

**T-Mobile Northeast, LLC NOTICE OF INTENT TO MODIFY
AN EXISTING TELECOMMUNICATIONS FACILITY AT
5 BARBARA RD (56 RUOPS RD) , TOLLAND, CONNECTICUT**

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. Seq. (“PUESA”), and Sections 16-50j-72(b) and 16-50j-73 of the Regulations of Connecticut State Agencies (“R.C.S.A”) adopted pursuant to the PUESA, by and through T-Mobile Northeast, LLC (“T-Mobile”) and as successor in interest to Omnipoint Communications, Inc., hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 5 Barbara Road (56 Ruops Road), Tolland, CT.

T-Mobile Northeast LLC’s Proposed Wireless Modifications

T-Mobile as successor in interest to Omnipoint Communications achieved an initial exempt modification approval from the Siting Council to install antennas and related ground equipment. The facility consists of a One-Hundred and sixty six (166’) foot high Monopole telecommunications tower (the “Tower”) within a fenced compound. T-Mobile now intends to modify the facility as shown on the enclosed plans prepared by Infinigy Engineering group and annexed hereto as Exhibit 1. The modifications will consist of adding three (3) new antennas with Bias-T’s at the existing AGL of 105’. A structural analysis has been completed for the site. Please see report attached in exhibit 3.

T-Mobile’s Proposed Wireless Modifications Constitutes An “Exempt Modification”

The proposed modification to the 405 Brushy Plain Road, Branford, CT Facility constitutes an exempt modification of an existing facility provided for in R.C.S.A Section 16-50j-72(b)(2) and Council regulations promulgated pursuant thereto.

- 1) The proposed modifications will be to add three (3) antennas at the same AGL of 105’ along with Bias-T’s
- 2) The proposed modifications will not require expansion of the site boundaries.
- 3) The proposed modifications will not increase noise levels at the facility by six decibels or more.
- 4) T-Mobile Northeast LLC’s proposed facility will not increase the cumulative radio frequency electromagnetic radiation power density at the Tower site’s boundary to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. A cumulative General Power Density table for T-Mobile’s proposed modified facility is included as Exhibit 2.

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

Respectfully submitted,

Amber Debole (781) 424-9253

On behalf of T-Mobile Northeast, LLC
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 420
Foxboro, MA 02035

cc: **Town of Tolland, CT**
Helen Ruops

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

T-Mobile Existing Facility

Site ID: CT11425A

**Spectrasite Tolland
5 Barbara Road (56 Ruops Road)
Tolland, CT 06084**

September 14, 2015

EBI Project Number: 6215004421

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	57.90 %

September 14, 2015

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CT11425A – Spectrasite Tolland**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **5 Barbara Road (56 Ruops Road), Tolland, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile 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 approximately $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band 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 T-Mobile Wireless antenna facility located at **5 Barbara Road (56 Ruops Road), Tolland, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile 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 (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 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 **RFS RR90_17_02DP** for 1900 MHz (PCS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS RR90_17_02DP** has a maximum gain of **14.4 dBd** at its main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. 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 centerlines of the proposed antennas are **105 & 155 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.



EBI Consulting

environmental | engineering | due diligence

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS RR90 17 02DP	Make / Model:	RFS RR90 17 02DP	Make / Model:	RFS RR90 17 02DP
Gain:	14.4 dBd	Gain:	14.4 dBd	Gain:	14.4 dBd
Height (AGL):	155	Height (AGL):	155	Height (AGL):	155
Frequency Bands:	1900 MHz(PCS)	Frequency Bands:	1900 MHz(PCS)	Frequency Bands:	1900 MHz(PCS)
Channel Count:	6	Channel Count:	6	# PCS Channels:	6
Total TX Power:	240	Total TX Power:	240	# AWS Channels:	240
ERP (W):	6,610.15	ERP (W):	6,610.15	ERP (W):	6,610.15
Antenna A1 MPE%:	1.07	Antenna B1 MPE%:	1.07	Antenna C1 MPE%:	1.07
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM	Make / Model:	Commscope LNX- 6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	105	Height (AGL):	105	Height (AGL):	105
Frequency Bands:	700 MHz	Frequency Bands:	700 MHz	Frequency Bands:	700 MHz
Channel Count:	1	Channel Count:	1	Channel Count:	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%:	0.68	Antenna B2 MPE%:	0.68	Antenna C2 MPE%:	0.68

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Maximum)	1.75 %
AT&T	16.92 %
MetroPCS	6.17 %
Verizon Wireless	25.94 %
Sprint	3.16 %
Nextel	3.96 %
Site Total MPE %:	57.90 %

T-Mobile Sector 1 Total:	1.75 %
T-Mobile Sector 2 Total:	1.75 %
T-Mobile Sector 3 Total:	1.75 %
Site Total:	57.90 %

T-Mobile 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
T-Mobile 1900 MHz (PCS) UMTS / GSM	4	826.27	155	5.35	1900	1000	0.54 %
T-Mobile 700 MHz LTE	1	865.21	105	2.68	700	467	0.68 %
T-Mobile 1900 MHz (PCS) LTE	2	1652.54	155	5.35	1900	1000	0.54 %
						Total:	1.75%

Summary

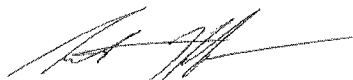
All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile 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:

T-Mobile Sector	Power Density Value (%)
Sector 1:	1.75 %
Sector 2:	1.75 %
Sector 3 :	1.75 %
T-Mobile Max (per sector):	1.75 %
Site Total:	57.90 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **57.90%** 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.



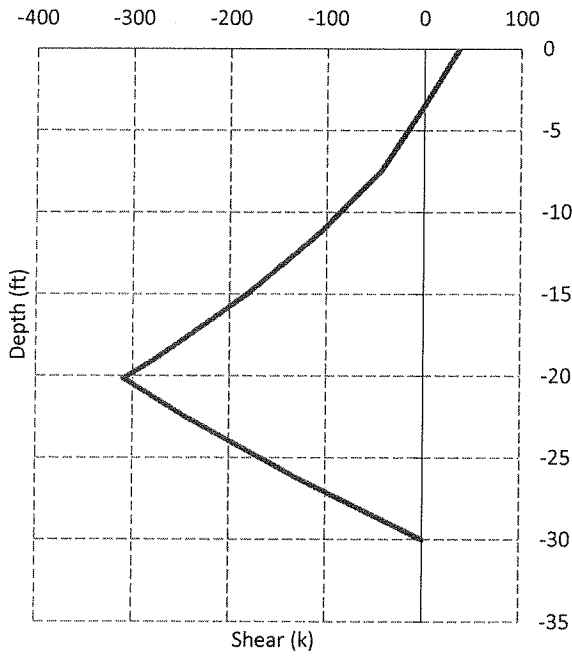
Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

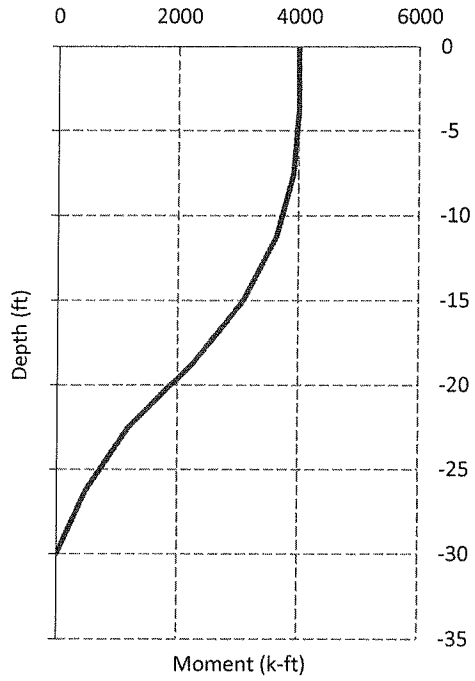
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	18
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	4005.5 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	4700.7 k-ft - ACI318-05 - 10.2
$M_u/\phi_B M_n$:	0.85 Result: OK
Design Shear (V_u):	309.4 k
Nominal Shear Capacity ($\phi_V V_n$):	528.2 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.59 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	1516.3 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	92.6 k
Nominal Compression Capacity ($\phi_P P_n$):	9748.2 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.01 Result: OK
Bending Reinforcement Ratio:	0.005 ACI318-05 - 10.8.4 & 10.9.1
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.85 Result: OK

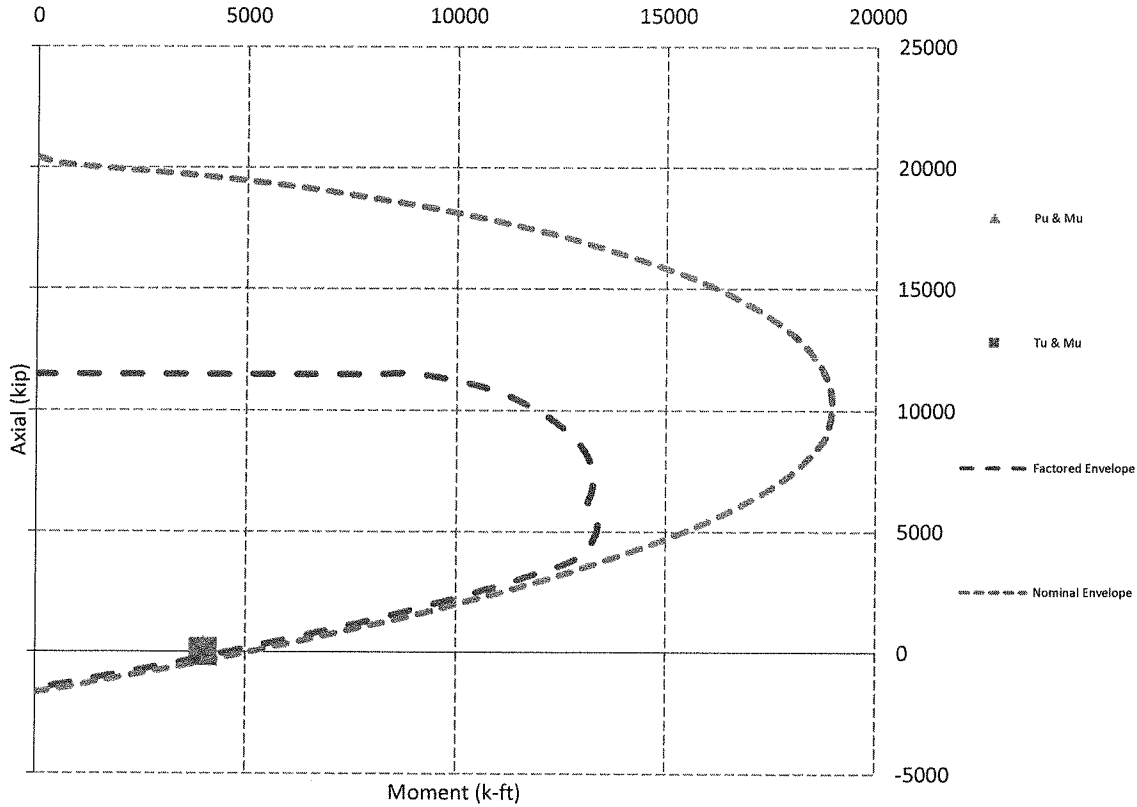
Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads





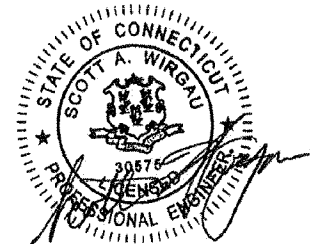
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 155 ft Monopole
ATC Site Name : Tolland CT, CT
ATC Site Number : 302495
Engineering Number : 63171722
Proposed Carrier : Metro PCS Inc
Carrier Site Name : NA
Carrier Site Number : CT11425A
Site Location : 5 Barbara Road *156 Ruops Rd*
Tolland, CT 06084-3116
41.873333,-72.338300
County : Tolland
Date : August 4, 2015
Max Usage : 88%
Result : Pass

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Joseph R. King, E.I.
Structural Engineer I



Aug 6 2015 4:56 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 155 ft monopole to reflect the change in loading by Metro PCS Inc.

Supporting Documents

Tower Drawings	EI Drawing #GS50842 Rev 1, dated June 24, 1998
Foundation Drawing	EI Drawing #F3503-150.N, dated March 2, 1998
Geotechnical Report	ASR Project #12-06074, dated December 1, 2006
Modifications	Spectrasite Drawing #M1, dated November 15, 2004

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:	100 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" 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:	$S_s = 0.175, S_1 = 0.063$
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					
155.0	155.0	6	Ericsson KRY 112 71/x	Canister	(6) 1 5/8" Coax	T-Mobile
		3	EMS RR90-17-02DP			
149.0	149.0	1	Andrew ABT-DMDF-ADBH	Platform w/ Handrails	(12) 1 1/4" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Cable (1) 3" Conduit	AT&T Mobility
		3	Powerwave 7020.00 Dual Band RET			
		6	Kathrein 782-10250			
		6	CCI DTMAP7819VG12A			
		6	Ericsson RRUS 11 (Band 12)			
		3	Powerwave 7770.00			
		6	KMW AM-X-CD-16-65-00T-RET			
	156.0	1	7' Omni		(1) 1 1/4" Coax	USA Mobility
142.0	142.0	3	Alcatel-Lucent RRH2X60-AWS	Platform w/ Handrails	(15) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		6	Swedcom ALP 9212-N			
		1	RFS DB-T1-6Z-8AB-0Z			
		6	Andrew HBXX-6516DS-A2M			
		3	Andrew LNX-6513DS-A1M			
130.0	133.0	5	Decibel 980H65T2E-M	Platform w/ Handrails	(9) 1 5/8" Coax	Sprint Nextel
		4	Decibel DB980H90A-KL			
120.0	125.0	9	48" x 12" Panel	Platform w/ Handrails	(12) 1 5/8" Coax	
		3	72" x 12" Panel			
81.0	81.0	1	GPS	Stand Off	(1) 1/2" Coax	T-Mobile
61.0	67.0	2	GPS	Stand Offs	(2) 1/2" Coax	Sprint Nextel
55.0	56.0	1	2" x 4" GPS	Stand Off	(1) 1/2" Coax	
17.0	17.0	1	4' Std. Dish	Flush	(1) 0.28" RG-6	USA Mobility

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
105.0	105.0	3	RFS APXV18-206517S-C	-	(6) 1 5/8" Coax	Metro PCS

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
105.0	105.0	3	Kathrein Smart Bias Tee	Flush	(6) 1 1/4" Coax	Metro PCS
		3	Commscope LNX-6515DS-VTM			

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).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	79%	Pass
Shaft	88%	Pass
Base Plate	59%	Pass
Flanges	45%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,963.0	84%
Axial (Kips)	92.1	25%
Shear (Kips)	36.2	85%

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.

The foundation and anchorages for this tower were analyzed with a factor of safety greater than or equal to 2 with respect to wind.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
105.0	Kathrein Smart Bias Tee	Metro PCS Inc	1.235	1.429
	Commscope LNX-6515DS-VTM			
17.0	4' Std. Dish	USA Mobility	0.029	0.196

*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.

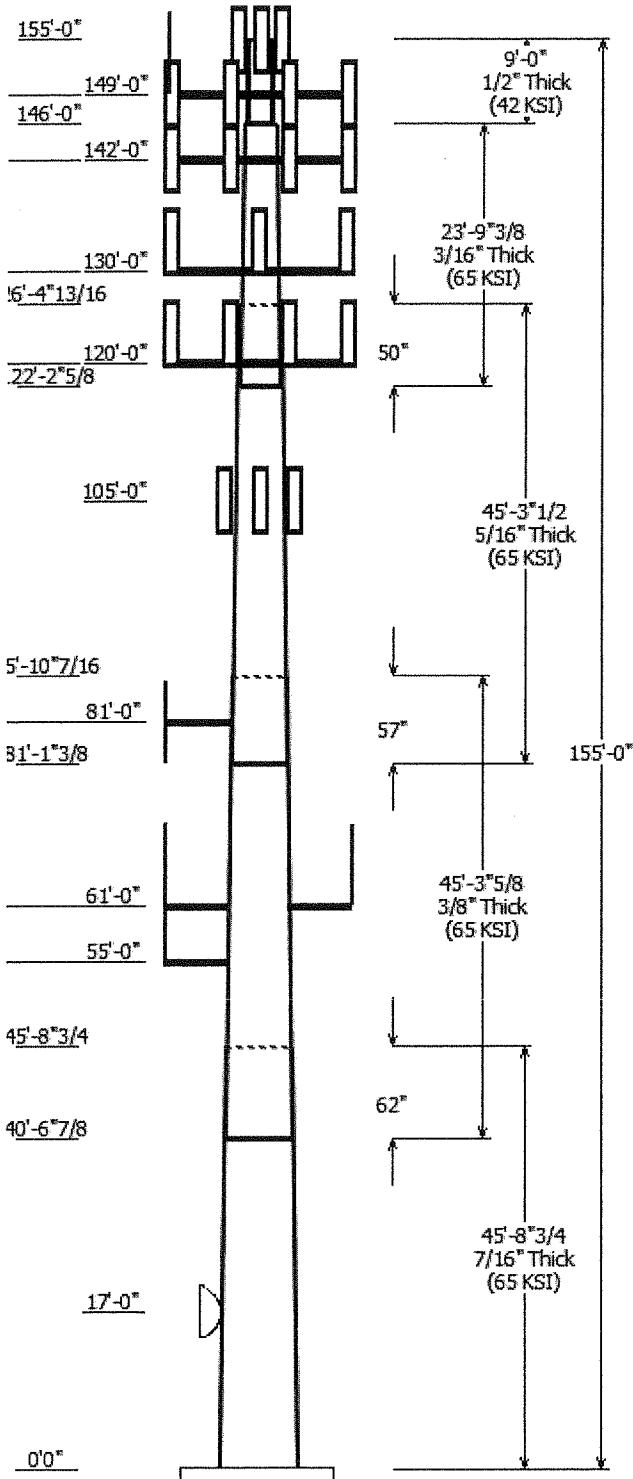
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance 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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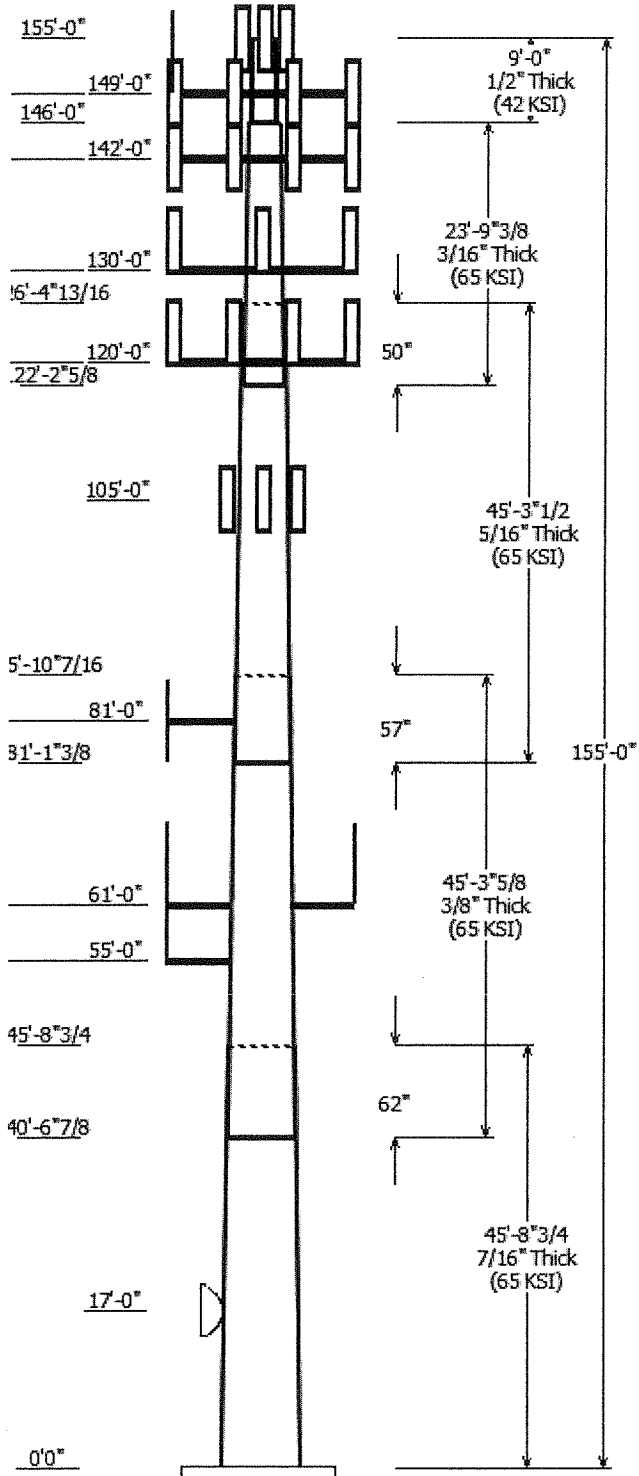
Job Information	
Pole : 302495	Code: ANSI/TIA-222-G
Description : EEI 155' Monopole - Model verified 4/25/12	
Client : Metro PCS	Struct Class : II
Location : Tolland CT, CT	
Shape : 12 Sides	Exposure : B
Height : 155.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.21061(in/ft)	



Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap		Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom			Length (in)	Taper (in/ft)	
1	45.730	40.36	50.00	0.438		0.000	0.210616	65
2	45.300	32.66	42.20	0.375	Slip Joint	61.910	0.210616	65
3	45.290	24.75	34.29	0.313	Slip Joint	57.090	0.210616	65
4	23.780	21.00	26.00	0.188	Slip Joint	50.196	0.210616	65
5	9.000	16.00	16.00	0.500	Butt Joint	0.000	0.000000	42

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
155.000	160.000	1	Canister
155.000	155.000	6	Ericsson KRY 112 71/x
155.000	155.000	3	EMS RR90-17-02DP
149.000	156.000	1	7' Omni
149.000	149.000	3	Powerwave 7770.00
149.000	149.000	1	Flat Platform w/ Handrails
149.000	149.000	3	Powerwave 7020.00 Dual Band
149.000	149.000	6	KMW AM-X-CD-16-65-00T-RET
149.000	149.000	6	Ericsson RRUS 11 (Band 12)
149.000	149.000	6	CCI DTMABP7819VG12A
149.000	149.000	6	Kathrein 782-10250
149.000	149.000	1	Andrew ABT-DMDF-ADBH
142.000	142.000	1	RFS DB-T1-6Z-8AB-0Z
142.000	142.000	6	Andrew HBXX-6516DS-A2M
142.000	142.000	3	Andrew LNX-6513DS-A1M
142.000	142.000	6	Swedcom ALP 9212-N
142.000	142.000	3	Alcatel-Lucent RRH2X60-AWS
142.000	142.000	1	Flat Platform w/ Handrails
130.000	130.000	1	Flat Platform w/ Handrails
130.000	133.000	4	Decibel DB980H90A-KL
130.000	133.000	5	Decibel 980H65T2E-M
120.000	125.000	3	72" x 12" Panel
120.000	125.000	9	48" x 12" Panel
120.000	120.000	1	Flat Platform w/ Handrails
105.000	105.000	3	Commscope LNX-6515DS-VTM
105.000	105.000	3	Kathrein Smart Bias Tee
81.000	81.000	1	GPS
81.000	81.000	1	Stand Off
61.000	67.000	2	GPS
61.000	61.000	2	Stand Off
55.000	56.000	1	2" x 4" GPS
55.000	55.000	1	Stand Off
17.000	17.000	1	4' Std. Dish

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
120.0	149.0	Climbing Ladder	Yes
0.000	155.0	1 5/8" Coax	No
0.000	17.000	0.28" RG-6	Yes



0.000	55.000	1/2" Coax	Yes
0.000	61.000	1/2" Coax	Yes
0.000	81.000	1/2" Coax	Yes
0.000	105.0	1 1/4" Coax	No
0.000	120.0	1 5/8" Coax	No
0.000	130.0	1 5/8" Coax	No
0.000	142.0	1 5/8" Coax	Yes
0.000	142.0	1 5/8" Coax	No
0.000	142.0	1 5/8" Hybriflex	Yes
0.000	149.0	0.39" Cable	No
0.000	149.0	0.78" 8 AWG 6	No
0.000	149.0	1 1/4" Coax	Yes
0.000	149.0	1 1/4" Coax	No
0.000	149.0	1 1/4" Coax	No
0.000	149.0	3" Conduit	No

Load Cases

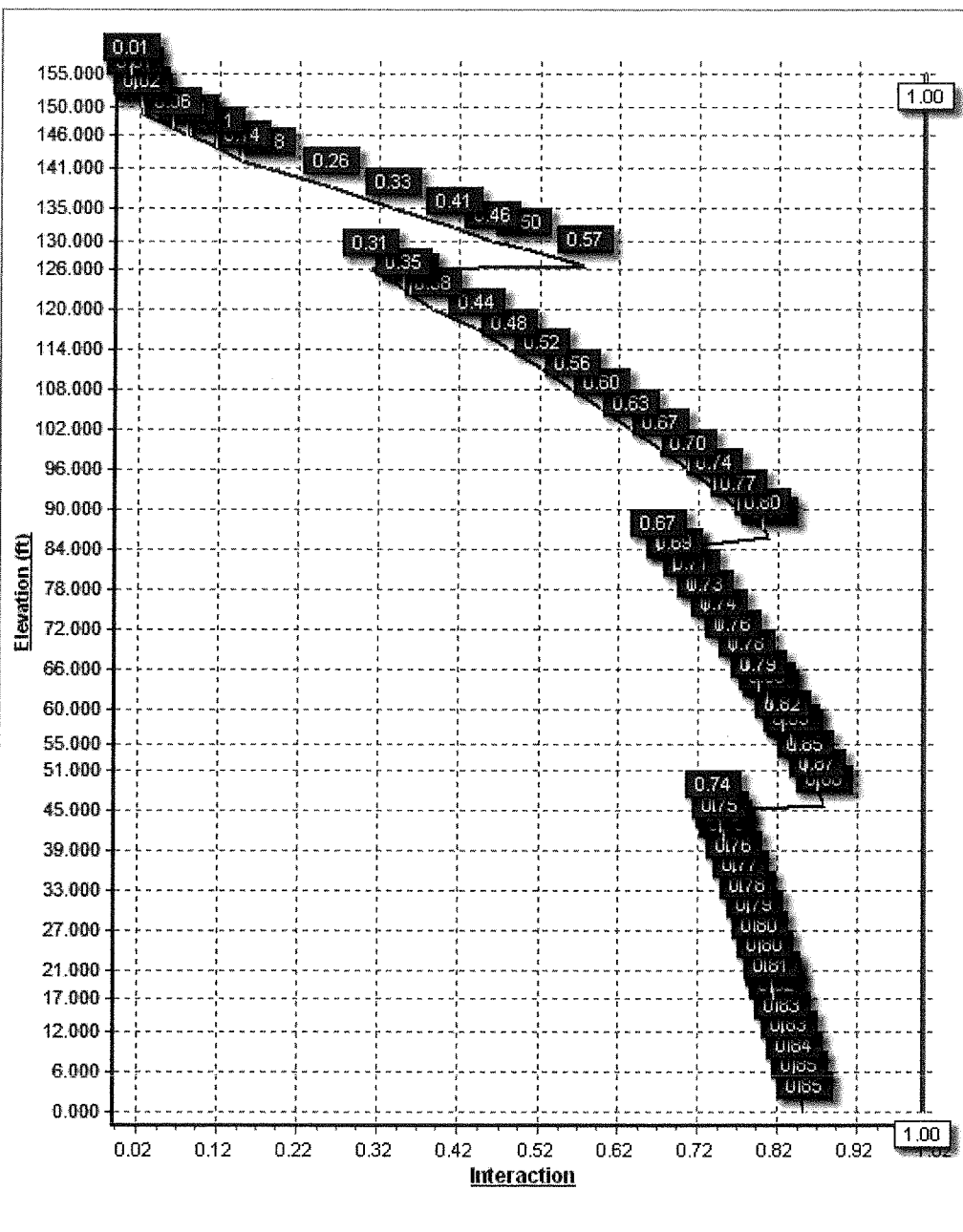
1.2D + 1.6W	100 mph with No Ice
0.9D + 1.6W	100 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3963.01	36.21	50.86
0.9D + 1.6W	3872.78	35.96	38.14
1.2D + 1.0Di + 1.0Wi	999.47	8.20	92.13
(1.2 + 0.2Sds) * DL + E ELFM	216.23	1.66	51.41
(1.2 + 0.2Sds) * DL + E EMAM	286.24	2.34	51.41
(0.9 - 0.2Sds) * DL + E ELFM	211.94	1.66	35.84
(0.9 - 0.2Sds) * DL + E EMAM	280.19	2.34	35.84
1.0D + 1.0W	878.23	8.09	42.42

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	17.00	0.348	0.196



Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Analysis Parameters

Location:	Tolland County, CT		
Code:	ANSI/TIA-222-G	Height (ft):	155
Shape:	12 Sides	Base Diameter (in):	50.00
Pole Type:	Custom	Top Diameter (in):	16.00
Pole Manufacturer:	EEI	Taper (in/ft):	0.211

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	100 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):	2.77		
T_L (sec):	6	p :	1.3
S_s :	0.175	S_f :	0.063
F_a :	1.600	F_v :	2.400
S_{ds} :	0.187	S_{d1} :	0.101
		C_s :	0.030
		C_s Max:	0.030
		C_s Min:	0.030

Load Cases

1.2D + 1.6W	100 mph with No Ice
0.9D + 1.6W	100 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	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	45.730	0.4375	65		0.00	9,809	50.00	0.00	69.82	21891.7	27.94	114.29	40.36	45.73	56.25	11448.6	22.04	92.27	0.210616
2-12	45.300	0.3750	65	Slip	61.91	6,898	42.20	40.57	50.51	11280.8	27.48	112.55	32.66	85.87	38.99	5188.6	20.66	87.10	0.210616
3-12	45.290	0.3125	65	Slip	57.09	4,530	34.29	81.11	34.19	5038.6	26.72	109.73	24.75	126.40	24.59	1875.0	18.54	79.21	0.210616
4-12	23.780	0.1875	65	Slip	50.20	1,139	26.00	122.22	15.59	1326.7	34.49	138.71	21.00	146.00	12.57	694.7	27.33	112.00	0.210616
5-12	9.000	0.5000	42	Butt	0.00	764	16.00	146.00	24.95	765.3	5.89	32.00	16.00	155.00	24.95	765.3	5.89	32.00	0.000000
Shaft Weight						23,140													

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		
155.00	Canister	1	500.00	9.800	1.00	897.56	13.175	1.00	0.000	5.000
155.00	EMS RR90-17-02DP	3	13.50	4.360	0.01	158.35	5.725	0.01	0.000	0.000
155.00	Ericsson KRY 112 71/x	6	13.20	0.730	0.01	53.56	1.162	0.01	0.000	0.000
149.00	7' Omni	1	25.00	2.100	1.00	168.52	4.247	1.00	0.000	7.000
149.00	Andrew ABT-DMDF-ADBH	1	1.10	0.050	0.50	10.90	0.202	0.50	0.000	0.000
149.00	CCI DTMABP7819VG12A	6	19.20	0.970	0.50	70.27	1.569	0.50	0.000	0.000
149.00	Ericsson RRUS 11 (Band 12)	6	50.00	2.570	0.67	167.31	3.464	0.67	0.000	0.000
149.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,896.23	70.382	1.00	0.000	0.000
149.00	Kathrein 782-10250	6	6.40	0.520	0.50	36.64	0.913	0.50	0.000	0.000
149.00	KMW AM-X-CD-16-65-00T-	6	48.50	8.020	0.79	316.98	9.782	0.79	0.000	0.000
149.00	Powerwave 7020.00 Dual	3	2.20	0.400	0.50	27.26	0.742	0.50	0.000	0.000
149.00	Powerwave 7770.00	3	35.00	5.510	0.77	228.78	6.949	0.77	0.000	0.000
142.00	Alcatel-Lucent RRH2X60-	3	44.00	1.880	0.50	140.72	2.677	0.50	0.000	0.000
142.00	Andrew HBXX-6516DS-A2M	6	30.60	5.420	0.80	234.78	6.805	0.80	0.000	0.000
142.00	Andrew LNX-6513DS-A1M	3	31.10	5.850	0.83	253.94	7.301	0.83	0.000	0.000
142.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,887.73	70.257	1.00	0.000	0.000
142.00	RFS DB-T1-6Z-8AB-0Z	1	44.00	4.800	0.67	245.79	5.984	0.67	0.000	0.000
142.00	Swedcom ALP 9212-N	6	26.70	4.520	0.67	235.33	12.622	0.67	0.000	0.000
130.00	Decibel 980H65T2E-M	5	8.50	3.800	0.79	140.49	5.203	0.79	0.000	3.000
130.00	Decibel DB980H90A-KL	4	8.50	3.800	0.79	140.49	5.203	0.79	0.000	3.000
130.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,871.08	70.011	1.00	0.000	0.000
120.00	48" x 12" Panel	9	30.00	5.070	0.67	215.12	6.377	0.67	0.000	5.000
120.00	72" x 12" Panel	3	45.00	8.130	0.67	309.82	9.856	0.67	0.000	5.000
120.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	3,854.54	69.767	1.00	0.000	0.000
105.00	Commscope LNX-6515DS-	3	50.30	11.450	0.84	406.75	13.592	0.84	0.000	0.000
105.00	Kathrein Smart Bias Tee	3	3.31	0.090	0.50	14.35	0.314	0.50	0.000	0.000
81.00	GPS	1	10.00	1.000	1.00	62.51	1.064	1.00	0.000	0.000
81.00	Stand Off	1	75.00	2.500	1.00	140.51	4.684	1.00	0.000	0.000
61.00	GPS	2	10.00	1.000	1.00	60.52	1.047	1.00	0.000	6.000
61.00	Stand Off	2	75.00	2.500	1.00	138.75	4.625	1.00	0.000	0.000
55.00	2" x 4" GPS	1	5.00	0.040	1.00	14.72	0.248	1.00	0.000	1.000
55.00	Stand Off	1	75.00	2.500	1.00	138.09	4.603	1.00	0.000	0.000
17.00	4' Std. Dish	1	188.00	20.910	1.00	523.75	24.022	1.00	0.000	0.000
Totals		101	11280.43			32,620.05			Number of Loadings : 33	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Protected Flat	Protected Width (in)	Exposed To Wind	Carrier
0.00	155.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	149.00	1	0.39" Cable	0.39	0.07	N	0.00	N	AT&T Mobility
0.00	149.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

0.00	149.00	3	1 1/4" Coax	1.55	0.63	N	1.55	Y	AT&T Mobility
0.00	149.00	1	1 1/4" Coax	1.55	0.63	N	0.00	N	USA Mobility
0.00	149.00	9	1 1/4" Coax	1.55	0.63	N	0.00	N	AT&T Mobility
0.00	149.00	1	3" Conduit	3.50	7.58	N	0.00	N	AT&T Mobility
120.00	149.00	1	Climbing Ladder	2.00	6.90	N	2.00	Y	
0.00	142.00	3	1 5/8" Coax	1.98	0.82	N	1.98	Y	Verizon Wireless
0.00	142.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon Wireless
0.00	142.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	Y	Verizon Wireless
0.00	130.00	9	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	120.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	Sprint Nextel
0.00	105.00	6	1 1/4" Coax	1.55	0.63	N	0.00	N	Metro PCS
0.00	81.00	1	1/2" Coax	0.63	0.15	N	0.00	Y	T-Mobile
0.00	61.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Sprint Nextel
0.00	55.00	1	1/2" Coax	0.63	0.15	N	0.00	Y	Sprint Nextel
0.00	17.00	1	0.28" RG-6	0.28	0.03	N	0.00	Y	USA Mobility

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Segment Properties (Max Len : 3. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.4375	50.000	69.821	21,891.7	27.94	114.29	74.2	845.8	0.0	0.0
3.00		0.4375	49.368	68.931	21,065.1	27.56	112.84	74.7	824.3	0.0	708.2
6.00		0.4375	48.736	68.041	20,259.5	27.17	111.40	75.1	803.1	0.0	699.1
9.00		0.4375	48.104	67.151	19,474.8	26.78	109.95	75.5	782.1	0.0	690.0
12.00		0.4375	47.473	66.261	18,710.5	26.40	108.51	75.9	761.4	0.0	681.0
15.00		0.4375	46.841	65.371	17,966.6	26.01	107.06	76.3	741.0	0.0	671.9
17.00		0.4375	46.210	64.480	17,232.7	25.62	105.62	76.8	720.9	0.0	662.8
18.00		0.4375	45.577	63.590	16,508.8	25.23	104.18	77.2	701.0	0.0	653.7
21.00		0.4375	44.945	62.700	15,794.9	24.85	102.73	77.6	681.4	0.0	644.6
24.00		0.4375	44.313	61.810	15,091.0	24.46	101.29	78.0	662.1	0.0	635.5
27.00		0.4375	43.682	60.920	14,397.1	24.07	99.84	78.5	643.1	0.0	626.4
30.00		0.4375	43.050	60.030	13,713.2	23.69	98.40	78.9	624.3	0.0	617.3
33.00		0.4375	42.418	59.140	13,039.3	23.30	96.95	79.3	605.9	0.0	608.3
36.00		0.4375	41.786	58.250	12,375.4	22.91	95.51	79.7	587.7	0.0	599.2
39.00		0.4375	41.155	57.360	11,721.5	22.53	94.07	80.1	569.8	0.0	590.1
40.57	Bot - Section 2	0.4375	40.522	56.469	11,077.6	22.14	92.62	80.6	552.1	0.0	1,089.0
42.00		0.4375	41.119	49.198	10,424.4	26.70	109.65	75.6	489.8	0.0	262.4
45.00	Top - Section 1	0.3750	40.640	48.620	10,061.7	26.36	108.37	76.0	478.3	0.0	377.8
45.73		0.3750	40.009	47.858	9,595.4	25.91	106.69	76.5	463.3	0.0	492.4
48.00		0.3750	39.377	47.095	9,143.7	25.46	105.00	77.0	448.6	0.0	484.7
51.00		0.3750	39.166	46.840	8,996.4	25.31	104.44	77.1	443.7	0.0	159.8
54.00		0.3750	38.745	46.332	8,706.5	25.00	103.32	77.4	434.1	0.0	317.0
55.00		0.3750	38.113	45.569	8,283.4	24.55	101.63	77.9	419.9	0.0	469.1
57.00		0.3750	37.902	45.314	8,145.5	24.40	101.07	78.1	415.2	0.0	154.6
60.00		0.3750	37.481	44.806	7,874.3	24.10	99.95	78.4	405.9	0.0	306.7
61.00		0.3750	36.849	44.043	7,478.8	23.65	98.26	78.9	392.1	0.0	453.5
63.00		0.3750	36.217	43.280	7,096.9	23.20	96.58	79.4	378.5	0.0	445.7
66.00		0.3750	35.586	42.517	6,728.1	22.75	94.89	79.9	365.3	0.0	437.9
69.00		0.3750	34.954	41.754	6,372.4	22.30	93.21	80.4	352.2	0.0	430.1
72.00		0.3750	34.322	40.991	6,029.4	21.84	91.53	80.9	339.4	0.0	422.3
75.00		0.3750	33.690	40.228	5,699.0	21.39	89.84	81.4	326.8	0.0	414.6
78.00		0.3750	33.058	39.465	5,380.8	20.94	88.16	81.9	314.4	0.0	15.5
81.00	Bot - Section 3	0.3750	33.058	39.465	5,380.8	20.94	88.16	81.9	314.4	0.0	724.1
81.11		0.3125	33.289	33.183	4,605.9	25.86	106.53	76.5	267.3	0.0	462.2
84.00	Top - Section 2	0.3125	33.051	32.943	4,507.0	25.66	105.76	76.7	263.4	0.0	127.1
85.87		0.3125	32.420	32.308	4,251.0	25.12	103.74	77.3	253.3	0.0	333.1
87.00		0.3125	31.788	31.672	4,004.9	24.58	101.72	77.9	243.4	0.0	326.6
90.00		0.3125	31.156	31.036	3,768.6	24.03	99.70	78.5	233.7	0.0	320.1
93.00		0.3125	30.524	30.400	3,541.7	23.49	97.68	79.1	224.2	0.0	313.6
96.00		0.3125	29.892	29.765	3,324.1	22.95	95.65	79.7	214.8	0.0	307.1
99.00		0.3125	29.260	29.129	3,115.6	22.41	93.63	80.3	205.7	0.0	300.6
102.0		0.3125	28.628	28.493	2,916.0	21.87	91.61	80.9	196.8	0.0	294.1
105.0		0.3125	27.997	27.857	2,725.1	21.33	89.59	81.5	188.0	0.0	287.6
108.0		0.3125	27.365	27.221	2,542.7	20.78	87.57	81.9	179.5	0.0	281.1
111.0		0.3125	26.733	26.586	2,368.7	20.24	85.55	81.9	171.2	0.0	274.6
114.0		0.3125	26.101	25.950	2,202.8	19.70	83.52	81.9	163.0	0.0	268.1
117.0		0.3125	25.469	25.314	2,044.8	19.16	81.50	81.9	155.1	0.0	194.3
120.0	Bot - Section 4	0.3125	24.837	24.678	1,894.6	18.62	79.48	81.9	147.4	0.0	108.6
122.2		0.1875	25.127	15.057	1,195.4	33.23	134.01	68.5	91.9	0.0	54.5
123.0	Top - Section 3	0.1875	24.580	14.727	1,118.5	32.45	131.10	69.3	87.9	0.0	131.6
126.0		0.1875	24.370	14.600	1,089.8	32.15	129.97	69.7	86.4	0.0	49.9
129.0		0.1875	23.949	14.346	1,033.8	31.54	127.73	70.3	83.4	0.0	98.5
130.0		0.1875	23.317	13.964	953.5	30.64	124.36	71.3	79.0	0.0	144.5
132.0		0.1875	22.685	13.583	877.5	29.74	120.99	72.3	74.7	0.0	140.6
135.0		0.1875	22.053	13.201	805.6	28.84	117.62	73.3	70.6	0.0	136.7

