



10 INDUSTRIAL AVE,
SUITE 3
MAHWAH NJ 07430

PHONE: 201.684.0055
FAX: 201.684.0066

September 26, 2018

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

Notice of Exempt Modification
185 Research Drive, Milford, CT 06460
Latitude- 41.24041944
Longitude- -73.0119

Dear Ms. Bachman,

T-Mobile currently maintains (3) existing antennas 145' level of the existing 183' monopole at 185 Research Drive in Milford, Connecticut. The tower and property is owned by American Tower Corporation. T-Mobile now intends to remove the (3) existing antennas and add (6) new 600/700/1900/2100 MHz antennas. These antennas would be installed at the same 145' level of the tower. T-Mobile also intends to remove and replace (6) tower-mounted amplifiers, add (3) remote radio heads, and add (2) hybrid cables.

This tower facility was originally approved by the City of Milford Planning and Zoning on October 25, 1994. This approval did not come with conditions that would be violated by this proposed modification.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. 16-50j-72(b)(2). In accordance with R.C.S.A. 16-50j-73, a copy of this letter is being sent to Benjamin G. Blake, Mayor of the City of Milford, David Sulkis, City Planner for the City of Milford, as well as the tower and property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-72(b)(2).

1. The proposed modification will not result in an increase in the height of the existing structure
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Kyle Richers

Kyle Richers
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
908-447-4716
krichers@transcendwireless.com

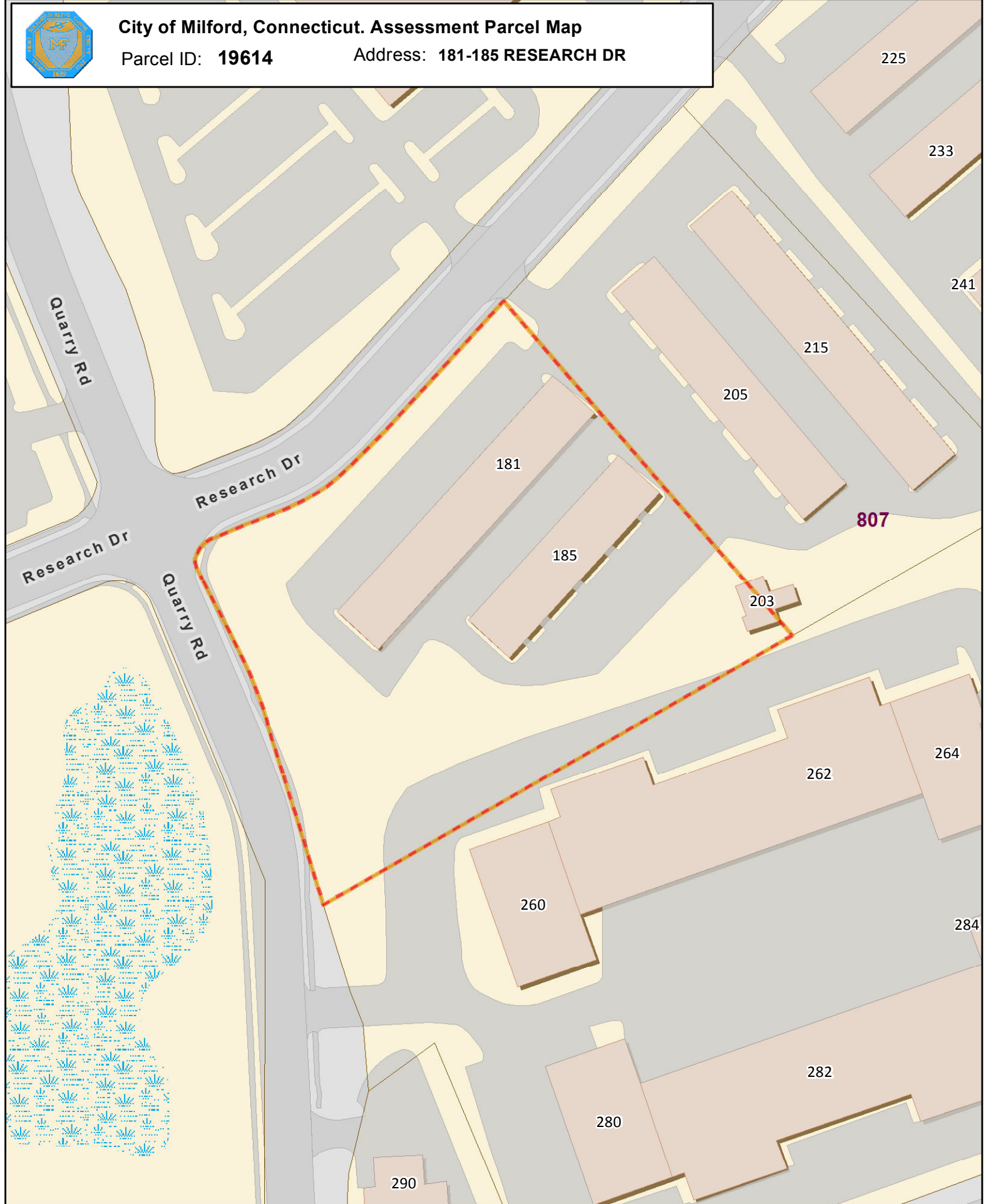
cc: Benjamin G. Blake- as elected official
David Sulkis- as zoning official
American Tower- as owner



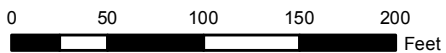
City of Milford, Connecticut. Assessment Parcel Map

Parcel ID: **19614**

Address: **181-185 RESEARCH DR**



1 inch = 100 feet



Disclaimer: This map is for informational purposes only. All information is subject to verification by any user. The City of Milford and its mapping contractors assume no legal responsibility for the information contained herein.

Map Produced: July 2016

181-1 RESEARCH DR #CELL

Location 181-1 RESEARCH DR #CELL

Mblu 91/ 807/ 13A7/1 /

Acct# 023046

Owner AMERICAN TOWER

Assessment \$322,730

Appraisal \$461,050

PID 100283

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$461,050	\$0	\$461,050

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$322,730	\$0	\$322,730

Owner of Record

Owner AMERICAN TOWER
Other C/O PROPERTY TAX DEPT
Address P O BOX 723597
ATLANTA, GA 31139

Sale Price \$425,000
Certificate
Book & Page 03366/0163
Sale Date 06/29/2010
Instrument 00

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
AMERICAN TOWER	\$425,000		03366/0163	00	06/29/2010
DAMATO INVESTMENTS LLC	\$0		02289/0578		07/08/1998
DAMATO JOHN C JR &	\$587,500		01942/0499		12/31/1992

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: \$0
Building Percent
Good:
Replacement Cost
Less Depreciation: \$0

Building Attributes


Field	Description
Style	Outbuildings
Model	
Grade:	
Stories:	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Total Xtra Fixtrs:	
Total Rooms:	
Bath Description:	
Kitchen Descrip:	
Int Condition:	
Solar Panels	
House Generator	

Building Photo



(<http://images.vgsi.com/photos/MilfordCTPhotos//default.jpg>)

Building Layout

 Building Layout

(<http://images.vgsi.com/photos/MilfordCTPhotos//Sketches/1002>)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 434V
Description CELL TOWER MDL-00
Zone
Neighborhood F

Land Line Valuation

Size (Acres) 0
Frontage
Depth
Assessed Value \$0

Outbuildings

Outbuildings						<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
CEL1	CEL TWR SITE			1 UNITS	\$450,000	1
PAT2	PATIO-GOOD			943 S.F.	\$9,620	1
FN8	W/O TOP RL-6'			182 L.F.	\$1,430	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$461,050	\$0	\$461,050
2016	\$461,050	\$0	\$461,050
2013	\$461,050	\$0	\$461,050

Assessment			
Valuation Year	Improvements	Land	Total
2017	\$322,730	\$0	\$322,730
2016	\$322,730	\$0	\$322,730
2013	\$322,730	\$0	\$322,730

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

T-Mobile Existing Facility

Site ID: CT11020D

Milford CT 2
185 Research Drive
Milford, CT 06460

September 11, 2018

EBI Project Number: 6218006109

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	9.02 %



September 11, 2018

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

Emissions Analysis for Site: **CT11020D – Milford CT 2**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **185 Research Drive, Milford, 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 population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at **185 Research Drive, Milford, 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 for directional panel antennas, 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) 1 GSM channels (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 15 Watts per Channel.
- 2) 1 UMTS channel (PCS Band - 1900 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 3) 1 UMTS channel (AWS Band – 2100 MHz) was considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 4) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 5) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.



