4,880.60	0.02	-0.05	0.195
10.00	-96.97	-8.29	0.00	-795.76	0.00	795.76	4,248.67	2,124.33	9,446.20	4,730.12	0.10	-0.09	0.191
15.00	-94.43	-8.23	0.00	-754.31	0.00	754.31	4,198.03	2,099.01	9,147.09	4,580.35	0.22	-0.14	0.187
20.00	-91.84	-8.15	0.00	-713.18	0.00	713.18	4,146.02	2,073.01	8,849.58	4,431.37	0.39	-0.18	0.183
25.00	-89.32	-8.09	0.00	-672.42	0.00	672.42	4,092.65	2,046.32	8,553.84	4,283.28	0.61	-0.23	0.179
30.00	-86.82	-8.02	0.00	-631.98	0.00	631.98	4,037.92	2,018.96	8,260.05	4,136.16	0.88	-0.28	0.174
35.00	-84.33	-7.94	0.00	-591.90	0.00	591.90	3,981.82	1,990.91	7,968.40	3,990.12	1.19	-0.33	0.170
40.00	-81.88	-7.86	0.00	-552.20	0.00	552.20	3,924.36	1,962.18	7,679.06	3,845.24	1.56	-0.37	0.164
45.00	-79.45	-7.79	0.00	-512.91	0.00	512.91	3,865.53	1,932.77	7,392.22	3,701.60	1.97	-0.42	0.159
46.83	-78.56	-7.75	0.00	-498.62	0.00	498.62	3,843.62	1,921.81	7,287.71	3,649.27	2.14	-0.44	0.157
50.00	-76.32	-7.68	0.00	-474.08	0.00	474.08	3,805.35	1,902.67	7,108.06	3,559.31	2.44	-0.47	0.153
53.00	-74.22	-7.63	0.00	-451.03	0.00	451.03	3,811.37	1,905.68	7,136.09	3,573.35	2.74	-0.49	0.146
55.00	-73.26	-7.56	0.00	-435.77	0.00	435.77	3,786.97	1,893.48	7,023.10	3,516.77	2.95	-0.51	0.143
60.00	-70.90	-7.45	0.00	-397.98	0.00	397.98	3,725.00	1,862.50	6,742.70	3,376.36	3.51	-0.56	0.137
65.00	-68.56	-7.33	0.00	-360.73	0.00	360.73	3,661.68	1,830.84	6,465.40	3,237.50	4.12	-0.60	0.130
70.00	-66.26	-7.21	0.00	-324.06	0.00	324.06	3,596.99	1,798.49	6,191.38	3,100.29	4.77	-0.64	0.123
75.00	-63.99	-7.10	0.00	-287.99	0.00	287.99	3,530.94	1,765.47	5,920.82	2,964.81	5.45	-0.68	0.115
79.00	-54.00	-6.06	0.00	-259.59	0.00	259.59	3,477.11	1,738.56	5,706.98	2,857.73	6.04	-0.71	0.106
80.00	-53.57	-5.99	0.00	-253.53	0.00	253.53	3,463.52	1,731.76	5,653.90	2,831.15	6.18	-0.72	0.105
85.00	-51.45	-5.87	0.00	-223.57	0.00	223.57	3,394.74	1,697.37	5,390.81	2,699.41	6.95	-0.75	0.098
89.00	-47.18	-5.44	0.00	-200.09	0.00	200.09	3,338.73	1,669.37	5,183.21	2,595.46	7.60	-0.78	0.091
90.00	-46.78	-5.37	0.00	-194.66	0.00	194.66	3,324.59	1,662.30	5,131.72	2,569.67	7.76	-0.79	0.090
94.92	-44.84	-5.29	0.00	-168.26	0.00	168.26	3,235.40	1,617.70	4,852.71	2,429.96	8.59	-0.82	0.083
95.00	-44.80	-5.25	0.00	-167.82	0.00	167.82	3,233.82	1,616.91	4,847.95	2,427.58	8.60	-0.82	0.083
98.00	-36.18	-4.42	0.00	-152.07	0.00	152.07	3,176.90	1,588.45	4,677.94	2,342.44	9.12	-0.84	0.076
99.83	-35.21	-4.38	0.00	-143.97	0.00	143.97	2,561.71	1,280.85	3,809.78	1,907.72	9.44	-0.85	0.089
100.00	-35.15	-4.32	0.00	-143.24	0.00	143.24	2,559.94	1,279.97	3,803.37	1,904.51	9.47	-0.85	0.089
105.00	-33.40	-4.17	0.00	-121.64	0.00	121.64	2,506.36	1,253.18	3,612.41	1,808.89	10.38	-0.88	0.081
110.00	-31.69	-4.05	0.00	-100.77	0.00	100.77	2,451.42	1,225.71	3,424.31	1,714.70	11.32	-0.91	0.072
113.00	-30.09	-3.86	0.00	-88.61	0.00	88.61	2,417.79	1,208.90	3,312.90	1,658.91	11.89	-0.93	0.066
115.00	-29.43	-3.76	0.00	-80.90	0.00	80.90	2,395.11	1,197.55	3,239.25	1,622.03	12.28	-0.94	0.062
120.00	-27.82	-3.64	0.00	-62.07	0.00	62.07	2,337.43	1,168.72	3,057.40	1,530.97	13.28	-0.96	0.052
123.00	-21.88	-2.90	0.00	-51.15	0.00	51.15	2,302.17	1,151.09	2,949.92	1,477.15	13.88	-0.97	0.044
125.00	-21.36	-2.81	0.00	-45.35	0.00	45.35	2,271.18	1,135.59	2,869.84	1,437.05	14.29	-0.98	0.041
130.00	-20.11	-2.67	0.00	-31.31	0.00	31.31	2,192.12	1,096.06	2,672.56	1,338.27	15.32	-0.99	0.033
135.00	-18.89	-2.56	0.00	-17.98	0.00	17.98	2,113.07	1,056.53	2,482.31	1,243.00	16.37	-1.00	0.023
137.00	-8.70	-1.20	0.00	-12.86	0.00	12.86	2,081.44	1,040.72	2,408.17	1,205.88	16.79	-1.01	0.015
140.00	-8.07	-1.10	0.00	-9.25	0.00	9.25	2,034.01	1,017.00	2,299.08	1,151.25	17.42	-1.01	0.012
145.00	-7.04	-0.99	0.00	-3.77	0.00	3.77	1,954.95	977.48	2,122.87	1,063.01	18.48	-1.01	0.007
147.92	0.00	-0.86	0.00	-0.90	0.00	0.90	1,908.83	954.42	2,023.32	1,013.16	19.10	-1.01	0.001

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:14 AM

Customer: AT&T Mobility

**Load Case:** 1.0D + 1.0W

Serviceability 60 mph

21 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		52.0	0.0					0.0	0.0	52.0	0.0	0.0	0.0
5.00		102.9	1,127.3					0.0	0.0	102.9	1,127.3	0.0	0.0
10.00		100.9	1,105.6					0.0	311.5	100.9	1,417.0	0.0	0.0
15.00		98.9	1,083.8					0.0	311.5	98.9	1,395.3	0.0	0.0
20.00	Appertunance(s)	96.9	1,062.1	6.1	0.0	0.0	4.0	0.0	311.5	103.1	1,377.6	0.0	0.0
25.00		95.0	1,040.4					0.0	310.7	95.0	1,351.1	0.0	0.0
30.00		94.1	1,018.7					0.0	310.7	94.1	1,329.4	0.0	0.0
35.00		95.1	996.9					0.0	310.7	95.1	1,307.7	0.0	0.0
40.00		96.6	975.2					0.0	310.7	96.6	1,285.9	0.0	0.0
45.00		66.6	953.5					0.0	310.7	66.6	1,264.2	0.0	0.0
46.83	Bot - Section 2	49.6	344.2					0.0	113.9	49.6	458.1	0.0	0.0
50.00		61.7	1,184.8					0.0	196.8	61.7	1,381.6	0.0	0.0
53.00	Top - Section 1	50.1	1,106.4					0.0	186.4	50.1	1,292.8	0.0	0.0
55.00		70.3	367.5					0.0	124.3	70.3	491.8	0.0	0.0
60.00		100.5	903.5					0.0	310.7	100.5	1,214.2	0.0	0.0
65.00		100.4	881.8					0.0	310.7	100.4	1,192.5	0.0	0.0
70.00		100.0	860.0					0.0	310.7	100.0	1,170.8	0.0	0.0
75.00		89.5	838.3					0.0	310.7	89.5	1,149.0	0.0	0.0
79.00	Appertunance(s)	49.5	655.0	891.1	0.0	0.0	2,678.5	0.0	248.6	940.6	3,582.1	0.0	0.0
80.00		59.0	161.6					0.0	59.5	59.0	221.1	0.0	0.0
85.00		88.0	794.9					0.0	297.7	88.0	1,092.6	0.0	0.0
89.00	Appertunance(s)	48.6	620.3	302.6	0.0	0.0	884.4	0.0	238.2	351.1	1,742.8	0.0	0.0
90.00		56.8	152.9					0.0	55.2	56.8	208.1	0.0	0.0
94.92	Bot - Section 3	48.0	739.1					0.0	271.3	48.0	1,010.4	0.0	0.0
95.00		29.8	22.8					0.0	4.6	29.8	27.4	0.0	0.0
98.00	Appertunance(s)	46.5	814.4	604.3	0.0	0.0	2,627.7	0.0	165.5	650.8	3,607.6	0.0	0.0
99.83	Top - Section 2	19.2	490.6					0.0	93.8	19.2	584.5	0.0	0.0
100.00		49.0	20.4					0.0	8.5	49.0	28.9	0.0	0.0
105.00		94.0	601.6					0.0	255.9	94.0	857.5	0.0	0.0
110.00		74.2	583.5					0.0	255.9	74.2	839.4	0.0	0.0
113.00	Appertunance(s)	45.8	341.4	119.4	0.0	0.0	79.2	0.0	153.5	165.2	574.1	0.0	0.0
115.00		63.1	224.0					0.0	92.5	63.1	316.5	0.0	0.0
120.00		71.3	547.3					0.0	231.3	71.3	778.5	0.0	0.0
123.00	Appertunance(s)	43.9	319.7	573.1	0.0	0.0	1,432.5	0.0	138.8	617.0	1,890.9	0.0	0.0
125.00		60.4	209.5					0.0	59.8	60.4	269.3	0.0	0.0
130.00		84.8	511.1					0.0	149.4	84.8	660.5	0.0	0.0
135.00		58.3	493.0					0.0	149.4	58.3	642.4	0.0	0.0
137.00	Appertunance(s)	40.8	192.1	1,114.0	0.0	0.0	3,276.0	0.0	59.8	1,154.7	3,527.9	0.0	0.0
140.00		64.0	282.7					0.0	30.0	64.0	312.7	0.0	0.0
145.00		62.2	456.7					0.0	49.9	62.2	506.7	0.0	0.0
147.92		22.6	258.1					0.0	29.1	22.6	287.2	0.0	0.0
<b>Totals:</b>										6,411.35	43,775.4	0.00	0.00