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

142.0		0.1875	21.842	13.074	782.6	28.53	116.49	73.6	69.2	0.0	44.7
144.0		0.1875	21.421	12.820	737.8	27.93	114.25	74.2	66.5	0.0	88.1
146.0	Top - Section 4	0.1875	21.000	12.566	694.7	27.33	112.00	74.9	63.9	0.0	86.4
146.0	Bot - Section 5	0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	
147.0		0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	84.9
149.0		0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	169.8
150.0		0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	84.9
153.0		0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	254.7
155.0		0.5000	16.000	24.955	765.3	5.89	32.00	52.9	92.4	0.0	169.8
											23,140.0

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.6W	100 mph with No Ice	29 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 Moment MY (lb-ft)	MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	MZ (lb)
0.00		192.6	0.0					0.0	0.0	192.6	0.0	0.0	0.0
3.00		382.8	849.9					0.0	205.8	382.8	1,055.7	0.0	0.0
6.00		377.9	839.0					0.0	205.8	377.9	1,044.8	0.0	0.0
9.00		373.0	828.0					0.0	205.8	373.0	1,033.9	0.0	0.0
12.00		368.1	817.1					0.0	205.8	368.1	1,022.9	0.0	0.0
15.00		303.4	806.2					0.0	205.8	303.4	1,012.0	0.0	0.0
17.00	Appertunance(s)	180.4	531.4	626.5	0.0	0.0	225.6	0.0	137.2	806.9	894.2	0.0	0.0
18.00		237.8	263.9					0.0	68.6	237.8	332.5	0.0	0.0
21.00		353.4	784.4					0.0	205.7	353.4	990.1	0.0	0.0
24.00		348.5	773.5					0.0	205.7	348.5	979.2	0.0	0.0
27.00		343.6	762.6					0.0	205.7	343.6	968.3	0.0	0.0
30.00		341.2	751.7					0.0	205.7	341.2	957.4	0.0	0.0
33.00		343.2	740.8					0.0	205.7	343.2	946.5	0.0	0.0
36.00		346.7	729.9					0.0	205.7	346.7	935.6	0.0	0.0
39.00		265.8	719.0					0.0	205.7	265.8	924.7	0.0	0.0
40.57	Bot - Section 2	176.8	372.1					0.0	107.7	176.8	479.8	0.0	0.0
42.00		264.6	629.7					0.0	98.0	264.6	727.7	0.0	0.0
45.00		223.2	1,306.8					0.0	205.7	223.2	1,512.5	0.0	0.0
45.73	Top - Section 1	180.1	314.9					0.0	50.0	180.1	364.9	0.0	0.0
48.00		316.9	453.4					0.0	155.7	316.9	609.0	0.0	0.0
51.00		361.3	590.9					0.0	205.7	361.3	796.6	0.0	0.0
54.00		241.0	581.6					0.0	205.7	241.0	787.3	0.0	0.0
55.00	Appertunance(s)	180.7	191.8	90.6	0.0	1.4	96.0	0.0	68.6	271.3	356.3	0.0	0.0
57.00		300.9	380.5					0.0	136.8	300.9	517.2	0.0	0.0
60.00		240.6	562.9					0.0	205.2	240.6	768.0	0.0	0.0
61.00	Appertunance(s)	180.1	185.6	259.1	0.0	452.7	204.0	0.0	68.4	439.2	457.9	0.0	0.0
63.00		299.5	368.0					0.0	136.1	299.5	504.0	0.0	0.0
66.00		358.2	544.2					0.0	204.1	358.2	748.3	0.0	0.0
69.00		356.6	534.9					0.0	204.1	356.6	738.9	0.0	0.0
72.00		354.7	525.5					0.0	204.1	354.7	729.6	0.0	0.0
75.00		352.4	516.2					0.0	204.1	352.4	720.2	0.0	0.0
78.00		350.1	506.8					0.0	204.1	350.1	710.9	0.0	0.0
81.00	Appertunance(s)	181.0	497.5	139.4	0.0	0.0	102.0	0.0	204.1	320.4	803.5	0.0	0.0
81.11	Bot - Section 3	177.2	18.6					0.0	7.7	177.2	26.3	0.0	0.0
84.00		280.9	869.0					0.0	195.9	280.9	1,064.8	0.0	0.0
85.87	Top - Section 2	176.4	554.6					0.0	126.9	176.4	681.5	0.0	0.0
87.00		241.3	152.5					0.0	76.6	241.3	229.1	0.0	0.0
90.00		349.7	399.7					0.0	203.5	349.7	603.2	0.0	0.0
93.00		348.3	391.9					0.0	203.5	348.3	595.4	0.0	0.0
96.00		346.7	384.1					0.0	203.5	346.7	587.6	0.0	0.0
99.00		344.9	376.3					0.0	203.5	344.9	579.8	0.0	0.0
102.00		343.0	368.5					0.0	203.5	343.0	572.0	0.0	0.0
105.00	Appertunance(s)	340.9	360.7	1,243.4	0.0	0.0	193.0	0.0	203.5	1,584.4	757.3	0.0	0.0
108.00		338.7	352.9					0.0	189.9	338.7	542.9	0.0	0.0
111.00		336.4	345.1					0.0	189.9	336.4	535.1	0.0	0.0
114.00		334.0	337.4					0.0	189.9	334.0	527.3	0.0	0.0
117.00		331.4	329.6					0.0	189.9	331.4	519.5	0.0	0.0
120.00	Appertunance(s)	297.8	321.8	3,475.7	0.0	7,931.4	2,886.0	0.0	189.9	3,773.5	3,397.7	0.0	0.0

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.6W	100 mph with No Ice						29 Iterations			
Gust Response Factor : 1.10							Wind Importance Factor : 1.00			
Dead Load Factor : 1.20										
Wind Load Factor : 1.60										

122.22	Bot - Section 4	179.7	233.1					68.1	132.7	247.8	365.8	0.0	0.0
123.00		225.5	130.4					24.0	46.6	249.5	177.0	0.0	0.0
126.00		202.3	493.6					92.7	179.3	295.0	673.0	0.0	0.0
126.40	Top - Section 3	175.3	65.4					12.5	24.1	187.8	89.5	0.0	0.0
129.00		209.3	157.9					80.8	155.2	290.1	313.2	0.0	0.0
130.00	Appertunance(s)	172.0	59.9	2,863.0	0.0	2,789.7	2,491.8	31.3	59.8	3,066.2	2,611.5	0.0	0.0
132.00		282.9	118.2					62.7	101.9	345.6	220.0	0.0	0.0
135.00		333.7	173.4					94.6	152.8	428.3	326.2	0.0	0.0
138.00		326.7	168.7					95.2	152.8	421.9	321.5	0.0	0.0
141.00		214.7	164.1					95.8	152.8	310.5	316.8	0.0	0.0
142.00	Appertunance(s)	155.9	53.6	4,254.5	0.0	0.0	3,135.7	32.1	50.9	4,442.4	3,240.3	0.0	0.0
144.00		204.8	105.7					0.0	69.2	204.8	174.9	0.0	0.0
146.00	Top - Section 4	141.1	103.7					0.0	69.2	141.1	172.9	0.0	0.0
147.00		117.4	101.9					23.0	34.6	140.5	136.5	0.0	0.0
149.00	Appertunance(s)	111.1	203.8	4,463.3	0.0	706.0	3,458.8	46.2	69.2	4,620.7	3,731.8	0.0	0.0
150.00		131.4	101.9					0.0	5.9	131.4	107.8	0.0	0.0
153.00		164.7	305.7					0.0	17.7	164.7	323.4	0.0	0.0
155.00	Appertunance(s)	66.1	203.8	482.5	0.0	2,370.6	743.6	0.0	11.8	548.5	959.2	0.0	0.0
									Totals:	36,336.7	50,911.6	0.00	0.00

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.6W	100 mph with No Ice	29 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	-50.86	-36.21	0.00	-3,963.01	0.00	3,963.01	4,665.07	2,332.54	9,536.02	4,709.48	0.00	0.00	0.853
3.00	-49.71	-35.96	0.00	-3,854.38	0.00	3,854.38	4,631.78	2,315.89	9,346.21	4,615.74	0.05	-0.15	0.846
6.00	-48.57	-35.71	0.00	-3,746.49	0.00	3,746.49	4,597.82	2,298.91	9,156.81	4,522.21	0.20	-0.31	0.839
9.00	-47.44	-35.46	0.00	-3,639.36	0.00	3,639.36	4,563.18	2,281.59	8,967.87	4,428.89	0.44	-0.46	0.832
12.00	-46.33	-35.21	0.00	-3,532.98	0.00	3,532.98	4,527.86	2,263.93	8,779.43	4,335.83	0.78	-0.62	0.825
15.00	-45.24	-35.00	0.00	-3,427.35	0.00	3,427.35	4,491.86	2,245.93	8,591.56	4,243.05	1.22	-0.78	0.818
17.00	-44.31	-34.24	0.00	-3,357.35	0.00	3,357.35	4,467.49	2,233.75	8,466.65	4,181.36	1.57	-0.89	0.813
18.00	-43.91	-34.08	0.00	-3,323.11	0.00	3,323.11	4,455.19	2,227.60	8,404.31	4,150.57	1.76	-0.94	0.811
21.00	-42.83	-33.83	0.00	-3,220.86	0.00	3,220.86	4,417.85	2,208.92	8,217.72	4,058.43	2.40	-1.10	0.804
24.00	-41.77	-33.59	0.00	-3,119.36	0.00	3,119.36	4,379.82	2,189.91	8,031.86	3,966.64	3.15	-1.27	0.796
27.00	-40.71	-33.34	0.00	-3,018.61	0.00	3,018.61	4,341.13	2,170.56	7,846.78	3,875.23	4.00	-1.43	0.789
30.00	-39.67	-33.09	0.00	-2,918.60	0.00	2,918.60	4,301.75	2,150.88	7,662.53	3,784.23	4.95	-1.60	0.781
33.00	-38.63	-32.83	0.00	-2,819.35	0.00	2,819.35	4,261.70	2,130.85	7,479.16	3,693.68	6.01	-1.77	0.773
36.00	-37.61	-32.57	0.00	-2,720.86	0.00	2,720.86	4,220.97	2,110.49	7,296.73	3,603.58	7.17	-1.94	0.764
39.00	-36.62	-32.35	0.00	-2,623.16	0.00	2,623.16	4,179.57	2,089.78	7,115.28	3,513.97	8.44	-2.11	0.755
40.57	-36.10	-32.21	0.00	-2,572.35	0.00	2,572.35	4,157.62	2,078.81	7,020.70	3,467.26	9.15	-2.20	0.751
42.00	-35.31	-32.00	0.00	-2,526.31	0.00	2,526.31	4,137.49	2,068.74	6,934.89	3,424.88	9.82	-2.28	0.746
45.00	-33.75	-31.78	0.00	-2,430.32	0.00	2,430.32	4,094.73	2,047.37	6,755.59	3,336.33	11.31	-2.46	0.737
45.73	-33.34	-31.63	0.00	-2,407.13	0.00	2,407.13	3,347.12	1,673.56	5,622.43	2,776.71	11.69	-2.50	0.877
48.00	-32.66	-31.38	0.00	-2,335.32	0.00	2,335.32	3,324.15	1,662.07	5,517.72	2,724.99	12.91	-2.63	0.867
51.00	-31.78	-31.09	0.00	-2,241.18	0.00	2,241.18	3,293.20	1,646.60	5,379.77	2,656.86	14.63	-2.83	0.854
54.00	-30.93	-30.88	0.00	-2,147.90	0.00	2,147.90	3,261.56	1,630.78	5,242.36	2,589.00	16.47	-3.02	0.839
55.00	-30.54	-30.64	0.00	-2,117.02	0.00	2,117.02	3,250.87	1,625.44	5,196.68	2,566.45	17.11	-3.09	0.835
57.00	-29.95	-30.40	0.00	-2,055.73	0.00	2,055.73	3,229.26	1,614.63	5,105.54	2,521.43	18.43	-3.22	0.825
60.00	-29.13	-30.18	0.00	-1,964.53	0.00	1,964.53	3,196.28	1,598.14	4,969.37	2,454.19	20.52	-3.42	0.810
61.00	-28.65	-29.77	0.00	-1,933.90	0.00	1,933.90	3,185.13	1,592.57	4,924.14	2,431.85	21.24	-3.48	0.805
63.00	-28.08	-29.52	0.00	-1,874.36	0.00	1,874.36	3,162.62	1,581.31	4,833.91	2,387.28	22.73	-3.62	0.794
66.00	-27.25	-29.21	0.00	-1,785.80	0.00	1,785.80	3,128.28	1,564.14	4,699.19	2,320.75	25.06	-3.82	0.779
69.00	-26.44	-28.89	0.00	-1,698.18	0.00	1,698.18	3,093.27	1,546.64	4,565.29	2,254.62	27.53	-4.02	0.762
72.00	-25.64	-28.58	0.00	-1,611.50	0.00	1,611.50	3,057.58	1,528.79	4,432.24	2,188.92	30.11	-4.21	0.745
75.00	-24.85	-28.26	0.00	-1,525.77	0.00	1,525.77	3,021.22	1,510.61	4,300.11	2,123.66	32.82	-4.41	0.727
78.00	-24.07	-27.94	0.00	-1,441.00	0.00	1,441.00	2,984.18	1,492.09	4,168.95	2,058.89	35.65	-4.61	0.708
81.00	-23.25	-27.59	0.00	-1,357.20	0.00	1,357.20	2,946.46	1,473.23	4,038.80	1,994.61	38.61	-4.81	0.689
81.11	-23.19	-27.45	0.00	-1,354.07	0.00	1,354.07	2,945.03	1,472.51	4,033.92	1,992.20	38.73	-4.82	0.688
84.00	-22.08	-27.14	0.00	-1,274.82	0.00	1,274.82	2,908.96	1,454.48	3,910.94	1,931.47	41.70	-5.01	0.668
85.87	-21.37	-26.94	0.00	-1,224.05	0.00	1,224.05	2,284.82	1,142.41	3,105.54	1,533.71	43.68	-5.13	0.808
87.00	-21.09	-26.74	0.00	-1,193.62	0.00	1,193.62	2,274.94	1,137.47	3,069.59	1,515.95	44.90	-5.21	0.797
90.00	-20.42	-26.41	0.00	-1,113.41	0.00	1,113.41	2,248.22	1,124.11	2,974.43	1,468.96	48.24	-5.42	0.768
93.00	-19.77	-26.08	0.00	-1,034.18	0.00	1,034.18	2,220.81	1,110.41	2,879.80	1,422.22	51.71	-5.64	0.737
96.00	-19.12	-25.75	0.00	-955.93	0.00	955.93	2,192.74	1,096.37	2,785.75	1,375.78	55.32	-5.85	0.704
99.00	-18.49	-25.41	0.00	-878.69	0.00	878.69	2,163.98	1,081.99	2,692.34	1,329.64	59.06	-6.06	0.670
102.00	-17.87	-25.07	0.00	-802.46	0.00	802.46	2,134.56	1,067.28	2,599.61	1,283.85	62.93	-6.26	0.634
105.00	-17.22	-23.47	0.00	-727.25	0.00	727.25	2,104.45	1,052.22	2,507.63	1,238.42	66.92	-6.46	0.596
108.00	-16.64	-23.13	0.00	-656.84	0.00	656.84	2,073.67	1,036.83	2,416.44	1,193.39	71.03	-6.65	0.559
111.00	-16.08	-22.78	0.00	-587.47	0.00	587.47	2,042.21	1,021.11	2,326.10	1,148.77	75.26	-6.83	0.520
114.00	-15.53	-22.43	0.00	-519.13	0.00	519.13	2,006.48	1,003.24	2,232.66	1,102.63	79.59	-7.00	0.479
117.00	-14.99	-22.08	0.00	-451.85	0.00	451.85	1,959.62	979.81	2,129.00	1,051.43	84.04	-7.17	0.438
120.00	-12.06	-17.93	0.00	-377.68	0.00	377.68	1,912.75	956.38	2,027.81	1,001.46	88.58	-7.32	0.384
122.22	-11.71	-17.65	0.00	-337.87	0.00	337.87	1,878.07	939.04	1,954.51	965.26	92.00	-7.42	0.357
123.00	-11.54	-17.40	0.00	-324.11	0.00	324.11	1,865.89	932.94	1,929.08	952.70	93.21	-7.46	0.347
126.00	-10.89	-17.03	0.00	-271.91	0.00	271.91	1,819.02	909.51	1,832.81	905.16	97.92	-7.58	0.307