- 7) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.
- 8) 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.
- 9) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.
- 10) The antennas used in this modeling are the **Ericsson AIR32 B26A/B66A & RFS APXVAARR24_43-U-NA20** for 600 MHz, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.
- 11) The antenna mounting height centerline of the proposed antennas is **145 feet** above ground level (AGL).
- 12) 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.
- 13) All calculations were done with respect to uncontrolled / general population threshold limits.



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR32 B26A/B66A	Make / Model:	Ericsson AIR32 B26A/B66A	Make / Model:	Ericsson AIR32 B26A/B66A
Gain:	dBd	Gain:	dBd	Gain:	dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	200	Total TX Power(W):	200	Total TX Power(W):	200
ERP (W):	7,780.90	ERP (W):	7,780.90	ERP (W):	7,780.90
Antenna A1 MPE%	1.45	Antenna B1 MPE%	1.45	Antenna C1 MPE%	1.45
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd	Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd	Gain:	15.65 / 16.35 / 12.95 / 13.35 dBd
Height (AGL):	145 feet	Height (AGL):	145 feet	Height (AGL):	145 feet
Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	1900 MHz (PCS) / 2100 MHz (AWS) / 600 MHz / 700 MHz
Channel Count	7	Channel Count	7	Channel Count	7
Total TX Power(W):	215	Total TX Power(W):	215	Total TX Power(W):	215
ERP (W):	6,189.15	ERP (W):	6,189.15	ERP (W):	6,189.15
Antenna A2 MPE%	1.77	Antenna B2 MPE%	1.77	Antenna C2 MPE%	1.77

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	3.22 %
AT&T	1.72 %
Computer Hospital	0.01 %
MetroPCS	0.43 %
Sprint	0.62 %
Nextel	0.18 %
Clearwire	0.06 %
Verizon Wireless	2.78 %
Site Total MPE %:	9.02 %

T-Mobile Sector A Total:	3.22 %
T-Mobile Sector B Total:	3.22 %
T-Mobile Sector C Total:	3.22 %
Site Total:	
	9.02 %



T-Mobile Maximum MPE Power Values (Per Sector)

T-Mobile Frequency Band / Technology (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 PCS - 1900 MHz LTE	2	1,556.18	145	5.79	PCS - 1900 MHz	1000.00	0.58%
T-Mobile AWS - 2100 MHz LTE	2	2,334.27	145	8.69	AWS - 2100 MHz	1000.00	0.87%
T-Mobile PCS - 1900 MHz GSM	1	550.92	145	1.03	PCS - 1900 MHz	1000.00	0.10%
T-Mobile PCS - 1900 MHz UMTS	1	1,469.13	145	2.73	PCS - 1900 MHz	1000.00	0.27%
T-Mobile AWS - 2100 MHz UMTS	1	1,726.08	145	3.21	AWS - 2100 MHz	1000.00	0.32%
T-Mobile 600 MHz LTE	2	788.97	145	2.94	600 MHz	400.00	0.73%
T-Mobile 700 MHz LTE	2	432.54	145	1.61	700 MHz	467.00	0.35%
						Total:	3.22%



Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	3.22 %
Sector B:	3.22 %
Sector C:	3.22 %
T-Mobile Maximum MPE % (Per Sector):	3.22 %
Site Total:	9.02 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **9.02%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 183 ft Monopole
ATC Site Name : Milford CT 2, CT
ATC Site Number : 302535
Engineering Number : 12598482_C3_04
Proposed Carrier : T-Mobile
Carrier Site Name : CT11020D
Carrier Site Number : CT11020D
Site Location : 185 Research Drive
Milford, CT 06460-7733
41.240400,-73.011900
County : New Haven
Date : August 29, 2018
Max Usage : 94%
Result : Pass

Prepared By:
Travis J. Gatling
Structural Engineer I

Reviewed By:



Authorized by "EOR"
Aug 29 2018 3:29 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 183 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	Summit Manufacturing Drawing #1237-D1, dated September 9, 1994
Foundation Drawing	Summit Manufacturing Drawing #1237-F1 dated October 10, 1994
Geotechnical Report	French & Parrello Project #93N035CR1, dated November 2, 1993
Modifications	ATC Job #42659834, dated January 16, 2009 ATC Job #43915332, dated September 2, 2009 ATC Job #56682734, dated April 16, 2014

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:	97 mph (3-Second Gust V_{ASD}) / 125 mph (3-Second Gust V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.19$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

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

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

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
183.0	185.0	2	DragonWave Horizon Compact	Site Pro 1 RMQP-496-HK Platform w/ Handrails	(3) 1 1/4" Hybriflex (2) 2" Conduit (2) 1/2" Coax (1) 1.7" Hybrid	Clearwire
		6	Alcatel-Lucent RRH2x50-08			
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Decibel DB844H90E-XY			
		3	Nokia 2.5G MAA - AAHC(64T64R)			
		2	DragonWave A-ANT-18G-2-C			
		3	Andrew 844G65VTZASX			
		3	Commscope NNVV-65B-R4			
		-	-			
171.0	171.0	3	RFS APXV18-206517S-C	Flush	(12) 1 5/8" Coax (6) 1 5/8" Coax	Sprint Nextel Metro PCS
167.0	167.0	6	CCI TPX-070821	Platform w/ Handrails	(12) 1 1/4" Coax (6) 0.78" 8 AWG 6 (2) 0.39" Fiber Trunk (2) 2" Conduit	AT&T Mobility
		6	Kaelus DBCT108F1V92-1			
		1	Commscope WCS-IMFQ-AMT			
		6	Powerwave LGP21401			
		2	Raycap DC6-48-60-18-8F (23.5" Height)			
		1	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson RRUS 4426 B66			
		3	Ericsson RRUS 4478 B14			
		3	Ericsson RRUS 4478 B5			
		3	Ericsson RRUS 11 (Band 4)			
		3	Ericsson RRUS 32 B2			
		3	Ericsson RRUS-32 (77 lbs)			
		3	Powerwave 7770.00			
		3	CCI OPA-65R-LCUU-H4			
		3	Quintel QS66512-2			
3	Kathrein 80010964					
145.0	145.0	3	Kathrein Smart Bias Tee	-	(18) 1 5/8" Coax	T-Mobile
127.0	127.0	6	RFS FD9R6004/1C-3L	Platform w/ Handrails	(12) 7/8" Coax (6) 1 5/8" Coax (2) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent RRH2X60-1900A-4R			
		3	Alcatel-Lucent RRH2X60-AWS			
		3	Alcatel-Lucent RRH2x40-AWS			
		2	RFS DB-T1-6Z-8AB-OZ			
		3	Andrew HBXX-6516DS-A2M			
		3	Andrew LNX-4514DS-A1M			
		3	Antel BXA-80063/6CF			
		3	Andrew HBXX-6517DS-A2M			
50.0	50.0	2	Thales PCS VP/360/2 Type 8100	Stand-Off	-	T-Mobile

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
145.0	145.0	3	Andrew ETW200VS12UB	Flush Mounts	-	T-Mobile
		3	Andrew ETW190VS12UB			
		3	Andrew SBNHH-1D65A			



Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
145.0	145.0	3	Ericsson KRY 112 144/2	Low Profile Platform	(2) 1 5/8" Fiber	T-Mobile
		3	Ericsson KRY 112 489/2			
		3	Ericsson Radio 4449 B12,B71			
		3	Ericsson AIR 32 B2A/B66A			
		3	RFS APXVAARR24_43-U-NA20			

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	73%	Pass
Shaft	86%	Pass
Base Plate	80%	Pass
Reinforcement	94%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,700.5	70%
Axial (Kips)	73.1	4%

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

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
183.0	DragonWave A-ANT-18G-2-C	Clearwire Corporatio	3.212	2.009
145.0	Ericsson KRY 112 144/2	T-Mobile	1.950	1.712
	Ericsson KRY 112 489/2			
	Ericsson Radio 4449 B12,B71			
	Ericsson AIR 32 B2A/B66A			
	RFS APXVAARR24_43-U-NA20			

*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 performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

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

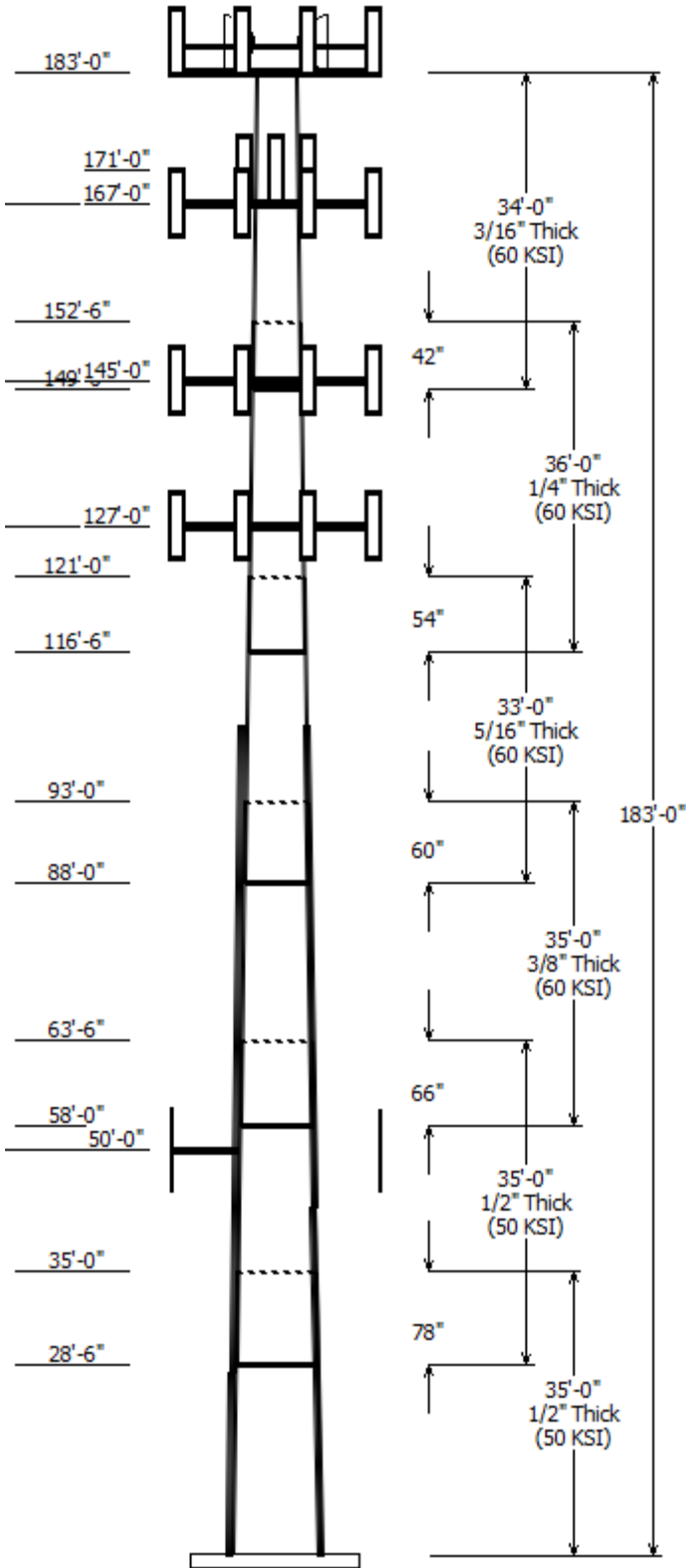
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

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Job Information	
Pole : 302535	Code: ANSI/TIA-222-G
Location : Milford CT 2, CT	
Description : 183 ft Summit Monopole	
Client : T-MOBILE	Struct Class : II
Shape : 18 Sides	Exposure : B
Height : 183.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.174917(in/ft)	

Sections Properties							
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade (ksi)
		Across Top	Across Bottom				
1	35.000	42.49	48.62	0.500		0.000	18 Sides 50
2	35.000	38.51	44.63	0.500	Slip Joint	78.000	18 Sides 50
3	35.000	34.10	40.22	0.375	Slip Joint	66.000	18 Sides 60
4	33.000	29.83	35.60	0.313	Slip Joint	60.000	18 Sides 60
5	36.000	24.82	31.11	0.250	Slip Joint	54.000	18 Sides 60
6	34.000	19.86	25.80	0.188	Slip Joint	42.000	18 Sides 60

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
183.000	185.000	3	Nokia 2.5G MAA -
183.000	185.000	3	Commscope NNVV-65B-R4
183.000	185.000	3	Andrew 844G65VTZASX
183.000	185.000	3	Alcatel-Lucent 1900 MHz 4x45
183.000	185.000	6	Alcatel-Lucent RRH2x50-08
183.000	183.000	1	Site Pro 1 RMQP-496-HK Platfor
183.000	185.000	3	Decibel DB844H90E-XY
183.000	185.000	2	DragonWave Horizon Compact
183.000	185.000	2	DragonWave A-ANT-18G-2-C
171.000	171.000	3	RFS APXV18-206517S-C
167.000	167.000	6	CCI TPX-070821
167.000	167.000	3	Quintel QS66512-2
167.000	167.000	3	Ericsson RRUS 32 B2
167.000	167.000	1	Commscope WCS-IMFQ-AMT
167.000	167.000	3	Kathrein Scala 80010964
167.000	167.000	3	CCI OPA-65R-LCUU-H4
167.000	167.000	3	Ericsson RRUS-32 (77 lbs)
167.000	167.000	2	Raycap DC6-48-60-18-8F (23.5"
167.000	167.000	3	Ericsson RRUS 4478 B5
167.000	167.000	3	Ericsson RRUS 4478 B14
167.000	167.000	1	Raycap DC6-48-60-18-8F
167.000	167.000	3	Ericsson RRUS 11 (Band 4)
167.000	167.000	3	Ericsson RRUS 4426 B66
167.000	167.000	1	Flat Platform w/ Handrails
167.000	167.000	6	Powerwave Allgon LGP21401
167.000	167.000	3	Powerwave Allgon 7770.00
167.000	167.000	6	Kaelus DBCT108F1V92-1
145.000	145.000	1	Flat Low Profile Platform
145.000	145.000	3	RFS APXVAARR24_43-U-NA20
145.000	145.000	3	Ericsson AIR 32 B2A/B66A
145.000	145.000	3	Ericsson KRY 112 489/2
145.000	145.000	3	Ericsson KRY 112 144/2
145.000	145.000	3	Ericsson Radio 4449 B12,B71
145.000	145.000	3	Kathrein Scala Smart Bias Tee
127.000	127.000	1	Flat Platform w/ Handrails
127.000	127.000	3	Andrew HBXX-6517DS-A2M
127.000	127.000	3	Antel BXA-80063/6CF
127.000	127.000	3	Andrew LNX-4514DS-A1M
127.000	127.000	3	Andrew HBXX-6516DS-A2M
127.000	127.000	2	RFS DB-T1-6Z-8AB-0Z
127.000	127.000	3	Alcatel-Lucent RRH2x40-AWS