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

Customer: AT&T Mobility

Load Case: 1.0D + 1.0W

Serviceability 60 mph

21 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	-45.96	-7.20	0.00	-740.62	0.00	740.62	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.158
5.00	-44.82	-7.13	0.00	-704.62	0.00	704.62	4,297.95	2,148.97	9,746.71	4,880.60	0.02	-0.04	0.155
10.00	-43.40	-7.05	0.00	-669.00	0.00	669.00	4,248.67	2,124.33	9,446.20	4,730.12	0.08	-0.08	0.152
15.00	-42.00	-6.98	0.00	-633.74	0.00	633.74	4,198.03	2,099.01	9,147.09	4,580.35	0.18	-0.12	0.148
20.00	-40.62	-6.90	0.00	-598.84	0.00	598.84	4,146.02	2,073.01	8,849.58	4,431.37	0.33	-0.16	0.145
25.00	-39.27	-6.83	0.00	-564.33	0.00	564.33	4,092.65	2,046.32	8,553.84	4,283.28	0.51	-0.19	0.141
30.00	-37.93	-6.76	0.00	-530.19	0.00	530.19	4,037.92	2,018.96	8,260.05	4,136.16	0.74	-0.23	0.138
35.00	-36.62	-6.68	0.00	-496.41	0.00	496.41	3,981.82	1,990.91	7,968.40	3,990.12	1.00	-0.27	0.134
40.00	-35.33	-6.60	0.00	-463.00	0.00	463.00	3,924.36	1,962.18	7,679.06	3,845.24	1.31	-0.31	0.129
45.00	-34.06	-6.54	0.00	-430.00	0.00	430.00	3,865.53	1,932.77	7,392.22	3,701.60	1.66	-0.35	0.125
46.83	-33.60	-6.50	0.00	-418.00	0.00	418.00	3,843.62	1,921.81	7,287.71	3,649.27	1.80	-0.37	0.123
50.00	-32.22	-6.45	0.00	-397.41	0.00	397.41	3,805.35	1,902.67	7,108.06	3,559.31	2.05	-0.39	0.120
53.00	-30.92	-6.40	0.00	-378.07	0.00	378.07	3,811.37	1,905.68	7,136.09	3,573.35	2.30	-0.41	0.114
55.00	-30.43	-6.34	0.00	-365.28	0.00	365.28	3,786.97	1,893.48	7,023.10	3,516.77	2.48	-0.43	0.112
60.00	-29.21	-6.24	0.00	-333.60	0.00	333.60	3,725.00	1,862.50	6,742.70	3,376.36	2.95	-0.47	0.107
65.00	-28.02	-6.15	0.00	-302.38	0.00	302.38	3,661.68	1,830.84	6,465.40	3,237.50	3.46	-0.50	0.101
70.00	-26.84	-6.06	0.00	-271.62	0.00	271.62	3,596.99	1,798.49	6,191.38	3,100.29	4.00	-0.54	0.095
75.00	-25.69	-5.97	0.00	-241.34	0.00	241.34	3,530.94	1,765.47	5,920.82	2,964.81	4.58	-0.57	0.089
79.00	-22.12	-5.00	0.00	-217.47	0.00	217.47	3,477.11	1,738.56	5,706.98	2,857.73	5.07	-0.59	0.082
80.00	-21.90	-4.94	0.00	-212.47	0.00	212.47	3,463.52	1,731.76	5,653.90	2,831.15	5.19	-0.60	0.081
85.00	-20.80	-4.85	0.00	-187.75	0.00	187.75	3,394.74	1,697.37	5,390.81	2,699.41	5.84	-0.63	0.076
89.00	-19.06	-4.49	0.00	-168.34	0.00	168.34	3,338.73	1,669.37	5,183.21	2,595.46	6.38	-0.65	0.071
90.00	-18.86	-4.43	0.00	-163.85	0.00	163.85	3,324.59	1,662.30	5,131.72	2,569.67	6.51	-0.66	0.069
94.92	-17.84	-4.38	0.00	-142.05	0.00	142.05	3,235.40	1,617.70	4,852.71	2,429.96	7.21	-0.69	0.064
95.00	-17.82	-4.35	0.00	-141.68	0.00	141.68	3,233.82	1,616.91	4,847.95	2,427.58	7.22	-0.69	0.064
98.00	-14.22	-3.66	0.00	-128.63	0.00	128.63	3,176.90	1,588.45	4,677.94	2,342.44	7.66	-0.70	0.059
99.83	-13.63	-3.63	0.00	-121.92	0.00	121.92	2,561.71	1,280.85	3,809.78	1,907.72	7.93	-0.71	0.069
100.00	-13.60	-3.59	0.00	-121.32	0.00	121.32	2,559.94	1,279.97	3,803.37	1,904.51	7.95	-0.71	0.069
105.00	-12.75	-3.49	0.00	-103.37	0.00	103.37	2,506.36	1,253.18	3,612.41	1,808.89	8.71	-0.74	0.062
110.00	-11.91	-3.41	0.00	-85.93	0.00	85.93	2,451.42	1,225.71	3,424.31	1,714.70	9.50	-0.76	0.055
113.00	-11.33	-3.24	0.00	-75.70	0.00	75.70	2,417.79	1,208.90	3,312.90	1,658.91	9.99	-0.78	0.050
115.00	-11.02	-3.17	0.00	-69.23	0.00	69.23	2,395.11	1,197.55	3,239.25	1,622.03	10.31	-0.79	0.047
120.00	-10.24	-3.09	0.00	-53.36	0.00	53.36	2,337.43	1,168.72	3,057.40	1,530.97	11.15	-0.81	0.039
123.00	-8.36	-2.45	0.00	-44.08	0.00	44.08	2,302.17	1,151.09	2,949.92	1,477.15	11.66	-0.82	0.033
125.00	-8.09	-2.39	0.00	-39.18	0.00	39.18	2,271.18	1,135.59	2,869.84	1,437.05	12.00	-0.82	0.031
130.00	-7.43	-2.30	0.00	-27.24	0.00	27.24	2,192.12	1,096.06	2,672.56	1,338.27	12.87	-0.84	0.024
135.00	-6.79	-2.23	0.00	-15.76	0.00	15.76	2,113.07	1,056.53	2,482.31	1,243.00	13.75	-0.84	0.016
137.00	-3.28	-1.02	0.00	-11.31	0.00	11.31	2,081.44	1,040.72	2,408.17	1,205.88	14.11	-0.85	0.011
140.00	-2.96	-0.95	0.00	-8.24	0.00	8.24	2,034.01	1,017.00	2,299.08	1,151.25	14.64	-0.85	0.009
145.00	-2.46	-0.88	0.00	-3.47	0.00	3.47	1,954.95	977.48	2,122.87	1,063.01	15.53	-0.85	0.005
147.92	0.00	-0.85	0.00	-0.89	0.00	0.89	1,908.83	954.42	2,023.32	1,013.16	16.05	-0.85	0.001



Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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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 ( $S_{d1}$ ):	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):	2.14
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.82
Total Unfactored Dead Load:	45.96 k
Seismic Base Shear (E):	1.91 k

#### Load Case (1.2 + 0.2Sds) \* DL + E ELFM

#### Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	$W_z$ (lb-ft)	$C_{vx}$	Horizontal Force (lb)	Vertical Force (lb)
40	146.46	287	2,513	0.016	30	356
39	142.50	507	4,217	0.027	51	628
38	138.50	313	2,471	0.016	30	387
37	136.00	252	1,926	0.012	23	312
36	132.50	642	4,683	0.030	57	796
35	127.50	660	4,490	0.029	54	818
34	124.00	269	1,740	0.011	21	334
33	121.50	458	2,854	0.018	35	568
32	117.50	779	4,561	0.029	55	964
31	114.00	316	1,755	0.011	21	392
30	111.50	495	2,636	0.017	32	613
29	107.50	839	4,182	0.027	51	1,040
28	102.50	857	3,918	0.025	47	1,062
27	99.92	29	126	0.001	2	36
26	98.92	584	2,503	0.016	30	724
25	96.50	980	4,012	0.026	49	1,214
24	94.96	27	109	0.001	1	34
23	92.46	1,010	3,826	0.024	46	1,251
22	89.50	208	743	0.005	9	258
21	87.00	858	2,910	0.019	35	1,063
20	82.50	1,093	3,363	0.021	41	1,353
19	79.50	221	636	0.004	8	274
18	77.00	904	2,453	0.016	30	1,119

Site Number: 302468

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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Customer: AT&T Mobility

17	72.50	1,149	2,795	0.018	34	1,423
16	67.50	1,171	2,501	0.016	30	1,450
15	62.50	1,192	2,214	0.014	27	1,477
14	57.50	1,214	1,937	0.012	23	1,504
13	54.00	492	700	0.004	8	609
12	51.50	1,293	1,688	0.011	20	1,601
11	48.42	1,382	1,612	0.010	20	1,711
10	45.92	458	485	0.003	6	567
9	42.50	1,264	1,163	0.007	14	1,566
8	37.50	1,286	942	0.006	11	1,593
7	32.50	1,308	738	0.005	9	1,620
6	27.50	1,329	554	0.004	7	1,647
5	22.50	1,351	391	0.002	5	1,674
4	17.50	1,374	251	0.002	3	1,701
3	12.50	1,395	138	0.001	2	1,728
2	7.50	1,417	55	0.000	1	1,755
1	2.50	1,127	6	0.000	0	1,396
Decibel DB844H90E-XY	149.00	56	505	0.003	6	69
Andrew 844G65VTZASX	149.00	128	1,155	0.007	14	159
Flat Platform w/ Han	149.00	2,000	18,053	0.115	219	2,477
Powerwave LGP21901	137.00	33	256	0.002	3	41
Powerwave 7020.00 Du	137.00	13	102	0.001	1	16
Powerwave LGP21401	137.00	85	655	0.004	8	105
Raycap DC6-48-60-18-	137.00	40	310	0.002	4	50
Ericsson RRUS 11 (Ba	137.00	165	1,278	0.008	15	204
Ericsson RRUS 32 B2	137.00	159	1,232	0.008	15	197
Ericsson RRUS-32 (77	137.00	231	1,790	0.011	22	286
Powerwave Allgon 775	137.00	81	628	0.004	8	100
KMW AM-X-CD-16-65-00	137.00	97	751	0.005	9	120
Quintel QS66512-3 (1	137.00	224	1,735	0.011	21	277
Andrew SBNH-1D6565C	137.00	66	512	0.003	6	82
CCI TPA-65R-LCUUUU-H	137.00	82	636	0.004	8	102
Flat Platform w/ Han	137.00	2,000	15,494	0.099	188	2,477
Kathrein Scala Smart	123.00	10	63	0.000	1	12
Ericsson KRY 112 144	123.00	33	210	0.001	3	41
Ericsson KRY 112 489	123.00	46	294	0.002	4	57
Ericsson AIR 32 B4A-	123.00	317	2,021	0.013	24	393
RFS APX16DWV-16DWVS-	123.00	122	777	0.005	9	151
Round T-Arms	123.00	750	4,775	0.030	58	929
Andrew LNX-6515DS-VT	123.00	154	980	0.006	12	191
RFS APXV18-206517	113.00	79	432	0.003	5	98
RFS IBC1900BB-1	98.00	66	278	0.002	3	82
RFS IBC1900HG-2A	98.00	66	278	0.002	3	82
Alcatel-Lucent 800 M	98.00	192	808	0.005	10	238
Alcatel-Lucent 4x40W	98.00	264	1,112	0.007	13	327
Alcatel-Lucent TD-RR	98.00	210	884	0.006	11	260
RFS APXVTM14-C-I20	98.00	159	668	0.004	8	197
RFS APXVSPP18-C-A20	98.00	171	720	0.005	9	212
Round Low Profile PI	98.00	1,500	6,316	0.040	77	1,858
DragonWave Horizon C	89.00	32	112	0.001	1	39
NextNet BTS-2500	89.00	105	371	0.002	4	130
Argus LLPX310R	89.00	86	303	0.002	4	106
DragonWave A-ANT-18G	89.00	54	192	0.001	2	67
Side Arms	89.00	560	1,979	0.013	24	694
DragonWave A-ANT-11G	89.00	48	168	0.001	2	59
Alcatel-Lucent RRH2X	79.00	132	375	0.002	5	163
Alcatel-Lucent RRH2x	79.00	170	484	0.003	6	211
Alcatel-Lucent RRH2x	79.00	180	512	0.003	6	223
RFS DB-T1-6Z-8AB-OZ	79.00	88	250	0.002	3	109
Commscope SBNHH-1D65	79.00	608	1,730	0.011	21	754
Flat Low Profile Pla	79.00	1,500	4,266	0.027	52	1,858
Lucent KS-24019	20.00	4	1	0.000	0	5
		45,959	157,252	1.000	1,906	56,926