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.6W	100 mph with No Ice	29 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 1.20		
Wind Load Factor : 1.60		

126.40	-10.81	-16.84	0.00	-265.04	0.00	265.04	927.93	463.97	955.72	471.99	98.56	-7.60	0.575
129.00	-10.52	-16.53	0.00	-221.30	0.00	221.30	918.88	459.44	925.49	457.06	102.71	-7.69	0.497
130.00	-8.32	-13.15	0.00	-201.98	0.00	201.98	915.26	457.63	913.82	451.30	104.32	-7.75	0.457
132.00	-8.13	-12.80	0.00	-175.68	0.00	175.68	907.79	453.90	890.46	439.76	107.58	-7.84	0.409
135.00	-7.84	-12.34	0.00	-137.29	0.00	137.29	896.03	448.02	855.37	422.43	112.54	-7.97	0.335
138.00	-7.56	-11.89	0.00	-100.27	0.00	100.27	883.59	441.80	820.26	405.10	117.57	-8.08	0.257
141.00	-7.28	-11.55	0.00	-64.59	0.00	64.59	870.48	435.24	785.20	387.78	122.66	-8.16	0.176
142.00	-4.70	-6.69	0.00	-53.04	0.00	53.04	865.96	432.98	773.54	382.02	124.36	-8.18	0.145
144.00	-4.55	-6.47	0.00	-39.66	0.00	39.66	856.69	428.34	750.24	370.52	127.78	-8.21	0.113
146.00	-4.40	-6.30	0.00	-26.73	0.00	26.73	847.12	423.56	727.02	359.05	131.22	-8.24	0.080
146.00	-4.40	-6.30	0.00	-26.73	0.00	26.73	1,188.56	594.28	742.57	366.73	131.22	-8.24	0.077
147.00	-4.28	-6.14	0.00	-20.43	0.00	20.43	1,188.56	594.28	742.57	366.73	132.94	-8.25	0.059
149.00	-1.25	-1.04	0.00	-7.44	0.00	7.44	1,188.56	594.28	742.57	366.73	136.39	-8.26	0.021
150.00	-1.17	-0.89	0.00	-6.40	0.00	6.40	1,188.56	594.28	742.57	366.73	138.11	-8.26	0.018
153.00	-0.87	-0.68	0.00	-3.73	0.00	3.73	1,188.56	594.28	742.57	366.73	143.29	-8.27	0.011
155.00	0.00	-0.55	0.00	-2.37	0.00	2.37	1,188.56	594.28	742.57	366.73	146.74	-8.27	0.006

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

8/4/2015 6:07:36 PM

Customer: Metro PCS

Load Case: 0.9D + 1.6W	100 mph with No Ice (Reduced DL)	28 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 Moment MY (lb-ft)	Torsion Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	Torsion Moment MZ (lb)
0.00		192.6	0.0					0.0	0.0	192.6	0.0	0.0	0.0
3.00		382.8	637.4					0.0	154.4	382.8	791.7	0.0	0.0
6.00		377.9	629.2					0.0	154.4	377.9	783.6	0.0	0.0
9.00		373.0	621.0					0.0	154.4	373.0	775.4	0.0	0.0
12.00		368.1	612.9					0.0	154.4	368.1	767.2	0.0	0.0
15.00		303.4	604.7					0.0	154.4	303.4	759.0	0.0	0.0
17.00	Appertunance(s)	180.4	398.6	626.5	0.0	0.0	169.2	0.0	102.9	806.9	670.7	0.0	0.0
18.00		237.8	197.9					0.0	51.4	237.8	249.3	0.0	0.0
21.00		353.4	588.3					0.0	154.3	353.4	742.6	0.0	0.0
24.00		348.5	580.1					0.0	154.3	348.5	734.4	0.0	0.0
27.00		343.6	572.0					0.0	154.3	343.6	726.2	0.0	0.0
30.00		341.2	563.8					0.0	154.3	341.2	718.1	0.0	0.0
33.00		343.2	555.6					0.0	154.3	343.2	709.9	0.0	0.0
36.00		346.7	547.4					0.0	154.3	346.7	701.7	0.0	0.0
39.00		265.8	539.3					0.0	154.3	265.8	693.5	0.0	0.0
40.57	Bot - Section 2	176.8	279.1					0.0	80.8	176.8	359.9	0.0	0.0
42.00		264.6	472.3					0.0	73.5	264.6	545.8	0.0	0.0
45.00		223.2	980.1					0.0	154.3	223.2	1,134.4	0.0	0.0
45.73	Top - Section 1	180.1	236.2					0.0	37.5	180.1	273.7	0.0	0.0
48.00		316.9	340.0					0.0	116.7	316.9	456.8	0.0	0.0
51.00		361.3	443.2					0.0	154.3	361.3	597.5	0.0	0.0
54.00		241.0	436.2					0.0	154.3	241.0	590.5	0.0	0.0
55.00	Appertunance(s)	180.7	143.8	90.6	0.0	1.4	72.0	0.0	51.4	271.3	267.3	0.0	0.0
57.00		300.9	285.3					0.0	102.6	300.9	387.9	0.0	0.0
60.00		240.6	422.2					0.0	153.9	240.6	576.0	0.0	0.0
61.00	Appertunance(s)	180.1	139.2	259.1	0.0	452.7	153.0	0.0	51.3	439.2	343.5	0.0	0.0
63.00		299.5	276.0					0.0	102.0	299.5	378.0	0.0	0.0
66.00		358.2	408.1					0.0	153.1	358.2	561.2	0.0	0.0
69.00		356.6	401.1					0.0	153.1	356.6	554.2	0.0	0.0
72.00		354.7	394.1					0.0	153.1	354.7	547.2	0.0	0.0
75.00		352.4	387.1					0.0	153.1	352.4	540.2	0.0	0.0
78.00		350.0	380.1					0.0	153.1	350.0	533.2	0.0	0.0
81.00	Appertunance(s)	180.9	373.1	139.4	0.0	0.0	76.5	0.0	153.1	320.3	602.7	0.0	0.0
81.11	Bot - Section 3	176.0	13.9					0.0	5.8	176.0	19.7	0.0	0.0
84.00		278.6	651.7					0.0	146.9	278.6	798.6	0.0	0.0
85.87	Top - Section 2	174.7	416.0					0.0	95.2	174.7	511.1	0.0	0.0
87.00		238.6	114.4					0.0	57.5	238.6	171.8	0.0	0.0
90.00		344.4	299.7					0.0	152.7	344.4	452.4	0.0	0.0
93.00		340.8	293.9					0.0	152.7	340.8	446.6	0.0	0.0
96.00		337.1	288.1					0.0	152.7	337.1	440.7	0.0	0.0
99.00		333.2	282.2					0.0	152.7	333.2	434.9	0.0	0.0
102.00		329.1	276.4					0.0	152.7	329.1	429.0	0.0	0.0
105.00	Appertunance(s)	324.8	270.5	1,243.4	0.0	0.0	144.7	0.0	152.7	1,568.2	567.9	0.0	0.0
108.00		320.4	264.7					0.0	142.4	320.4	407.1	0.0	0.0
111.00		315.8	258.9					0.0	142.4	315.8	401.3	0.0	0.0
114.00		311.0	253.0					0.0	142.4	311.0	395.5	0.0	0.0
117.00		306.1	247.2					0.0	142.4	306.1	389.6	0.0	0.0
120.00	Appertunance(s)	284.6	241.3	3,475.7	0.0	7,931.4	2,164.5	0.0	142.4	3,760.3	2,548.3	0.0	0.0

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 0.9D + 1.6W	100 mph with No Ice (Reduced DL)						28 Iterations			
Gust Response Factor : 1.10							Wind Importance Factor : 1.00			
Dead Load Factor : 0.90										
Wind Load Factor : 1.60										

122.22	Bot - Section 4	179.7	174.8					68.1	99.5	247.8	274.4	0.0	0.0
123.00		225.5	97.8					24.0	35.0	249.5	132.7	0.0	0.0
126.00		202.3	370.2					92.7	134.5	295.0	504.7	0.0	0.0
126.40	Top - Section 3	175.3	49.0					12.5	18.1	187.8	67.1	0.0	0.0
129.00		209.3	118.4					80.8	116.4	290.1	234.9	0.0	0.0
130.00	Appertunance(s)	172.0	44.9	2,863.0	0.0	2,789.7	1,868.8	31.3	44.8	3,066.2	1,958.6	0.0	0.0
132.00		282.9	88.6					62.7	76.4	345.6	165.0	0.0	0.0
135.00		333.7	130.0					94.6	114.6	428.3	244.6	0.0	0.0
138.00		326.7	126.5					95.2	114.6	421.9	241.1	0.0	0.0
141.00		214.7	123.0					95.8	114.6	310.5	237.6	0.0	0.0
142.00	Appertunance(s)	140.5	40.2	4,254.5	0.0	0.0	2,351.8	32.1	38.2	4,427.0	2,430.2	0.0	0.0
144.00		173.5	79.3					0.0	51.9	173.5	131.2	0.0	0.0
146.00	Top - Section 4	125.1	77.7					0.0	51.9	125.1	129.7	0.0	0.0
147.00		117.4	76.4					23.0	26.0	140.5	102.4	0.0	0.0
149.00	Appertunance(s)	111.1	152.8	4,463.3	0.0	706.0	2,594.1	46.2	51.9	4,620.7	2,798.8	0.0	0.0
150.00		131.4	76.4					0.0	4.4	131.4	80.9	0.0	0.0
153.00		164.7	229.3					0.0	13.3	164.7	242.6	0.0	0.0
155.00	Appertunance(s)	66.1	152.8	482.5	0.0	2,370.6	557.7	0.0	8.9	548.5	719.4	0.0	0.0
Totals:										36,101.3	38,183.7	0.00	0.00

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 0.9D + 1.6W	100 mph with No Ice (Reduced DL)	28 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	-38.14	-35.96	0.00	-3,872.78	0.00	3,872.78	4,665.07	2,332.54	9,536.02	4,709.48	0.00	0.00	0.831
3.00	-37.25	-35.67	0.00	-3,764.90	0.00	3,764.90	4,631.78	2,315.89	9,346.21	4,615.74	0.05	-0.15	0.824
6.00	-36.38	-35.39	0.00	-3,657.89	0.00	3,657.89	4,597.82	2,298.91	9,156.81	4,522.21	0.19	-0.30	0.817
9.00	-35.51	-35.10	0.00	-3,551.73	0.00	3,551.73	4,563.18	2,281.59	8,967.87	4,428.89	0.43	-0.45	0.810
12.00	-34.65	-34.82	0.00	-3,446.42	0.00	3,446.42	4,527.86	2,263.93	8,779.43	4,335.83	0.76	-0.60	0.803
15.00	-33.82	-34.59	0.00	-3,341.96	0.00	3,341.96	4,491.86	2,245.93	8,591.56	4,243.05	1.19	-0.76	0.795
17.00	-33.11	-33.81	0.00	-3,272.79	0.00	3,272.79	4,467.49	2,233.75	8,466.65	4,181.36	1.53	-0.86	0.790
18.00	-32.81	-33.63	0.00	-3,238.98	0.00	3,238.98	4,455.19	2,227.60	8,404.31	4,150.57	1.72	-0.92	0.788
21.00	-31.98	-33.36	0.00	-3,138.08	0.00	3,138.08	4,417.85	2,208.92	8,217.72	4,058.43	2.35	-1.07	0.781
24.00	-31.16	-33.08	0.00	-3,038.01	0.00	3,038.01	4,379.82	2,189.91	8,031.86	3,966.64	3.07	-1.23	0.773
27.00	-30.35	-32.81	0.00	-2,938.77	0.00	2,938.77	4,341.13	2,170.56	7,846.78	3,875.23	3.90	-1.40	0.766
30.00	-29.55	-32.53	0.00	-2,840.36	0.00	2,840.36	4,301.75	2,150.88	7,662.53	3,784.23	4.83	-1.56	0.758
33.00	-28.75	-32.25	0.00	-2,742.77	0.00	2,742.77	4,261.70	2,130.85	7,479.16	3,693.68	5.86	-1.72	0.750
36.00	-27.97	-31.96	0.00	-2,646.02	0.00	2,646.02	4,220.97	2,110.49	7,296.73	3,603.58	7.00	-1.89	0.741
39.00	-27.22	-31.73	0.00	-2,550.14	0.00	2,550.14	4,179.57	2,089.78	7,115.28	3,513.97	8.24	-2.05	0.732
40.57	-26.82	-31.58	0.00	-2,500.29	0.00	2,500.29	4,157.62	2,078.81	7,020.70	3,467.26	8.93	-2.14	0.728
42.00	-26.21	-31.36	0.00	-2,455.15	0.00	2,455.15	4,137.49	2,068.74	6,934.89	3,424.88	9.58	-2.22	0.723
45.00	-25.03	-31.13	0.00	-2,361.09	0.00	2,361.09	4,094.73	2,047.37	6,755.59	3,336.33	11.03	-2.39	0.714
45.73	-24.72	-30.98	0.00	-2,338.37	0.00	2,338.37	3,347.12	1,673.56	5,622.43	2,776.71	11.40	-2.43	0.850
48.00	-24.19	-30.71	0.00	-2,268.04	0.00	2,268.04	3,324.15	1,662.07	5,517.72	2,724.99	12.59	-2.56	0.840
51.00	-23.51	-30.40	0.00	-2,175.92	0.00	2,175.92	3,293.20	1,646.60	5,379.77	2,656.86	14.26	-2.75	0.826
54.00	-22.87	-30.18	0.00	-2,084.72	0.00	2,084.72	3,261.56	1,630.78	5,242.36	2,589.00	16.05	-2.94	0.813
55.00	-22.56	-29.93	0.00	-2,054.54	0.00	2,054.54	3,250.87	1,625.44	5,196.68	2,566.45	16.68	-3.01	0.808
57.00	-22.11	-29.67	0.00	-1,994.68	0.00	1,994.68	3,229.26	1,614.63	5,105.54	2,521.43	17.96	-3.14	0.798
60.00	-21.48	-29.45	0.00	-1,905.66	0.00	1,905.66	3,196.28	1,598.14	4,969.37	2,454.19	19.99	-3.33	0.784
61.00	-21.11	-29.03	0.00	-1,875.76	0.00	1,875.76	3,185.13	1,592.57	4,924.14	2,431.85	20.70	-3.39	0.778
63.00	-20.67	-28.76	0.00	-1,817.71	0.00	1,817.71	3,162.62	1,581.31	4,833.91	2,387.28	22.15	-3.52	0.768
66.00	-20.04	-28.44	0.00	-1,731.43	0.00	1,731.43	3,128.28	1,564.14	4,699.19	2,320.75	24.42	-3.71	0.753
69.00	-19.42	-28.11	0.00	-1,646.12	0.00	1,646.12	3,093.27	1,546.64	4,565.29	2,254.62	26.81	-3.91	0.737
72.00	-18.80	-27.78	0.00	-1,561.80	0.00	1,561.80	3,057.58	1,528.79	4,432.24	2,188.92	29.33	-4.10	0.720
75.00	-18.20	-27.45	0.00	-1,478.46	0.00	1,478.46	3,021.22	1,510.61	4,300.11	2,123.66	31.96	-4.29	0.703
78.00	-17.60	-27.12	0.00	-1,396.10	0.00	1,396.10	2,984.18	1,492.09	4,168.95	2,058.89	34.72	-4.48	0.684
81.00	-16.98	-26.78	0.00	-1,314.74	0.00	1,314.74	2,946.46	1,473.23	4,038.80	1,994.61	37.59	-4.68	0.665
81.11	-16.93	-26.63	0.00	-1,311.71	0.00	1,311.71	2,945.03	1,472.51	4,033.92	1,992.20	37.70	-4.68	0.665
84.00	-16.09	-26.33	0.00	-1,234.83	0.00	1,234.83	2,908.96	1,454.48	3,910.94	1,931.47	40.59	-4.87	0.645
85.87	-15.55	-26.14	0.00	-1,185.57	0.00	1,185.57	2,284.82	1,142.41	3,105.54	1,533.71	42.52	-4.99	0.780
87.00	-15.34	-25.93	0.00	-1,156.05	0.00	1,156.05	2,274.94	1,137.47	3,069.59	1,515.95	43.71	-5.06	0.770
90.00	-14.82	-25.60	0.00	-1,078.27	0.00	1,078.27	2,248.22	1,124.11	2,974.43	1,468.96	46.95	-5.27	0.741
93.00	-14.32	-25.27	0.00	-1,001.48	0.00	1,001.48	2,220.81	1,110.41	2,879.80	1,422.22	50.33	-5.48	0.711
96.00	-13.82	-24.94	0.00	-925.68	0.00	925.68	2,192.74	1,096.37	2,785.75	1,375.78	53.83	-5.68	0.680
99.00	-13.34	-24.61	0.00	-850.86	0.00	850.86	2,163.98	1,081.99	2,692.34	1,329.64	57.46	-5.89	0.647
102.00	-12.87	-24.28	0.00	-777.03	0.00	777.03	2,134.56	1,067.28	2,599.61	1,283.85	61.22	-6.08	0.612
105.00	-12.40	-22.70	0.00	-704.19	0.00	704.19	2,104.45	1,052.22	2,507.63	1,238.42	65.09	-6.27	0.575
108.00	-11.96	-22.38	0.00	-636.09	0.00	636.09	2,073.67	1,036.83	2,416.44	1,193.39	69.09	-6.46	0.539
111.00	-11.53	-22.05	0.00	-568.96	0.00	568.96	2,042.21	1,021.11	2,326.10	1,148.77	73.19	-6.63	0.501
114.00	-11.11	-21.73	0.00	-502.81	0.00	502.81	2,006.48	1,003.24	2,232.66	1,102.63	77.41	-6.80	0.462
117.00	-10.70	-21.41	0.00	-437.63	0.00	437.63	1,959.62	979.81	2,129.00	1,051.43	81.72	-6.96	0.422
120.00	-8.60	-17.38	0.00	-365.48	0.00	365.48	1,912.75	956.38	2,027.81	1,001.46	86.13	-7.10	0.370
122.22	-8.34	-17.11	0.00	-326.90	0.00	326.90	1,878.07	939.04	1,954.51	965.26	89.45	-7.20	0.343
123.00	-8.21	-16.86	0.00	-313.55	0.00	313.55	1,865.89	932.94	1,929.08	952.70	90.63	-7.24	0.334
126.00	-7.73	-16.51	0.00	-262.98	0.00	262.98	1,819.02	909.51	1,832.81	905.16	95.20	-7.36	0.295

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

8/4/2015 6:07:41 PM

Customer: Metro PCS

Load Case: 0.9D + 1.6W

100 mph with No Ice (Reduced DL)