127.000	127.000	3	Alcatel-Lucent RRH2X60-AWS
127.000	127.000	3	Alcatel-Lucent RRH2X60-1900A-
127.000	127.000	6	RFS FD9R6004/1C-3L
50.000	50.000	1	Stand-Off
50.000	50.000	2	Thales PCS VP/360/2 Type 8100

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
5.000	127.0	1 5/8" Coax	No
5.000	127.0	1 5/8" Fiber	No
5.000	127.0	7/8" Coax	No
5.000	145.0	1 5/8" Coax	No
5.000	145.0	1 5/8" Coax	Yes
5.000	145.0	1 5/8" Fiber	Yes
5.000	167.0	0.39" Fiber Trunk	No
5.000	167.0	0.78" 8 AWG 6	No
5.000	167.0	1 1/4" Coax	No
5.000	171.0	1 5/8" Coax	Yes
5.000	183.0	1 1/4" Hybriflex	Yes
5.000	183.0	1 5/8" Coax	No
5.000	183.0	1.7" Hybrid	Yes
5.000	183.0	1/2" Coax	Yes
5.000	183.0	2" Conduit	Yes
0.000	110.7	#20 Dywidag Bars	Yes

Load Cases

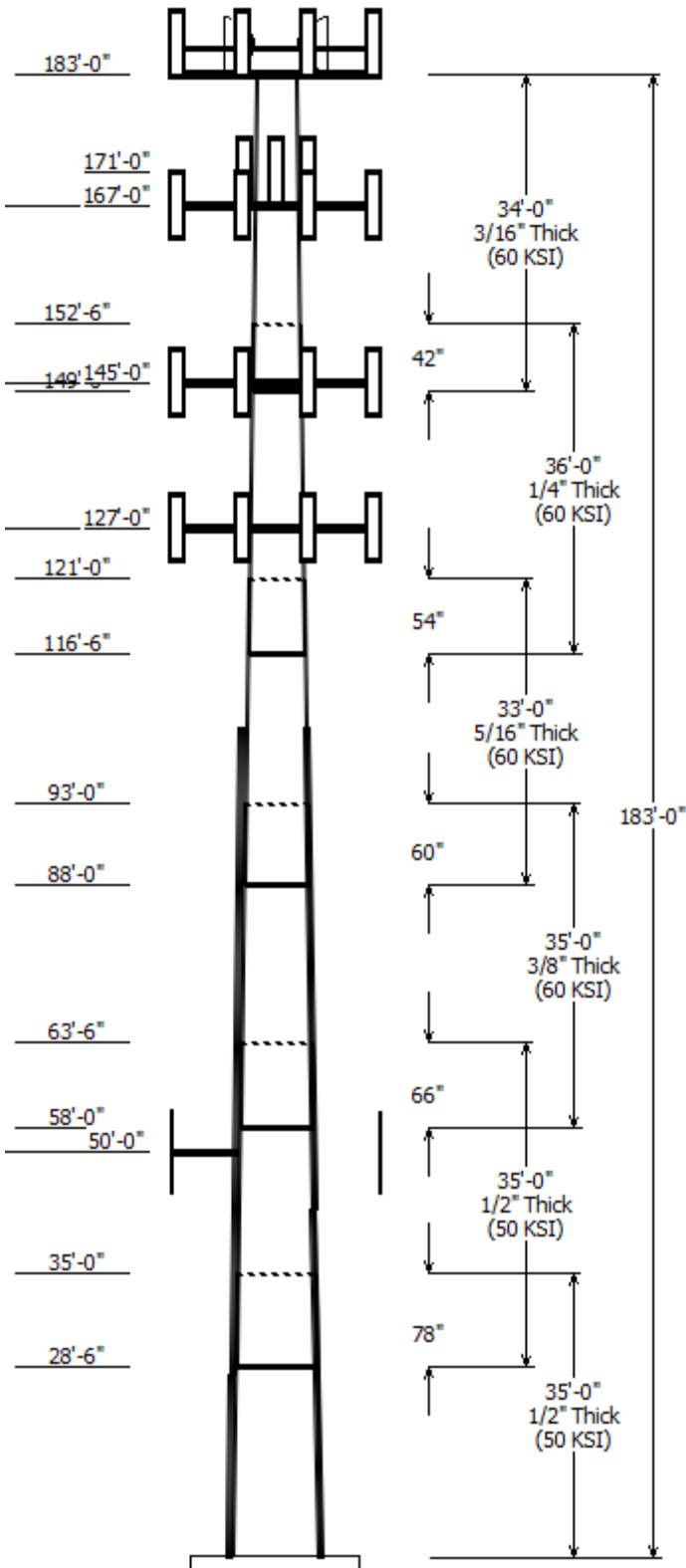
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

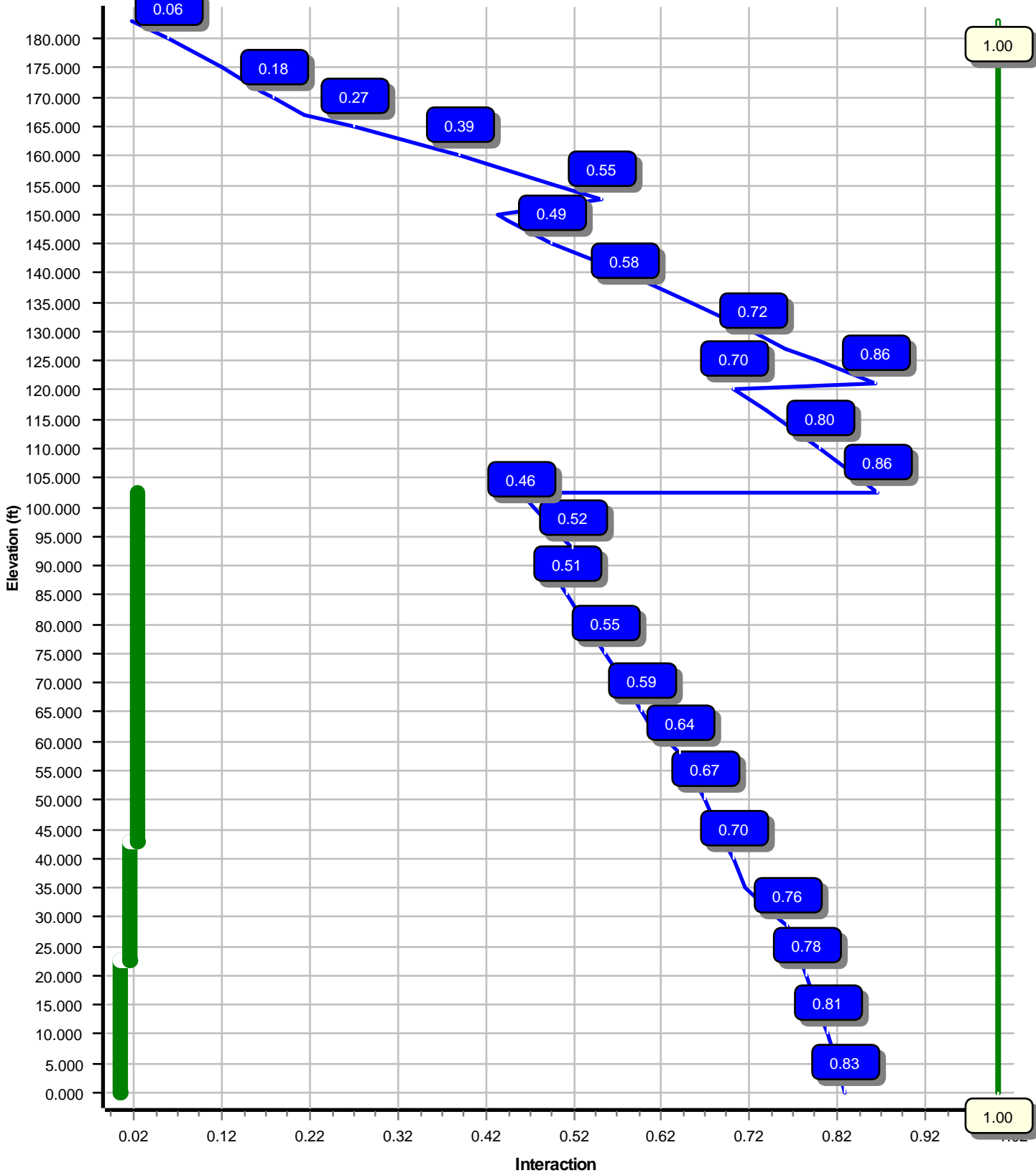
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4700.51	39.59	73.13
0.9D + 1.6W	4501.39	38.78	54.83
1.2D + 1.0Di + 1.0Wi	1907.75	12.28	133.13
(1.2 + 0.2Sds) * DL + E ELFM	274.76	1.84	73.68
(1.2 + 0.2Sds) * DL + E EMAM	322.92	2.46	73.68
(0.9 - 0.2Sds) * DL + E ELFM	268.26	1.83	51.03
(0.9 - 0.2Sds) * DL + E EMAM	314.58	2.46	51.03
1.0D + 1.0W	1093.03	9.39	61.00