Site Number: 302468

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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Customer: AT&T Mobility

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W <sub>z</sub> (lb-ft)	C <sub>vx</sub>	Horizontal Force (lb)	Vertical Force (lb)
40	146.46	287	2,513	0.016	30	247
39	142.50	507	4,217	0.027	51	436
38	138.50	313	2,471	0.016	30	269
37	136.00	252	1,926	0.012	23	217
36	132.50	642	4,683	0.030	57	553
35	127.50	660	4,490	0.029	54	569
34	124.00	269	1,740	0.011	21	232
33	121.50	458	2,854	0.018	35	395
32	117.50	779	4,561	0.029	55	671
31	114.00	316	1,755	0.011	21	273
30	111.50	495	2,636	0.017	32	426
29	107.50	839	4,182	0.027	51	723
28	102.50	857	3,918	0.025	47	739
27	99.92	29	126	0.001	2	25
26	98.92	584	2,503	0.016	30	503
25	96.50	980	4,012	0.026	49	844
24	94.96	27	109	0.001	1	24
23	92.46	1,010	3,826	0.024	46	870
22	89.50	208	743	0.005	9	179
21	87.00	858	2,910	0.019	35	739
20	82.50	1,093	3,363	0.021	41	941
19	79.50	221	636	0.004	8	190
18	77.00	904	2,453	0.016	30	778
17	72.50	1,149	2,795	0.018	34	990
16	67.50	1,171	2,501	0.016	30	1,008
15	62.50	1,192	2,214	0.014	27	1,027
14	57.50	1,214	1,937	0.012	23	1,046
13	54.00	492	700	0.004	8	424
12	51.50	1,293	1,688	0.011	20	1,114
11	48.42	1,382	1,612	0.010	20	1,190
10	45.92	458	485	0.003	6	395
9	42.50	1,264	1,163	0.007	14	1,089
8	37.50	1,286	942	0.006	11	1,108
7	32.50	1,308	738	0.005	9	1,126
6	27.50	1,329	554	0.004	7	1,145
5	22.50	1,351	391	0.002	5	1,164
4	17.50	1,374	251	0.002	3	1,183
3	12.50	1,395	138	0.001	2	1,202
2	7.50	1,417	55	0.000	1	1,221
1	2.50	1,127	6	0.000	0	971
Decibel DB844H90E-XY	149.00	56	505	0.003	6	48
Andrew 844G65VTZASX	149.00	128	1,155	0.007	14	110
Flat Platform w/ Han	149.00	2,000	18,053	0.115	219	1,723
Powerwave LGP21901	137.00	33	256	0.002	3	28
Powerwave 7020.00 Du	137.00	13	102	0.001	1	11
Powerwave LGP21401	137.00	85	655	0.004	8	73
Raycap DC6-48-60-18-	137.00	40	310	0.002	4	34
Ericsson RRUS 11 (Ba	137.00	165	1,278	0.008	15	142
Ericsson RRUS 32 B2	137.00	159	1,232	0.008	15	137
Ericsson RRUS-32 (77	137.00	231	1,790	0.011	22	199
Powerwave Allgon 775	137.00	81	628	0.004	8	70
KMW AM-X-CD-16-65-00	137.00	97	751	0.005	9	84
Quintel QS66512-3 (1	137.00	224	1,735	0.011	21	193
Andrew SBNH-1D6565C	137.00	66	512	0.003	6	57
CCI TPA-65R-LCUUUU-H	137.00	82	636	0.004	8	71
Flat Platform w/ Han	137.00	2,000	15,494	0.099	188	1,723
Kathrein Scala Smart	123.00	10	63	0.000	1	9

Site Number: 302468

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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Customer: AT&T Mobility

Ericsson KRY 112 144	123.00	33	210	0.001	3	28
Ericsson KRY 112 489	123.00	46	294	0.002	4	40
Ericsson AIR 32 B4A-	123.00	317	2,021	0.013	24	273
RFS APX16DWV-16DWVS-	123.00	122	777	0.005	9	105
Round T-Arms	123.00	750	4,775	0.030	58	646
Andrew LNX-6515DS-VT	123.00	154	980	0.006	12	133
RFS APXV18-206517	113.00	79	432	0.003	5	68
RFS IBC1900BB-1	98.00	66	278	0.002	3	57
RFS IBC1900HG-2A	98.00	66	278	0.002	3	57
Alcatel-Lucent 800 M	98.00	192	808	0.005	10	165
Alcatel-Lucent 4x40W	98.00	264	1,112	0.007	13	227
Alcatel-Lucent TD-RR	98.00	210	884	0.006	11	181
RFS APXVTM14-C-I20	98.00	159	668	0.004	8	137
RFS APXVSPP18-C-A20	98.00	171	720	0.005	9	147
Round Low Profile PI	98.00	1,500	6,316	0.040	77	1,292
DragonWave Horizon C	89.00	32	112	0.001	1	27
NextNet BTS-2500	89.00	105	371	0.002	4	90
Argus LLPX310R	89.00	86	303	0.002	4	74
DragonWave A-ANT-18G	89.00	54	192	0.001	2	47
Side Arms	89.00	560	1,979	0.013	24	482
DragonWave A-ANT-11G	89.00	48	168	0.001	2	41
Alcatel-Lucent RRH2X	79.00	132	375	0.002	5	114
Alcatel-Lucent RRH2x	79.00	170	484	0.003	6	147
Alcatel-Lucent RRH2x	79.00	180	512	0.003	6	155
RFS DB-T1-6Z-8AB-0Z	79.00	88	250	0.002	3	76
Commscope SBNHH-1D65	79.00	608	1,730	0.011	21	524
Flat Low Profile Pla	79.00	1,500	4,266	0.027	52	1,292
Lucent KS-24019	20.00	4	1	0.000	0	3
		45,959	157,252	1.000	1,906	39,589

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Site Name: Petro Lock, CT

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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	-52.82	-1.67	0.00	-181.54	0.00	181.54	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.048
5.00	-51.07	-1.68	0.00	-173.19	0.00	173.19	4,297.95	2,148.97	9,746.71	4,880.60	0.01	-0.01	0.047
10.00	-49.34	-1.68	0.00	-164.80	0.00	164.80	4,248.67	2,124.33	9,446.20	4,730.12	0.02	-0.02	0.046
15.00	-47.64	-1.69	0.00	-156.38	0.00	156.38	4,198.03	2,099.01	9,147.09	4,580.35	0.05	-0.03	0.045
20.00	-45.96	-1.69	0.00	-147.94	0.00	147.94	4,146.02	2,073.01	8,849.58	4,431.37	0.08	-0.04	0.044
25.00	-44.31	-1.69	0.00	-139.49	0.00	139.49	4,092.65	2,046.32	8,553.84	4,283.28	0.13	-0.05	0.043
30.00	-42.69	-1.69	0.00	-131.05	0.00	131.05	4,037.92	2,018.96	8,260.05	4,136.16	0.18	-0.06	0.042
35.00	-41.10	-1.68	0.00	-122.62	0.00	122.62	3,981.82	1,990.91	7,968.40	3,990.12	0.25	-0.07	0.041
40.00	-39.53	-1.67	0.00	-114.21	0.00	114.21	3,924.36	1,962.18	7,679.06	3,845.24	0.32	-0.08	0.040
45.00	-38.97	-1.67	0.00	-105.86	0.00	105.86	3,865.53	1,932.77	7,392.22	3,701.60	0.41	-0.09	0.039
46.83	-37.26	-1.65	0.00	-102.80	0.00	102.80	3,843.62	1,921.81	7,287.71	3,649.27	0.44	-0.09	0.038
50.00	-35.65	-1.63	0.00	-97.58	0.00	97.58	3,805.35	1,902.67	7,108.06	3,559.31	0.51	-0.10	0.037
53.00	-35.04	-1.62	0.00	-92.69	0.00	92.69	3,811.37	1,905.68	7,136.09	3,573.35	0.57	-0.10	0.035
55.00	-33.54	-1.60	0.00	-89.44	0.00	89.44	3,786.97	1,893.48	7,023.10	3,516.77	0.61	-0.11	0.034
60.00	-32.06	-1.58	0.00	-81.43	0.00	81.43	3,725.00	1,862.50	6,742.70	3,376.36	0.73	-0.11	0.033
65.00	-30.61	-1.55	0.00	-73.55	0.00	73.55	3,661.68	1,830.84	6,465.40	3,237.50	0.85	-0.12	0.031
70.00	-29.19	-1.51	0.00	-65.82	0.00	65.82	3,596.99	1,798.49	6,191.38	3,100.29	0.99	-0.13	0.029
75.00	-28.07	-1.49	0.00	-58.24	0.00	58.24	3,530.94	1,765.47	5,920.82	2,964.81	1.13	-0.14	0.028
79.00	-24.48	-1.38	0.00	-52.30	0.00	52.30	3,477.11	1,738.56	5,706.98	2,857.73	1.25	-0.15	0.025
80.00	-23.13	-1.34	0.00	-50.92	0.00	50.92	3,463.52	1,731.76	5,653.90	2,831.15	1.28	-0.15	0.025
85.00	-22.06	-1.30	0.00	-44.24	0.00	44.24	3,394.74	1,697.37	5,390.81	2,699.41	1.44	-0.15	0.023
89.00	-20.71	-1.25	0.00	-39.04	0.00	39.04	3,338.73	1,669.37	5,183.21	2,595.46	1.57	-0.16	0.021
90.00	-19.46	-1.20	0.00	-37.79	0.00	37.79	3,324.59	1,662.30	5,131.72	2,569.67	1.60	-0.16	0.021
94.92	-19.42	-1.20	0.00	-31.88	0.00	31.88	3,235.40	1,617.70	4,852.71	2,429.96	1.77	-0.17	0.019
95.00	-18.21	-1.15	0.00	-31.78	0.00	31.78	3,233.82	1,616.91	4,847.95	2,427.58	1.77	-0.17	0.019
98.00	-14.23	-0.98	0.00	-28.33	0.00	28.33	3,176.90	1,588.45	4,677.94	2,342.44	1.88	-0.17	0.017
99.83	-14.20	-0.97	0.00	-26.54	0.00	26.54	2,561.71	1,280.85	3,809.78	1,907.72	1.95	-0.17	0.019
100.00	-13.13	-0.92	0.00	-26.38	0.00	26.38	2,559.94	1,279.97	3,803.37	1,904.51	1.95	-0.17	0.019
105.00	-12.09	-0.87	0.00	-21.76	0.00	21.76	2,506.36	1,253.18	3,612.41	1,808.89	2.14	-0.18	0.017
110.00	-11.48	-0.84	0.00	-17.40	0.00	17.40	2,451.42	1,225.71	3,424.31	1,714.70	2.33	-0.18	0.015
113.00	-10.99	-0.81	0.00	-14.89	0.00	14.89	2,417.79	1,208.90	3,312.90	1,658.91	2.44	-0.19	0.014
115.00	-10.03	-0.75	0.00	-13.27	0.00	13.27	2,395.11	1,197.55	3,239.25	1,622.03	2.52	-0.19	0.012
120.00	-9.46	-0.72	0.00	-9.51	0.00	9.51	2,337.43	1,168.72	3,057.40	1,530.97	2.72	-0.19	0.010
123.00	-7.35	-0.58	0.00	-7.36	0.00	7.36	2,302.17	1,151.09	2,949.92	1,477.15	2.84	-0.19	0.008
125.00	-6.53	-0.52	0.00	-6.20	0.00	6.20	2,271.18	1,135.59	2,869.84	1,437.05	2.93	-0.19	0.007
130.00	-5.74	-0.46	0.00	-3.60	0.00	3.60	2,192.12	1,096.06	2,672.56	1,338.27	3.13	-0.20	0.005
135.00	-5.43	-0.44	0.00	-1.29	0.00	1.29	2,113.07	1,056.53	2,482.31	1,243.00	3.34	-0.20	0.004
137.00	-0.98	-0.08	0.00	-0.41	0.00	0.41	2,081.44	1,040.72	2,408.17	1,205.88	3.42	-0.20	0.001
140.00	-0.36	-0.03	0.00	-0.16	0.00	0.16	2,034.01	1,017.00	2,299.08	1,151.25	3.54	-0.20	0.000
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95	977.48	2,122.87	1,063.01	3.75	-0.20	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32	1,013.16	3.87	-0.20	0.000