28 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

126.40	-7.67	-16.32	0.00	-256.33	0.00	256.33	927.93	463.97	955.72	471.99	95.82	-7.37	0.553
129.00	-7.46	-16.01	0.00	-213.94	0.00	213.94	918.88	459.44	925.49	457.06	99.85	-7.47	0.477
130.00	-5.90	-12.73	0.00	-195.14	0.00	195.14	915.26	457.63	913.82	451.30	101.41	-7.52	0.440
132.00	-5.76	-12.37	0.00	-169.69	0.00	169.69	907.79	453.90	890.46	439.76	104.58	-7.61	0.393
135.00	-5.55	-11.93	0.00	-132.58	0.00	132.58	896.03	448.02	855.37	422.43	109.39	-7.74	0.321
138.00	-5.35	-11.48	0.00	-96.80	0.00	96.80	883.59	441.80	820.26	405.10	114.27	-7.84	0.246
141.00	-5.15	-11.15	0.00	-62.35	0.00	62.35	870.48	435.24	785.20	387.78	119.21	-7.92	0.167
142.00	-3.35	-6.43	0.00	-51.20	0.00	51.20	865.96	432.98	773.54	382.02	120.87	-7.94	0.138
144.00	-3.24	-6.24	0.00	-38.34	0.00	38.34	856.69	428.34	750.24	370.52	124.19	-7.97	0.107
146.00	-3.13	-6.10	0.00	-25.86	0.00	25.86	847.12	423.56	727.02	359.05	127.52	-8.00	0.076
146.00	-3.13	-6.10	0.00	-25.86	0.00	25.86	1,188.56	594.28	742.57	366.73	127.52	-8.00	0.073
147.00	-3.04	-5.95	0.00	-19.76	0.00	19.76	1,188.56	594.28	742.57	366.73	129.19	-8.01	0.057
149.00	-0.91	-0.98	0.00	-7.16	0.00	7.16	1,188.56	594.28	742.57	366.73	132.54	-8.02	0.020
150.00	-0.85	-0.84	0.00	-6.18	0.00	6.18	1,188.56	594.28	742.57	366.73	134.21	-8.02	0.018
153.00	-0.64	-0.64	0.00	-3.66	0.00	3.66	1,188.56	594.28	742.57	366.73	139.24	-8.02	0.011
155.00	0.00	-0.55	0.00	-2.37	0.00	2.37	1,188.56	594.28	742.57	366.73	142.59	-8.03	0.006

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

8/4/2015 6:07:41 PM

Customer: Metro PCS

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	28 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 Moment MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion Moment MY (lb-ft)	Moment MZ (lb)
0.00		38.2	0.0					0.0	0.0	38.2	0.0	0.0	0.0
3.00		76.1	1,139.9					0.0	319.9	76.1	1,459.8	0.0	0.0
6.00		75.6	1,159.6					0.0	339.6	75.6	1,499.3	0.0	0.0
9.00		74.9	1,161.9					0.0	350.1	74.9	1,512.0	0.0	0.0
12.00		74.1	1,158.4					0.0	357.5	74.1	1,515.9	0.0	0.0
15.00		61.2	1,152.0					0.0	363.4	61.2	1,515.4	0.0	0.0
17.00	Appertunance(s)	36.4	764.0	112.5	0.0	0.0	472.4	0.0	245.0	148.9	1,481.3	0.0	0.0
18.00		48.1	380.8					0.0	118.5	48.1	499.2	0.0	0.0
21.00		71.6	1,134.3					0.0	357.8	71.6	1,492.1	0.0	0.0
24.00		70.8	1,123.9					0.0	361.1	70.8	1,485.0	0.0	0.0
27.00		69.9	1,112.8					0.0	364.0	69.9	1,476.8	0.0	0.0
30.00		69.6	1,101.1					0.0	366.6	69.6	1,467.8	0.0	0.0
33.00		70.1	1,089.0					0.0	369.1	70.1	1,458.1	0.0	0.0
36.00		71.0	1,076.5					0.0	371.3	71.0	1,447.8	0.0	0.0
39.00		54.5	1,063.6					0.0	373.4	54.5	1,437.0	0.0	0.0
40.57	Bot - Section 2	36.3	552.3					0.0	196.3	36.3	748.6	0.0	0.0
42.00		54.3	796.0					0.0	179.1	54.3	975.1	0.0	0.0
45.00		45.9	1,652.7					0.0	377.2	45.9	2,029.9	0.0	0.0
45.73	Top - Section 1	37.1	399.1					0.0	92.0	37.1	491.1	0.0	0.0
48.00		65.3	713.3					0.0	286.9	65.3	1,000.2	0.0	0.0
51.00		74.6	931.3					0.0	380.6	74.6	1,311.9	0.0	0.0
54.00		49.8	918.9					0.0	382.1	49.8	1,301.0	0.0	0.0
55.00	Appertunance(s)	37.4	304.1	27.0	0.0	1.4	168.8	0.0	127.7	64.4	600.6	0.0	0.0
57.00		62.4	603.4					0.0	242.5	62.4	846.0	0.0	0.0
60.00		49.9	893.7					0.0	364.8	49.9	1,258.5	0.0	0.0
61.00	Appertunance(s)	37.4	295.6	65.4	0.0	74.0	432.5	0.0	121.9	102.9	850.0	0.0	0.0
63.00		62.3	586.4					0.0	228.0	62.3	814.4	0.0	0.0
66.00		74.7	867.9					0.0	342.8	74.7	1,210.7	0.0	0.0
69.00		74.5	854.8					0.0	343.7	74.5	1,198.5	0.0	0.0
72.00		74.3	841.6					0.0	344.6	74.3	1,186.2	0.0	0.0
75.00		74.0	828.3					0.0	345.5	74.0	1,173.8	0.0	0.0
78.00		73.7	815.0					0.0	346.3	73.7	1,161.3	0.0	0.0
81.00	Appertunance(s)	38.1	801.5	35.8	0.0	0.0	220.0	0.0	347.1	73.9	1,368.6	0.0	0.0
81.11	Bot - Section 3	37.1	30.1					0.0	12.3	37.1	42.4	0.0	0.0
84.00		58.8	1,162.7					0.0	314.1	58.8	1,476.8	0.0	0.0
85.87	Top - Section 2	36.9	743.4					0.0	203.8	36.9	947.2	0.0	0.0
87.00		50.5	265.9					0.0	123.2	50.5	389.1	0.0	0.0
90.00		73.1	696.3					0.0	327.6	73.1	1,023.9	0.0	0.0
93.00		72.5	684.1					0.0	328.2	72.5	1,012.3	0.0	0.0
96.00		71.9	671.9					0.0	328.7	71.9	1,000.6	0.0	0.0
99.00		71.3	659.6					0.0	329.3	71.3	988.8	0.0	0.0
102.00		70.6	647.2					0.0	329.8	70.6	977.0	0.0	0.0
105.00	Appertunance(s)	69.9	634.8	232.7	0.0	0.0	1,295.5	0.0	330.3	302.6	2,260.5	0.0	0.0
108.00		69.2	622.3					0.0	317.2	69.2	939.5	0.0	0.0
111.00		68.4	609.8					0.0	317.7	68.4	927.5	0.0	0.0
114.00		67.6	597.2					0.0	318.2	67.6	915.4	0.0	0.0
117.00		66.8	584.6					0.0	318.7	66.8	903.2	0.0	0.0
120.00	Appertunance(s)	57.5	571.9	793.6	0.0	1,539.1	6,751.1	0.0	319.1	851.1	7,642.1	0.0	0.0

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.0Di + 1.0Wi			50 mph with 1.00 in Radial Ice				28 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													
122.22	Bot - Section 4	32.9	415.6					36.5	251.3	69.4	666.9	0.0	0.0
123.00		41.3	195.0					12.9	88.4	54.2	283.4	0.0	0.0
126.00		37.1	737.2					49.8	340.2	86.9	1,077.4	0.0	0.0
126.40	Top - Section 3	32.3	98.0					6.7	45.7	39.0	143.8	0.0	0.0
129.00		38.5	364.5					43.5	295.0	82.1	659.5	0.0	0.0
130.00	Appertunance(s)	31.8	138.9	697.7	0.0	596.9	5,100.8	16.8	113.7	746.3	5,353.4	0.0	0.0
132.00		52.4	273.9					33.8	209.9	86.3	483.8	0.0	0.0
135.00		62.1	401.8					51.1	315.3	113.2	717.1	0.0	0.0
138.00		61.1	392.1					51.5	315.8	112.6	707.8	0.0	0.0
141.00		40.3	382.2					51.9	316.3	92.2	698.5	0.0	0.0
142.00	Appertunance(s)	29.8	125.9	1,113.8	0.0	0.0	7,940.2	17.4	105.5	1,161.0	8,171.6	0.0	0.0
144.00		39.3	247.8					0.0	121.2	39.3	369.0	0.0	0.0
146.00	Top - Section 4	27.4	243.4					0.0	121.4	27.4	364.8	0.0	0.0
147.00		23.5	156.8					12.7	60.7	36.2	217.5	0.0	0.0
149.00	Appertunance(s)	23.5	313.7	1,025.4	0.0	223.1	8,517.5	25.5	121.5	1,074.5	8,952.7	0.0	0.0
150.00		31.6	156.9					0.0	5.9	31.6	162.8	0.0	0.0
153.00		39.6	471.0					0.0	17.7	39.6	488.7	0.0	0.0
155.00	Appertunance(s)	15.9	314.2	101.4	0.0	498.0	1,567.9	0.0	11.8	117.3	1,893.9	0.0	0.0
								Totals:	8,202.58	92,132.5	0.00	0.00	

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

8/4/2015 6:07:45 PM

Customer: Metro PCS

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	28 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	-92.13	-8.20	0.00	-999.47	0.00	999.47	4,665.07	2,332.54	9,536.02	4,709.48	0.00	0.00	0.232
3.00	-90.66	-8.18	0.00	-974.88	0.00	974.88	4,631.78	2,315.89	9,346.21	4,615.74	0.01	-0.04	0.231
6.00	-89.16	-8.16	0.00	-950.34	0.00	950.34	4,597.82	2,298.91	9,156.81	4,522.21	0.05	-0.08	0.230
9.00	-87.64	-8.15	0.00	-925.85	0.00	925.85	4,563.18	2,281.59	8,967.87	4,428.89	0.11	-0.12	0.228
12.00	-86.12	-8.13	0.00	-901.41	0.00	901.41	4,527.86	2,263.93	8,779.43	4,335.83	0.20	-0.16	0.227
15.00	-84.60	-8.11	0.00	-877.02	0.00	877.02	4,491.86	2,245.93	8,591.56	4,243.05	0.31	-0.20	0.226
17.00	-83.12	-7.99	0.00	-860.79	0.00	860.79	4,467.49	2,233.75	8,466.65	4,181.36	0.40	-0.23	0.224
18.00	-82.61	-7.98	0.00	-852.80	0.00	852.80	4,455.19	2,227.60	8,404.31	4,150.57	0.45	-0.24	0.224
21.00	-81.12	-7.96	0.00	-828.86	0.00	828.86	4,417.85	2,208.92	8,217.72	4,058.43	0.61	-0.28	0.223
24.00	-79.63	-7.94	0.00	-804.98	0.00	804.98	4,379.82	2,189.91	8,031.86	3,966.64	0.80	-0.32	0.221
27.00	-78.14	-7.92	0.00	-781.16	0.00	781.16	4,341.13	2,170.56	7,846.78	3,875.23	1.02	-0.37	0.220
30.00	-76.67	-7.90	0.00	-757.39	0.00	757.39	4,301.75	2,150.88	7,662.53	3,784.23	1.26	-0.41	0.218
33.00	-75.21	-7.88	0.00	-733.69	0.00	733.69	4,261.70	2,130.85	7,479.16	3,693.68	1.53	-0.45	0.216
36.00	-73.75	-7.85	0.00	-710.06	0.00	710.06	4,220.97	2,110.49	7,296.73	3,603.58	1.83	-0.50	0.215
39.00	-72.31	-7.83	0.00	-686.51	0.00	686.51	4,179.57	2,089.78	7,115.28	3,513.97	2.16	-0.54	0.213
40.57	-71.56	-7.81	0.00	-674.22	0.00	674.22	4,157.62	2,078.81	7,020.70	3,467.26	2.34	-0.57	0.212
42.00	-70.58	-7.79	0.00	-663.05	0.00	663.05	4,137.49	2,068.74	6,934.89	3,424.88	2.51	-0.59	0.211
45.00	-68.55	-7.76	0.00	-639.69	0.00	639.69	4,094.73	2,047.37	6,755.59	3,336.33	2.90	-0.63	0.208
45.73	-68.06	-7.74	0.00	-634.03	0.00	634.03	3,347.12	1,673.56	5,622.43	2,776.71	2.99	-0.64	0.249
48.00	-67.05	-7.72	0.00	-616.45	0.00	616.45	3,324.15	1,662.07	5,517.72	2,724.99	3.31	-0.68	0.246
51.00	-65.73	-7.68	0.00	-593.31	0.00	593.31	3,293.20	1,646.60	5,379.77	2,656.86	3.75	-0.73	0.243
54.00	-64.43	-7.66	0.00	-570.26	0.00	570.26	3,261.56	1,630.78	5,242.36	2,589.00	4.23	-0.78	0.240
55.00	-63.82	-7.61	0.00	-562.60	0.00	562.60	3,250.87	1,625.44	5,196.68	2,566.45	4.39	-0.80	0.239
57.00	-62.97	-7.59	0.00	-547.38	0.00	547.38	3,229.26	1,614.63	5,105.54	2,521.43	4.74	-0.84	0.237
60.00	-61.71	-7.56	0.00	-524.62	0.00	524.62	3,196.28	1,598.14	4,969.37	2,454.19	5.28	-0.89	0.233
61.00	-60.86	-7.47	0.00	-516.99	0.00	516.99	3,185.13	1,592.57	4,924.14	2,431.85	5.47	-0.91	0.232
63.00	-60.04	-7.44	0.00	-502.06	0.00	502.06	3,162.62	1,581.31	4,833.91	2,387.28	5.85	-0.94	0.229
66.00	-58.82	-7.40	0.00	-479.74	0.00	479.74	3,128.28	1,564.14	4,699.19	2,320.75	6.46	-0.99	0.226
69.00	-57.62	-7.36	0.00	-457.55	0.00	457.55	3,093.27	1,546.64	4,565.29	2,254.62	7.11	-1.05	0.222
72.00	-56.43	-7.31	0.00	-435.48	0.00	435.48	3,057.58	1,528.79	4,432.24	2,188.92	7.78	-1.10	0.217
75.00	-55.25	-7.27	0.00	-413.54	0.00	413.54	3,021.22	1,510.61	4,300.11	2,123.66	8.49	-1.16	0.213
78.00	-54.08	-7.22	0.00	-391.74	0.00	391.74	2,984.18	1,492.09	4,168.95	2,058.89	9.24	-1.21	0.208
81.00	-52.71	-7.14	0.00	-370.08	0.00	370.08	2,946.46	1,473.23	4,038.80	1,994.61	10.01	-1.26	0.203
81.11	-52.67	-7.13	0.00	-369.27	0.00	369.27	2,945.03	1,472.51	4,033.92	1,992.20	10.04	-1.27	0.203
84.00	-51.19	-7.08	0.00	-348.69	0.00	348.69	2,908.96	1,454.48	3,910.94	1,931.47	10.83	-1.32	0.198
85.87	-50.24	-7.04	0.00	-335.45	0.00	335.45	2,284.82	1,142.41	3,105.54	1,533.71	11.35	-1.35	0.241
87.00	-49.85	-7.02	0.00	-327.50	0.00	327.50	2,274.94	1,137.47	3,069.59	1,515.95	11.67	-1.37	0.238
90.00	-48.82	-6.97	0.00	-306.45	0.00	306.45	2,248.22	1,124.11	2,974.43	1,468.96	12.55	-1.43	0.230
93.00	-47.80	-6.92	0.00	-285.55	0.00	285.55	2,220.81	1,110.41	2,879.80	1,422.22	13.47	-1.49	0.222
96.00	-46.79	-6.87	0.00	-264.79	0.00	264.79	2,192.74	1,096.37	2,785.75	1,375.78	14.43	-1.55	0.214
99.00	-45.80	-6.82	0.00	-244.18	0.00	244.18	2,163.98	1,081.99	2,692.34	1,329.64	15.42	-1.61	0.205
102.00	-44.82	-6.76	0.00	-223.74	0.00	223.74	2,134.56	1,067.28	2,599.61	1,283.85	16.45	-1.66	0.195
105.00	-42.56	-6.43	0.00	-203.45	0.00	203.45	2,104.45	1,052.22	2,507.63	1,238.42	17.51	-1.72	0.185
108.00	-41.62	-6.37	0.00	-184.16	0.00	184.16	2,073.67	1,036.83	2,416.44	1,193.39	18.61	-1.77	0.174
111.00	-40.69	-6.31	0.00	-165.04	0.00	165.04	2,042.21	1,021.11	2,326.10	1,148.77	19.74	-1.82	0.164
114.00	-39.77	-6.25	0.00	-146.11	0.00	146.11	2,006.48	1,003.24	2,232.66	1,102.63	20.90	-1.87	0.152
117.00	-38.87	-6.18	0.00	-127.38	0.00	127.38	1,959.62	979.81	2,129.00	1,051.43	22.09	-1.92	0.141
120.00	-31.26	-5.09	0.00	-107.30	0.00	107.30	1,912.75	956.38	2,027.81	1,001.46	23.31	-1.96	0.124
122.22	-30.59	-5.01	0.00	-96.00	0.00	96.00	1,878.07	939.04	1,954.51	965.26	24.23	-1.99	0.116
123.00	-30.31	-4.96	0.00	-92.10	0.00	92.10	1,865.89	932.94	1,929.08	952.70	24.56	-2.00	0.113
126.00	-29.23	-4.84	0.00	-77.23	0.00	77.23	1,819.02	909.51	1,832.81	905.16	25.82	-2.04	0.101

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.2D + 1.0Di + 1.0Wi				50 mph with 1.00 in Radial Ice				28 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											

126.40	-29.09	-4.80	0.00	-75.28	0.00	75.28	927.93	463.97	955.72	471.99	26.00	-2.04	0.191
129.00	-28.43	-4.71	0.00	-62.80	0.00	62.80	918.88	459.44	925.49	457.06	27.11	-2.07	0.168
130.00	-23.11	-3.78	0.00	-57.50	0.00	57.50	915.26	457.63	913.82	451.30	27.55	-2.08	0.153
132.00	-22.62	-3.69	0.00	-49.94	0.00	49.94	907.79	453.90	890.46	439.76	28.43	-2.11	0.139
135.00	-21.91	-3.56	0.00	-38.88	0.00	38.88	896.03	448.02	855.37	422.43	29.77	-2.15	0.117
138.00	-21.20	-3.43	0.00	-28.19	0.00	28.19	883.59	441.80	820.26	405.10	31.12	-2.18	0.094
141.00	-20.51	-3.32	0.00	-17.90	0.00	17.90	870.48	435.24	785.20	387.78	32.50	-2.20	0.070
142.00	-12.39	-1.84	0.00	-14.58	0.00	14.58	865.96	432.98	773.54	382.02	32.96	-2.21	0.052
144.00	-12.02	-1.79	0.00	-10.89	0.00	10.89	856.69	428.34	750.24	370.52	33.89	-2.21	0.043
146.00	-11.66	-1.75	0.00	-7.31	0.00	7.31	847.12	423.56	727.02	359.05	34.82	-2.22	0.034
146.00	-11.66	-1.75	0.00	-7.31	0.00	7.31	1,188.56	594.28	742.57	366.73	34.82	-2.22	0.030
147.00	-11.44	-1.71	0.00	-5.55	0.00	5.55	1,188.56	594.28	742.57	366.73	35.28	-2.22	0.025
149.00	-2.54	-0.29	0.00	-1.91	0.00	1.91	1,188.56	594.28	742.57	366.73	36.21	-2.23	0.007
150.00	-2.37	-0.25	0.00	-1.63	0.00	1.63	1,188.56	594.28	742.57	366.73	36.68	-2.23	0.006
153.00	-1.89	-0.19	0.00	-0.88	0.00	0.88	1,188.56	594.28	742.57	366.73	38.08	-2.23	0.004
155.00	0.00	-0.12	0.00	-0.50	0.00	0.50	1,188.56	594.28	742.57	366.73	39.01	-2.23	0.001