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	183.00	38.549	2.009



Load Case : 1.2D + 1.6W
Max Ratio 86.26% at 102.5 ft



Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

Analysis Parameters

Location :	NEW HAVEN County, CT	Height (ft) :	183
Code :	ANSI/TIA-222-G	Base Diameter (in) :	48.62
Shape :	18 Sides	Top Diameter (in) :	19.86
Pole Type :	Taper	Taper (in/ft) :	0.175
Pole Manufacturer :	Summit Manufacturing	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	3.19		
T _L (sec):	6	p:	1
S _s :	0.191	S ₁ :	0.063
F _a :	1.600	F _v :	2.400
S _{ds} :	0.204	S _{d1} :	0.101
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302535

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	35.000	0.5000	50		0.00	8,516	48.62	0.00	76.36	22340.1	15.38	97.24	42.49	35.00	66.65	14852.2	13.22	85.00	0.174917	
2-18	35.000	0.5000	50	Slip	78.00	7,763	44.63	28.50	70.04	17236.7	13.98	89.27	38.51	63.50	60.32	11012.7	11.82	77.03	0.174917	
3-18	35.000	0.3750	60	Slip	66.00	5,215	40.22	58.00	47.43	9515.8	17.15	107.27	34.10	93.00	40.14	5769.4	14.27	90.94	0.174917	
4-18	33.000	0.3125	60	Slip	60.00	3,609	35.60	88.00	35.00	5507.2	18.33	113.93	29.83	121.00	29.28	3222.7	15.07	95.46	0.174917	
5-18	36.000	0.2500	60	Slip	54.00	2,694	31.11	116.50	24.49	2948.2	20.18	124.47	24.82	152.50	19.50	1486.9	15.74	99.28	0.174917	
6-18	34.000	0.1875	60	Slip	42.00	1,559	25.80	149.00	15.25	1264.3	22.51	137.64	19.86	183.00	11.71	572.4	16.91	105.92	0.174917	
Shaft Weight						29,356														

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
183.00	Alcatel-Lucent 1900 MHz 4x45 R	3	0.000	2.000	60.00	2.320	0.50
183.00	Alcatel-Lucent RRH2x50-08	6	0.000	2.000	52.90	1.700	0.50
183.00	Andrew 844G65VTZASX	3	0.000	2.000	16.00	5.310	0.71
183.00	Commscope NNVV-65B-R4	3	0.000	2.000	77.40	12.270	0.64
183.00	Decibel DB844H90E-XY	3	0.000	2.000	14.00	3.610	0.74
183.00	DragonWave A-ANT-18G-2-C	2	0.000	2.000	27.10	4.690	0.90
183.00	DragonWave Horizon Compact	2	0.000	2.000	10.60	0.430	0.50
183.00	Nokia 2.5G MAA - AAHC(64T64R)	3	0.000	2.000	103.60	4.200	0.64
183.00	Site Pro 1 RMQP-496-HK Platfor	1	0.000	0.000	2000.00	27.200	1.00
171.00	RFS APXV18-206517S-C	3	0.000	0.000	26.40	5.170	0.68
167.00	CCI OPA-65R-LCUU-H4	3	0.000	0.000	57.00	6.080	0.66
167.00	CCI TPX-070821	6	0.000	0.000	7.50	0.550	0.50
167.00	Commscope WCS-IMFQ-AMT	1	0.000	0.000	29.50	0.990	0.50
167.00	Ericsson RRUS 11 (Band 4)	3	0.000	0.000	44.00	2.570	0.50
167.00	Ericsson RRUS 32 B2	3	0.000	0.000	53.00	2.740	0.50
167.00	Ericsson RRUS 4426 B66	3	0.000	0.000	48.40	1.650	0.50
167.00	Ericsson RRUS 4478 B14	3	0.000	0.000	59.90	1.840	0.50
167.00	Ericsson RRUS 4478 B5	3	0.000	0.000	59.90	1.840	0.50
167.00	Ericsson RRUS-32 (77 lbs)	3	0.000	0.000	77.00	3.310	0.50
167.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
167.00	Kaelus DBCT108F1V92-1	6	0.000	0.000	13.90	0.610	0.50
167.00	Kathrein Scala 80010964	3	0.000	0.000	81.60	10.000	0.62
167.00	Powerwave Allgon 7770.00	3	0.000	0.000	35.00	5.510	0.65
167.00	Powerwave Allgon LGP21401	6	0.000	0.000	14.10	1.100	0.50
167.00	Quintel QS66512-2	3	0.000	0.000	111.00	8.130	0.74
167.00	Raycap DC6-48-60-18-8F ("Squid	1	0.000	0.000	31.80	1.280	1.00
167.00	Raycap DC6-48-60-18-8F (23.5"	2	0.000	0.000	20.00	1.110	1.00
145.00	Ericsson AIR 32 B2A/B66A	3	0.000	0.000	143.30	6.870	0.75
145.00	Ericsson KRY 112 144/2	3	0.000	0.000	9.70	0.560	0.50
145.00	Ericsson KRY 112 489/2	3	0.000	0.000	15.40	0.650	0.50
145.00	Ericsson Radio 4449 B12,B71	3	0.000	0.000	74.00	1.640	0.50
145.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
145.00	Kathrein Scala Smart Bias Tee	3	0.000	0.000	3.30	0.090	0.50
145.00	RFS APXVAARR24_43-U-NA20	3	0.000	0.000	127.90	20.240	0.63
127.00	Alcatel-Lucent RRH2x40-AWS	3	0.000	0.000	44.00	2.160	0.50
127.00	Alcatel-Lucent RRH2X60-1900A-4	3	0.000	0.000	46.00	1.870	0.50
127.00	Alcatel-Lucent RRH2X60-AWS	3	0.000	0.000	44.00	1.880	0.50
127.00	Andrew HBXX-6516DS-A2M	3	0.000	0.000	30.60	5.420	0.67
127.00	Andrew HBXX-6517DS-A2M	3	0.000	0.000	43.00	8.530	0.68
127.00	Andrew LNX-4514DS-A1M	3	0.000	0.000	29.50	6.780	0.64
127.00	Antel BXA-80063/6CF	3	0.000	0.000	14.90	7.580	0.65
127.00	Flat Platform w/ Handrails	1	0.000	0.000	2000.00	42.400	1.00
127.00	RFS DB-T1-6Z-8AB-OZ	2	0.000	0.000	44.00	4.800	0.50
127.00	RFS FD9R6004/1C-3L	6	0.000	0.000	3.10	0.370	0.50
50.00	Stand-Off	1	0.000	0.000	75.00	2.500	1.00