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

Customer: AT&T Mobility

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

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	-36.74	-1.67	0.00	-179.65	0.00	179.65	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.044
5.00	-35.52	-1.67	0.00	-171.30	0.00	171.30	4,297.95	2,148.97	9,746.71	4,880.60	0.01	-0.01	0.043
10.00	-34.31	-1.68	0.00	-162.94	0.00	162.94	4,248.67	2,124.33	9,446.20	4,730.12	0.02	-0.02	0.043
15.00	-33.13	-1.68	0.00	-154.55	0.00	154.55	4,198.03	2,099.01	9,147.09	4,580.35	0.04	-0.03	0.042
20.00	-31.96	-1.68	0.00	-146.15	0.00	146.15	4,146.02	2,073.01	8,849.58	4,431.37	0.08	-0.04	0.041
25.00	-30.82	-1.68	0.00	-137.76	0.00	137.76	4,092.65	2,046.32	8,553.84	4,283.28	0.12	-0.05	0.040
30.00	-29.69	-1.67	0.00	-129.37	0.00	129.37	4,037.92	2,018.96	8,260.05	4,136.16	0.18	-0.06	0.039
35.00	-28.58	-1.66	0.00	-121.01	0.00	121.01	3,981.82	1,990.91	7,968.40	3,990.12	0.24	-0.07	0.038
40.00	-27.49	-1.65	0.00	-112.69	0.00	112.69	3,924.36	1,962.18	7,679.06	3,845.24	0.32	-0.08	0.036
45.00	-27.10	-1.65	0.00	-104.43	0.00	104.43	3,865.53	1,932.77	7,392.22	3,701.60	0.40	-0.09	0.035
46.83	-25.91	-1.63	0.00	-101.40	0.00	101.40	3,843.62	1,921.81	7,287.71	3,649.27	0.44	-0.09	0.035
50.00	-24.79	-1.61	0.00	-96.24	0.00	96.24	3,805.35	1,902.67	7,108.06	3,559.31	0.50	-0.10	0.034
53.00	-24.37	-1.60	0.00	-91.41	0.00	91.41	3,811.37	1,905.68	7,136.09	3,573.35	0.56	-0.10	0.032
55.00	-23.32	-1.58	0.00	-88.20	0.00	88.20	3,786.97	1,893.48	7,023.10	3,516.77	0.60	-0.10	0.031
60.00	-22.30	-1.56	0.00	-80.29	0.00	80.29	3,725.00	1,862.50	6,742.70	3,376.36	0.72	-0.11	0.030
65.00	-21.29	-1.53	0.00	-72.52	0.00	72.52	3,661.68	1,830.84	6,465.40	3,237.50	0.84	-0.12	0.028
70.00	-20.30	-1.49	0.00	-64.89	0.00	64.89	3,596.99	1,798.49	6,191.38	3,100.29	0.97	-0.13	0.027
75.00	-19.52	-1.46	0.00	-57.42	0.00	57.42	3,530.94	1,765.47	5,920.82	2,964.81	1.11	-0.14	0.025
79.00	-17.02	-1.36	0.00	-51.57	0.00	51.57	3,477.11	1,738.56	5,706.98	2,857.73	1.23	-0.14	0.023
80.00	-16.08	-1.32	0.00	-50.21	0.00	50.21	3,463.52	1,731.76	5,653.90	2,831.15	1.26	-0.15	0.022
85.00	-15.34	-1.28	0.00	-43.62	0.00	43.62	3,394.74	1,697.37	5,390.81	2,699.41	1.42	-0.15	0.021
89.00	-14.40	-1.23	0.00	-38.50	0.00	38.50	3,338.73	1,669.37	5,183.21	2,595.46	1.55	-0.16	0.019
90.00	-13.53	-1.18	0.00	-37.27	0.00	37.27	3,324.59	1,662.30	5,131.72	2,569.67	1.58	-0.16	0.019
94.92	-13.51	-1.18	0.00	-31.44	0.00	31.44	3,235.40	1,617.70	4,852.71	2,429.96	1.75	-0.17	0.017
95.00	-12.66	-1.13	0.00	-31.34	0.00	31.34	3,233.82	1,616.91	4,847.95	2,427.58	1.75	-0.17	0.017
98.00	-9.90	-0.96	0.00	-27.94	0.00	27.94	3,176.90	1,588.45	4,677.94	2,342.44	1.86	-0.17	0.015
99.83	-9.87	-0.96	0.00	-26.18	0.00	26.18	2,561.71	1,280.85	3,809.78	1,907.72	1.92	-0.17	0.018
100.00	-9.13	-0.91	0.00	-26.02	0.00	26.02	2,559.94	1,279.97	3,803.37	1,904.51	1.93	-0.17	0.017
105.00	-8.41	-0.86	0.00	-21.46	0.00	21.46	2,506.36	1,253.18	3,612.41	1,808.89	2.11	-0.18	0.015
110.00	-7.98	-0.83	0.00	-17.17	0.00	17.17	2,451.42	1,225.71	3,424.31	1,714.70	2.30	-0.18	0.013
113.00	-7.64	-0.80	0.00	-14.69	0.00	14.69	2,417.79	1,208.90	3,312.90	1,658.91	2.41	-0.18	0.012
115.00	-6.97	-0.74	0.00	-13.09	0.00	13.09	2,395.11	1,197.55	3,239.25	1,622.03	2.49	-0.19	0.011
120.00	-6.58	-0.71	0.00	-9.38	0.00	9.38	2,337.43	1,168.72	3,057.40	1,530.97	2.69	-0.19	0.009
123.00	-5.11	-0.57	0.00	-7.26	0.00	7.26	2,302.17	1,151.09	2,949.92	1,477.15	2.81	-0.19	0.007
125.00	-4.54	-0.51	0.00	-6.12	0.00	6.12	2,271.18	1,135.59	2,869.84	1,437.05	2.89	-0.19	0.006
130.00	-3.99	-0.46	0.00	-3.55	0.00	3.55	2,192.12	1,096.06	2,672.56	1,338.27	3.09	-0.19	0.004
135.00	-3.77	-0.43	0.00	-1.27	0.00	1.27	2,113.07	1,056.53	2,482.31	1,243.00	3.29	-0.20	0.003
137.00	-0.68	-0.08	0.00	-0.41	0.00	0.41	2,081.44	1,040.72	2,408.17	1,205.88	3.38	-0.20	0.001
140.00	-0.25	-0.03	0.00	-0.16	0.00	0.16	2,034.01	1,017.00	2,299.08	1,151.25	3.50	-0.20	0.000
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95	977.48	2,122.87	1,063.01	3.70	-0.20	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32	1,013.16	3.82	-0.20	0.000

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

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):	2.14
Redundancy Factor ( $\rho$ ):	1.30

