



CRAIG CODY

16 Chestnut Street, Suite 420
Foxboro, MA 02035
Tel (781) 831-1281
ccody@trmcom.com

11/16/2015

Melanie Bachman
Acting Executive Director
Connecticut Siting Counsel
10 Franklin Square
New Britain, CT 06051

**Re: Notice of Exempt Modification
18A Jeremy Garden Lane, Woodbridge, CT
41.341394 / -72.993605**

Dear Ms. Bachman:

T-Mobile Northeast, LLC (T-Mobile) currently maintains three (3) antennas at the One Hundred-Thirty foot (130') level of the existing One Hundred-Fifty foot tower at 18A Jeremy Garden Lane, Woodbridge, CT. The tower is owned by American Tower Corporation. The property is owned by Kenneth Johnson. T-Mobile now intends to replace Three (3) of its existing antennas with Three (3) new 700MHz antennas. These antennas would be installed at the One Hundred-Thirty (130') foot level of the tower. T-Mobile also intends to remove Three (3) antennas that currently existing on the tower.

This facility was approved by the Connecticut Siting Council and the Town of Woodbridge on July 24, 1984 in Docket# 44. The approval included the conditions that tower antennas shall be no taller than necessary to provide the proposed service and in no event shall exceed 167'. Construction activities shall take place during daylight working hours.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73 a copy of this letter to the Chief Elected Official, First Selectman, Elen Scalettar for the Town of Woodbridge, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities provided for in R.C.S.A. § 50j-72(b)(2).

- 1) The proposed modification will not result in an increase in the height of the existing structure.
- 2) The modifications will not require an extension of the site boundary.
- 3) The proposed modification will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
- 4) The operation and replacement of antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
- 5) The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
- 6) The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile Northeast LLC respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A § 16-50j-72(b)(2)

Sincerely,



Craig Cody

On behalf of American Tower Corporation
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 420
Foxboro, MA 02035
781-831-1281
ccody@trmcom.com

cc: **Town of Woodbridge**
American Tower
Kennith Johnson

Exhibit 1

Site Plan

Exhibit 2

Power Density Report

Exhibit 3

Structural Analysis

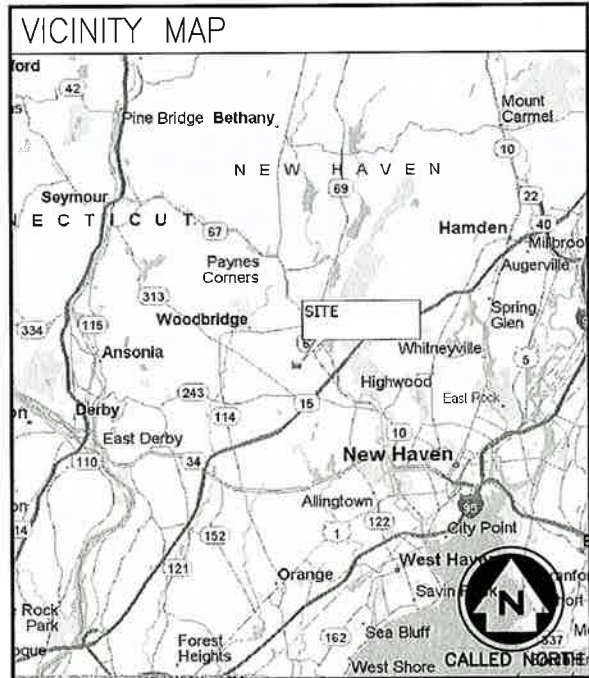
T-MOBILE NORTHEAST LLC

CTNH521A

ATC WOODBRIDGE MONOPOLE

18 JEREMY GARDEN LANE
WOODBRIDGE, CT 06525

(702CC CONFIGURATION)



GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T-MOBILE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
- THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

PROJECT SUMMARY

SITE NUMBER: CTNH521A APPLICANT: T-MOBILE NORTHEAST LLC
 SITE NAME: ATC WOODBRIDGE MONOPOLE 35 GRIFFIN RD SOUTH BLOOMFIELD, CT 06002
 SITE ADDRESS: 18 JEREMY GARDEN LANE WOODBRIDGE, CT 06525 PROJECT MANAGER: AMERICAN TOWER CORPORATION 319 QUARRY ROAD SPRING CITY, PA 19475
 PROPERTY OWNER: AMERICAN TOWER CORPORATION CONTACT: BRUCE HOFFMASTER 484-942-6339
 PARCEL: 2204/ 885/ 18 CONTACT: ALEX WELLER 518-690-0790
 CURRENT ZONING: A ARCHITECT/ENGINEER: INFINIGY ENGINEERING 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205
 JURISDICTION: TOWN OF WOODBRIDGE
 ATC SITE NUMBER: 302480
 LAT./LONG.: N 41.341394' / W -72.993605'
 CONSTRUCTION TYPE: L700 UPGRADE

PROJECT DESCRIPTION

- EXISTING MONOPOLE
- EXISTING LATTICE TOWER
- EXISTING TRANSMISSION TOWER
- EXISTING WATER TANK
- EXISTING BUILDING
- EXISTING FLAGPOLE
- EXISTING FORT WORTH
- EXISTING CABINET(S)
- EXISTING 6201 ODE
- PROPOSED RBS 3106
- EXISTING S8000
- SITE SUPPORT KIT
- SITE SUPPORT CABINET
- GPS
- OUTDOOR
- INDOOR
- EXISTING CONCRETE PAD
- EXISTING STEEL PLATFORM
- EXISTING PPC
- PANELBOARD

T-MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY. ADDITION OF PROPOSED LTE 700 PANEL ANTENNAS & RRUS, REUSE EXISTING HYBRID CABLE, GPS ANTENNA AND EXISTING EQUIPMENT CABINETS.

SHEET INDEX

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DO NOT SCALE DRAWINGS

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



CALL:

'CALL BEFORE YOU DIG'
WWW.CBYD.COM
CALL 811 OR 1-800-922-4455

CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTORS AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC - RED	SEWER - GREEN
GAS/OIL - YELLOW	SURVEY - PINK
TEL/CAIV - ORANGE	PROPOSED EXCAVATION - WHITE
WATER - BLUE	RECLAIMED WATER - PURPLE

T-Mobile

T-MOBILE NORTHEAST LLC
35 GRIFFIN RD SOUTH
BLOOMFIELD, CT 06002

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
10/09/15	FOR PERMIT	0
11/05/15	REVISED FOR PERMIT	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-000
 DRAWN BY: MAP
 CHECKED BY: ASW



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NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNH521A

SITE NAME:
ATC WOODBRIDGE MONOPOLE
18 JEREMY GARDEN LANE
WOODBRIDGE, CT 06525

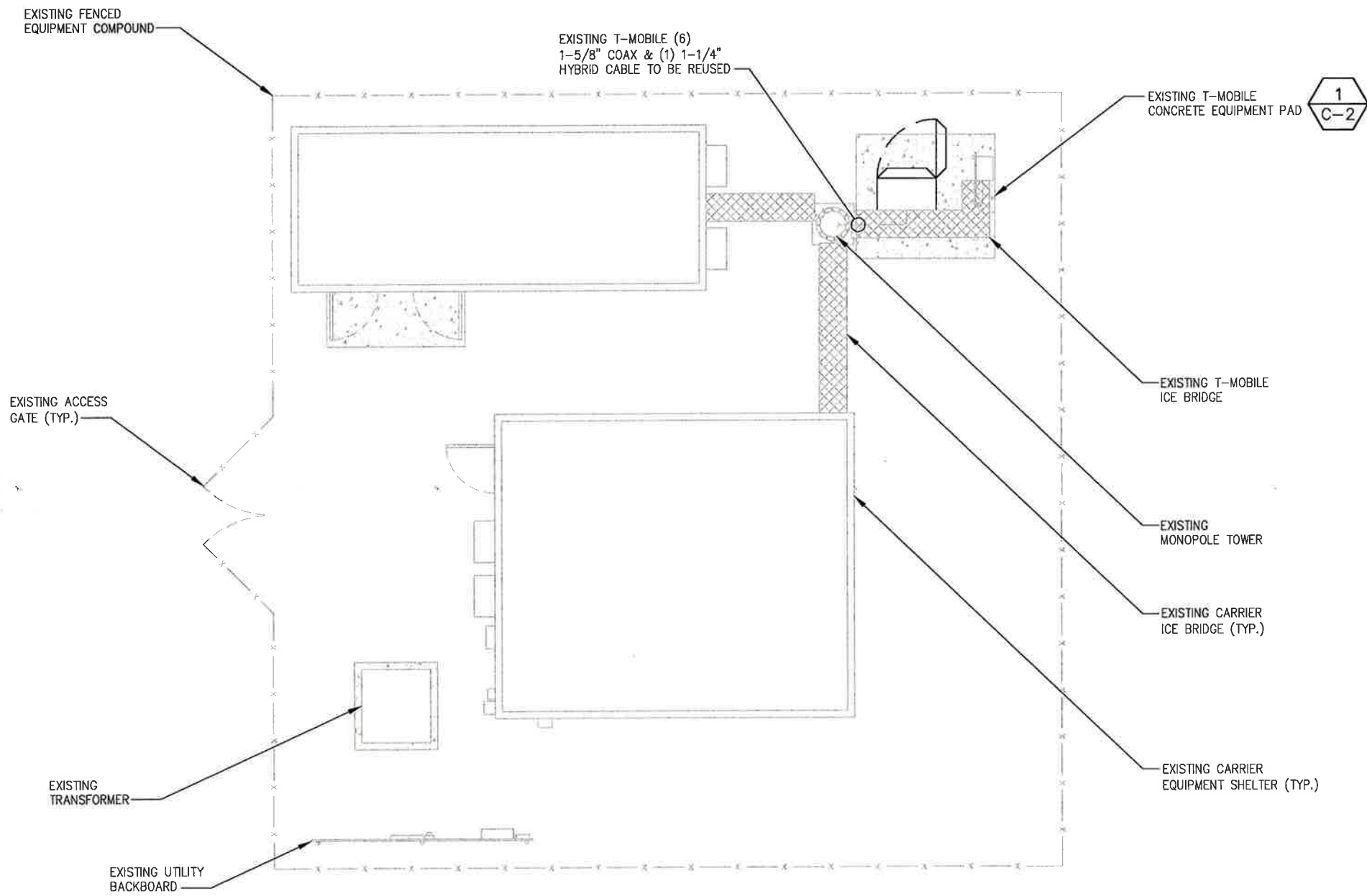
SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

SHEET 1 OF 8 SHEETS



GENERAL SITE NOTES:

1. A COMPLETE BOUNDARY SURVEY OF THE HOST PARCEL HAS NOT BEEN PERFORMED BY INFINIGY. BOUNDARY INFORMATION IF SHOWN WAS OBTAINED FROM INFORMATION PROVIDED BY OTHERS. PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
2. BASEMAPPING INFORMATION BASED ON PROVIDED INFORMATION.
3. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
4. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
5. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
6. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
8. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK.
9. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

T-Mobile
T-MOBILE NORTHEAST LLC
 35 GRIFFIN RD SOUTH
 BLOOMFIELD, CT 06002

INFINIGY
1033 Waterlilet Shaker Rd
 Albany, NY 12205
 Office # (518) 890-0790
 Fax # (518) 890-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
10/09/13	FOR PERMIT	0
11/05/15	REVISED FOR PERMIT	1

DEPT.	DATE	APP'D	REVISIONS
R/E			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-000
 DRAWN BY: MAP
 CHECKED BY: ASW

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- x - x - CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- TREES/SHRUBS
- ~ TREE LINE
- ⊗ UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE



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CTNH521A

SITE NAME:
ATC WOODBRIDGE MONOPOLE
 18 JEREMY GARDEN LANE
 WOODBRIDGE, CT 06525

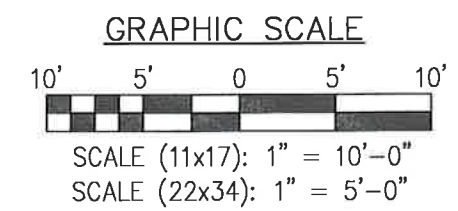
SHEET TITLE

SITE PLAN

SHEET NUMBER

C-1

SHEET 2 OF 8 SHEETS

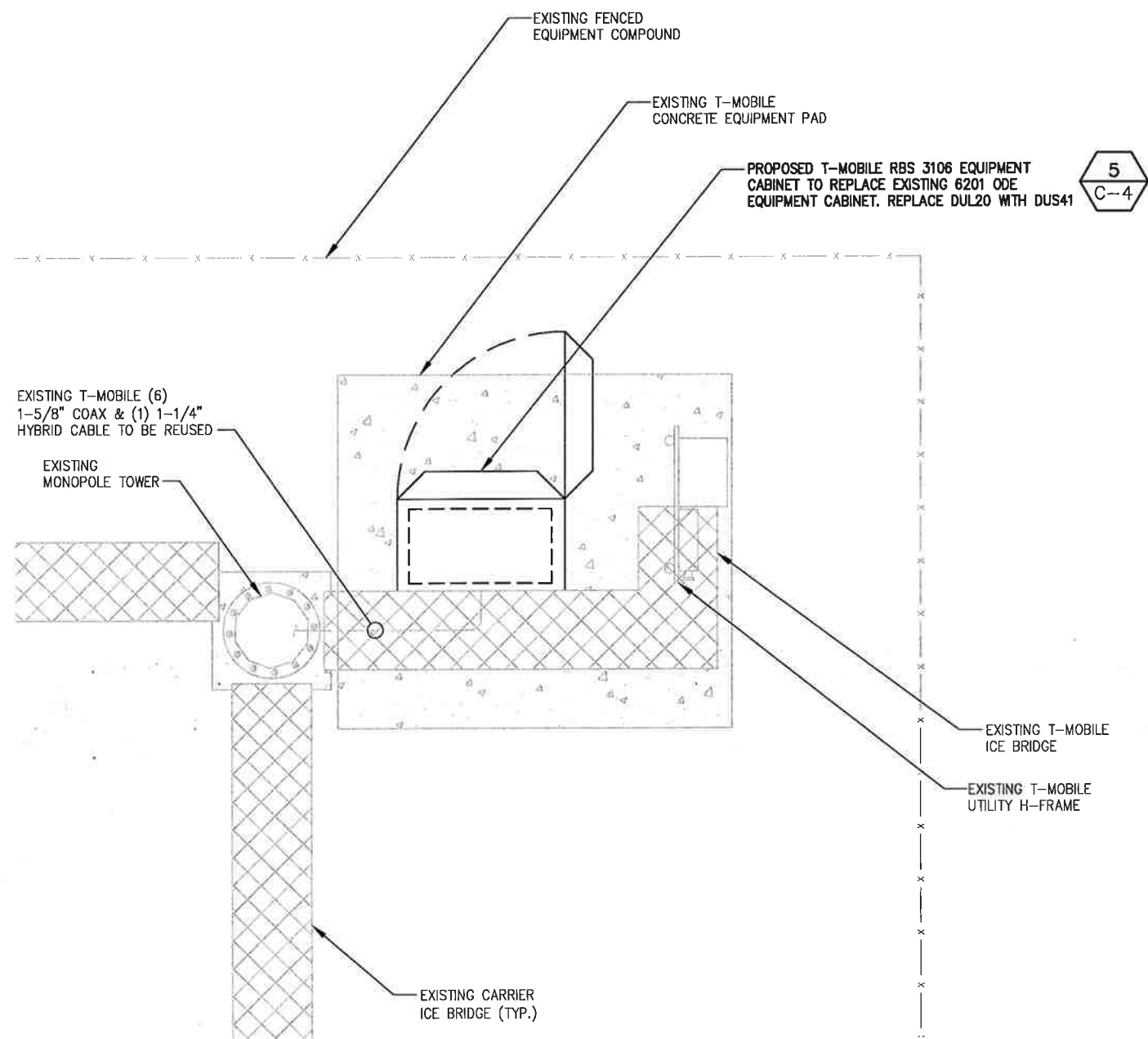


1
 COMPOUND PLAN
 SCALE: AS NOTED

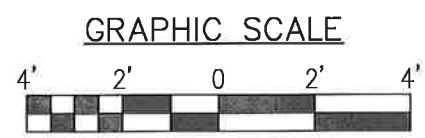
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 C-2