Site Number: 302535

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Customer: T-MOBILE

50.00	Thales PCS VP/360/2 Type 8100	2	0.000	0.000	0.30	0.030	1.00
Totals	Num Loadings:46	134			13038.70		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Width (in)	Exposed To Wind	Carrier
5.00	183.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N 0.00	Y	Clearwire Corporation
5.00	183.00	12	1 5/8" Coax	1.98	0.82	N 0.00	N	Sprint Nextel
5.00	183.00	1	1.7" Hybrid	1.70	1.78	N 0.00	Y	Clearwire Corporation
5.00	183.00	2	1/2" Coax	0.63	0.15	N 0.00	Y	Clearwire Corporation
5.00	183.00	2	2" Conduit	2.38	3.65	N 2.38	Y	Clearwire Corporation
5.00	171.00	6	1 5/8" Coax	1.98	0.82	N 1.98	Y	Metro PCS Inc
5.00	167.00	2	0.39" Fiber Trunk	0.39	0.06	N 0.00	N	AT&T Mobility
5.00	167.00	6	0.78" 8 AWG 6	0.78	0.59	N 0.00	N	AT&T Mobility
5.00	167.00	12	1 1/4" Coax	1.55	0.63	N 0.00	N	AT&T Mobility
5.00	167.00	2	2" Conduit	2.38	3.65	N 0.00	N	AT&T Mobility
5.00	145.00	6	1 5/8" Coax	1.98	0.82	N 0.00	N	T-Mobile
5.00	145.00	12	1 5/8" Coax	1.98	0.82	N 0.00	Y	T-Mobile
5.00	145.00	2	1 5/8" Fiber	1.63	1.61	N 0.00	Y	T-Mobile
5.00	127.00	6	1 5/8" Coax	1.98	0.82	N 0.00	N	Verizon Wireless
5.00	127.00	2	1 5/8" Fiber	1.63	1.61	N 0.00	N	Verizon Wireless
5.00	127.00	12	7/8" Coax	1.09	0.33	N 0.00	N	Verizon Wireless
0.00	110.78	4	#20 Dywidag Bars	2.72	0.00	N 5.62	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections		Connectors	Continuation?	
					Description	Spacing (in)	Len (in)			
0.00	22.50	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	20.0	3.31	5/8" A36 U-Bolt	No
22.50	43.00	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	18.0	3.31	5/8" A36 U-Bolt	Yes
43.00	102.5	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302535

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.5000	48.620	76.363	22,340.1	15.38	97.24	63.5	905.0	0.0	0.0	19.64	7,654	0.0
5.00		0.5000	47.745	74.975	21,144.0	15.07	95.49	63.5	872.2	0.0	1,287.4	19.64	7,412	334.0
10.00		0.5000	46.871	73.588	19,991.4	14.77	93.74	63.5	840.1	0.0	1,263.8	19.64	7,175	334.0
15.00		0.5000	45.996	72.200	18,881.4	14.46	91.99	63.5	808.5	0.0	1,240.2	19.64	6,941	334.0
20.00		0.5000	45.121	70.812	17,813.3	14.15	90.24	63.5	777.6	0.0	1,216.6	19.64	6,711	334.0
22.50	Reinf. Top Reinf	0.5000	44.684	70.118	17,294.7	13.99	89.37	63.5	762.3	0.0	599.4	19.64	6,598	167.0
25.00		0.5000	44.247	69.424	16,786.3	13.84	88.49	63.5	747.2	0.0	593.5	19.64	6,485	167.0
28.50	Bot - Section 2	0.5000	43.635	68.452	16,091.4	13.62	87.27	63.5	726.3	0.0	821.0	19.64	6,329	233.8
30.00		0.5000	43.372	68.036	15,799.5	13.53	86.74	63.5	717.5	0.0	704.8	19.64	6,517	100.2
35.00	Top - Section 1	0.5000	43.498	68.235	15,938.6	13.58	87.00	63.5	721.7	0.0	2,318.5	19.64	6,295	334.0
40.00		0.5000	42.623	66.847	14,985.6	13.27	85.25	63.5	692.5	0.0	1,149.1	19.64	6,076	334.0
43.00	Reinf. Top Reinf	0.5000	42.098	66.014	14,432.5	13.08	84.20	63.5	675.2	0.0	678.1	19.64	5,947	200.4
45.00		0.5000	41.749	65.459	14,071.5	12.96	83.50	63.5	663.9	0.0	447.4	19.64	5,861	133.6
50.00		0.5000	40.874	64.071	13,195.2	12.65	81.75	63.5	635.8	0.0	1,101.9	19.64	5,650	334.0
55.00		0.5000	39.999	62.683	12,356.2	12.34	80.00	63.5	608.4	0.0	1,078.3	19.64	5,443	334.0
58.00	Bot - Section 3	0.5000	39.475	61.850	11,870.2	12.16	78.95	63.5	592.3	0.0	635.6	19.64	5,321	200.4
60.00		0.5000	39.125	61.295	11,553.4	12.03	78.25	63.5	581.6	0.0	740.4	19.64	5,414	133.6
63.50	Top - Section 2	0.3750	39.263	46.284	8,843.2	16.70	104.70	76.2	443.6	0.0	1,279.8	19.64	5,272	233.8
65.00		0.3750	39.000	45.972	8,665.4	16.57	104.00	76.2	437.6	0.0	235.4	19.64	5,211	100.2
70.00		0.3750	38.126	44.931	8,090.0	16.16	101.67	76.2	417.9	0.0	773.3	19.64	5,012	334.0
75.00		0.3750	37.251	43.890	7,540.6	15.75	99.34	76.2	398.7	0.0	755.6	19.64	4,817	334.0
80.00		0.3750	36.376	42.849	7,016.7	15.34	97.00	76.2	379.9	0.0	737.9	19.64	4,626	334.0
85.00		0.3750	35.502	41.808	6,517.7	14.93	94.67	76.2	361.6	0.0	720.2	19.64	4,439	334.0
88.00	Bot - Section 4	0.3750	34.977	41.184	6,229.9	14.68	93.27	76.2	350.8	0.0	423.6	19.64	4,329	200.4
90.00		0.3750	34.627	40.767	6,042.9	14.52	92.34	76.2	343.7	0.0	515.9	19.64	4,386	133.6
93.00	Top - Section 3	0.3125	34.727	34.134	5,107.8	17.83	111.13	75.0	289.7	0.0	764.1	19.64	4,277	200.4
95.00		0.3125	34.378	33.787	4,953.6	17.63	110.01	75.2	283.8	0.0	231.1	19.64	4,204	133.6
100.00		0.3125	33.503	32.920	4,581.8	17.14	107.21	75.7	269.4	0.0	567.5	19.64	4,026	334.0
102.5	Reinf. Top	0.3125	33.066	32.486	4,403.1	16.89	105.81	76.0	262.3	0.0	278.2	19.64	3,938	167.0
105.0		0.3125	32.628	32.052	4,229.1	16.65	104.41	76.2	255.3	0.0	274.5			
110.00		0.3125	31.754	31.185	3,894.9	16.15	101.61	76.2	241.6	0.0	538.0			
115.00		0.3125	30.879	30.317	3,578.9	15.66	98.81	76.2	228.3	0.0	523.2			
116.5	Bot - Section 5	0.3125	30.617	30.057	3,487.5	15.51	97.97	76.2	224.4	0.0	154.1			
120.00		0.3125	30.005	29.450	3,280.4	15.17	96.02	76.2	215.3	0.0	643.2			
121.0	Top - Section 4	0.2500	30.330	23.867	2,728.4	19.63	121.32	73.1	177.2	0.0	181.4			
125.00		0.2500	29.630	23.312	2,542.4	19.14	118.52	73.6	169.0	0.0	321.1			
127.00		0.2500	29.280	23.035	2,452.7	18.89	117.12	73.9	165.0	0.0	157.7			
130.00		0.2500	28.756	22.618	2,322.1	18.52	115.02	74.3	159.0	0.0	233.0			
135.00		0.2500	27.881	21.924	2,114.8	17.90	111.52	74.9	149.4	0.0	378.9			
140.00		0.2500	27.006	21.230	1,920.3	17.28	108.03	75.6	140.0	0.0	367.1			
145.00		0.2500	26.132	20.536	1,738.1	16.67	104.53	76.2	131.0	0.0	355.3			
149.00	Bot - Section 6	0.2500	25.432	19.981	1,600.9	16.17	101.73	76.2	124.0	0.0	275.7			
150.00		0.2500	25.257	19.842	1,567.8	16.05	101.03	76.2	122.3	0.0	119.5			
152.5	Top - Section 5	0.1875	25.195	14.882	1,175.8	21.93	134.37	70.7	91.9	0.0	295.0			
155.00		0.1875	24.758	14.622	1,115.2	21.52	132.04	71.2	88.7	0.0	125.5			
160.00		0.1875	23.883	14.101	1,000.3	20.70	127.38	72.0	82.5	0.0	244.3			
165.00		0.1875	23.008	13.581	893.6	19.87	122.71	72.9	76.5	0.0	235.5			
167.00		0.1875	22.659	13.373	853.1	19.55	120.85	73.2	74.2	0.0	91.7			
170.00		0.1875	22.134	13.060	794.8	19.05	118.05	73.7	70.7	0.0	134.9			
171.00		0.1875	21.959	12.956	775.9	18.89	117.11	73.9	69.6	0.0	44.3			
175.00		0.1875	21.259	12.540	703.5	18.23	113.38	74.6	65.2	0.0	173.5			
180.00		0.1875	20.385	12.019	619.5	17.41	108.72	75.4	59.9	0.0	208.9			
183.00		0.1875	19.860	11.707	572.4	16.91	105.92	76.0	56.8	0.0	121.1			
											29,356.2			6,847.0