#### Load Case (1.2 + 0.2Sds) \* DL + E EMAM

#### Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
40	146.46	287	1.853	1.790	1.071	0.345	86	356
39	142.50	507	1.754	1.338	0.900	0.285	125	628
38	138.50	313	1.657	0.966	0.750	0.229	62	387
37	136.00	252	1.598	0.771	0.667	0.197	43	312
36	132.50	642	1.517	0.543	0.563	0.155	87	796
35	127.50	660	1.404	0.292	0.436	0.104	59	818
34	124.00	269	1.328	0.162	0.362	0.072	17	334
33	121.50	458	1.275	0.088	0.315	0.052	21	568
32	117.50	779	1.193	-0.002	0.249	0.025	17	964
31	114.00	316	1.123	-0.056	0.201	0.005	1	392
30	111.50	495	1.074	-0.083	0.171	-0.007	-3	613
29	107.50	839	0.998	-0.110	0.130	-0.022	-16	1,040
28	102.50	857	0.908	-0.122	0.090	-0.033	-24	1,062
27	99.92	29	0.862	-0.120	0.074	-0.035	-1	36
26	98.92	584	0.845	-0.119	0.068	-0.036	-18	724
25	96.50	980	0.804	-0.113	0.055	-0.036	-30	1,214
24	94.96	27	0.779	-0.108	0.048	-0.035	-1	34
23	92.46	1,010	0.738	-0.098	0.038	-0.032	-28	1,251
22	89.50	208	0.692	-0.084	0.028	-0.027	-5	258
21	87.00	858	0.654	-0.072	0.022	-0.021	-16	1,063
20	82.50	1,093	0.588	-0.049	0.013	-0.009	-8	1,353
19	79.50	221	0.546	-0.033	0.010	0.000	0	274
18	77.00	904	0.512	-0.021	0.008	0.008	6	1,119
17	72.50	1,149	0.454	0.000	0.006	0.021	21	1,423
16	67.50	1,171	0.394	0.020	0.007	0.033	33	1,450
15	62.50	1,192	0.337	0.036	0.009	0.041	43	1,477
14	57.50	1,214	0.286	0.048	0.014	0.047	49	1,504
13	54.00	492	0.252	0.055	0.017	0.049	21	609
12	51.50	1,293	0.229	0.059	0.020	0.049	55	1,601
11	48.42	1,382	0.202	0.062	0.023	0.050	60	1,711
10	45.92	458	0.182	0.065	0.026	0.050	20	567
9	42.50	1,264	0.156	0.067	0.029	0.049	54	1,566
8	37.50	1,286	0.121	0.070	0.034	0.048	54	1,593
7	32.50	1,308	0.091	0.071	0.038	0.047	53	1,620

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

Customer: AT&T Mobility

6	27.50	1,329	0.065	0.072	0.041	0.046	53	1,647
5	22.50	1,351	0.044	0.071	0.042	0.044	52	1,674
4	17.50	1,374	0.026	0.067	0.040	0.042	50	1,701
3	12.50	1,395	0.013	0.059	0.035	0.037	45	1,728
2	7.50	1,417	0.005	0.044	0.025	0.029	36	1,755
1	2.50	1,127	0.001	0.018	0.010	0.013	13	1,396
Decibel DB844H90E-XY	149.00	56	1.918	2.130	1.193	0.387	19	69
Andrew 844G65VTZASX	149.00	128	1.918	2.130	1.193	0.387	43	159
Flat Platform w/ Han	149.00	2,000	1.918	2.130	1.193	0.387	671	2,477
Powerwave LGP21901	137.00	33	1.621	0.846	0.699	0.209	6	41
Powerwave 7020.00 Du	137.00	13	1.621	0.846	0.699	0.209	2	16
Powerwave LGP21401	137.00	85	1.621	0.846	0.699	0.209	15	105
Raycap DC6-48-60-18-	137.00	40	1.621	0.846	0.699	0.209	7	50
Ericsson RRUS 11 (Ba	137.00	165	1.621	0.846	0.699	0.209	30	204
Ericsson RRUS 32 B2	137.00	159	1.621	0.846	0.699	0.209	29	197
Ericsson RRUS-32 (77	137.00	231	1.621	0.846	0.699	0.209	42	286
Powerwave Allgon 775	137.00	81	1.621	0.846	0.699	0.209	15	100
KMW AM-X-CD-16-65-00	137.00	97	1.621	0.846	0.699	0.209	18	120
Quintel QS66512-3 (1	137.00	224	1.621	0.846	0.699	0.209	41	277
Andrew SBNH-1D6565C	137.00	66	1.621	0.846	0.699	0.209	12	82
CCI TPA-65R-LCUUUU-H	137.00	82	1.621	0.846	0.699	0.209	15	102
Flat Platform w/ Han	137.00	2,000	1.621	0.846	0.699	0.209	363	2,477
Kathrein Scala Smart	123.00	10	1.307	0.130	0.342	0.064	1	12
Ericsson KRY 112 144	123.00	33	1.307	0.130	0.342	0.064	2	41
Ericsson KRY 112 489	123.00	46	1.307	0.130	0.342	0.064	3	57
Ericsson AIR 32 B4A-	123.00	317	1.307	0.130	0.342	0.064	18	393
RFS APX16DWV-	123.00	122	1.307	0.130	0.342	0.064	7	151
Round T-Arms	123.00	750	1.307	0.130	0.342	0.064	42	929
Andrew LNX-6515DS-VT	123.00	154	1.307	0.130	0.342	0.064	9	191
RFS APXV18-206517	113.00	79	1.103	-0.068	0.189	0.000	0	98
RFS IBC1900BB-1	98.00	66	0.830	-0.117	0.063	-0.036	-2	82
RFS IBC1900HG-2A	98.00	66	0.830	-0.117	0.063	-0.036	-2	82
Alcatel-Lucent 800 M	98.00	192	0.830	-0.117	0.063	-0.036	-6	238
Alcatel-Lucent 4x40W	98.00	264	0.830	-0.117	0.063	-0.036	-8	327
Alcatel-Lucent TD-RR	98.00	210	0.830	-0.117	0.063	-0.036	-7	260
RFS APXVTM14-C-I20	98.00	159	0.830	-0.117	0.063	-0.036	-5	197
RFS APXVSPP18-C-A20	98.00	171	0.830	-0.117	0.063	-0.036	-5	212
Round Low Profile PI	98.00	1,500	0.830	-0.117	0.063	-0.036	-47	1,858
DragonWave Horizon C	89.00	32	0.684	-0.082	0.027	-0.026	-1	39
NextNet BTS-2500	89.00	105	0.684	-0.082	0.027	-0.026	-2	130
Argus LLPX310R	89.00	86	0.684	-0.082	0.027	-0.026	-2	106
DragonWave A-ANT-18G	89.00	54	0.684	-0.082	0.027	-0.026	-1	67
Side Arms	89.00	560	0.684	-0.082	0.027	-0.026	-13	694
DragonWave A-ANT-11G	89.00	48	0.684	-0.082	0.027	-0.026	-1	59
Alcatel-Lucent RRH2X	79.00	132	0.539	-0.031	0.009	0.002	0	163
Alcatel-Lucent RRH2x	79.00	170	0.539	-0.031	0.009	0.002	0	211
Alcatel-Lucent RRH2x	79.00	180	0.539	-0.031	0.009	0.002	0	223
RFS DB-T1-6Z-8AB-0Z	79.00	88	0.539	-0.031	0.009	0.002	0	109
Commscope SBNHH-	79.00	608	0.539	-0.031	0.009	0.002	1	754
Flat Low Profile Pla	79.00	1,500	0.539	-0.031	0.009	0.002	2	1,858
Lucent KS-24019	20.00	4	0.035	0.069	0.041	0.043	0	5
		45,959	78.655	22.336	22.698	5.820	2,393	56,926

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)
40	146.46	287	1.853	1.790	1.071	0.345	86	247
39	142.50	507	1.754	1.338	0.900	0.285	125	436



Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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Customer: AT&T Mobility

38	138.50	313	1.657	0.966	0.750	0.229	62	269
37	136.00	252	1.598	0.771	0.667	0.197	43	217
36	132.50	642	1.517	0.543	0.563	0.155	87	553
35	127.50	660	1.404	0.292	0.436	0.104	59	569
34	124.00	269	1.328	0.162	0.362	0.072	17	232
33	121.50	458	1.275	0.088	0.315	0.052	21	395
32	117.50	779	1.193	-0.002	0.249	0.025	17	671
31	114.00	316	1.123	-0.056	0.201	0.005	1	273
30	111.50	495	1.074	-0.083	0.171	-0.007	-3	426
29	107.50	839	0.998	-0.110	0.130	-0.022	-16	723
28	102.50	857	0.908	-0.122	0.090	-0.033	-24	739
27	99.92	29	0.862	-0.120	0.074	-0.035	-1	25
26	98.92	584	0.845	-0.119	0.068	-0.036	-18	503
25	96.50	980	0.804	-0.113	0.055	-0.036	-30	844
24	94.96	27	0.779	-0.108	0.048	-0.035	-1	24
23	92.46	1,010	0.738	-0.098	0.038	-0.032	-28	870
22	89.50	208	0.692	-0.084	0.028	-0.027	-5	179
21	87.00	858	0.654	-0.072	0.022	-0.021	-16	739
20	82.50	1,093	0.588	-0.049	0.013	-0.009	-8	941
19	79.50	221	0.546	-0.033	0.010	0.000	0	190
18	77.00	904	0.512	-0.021	0.008	0.008	6	778
17	72.50	1,149	0.454	0.000	0.006	0.021	21	990
16	67.50	1,171	0.394	0.020	0.007	0.033	33	1,008
15	62.50	1,192	0.337	0.036	0.009	0.041	43	1,027
14	57.50	1,214	0.286	0.048	0.014	0.047	49	1,046
13	54.00	492	0.252	0.055	0.017	0.049	21	424
12	51.50	1,293	0.229	0.059	0.020	0.049	55	1,114
11	48.42	1,382	0.202	0.062	0.023	0.050	60	1,190
10	45.92	458	0.182	0.065	0.026	0.050	20	395
9	42.50	1,264	0.156	0.067	0.029	0.049	54	1,089
8	37.50	1,286	0.121	0.070	0.034	0.048	54	1,108
7	32.50	1,308	0.091	0.071	0.038	0.047	53	1,126
6	27.50	1,329	0.065	0.072	0.041	0.046	53	1,145
5	22.50	1,351	0.044	0.071	0.042	0.044	52	1,164
4	17.50	1,374	0.026	0.067	0.040	0.042	50	1,183
3	12.50	1,395	0.013	0.059	0.035	0.037	45	1,202
2	7.50	1,417	0.005	0.044	0.025	0.029	36	1,221
1	2.50	1,127	0.001	0.018	0.010	0.013	13	971
Decibel DB844H90E-XY	149.00	56	1.918	2.130	1.193	0.387	19	48
Andrew 844G65VTZASX	149.00	128	1.918	2.130	1.193	0.387	43	110
Flat Platform w/ Han	149.00	2,000	1.918	2.130	1.193	0.387	671	1,723
Powerwave LGP21901	137.00	33	1.621	0.846	0.699	0.209	6	28
Powerwave 7020.00 Du	137.00	13	1.621	0.846	0.699	0.209	2	11
Powerwave LGP21401	137.00	85	1.621	0.846	0.699	0.209	15	73
Raycap DC6-48-60-18-	137.00	40	1.621	0.846	0.699	0.209	7	34
Ericsson RRUS 11 (Ba	137.00	165	1.621	0.846	0.699	0.209	30	142
Ericsson RRUS 32 B2	137.00	159	1.621	0.846	0.699	0.209	29	137
Ericsson RRUS-32 (77	137.00	231	1.621	0.846	0.699	0.209	42	199
Powerwave Allgon 775	137.00	81	1.621	0.846	0.699	0.209	15	70
KMW AM-X-CD-16-65-00	137.00	97	1.621	0.846	0.699	0.209	18	84
Quintel QS66512-3 (1	137.00	224	1.621	0.846	0.699	0.209	41	193
Andrew SBNH-1D6565C	137.00	66	1.621	0.846	0.699	0.209	12	57
CCI TPA-65R-LCUUUU-H	137.00	82	1.621	0.846	0.699	0.209	15	71
Flat Platform w/ Han	137.00	2,000	1.621	0.846	0.699	0.209	363	1,723
Kathrein Scala Smart	123.00	10	1.307	0.130	0.342	0.064	1	9
Ericsson KRY 112 144	123.00	33	1.307	0.130	0.342	0.064	2	28
Ericsson KRY 112 489	123.00	46	1.307	0.130	0.342	0.064	3	40
Ericsson AIR 32 B4A-	123.00	317	1.307	0.130	0.342	0.064	18	273
RFS APX16DWV-	123.00	122	1.307	0.130	0.342	0.064	7	105
Round T-Arms	123.00	750	1.307	0.130	0.342	0.064	42	646
Andrew LNX-6515DS-VT	123.00	154	1.307	0.130	0.342	0.064	9	133
RFS APXV18-206517	113.00	79	1.103	-0.068	0.189	0.000	0	68
RFS IBC1900BB-1	98.00	66	0.830	-0.117	0.063	-0.036	-2	57
RFS IBC1900HG-2A	98.00	66	0.830	-0.117	0.063	-0.036	-2	57