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.0D + 1.0W	Serviceability 60 mph	27 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		43.3	0.0					0.0	0.0	43.3	0.0	0.0	0.0
3.00		86.1	708.2					0.0	171.5	86.1	879.7	0.0	0.0
6.00		85.0	699.1					0.0	171.5	85.0	870.6	0.0	0.0
9.00		83.9	690.0					0.0	171.5	83.9	861.5	0.0	0.0
12.00		82.8	681.0					0.0	171.5	82.8	852.5	0.0	0.0
15.00		68.3	671.9					0.0	171.5	68.3	843.4	0.0	0.0
17.00	Appertunance(s)	40.6	442.9	141.0	0.0	0.0	188.0	0.0	114.3	181.6	745.2	0.0	0.0
18.00		53.5	219.9					0.0	57.1	53.5	277.1	0.0	0.0
21.00		79.5	653.7					0.0	171.4	79.5	825.1	0.0	0.0
24.00		78.4	644.6					0.0	171.4	78.4	816.0	0.0	0.0
27.00		77.3	635.5					0.0	171.4	77.3	806.9	0.0	0.0
30.00		76.8	626.4					0.0	171.4	76.8	797.8	0.0	0.0
33.00		77.2	617.3					0.0	171.4	77.2	788.8	0.0	0.0
36.00		78.0	608.3					0.0	171.4	78.0	779.7	0.0	0.0
39.00		59.8	599.2					0.0	171.4	59.8	770.6	0.0	0.0
40.57	Bot - Section 2	39.8	310.1					0.0	89.7	39.8	399.8	0.0	0.0
42.00		59.5	524.8					0.0	81.7	59.5	606.4	0.0	0.0
45.00		50.2	1,089.0					0.0	171.4	50.2	1,260.4	0.0	0.0
45.73	Top - Section 1	40.5	262.4					0.0	41.7	40.5	304.1	0.0	0.0
48.00		71.3	377.8					0.0	129.7	71.3	507.5	0.0	0.0
51.00		81.3	492.4					0.0	171.4	81.3	663.9	0.0	0.0
54.00		54.2	484.7					0.0	171.4	54.2	656.1	0.0	0.0
55.00	Appertunance(s)	40.7	159.8	20.4	0.0	0.3	80.0	0.0	57.1	61.0	297.0	0.0	0.0
57.00		67.7	317.0					0.0	114.0	67.7	431.0	0.0	0.0
60.00		54.1	469.1					0.0	171.0	54.1	640.0	0.0	0.0
61.00	Appertunance(s)	40.5	154.6	58.3	0.0	101.9	170.0	0.0	57.0	98.8	381.6	0.0	0.0
63.00		67.4	306.7					0.0	113.4	67.4	420.0	0.0	0.0
66.00		80.6	453.5					0.0	170.1	80.6	623.6	0.0	0.0
69.00		80.2	445.7					0.0	170.1	80.2	615.8	0.0	0.0
72.00		79.8	437.9					0.0	170.1	79.8	608.0	0.0	0.0
75.00		79.3	430.1					0.0	170.1	79.3	600.2	0.0	0.0
78.00		78.7	422.3					0.0	170.1	78.7	592.4	0.0	0.0
81.00	Appertunance(s)	40.7	414.6	31.4	0.0	0.0	85.0	0.0	170.1	72.1	669.6	0.0	0.0
81.11	Bot - Section 3	39.6	15.5					0.0	6.4	39.6	21.9	0.0	0.0
84.00		62.7	724.1					0.0	163.2	62.7	887.4	0.0	0.0
85.87	Top - Section 2	39.3	462.2					0.0	105.8	39.3	567.9	0.0	0.0
87.00		53.7	127.1					0.0	63.9	53.7	190.9	0.0	0.0
90.00		77.5	333.1					0.0	169.6	77.5	502.7	0.0	0.0
93.00		76.7	326.6					0.0	169.6	76.7	496.2	0.0	0.0
96.00		75.9	320.1					0.0	169.6	75.9	489.7	0.0	0.0
99.00		75.0	313.6					0.0	169.6	75.0	483.2	0.0	0.0
102.00		74.0	307.1					0.0	169.6	74.0	476.7	0.0	0.0
105.00	Appertunance(s)	73.1	300.6	279.8	0.0	0.0	160.8	0.0	169.6	352.9	631.0	0.0	0.0
108.00		72.1	294.1					0.0	158.3	72.1	452.4	0.0	0.0
111.00		71.0	287.6					0.0	158.3	71.0	445.9	0.0	0.0
114.00		70.0	281.1					0.0	158.3	70.0	439.4	0.0	0.0
117.00		68.9	274.6					0.0	158.3	68.9	432.9	0.0	0.0
120.00	Appertunance(s)	64.0	268.1	782.0	0.0	1,784.6	2,405.0	0.0	158.3	846.1	2,831.4	0.0	0.0

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.0D + 1.0W	Serviceability 60 mph						27 Iterations			
Gust Response Factor : 1.10							Wind Importance Factor : 1.00			
Dead Load Factor : 1.00										
Wind Load Factor : 1.00										

122.22	Bot - Section 4	40.4	194.3					15.3	110.6	55.8	304.9	0.0	0.0
123.00		50.7	108.6					5.4	38.9	56.1	147.5	0.0	0.0
126.00		45.5	411.3					20.9	149.5	66.4	560.8	0.0	0.0
126.40	Top - Section 3	39.4	54.5					2.8	20.1	42.3	74.6	0.0	0.0
129.00		47.1	131.6					18.2	129.4	65.3	261.0	0.0	0.0
130.00	Appertunance(s)	38.7	49.9	644.2	0.0	627.7	2,076.5	7.0	49.8	689.9	2,176.2	0.0	0.0
132.00		63.6	98.5					14.1	84.9	77.8	183.4	0.0	0.0
135.00		75.1	144.5					21.3	127.3	96.4	271.8	0.0	0.0
138.00		73.5	140.6					21.4	127.3	94.9	267.9	0.0	0.0
141.00		48.3	136.7					21.6	127.3	69.9	264.0	0.0	0.0
142.00	Appertunance(s)	31.6	44.7	957.3	0.0	0.0	2,613.1	7.2	42.4	996.1	2,700.2	0.0	0.0
144.00		39.0	88.1					0.0	57.7	39.0	145.8	0.0	0.0
146.00	Top - Section 4	28.2	86.4					0.0	57.7	28.2	144.1	0.0	0.0
147.00		26.4	84.9					5.2	28.8	31.6	113.7	0.0	0.0
149.00	Appertunance(s)	25.0	169.8	1,004.2	0.0	158.9	2,882.3	10.4	57.7	1,039.6	3,109.8	0.0	0.0
150.00		29.6	84.9					0.0	4.9	29.6	89.8	0.0	0.0
153.00		37.1	254.7					0.0	14.8	37.1	269.5	0.0	0.0
155.00	Appertunance(s)	14.9	169.8	108.6	0.0	533.4	619.7	0.0	9.8	123.4	799.4	0.0	0.0
									Totals:	8,122.79	42,426.3	0.00	0.00

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.0D + 1.0W	Serviceability 60 mph	27 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	-42.42	-8.09	0.00	-878.23	0.00	878.23	4,665.07	2,332.54	9,536.02	4,709.48	0.00	0.00	0.196
3.00	-41.54	-8.03	0.00	-853.95	0.00	853.95	4,631.78	2,315.89	9,346.21	4,615.74	0.01	-0.03	0.194
6.00	-40.66	-7.97	0.00	-829.86	0.00	829.86	4,597.82	2,298.91	9,156.81	4,522.21	0.04	-0.07	0.192
9.00	-39.80	-7.91	0.00	-805.96	0.00	805.96	4,563.18	2,281.59	8,967.87	4,428.89	0.10	-0.10	0.191
12.00	-38.94	-7.85	0.00	-782.24	0.00	782.24	4,527.86	2,263.93	8,779.43	4,335.83	0.17	-0.14	0.189
15.00	-38.09	-7.80	0.00	-758.70	0.00	758.70	4,491.86	2,245.93	8,591.56	4,243.05	0.27	-0.17	0.187
17.00	-37.35	-7.62	0.00	-743.11	0.00	743.11	4,467.49	2,233.75	8,466.65	4,181.36	0.35	-0.20	0.186
18.00	-37.07	-7.58	0.00	-735.49	0.00	735.49	4,455.19	2,227.60	8,404.31	4,150.57	0.39	-0.21	0.186
21.00	-36.24	-7.52	0.00	-712.74	0.00	712.74	4,417.85	2,208.92	8,217.72	4,058.43	0.53	-0.24	0.184
24.00	-35.42	-7.46	0.00	-690.17	0.00	690.17	4,379.82	2,189.91	8,031.86	3,966.64	0.70	-0.28	0.182
27.00	-34.61	-7.40	0.00	-667.77	0.00	667.77	4,341.13	2,170.56	7,846.78	3,875.23	0.89	-0.32	0.180
30.00	-33.80	-7.35	0.00	-645.56	0.00	645.56	4,301.75	2,150.88	7,662.53	3,784.23	1.10	-0.35	0.178
33.00	-33.01	-7.28	0.00	-623.52	0.00	623.52	4,261.70	2,130.85	7,479.16	3,693.68	1.33	-0.39	0.177
36.00	-32.23	-7.22	0.00	-601.67	0.00	601.67	4,220.97	2,110.49	7,296.73	3,603.58	1.59	-0.43	0.175
39.00	-31.45	-7.17	0.00	-580.01	0.00	580.01	4,179.57	2,089.78	7,115.28	3,513.97	1.87	-0.47	0.173
40.57	-31.05	-7.14	0.00	-568.74	0.00	568.74	4,157.62	2,078.81	7,020.70	3,467.26	2.03	-0.49	0.172
42.00	-30.44	-7.09	0.00	-558.54	0.00	558.54	4,137.49	2,068.74	6,934.89	3,424.88	2.18	-0.50	0.170
45.00	-29.18	-7.04	0.00	-537.27	0.00	537.27	4,094.73	2,047.37	6,755.59	3,336.33	2.50	-0.54	0.168
45.73	-28.87	-7.01	0.00	-532.13	0.00	532.13	3,347.12	1,673.56	5,622.43	2,776.71	2.59	-0.55	0.200
48.00	-28.36	-6.95	0.00	-516.22	0.00	516.22	3,324.15	1,662.07	5,517.72	2,724.99	2.86	-0.58	0.198
51.00	-27.69	-6.88	0.00	-495.38	0.00	495.38	3,293.20	1,646.60	5,379.77	2,656.86	3.24	-0.63	0.195
54.00	-27.03	-6.83	0.00	-474.73	0.00	474.73	3,261.56	1,630.78	5,242.36	2,589.00	3.65	-0.67	0.192
55.00	-26.74	-6.78	0.00	-467.90	0.00	467.90	3,250.87	1,625.44	5,196.68	2,566.45	3.79	-0.68	0.191
57.00	-26.30	-6.72	0.00	-454.34	0.00	454.34	3,229.26	1,614.63	5,105.54	2,521.43	4.08	-0.71	0.188
60.00	-25.66	-6.67	0.00	-434.18	0.00	434.18	3,196.28	1,598.14	4,969.37	2,454.19	4.54	-0.76	0.185
61.00	-25.28	-6.58	0.00	-427.40	0.00	427.40	3,185.13	1,592.57	4,924.14	2,431.85	4.70	-0.77	0.184
63.00	-24.85	-6.52	0.00	-414.24	0.00	414.24	3,162.62	1,581.31	4,833.91	2,387.28	5.03	-0.80	0.181
66.00	-24.23	-6.45	0.00	-394.68	0.00	394.68	3,128.28	1,564.14	4,699.19	2,320.75	5.55	-0.84	0.178
69.00	-23.61	-6.38	0.00	-375.33	0.00	375.33	3,093.27	1,546.64	4,565.29	2,254.62	6.09	-0.89	0.174
72.00	-22.99	-6.31	0.00	-356.19	0.00	356.19	3,057.58	1,528.79	4,432.24	2,188.92	6.67	-0.93	0.170
75.00	-22.39	-6.24	0.00	-337.27	0.00	337.27	3,021.22	1,510.61	4,300.11	2,123.66	7.27	-0.98	0.166
78.00	-21.80	-6.16	0.00	-318.56	0.00	318.56	2,984.18	1,492.09	4,168.95	2,058.89	7.89	-1.02	0.162
81.00	-21.12	-6.09	0.00	-300.07	0.00	300.07	2,946.46	1,473.23	4,038.80	1,994.61	8.55	-1.06	0.158
81.11	-21.10	-6.06	0.00	-299.38	0.00	299.38	2,945.03	1,472.51	4,033.92	1,992.20	8.57	-1.07	0.157
84.00	-20.21	-5.99	0.00	-281.90	0.00	281.90	2,908.96	1,454.48	3,910.94	1,931.47	9.23	-1.11	0.153
85.87	-19.64	-5.95	0.00	-270.70	0.00	270.70	2,284.82	1,142.41	3,105.54	1,533.71	9.67	-1.13	0.185
87.00	-19.45	-5.90	0.00	-263.99	0.00	263.99	2,274.94	1,137.47	3,069.59	1,515.95	9.94	-1.15	0.183
90.00	-18.94	-5.83	0.00	-246.29	0.00	246.29	2,248.22	1,124.11	2,974.43	1,468.96	10.68	-1.20	0.176
93.00	-18.44	-5.75	0.00	-228.81	0.00	228.81	2,220.81	1,110.41	2,879.80	1,422.22	11.45	-1.25	0.169
96.00	-17.95	-5.68	0.00	-211.55	0.00	211.55	2,192.74	1,096.37	2,785.75	1,375.78	12.25	-1.29	0.162
99.00	-17.47	-5.61	0.00	-194.50	0.00	194.50	2,163.98	1,081.99	2,692.34	1,329.64	13.08	-1.34	0.154
102.00	-16.99	-5.54	0.00	-177.67	0.00	177.67	2,134.56	1,067.28	2,599.61	1,283.85	13.93	-1.39	0.146
105.00	-16.36	-5.18	0.00	-161.05	0.00	161.05	2,104.45	1,052.22	2,507.63	1,238.42	14.82	-1.43	0.138
108.00	-15.91	-5.11	0.00	-145.50	0.00	145.50	2,073.67	1,036.83	2,416.44	1,193.39	15.73	-1.47	0.130
111.00	-15.46	-5.04	0.00	-130.17	0.00	130.17	2,042.21	1,021.11	2,326.10	1,148.77	16.67	-1.51	0.121
114.00	-15.02	-4.97	0.00	-115.06	0.00	115.06	2,006.48	1,003.24	2,232.66	1,102.63	17.63	-1.55	0.112
117.00	-14.58	-4.89	0.00	-100.16	0.00	100.16	1,959.62	979.81	2,129.00	1,051.43	18.61	-1.59	0.103
120.00	-11.78	-3.98	0.00	-83.69	0.00	83.69	1,912.75	956.38	2,027.81	1,001.46	19.62	-1.62	0.090
122.22	-11.47	-3.91	0.00	-74.87	0.00	74.87	1,878.07	939.04	1,954.51	965.26	20.38	-1.64	0.084
123.00	-11.32	-3.86	0.00	-71.81	0.00	71.81	1,865.89	932.94	1,929.08	952.70	20.65	-1.65	0.081
126.00	-10.77	-3.78	0.00	-60.24	0.00	60.24	1,819.02	909.51	1,832.81	905.16	21.69	-1.68	0.072

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Load Case: 1.0D + 1.0W	Serviceability 60 mph	27 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

126.40	-10.69	-3.74	0.00	-58.72	0.00	58.72	927.93	463.97	955.72	471.99	21.83	-1.68	0.136
129.00	-10.43	-3.67	0.00	-49.02	0.00	49.02	918.88	459.44	925.49	457.06	22.76	-1.70	0.119
130.00	-8.28	-2.91	0.00	-44.73	0.00	44.73	915.26	457.63	913.82	451.30	23.11	-1.71	0.108
132.00	-8.09	-2.83	0.00	-38.90	0.00	38.90	907.79	453.90	890.46	439.76	23.84	-1.74	0.097
135.00	-7.82	-2.73	0.00	-30.40	0.00	30.40	896.03	448.02	855.37	422.43	24.94	-1.76	0.081
138.00	-7.56	-2.63	0.00	-22.20	0.00	22.20	883.59	441.80	820.26	405.10	26.05	-1.79	0.063
141.00	-7.30	-2.56	0.00	-14.30	0.00	14.30	870.48	435.24	785.20	387.78	27.18	-1.81	0.045
142.00	-4.63	-1.48	0.00	-11.75	0.00	11.75	865.96	432.98	773.54	382.02	27.56	-1.81	0.036
144.00	-4.48	-1.43	0.00	-8.79	0.00	8.79	856.69	428.34	750.24	370.52	28.32	-1.82	0.029
146.00	-4.34	-1.40	0.00	-5.93	0.00	5.93	847.12	423.56	727.02	359.05	29.08	-1.82	0.022
146.00	-4.34	-1.40	0.00	-5.93	0.00	5.93	1,188.56	594.28	742.57	366.73	29.08	-1.82	0.020
147.00	-4.23	-1.36	0.00	-4.53	0.00	4.53	1,188.56	594.28	742.57	366.73	29.47	-1.83	0.016
149.00	-1.15	-0.23	0.00	-1.64	0.00	1.64	1,188.56	594.28	742.57	366.73	30.23	-1.83	0.005
150.00	-1.06	-0.19	0.00	-1.41	0.00	1.41	1,188.56	594.28	742.57	366.73	30.61	-1.83	0.005
153.00	-0.79	-0.15	0.00	-0.83	0.00	0.83	1,188.56	594.28	742.57	366.73	31.76	-1.83	0.003
155.00	0.00	-0.12	0.00	-0.53	0.00	0.53	1,188.56	594.28	742.57	366.73	32.53	-1.83	0.001

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	2.77
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	42.43 k
Seismic Base Shear (E):	1.65 k

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

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_g):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.77
Redundancy Factor (ρ):	1.30

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

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
65	154.00	180	1.866	1.854	1.094	0.338	53	155
64	151.50	270	1.806	1.564	0.987	0.301	70	232
63	149.50	90	1.758	1.356	0.907	0.273	21	77
62	148.00	228	1.723	1.212	0.851	0.253	50	196
61	146.50	114	1.688	1.079	0.797	0.233	23	98
60	145.00	144	1.654	0.955	0.746	0.215	27	124
59	143.00	146	1.609	0.806	0.682	0.191	24	126
58	141.50	87	1.575	0.703	0.637	0.173	13	75
57	139.50	264	1.531	0.580	0.580	0.152	35	228
56	136.50	268	1.466	0.420	0.503	0.121	28	231
55	133.50	272	1.402	0.288	0.434	0.093	22	234
54	131.00	183	1.350	0.196	0.382	0.071	11	158
53	129.50	100	1.319	0.148	0.353	0.059	5	86
52	127.70	261	1.283	0.098	0.321	0.046	10	225
51	126.20	75	1.253	0.060	0.296	0.035	2	64
50	124.50	561	1.219	0.024	0.269	0.024	11	484
49	122.61	147	1.183	-0.011	0.242	0.012	2	127
48	121.11	305	1.154	-0.034	0.222	0.003	1	263
47	118.50	426	1.105	-0.067	0.190	-0.010	-4	368
46	115.50	433	1.049	-0.094	0.157	-0.023	-9	373
45	112.50	439	0.996	-0.111	0.129	-0.033	-13	379
44	109.50	446	0.943	-0.120	0.105	-0.041	-16	385
43	106.50	452	0.892	-0.122	0.084	-0.047	-18	390
42	103.50	470	0.843	-0.118	0.067	-0.050	-20	406
41	100.50	477	0.795	-0.111	0.052	-0.050	-21	411
40	97.50	483	0.748	-0.100	0.040	-0.048	-20	417
39	94.50	490	0.703	-0.088	0.030	-0.044	-18	422
38	91.50	496	0.659	-0.074	0.023	-0.037	-16	428
37	88.50	503	0.616	-0.059	0.016	-0.028	-12	434
36	86.44	191	0.588	-0.048	0.013	-0.022	-4	165
35	84.94	568	0.568	-0.041	0.011	-0.016	-8	490
34	82.56	887	0.536	-0.029	0.009	-0.008	-6	766
33	81.06	22	0.517	-0.022	0.008	-0.002	0	19
32	79.50	585	0.497	-0.015	0.007	0.003	2	504