Load Case: 1.2D + 1.6W	97 mph with No Ice	28 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		195.1	0.0					0.0	0.0	195.1	0.0	0.0	0.0
5.00		533.7	1,544.9					0.0	400.8	533.7	1,945.7	0.0	0.0
10.00		670.9	1,516.6					128.2	855.2	799.0	2,371.8	0.0	0.0
15.00		658.3	1,488.2					128.2	855.2	786.5	2,343.5	0.0	0.0
20.00		486.7	1,459.9					128.2	855.2	614.9	2,315.1	0.0	0.0
22.50	Reinf. Top Reinf	319.8	719.3					64.1	427.6	383.9	1,146.9	0.0	0.0
25.00		379.2	712.2					64.1	427.6	443.3	1,139.9	0.0	0.0
28.50	Bot - Section 2	315.7	985.2					89.7	598.7	405.4	1,583.9	0.0	0.0
30.00		417.5	845.7					38.4	256.6	456.0	1,102.3	0.0	0.0
35.00	Top - Section 1	650.7	2,782.2					130.4	855.2	781.1	3,637.4	0.0	0.0
40.00		528.5	1,379.0					134.4	855.2	662.9	2,234.2	0.0	0.0
43.00	Reinf. Top Reinf	333.7	813.8					82.4	513.1	416.2	1,326.9	0.0	0.0
45.00		471.4	536.8					55.6	342.1	527.1	878.9	0.0	0.0
50.00	Appurtenance(s)	677.3	1,322.3	83.6	0.0	0.0	90.7	141.4	855.2	902.2	2,268.2	0.0	0.0
55.00		544.5	1,294.0					144.5	855.2	688.9	2,149.2	0.0	0.0
58.00	Bot - Section 3	343.8	762.8					88.0	513.1	431.9	1,275.9	0.0	0.0
60.00		383.0	888.5					59.2	342.1	442.3	1,230.6	0.0	0.0
63.50	Top - Section 2	348.4	1,535.8					104.7	598.7	453.1	2,134.4	0.0	0.0
65.00		452.8	282.5					45.3	256.6	498.0	539.1	0.0	0.0
70.00		695.6	928.0					152.5	855.2	848.0	1,783.2	0.0	0.0
75.00		693.2	906.7					154.8	855.2	848.0	1,762.0	0.0	0.0
80.00		689.5	885.5					157.1	855.2	846.6	1,740.7	0.0	0.0
85.00		548.6	864.2					159.2	855.2	707.9	1,719.4	0.0	0.0
88.00	Bot - Section 4	343.4	508.3					96.5	513.1	440.0	1,021.5	0.0	0.0
90.00		345.3	619.1					64.7	342.1	410.0	961.2	0.0	0.0
93.00	Top - Section 3	344.0	916.9					97.7	513.1	441.7	1,430.0	0.0	0.0
95.00		477.6	277.3					65.5	342.1	543.1	619.4	0.0	0.0
100.00		509.2	681.0					165.1	855.2	674.3	1,536.2	0.0	0.0
102.50	Reinf. Top	336.4	333.8					83.2	427.6	419.7	761.5	0.0	0.0
105.00		499.7	329.4					83.7	227.2	583.4	556.6	0.0	0.0
110.00		543.7	645.5					168.6	454.4	712.3	1,100.0	0.0	0.0
115.00		270.5	627.8					0.0	454.4	270.5	1,082.3	0.0	0.0
116.50	Bot - Section 5	198.2	184.9					0.0	136.3	198.2	321.2	0.0	0.0
120.00		179.0	771.8					0.0	318.1	179.0	1,089.9	0.0	0.0
121.00	Top - Section 4	197.0	217.6					0.0	90.9	197.0	308.5	0.0	0.0
125.00		235.6	385.3					0.0	363.6	235.6	748.9	0.0	0.0
127.00	Appurtenance(s)	195.4	189.3	4,071.7	0.0	0.0	3,435.1	0.0	181.8	4,267.1	3,806.1	0.0	0.0
130.00		311.1	279.6					0.0	229.1	311.1	508.7	0.0	0.0
135.00		386.3	454.7					0.0	381.8	386.3	836.5	0.0	0.0
140.00		383.0	440.5					0.0	381.8	383.0	822.4	0.0	0.0
145.00	Appurtenance(s)	341.8	426.4	3,212.9	0.0	0.0	3,145.0	0.0	381.8	3,554.7	3,953.2	0.0	0.0
149.00	Bot - Section 6	189.3	330.9					0.0	219.2	189.3	550.1	0.0	0.0
150.00		133.2	143.4					0.0	54.8	133.2	198.1	0.0	0.0
152.50	Top - Section 5	189.0	354.0					0.0	137.0	189.0	491.0	0.0	0.0
155.00		280.3	150.6					0.0	137.0	280.3	287.6	0.0	0.0
160.00		370.5	293.2					0.0	274.0	370.5	567.2	0.0	0.0
165.00		257.2	282.6					0.0	274.0	257.2	556.5	0.0	0.0
167.00	Appurtenance(s)	181.9	110.1	5,103.3	0.0	0.0	5,033.6	0.0	109.6	5,285.2	5,253.3	0.0	0.0

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:34 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W

97 mph with No Ice

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

170.00		144.9	161.9					0.0	97.7	144.9	259.6	0.0	0.0
171.00	Appurtenance(s)	149.6	53.1	489.3	0.0	0.0	95.0	0.0	32.6	638.8	180.7	0.0	0.0
175.00		252.8	208.2					0.0	106.7	252.8	314.9	0.0	0.0
180.00		221.5	250.7					0.0	133.3	221.5	384.0	0.0	0.0
183.00	Appurtenance(s)	82.2	145.3	3,720.6	0.0	4,868.0	3,847.0	0.0	80.0	3,802.8	4,072.3	0.0	0.0
									Totals:	39,644.4	73,208.8	0.00	0.00