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

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Alcatel-Lucent 800 M	98.00	192	0.830	-0.117	0.063	-0.036	-6	165
Alcatel-Lucent 4x40W	98.00	264	0.830	-0.117	0.063	-0.036	-8	227
Alcatel-Lucent TD-RR	98.00	210	0.830	-0.117	0.063	-0.036	-7	181
RFS APXVTM14-C-I20	98.00	159	0.830	-0.117	0.063	-0.036	-5	137
RFS APXVSPP18-C-A20	98.00	171	0.830	-0.117	0.063	-0.036	-5	147
Round Low Profile PI	98.00	1,500	0.830	-0.117	0.063	-0.036	-47	1,292
DragonWave Horizon C	89.00	32	0.684	-0.082	0.027	-0.026	-1	27
NextNet BTS-2500	89.00	105	0.684	-0.082	0.027	-0.026	-2	90
Argus LLPX310R	89.00	86	0.684	-0.082	0.027	-0.026	-2	74
DragonWave A-ANT-18G	89.00	54	0.684	-0.082	0.027	-0.026	-1	47
Side Arms	89.00	560	0.684	-0.082	0.027	-0.026	-13	482
DragonWave A-ANT-11G	89.00	48	0.684	-0.082	0.027	-0.026	-1	41
Alcatel-Lucent RRH2X	79.00	132	0.539	-0.031	0.009	0.002	0	114
Alcatel-Lucent RRH2x	79.00	170	0.539	-0.031	0.009	0.002	0	147
Alcatel-Lucent RRH2x	79.00	180	0.539	-0.031	0.009	0.002	0	155
RFS DB-T1-6Z-8AB-0Z	79.00	88	0.539	-0.031	0.009	0.002	0	76
Commscope SBNHH-	79.00	608	0.539	-0.031	0.009	0.002	1	524
Flat Low Profile Pla	79.00	1,500	0.539	-0.031	0.009	0.002	2	1,292
Lucent KS-24019	20.00	4	0.035	0.069	0.041	0.043	0	3
		45,959	78.655	22.336	22.698	5.820	2,393	39,589

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Site Name: Petro Lock, CT

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10/28/2016 10:40:17 AM

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	-52.82	-1.65	0.00	-169.14	0.00	169.14	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.046
5.00	-51.07	-1.62	0.00	-160.89	0.00	160.89	4,297.95	2,148.97	9,746.71	4,880.60	0.00	-0.01	0.045
10.00	-49.34	-1.58	0.00	-152.79	0.00	152.79	4,248.67	2,124.33	9,446.20	4,730.12	0.02	-0.02	0.044
15.00	-47.64	-1.54	0.00	-144.87	0.00	144.87	4,198.03	2,099.01	9,147.09	4,580.35	0.04	-0.03	0.043
20.00	-45.96	-1.49	0.00	-137.17	0.00	137.17	4,146.02	2,073.01	8,849.58	4,431.37	0.07	-0.04	0.042
25.00	-44.31	-1.45	0.00	-129.70	0.00	129.70	4,092.65	2,046.32	8,553.84	4,283.28	0.12	-0.04	0.041
30.00	-42.69	-1.40	0.00	-122.46	0.00	122.46	4,037.92	2,018.96	8,260.05	4,136.16	0.17	-0.05	0.040
35.00	-41.10	-1.35	0.00	-115.45	0.00	115.45	3,981.82	1,990.91	7,968.40	3,990.12	0.23	-0.06	0.039
40.00	-39.53	-1.30	0.00	-108.70	0.00	108.70	3,924.36	1,962.18	7,679.06	3,845.24	0.30	-0.07	0.038
45.00	-38.97	-1.29	0.00	-102.19	0.00	102.19	3,865.53	1,932.77	7,392.22	3,701.60	0.38	-0.08	0.038
46.83	-37.26	-1.23	0.00	-99.83	0.00	99.83	3,843.62	1,921.81	7,287.71	3,649.27	0.41	-0.08	0.037
50.00	-35.65	-1.17	0.00	-95.95	0.00	95.95	3,805.35	1,902.67	7,108.06	3,559.31	0.47	-0.09	0.036
53.00	-35.05	-1.15	0.00	-92.43	0.00	92.43	3,811.37	1,905.68	7,136.09	3,573.35	0.53	-0.10	0.035
55.00	-33.54	-1.11	0.00	-90.12	0.00	90.12	3,786.97	1,893.48	7,023.10	3,516.77	0.57	-0.10	0.034
60.00	-32.06	-1.07	0.00	-84.60	0.00	84.60	3,725.00	1,862.50	6,742.70	3,376.36	0.68	-0.11	0.034
65.00	-30.61	-1.03	0.00	-79.27	0.00	79.27	3,661.68	1,830.84	6,465.40	3,237.50	0.80	-0.12	0.033
70.00	-29.19	-1.02	0.00	-74.10	0.00	74.10	3,596.99	1,798.49	6,191.38	3,100.29	0.93	-0.13	0.032
75.00	-28.07	-1.01	0.00	-69.02	0.00	69.02	3,530.94	1,765.47	5,920.82	2,964.81	1.07	-0.14	0.031
79.00	-24.48	-1.00	0.00	-64.98	0.00	64.98	3,477.11	1,738.56	5,706.98	2,857.73	1.18	-0.14	0.030
80.00	-23.13	-1.01	0.00	-63.98	0.00	63.98	3,463.52	1,731.76	5,653.90	2,831.15	1.21	-0.15	0.029
85.00	-22.06	-1.02	0.00	-58.95	0.00	58.95	3,394.74	1,697.37	5,390.81	2,699.41	1.37	-0.16	0.028
89.00	-20.71	-1.05	0.00	-54.86	0.00	54.86	3,338.73	1,669.37	5,183.21	2,595.46	1.50	-0.16	0.027
90.00	-19.46	-1.07	0.00	-53.81	0.00	53.81	3,324.59	1,662.30	5,131.72	2,569.67	1.54	-0.16	0.027
94.92	-19.42	-1.07	0.00	-48.54	0.00	48.54	3,235.40	1,617.70	4,852.71	2,429.96	1.71	-0.17	0.026
95.00	-18.21	-1.10	0.00	-48.46	0.00	48.46	3,233.82	1,616.91	4,847.95	2,427.58	1.72	-0.17	0.026
98.00	-14.23	-1.19	0.00	-45.15	0.00	45.15	3,176.90	1,588.45	4,677.94	2,342.44	1.83	-0.18	0.024
99.83	-14.20	-1.19	0.00	-42.97	0.00	42.97	2,561.71	1,280.85	3,809.78	1,907.72	1.90	-0.18	0.028
100.00	-13.13	-1.21	0.00	-42.77	0.00	42.77	2,559.94	1,279.97	3,803.37	1,904.51	1.90	-0.18	0.028
105.00	-12.09	-1.23	0.00	-36.70	0.00	36.70	2,506.36	1,253.18	3,612.41	1,808.89	2.10	-0.19	0.025
110.00	-11.48	-1.23	0.00	-30.55	0.00	30.55	2,451.42	1,225.71	3,424.31	1,714.70	2.30	-0.20	0.023
113.00	-10.99	-1.23	0.00	-26.86	0.00	26.86	2,417.79	1,208.90	3,312.90	1,658.91	2.43	-0.21	0.021
115.00	-10.03	-1.21	0.00	-24.40	0.00	24.40	2,395.11	1,197.55	3,239.25	1,622.03	2.52	-0.21	0.019
120.00	-9.46	-1.19	0.00	-18.36	0.00	18.36	2,337.43	1,168.72	3,057.40	1,530.97	2.74	-0.22	0.016
123.00	-7.35	-1.08	0.00	-14.79	0.00	14.79	2,302.17	1,151.09	2,949.92	1,477.15	2.88	-0.22	0.013
125.00	-6.53	-1.02	0.00	-12.63	0.00	12.63	2,271.18	1,135.59	2,869.84	1,437.05	2.97	-0.22	0.012
130.00	-5.74	-0.93	0.00	-7.52	0.00	7.52	2,192.12	1,096.06	2,672.56	1,338.27	3.20	-0.23	0.008
135.00	-5.42	-0.89	0.00	-2.86	0.00	2.86	2,113.07	1,056.53	2,482.31	1,243.00	3.44	-0.23	0.005
137.00	-0.98	-0.21	0.00	-1.08	0.00	1.08	2,081.44	1,040.72	2,408.17	1,205.88	3.54	-0.23	0.001
140.00	-0.36	-0.09	0.00	-0.44	0.00	0.44	2,034.01	1,017.00	2,299.08	1,151.25	3.68	-0.23	0.001
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95	977.48	2,122.87	1,063.01	3.92	-0.23	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32	1,013.16	4.06	-0.23	0.000