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

31	76.50	592	0.460	-0.002	0.006	0.014	7	511
30	73.50	600	0.425	0.010	0.006	0.023	12	518
29	70.50	608	0.391	0.021	0.007	0.032	17	524
28	67.50	616	0.358	0.030	0.008	0.038	20	531
27	64.50	624	0.327	0.039	0.010	0.044	24	538
26	62.00	420	0.302	0.045	0.012	0.047	17	362
25	60.50	212	0.288	0.048	0.013	0.049	9	183
24	58.50	640	0.269	0.052	0.015	0.050	28	552
23	56.00	431	0.247	0.056	0.017	0.052	19	372
22	54.50	217	0.234	0.058	0.019	0.052	10	187
21	52.50	656	0.217	0.061	0.021	0.053	30	566
20	49.50	664	0.193	0.064	0.024	0.053	31	573
19	46.86	508	0.173	0.066	0.027	0.053	23	438
18	45.36	304	0.162	0.067	0.028	0.053	14	262
17	43.50	1,260	0.149	0.068	0.030	0.053	57	1,087
16	41.29	606	0.134	0.069	0.032	0.052	27	523
15	39.79	400	0.125	0.070	0.034	0.052	18	345
14	37.50	771	0.111	0.070	0.036	0.051	34	665
13	34.50	780	0.094	0.071	0.038	0.051	34	673
12	31.50	789	0.078	0.072	0.040	0.050	34	680
11	28.50	798	0.064	0.072	0.041	0.049	34	688
10	25.50	807	0.051	0.071	0.042	0.048	34	696
9	22.50	816	0.040	0.070	0.042	0.047	34	704
8	19.50	825	0.030	0.068	0.041	0.046	33	712
7	17.50	277	0.024	0.066	0.039	0.045	11	239
6	16.00	557	0.020	0.064	0.038	0.044	21	481
5	13.50	843	0.014	0.060	0.035	0.042	31	728
4	10.50	852	0.009	0.053	0.030	0.038	28	735
3	7.50	862	0.004	0.043	0.024	0.032	24	743
2	4.50	871	0.002	0.029	0.016	0.023	18	751
1	1.50	880	0.000	0.011	0.006	0.010	8	759
EMS RR90-17-02DP	155.00	41	1.890	1.980	1.140	0.353	12	35
Ericsson KRY 112 71/	155.00	79	1.890	1.980	1.140	0.353	24	68
Canister	155.00	500	1.890	1.980	1.140	0.353	153	431
Andrew ABT-DMDF-	149.00	1	1.747	1.306	0.888	0.266	0	1
Kathrein 782-10250	149.00	38	1.747	1.306	0.888	0.266	9	33
CCI DTMABP7819VG12A	149.00	115	1.747	1.306	0.888	0.266	27	99
Ericsson RRUS 11 (Ba	149.00	300	1.747	1.306	0.888	0.266	69	259
KMW AM-X-CD-16-65-00	149.00	291	1.747	1.306	0.888	0.266	67	251
Powerwave 7020.00 Du	149.00	7	1.747	1.306	0.888	0.266	2	6
Flat Platform w/ Han	149.00	2,000	1.747	1.306	0.888	0.266	462	1,725
Powerwave 7770.00	149.00	105	1.747	1.306	0.888	0.266	24	91
7' Omni	149.00	25	1.747	1.306	0.888	0.266	6	22
Swedcom ALP 9212-N	142.00	160	1.586	0.737	0.652	0.179	25	138
Andrew LNX-6513DS-A1	142.00	93	1.586	0.737	0.652	0.179	14	80
Andrew HBXX-6516DS-A	142.00	184	1.586	0.737	0.652	0.179	29	158
RFS DB-T1-6Z-8AB-0Z	142.00	44	1.586	0.737	0.652	0.179	7	38
Flat Platform w/ Han	142.00	2,000	1.586	0.737	0.652	0.179	310	1,725
Alcatel-Lucent RRH2X	142.00	132	1.586	0.737	0.652	0.179	20	114
Decibel 980H65T2E-M	130.00	43	1.329	0.163	0.363	0.063	2	37
Decibel DB980H90A-KL	130.00	34	1.329	0.163	0.363	0.063	2	29
Flat Platform w/ Han	130.00	2,000	1.329	0.163	0.363	0.063	109	1,725
Flat Platform w/ Han	120.00	2,000	1.133	-0.050	0.208	-0.002	-4	1,725
48" x 12" Panel	120.00	270	1.133	-0.050	0.208	-0.002	-1	233
72" x 12" Panel	120.00	135	1.133	-0.050	0.208	-0.002	0	116
Kathrein Smart Bias	105.00	10	0.867	-0.121	0.075	-0.049	0	9
Commscope LNX-	105.00	151	0.867	-0.121	0.075	-0.049	-6	130
Stand Off	81.00	75	0.516	-0.022	0.008	-0.002	0	65
GPS	81.00	10	0.516	-0.022	0.008	-0.002	0	9
Stand Off	61.00	150	0.293	0.047	0.013	0.048	6	129
GPS	61.00	20	0.293	0.047	0.013	0.048	1	17
Stand Off	55.00	75	0.238	0.057	0.018	0.052	3	65
2" x 4" GPS	55.00	5	0.238	0.057	0.018	0.052	0	4
4' Std. Dish	17.00	188	0.023	0.065	0.039	0.045	7	162

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

42,426 86.030 34.166 29.324 8.338 2,346 36,600

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)
65	154.00	180	1.866	1.854	1.094	0.338	53	155
64	151.50	270	1.806	1.564	0.987	0.301	70	232
63	149.50	90	1.758	1.356	0.907	0.273	21	77
62	148.00	228	1.723	1.212	0.851	0.253	50	196
61	146.50	114	1.688	1.079	0.797	0.233	23	98
60	145.00	144	1.654	0.955	0.746	0.215	27	124
59	143.00	146	1.609	0.806	0.682	0.191	24	126
58	141.50	87	1.575	0.703	0.637	0.173	13	75
57	139.50	264	1.531	0.580	0.580	0.152	35	228
56	136.50	268	1.466	0.420	0.503	0.121	28	231
55	133.50	272	1.402	0.288	0.434	0.093	22	234
54	131.00	183	1.350	0.196	0.382	0.071	11	158
53	129.50	100	1.319	0.148	0.353	0.059	5	86
52	127.70	261	1.283	0.098	0.321	0.046	10	225
51	126.20	75	1.253	0.060	0.296	0.035	2	64
50	124.50	561	1.219	0.024	0.269	0.024	11	484
49	122.61	147	1.183	-0.011	0.242	0.012	2	127
48	121.11	305	1.154	-0.034	0.222	0.003	1	263
47	118.50	426	1.105	-0.067	0.190	-0.010	-4	368
46	115.50	433	1.049	-0.094	0.157	-0.023	-9	373
45	112.50	439	0.996	-0.111	0.129	-0.033	-13	379
44	109.50	446	0.943	-0.120	0.105	-0.041	-16	385
43	106.50	452	0.892	-0.122	0.084	-0.047	-18	390
42	103.50	470	0.843	-0.118	0.067	-0.050	-20	406
41	100.50	477	0.795	-0.111	0.052	-0.050	-21	411
40	97.50	483	0.748	-0.100	0.040	-0.048	-20	417
39	94.50	490	0.703	-0.088	0.030	-0.044	-18	422
38	91.50	496	0.659	-0.074	0.023	-0.037	-16	428
37	88.50	503	0.616	-0.059	0.016	-0.028	-12	434
36	86.44	191	0.588	-0.048	0.013	-0.022	-4	165
35	84.94	568	0.568	-0.041	0.011	-0.016	-8	490
34	82.56	887	0.536	-0.029	0.009	-0.008	-6	766
33	81.06	22	0.517	-0.022	0.008	-0.002	0	19
32	79.50	585	0.497	-0.015	0.007	0.003	2	504
31	76.50	592	0.460	-0.002	0.006	0.014	7	511
30	73.50	600	0.425	0.010	0.006	0.023	12	518
29	70.50	608	0.391	0.021	0.007	0.032	17	524
28	67.50	616	0.358	0.030	0.008	0.038	20	531
27	64.50	624	0.327	0.039	0.010	0.044	24	538
26	62.00	420	0.302	0.045	0.012	0.047	17	362
25	60.50	212	0.288	0.048	0.013	0.049	9	183
24	58.50	640	0.269	0.052	0.015	0.050	28	552
23	56.00	431	0.247	0.056	0.017	0.052	19	372
22	54.50	217	0.234	0.058	0.019	0.052	10	187
21	52.50	656	0.217	0.061	0.021	0.053	30	566
20	49.50	664	0.193	0.064	0.024	0.053	31	573
19	46.86	508	0.173	0.066	0.027	0.053	23	438
18	45.36	304	0.162	0.067	0.028	0.053	14	262
17	43.50	1,260	0.149	0.068	0.030	0.053	57	1,087
16	41.29	606	0.134	0.069	0.032	0.052	27	523
15	39.79	400	0.125	0.070	0.034	0.052	18	345
14	37.50	771	0.111	0.070	0.036	0.051	34	665
13	34.50	780	0.094	0.071	0.038	0.051	34	673
12	31.50	789	0.078	0.072	0.040	0.050	34	680

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

11	28.50	798	0.064	0.072	0.041	0.049	34	688
10	25.50	807	0.051	0.071	0.042	0.048	34	696
9	22.50	816	0.040	0.070	0.042	0.047	34	704
8	19.50	825	0.030	0.068	0.041	0.046	33	712
7	17.50	277	0.024	0.066	0.039	0.045	11	239
6	16.00	557	0.020	0.064	0.038	0.044	21	481
5	13.50	843	0.014	0.060	0.035	0.042	31	728
4	10.50	852	0.009	0.053	0.030	0.038	28	735
3	7.50	862	0.004	0.043	0.024	0.032	24	743
2	4.50	871	0.002	0.029	0.016	0.023	18	751
1	1.50	880	0.000	0.011	0.006	0.010	8	759
EMS RR90-17-02DP	155.00	41	1.890	1.980	1.140	0.353	12	35
Ericsson KRY 112 71/	155.00	79	1.890	1.980	1.140	0.353	24	68
Canister	155.00	500	1.890	1.980	1.140	0.353	153	431
Andrew ABT-DMDF-	149.00	1	1.747	1.306	0.888	0.266	0	1
Kathrein 782-10250	149.00	38	1.747	1.306	0.888	0.266	9	33
CCI DTMABP7819VG12A	149.00	115	1.747	1.306	0.888	0.266	27	99
Ericsson RRUS 11 (Ba	149.00	300	1.747	1.306	0.888	0.266	69	259
KMW AM-X-CD-16-65-00	149.00	291	1.747	1.306	0.888	0.266	67	251
Powerwave 7020.00 Du	149.00	7	1.747	1.306	0.888	0.266	2	6
Flat Platform w/ Han	149.00	2,000	1.747	1.306	0.888	0.266	462	1,725
Powerwave 7770.00	149.00	105	1.747	1.306	0.888	0.266	24	91
7' Omni	149.00	25	1.747	1.306	0.888	0.266	6	22
Swedcom ALP 9212-N	142.00	160	1.586	0.737	0.652	0.179	25	138
Andrew LNX-6513DS-A1	142.00	93	1.586	0.737	0.652	0.179	14	80
Andrew HBXX-6516DS-A	142.00	184	1.586	0.737	0.652	0.179	29	158
RFS DB-T1-6Z-8AB-0Z	142.00	44	1.586	0.737	0.652	0.179	7	38
Flat Platform w/ Han	142.00	2,000	1.586	0.737	0.652	0.179	310	1,725
Alcatel-Lucent RRH2X	142.00	132	1.586	0.737	0.652	0.179	20	114
Decibel 980H65T2E-M	130.00	43	1.329	0.163	0.363	0.063	2	37
Decibel DB980H90A-KL	130.00	34	1.329	0.163	0.363	0.063	2	29
Flat Platform w/ Han	130.00	2,000	1.329	0.163	0.363	0.063	109	1,725
Flat Platform w/ Han	120.00	2,000	1.133	-0.050	0.208	-0.002	-4	1,725
48" x 12" Panel	120.00	270	1.133	-0.050	0.208	-0.002	-1	233
72" x 12" Panel	120.00	135	1.133	-0.050	0.208	-0.002	0	116
Kathrein Smart Bias	105.00	10	0.867	-0.121	0.075	-0.049	0	9
Commscope LNX-	105.00	151	0.867	-0.121	0.075	-0.049	-6	130
Stand Off	81.00	75	0.516	-0.022	0.008	-0.002	0	65
GPS	81.00	10	0.516	-0.022	0.008	-0.002	0	9
Stand Off	61.00	150	0.293	0.047	0.013	0.048	6	129
GPS	61.00	20	0.293	0.047	0.013	0.048	1	17
Stand Off	55.00	75	0.238	0.057	0.018	0.052	3	65
2" x 4" GPS	55.00	5	0.238	0.057	0.018	0.052	0	4
4' Std. Dish	17.00	188	0.023	0.065	0.039	0.045	7	162
		42,426	86.030	34.166	29.324	8.338	2,346	36,600

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
65	154.00	180	1.866	1.854	1.094	0.338	53	155
64	151.50	270	1.806	1.564	0.987	0.301	70	232
63	149.50	90	1.758	1.356	0.907	0.273	21	77
62	148.00	228	1.723	1.212	0.851	0.253	50	196
61	146.50	114	1.688	1.079	0.797	0.233	23	98
60	145.00	144	1.654	0.955	0.746	0.215	27	124
59	143.00	146	1.609	0.806	0.682	0.191	24	126
58	141.50	87	1.575	0.703	0.637	0.173	13	75
57	139.50	264	1.531	0.580	0.580	0.152	35	228
56	136.50	268	1.466	0.420	0.503	0.121	28	231

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

55	133.50	272	1.402	0.288	0.434	0.093	22	234
54	131.00	183	1.350	0.196	0.382	0.071	11	158
53	129.50	100	1.319	0.148	0.353	0.059	5	86
52	127.70	261	1.283	0.098	0.321	0.046	10	225
51	126.20	75	1.253	0.060	0.296	0.035	2	64
50	124.50	561	1.219	0.024	0.269	0.024	11	484
49	122.61	147	1.183	-0.011	0.242	0.012	2	127
48	121.11	305	1.154	-0.034	0.222	0.003	1	263
47	118.50	426	1.105	-0.067	0.190	-0.010	-4	368
46	115.50	433	1.049	-0.094	0.157	-0.023	-9	373
45	112.50	439	0.996	-0.111	0.129	-0.033	-13	379
44	109.50	446	0.943	-0.120	0.105	-0.041	-16	385
43	106.50	452	0.892	-0.122	0.084	-0.047	-18	390
42	103.50	470	0.843	-0.118	0.067	-0.050	-20	406
41	100.50	477	0.795	-0.111	0.052	-0.050	-21	411
40	97.50	483	0.748	-0.100	0.040	-0.048	-20	417
39	94.50	490	0.703	-0.088	0.030	-0.044	-18	422
38	91.50	496	0.659	-0.074	0.023	-0.037	-16	428
37	88.50	503	0.616	-0.059	0.016	-0.028	-12	434
36	86.44	191	0.588	-0.048	0.013	-0.022	-4	165
35	84.94	568	0.568	-0.041	0.011	-0.016	-8	490
34	82.56	887	0.536	-0.029	0.009	-0.008	-6	766
33	81.06	22	0.517	-0.022	0.008	-0.002	0	19
32	79.50	585	0.497	-0.015	0.007	0.003	2	504
31	76.50	592	0.460	-0.002	0.006	0.014	7	511
30	73.50	600	0.425	0.010	0.006	0.023	12	518
29	70.50	608	0.391	0.021	0.007	0.032	17	524
28	67.50	616	0.358	0.030	0.008	0.038	20	531
27	64.50	624	0.327	0.039	0.010	0.044	24	538
26	62.00	420	0.302	0.045	0.012	0.047	17	362
25	60.50	212	0.288	0.048	0.013	0.049	9	183
24	58.50	640	0.269	0.052	0.015	0.050	28	552
23	56.00	431	0.247	0.056	0.017	0.052	19	372
22	54.50	217	0.234	0.058	0.019	0.052	10	187
21	52.50	656	0.217	0.061	0.021	0.053	30	566
20	49.50	664	0.193	0.064	0.024	0.053	31	573
19	46.86	508	0.173	0.066	0.027	0.053	23	438
18	45.36	304	0.162	0.067	0.028	0.053	14	262
17	43.50	1,260	0.149	0.068	0.030	0.053	57	1,087
16	41.29	606	0.134	0.069	0.032	0.052	27	523
15	39.79	400	0.125	0.070	0.034	0.052	18	345
14	37.50	771	0.111	0.070	0.036	0.051	34	665
13	34.50	780	0.094	0.071	0.038	0.051	34	673
12	31.50	789	0.078	0.072	0.040	0.050	34	680
11	28.50	798	0.064	0.072	0.041	0.049	34	688
10	25.50	807	0.051	0.071	0.042	0.048	34	696
9	22.50	816	0.040	0.070	0.042	0.047	34	704
8	19.50	825	0.030	0.068	0.041	0.046	33	712
7	17.50	277	0.024	0.066	0.039	0.045	11	239
6	16.00	557	0.020	0.064	0.038	0.044	21	481
5	13.50	843	0.014	0.060	0.035	0.042	31	728
4	10.50	852	0.009	0.053	0.030	0.038	28	735
3	7.50	862	0.004	0.043	0.024	0.032	24	743
2	4.50	871	0.002	0.029	0.016	0.023	18	751
1	1.50	880	0.000	0.011	0.006	0.010	8	759
EMS RR90-17-02DP	155.00	41	1.890	1.980	1.140	0.353	12	35
Ericsson KRY 112 71/	155.00	79	1.890	1.980	1.140	0.353	24	68
Canister	155.00	500	1.890	1.980	1.140	0.353	153	431
Andrew ABT-DMDF-	149.00	1	1.747	1.306	0.888	0.266	0	1
Kathrein 782-10250	149.00	38	1.747	1.306	0.888	0.266	9	33
CCI DTMABP7819VG12A	149.00	115	1.747	1.306	0.888	0.266	27	99
Ericsson RRUS 11 (Ba	149.00	300	1.747	1.306	0.888	0.266	69	259
KMW AM-X-CD-16-65-00	149.00	291	1.747	1.306	0.888	0.266	67	251
Powerwave 7020.00 Du	149.00	7	1.747	1.306	0.888	0.266	2	6