CALLED NORTH

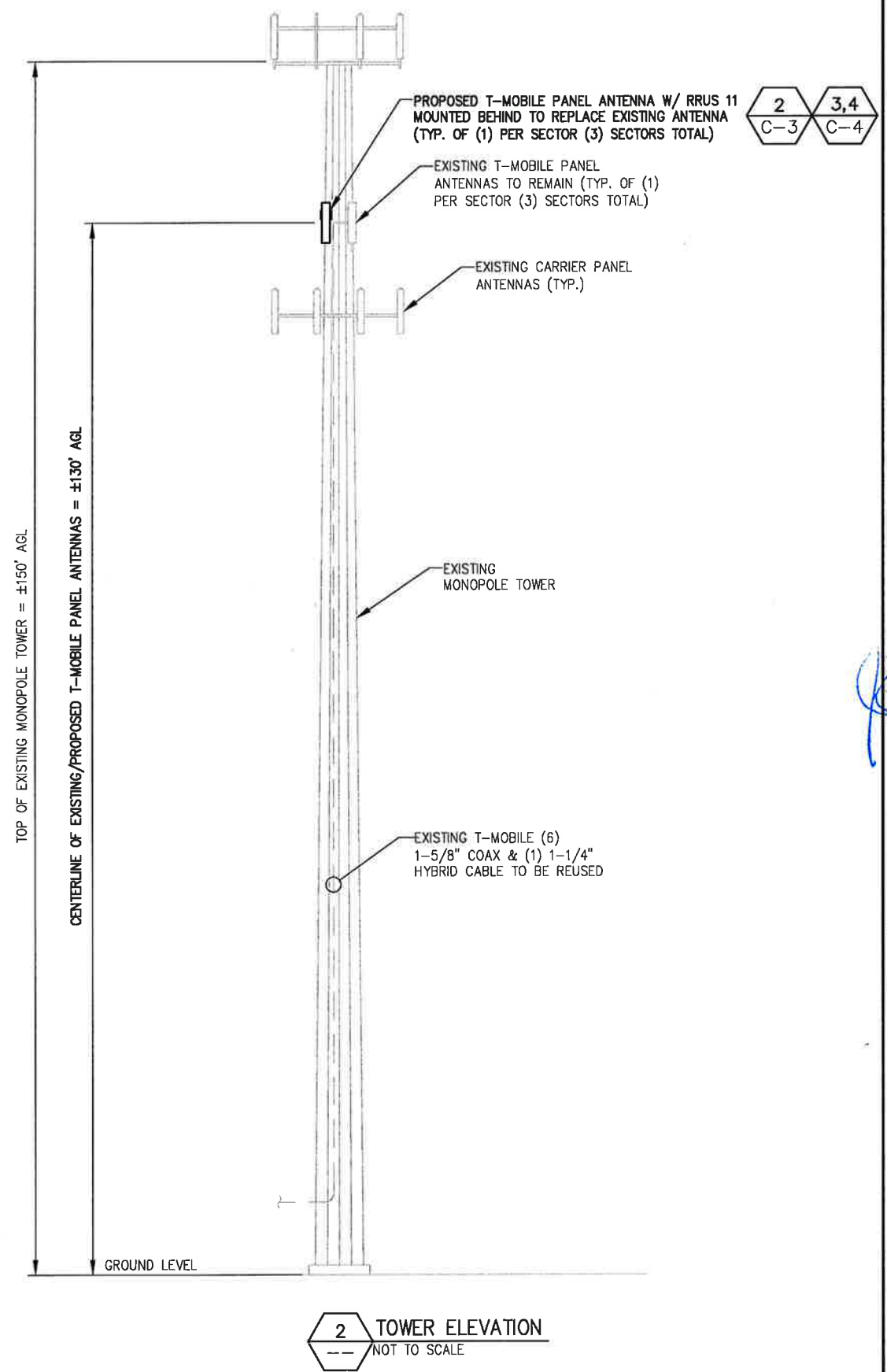
NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE
TOWER OR LOADING FOR THIS SITE, AND ASSUMES
NO RESPONSIBILITY FOR ITS STRUCTURAL
INTEGRITY REGARDING ITS EXISTING OR PROPOSED
LOADING. FINAL INSTALLATION TO COMPLY WITH
RESULTS OF PASSING STRUCTURAL ANALYSIS.



1 COMPOUND PLAN
SCALE: AS NOTED



SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"



SUBMITTALS

DATE	DESCRIPTION	REVISION
10/09/15	FOR PERMIT	0
11/05/15	REVISED FOR PERMIT	1

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-000
DRAWN BY: MAP
CHECKED BY: ASW



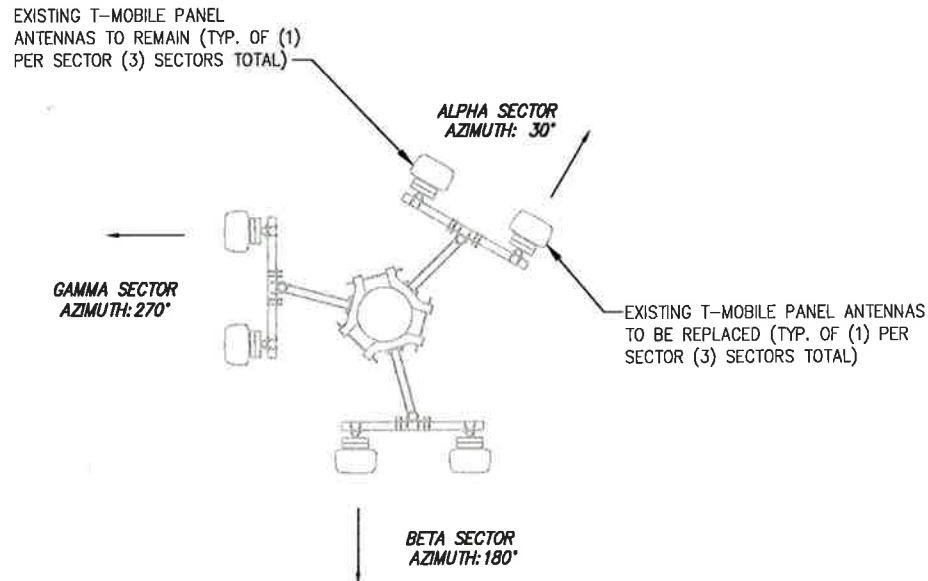
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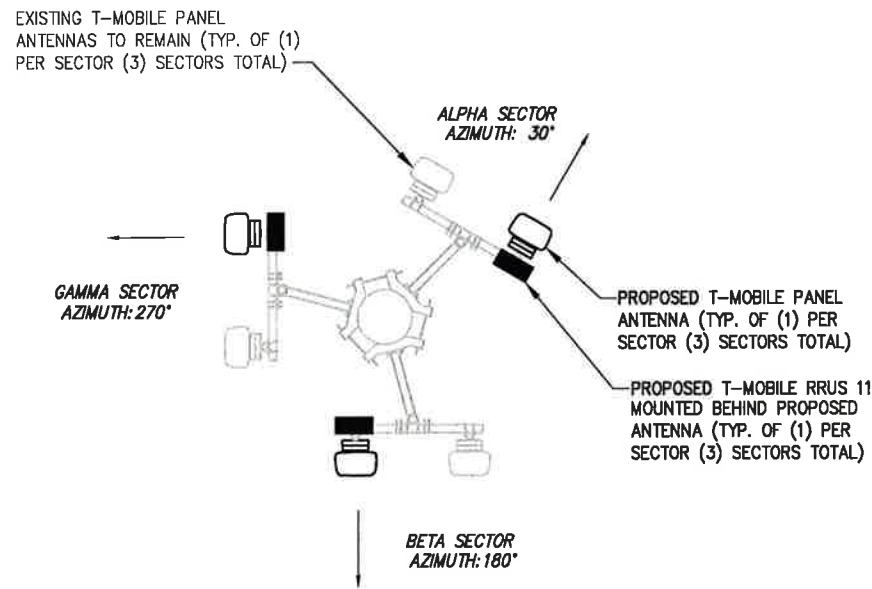
SITE NUMBER: CTNH521A
SITE NAME: ATC WOODBRIDGE MONOPOLE
18 JEREMY GARDEN LANE
WOODBRIDGE, CT 06525

SHEET TITLE
COMPOUND PLAN & ELEVATION

SHEET NUMBER
C-2
SHEET 3 OF 8 SHEETS



2 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE
CALLED NORTH



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE
CALLED NORTH

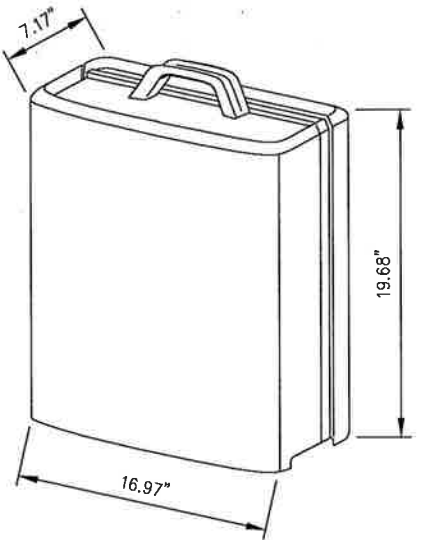
STRUCTURAL NOTES:
 1. SPECIFICATIONS / CODES:
 - CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
 - STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 9TH EDITION.
 - WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-92 "STRUCTURAL WELDING" CODE-STEEL.
 - REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE."
 2. MATERIALS:
 - CONCRETE: f_c' - 3000psi. (MIN. U.N.O.)
 - REINFORCING STEEL: ASTM A615, GRADE 60.
 - WIRE MESH: ASTM A185.
 - STRUCTURAL STEEL: ASTM A36.
 - ELECTRODES FOR WELDING: E 70xx.
 - GALVANIZING: ASTM A153 (BOLTS) OR ASTM A123 (SHAPES, PLATES).
 - EXPANSION BOLTS: HILTI KWIK BOLT II, STAINLESS STEEL, 3/4"x43/4" EMBEDMENT OR AN APPROVED EQUAL.

INFINIGY
 1033 Watervliet Shaker Rd
 Albany, NY 12205
 Office # (518) 890-0790
 Fax # (518) 890-0793

SUBMITTALS		
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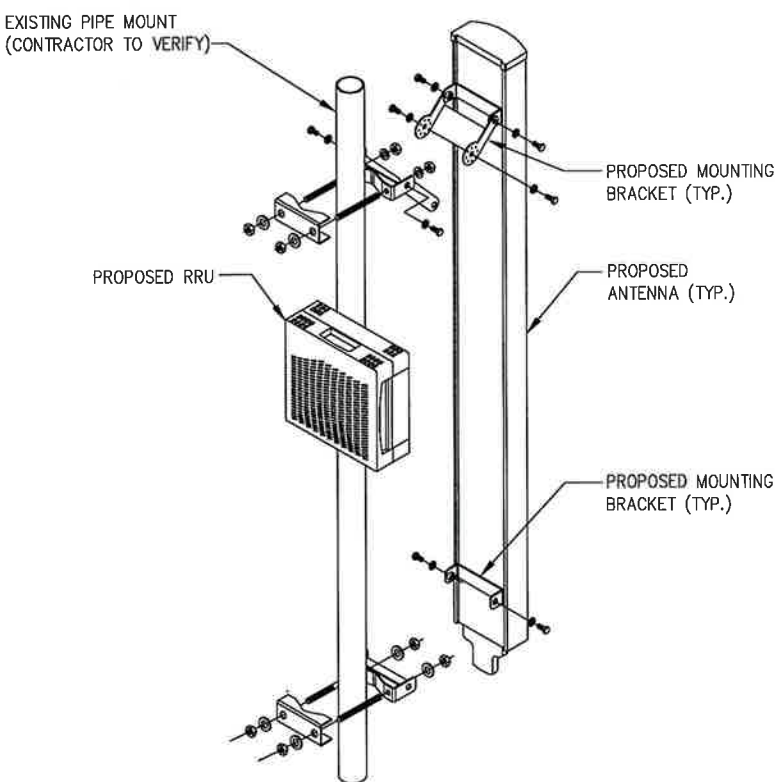
DEPT.	DATE	APP'D	REVISIONS
RF			
RF MAN.			
COOKING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-000
 DRAWN BY: MAP
 CHECKED BY: ASW



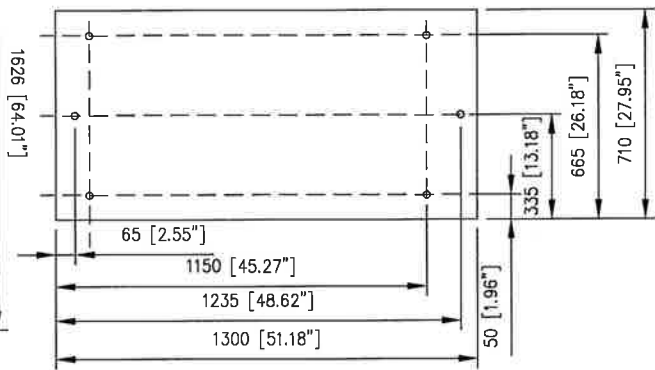
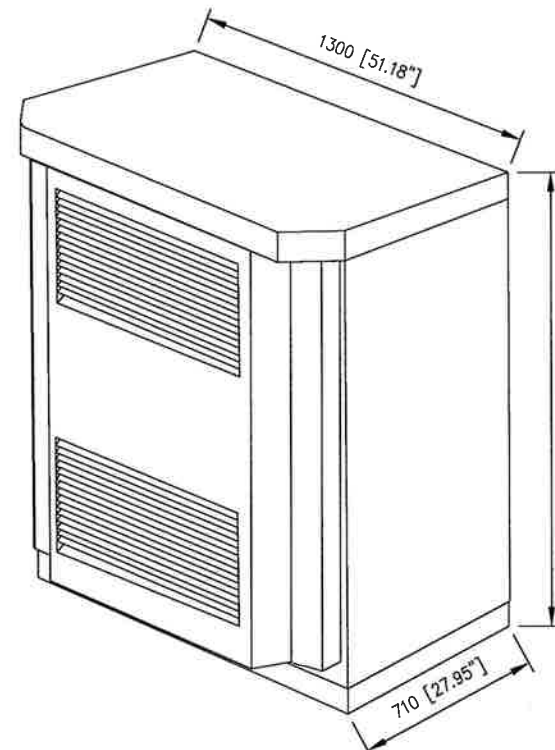
ERICSSON MODEL NO.: RRU11 B12
COLOR: GRAY
DIMENSIONS, HxWxD: 19.68"x16.97"x7.17" (500 x 431 x 182 mm)
WEIGHT: 50.71 LBS (23 kg)

3 RRU11 B12 DETAIL
NOT TO SCALE



4 MOUNTING DETAIL
NOT TO SCALE

ERICSSON - RBS 3106
CABINET COLOR: GRAY, RAL 7035
DIMENSIONS (HxWxD IN): 64.01x51.18x27.95 IN



5 ERICSSON RBS 3106
NOT TO SCALE

NOTES:
 1. VERIFY BOLT HOLE SPACING WITH EQUIPMENT CUT SHEETS.
 2. NEW EQUIPMENT CABINET TO BE MOUNTED TO EXISTING CONCRETE PAD WITH BOLT-DOWN SYSTEM PER MANUFACTURER'S SPECIFICATION. FIELD DRILL HOLES IN EXISTING CONCRETE AS REQUIRED.