Site Number: 302468

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

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Customer: AT&T Mobility

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-36.74	-1.65	0.00	-167.26	0.00	167.26	4,345.86	2,172.93	10,048.4	5,031.69	0.00	0.00	0.042
5.00	-35.52	-1.62	0.00	-159.02	0.00	159.02	4,297.95	2,148.97	9,746.71	4,880.60	0.00	-0.01	0.041
10.00	-34.31	-1.58	0.00	-150.93	0.00	150.93	4,248.67	2,124.33	9,446.20	4,730.12	0.02	-0.02	0.040
15.00	-33.13	-1.53	0.00	-143.05	0.00	143.05	4,198.03	2,099.01	9,147.09	4,580.35	0.04	-0.03	0.039
20.00	-31.96	-1.48	0.00	-135.39	0.00	135.39	4,146.02	2,073.01	8,849.58	4,431.37	0.07	-0.04	0.038
25.00	-30.82	-1.44	0.00	-127.96	0.00	127.96	4,092.65	2,046.32	8,553.84	4,283.28	0.12	-0.04	0.037
30.00	-29.69	-1.39	0.00	-120.78	0.00	120.78	4,037.92	2,018.96	8,260.05	4,136.16	0.17	-0.05	0.037
35.00	-28.58	-1.34	0.00	-113.85	0.00	113.85	3,981.82	1,990.91	7,968.40	3,990.12	0.23	-0.06	0.036
40.00	-27.49	-1.29	0.00	-107.17	0.00	107.17	3,924.36	1,962.18	7,679.06	3,845.24	0.30	-0.07	0.035
45.00	-27.10	-1.27	0.00	-100.74	0.00	100.74	3,865.53	1,932.77	7,392.22	3,701.60	0.38	-0.08	0.034
46.83	-25.91	-1.21	0.00	-98.42	0.00	98.42	3,843.62	1,921.81	7,287.71	3,649.27	0.41	-0.08	0.034
50.00	-24.80	-1.15	0.00	-94.59	0.00	94.59	3,805.35	1,902.67	7,108.06	3,559.31	0.46	-0.09	0.033
53.00	-24.37	-1.13	0.00	-91.13	0.00	91.13	3,811.37	1,905.68	7,136.09	3,573.35	0.52	-0.10	0.032
55.00	-23.33	-1.09	0.00	-88.86	0.00	88.86	3,786.97	1,893.48	7,023.10	3,516.77	0.56	-0.10	0.031
60.00	-22.30	-1.05	0.00	-83.43	0.00	83.43	3,725.00	1,862.50	6,742.70	3,376.36	0.67	-0.11	0.031
65.00	-21.29	-1.01	0.00	-78.20	0.00	78.20	3,661.68	1,830.84	6,465.40	3,237.50	0.79	-0.12	0.030
70.00	-20.30	-0.99	0.00	-73.13	0.00	73.13	3,596.99	1,798.49	6,191.38	3,100.29	0.92	-0.13	0.029
75.00	-19.52	-0.99	0.00	-68.16	0.00	68.16	3,530.94	1,765.47	5,920.82	2,964.81	1.05	-0.13	0.029
79.00	-17.02	-0.98	0.00	-64.20	0.00	64.20	3,477.11	1,738.56	5,706.98	2,857.73	1.17	-0.14	0.027
80.00	-16.08	-0.99	0.00	-63.22	0.00	63.22	3,463.52	1,731.76	5,653.90	2,831.15	1.20	-0.14	0.027
85.00	-15.34	-1.00	0.00	-58.29	0.00	58.29	3,394.74	1,697.37	5,390.81	2,699.41	1.35	-0.15	0.026
89.00	-14.40	-1.03	0.00	-54.27	0.00	54.27	3,338.73	1,669.37	5,183.21	2,595.46	1.49	-0.16	0.025
90.00	-13.53	-1.05	0.00	-53.25	0.00	53.25	3,324.59	1,662.30	5,131.72	2,569.67	1.52	-0.16	0.025
94.92	-13.51	-1.06	0.00	-48.06	0.00	48.06	3,235.40	1,617.70	4,852.71	2,429.96	1.69	-0.17	0.024
95.00	-12.66	-1.08	0.00	-47.98	0.00	47.98	3,233.82	1,616.91	4,847.95	2,427.58	1.69	-0.17	0.024
98.00	-9.90	-1.18	0.00	-44.72	0.00	44.72	3,176.90	1,588.45	4,677.94	2,342.44	1.80	-0.18	0.022
99.83	-9.87	-1.18	0.00	-42.57	0.00	42.57	2,561.71	1,280.85	3,809.78	1,907.72	1.87	-0.18	0.026
100.00	-9.13	-1.20	0.00	-42.37	0.00	42.37	2,559.94	1,279.97	3,803.37	1,904.51	1.88	-0.18	0.026
105.00	-8.41	-1.22	0.00	-36.37	0.00	36.37	2,506.36	1,253.18	3,612.41	1,808.89	2.07	-0.19	0.023
110.00	-7.98	-1.22	0.00	-30.29	0.00	30.29	2,451.42	1,225.71	3,424.31	1,714.70	2.27	-0.20	0.021
113.00	-7.64	-1.22	0.00	-26.63	0.00	26.63	2,417.79	1,208.90	3,312.90	1,658.91	2.40	-0.20	0.019
115.00	-6.97	-1.20	0.00	-24.20	0.00	24.20	2,395.11	1,197.55	3,239.25	1,622.03	2.49	-0.21	0.018
120.00	-6.58	-1.18	0.00	-18.21	0.00	18.21	2,337.43	1,168.72	3,057.40	1,530.97	2.71	-0.21	0.015
123.00	-5.11	-1.07	0.00	-14.68	0.00	14.68	2,302.17	1,151.09	2,949.92	1,477.15	2.84	-0.22	0.012
125.00	-4.54	-1.01	0.00	-12.53	0.00	12.53	2,271.18	1,135.59	2,869.84	1,437.05	2.93	-0.22	0.011
130.00	-3.99	-0.93	0.00	-7.46	0.00	7.46	2,192.12	1,096.06	2,672.56	1,338.27	3.16	-0.22	0.007
135.00	-3.77	-0.88	0.00	-2.84	0.00	2.84	2,113.07	1,056.53	2,482.31	1,243.00	3.40	-0.22	0.004
137.00	-0.68	-0.21	0.00	-1.07	0.00	1.07	2,081.44	1,040.72	2,408.17	1,205.88	3.49	-0.22	0.001
140.00	-0.25	-0.09	0.00	-0.43	0.00	0.43	2,034.01	1,017.00	2,299.08	1,151.25	3.63	-0.23	0.000
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,954.95	977.48	2,122.87	1,063.01	3.87	-0.23	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	1,908.83	954.42	2,023.32	1,013.16	4.01	-0.23	0.000

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

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	29.11	0.00	55.11	0.00	0.00	3011.41	0.00	0.61
0.9D + 1.6W	29.06	0.00	41.32	0.00	0.00	2978.42	0.00	0.60
1.2D + 1.0Di + 1.0Wi	8.41	0.00	101.42	0.00	0.00	879.58	0.00	0.20
(1.2 + 0.2Sds) * DL + E ELFM	1.67	0.00	52.82	0.00	0.00	181.54	0.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	1.65	0.00	52.82	0.00	0.00	169.14	0.00	0.05
(0.9 - 0.2Sds) * DL + E ELFM	1.67	0.00	36.74	0.00	0.00	179.65	0.00	0.04
(0.9 - 0.2Sds) * DL + E EMAM	1.65	0.00	36.74	0.00	0.00	167.26	0.00	0.04
1.0D + 1.0W	7.20	0.00	45.96	0.00	0.00	740.62	0.00	0.16

Site Number: 302468

Code: ANSI/TIA-222-G

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Site Name: Petro Lock, CT

Engineering Number: OAA688004\_C3\_01

10/28/2016 10:40:17 AM

Customer: AT&T Mobility

### Base Summary

#### Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
2,489.00	36.10	23.90	3,011.41	101.42	29.11	89.62

#### Base Plate

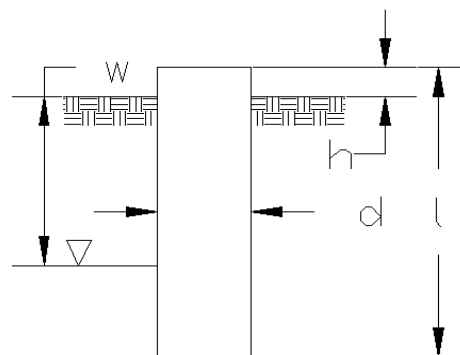
Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
60.0	2.500	69.000	Round	0	0.00	11.224	288.41	946.99	0.30

#### 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
63.00	16	2.25" 18J	2.25	75.00	100.00	Radial	0.00	0.0	149.74	260.00	0.59	137.06	260.00	0.54

Site Name: Petro Lock, CT  
 Site Number: 302468  
 Engineer: AT  
 Engineering Number: 663406KK2  
 Date: 05/17/16

Program Last Updated: 5/13/2014  
 American Tower Corporation



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

Analyze or Design a Foundation? Analyze  
 Foundation Mapped: N  
 Moment (M): 3011.4 k-ft  
 Shear/Leg (V): 29.1 k  
 Axial Load (P): 55.1 k  
 Uplift/Leg (U): 0.0 k  
 Tower Type (GT / SST / MP): MP

Diameter of Caisson (d): 7.0 ft  
 Caisson Embedment (L-h): 33.5 ft  
 Caisson Height Above Ground (h): 0.5 ft  
 Depth Below Ground Surface to Water Table (w): 4.0 ft  
 Unit Weight of Concrete: 150.0 pcf  
 Unit Weight of Water: 62.4 pcf  
 Tension Skin Friction/Compression Skin Friction: 1.00  
 Pullout Angle: 30.0 degrees

**Engineer Notes**

**Soil Mechanical Properties**

Depth (ft)		$\gamma_{Soil}$	Cohesion	$\phi$	Ultimate Skin	Ultimate Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	5.0	100	0	0	0	0
5.0	15.0	110	2880		1140	
15.0	34.5	120	10080		5040	40000

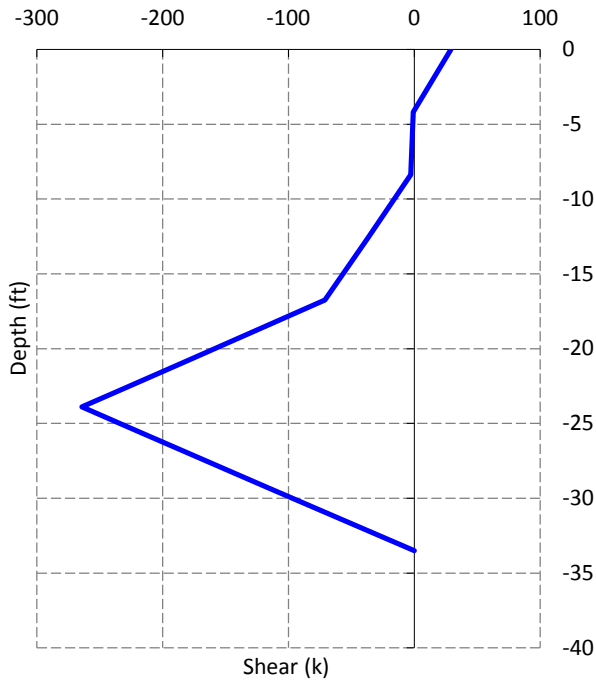
Required Embedment: 17.8 ft - OK, Caisson Embedment Satisfactory  
 Volume of Concrete: 1308.5 ft<sup>3</sup> = 48.5 yd<sup>3</sup>  
 Weight of Concrete (Buoyancy Effect Considered): 125.4 k  
 Average Soil Unit Weight: 59.1 pcf  
 Skin Friction Resistance: 2301.2 k  
 Compressive Bearing Resistance: 1539.4 k  
 Pullout Weight (Minus Concrete Weight): 1196.2 k  
 Nominal Uplift Capacity per Leg ( $\phi_s T_n$ ): 897.2 k  
 Nominal Compressive Capacity per Leg ( $\phi_s P_n$ ): 2880.4 k  
 $P_u$ : 110.8 k  
 $T_u / \phi_s T_n$ : 0.00 Result: OK  
 $P_u / \phi_s P_n$ : 0.04 Result: OK  
 Total Lateral Resistance: 9827.4 k  
 Inflection Point (Below Ground Surface): 23.9 ft  
 Design Overturning Moment At Inflection Point ( $M_D$ ): 3721.4 k-ft  
 Nominal Moment Capacity ( $\phi_s M_n$ ): 38866.1 k-ft  
 $M_D / \phi_s M_n$ : 0.10 Result: OK  
 $\phi_s$ : 0.75