Site Number: 302495

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

Flat Platform w/ Han	149.00	2,000	1.747	1.306	0.888	0.266	462	1,725
Powerwave 7770.00	149.00	105	1.747	1.306	0.888	0.266	24	91
7' Omni	149.00	25	1.747	1.306	0.888	0.266	6	22
Swedcom ALP 9212-N	142.00	160	1.586	0.737	0.652	0.179	25	138
Andrew LNX-6513DS-A1	142.00	93	1.586	0.737	0.652	0.179	14	80
Andrew HBXX-6516DS-A	142.00	184	1.586	0.737	0.652	0.179	29	158
RFS DB-T1-6Z-8AB-OZ	142.00	44	1.586	0.737	0.652	0.179	7	38
Flat Platform w/ Han	142.00	2,000	1.586	0.737	0.652	0.179	310	1,725
Alcatel-Lucent RRH2X	142.00	132	1.586	0.737	0.652	0.179	20	114
Decibel 980H65T2E-M	130.00	43	1.329	0.163	0.363	0.063	2	37
Decibel DB980H90A-KL	130.00	34	1.329	0.163	0.363	0.063	2	29
Flat Platform w/ Han	130.00	2,000	1.329	0.163	0.363	0.063	109	1,725
Flat Platform w/ Han	120.00	2,000	1.133	-0.050	0.208	-0.002	-4	1,725
48" x 12" Panel	120.00	270	1.133	-0.050	0.208	-0.002	-1	233
72" x 12" Panel	120.00	135	1.133	-0.050	0.208	-0.002	0	116
Kathrein Smart Bias	105.00	10	0.867	-0.121	0.075	-0.049	0	9
Commscope LNX-	105.00	151	0.867	-0.121	0.075	-0.049	-6	130
Stand Off	81.00	75	0.516	-0.022	0.008	-0.002	0	65
GPS	81.00	10	0.516	-0.022	0.008	-0.002	0	9
Stand Off	61.00	150	0.293	0.047	0.013	0.048	6	129
GPS	61.00	20	0.293	0.047	0.013	0.048	1	17
Stand Off	55.00	75	0.238	0.057	0.018	0.052	3	65
2" x 4" GPS	55.00	5	0.238	0.057	0.018	0.052	0	4
4' Std. Dish	17.00	188	0.023	0.065	0.039	0.045	7	162
		42,426	86.030	34.166	29.324	8.338	2,346	36,600

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
65	154.00	180	1.866	1.854	1.094	0.338	53	155
64	151.50	270	1.806	1.564	0.987	0.301	70	232
63	149.50	90	1.758	1.356	0.907	0.273	21	77
62	148.00	228	1.723	1.212	0.851	0.253	50	196
61	146.50	114	1.688	1.079	0.797	0.233	23	98
60	145.00	144	1.654	0.955	0.746	0.215	27	124
59	143.00	146	1.609	0.806	0.682	0.191	24	126
58	141.50	87	1.575	0.703	0.637	0.173	13	75
57	139.50	264	1.531	0.580	0.580	0.152	35	228
56	136.50	268	1.466	0.420	0.503	0.121	28	231
55	133.50	272	1.402	0.288	0.434	0.093	22	234
54	131.00	183	1.350	0.196	0.382	0.071	11	158
53	129.50	100	1.319	0.148	0.353	0.059	5	86
52	127.70	261	1.283	0.098	0.321	0.046	10	225
51	126.20	75	1.253	0.060	0.296	0.035	2	64
50	124.50	561	1.219	0.024	0.269	0.024	11	484
49	122.61	147	1.183	-0.011	0.242	0.012	2	127
48	121.11	305	1.154	-0.034	0.222	0.003	1	263
47	118.50	426	1.105	-0.067	0.190	-0.010	-4	368
46	115.50	433	1.049	-0.094	0.157	-0.023	-9	373
45	112.50	439	0.996	-0.111	0.129	-0.033	-13	379
44	109.50	446	0.943	-0.120	0.105	-0.041	-16	385
43	106.50	452	0.892	-0.122	0.084	-0.047	-18	390
42	103.50	470	0.843	-0.118	0.067	-0.050	-20	406
41	100.50	477	0.795	-0.111	0.052	-0.050	-21	411
40	97.50	483	0.748	-0.100	0.040	-0.048	-20	417
39	94.50	490	0.703	-0.088	0.030	-0.044	-18	422
38	91.50	496	0.659	-0.074	0.023	-0.037	-16	428
37	88.50	503	0.616	-0.059	0.016	-0.028	-12	434
36	86.44	191	0.588	-0.048	0.013	-0.022	-4	165

Site Number: 302495

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

35	84.94	568	0.568	-0.041	0.011	-0.016	-8	490
34	82.56	887	0.536	-0.029	0.009	-0.008	-6	766
33	81.06	22	0.517	-0.022	0.008	-0.002	0	19
32	79.50	585	0.497	-0.015	0.007	0.003	2	504
31	76.50	592	0.460	-0.002	0.006	0.014	7	511
30	73.50	600	0.425	0.010	0.006	0.023	12	518
29	70.50	608	0.391	0.021	0.007	0.032	17	524
28	67.50	616	0.358	0.030	0.008	0.038	20	531
27	64.50	624	0.327	0.039	0.010	0.044	24	538
26	62.00	420	0.302	0.045	0.012	0.047	17	362
25	60.50	212	0.288	0.048	0.013	0.049	9	183
24	58.50	640	0.269	0.052	0.015	0.050	28	552
23	56.00	431	0.247	0.056	0.017	0.052	19	372
22	54.50	217	0.234	0.058	0.019	0.052	10	187
21	52.50	656	0.217	0.061	0.021	0.053	30	566
20	49.50	664	0.193	0.064	0.024	0.053	31	573
19	46.86	508	0.173	0.066	0.027	0.053	23	438
18	45.36	304	0.162	0.067	0.028	0.053	14	262
17	43.50	1,260	0.149	0.068	0.030	0.053	57	1,087
16	41.29	606	0.134	0.069	0.032	0.052	27	523
15	39.79	400	0.125	0.070	0.034	0.052	18	345
14	37.50	771	0.111	0.070	0.036	0.051	34	665
13	34.50	780	0.094	0.071	0.038	0.051	34	673
12	31.50	789	0.078	0.072	0.040	0.050	34	680
11	28.50	798	0.064	0.072	0.041	0.049	34	688
10	25.50	807	0.051	0.071	0.042	0.048	34	696
9	22.50	816	0.040	0.070	0.042	0.047	34	704
8	19.50	825	0.030	0.068	0.041	0.046	33	712
7	17.50	277	0.024	0.066	0.039	0.045	11	239
6	16.00	557	0.020	0.064	0.038	0.044	21	481
5	13.50	843	0.014	0.060	0.035	0.042	31	728
4	10.50	852	0.009	0.053	0.030	0.038	28	735
3	7.50	862	0.004	0.043	0.024	0.032	24	743
2	4.50	871	0.002	0.029	0.016	0.023	18	751
1	1.50	880	0.000	0.011	0.006	0.010	8	759
EMS RR90-17-02DP	155.00	41	1.890	1.980	1.140	0.353	12	35
Ericsson KRY 112 71/	155.00	79	1.890	1.980	1.140	0.353	24	68
Canister	155.00	500	1.890	1.980	1.140	0.353	153	431
Andrew ABT-DMDF-	149.00	1	1.747	1.306	0.888	0.266	0	1
Kathrein 782-10250	149.00	38	1.747	1.306	0.888	0.266	9	33
CCI DTMAPB7819VG12A	149.00	115	1.747	1.306	0.888	0.266	27	99
Ericsson RRUS 11 (Ba	149.00	300	1.747	1.306	0.888	0.266	69	259
KMW AM-X-CD-16-65-00	149.00	291	1.747	1.306	0.888	0.266	67	251
Powerwave 7020.00 Du	149.00	7	1.747	1.306	0.888	0.266	2	6
Flat Platform w/ Han	149.00	2,000	1.747	1.306	0.888	0.266	462	1,725
Powerwave 7770.00	149.00	105	1.747	1.306	0.888	0.266	24	91
7' Omni	149.00	25	1.747	1.306	0.888	0.266	6	22
Swedcom ALP 9212-N	142.00	160	1.586	0.737	0.652	0.179	25	138
Andrew LNX-6513DS-A1	142.00	93	1.586	0.737	0.652	0.179	14	80
Andrew HBXX-6516DS-A	142.00	184	1.586	0.737	0.652	0.179	29	158
RFS DB-T1-6Z-8AB-0Z	142.00	44	1.586	0.737	0.652	0.179	7	38
Flat Platform w/ Han	142.00	2,000	1.586	0.737	0.652	0.179	310	1,725
Alcatel-Lucent RRH2X	142.00	132	1.586	0.737	0.652	0.179	20	114
Decibel 980H65T2E-M	130.00	43	1.329	0.163	0.363	0.063	2	37
Decibel DB980H90A-KL	130.00	34	1.329	0.163	0.363	0.063	2	29
Flat Platform w/ Han	130.00	2,000	1.329	0.163	0.363	0.063	109	1,725
Flat Platform w/ Han	120.00	2,000	1.133	-0.050	0.208	-0.002	-4	1,725
48" x 12" Panel	120.00	270	1.133	-0.050	0.208	-0.002	-1	233
72" x 12" Panel	120.00	135	1.133	-0.050	0.208	-0.002	0	116
Kathrein Smart Bias	105.00	10	0.867	-0.121	0.075	-0.049	0	9
Commscope LNX-	105.00	151	0.867	-0.121	0.075	-0.049	-6	130
Stand Off	81.00	75	0.516	-0.022	0.008	-0.002	0	65
GPS	81.00	10	0.516	-0.022	0.008	-0.002	0	9
Stand Off	61.00	150	0.293	0.047	0.013	0.048	6	129

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

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Customer: Metro PCS

GPS	61.00	20	0.293	0.047	0.013	0.048	1	17
Stand Off	55.00	75	0.238	0.057	0.018	0.052	3	65
2" x 4" GPS	55.00	5	0.238	0.057	0.018	0.052	0	4
4' Std. Dish	17.00	188	0.023	0.065	0.039	0.045	7	162
		42,426	86.030	34.166	29.324	8.338	2,346	36,600

Site Number: 302495

Code: ANSI/TIA-222-G

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Site Name: Tolland CT, CT

Engineering Number: 63171722

8/4/2015 6:07:51 PM

Customer: Metro PCS

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	36.21	0.00	50.86	0.00	0.00	3963.01	45.73	0.88
0.9D + 1.6W	35.96	0.00	38.14	0.00	0.00	3872.78	45.73	0.85
1.2D + 1.0Di + 1.0Wi	8.20	0.00	92.13	0.00	0.00	999.47	45.73	0.25
(1.2 + 0.2Sds) * DL + E ELFM	1.66	0.00	51.41	0.00	0.00	216.23	45.73	0.06
(1.2 + 0.2Sds) * DL + E EMAM	2.34	0.00	51.41	0.00	0.00	286.24	126.40	0.09
(0.9 - 0.2Sds) * DL + E ELFM	1.66	0.00	35.84	0.00	0.00	211.94	45.73	0.06
(0.9 - 0.2Sds) * DL + E EMAM	2.34	0.00	35.84	0.00	0.00	280.19	126.40	0.09
1.0D + 1.0W	8.09	0.00	42.42	0.00	0.00	878.23	45.73	0.20

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	50 in
	Pole Thickness	0.4375 in
	Plate Diameter	65 in
	Plate Thickness	2 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	970.13 k-in
	Applied	575.35 k-in
	Stiffeners	#
	Thickness	0.75 in
	Length	5 in
	Height	12 in
	Chamfer	0.75 in
	Offset Angle	45°
	Fy	36 ksi

Code Rev. **G**

Moment **3963.0 k-ft**
Axial **50.9 k**

Date **8/4/2015**
Engineer **J. King**
Site # **302495**
Carrier **Metro PCS**

Bolts	#	16
	Bolt Circle (R)adial / (S)quare	59 in R
	Diameter	2.25 in
	Hole Diameter	2.75 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
	Applied	204.57 k
	Reinforcement	#
Extra Bolts	#	0

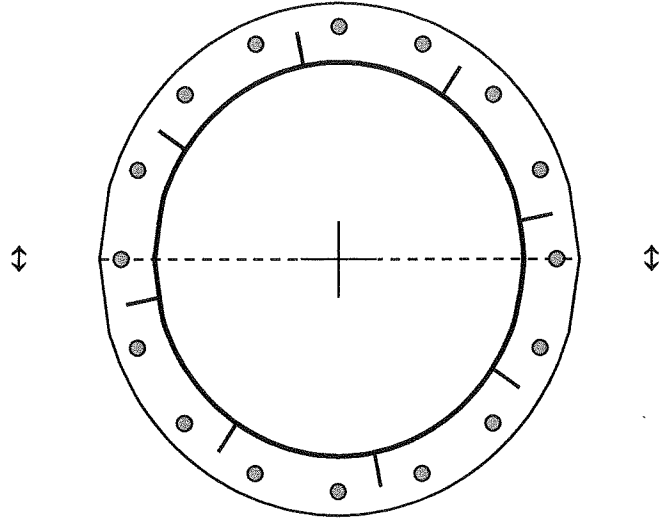


Plate Stress Ratio:
0.59 (Pass)

Bolt Stress Ratio:
0.79 (Pass)

Base/Flange Plate	Plate Type	Flange @ 146.0 ft
	Pole Diameter	16 in
	Pole Thickness	0.5 in
	Plate Diameter	28.5 in
	Plate Thickness	1 in
	Plate Fy	36 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	33.93 k-in
	Applied	15.13 k-in
	Stiffeners	#

Code Rev. **G**

Date **8/4/2015**
 Engineer **J. King**
 Site # **302495**
 Carrier **Metro PCS**

Moment **26.7 k-ft**
 Axial **4.4 k**

Required Flange Thickness:

0.67 in OK

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	3.78 k
Reinforcement	#	0
Extra Bolts	#	0

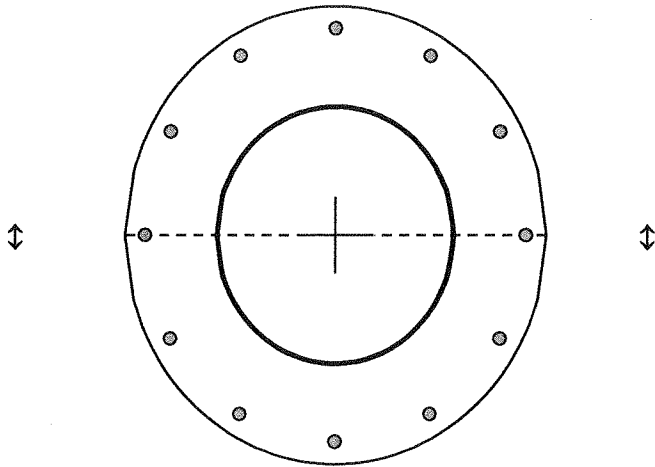


Plate Stress Ratio:
0.45 (Pass)

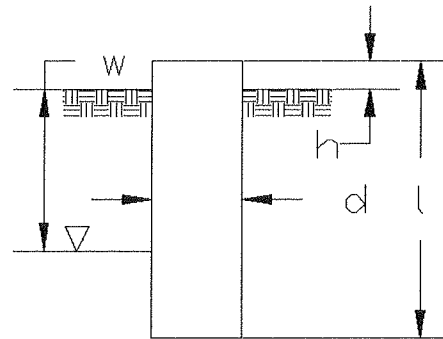
Bolt Stress Ratio:
0.07 (Pass)

Site Name: Tolland CT, CT
 Site Number: 302495
 Engineer: J. King
 Engineering Number: 63171722
 Date: 08/04/15

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: N
 Moment (M): 3963.0 k-ft
 Shear/Leg (V): 36.2 k
 Axial Load (P): 50.9 k
 Uplift/Leg (U): k
 Tower Type (GT / SST / MP): MP
 Diameter of Caisson (d): 7.0 ft
 Caisson Embedment (L-h): 30.0 ft
 Caisson Height Above Ground (h): 1.0 ft
 Depth Below Ground Surface to Water Table (w): 5.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 0.57
 Pullout Angle: 30.0 degrees



Engineer Notes

Soil Mechanical Properties

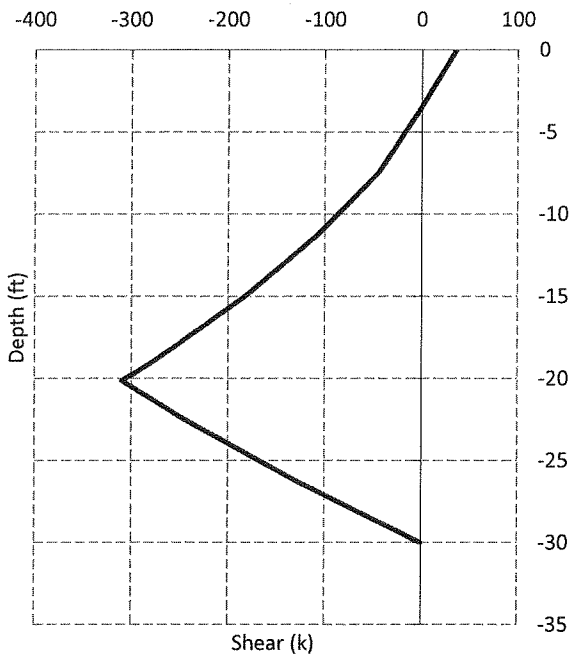
Depth (ft)		γ_{soil}	Cohesion	ϕ	Ultimate Skin	Ultimate Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	3.0	120	0	0	0	0
3.0	31.0	120	0	45	570	10000

Required Embedment: 20.0 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 1193.0 ft³ = 44.2 yd³
 Weight of Concrete (Buoyancy Effect Considered): 118.9 k
 Average Soil Unit Weight: 67.9 pcf
 Skin Friction Resistance: 338.4 k
 Compressive Bearing Resistance: 384.8 k
 Pullout Weight (Minus Concrete Weight): 1027.2 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 233.9 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 542.5 k
 P_u : 92.6 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.17 Result: OK
 Total Lateral Resistance: 3917.2 k
 Inflection Point (Below Ground Surface): 20.1 ft
 Design Overturning Moment At Inflection Point (M_D): 4728.6 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 17889.2 k-ft
 $M_D / \phi_s M_n$: 0.26 Result: OK
 ϕ_s : 0.75

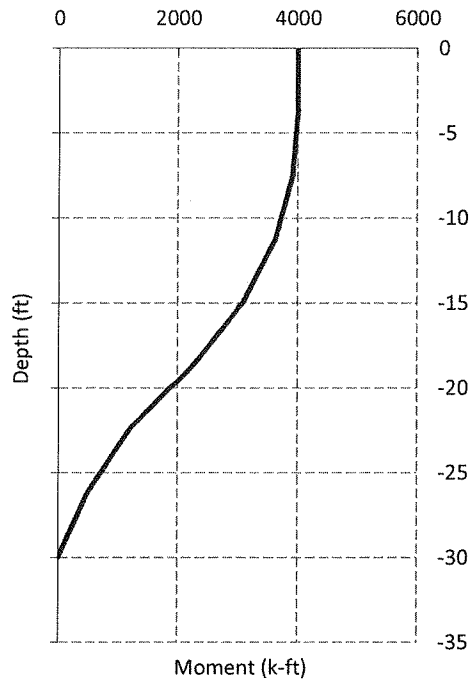
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	4000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	18
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	4005.5 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	4700.7 k-ft - ACI318-005 - 10.2
$M_u/\phi_B M_n$:	0.85 Result: OK
Design Shear (V_u):	309.4 k
Nominal Shear Capacity ($\phi_V V_n$):	528.2 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u/\phi_V V_n$:	0.59 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	1516.3 k - ACI318-05 - 10.2
$T_u/\phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	92.6 k
Nominal Compression Capacity ($\phi_P P_n$):	9748.2 k - ACI318-05 - 10.3.6.2
$P_u/\phi_P P_n$:	0.01 Result: OK
Bending Reinforcement Ratio:	0.005 ACI318-05 - 10.8.4 & 10.9.1
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.85 Result: OK

Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads