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 18 JEREMY GARDEN LANE
 WOODBRIDGE, CT 06525

SHEET TITLE
EQUIPMENT SPECIFICATIONS

SHEET NUMBER
C-4
 SHEET 5 OF 8 SHEETS

SUBMITTALS

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RFE			
RF MAN.			
ZONING			
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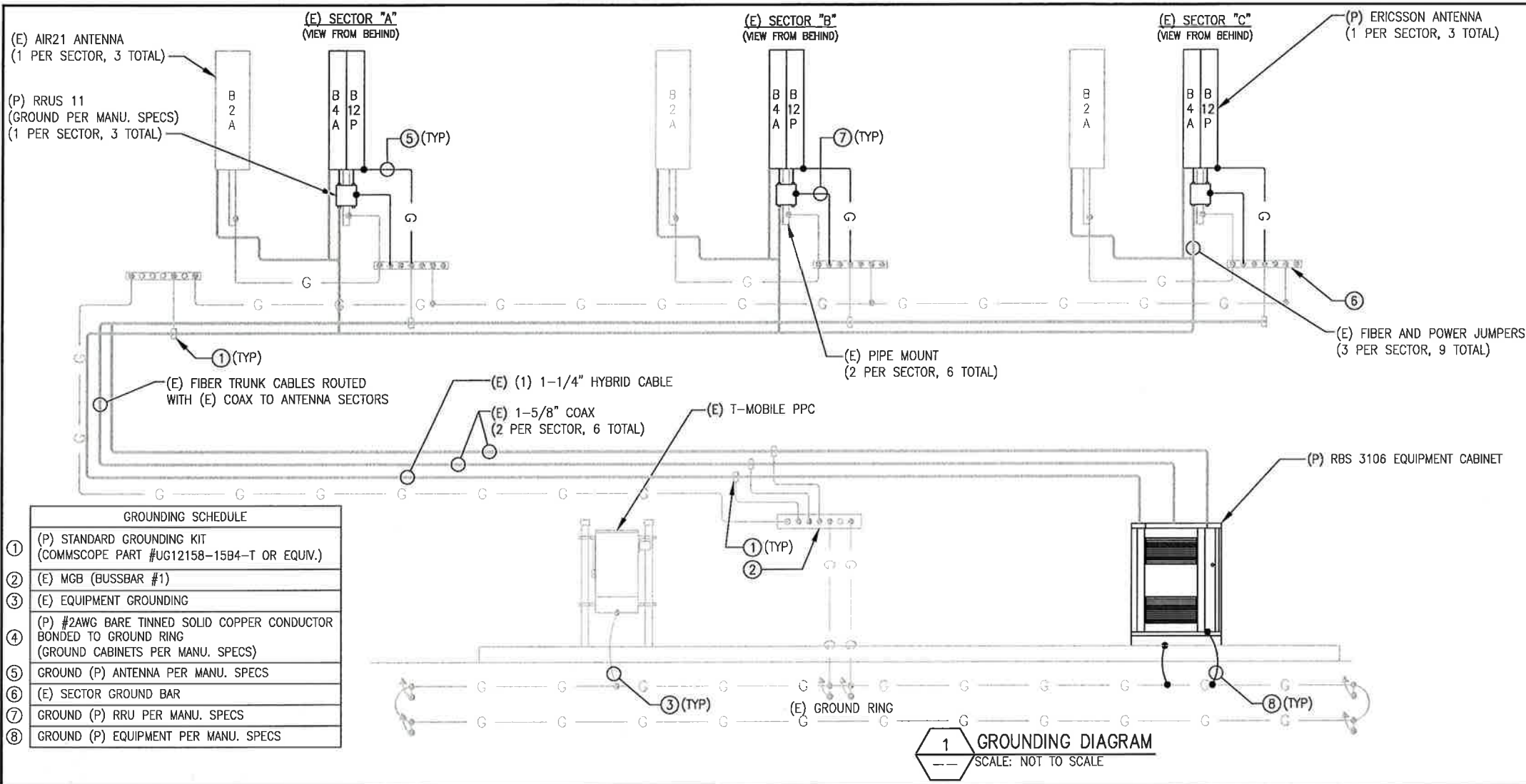
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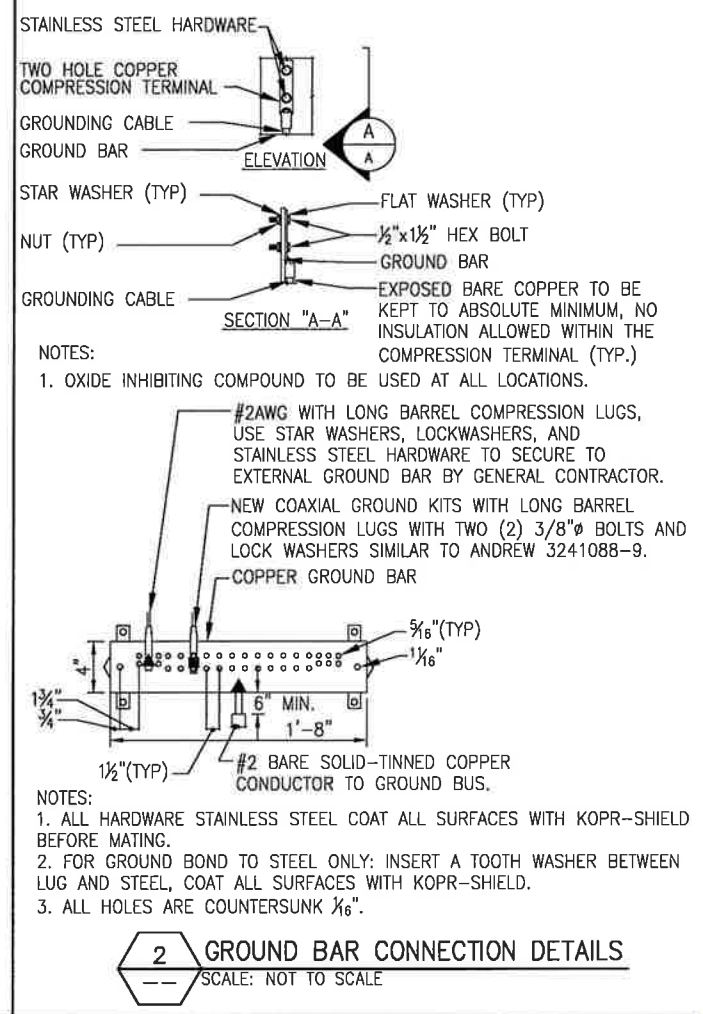
SHEET TITLE
GROUNDING & POWER DIAGRAMS

SHEET NUMBER
E-1
SHEET 6 OF 8 SHEETS



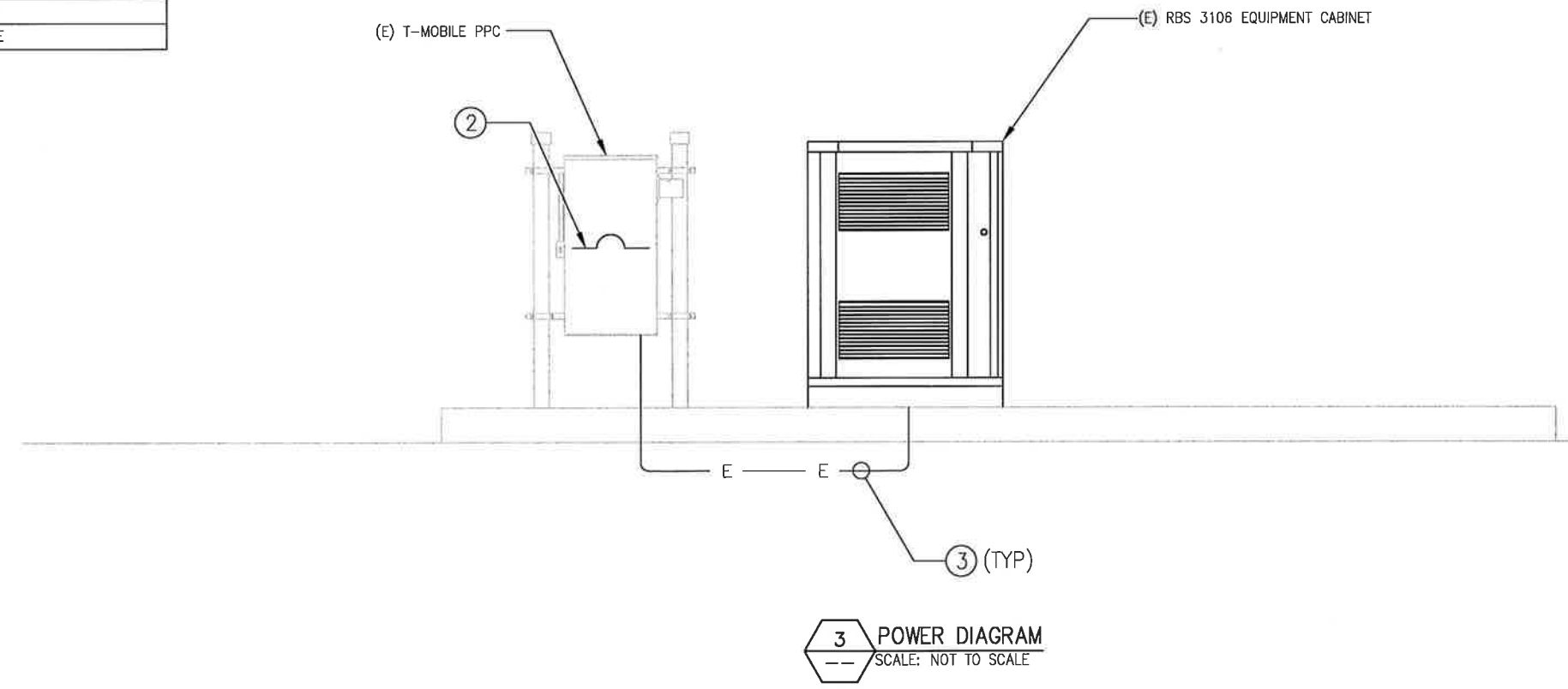
GROUNDING SCHEDULE

1	(P) STANDARD GROUNDING KIT (COMMSCOPE PART #UG12158-15B4-T OR EQUIV.)
2	(E) MCB (BUSSBAR #1)
3	(E) EQUIPMENT GROUNDING
4	(P) #2AWG BARE TINNED SOLID COPPER CONDUCTOR BONDED TO GROUND RING (GROUND CABINETS PER MANU. SPECS)
5	GROUND (P) ANTENNA PER MANU. SPECS
6	(E) SECTOR GROUND BAR
7	GROUND (P) RRU PER MANU. SPECS
8	GROUND (P) EQUIPMENT PER MANU. SPECS



CONDUIT SCHEDULE

1	(P) WIRE AND CONDUIT UPGRADE FOR POWER
2	(P) 100A BREAKER UPGRADE
3	(P) POWER CONDUIT UPGRADE



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

MetroPCS Existing Facility

Site ID: CTNH521A

ATC Woodbridge Monopole
77 Pease Road
Woodbridge, CT 06525

October 22, 2015

EBI Project Number: 6215005344

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	6.77 %

October 22, 2015

MetroPCS
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTNH521A – ATC Woodbridge Monopole**

EBI Consulting was directed to analyze the proposed MetroPCS facility located at **77 Pease Road, Woodbridge, CT**, for the purpose of determining whether the emissions from the Proposed MetroPCS 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 limit for the 700 MHz Band is $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) 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 MetroPCS Wireless antenna facility located at **77 Pease Road, Woodbridge, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since MetroPCS 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 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) 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.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Ericsson AIR21 B4A/B12P** for 2100 MHz (AWS) and 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe. The **Ericsson AIR21 B4A/B12P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz and has a maximum gain of **13.6 dBd** at its main lobe at 700 MHz. 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.
- 8) The antenna mounting height centerline of the proposed antennas is **130 feet** above ground level (AGL).
- 9) 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.

MetroPCS Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	130	Height (AGL):	130	Height (AGL):	130
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	# PCS Channels:	4
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	1.09	Antenna B1 MPE%	1.09	Antenna C1 MPE%	1.09
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P	Make / Model:	Ericsson AIR21 B4A/B12P
Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd	Gain:	15.9 / 13.6 dBd
Height (AGL):	130	Height (AGL):	130	Height (AGL):	130
Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz	Frequency Bands	2100 MHz (AWS) / 700 MHz
Channel Count	3	Channel Count	3	Channel Count	3
Total TX Power:	150	Total TX Power:	150	Total TX Power:	150
ERP (W):	5,355.80	ERP (W):	5,355.80	ERP (W):	5,355.80
Antenna A2 MPE%	1.44	Antenna B2 MPE%	1.44	Antenna C2 MPE%	1.44

Site Composite MPE%	
Carrier	MPE%
MetroPCS	2.53
AT&T	1.90 %
Verizon Wireless	2.34 %
Site Total MPE %:	6.77 %

MetroPCS Sector 1 Total:	2.53 %
MetroPCS Sector 2 Total:	2.53 %
MetroPCS Sector 3 Total:	2.53 %
Site Total:	6.77 %

MetroPCS _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
MetroPCS 2100 MHz (AWS) LTE	2	2334.27	130	10.92	2100	1000	1.09 %
MetroPCS 700 MHz LTE	1	687.26	130	1.61	700	467	0.34 %
MetroPCS 1900 MHz (PCS) UMTS/GSM	2	1167.14	130	5.46	1900	1000	0.55 %
MetroPCS 2100 MHz (AWS) UMTS	2	1167.14	130	5.46	2100	1000	0.55 %
						Total:	2.53%

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 MetroPCS 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:

MetroPCS Sector	Power Density Value (%)
Sector 1:	2.53 %
Sector 2:	2.53 %
Sector 3 :	2.53 %
MetroPCS Total:	2.53 %
Site Total:	6.77 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.77%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Woodbridge CT 1, CT
ATC Site Number : 302480
Engineering Number : 64005621
Proposed Carrier : Metro PCS
Carrier Site Name : N/A
Carrier Site Number : CTNH521A
Site Location : 18A Jeremy Garden Lane
Woodbridge, CT 06525-2044
41.341444,-72.993600
County : New Haven
Date : October 14, 2015
Max Usage : 98%
Result : Pass

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Zachary A. Medoff



Oct 19 2015 4:21 PM

COA: PEC.0001553



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Introduction

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

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0016, dated May 15, 2001 AT&T SPEC #AT-8935, dated April 13, 1984
Foundation Drawing	Mapping By ATC, PIT ID#302480, dated April 1, 2009
Geotechnical Report	Johnson Soil Job#15220, dated May 20, 2002
Modifications	Spectrasite Drawing #CT-0016-E1, dated September 19, 2002 ATC Project #40430532, dated May 29, 2007 ATC Project #42299235, dated November 18, 2008 ATC Project #44303434, dated January 18, 2010 ATC Project #447950F2, dated April 2, 2010

Analysis

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

Basic Wind Speed:	105 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.19$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	153.0	6	Powerwave LGP13519	Platform w/ Handrails & Side Arms	(12) 1 5/8" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Cable (1) 0.39" Fiber Trunk	AT&T Mobility
		6	LGP TMA-DD1900			
		1	Raycap DC6-48-60-18-8F			
		6	Ericsson RRUS 11 (Band 12)			
		6	Powerwave 7770.00			
		3	KMW AM-X-CD-16-65-00T-RET			
	157.0	1	15' Omni		(4) 1 5/8" Coax	USA Mobility
	154.0	1	8' Dipole			
153.0	1	7' Omni				
128.0	130.0	3	Ericsson AIR 21, 1.3M, B2A B4P	Small T-Arms	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex	Metro PCS
119.0	119.0	6	RFS FD9R6004/1C-3L	T-Arms	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		6	Andrew PCS1900 DD TMA			
		3	Alcatel-Lucent RRH2x40-AWS			
		6	Antel LPA-185080/8CF			
		3	Antel BXA-80063/4CF			
		1	RFS DB-T1-6Z-8AB-0Z			
		2	Powerwave P65-16-XL-2			
		1	Andrew LNX-6514DS-T4M			
107.0	107.0	2	GPS	Flush	(2) 1/2" Coax	AT&T Mobility
39.0	39.0	1	GPS	Flush	(1) 1/2" Coax	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
128.0	130.0	3	Ericsson AIR 21, 1.3M, B4A B2P	-	-	Metro PCS

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
128.0	130.0	3	Ericsson RRUS 11 B12	Small T-Arms	-	Metro PCS
		3	Ericsson AIR B4A/B12P-B8P, 4FT			

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



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	70%	Pass
Shaft	98%	Pass
Base Plate	50%	Pass
Flanges	98%	Pass
Reinforcement	87%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2,611.6	87%
Axial (Kips)	53.1	39%

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) (°)
128.0	Ericsson RRUS 11 B12	Metro PCS	1.743	1.805
	Ericsson AIR B4A/B12P-B8P, 4FT			

*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:

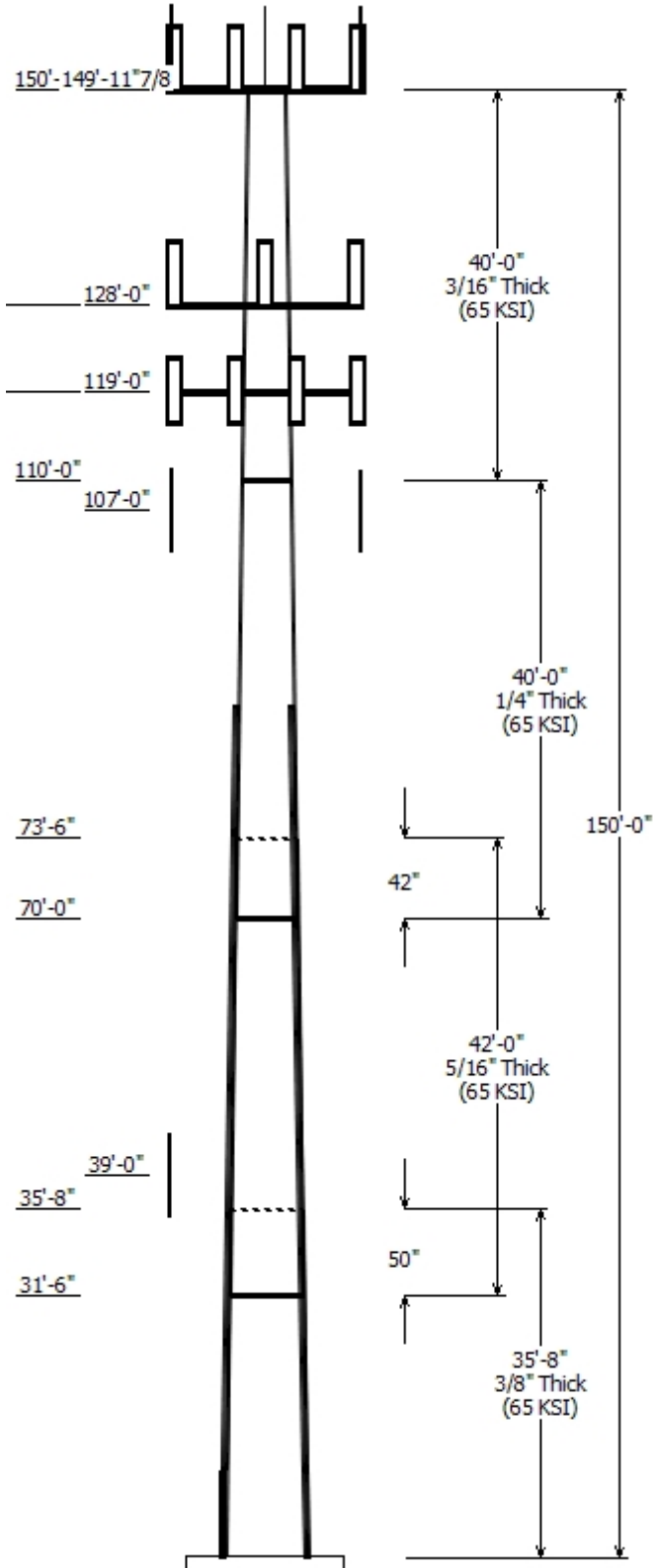
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements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