## Caisson Strength Capacity

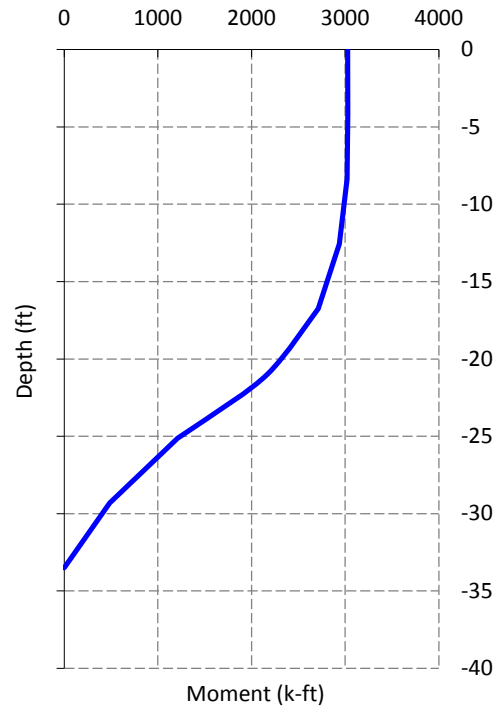
Concrete Compressive Strength ( $f'_c$ ):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in <sup>2</sup>
# of Vertical Steel Rebars:	21
Vertical Steel Rebar Yield Strength ( $F_y$ ):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in <sup>2</sup>
Design Horizontal Tie / Stirrup Spacing:	18.0 in
Horizontal Tie / Stirrup Steel Yield Strength ( $F_y$ ):	60 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor ( $\phi_B$ ):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor ( $\phi_V$ ):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor ( $\phi_P$ ):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment ( $M_u$ ):	3027.5 k-ft
Nominal Moment Capacity ( $\phi_B M_n$ ):	4963.4 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$ :	0.61 Result: OK
Design Shear ( $V_u$ ):	264.3 k
Nominal Shear Capacity ( $\phi_V V_n$ ):	457.6 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$ :	0.58 Result: OK
Design Tension ( $T_u$ ):	0.0 k
Nominal Tension Capacity ( $\phi_T T_n$ ):	1769.0 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$ :	0.00 Result: OK
Design Compression ( $P_u$ ):	110.8 k
Nominal Compression Capacity ( $\phi_P P_n$ ):	7304.9 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$ :	0.02 Result: OK
Bending Reinforcement Ratio:	0.006 ACI318-05 - 10.8.4 & 10.9.1
$M_u / \phi_B M_n + T_u / \phi_T T_n$ :	0.61 Result: OK



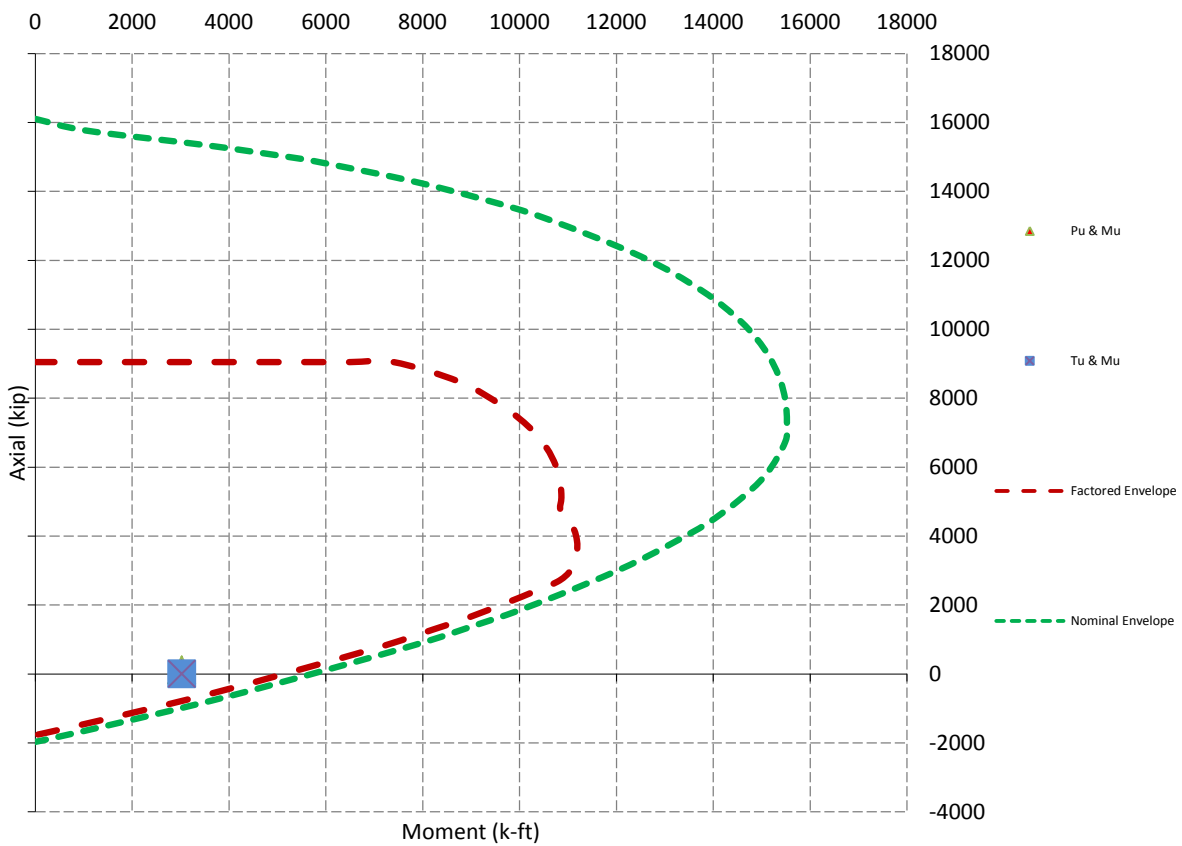
Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads





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

AT&T Existing Facility

Site ID: CT5127

1 91 and 5 Split  
99 Meadow Street  
Hartford, CT 06114

**November 8, 2016**

**EBI Project Number: 6216005036**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general public allowable limit:	<b>11.60 %</b>



November 8, 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: **CT5127 – 1 91 and 5 Split**

EBI Consulting was directed to analyze the proposed AT&T facility located at **99 Meadow Street, Hartford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.

## CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **99 Meadow Street, Hartford, 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 (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 GSM channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 5) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.



- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a 6-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 **Powerwave 7750, KMW AM-X-CD-16-65-00T-RET, Quintel QS66512-3, Commscope SBNH-1D6565C and the CCI TPA-65R-LCUUUU-H8** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) 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 centerlines of the proposed antennas are **137 feet** above ground level (AGL) for **Sector A**, **137 feet** above ground level (AGL) for **Sector B** and **137 feet** above ground level (AGL) for Sector C.
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



## AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	<b>1</b>	Antenna #:	<b>1</b>	Antenna #:	<b>1</b>
Make / Model:	Powerwave 7750	Make / Model:	Powerwave 7750	Make / Model:	Powerwave 7750
Gain:	12.5 / 15.6 dBd	Gain:	12.5 / 15.6 dBd	Gain:	12.5 / 15.6 dBd
Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>
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 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	3,245.44	ERP (W):	3,245.44	ERP (W):	3,245.44
Antenna A1 MPE%	<b>0.85 %</b>	Antenna B1 MPE%	<b>0.85 %</b>	Antenna C1 MPE%	<b>0.85 %</b>
Antenna #:	<b>2</b>	Antenna #:	<b>2</b>	Antenna #:	<b>2</b>
Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	KMW AM-X-CD-16-65-00T-RET	Make / Model:	Commscope SBNH-1D6565C
Gain:	13.35 dBd	Gain:	13.35 dBd	Gain:	13.65 dBd
Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,595.26	ERP (W):	2,595.26	ERP (W):	2,780.87
Antenna A2 MPE%	<b>1.16 %</b>	Antenna B2 MPE%	<b>1.16 %</b>	Antenna C2 MPE%	<b>1.25 %</b>
Antenna #:	<b>3</b>	Antenna #:	<b>3</b>	Antenna #:	<b>3</b>
Make / Model:	Quintel QS66512-3	Make / Model:	Quintel QS66512-3	Make / Model:	CCI TPA-65R-LCUUUU-H8
Gain:	12.78 / 15.15 dBd	Gain:	12.78 / 15.15 dBd	Gain:	13.75 / 14.45 dBd
Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>	Height (AGL):	<b>137 feet</b>
Frequency Bands	1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	1900 MHz (PCS) / 2300 MHz (WCS)	Frequency Bands	1900 MHz (PCS) / 2300 MHz (WCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	300 Watts	Total TX Power(W):	300 Watts	Total TX Power(W):	300 Watts
ERP (W):	7,342.16	ERP (W):	7,342.16	ERP (W):	7,611.82
Antenna A3 MPE%	<b>1.54 %</b>	Antenna B3 MPE%	<b>1.54 %</b>	Antenna C3 MPE%	<b>1.59 %</b>

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	<b>3.69 %</b>
T-Mobile	4.22 %
MetroPCS	1.06 %
Nextel	0.26 %
Clearwire	0.27 %
Sprint	2.10 %
<b>Site Total MPE %:</b>	<b>11.60 %</b>

AT&T Sector A Total:	3.55 %
AT&T Sector B Total:	3.55 %
AT&T Sector C Total:	3.69 %
<b>Site Total:</b>	<b>11.60 %</b>

AT&T _ Frequency Band / Technology Per Sector Max Value (Sector C)	# 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	533.48	137	2.24	850 MHz	567	0.39%
AT&T 1900 MHz (PCS) UMTS	2	1,089.23	137	4.56	1900 MHz (PCS)	1000	0.46%
AT&T 700 MHz LTE	2	1,390.44	137	5.83	700 MHz	467	1.25%
AT&T 1900 MHz (PCS) GSM	2	711.41	137	2.98	1900 MHz (PCS)	1000	0.30%
AT&T 2300 MHz (WCS) LTE	2	1,671.67	137	7.00	2300 MHz (WCS)	1000	0.70%
AT&T 1900 MHz (PCS) LTE	2	1,422.82	137	5.96	1900 MHz (PCS)	1000	0.60%
					<b>Total*:</b>		<b>3.69%</b>

\*NOTE: Totals may vary by 0.01% due to summing of remainders



## 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 A:	3.55 %
Sector B:	3.55 %
Sector C:	3.69 %
AT&T Maximum Total (per sector):	3.69 %
Site Total:	11.60 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **11.60 %** 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.