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Job Information	
Pole :	302480
Code :	ANSI/TIA-222-G
Description :	150 ft ITT Meyer Monopole
Client :	METRO PCS INC
Struct Class :	II
Location :	Woodbridge CT 1, CT
Shape :	12 Sides
Exposure :	B
Height :	150.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.15670(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap		Steel Grade (ksi)
		Top	Bottom			Length (in)	Taper (in/ft)	
1	35.667	31.79	37.38	0.375		0.000	0.156707	65
2	42.000	26.48	33.06	0.313	Slip Joint	50.000	0.156707	65
3	40.000	21.26	27.53	0.250	Slip Joint	42.000	0.156707	65
4	40.000	14.99	21.26	0.188	Butt Joint	0.000	0.156707	65

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
150.000	153.000	1	Platform w/ Handrails & Side A	
150.000	153.000	3	KMW AM-X-CD-16-65-00T-RET	
150.000	153.000	6	Powerwave 7770.00	
150.000	153.000	6	Ericsson RRUS 11 (Band 12)	
150.000	153.000	1	Raycap DC6-48-60-18-8F	
150.000	153.000	6	LGP Allgon TMA-DD1900	
150.000	153.000	6	Powerwave LGP13519	
149.990	157.000	1	15' Omni	
149.990	154.000	1	8' Dipole	
149.990	153.000	1	7' Omni	
128.000	130.000	3	Ericsson AIR B4A/B12P-B8P,	
128.000	130.000	3	Ericsson RRUS 11 B12	
128.000	130.000	3	Ericsson AIR 21, 1.3M, B2A B4P	
128.000	128.000	3	Small T-Arms	
119.000	119.000	1	Andrew LNX-6514DS-T4M	
119.000	119.000	2	Powerwave P65-16-XL-2	
119.000	119.000	6	Antel LPA-185080/8CF	
119.000	119.000	1	RFS DB-T1-6Z-8AB-0Z	
119.000	119.000	3	Alcatel-Lucent RRH2x40-AWS	
119.000	119.000	6	Andrew PCS1900 DD TMA	
119.000	119.000	6	RFS FD9R6004/1C-3L	
119.000	119.000	3	Round T-Arms	
119.000	119.000	3	Antel BXA-80063/4CF	
107.000	107.000	2	GPS	
39.000	39.000	1	GPS	

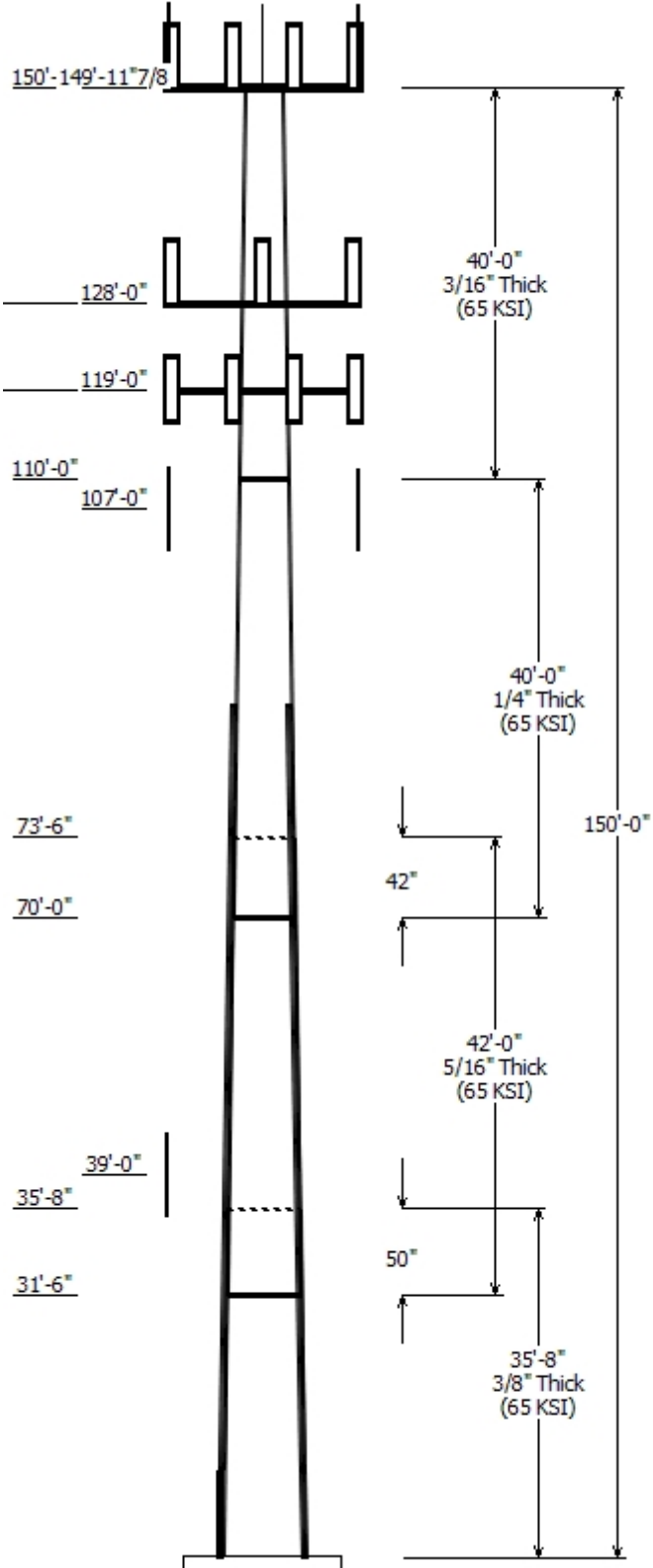
Linear Appurtenance			
Elev (ft)	Description		Exposed To Wind
From	To		
33.000	81.000	Plate	Yes
0.000	94.000	#20	Yes
0.000	107.0	1/2" Coax	No
0.000	119.0	1 5/8" Coax	No
0.000	119.0	1 5/8" Hybriflex	No
0.000	128.0	1 5/8" Coax	No
0.000	128.0	1 5/8" Hybriflex	Yes
0.000	149.9	1 5/8" Coax	No
0.000	150.0	0.39" Cable	No
0.000	150.0	0.39" Fiber Trunk	No
0.000	150.0	0.78" 8 AWG 6	No

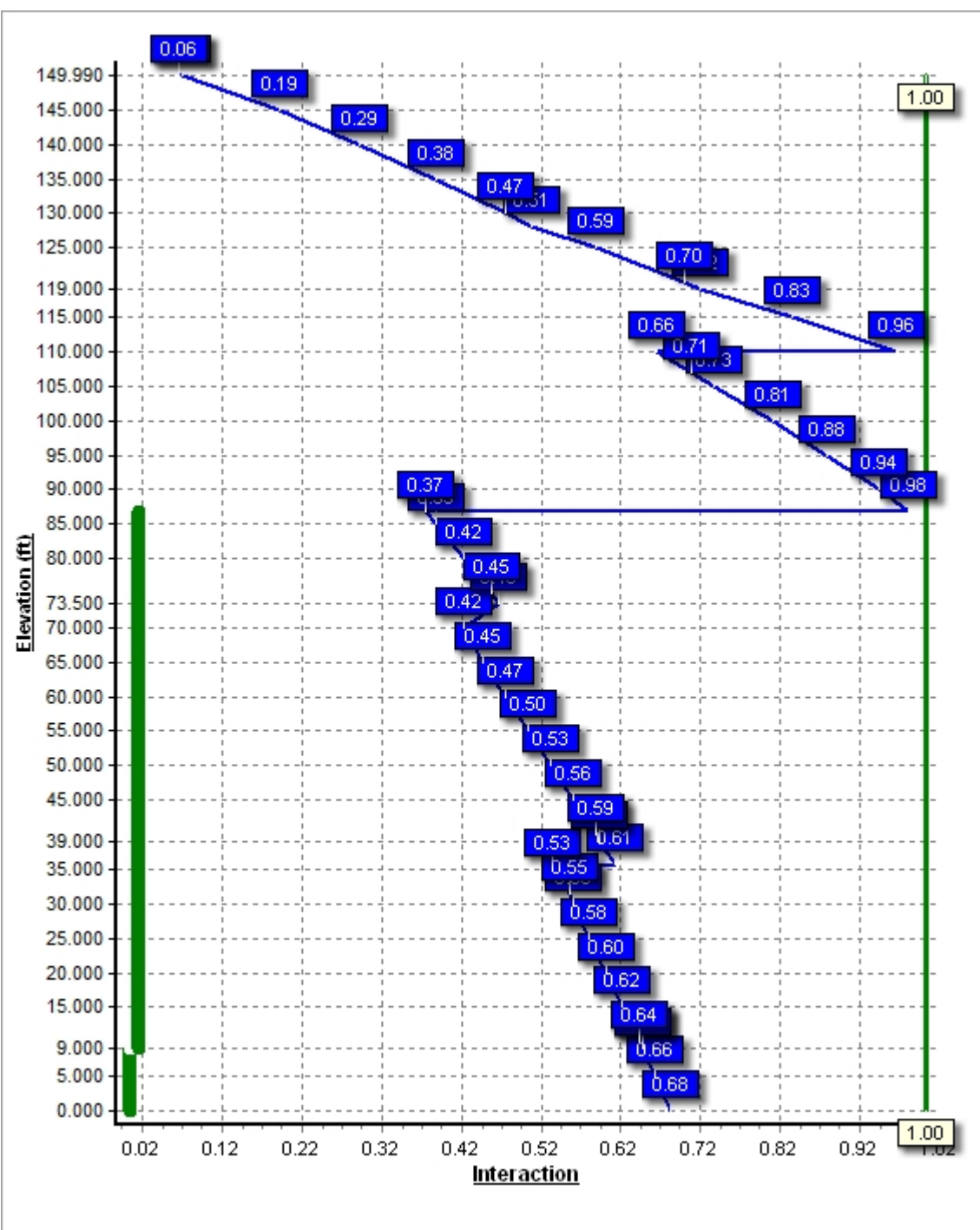
0.000	150.0	1 5/8" Coax	No
0.000	39.000	1/2" Coax	No

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

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2611.56	27.47	35.02
0.9D + 1.6W	2575.78	27.44	26.25
1.2D + 1.0Di + 1.0Wi	571.88	5.59	53.14
(1.2 + 0.2Sds) * DL + E ELFM	142.78	1.14	34.73
(1.2 + 0.2Sds) * DL + E EMAM	232.02	1.96	34.73
1.0D + 1.0W	540.95	5.82	29.24

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000





Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

Analysis Parameters

Location:	New Haven County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	150
Shape:	12 Sides	Base Diameter (in):	37.38
Pole Type:	Taper	Top Diameter (in):	15.00
Pole Manufacturer:	ITT Meyer	Taper (in/ft) :	0.157

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	105 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:	0.50 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	2.63		
T _L (sec):	12	p:	1.3
S _s :	0.190	S ₁ :	0.063
F _a :	1.600	F _v :	2.400
S _{ds} :	0.203	S _{d1} :	0.101
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

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

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:18 PM

Customer: METRO PCS INC

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 ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.03	99.68	31.79	35.67	37.93	4778.8	20.04	84.78	0.156707
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.1	25.67	105.82	26.48	73.50	26.34	2303.2	20.03	84.76	0.156707
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.96	2087.3	26.83	110.14	21.26	110.00	16.92	953.9	20.11	85.07	0.156707
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.8	27.71	113.43	14.99	150.00	8.94	250.4	18.76	79.99	0.156707
Shaft Weight						13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
150.00	Ericsson RRUS 11 (Band 12)	6	55.00	2.520	0.50	135.41	3.165	0.50	0.000	3.000
150.00	KMW AM-X-CD-16-65-00T-	3	48.50	8.020	0.67	237.32	9.315	0.67	0.000	3.000
150.00	LGP Allgon TMA-DD1900	6	10.40	0.590	0.50	31.74	0.828	0.50	0.000	3.000
150.00	Platform w/ Handrails & Side	1	2350.00	40.700	1.00	3,875.66	77.352	1.00	0.000	3.000
150.00	Powerwave 7770.00	6	35.00	5.510	0.65	64.32	7.433	0.65	0.000	3.000
150.00	Powerwave LGP13519	6	5.30	0.340	0.50	20.35	0.561	0.50	0.000	3.000
150.00	Raycap DC6-48-60-18-8F	1	31.80	1.280	1.00	124.75	2.853	1.00	0.000	3.000
149.99	15' Omni	1	40.00	4.500	1.00	237.54	9.915	1.00	0.000	7.010
149.99	7' Omni	1	25.00	2.100	1.00	119.72	3.720	1.00	0.000	3.010
149.99	8' Dipole	1	25.00	3.010	1.00	114.40	7.671	1.00	0.000	4.010
128.00	Ericsson AIR 21, 1.3M, B2A	3	91.50	6.040	0.70	255.24	7.112	0.70	0.000	2.000
128.00	Ericsson AIR B4A/B12P-B8P,	3	113.00	7.420	0.70	315.78	8.575	0.70	0.000	2.000
128.00	Ericsson RRUS 11 B12	3	50.70	2.790	0.67	135.33	3.457	0.67	0.000	2.000
128.00	Small T-Arms	3	150.00	6.300	0.67	222.06	8.721	0.67	0.000	0.000
119.00	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.160	0.50	115.27	2.787	0.50	0.000	0.000
119.00	Andrew LNX-6514DS-T4M	1	38.40	8.170	0.69	235.86	9.441	0.69	0.000	0.000
119.00	Andrew PCS1900 DD TMA	6	20.00	0.910	0.50	50.25	1.344	0.50	0.000	0.000
119.00	Antel BXA-80063/4CF	3	9.90	4.710	0.65	122.56	5.642	0.65	0.000	0.000
119.00	Antel LPA-185080/8CF	6	7.00	2.790	0.72	84.81	3.613	0.72	0.000	0.000
119.00	Powerwave P65-16-XL-2	2	33.00	8.130	0.65	209.39	9.395	0.65	0.000	0.000
119.00	RFS DB-T1-6Z-8AB-OZ	1	44.00	4.800	0.50	183.59	5.651	0.50	0.000	0.000
119.00	RFS FD9R6004/1C-3L	6	3.10	0.370	0.50	15.75	0.574	0.50	0.000	0.000
119.00	Round T-Arms	3	250.00	9.700	0.67	454.29	17.758	0.67	0.000	0.000
107.00	GPS	2	10.00	1.000	1.00	46.75	0.924	1.00	0.000	0.000
39.00	GPS	1	10.00	1.000	1.00	42.01	0.880	1.00	0.000	0.000
Totals		78	5737.80			13,435.16			Number of Loadings : 25	

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
0.00	150.00	1	0.39" Cable	0.39	0.07	N	0.00	N	AT&T Mobility
0.00	150.00	1	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	150.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	149.99	4	1 5/8" Coax	1.98	0.82	N	0.00	N	USA Mobility
0.00	128.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Metro PCS
0.00	128.00	1	1 5/8" Hybriflex	1.98	1.30	N	1.98	Y	Metro PCS
0.00	119.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	119.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	107.00	2	1/2" Coax	0.63	0.15	N	0.00	N	Verizon

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

0.00	94.00	4	#20 Reinforcement	2.50	0.00	N	7.50	Y	--
33.00	81.00	4	Plate Reinforcement	1.00	0.00	N	2.00	Y	--
0.00	39.00	1	1/2" Coax	0.63	0.15	N	0.00	N	AT&T Mobility

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	9.00	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	39.0	0.00	5/8" A36 U-Bolt	No
9.00	86.94	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.03	99.68	78.5	403.6	0.0	0.0	19.64	4,958	0.0
5.00		0.3750	36.596	43.737	7,324.4	23.47	97.59	79.1	386.6	0.0	752.2	19.64	4,781	334.0
9.00	Reinf. Top Reinf	0.3750	35.970	42.981	6,950.7	23.02	95.92	79.6	373.3	0.0	590.2	19.64	4,642	267.2
10.00		0.3750	35.813	42.791	6,859.3	22.91	95.50	79.7	370.0	0.0	145.9	19.64	4,607	66.8
15.00		0.3750	35.029	41.845	6,414.3	22.35	93.41	80.3	353.7	0.0	720.0	19.64	4,436	334.0
20.00		0.3750	34.246	40.899	5,989.0	21.79	91.32	80.9	337.8	0.0	703.9	19.64	4,269	334.0
25.00		0.3750	33.462	39.953	5,582.9	21.23	89.23	81.6	322.3	0.0	687.8	19.64	4,105	334.0
30.00		0.3750	32.679	39.007	5,195.6	20.67	87.14	81.9	307.1	0.0	671.7	19.64	3,943	334.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.0	20.50	86.52	81.9	302.7	0.0	198.4	19.64	3,896	100.2
35.00		0.3750	31.895	38.061	4,826.6	20.11	85.05	81.9	292.3	0.0	846.5	19.64	3,911	233.8
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.5	25.12	103.73	77.3	253.3	0.0	159.6	19.64	3,890	44.5
39.00		0.3125	31.893	31.778	4,045.5	24.67	102.06	77.8	245.0	0.0	363.4	19.64	3,785	222.7
40.00		0.3125	31.737	31.621	3,985.5	24.53	101.56	78.0	242.6	0.0	107.9	19.64	3,754	66.8
45.00		0.3125	30.953	30.832	3,694.8	23.86	99.05	78.7	230.6	0.0	531.3	19.64	3,600	334.0
50.00		0.3125	30.170	30.044	3,418.5	23.19	96.54	79.4	218.9	0.0	517.9	19.64	3,449	334.0
55.00		0.3125	29.386	29.255	3,156.4	22.52	94.04	80.2	207.5	0.0	504.5	19.64	3,302	334.0
60.00		0.3125	28.603	28.467	2,908.0	21.85	91.53	80.9	196.4	0.0	491.0	19.64	3,157	334.0
65.00		0.3125	27.819	27.678	2,673.0	21.17	89.02	81.6	185.6	0.0	477.6	19.64	3,016	334.0
70.00	Bot - Section 3	0.3125	27.036	26.890	2,451.0	20.50	86.51	81.9	175.1	0.0	464.2	19.64	2,879	334.0
73.50	Top - Section 2	0.2500	26.987	21.523	1,963.9	26.25	107.95	76.1	140.6	0.0	575.9	19.64	2,870	233.8
75.00		0.2500	26.752	21.334	1,912.6	25.99	107.01	76.4	138.1	0.0	109.4	19.64	2,830	100.2
80.00		0.2500	25.968	20.703	1,747.9	25.15	103.87	77.3	130.0	0.0	357.6	19.64	2,696	334.0
85.00		0.2500	25.185	20.073	1,593.0	24.31	100.74	78.2	122.2	0.0	346.9	19.64	2,566	334.0
86.94	Reinf. Top	0.2500	24.881	19.828	1,535.4	23.99	99.52	78.6	119.2	0.0	131.7	19.64	2,516	129.6
90.00		0.2500	24.401	19.442	1,447.5	23.47	97.61	79.1	114.6	0.0	204.4			
95.00		0.2500	23.618	18.811	1,311.1	22.63	94.47	80.0	107.2	0.0	325.4			
100.0		0.2500	22.834	18.180	1,183.6	21.79	91.34	80.9	100.1	0.0	314.7			
105.0		0.2500	22.051	17.550	1,064.6	20.95	88.20	81.9	93.3	0.0	304.0			
107.0		0.2500	21.737	17.297	1,019.4	20.62	86.95	81.9	90.6	0.0	118.6			
110.0	Top - Section 3	0.2500	21.267	16.919	953.9	20.11	85.07	81.9	86.7	0.0	174.6			
110.0	Bot - Section 4	0.1875	21.267	12.727	721.8	27.71	113.43	74.5	65.6	0.0				
115.0		0.1875	20.484	12.254	644.3	26.59	109.25	75.7	60.8	0.0	212.5			
119.0		0.1875	19.857	11.875	586.4	25.70	105.90	76.7	57.1	0.0	164.2			
120.0		0.1875	19.700	11.781	572.5	25.47	105.07	76.9	56.1	0.0	40.2			
125.0		0.1875	18.917	11.308	506.3	24.35	100.89	78.2	51.7	0.0	196.4			
128.0		0.1875	18.447	11.024	469.1	23.68	98.38	78.9	49.1	0.0	114.0			
130.0		0.1875	18.133	10.835	445.4	23.23	96.71	79.4	47.4	0.0	74.4			
135.0		0.1875	17.350	10.362	389.5	22.11	92.53	80.6	43.4	0.0	180.3			
140.0		0.1875	16.566	9.889	338.6	20.99	88.35	81.8	39.5	0.0	172.3			
145.0		0.1875	15.783	9.416	292.3	19.87	84.17	81.9	35.8	0.0	164.2			
149.9		0.1875	15.001	8.943	250.5	18.76	80.00	81.9	32.3	0.0	155.9			
150.0		0.1875	14.999	8.942	250.4	18.76	79.99	81.9	32.3	0.0	0.3			
											13,371.9	5,807.6		

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

105 mph with No Ice

28 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		316.2	0.0					0.0	0.0	316.2	0.0	0.0	0.0
5.00		564.4	902.6					104.9	594.2	669.3	1,496.9	0.0	0.0
9.00	Reinf. Top Reinf	309.5	708.2					83.9	475.4	393.5	1,183.6	0.0	0.0
10.00		364.2	175.1					21.0	118.8	385.2	294.0	0.0	0.0
15.00		599.0	864.0					104.9	594.2	703.9	1,458.2	0.0	0.0
20.00		585.6	844.7					104.9	594.2	690.5	1,438.9	0.0	0.0
25.00		572.2	825.4					104.9	594.2	677.1	1,419.6	0.0	0.0
30.00		366.9	806.0					104.9	594.2	471.8	1,400.3	0.0	0.0
31.50	Bot - Section 2	286.5	238.0					31.6	178.3	318.1	416.3	0.0	0.0
35.00		241.1	1,015.8					97.6	416.0	338.7	1,431.8	0.0	0.0
35.67	Top - Section 1	234.1	191.5					22.1	79.2	256.2	270.8	0.0	0.0
39.00	Appertunance(s)	254.2	436.1	35.6	0.0	0.0	12.0	112.0	396.2	401.8	844.3	0.0	0.0
40.00		355.2	129.4					34.0	118.7	389.2	248.1	0.0	0.0
45.00		594.5	637.5					172.9	593.3	767.4	1,230.9	0.0	0.0
50.00		597.2	621.4					177.3	593.3	774.5	1,214.8	0.0	0.0
55.00		597.8	605.3					181.3	593.3	779.1	1,198.7	0.0	0.0
60.00		596.5	589.2					185.0	593.3	781.5	1,182.6	0.0	0.0
65.00		593.6	573.2					188.5	593.3	782.1	1,166.5	0.0	0.0
70.00	Bot - Section 3	505.4	557.1					191.8	593.3	697.2	1,150.4	0.0	0.0
73.50	Top - Section 2	298.8	691.1					136.1	415.3	435.0	1,106.5	0.0	0.0
75.00		385.2	131.3					58.8	178.0	444.0	309.3	0.0	0.0
80.00		588.0	429.1					197.9	593.3	785.9	1,022.5	0.0	0.0
85.00		404.5	416.3					141.9	593.3	546.4	1,009.6	0.0	0.0
86.94	Reinf. Top	288.0	158.0					49.7	230.2	337.8	388.3	0.0	0.0
90.00		459.2	245.3					79.0	117.8	538.1	363.2	0.0	0.0
95.00		515.3	390.5					113.6	192.5	628.9	583.0	0.0	0.0
100.00		459.3	377.6					0.0	192.5	459.3	570.2	0.0	0.0
105.00		316.9	364.7					0.0	192.5	316.9	557.3	0.0	0.0
107.00	Appertunance(s)	222.4	142.3	95.1	0.0	0.0	24.0	0.0	77.0	317.5	243.3	0.0	0.0
110.00	Top - Section 3	350.0	209.6					0.0	114.4	350.0	324.0	0.0	0.0
115.00		386.9	255.0					0.0	190.7	386.9	445.8	0.0	0.0
119.00	Appertunance(s)	211.6	197.1	2,556.5	0.0	0.0	1,488.8	0.0	152.6	2,768.1	1,838.5	0.0	0.0
120.00		247.7	48.3					0.0	24.8	247.7	73.1	0.0	0.0
125.00		327.2	235.7					0.0	123.9	327.2	359.6	0.0	0.0
128.00	Appertunance(s)	200.6	136.8	1,995.8	0.0	2,724.3	1,458.7	0.0	74.3	2,196.4	1,669.8	0.0	0.0
130.00		272.5	89.3					0.0	34.6	272.5	123.9	0.0	0.0
135.00		380.2	216.4					0.0	86.6	380.2	303.0	0.0	0.0
140.00		366.8	206.7					0.0	86.6	366.8	293.3	0.0	0.0
145.00		352.7	197.1					0.0	86.6	352.7	283.6	0.0	0.0
149.99		173.0	187.0					0.0	86.4	173.0	273.4	0.0	0.0
150.00	Appertunance(s)	0.3	0.4	4,088.0	0.0	12,263.9	3,793.8	0.0	0.1	4,088.3	3,794.3	0.0	0.0
Totals:										27,312.9	34,981.7	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

105 mph with No Ice

28 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	-35.02	-27.47	0.00	-2,611.56	0.00	2,611.56	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.680
5.00	-33.41	-26.94	0.00	-2,474.24	0.00	2,474.24	3,114.35	1,557.18	4,645.51	2,294.24	0.15	-0.28	0.660
9.00	-32.16	-26.62	0.00	-2,366.47	0.00	2,366.47	3,079.35	1,539.68	4,513.00	2,228.80	0.49	-0.51	0.644
9.00	-32.16	-26.62	0.00	-2,366.47	0.00	2,366.47	3,079.35	1,539.68	4,513.00	2,228.80	0.49	-0.51	0.644
10.00	-31.79	-26.33	0.00	-2,339.85	0.00	2,339.85	3,070.50	1,535.25	4,480.00	2,212.51	0.60	-0.57	0.640
15.00	-30.21	-25.75	0.00	-2,208.22	0.00	2,208.22	3,025.61	1,512.80	4,315.88	2,131.45	1.35	-0.85	0.619
20.00	-28.66	-25.18	0.00	-2,079.45	0.00	2,079.45	2,979.67	1,489.84	4,153.23	2,051.12	2.39	-1.13	0.599
25.00	-27.14	-24.60	0.00	-1,953.55	0.00	1,953.55	2,932.70	1,466.35	3,992.16	1,971.58	3.73	-1.41	0.577
30.00	-25.68	-24.17	0.00	-1,830.54	0.00	1,830.54	2,875.19	1,437.60	3,820.15	1,886.63	5.35	-1.69	0.558
31.50	-25.21	-23.91	0.00	-1,794.28	0.00	1,794.28	2,854.27	1,427.14	3,764.44	1,859.12	5.90	-1.77	0.552
35.00	-23.75	-23.57	0.00	-1,710.61	0.00	1,710.61	2,805.46	1,402.73	3,636.05	1,795.71	7.27	-1.97	0.532
35.67	-23.44	-23.35	0.00	-1,694.90	0.00	1,694.90	2,248.06	1,124.03	2,973.87	1,468.68	7.55	-2.01	0.609
39.00	-22.56	-22.96	0.00	-1,617.07	0.00	1,617.07	2,225.45	1,112.72	2,895.60	1,430.03	9.01	-2.19	0.591
40.00	-22.26	-22.63	0.00	-1,594.11	0.00	1,594.11	2,218.58	1,109.29	2,872.20	1,418.47	9.48	-2.24	0.585
45.00	-20.96	-21.92	0.00	-1,480.96	0.00	1,480.96	2,183.59	1,091.80	2,755.72	1,360.95	11.98	-2.53	0.557
50.00	-19.68	-21.18	0.00	-1,371.39	0.00	1,371.39	2,147.57	1,073.78	2,640.25	1,303.92	14.78	-2.81	0.529
55.00	-18.43	-20.43	0.00	-1,265.49	0.00	1,265.49	2,110.50	1,055.25	2,525.89	1,247.44	17.86	-3.08	0.501
60.00	-17.20	-19.66	0.00	-1,163.36	0.00	1,163.36	2,072.40	1,036.20	2,412.73	1,191.56	21.23	-3.35	0.473
65.00	-16.00	-18.88	0.00	-1,065.06	0.00	1,065.06	2,033.25	1,016.63	2,300.88	1,136.32	24.87	-3.61	0.445
70.00	-14.83	-18.17	0.00	-970.65	0.00	970.65	1,982.07	991.03	2,178.35	1,075.80	28.78	-3.86	0.420
73.50	-13.71	-17.69	0.00	-907.07	0.00	907.07	1,473.95	736.97	1,624.53	802.29	31.68	-4.04	0.465
75.00	-13.39	-17.26	0.00	-880.55	0.00	880.55	1,466.27	733.13	1,601.72	791.03	32.96	-4.11	0.454
80.00	-12.36	-16.45	0.00	-794.25	0.00	794.25	1,439.98	719.99	1,526.07	753.67	37.40	-4.36	0.419
85.00	-11.35	-15.86	0.00	-711.99	0.00	711.99	1,412.66	706.33	1,451.06	716.62	42.09	-4.60	0.385
86.94	-10.96	-15.52	0.00	-681.22	0.00	681.22	1,401.78	700.89	1,422.15	702.35	43.98	-4.70	0.372
86.94	-10.96	-15.52	0.00	-681.22	0.00	681.22	1,401.78	700.89	1,422.15	702.35	43.98	-4.70	0.978
90.00	-10.54	-15.02	0.00	-633.74	0.00	633.74	1,384.30	692.15	1,376.80	679.95	47.03	-4.84	0.940
95.00	-9.87	-14.44	0.00	-558.65	0.00	558.65	1,354.89	677.45	1,303.39	643.70	52.41	-5.42	0.876
100.00	-9.22	-14.02	0.00	-486.46	0.00	486.46	1,324.45	662.22	1,230.93	607.91	58.38	-5.99	0.808
105.00	-8.61	-13.70	0.00	-416.38	0.00	416.38	1,292.96	646.48	1,159.52	572.65	64.93	-6.53	0.734
107.00	-8.34	-13.39	0.00	-388.99	0.00	388.99	1,274.99	637.49	1,126.78	556.47	67.71	-6.75	0.706
110.00	-7.97	-13.06	0.00	-348.82	0.00	348.82	1,247.09	623.55	1,077.73	532.25	72.04	-7.06	0.662
110.00	-7.97	-13.06	0.00	-348.82	0.00	348.82	853.22	426.61	741.75	366.32	72.04	-7.06	0.963
115.00	-7.48	-12.68	0.00	-283.52	0.00	283.52	834.98	417.49	698.66	345.04	79.67	-7.53	0.832
119.00	-5.98	-9.72	0.00	-232.80	0.00	232.80	819.63	409.82	664.45	328.15	86.15	-7.98	0.717
120.00	-5.89	-9.49	0.00	-223.08	0.00	223.08	815.69	407.85	655.94	323.94	87.83	-8.09	0.696
125.00	-5.52	-9.16	0.00	-175.61	0.00	175.61	795.37	397.68	613.67	303.07	96.55	-8.59	0.587
128.00	-4.18	-6.75	0.00	-145.42	0.00	145.42	782.67	391.34	588.56	290.67	102.02	-8.86	0.506
130.00	-4.07	-6.48	0.00	-131.92	0.00	131.92	774.00	387.00	571.95	282.46	105.75	-9.03	0.473
135.00	-3.80	-6.08	0.00	-99.53	0.00	99.53	751.59	375.80	530.89	262.19	115.37	-9.40	0.385
140.00	-3.54	-5.68	0.00	-69.15	0.00	69.15	728.15	364.07	490.60	242.29	125.34	-9.71	0.290
145.00	-3.30	-5.30	0.00	-40.73	0.00	40.73	694.02	347.01	444.98	219.76	135.59	-9.94	0.190
149.99	-3.02	-4.69	0.00	-12.31	0.00	12.31	659.22	329.61	401.22	198.15	146.01	-10.07	0.067
150.00	0.00	-4.09	0.00	-12.26	0.00	12.26	659.15	329.57	401.14	198.11	146.03	-10.07	0.062

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:20 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W	105 mph with No Ice (Reduced DL)	27 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		316.2	0.0					0.0	0.0	316.2	0.0	0.0	0.0
5.00		564.4	677.0					104.9	445.7	669.3	1,122.7	0.0	0.0
9.00	Reinf. Top Reinf	309.5	531.1					83.9	356.5	393.5	887.7	0.0	0.0
10.00		364.2	131.3					21.0	89.1	385.2	220.5	0.0	0.0
15.00		599.0	648.0					104.9	445.7	703.9	1,093.7	0.0	0.0
20.00		585.6	633.5					104.9	445.7	690.5	1,079.2	0.0	0.0
25.00		572.2	619.0					104.9	445.7	677.1	1,064.7	0.0	0.0
30.00		366.9	604.5					104.9	445.7	471.8	1,050.2	0.0	0.0
31.50	Bot - Section 2	286.5	178.5					31.6	133.7	318.1	312.2	0.0	0.0
35.00		241.1	761.9					97.6	312.0	338.7	1,073.8	0.0	0.0
35.67	Top - Section 1	234.1	143.6					22.1	59.4	256.2	203.1	0.0	0.0
39.00	Appertunance(s)	254.2	327.1	35.6	0.0	0.0	9.0	112.0	297.1	401.8	633.2	0.0	0.0
40.00		355.2	97.1					34.0	89.0	389.2	186.1	0.0	0.0
45.00		594.5	478.2					172.9	445.0	767.4	923.2	0.0	0.0
50.00		597.2	466.1					177.3	445.0	774.5	911.1	0.0	0.0
55.00		597.8	454.0					181.3	445.0	779.1	899.0	0.0	0.0
60.00		596.5	441.9					185.0	445.0	781.5	886.9	0.0	0.0
65.00		593.6	429.9					188.5	445.0	782.1	874.9	0.0	0.0
70.00	Bot - Section 3	505.4	417.8					191.8	445.0	697.2	862.8	0.0	0.0
73.50	Top - Section 2	298.8	518.3					136.1	311.5	435.0	829.8	0.0	0.0
75.00		385.2	98.4					58.8	133.5	444.0	231.9	0.0	0.0
80.00		588.0	321.8					197.9	445.0	785.9	766.9	0.0	0.0
85.00		404.5	312.2					141.9	445.0	546.4	757.2	0.0	0.0
86.94	Reinf. Top	288.0	118.5					49.7	172.7	337.8	291.2	0.0	0.0
90.00		459.2	184.0					79.0	88.4	538.1	272.4	0.0	0.0
95.00		515.3	292.9					113.6	144.4	628.9	437.3	0.0	0.0
100.00		459.3	283.2					0.0	144.4	459.3	427.6	0.0	0.0
105.00		316.9	273.6					0.0	144.4	316.9	418.0	0.0	0.0
107.00	Appertunance(s)	222.4	106.7	95.1	0.0	0.0	18.0	0.0	57.8	317.5	182.5	0.0	0.0
110.00	Top - Section 3	350.0	157.2					0.0	85.8	350.0	243.0	0.0	0.0
115.00		386.9	191.3					0.0	143.1	386.9	334.3	0.0	0.0
119.00	Appertunance(s)	211.6	147.8	2,556.5	0.0	0.0	1,116.6	0.0	114.4	2,768.1	1,378.9	0.0	0.0
120.00		247.7	36.2					0.0	18.6	247.7	54.8	0.0	0.0
125.00		326.4	176.8					0.0	92.9	326.4	269.7	0.0	0.0
128.00	Appertunance(s)	199.7	102.6	1,995.8	0.0	2,724.3	1,094.0	0.0	55.8	2,195.6	1,252.4	0.0	0.0
130.00		272.5	66.9					0.0	26.0	272.5	92.9	0.0	0.0
135.00		380.2	162.3					0.0	64.9	380.2	227.2	0.0	0.0
140.00		366.8	155.0					0.0	64.9	366.8	220.0	0.0	0.0
145.00		352.7	147.8					0.0	64.9	352.7	212.7	0.0	0.0
149.99		173.0	140.3					0.0	64.8	173.0	205.1	0.0	0.0
150.00	Appertunance(s)	0.3	0.3	4,088.0	0.0	12,263.9	2,845.3	0.0	0.1	4,088.3	2,845.7	0.0	0.0
Totals:										27,311.2	26,236.3	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:23 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

105 mph with No Ice (Reduced DL)

27 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	-26.25	-27.44	0.00	-2,575.78	0.00	2,575.78	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.669
5.00	-25.01	-26.88	0.00	-2,438.58	0.00	2,438.58	3,114.35	1,557.18	4,645.51	2,294.24	0.15	-0.28	0.649
9.00	-24.06	-26.54	0.00	-2,331.07	0.00	2,331.07	3,079.35	1,539.68	4,513.00	2,228.80	0.48	-0.50	0.633
9.00	-24.06	-26.54	0.00	-2,331.07	0.00	2,331.07	3,079.35	1,539.68	4,513.00	2,228.80	0.48	-0.50	0.633
10.00	-23.77	-26.22	0.00	-2,304.53	0.00	2,304.53	3,070.50	1,535.25	4,480.00	2,212.51	0.59	-0.56	0.629
15.00	-22.56	-25.61	0.00	-2,173.43	0.00	2,173.43	3,025.61	1,512.80	4,315.88	2,131.45	1.33	-0.84	0.608
20.00	-21.37	-25.01	0.00	-2,045.37	0.00	2,045.37	2,979.67	1,489.84	4,153.23	2,051.12	2.36	-1.11	0.587
25.00	-20.20	-24.40	0.00	-1,920.33	0.00	1,920.33	2,932.70	1,466.35	3,992.16	1,971.58	3.67	-1.39	0.566
30.00	-19.09	-23.96	0.00	-1,798.31	0.00	1,798.31	2,875.19	1,437.60	3,820.15	1,886.63	5.27	-1.66	0.547
31.50	-18.73	-23.68	0.00	-1,762.37	0.00	1,762.37	2,854.27	1,427.14	3,764.44	1,859.12	5.81	-1.75	0.541
35.00	-17.63	-23.34	0.00	-1,679.49	0.00	1,679.49	2,805.46	1,402.73	3,636.05	1,795.71	7.16	-1.94	0.521
35.67	-17.39	-23.11	0.00	-1,663.93	0.00	1,663.93	2,248.06	1,124.03	2,973.87	1,468.68	7.43	-1.97	0.597
39.00	-16.72	-22.72	0.00	-1,586.89	0.00	1,586.89	2,225.45	1,112.72	2,895.60	1,430.03	8.87	-2.15	0.578
40.00	-16.49	-22.37	0.00	-1,564.16	0.00	1,564.16	2,218.58	1,109.29	2,872.20	1,418.47	9.33	-2.21	0.573
45.00	-15.49	-21.64	0.00	-1,452.29	0.00	1,452.29	2,183.59	1,091.80	2,755.72	1,360.95	11.79	-2.49	0.545
50.00	-14.52	-20.90	0.00	-1,344.07	0.00	1,344.07	2,147.57	1,073.78	2,640.25	1,303.92	14.54	-2.76	0.518
55.00	-13.57	-20.14	0.00	-1,239.58	0.00	1,239.58	2,110.50	1,055.25	2,525.89	1,247.44	17.57	-3.03	0.490
60.00	-12.64	-19.37	0.00	-1,138.89	0.00	1,138.89	2,072.40	1,036.20	2,412.73	1,191.56	20.88	-3.29	0.462
65.00	-11.73	-18.58	0.00	-1,042.06	0.00	1,042.06	2,033.25	1,016.63	2,300.88	1,136.32	24.46	-3.54	0.435
70.00	-10.85	-17.87	0.00	-949.14	0.00	949.14	1,982.07	991.03	2,178.35	1,075.80	28.30	-3.79	0.409
73.50	-10.01	-17.40	0.00	-886.59	0.00	886.59	1,473.95	736.97	1,624.53	802.29	31.15	-3.96	0.453
75.00	-9.76	-16.97	0.00	-860.48	0.00	860.48	1,466.27	733.13	1,601.72	791.03	32.40	-4.04	0.443
80.00	-8.99	-16.17	0.00	-775.62	0.00	775.62	1,439.98	719.99	1,526.07	753.67	36.76	-4.28	0.408
85.00	-8.23	-15.59	0.00	-694.76	0.00	694.76	1,412.66	706.33	1,451.06	716.62	41.37	-4.52	0.375
86.94	-7.94	-15.25	0.00	-664.52	0.00	664.52	1,401.78	700.89	1,422.15	702.35	43.22	-4.61	0.362
86.94	-7.94	-15.25	0.00	-664.52	0.00	664.52	1,401.78	700.89	1,422.15	702.35	43.22	-4.61	0.952
90.00	-7.62	-14.74	0.00	-617.86	0.00	617.86	1,384.30	692.15	1,376.80	679.95	46.21	-4.74	0.915
95.00	-7.10	-14.14	0.00	-544.17	0.00	544.17	1,354.89	677.45	1,303.39	643.70	51.48	-5.32	0.851
100.00	-6.59	-13.71	0.00	-473.46	0.00	473.46	1,324.45	662.22	1,230.93	607.91	57.34	-5.87	0.784
105.00	-6.12	-13.39	0.00	-404.93	0.00	404.93	1,292.96	646.48	1,159.52	572.65	63.76	-6.39	0.712
107.00	-5.92	-13.08	0.00	-378.16	0.00	378.16	1,274.99	637.49	1,126.78	556.47	66.48	-6.60	0.685
110.00	-5.63	-12.74	0.00	-338.93	0.00	338.93	1,247.09	623.55	1,077.73	532.25	70.71	-6.90	0.642
110.00	-5.63	-12.74	0.00	-338.93	0.00	338.93	853.22	426.61	741.75	366.32	70.71	-6.90	0.933
115.00	-5.25	-12.35	0.00	-275.24	0.00	275.24	834.98	417.49	698.66	345.04	78.17	-7.36	0.805
119.00	-4.21	-9.45	0.00	-225.83	0.00	225.83	819.63	409.82	664.45	328.15	84.52	-7.80	0.694
120.00	-4.14	-9.22	0.00	-216.38	0.00	216.38	815.69	407.85	655.94	323.94	86.16	-7.91	0.674
125.00	-3.86	-8.88	0.00	-170.29	0.00	170.29	795.37	397.68	613.67	303.07	94.68	-8.39	0.567
128.00	-2.93	-6.53	0.00	-140.92	0.00	140.92	782.67	391.34	588.56	290.67	100.02	-8.66	0.489
130.00	-2.85	-6.26	0.00	-127.85	0.00	127.85	774.00	387.00	571.95	282.46	103.67	-8.82	0.457
135.00	-2.65	-5.87	0.00	-96.53	0.00	96.53	751.59	375.80	530.89	262.19	113.07	-9.18	0.372
140.00	-2.46	-5.48	0.00	-67.19	0.00	67.19	728.15	364.07	490.60	242.29	122.80	-9.48	0.281
145.00	-2.30	-5.11	0.00	-39.77	0.00	39.77	694.02	347.01	444.98	219.76	132.81	-9.70	0.185
149.99	-2.11	-4.51	0.00	-12.31	0.00	12.31	659.22	329.61	401.22	198.15	142.98	-9.83	0.066
150.00	0.00	-4.09	0.00	-12.26	0.00	12.26	659.15	329.57	401.14	198.11	143.00	-9.83	0.062

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:23 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	27 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		47.5	0.0					0.0	0.0	47.5	0.0	0.0	0.0
5.00		85.1	1,185.9					33.0	676.7	118.1	1,862.6	0.0	0.0
9.00	Reinf. Top Reinf	46.9	956.1					27.4	549.0	74.3	1,505.1	0.0	0.0
10.00		55.4	238.8					6.9	137.9	62.3	376.7	0.0	0.0
15.00		91.4	1,184.7					34.9	692.4	126.3	1,877.0	0.0	0.0
20.00		89.7	1,169.6					35.4	696.1	125.0	1,865.7	0.0	0.0
25.00		87.9	1,151.5					35.7	699.0	123.6	1,850.6	0.0	0.0
30.00		56.5	1,131.6					36.0	701.4	92.5	1,833.1	0.0	0.0
31.50	Bot - Section 2	44.2	336.2					10.9	210.8	55.1	547.0	0.0	0.0
35.00		37.2	1,247.2					34.2	508.2	71.4	1,755.3	0.0	0.0
35.67	Top - Section 1	36.2	235.7					7.8	99.2	44.0	334.9	0.0	0.0
39.00	Appertunance(s)	39.3	655.0	4.4	0.0	0.0	44.0	39.8	496.4	83.6	1,195.5	0.0	0.0
40.00		55.1	195.2					12.2	148.9	67.3	344.1	0.0	0.0
45.00		92.4	961.0					62.4	746.1	154.7	1,707.1	0.0	0.0
50.00		93.1	940.8					64.7	748.1	157.8	1,688.9	0.0	0.0
55.00		93.5	920.1					66.9	750.0	160.4	1,670.1	0.0	0.0
60.00		93.6	899.0					69.0	751.7	162.6	1,650.7	0.0	0.0
65.00		93.5	877.5					70.9	753.3	164.4	1,630.8	0.0	0.0
70.00	Bot - Section 3	79.8	855.7					72.7	754.8	152.5	1,610.5	0.0	0.0
73.50	Top - Section 2	47.2	901.1					52.0	529.2	99.2	1,430.3	0.0	0.0
75.00		61.1	220.8					22.5	227.0	83.6	447.8	0.0	0.0
80.00		93.5	720.8					76.2	757.5	169.7	1,478.3	0.0	0.0
85.00		64.5	701.5					55.7	723.8	120.2	1,425.3	0.0	0.0
86.94	Reinf. Top	46.1	268.0					19.7	277.7	65.8	545.6	0.0	0.0
90.00		73.7	416.1					31.4	192.9	105.1	609.0	0.0	0.0
95.00		90.5	662.4					45.1	297.5	135.6	959.8	0.0	0.0
100.00		89.2	642.5					0.0	224.1	89.2	866.7	0.0	0.0
105.00		61.8	622.5					0.0	224.4	61.8	846.9	0.0	0.0
107.00	Appertunance(s)	43.5	244.4	12.5	0.0	0.0	97.5	0.0	89.8	56.0	431.7	0.0	0.0
110.00	Top - Section 3	68.7	360.0					0.0	133.7	68.7	493.7	0.0	0.0
115.00		76.3	498.2					0.0	223.0	76.3	721.2	0.0	0.0
119.00	Appertunance(s)	41.9	386.9	508.8	0.0	0.0	3,875.6	0.0	178.6	550.7	4,441.0	0.0	0.0
120.00		49.3	95.5					0.0	31.3	49.3	126.8	0.0	0.0
125.00		65.1	463.7					0.0	156.6	65.1	620.3	0.0	0.0
128.00	Appertunance(s)	40.0	270.9	351.7	0.0	454.7	2,788.3	0.0	94.0	391.7	3,153.3	0.0	0.0
130.00		55.0	177.5					0.0	34.6	55.0	212.1	0.0	0.0
135.00		77.1	428.8					0.0	86.6	77.1	515.4	0.0	0.0
140.00		75.0	411.2					0.0	86.6	75.0	497.8	0.0	0.0
145.00		72.7	393.6					0.0	86.6	72.7	480.1	0.0	0.0
149.99		35.9	375.1					0.0	86.4	35.9	461.5	0.0	0.0
150.00	Appertunance(s)	0.1	0.7	936.8	0.0	2,810.4	6,607.6	0.0	0.1	936.9	6,608.5	0.0	0.0
Totals:										5,484.21	52,678.9	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:25 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

27 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	-53.14	-5.59	0.00	-571.88	0.00	571.88	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.159
5.00	-51.27	-5.52	0.00	-543.96	0.00	543.96	3,114.35	1,557.18	4,645.51	2,294.24	0.03	-0.06	0.155
9.00	-49.76	-5.47	0.00	-521.89	0.00	521.89	3,079.35	1,539.68	4,513.00	2,228.80	0.11	-0.11	0.151
9.00	-49.76	-5.47	0.00	-521.89	0.00	521.89	3,079.35	1,539.68	4,513.00	2,228.80	0.11	-0.11	0.151
10.00	-49.38	-5.44	0.00	-516.42	0.00	516.42	3,070.50	1,535.25	4,480.00	2,212.51	0.13	-0.12	0.151
15.00	-47.50	-5.36	0.00	-489.24	0.00	489.24	3,025.61	1,512.80	4,315.88	2,131.45	0.30	-0.19	0.146
20.00	-45.63	-5.27	0.00	-462.46	0.00	462.46	2,979.67	1,489.84	4,153.23	2,051.12	0.53	-0.25	0.142
25.00	-43.77	-5.19	0.00	-436.09	0.00	436.09	2,932.70	1,466.35	3,992.16	1,971.58	0.82	-0.31	0.137
30.00	-41.94	-5.12	0.00	-410.14	0.00	410.14	2,875.19	1,437.60	3,820.15	1,886.63	1.18	-0.37	0.133
31.50	-41.39	-5.08	0.00	-402.47	0.00	402.47	2,854.27	1,427.14	3,764.44	1,859.12	1.30	-0.39	0.132
35.00	-39.63	-5.01	0.00	-384.69	0.00	384.69	2,805.46	1,402.73	3,636.05	1,795.71	1.61	-0.44	0.128
35.67	-39.30	-4.98	0.00	-381.35	0.00	381.35	2,248.06	1,124.03	2,973.87	1,468.68	1.67	-0.45	0.146
39.00	-38.10	-4.91	0.00	-364.74	0.00	364.74	2,225.45	1,112.72	2,895.60	1,430.03	1.99	-0.49	0.142
40.00	-37.75	-4.86	0.00	-359.83	0.00	359.83	2,218.58	1,109.29	2,872.20	1,418.47	2.10	-0.50	0.141
45.00	-36.04	-4.73	0.00	-335.52	0.00	335.52	2,183.59	1,091.80	2,755.72	1,360.95	2.65	-0.56	0.135
50.00	-34.35	-4.59	0.00	-311.85	0.00	311.85	2,147.57	1,073.78	2,640.25	1,303.92	3.28	-0.63	0.129
55.00	-32.68	-4.45	0.00	-288.88	0.00	288.88	2,110.50	1,055.25	2,525.89	1,247.44	3.97	-0.69	0.122
60.00	-31.02	-4.30	0.00	-266.63	0.00	266.63	2,072.40	1,036.20	2,412.73	1,191.56	4.72	-0.75	0.116
65.00	-29.39	-4.14	0.00	-245.13	0.00	245.13	2,033.25	1,016.63	2,300.88	1,136.32	5.54	-0.81	0.110
70.00	-27.78	-3.99	0.00	-224.41	0.00	224.41	1,982.07	991.03	2,178.35	1,075.80	6.42	-0.87	0.104
73.50	-26.35	-3.88	0.00	-210.44	0.00	210.44	1,473.95	736.97	1,624.53	802.29	7.07	-0.91	0.116
75.00	-25.90	-3.81	0.00	-204.61	0.00	204.61	1,466.27	733.13	1,601.72	791.03	7.36	-0.93	0.114
80.00	-24.42	-3.64	0.00	-185.56	0.00	185.56	1,439.98	719.99	1,526.07	753.67	8.36	-0.98	0.106
85.00	-22.99	-3.51	0.00	-167.36	0.00	167.36	1,412.66	706.33	1,451.06	716.62	9.42	-1.04	0.098
86.94	-22.45	-3.45	0.00	-160.55	0.00	160.55	1,401.78	700.89	1,422.15	702.35	9.85	-1.06	0.095
86.94	-22.45	-3.45	0.00	-160.55	0.00	160.55	1,401.78	700.89	1,422.15	702.35	9.85	-1.06	0.245
90.00	-21.84	-3.36	0.00	-150.01	0.00	150.01	1,384.30	692.15	1,376.80	679.95	10.54	-1.10	0.236
95.00	-20.87	-3.26	0.00	-133.20	0.00	133.20	1,354.89	677.45	1,303.39	643.70	11.76	-1.24	0.222
100.00	-20.00	-3.19	0.00	-116.92	0.00	116.92	1,324.45	662.22	1,230.93	607.91	13.13	-1.37	0.207
105.00	-19.15	-3.14	0.00	-100.94	0.00	100.94	1,292.96	646.48	1,159.52	572.65	14.64	-1.50	0.191
107.00	-18.72	-3.10	0.00	-94.66	0.00	94.66	1,274.99	637.49	1,126.78	556.47	15.28	-1.55	0.185
110.00	-18.22	-3.04	0.00	-85.38	0.00	85.38	1,247.09	623.55	1,077.73	532.25	16.28	-1.63	0.175
110.00	-18.22	-3.04	0.00	-85.38	0.00	85.38	853.22	426.61	741.75	366.32	16.28	-1.63	0.254
115.00	-17.50	-2.98	0.00	-70.16	0.00	70.16	834.98	417.49	698.66	345.04	18.05	-1.75	0.224
119.00	-13.07	-2.31	0.00	-58.23	0.00	58.23	819.63	409.82	664.45	328.15	19.56	-1.86	0.193
120.00	-12.94	-2.27	0.00	-55.92	0.00	55.92	815.69	407.85	655.94	323.94	19.95	-1.89	0.189
125.00	-12.32	-2.21	0.00	-44.57	0.00	44.57	795.37	397.68	613.67	303.07	21.99	-2.01	0.163
128.00	-9.18	-1.71	0.00	-37.50	0.00	37.50	782.67	391.34	588.56	290.67	23.28	-2.08	0.141
130.00	-8.97	-1.66	0.00	-34.08	0.00	34.08	774.00	387.00	571.95	282.46	24.16	-2.12	0.132
135.00	-8.46	-1.58	0.00	-25.78	0.00	25.78	751.59	375.80	530.89	262.19	26.44	-2.22	0.110
140.00	-7.96	-1.49	0.00	-17.91	0.00	17.91	728.15	364.07	490.60	242.29	28.81	-2.30	0.085
145.00	-7.48	-1.40	0.00	-10.46	0.00	10.46	694.02	347.01	444.98	219.76	31.25	-2.36	0.058
149.99	-6.56	-1.21	0.00	-2.82	0.00	2.82	659.22	329.61	401.22	198.15	33.74	-2.39	0.024
150.00	0.00	-0.94	0.00	-2.81	0.00	2.81	659.15	329.57	401.14	198.11	33.74	-2.39	0.014

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:25 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 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		64.5	0.0					0.0	0.0	64.5	0.0	0.0	0.0
5.00		115.2	752.2					32.0	495.2	147.1	1,247.4	0.0	0.0
9.00	Reinf. Top Reinf	63.2	590.2					25.6	396.2	88.7	986.3	0.0	0.0
10.00		74.3	145.9					6.4	99.0	80.7	245.0	0.0	0.0
15.00		122.2	720.0					32.0	495.2	154.2	1,215.2	0.0	0.0
20.00		119.5	703.9					32.0	495.2	151.5	1,199.1	0.0	0.0
25.00		116.8	687.8					32.0	495.2	148.7	1,183.0	0.0	0.0
30.00		74.9	671.7					32.0	495.2	106.8	1,166.9	0.0	0.0
31.50	Bot - Section 2	58.5	198.4					9.7	148.6	68.1	346.9	0.0	0.0
35.00		49.2	846.5					27.7	346.6	76.9	1,193.1	0.0	0.0
35.67	Top - Section 1	47.8	159.6					6.0	66.0	53.8	225.6	0.0	0.0
39.00	Appertunance(s)	51.9	363.4	7.3	0.0	0.0	10.0	30.5	330.1	89.6	703.6	0.0	0.0
40.00		72.5	107.9					9.2	98.9	81.7	206.8	0.0	0.0
45.00		121.3	531.3					46.9	494.4	168.2	1,025.7	0.0	0.0
50.00		121.9	517.9					48.0	494.4	169.9	1,012.3	0.0	0.0
55.00		122.0	504.5					49.0	494.4	171.0	998.9	0.0	0.0
60.00		121.7	491.0					49.9	494.4	171.6	985.5	0.0	0.0
65.00		121.1	477.6					50.8	494.4	171.9	972.1	0.0	0.0
70.00	Bot - Section 3	103.1	464.2					51.6	494.4	154.7	958.7	0.0	0.0
73.50	Top - Section 2	61.0	575.9					36.5	346.1	97.5	922.0	0.0	0.0
75.00		78.6	109.4					15.8	148.3	94.4	257.7	0.0	0.0
80.00		120.0	357.6					53.0	494.4	173.1	852.1	0.0	0.0
85.00		82.5	346.9					41.7	494.4	124.3	841.3	0.0	0.0
86.94	Reinf. Top	58.8	131.7					15.1	191.8	73.9	323.5	0.0	0.0
90.00		93.7	204.4					24.0	98.2	117.7	302.6	0.0	0.0
95.00		105.2	325.4					33.5	160.5	138.6	485.9	0.0	0.0
100.00		93.7	314.7					0.0	160.5	93.7	475.1	0.0	0.0
105.00		64.7	304.0					0.0	160.5	64.7	464.4	0.0	0.0
107.00	Appertunance(s)	45.4	118.6	19.4	0.0	0.0	20.0	0.0	64.2	64.8	202.8	0.0	0.0
110.00	Top - Section 3	71.4	174.6					0.0	95.4	71.4	270.0	0.0	0.0
115.00		79.0	212.5					0.0	159.0	79.0	371.5	0.0	0.0
119.00	Appertunance(s)	43.2	164.2	521.7	0.0	0.0	1,240.7	0.0	127.2	564.9	1,532.1	0.0	0.0
120.00		50.5	40.2					0.0	20.7	50.5	60.9	0.0	0.0
125.00		66.6	196.4					0.0	103.3	66.6	299.7	0.0	0.0
128.00	Appertunance(s)	40.8	114.0	407.3	0.0	556.0	1,215.6	0.0	62.0	448.1	1,391.5	0.0	0.0
130.00		55.6	74.4					0.0	28.9	55.6	103.2	0.0	0.0
135.00		77.6	180.3					0.0	72.1	77.6	252.5	0.0	0.0
140.00		74.9	172.3					0.0	72.1	74.9	244.4	0.0	0.0
145.00		72.0	164.2					0.0	72.1	72.0	236.4	0.0	0.0
149.99		35.3	155.9					0.0	72.0	35.3	227.9	0.0	0.0
150.00	Appertunance(s)	0.1	0.3	834.3	0.0	2,502.8	3,161.5	0.0	0.1	834.4	3,161.9	0.0	0.0
Totals:										5,792.72	29,151.4	0.00	0.00

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:27 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 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	-29.24	-5.82	0.00	-540.95	0.00	540.95	3,157.17	1,578.58	4,812.28	2,376.61	0.00	0.00	0.146
5.00	-27.99	-5.70	0.00	-511.84	0.00	511.84	3,114.35	1,557.18	4,645.51	2,294.24	0.03	-0.06	0.141
9.00	-27.00	-5.62	0.00	-489.05	0.00	489.05	3,079.35	1,539.68	4,513.00	2,228.80	0.10	-0.11	0.138
9.00	-27.00	-5.62	0.00	-489.05	0.00	489.05	3,079.35	1,539.68	4,513.00	2,228.80	0.10	-0.11	0.138
10.00	-26.75	-5.56	0.00	-483.43	0.00	483.43	3,070.50	1,535.25	4,480.00	2,212.51	0.12	-0.12	0.137
15.00	-25.53	-5.43	0.00	-455.64	0.00	455.64	3,025.61	1,512.80	4,315.88	2,131.45	0.28	-0.18	0.132
20.00	-24.32	-5.29	0.00	-428.51	0.00	428.51	2,979.67	1,489.84	4,153.23	2,051.12	0.49	-0.23	0.127
25.00	-23.14	-5.16	0.00	-402.03	0.00	402.03	2,932.70	1,466.35	3,992.16	1,971.58	0.77	-0.29	0.123
30.00	-21.97	-5.06	0.00	-376.21	0.00	376.21	2,875.19	1,437.60	3,820.15	1,886.63	1.11	-0.35	0.118
31.50	-21.62	-5.01	0.00	-368.62	0.00	368.62	2,854.27	1,427.14	3,764.44	1,859.12	1.22	-0.37	0.117
35.00	-20.42	-4.93	0.00	-351.10	0.00	351.10	2,805.46	1,402.73	3,636.05	1,795.71	1.50	-0.41	0.113
35.67	-20.20	-4.88	0.00	-347.81	0.00	347.81	2,248.06	1,124.03	2,973.87	1,468.68	1.56	-0.41	0.129
39.00	-19.49	-4.79	0.00	-331.54	0.00	331.54	2,225.45	1,112.72	2,895.60	1,430.03	1.86	-0.45	0.125
40.00	-19.28	-4.72	0.00	-326.75	0.00	326.75	2,218.58	1,109.29	2,872.20	1,418.47	1.96	-0.46	0.124
45.00	-18.25	-4.56	0.00	-303.13	0.00	303.13	2,183.59	1,091.80	2,755.72	1,360.95	2.47	-0.52	0.118
50.00	-17.24	-4.40	0.00	-280.31	0.00	280.31	2,147.57	1,073.78	2,640.25	1,303.92	3.05	-0.58	0.112
55.00	-16.24	-4.24	0.00	-258.30	0.00	258.30	2,110.50	1,055.25	2,525.89	1,247.44	3.68	-0.63	0.106
60.00	-15.25	-4.07	0.00	-237.12	0.00	237.12	2,072.40	1,036.20	2,412.73	1,191.56	4.38	-0.69	0.100
65.00	-14.28	-3.90	0.00	-216.78	0.00	216.78	2,033.25	1,016.63	2,300.88	1,136.32	5.12	-0.74	0.094
70.00	-13.32	-3.74	0.00	-197.30	0.00	197.30	1,982.07	991.03	2,178.35	1,075.80	5.93	-0.79	0.088
73.50	-12.40	-3.63	0.00	-184.21	0.00	184.21	1,473.95	736.97	1,624.53	802.29	6.52	-0.83	0.098
75.00	-12.14	-3.54	0.00	-178.76	0.00	178.76	1,466.27	733.13	1,601.72	791.03	6.79	-0.84	0.095
80.00	-11.29	-3.37	0.00	-161.05	0.00	161.05	1,439.98	719.99	1,526.07	753.67	7.70	-0.89	0.088
85.00	-10.44	-3.24	0.00	-144.22	0.00	144.22	1,412.66	706.33	1,451.06	716.62	8.66	-0.94	0.081
86.94	-10.12	-3.16	0.00	-137.94	0.00	137.94	1,401.78	700.89	1,422.15	702.35	9.05	-0.96	0.078
86.94	-10.12	-3.16	0.00	-137.94	0.00	137.94	1,401.78	700.89	1,422.15	702.35	9.05	-0.96	0.204
90.00	-9.82	-3.05	0.00	-128.27	0.00	128.27	1,384.30	692.15	1,376.80	679.95	9.67	-0.99	0.196
95.00	-9.33	-2.92	0.00	-113.02	0.00	113.02	1,354.89	677.45	1,303.39	643.70	10.77	-1.11	0.182
100.00	-8.85	-2.84	0.00	-98.41	0.00	98.41	1,324.45	662.22	1,230.93	607.91	12.00	-1.22	0.169
105.00	-8.38	-2.77	0.00	-84.24	0.00	84.24	1,292.96	646.48	1,159.52	572.65	13.34	-1.33	0.154
107.00	-8.18	-2.71	0.00	-78.69	0.00	78.69	1,274.99	637.49	1,126.78	556.47	13.91	-1.38	0.148
110.00	-7.91	-2.64	0.00	-70.57	0.00	70.57	1,247.09	623.55	1,077.73	532.25	14.79	-1.44	0.139
110.00	-7.91	-2.64	0.00	-70.57	0.00	70.57	853.22	426.61	741.75	366.32	14.79	-1.44	0.202
115.00	-7.53	-2.57	0.00	-57.35	0.00	57.35	834.98	417.49	698.66	345.04	16.35	-1.53	0.175
119.00	-6.01	-1.97	0.00	-47.09	0.00	47.09	819.63	409.82	664.45	328.15	17.68	-1.63	0.151
120.00	-5.95	-1.92	0.00	-45.12	0.00	45.12	815.69	407.85	655.94	323.94	18.02	-1.65	0.147
125.00	-5.65	-1.85	0.00	-35.52	0.00	35.52	795.37	397.68	613.67	303.07	19.80	-1.75	0.124
128.00	-4.28	-1.36	0.00	-29.41	0.00	29.41	782.67	391.34	588.56	290.67	20.92	-1.80	0.107
130.00	-4.17	-1.31	0.00	-26.69	0.00	26.69	774.00	387.00	571.95	282.46	21.68	-1.84	0.100
135.00	-3.92	-1.23	0.00	-20.14	0.00	20.14	751.59	375.80	530.89	262.19	23.65	-1.91	0.082
140.00	-3.68	-1.15	0.00	-14.00	0.00	14.00	728.15	364.07	490.60	242.29	25.69	-1.98	0.063
145.00	-3.44	-1.07	0.00	-8.26	0.00	8.26	694.02	347.01	444.98	219.76	27.78	-2.02	0.043
149.99	-3.13	-0.95	0.00	-2.51	0.00	2.51	659.22	329.61	401.22	198.15	29.91	-2.05	0.017
150.00	0.00	-0.83	0.00	-2.50	0.00	2.50	659.15	329.57	401.14	198.11	29.92	-2.05	0.013

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

10/14/2015 4:24:28 PM

Customer: METRO PCS INC

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	12
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}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.63
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	29.24 k
Seismic Base Shear (E):	1.14 k

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

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):	0.19
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}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.63
Redundancy Factor (ρ):	1.30

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

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
40	149.99	0	1.890	1.979	1.140	0.383	0	1
39	147.49	228	1.827	1.666	1.025	0.341	67	283
38	142.50	236	1.706	1.144	0.823	0.263	54	293
37	137.50	244	1.588	0.742	0.654	0.195	41	303
36	132.50	252	1.475	0.441	0.513	0.135	30	313
35	129.00	103	1.398	0.280	0.430	0.098	9	128
34	126.50	176	1.344	0.186	0.377	0.074	11	218
33	122.50	300	1.261	0.069	0.302	0.040	10	372
32	119.50	61	1.200	0.004	0.254	0.018	1	76
31	117.00	291	1.150	-0.037	0.219	0.001	0	361
30	112.50	371	1.063	-0.088	0.165	-0.023	-7	461
29	108.50	270	0.989	-0.113	0.126	-0.039	-9	335
28	106.00	183	0.944	-0.120	0.105	-0.046	-7	227
27	102.50	464	0.883	-0.121	0.081	-0.053	-21	576
26	97.50	475	0.799	-0.112	0.053	-0.056	-23	589
25	92.50	486	0.719	-0.092	0.034	-0.051	-22	603
24	88.47	303	0.657	-0.073	0.022	-0.042	-11	375
23	85.97	324	0.621	-0.060	0.017	-0.034	-9	401
22	82.50	841	0.572	-0.043	0.012	-0.021	-15	1,044
21	77.50	852	0.505	-0.018	0.007	0.000	0	1,057
20	74.25	258	0.463	-0.003	0.006	0.014	3	320
19	71.75	922	0.432	0.008	0.006	0.023	18	1,144
18	67.50	959	0.383	0.023	0.007	0.036	30	1,189
17	62.50	972	0.328	0.039	0.010	0.048	40	1,206
16	57.50	985	0.278	0.050	0.014	0.054	46	1,223
15	52.50	999	0.232	0.058	0.019	0.058	50	1,239
14	47.50	1,012	0.190	0.064	0.025	0.058	51	1,256
13	42.50	1,026	0.152	0.068	0.030	0.058	51	1,272
12	39.50	207	0.131	0.069	0.033	0.057	10	256
11	37.33	694	0.117	0.070	0.035	0.057	34	860
10	35.33	226	0.105	0.071	0.037	0.056	11	280
9	33.25	1,193	0.093	0.071	0.038	0.056	57	1,480
8	30.75	347	0.079	0.072	0.040	0.055	17	430
7	27.50	1,167	0.064	0.072	0.041	0.054	55	1,448

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

6	22.50	1,183	0.043	0.070	0.042	0.052	54	1,468
5	17.50	1,199	0.026	0.067	0.040	0.050	52	1,488
4	12.50	1,215	0.013	0.059	0.034	0.045	48	1,507
3	9.50	245	0.008	0.051	0.029	0.041	9	304
2	7.00	986	0.004	0.042	0.023	0.035	30	1,224
1	2.50	1,247	0.001	0.018	0.010	0.017	19	1,547
Powerwave LGP13519	150.00	32	1.890	1.980	1.140	0.383	11	39
LGP Allgon TMA-DD190	150.00	62	1.890	1.980	1.140	0.383	21	77
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.383	11	39
Ericsson RRUS 11 (Ba	150.00	330	1.890	1.980	1.140	0.383	109	409
Powerwave 7770.00	150.00	210	1.890	1.980	1.140	0.383	70	261
KMW AM-X-CD-16-65-00	150.00	146	1.890	1.980	1.140	0.383	48	180
Platform w/ Handrail	150.00	2,350	1.890	1.980	1.140	0.383	779	2,915
7' Omni	149.99	25	1.890	1.979	1.140	0.383	8	31
8' Dipole	149.99	25	1.890	1.979	1.140	0.383	8	31
15' Omni	149.99	40	1.890	1.979	1.140	0.383	13	50
Ericsson RRUS 11 B12	128.00	152	1.376	0.240	0.408	0.088	12	189
Ericsson AIR 21, 1.3	128.00	275	1.376	0.240	0.408	0.088	21	341
Small T-Arms	128.00	450	1.376	0.240	0.408	0.088	34	558
Ericsson AIR B4A/B12	128.00	339	1.376	0.240	0.408	0.088	26	421
RFS FD9R6004/1C-3L	119.00	19	1.190	-0.005	0.247	0.014	0	23
Andrew PCS1900 DD	119.00	120	1.190	-0.005	0.247	0.014	1	149
Alcatel-Lucent RRH2x	119.00	132	1.190	-0.005	0.247	0.014	2	164
Antel LPA-185080/8CF	119.00	42	1.190	-0.005	0.247	0.014	1	52
Antel BXA-80063/4CF	119.00	30	1.190	-0.005	0.247	0.014	0	37
RFS DB-T1-6Z-8AB-0Z	119.00	44	1.190	-0.005	0.247	0.014	1	55
Powerwave P65-16-XL-	119.00	66	1.190	-0.005	0.247	0.014	1	82
Andrew LNX-6514DS-T4	119.00	38	1.190	-0.005	0.247	0.014	0	48
Round T-Arms	119.00	750	1.190	-0.005	0.247	0.014	9	930
GPS	107.00	20	0.962	-0.117	0.113	-0.044	-1	25
GPS	39.00	10	0.128	0.070	0.033	0.057	0	12
		29,241	61.927	27.339	22.277	6.429	1,970	36,275

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	149.99	0	1.890	1.979	1.140	0.383	0	1
39	147.49	228	1.827	1.666	1.025	0.341	67	283
38	142.50	236	1.706	1.144	0.823	0.263	54	293
37	137.50	244	1.588	0.742	0.654	0.195	41	303
36	132.50	252	1.475	0.441	0.513	0.135	30	313
35	129.00	103	1.398	0.280	0.430	0.098	9	128
34	126.50	176	1.344	0.186	0.377	0.074	11	218
33	122.50	300	1.261	0.069	0.302	0.040	10	372
32	119.50	61	1.200	0.004	0.254	0.018	1	76
31	117.00	291	1.150	-0.037	0.219	0.001	0	361
30	112.50	371	1.063	-0.088	0.165	-0.023	-7	461
29	108.50	270	0.989	-0.113	0.126	-0.039	-9	335
28	106.00	183	0.944	-0.120	0.105	-0.046	-7	227
27	102.50	464	0.883	-0.121	0.081	-0.053	-21	576
26	97.50	475	0.799	-0.112	0.053	-0.056	-23	589
25	92.50	486	0.719	-0.092	0.034	-0.051	-22	603
24	88.47	303	0.657	-0.073	0.022	-0.042	-11	375
23	85.97	324	0.621	-0.060	0.017	-0.034	-9	401
22	82.50	841	0.572	-0.043	0.012	-0.021	-15	1,044
21	77.50	852	0.505	-0.018	0.007	0.000	0	1,057
20	74.25	258	0.463	-0.003	0.006	0.014	3	320
19	71.75	922	0.432	0.008	0.006	0.023	18	1,144
18	67.50	959	0.383	0.023	0.007	0.036	30	1,189

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

17	62.50	972	0.328	0.039	0.010	0.048	40	1,206
16	57.50	985	0.278	0.050	0.014	0.054	46	1,223
15	52.50	999	0.232	0.058	0.019	0.058	50	1,239
14	47.50	1,012	0.190	0.064	0.025	0.058	51	1,256
13	42.50	1,026	0.152	0.068	0.030	0.058	51	1,272
12	39.50	207	0.131	0.069	0.033	0.057	10	256
11	37.33	694	0.117	0.070	0.035	0.057	34	860
10	35.33	226	0.105	0.071	0.037	0.056	11	280
9	33.25	1,193	0.093	0.071	0.038	0.056	57	1,480
8	30.75	347	0.079	0.072	0.040	0.055	17	430
7	27.50	1,167	0.064	0.072	0.041	0.054	55	1,448
6	22.50	1,183	0.043	0.070	0.042	0.052	54	1,468
5	17.50	1,199	0.026	0.067	0.040	0.050	52	1,488
4	12.50	1,215	0.013	0.059	0.034	0.045	48	1,507
3	9.50	245	0.008	0.051	0.029	0.041	9	304
2	7.00	986	0.004	0.042	0.023	0.035	30	1,224
1	2.50	1,247	0.001	0.018	0.010	0.017	19	1,547
Powerwave LGP13519	150.00	32	1.890	1.980	1.140	0.383	11	39
LGP Allgon TMA-DD190	150.00	62	1.890	1.980	1.140	0.383	21	77
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.383	11	39
Ericsson RRUS 11 (Ba	150.00	330	1.890	1.980	1.140	0.383	109	409
Powerwave 7770.00	150.00	210	1.890	1.980	1.140	0.383	70	261
KMW AM-X-CD-16-65-00	150.00	146	1.890	1.980	1.140	0.383	48	180
Platform w/ Handrail	150.00	2,350	1.890	1.980	1.140	0.383	779	2,915
7' Omni	149.99	25	1.890	1.979	1.140	0.383	8	31
8' Dipole	149.99	25	1.890	1.979	1.140	0.383	8	31
15' Omni	149.99	40	1.890	1.979	1.140	0.383	13	50
Ericsson RRUS 11 B12	128.00	152	1.376	0.240	0.408	0.088	12	189
Ericsson AIR 21, 1.3	128.00	275	1.376	0.240	0.408	0.088	21	341
Small T-Arms	128.00	450	1.376	0.240	0.408	0.088	34	558
Ericsson AIR B4A/B12	128.00	339	1.376	0.240	0.408	0.088	26	421
RFS FD9R6004/1C-3L	119.00	19	1.190	-0.005	0.247	0.014	0	23
Andrew PCS1900 DD	119.00	120	1.190	-0.005	0.247	0.014	1	149
Alcatel-Lucent RRH2x	119.00	132	1.190	-0.005	0.247	0.014	2	164
Antel LPA-185080/8CF	119.00	42	1.190	-0.005	0.247	0.014	1	52
Antel BXA-80063/4CF	119.00	30	1.190	-0.005	0.247	0.014	0	37
RFS DB-T1-6Z-8AB-OZ	119.00	44	1.190	-0.005	0.247	0.014	1	55
Powerwave P65-16-XL-	119.00	66	1.190	-0.005	0.247	0.014	1	82
Andrew LNX-6514DS-T4	119.00	38	1.190	-0.005	0.247	0.014	0	48
Round T-Arms	119.00	750	1.190	-0.005	0.247	0.014	9	930
GPS	107.00	20	0.962	-0.117	0.113	-0.044	-1	25
GPS	39.00	10	0.128	0.070	0.033	0.057	0	12
		29,241	61.927	27.339	22.277	6.429	1,970	36,275

Site Number: 302480

Code: ANSI/TIA-222-G

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Site Name: Woodbridge CT 1, CT

Engineering Number: 64005621

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Customer: METRO PCS INC

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	27.47	0.00	35.02	0.00	0.00	2611.56	86.94	0.98
0.9D + 1.6W	27.44	0.00	26.25	0.00	0.00	2575.78	86.94	0.95
1.2D + 1.0Di + 1.0Wi	5.59	0.00	53.14	0.00	0.00	571.88	110.00	0.25
(1.2 + 0.2Sds) * DL + E ELFM	1.14	0.00	34.73	0.00	0.00	142.78	110.00	0.08
(1.2 + 0.2Sds) * DL + E EMAM	1.96	0.00	34.73	0.00	0.00	232.02	110.00	0.16
1.0D + 1.0W	5.82	0.00	29.24	0.00	0.00	540.95	86.94	0.20

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Pu (kip)	phiPn (kip)	Ratio
0.00	9.00	(4) SOL-#20 All Thre	244.9	9.6	16.8	0.0	12.0	0	0	0.0	12.0	0	0	273.3	315.5	0.866
9.00	86.9	(4) SOL-#20 All Thre	302.9	9.1	16.8	158.3	12.0	14	14	0.0	12.0	0	0	263.8	330.5	0.798

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	37.38 in
	Pole Thickness	0.375 in
	Plate Length	44 in
	Plate Thickness	2.5 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	1228.77 k-in
	Applied	616.94 k-in
Stiffeners	#	0

Code Rev. **G** Date **10/14/2015**
 Engineer **ZAM**
 Site # **302480**
 Carrier **Metro PCS**

Moment **2611.6 k-ft**
 Axial **35.0 k**

Bolts	#	8
	Bolt Circle	44 in
	(R)adial / (S)quare	S
	Bolt Gap	6 in
	Diameter	2.25 in
	Hole Diameter	2.625 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
Applied	183.07 k	
Reinforcement	#	4
	DYW. Circle	44 in
	Offset Angle	0°
	Type	#20
	Diameter	2.5 in
Fu	100 ksi	
Extra Bolts O	#	4
	Bolt Circle	44 in
	(R)adial / (S)quare	R
	Offset Angle	20°
	Diameter	1.5 in
	Type	A354-BC
	Fy	109 ksi
Fu	125 ksi	
ϕ_s Resistance	140.53 k	
Applied	82.09 k	

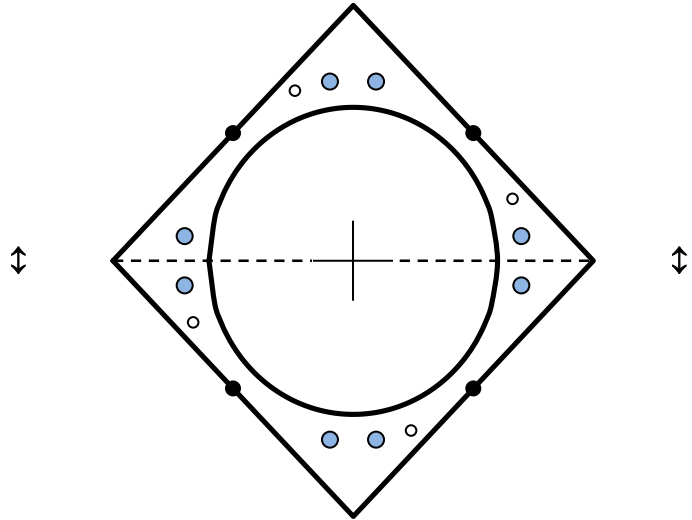


Plate Stress Ratio:
0.50 (Pass)

Bolt Stress Ratio:
0.70 (Pass)

Extra Bolt Stress Ratio:
0.58 (Pass)

Base/Flange Plate	Plate Type	Flange @ 110.0 ft
	Pole Diameter	21.268 in
	Pole Thickness	0.188 in
	Plate Diameter	28.5 in
	Plate Thickness	1 in
	Plate Fy	60 ksi
	Weld Length	0.1875 in
	ϕ_s Resistance	144.29 k-in
	Applied	79.75 k-in
	Stiffeners	#
	Thickness	0.5 in
	Length	3 in
	Height	4 in
	Chamfer	1 in
	Offset Angle	0°
	Fy	36 ksi

Code Rev. **G**

Date **8/28/2014**
 Engineer **TM**
 Site # **302480**
 Carrier **Metro PCS**

Moment **348.8 k-ft**
 Axial **8.0 k**

Bolts	#	12
	Bolt Circle	25.75 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
	Applied	53.48 k
Reinforcement	#	0
Extra Bolts	#	0

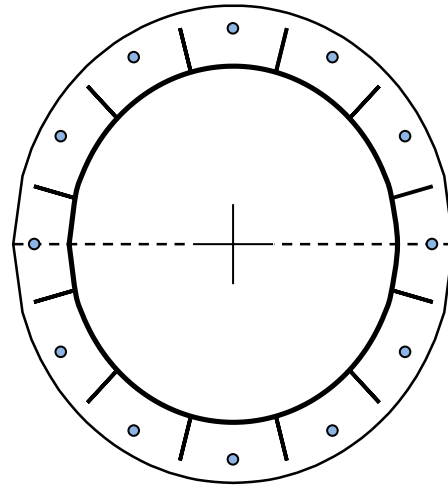


Plate Stress Ratio:
0.55 (Pass)

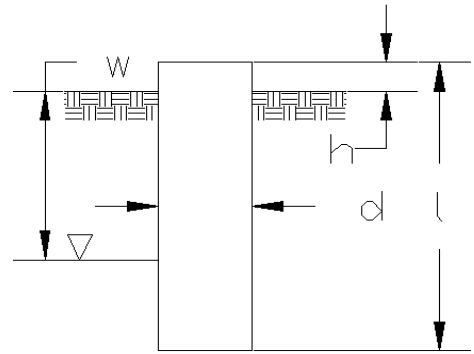
Bolt Stress Ratio:
0.98 (Pass)

Site Name: Woodbridge CT 1, CT
 Site Number: 302480
 Engineer: Z. Medoff
 Engineering Number: 64005621
 Date: 10/14/15

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: Y
 Moment (M): 2611.6 k-ft
 Shear/Leg (V): 27.5 k
 Axial Load (P): 35.0 k
 Uplift/Leg (U): k
 Tower Type (GT / SST / MP): MP
 Diameter of Caisson (d): 5.0 ft
 Caisson Embedment (L-h): 30.7 ft
 Caisson Height Above Ground (h): 0.3 ft
 Depth Below Ground Surface to Water Table (w): 2.0 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)		γ_{Soil}	Cohesion	ϕ	Ultimate Skin	Ultimate Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	2.0	100		0		
2.0	7.0	100		20		
7.0	20.0	100		20		
20.0	31.7	110		35		12000

Volume of Concrete: 608.7 ft³ = 22.5 yd³
 Weight of Concrete (Buoyancy Effect Considered): 56.1 k
 Average Soil Unit Weight: 45.2 pcf
 Skin Friction Resistance: 0.0 k
 Compressive Bearing Resistance: 235.6 k
 Pullout Weight (Minus Concrete Weight): 649.0 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 42.1 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 176.7 k
 P_u : 68.6 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.39 Result: OK
 Total Lateral Resistance: 849.2 k
 Inflection Point (Below Ground Surface): 23.8 ft
 Design Overturning Moment At Inflection Point (M_D): 3273.6 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 3784.2 k-ft
 $M_D / \phi_s M_n$: 0.87 Result: OK
 ϕ_s : 0.75