Load Case: 1.2D + 1.6W	97 mph with No Ice	28 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-73.13	-39.59	0.00	-4,700.51	0.00	4,700.51	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.826
5.00	-71.04	-39.33	0.00	-4,502.55	0.00	4,502.55	4,284.85	2,142.42	8,295.82	4,154.08	0.12	-0.22	0.816
10.00	-68.52	-38.78	0.00	-4,305.93	0.00	4,305.93	4,205.53	2,102.76	7,989.95	4,000.91	0.46	-0.44	0.805
15.00	-66.04	-38.22	0.00	-4,112.05	0.00	4,112.05	4,126.21	2,063.10	7,689.82	3,850.62	1.04	-0.66	0.794
20.00	-63.62	-37.76	0.00	-3,920.95	0.00	3,920.95	4,046.89	2,023.44	7,395.44	3,703.21	1.85	-0.88	0.782
22.50	-62.41	-37.48	0.00	-3,826.55	0.00	3,826.55	4,007.23	2,003.61	7,250.40	3,630.59	2.34	-0.99	0.775
22.50	-62.41	-37.48	0.00	-3,826.55	0.00	3,826.55	4,007.23	2,003.61	7,250.40	3,630.59	2.34	-0.99	0.775
25.00	-61.19	-37.16	0.00	-3,732.85	0.00	3,732.85	3,967.57	1,983.78	7,106.80	3,558.68	2.89	-1.10	0.769
28.50	-59.54	-36.84	0.00	-3,602.79	0.00	3,602.79	3,912.04	1,956.02	6,908.17	3,459.22	3.76	-1.26	0.760
30.00	-58.36	-36.51	0.00	-3,547.53	0.00	3,547.53	3,888.25	1,944.12	6,823.91	3,417.03	4.17	-1.33	0.747
35.00	-54.61	-35.84	0.00	-3,365.00	0.00	3,365.00	3,899.62	1,949.81	6,864.12	3,437.16	5.68	-1.55	0.713
40.00	-52.28	-35.27	0.00	-3,185.78	0.00	3,185.78	3,820.30	1,910.15	6,586.15	3,297.97	7.42	-1.77	0.698
43.00	-50.91	-34.91	0.00	-3,079.96	0.00	3,079.96	3,772.71	1,886.36	6,422.13	3,215.84	8.57	-1.90	0.689
43.00	-50.91	-34.91	0.00	-3,079.96	0.00	3,079.96	3,772.71	1,886.36	6,422.13	3,215.84	8.57	-1.90	0.689
45.00	-49.96	-34.48	0.00	-3,010.14	0.00	3,010.14	3,740.98	1,870.49	6,313.93	3,161.66	9.38	-1.98	0.683
50.00	-47.60	-33.67	0.00	-2,837.73	0.00	2,837.73	3,661.66	1,830.83	6,047.45	3,028.22	11.57	-2.19	0.666
55.00	-45.39	-33.03	0.00	-2,669.37	0.00	2,669.37	3,582.34	1,791.17	5,786.72	2,897.66	13.98	-2.40	0.649
58.00	-44.07	-32.62	0.00	-2,570.29	0.00	2,570.29	3,534.75	1,767.38	5,633.04	2,820.71	15.52	-2.52	0.639
60.00	-42.80	-32.21	0.00	-2,505.04	0.00	2,505.04	3,503.02	1,751.51	5,531.73	2,769.98	16.60	-2.61	0.625
63.50	-40.63	-31.73	0.00	-2,392.30	0.00	2,392.30	3,173.44	1,586.72	5,061.87	2,534.70	18.56	-2.75	0.601
65.00	-40.03	-31.31	0.00	-2,344.71	0.00	2,344.71	3,152.76	1,576.38	4,994.62	2,501.02	19.44	-2.81	0.595
70.00	-38.17	-30.53	0.00	-2,188.15	0.00	2,188.15	3,081.37	1,540.68	4,769.94	2,388.51	22.51	-3.05	0.575
75.00	-36.34	-29.73	0.00	-2,035.51	0.00	2,035.51	3,009.98	1,504.99	4,550.42	2,278.59	25.82	-3.28	0.554
80.00	-34.54	-28.92	0.00	-1,886.87	0.00	1,886.87	2,938.59	1,469.30	4,336.07	2,171.26	29.37	-3.50	0.532
85.00	-32.79	-28.20	0.00	-1,742.29	0.00	1,742.29	2,867.21	1,433.60	4,126.90	2,066.52	33.16	-3.72	0.510
88.00	-31.74	-27.76	0.00	-1,657.69	0.00	1,657.69	2,824.37	1,412.19	4,003.88	2,004.91	35.54	-3.86	0.496
90.00	-30.76	-27.34	0.00	-1,602.17	0.00	1,602.17	2,795.82	1,397.91	3,922.90	1,964.36	37.17	-3.94	0.480
93.00	-29.32	-26.85	0.00	-1,520.16	0.00	1,520.16	2,304.06	1,152.03	3,254.27	1,629.55	39.69	-4.07	0.516
95.00	-28.67	-26.34	0.00	-1,466.45	0.00	1,466.45	2,286.90	1,143.45	3,196.90	1,600.83	41.41	-4.16	0.504
100.00	-27.11	-25.63	0.00	-1,334.73	0.00	1,334.73	2,243.44	1,121.72	3,054.90	1,529.72	45.88	-4.37	0.473
102.50	-26.34	-25.21	0.00	-1,270.65	0.00	1,270.65	2,221.40	1,110.70	2,984.67	1,494.55	48.19	-4.48	0.457
102.50	-26.34	-25.21	0.00	-1,270.65	0.00	1,270.65	2,221.40	1,110.70	2,984.67	1,494.55	48.19	-4.48	0.863
105.00	-25.72	-24.69	0.00	-1,207.64	0.00	1,207.64	2,198.14	1,099.07	2,913.61	1,458.97	50.57	-4.59	0.840
110.00	-24.53	-24.05	0.00	-1,084.18	0.00	1,084.18	2,138.65	1,069.33	2,757.31	1,380.70	55.57	-4.97	0.797
115.00	-23.37	-23.78	0.00	-963.92	0.00	963.92	2,079.16	1,039.58	2,605.31	1,304.59	60.97	-5.35	0.751
116.50	-23.00	-23.63	0.00	-928.24	0.00	928.24	2,061.32	1,030.66	2,560.55	1,282.18	62.67	-5.46	0.736
120.00	-21.86	-23.41	0.00	-845.53	0.00	845.53	2,019.67	1,009.84	2,457.62	1,230.64	66.76	-5.71	0.698
121.00	-21.51	-23.25	0.00	-822.13	0.00	822.13	1,570.79	785.40	1,940.61	971.75	67.96	-5.78	0.861
125.00	-20.70	-23.01	0.00	-729.14	0.00	729.14	1,545.06	772.53	1,864.04	933.41	72.92	-6.06	0.795
127.00	-17.31	-18.42	0.00	-683.11	0.00	683.11	1,531.99	766.00	1,826.09	914.40	75.48	-6.22	0.759
130.00	-16.74	-18.14	0.00	-627.85	0.00	627.85	1,512.16	756.08	1,769.59	886.11	79.46	-6.44	0.720
135.00	-15.85	-17.76	0.00	-537.13	0.00	537.13	1,478.46	739.23	1,676.61	839.55	86.38	-6.80	0.651
140.00	-14.99	-17.36	0.00	-448.34	0.00	448.34	1,443.96	721.98	1,585.19	793.77	93.67	-7.13	0.576
145.00	-11.46	-13.39	0.00	-361.53	0.00	361.53	1,408.39	704.19	1,495.13	748.68	101.28	-7.43	0.491
149.00	-10.91	-13.15	0.00	-307.99	0.00	307.99	1,370.32	685.16	1,415.01	708.56	107.59	-7.65	0.443
150.00	-10.71	-13.01	0.00	-294.83	0.00	294.83	1,360.80	680.40	1,395.33	698.70	109.19	-7.70	0.430
152.50	-10.22	-12.78	0.00	-262.31	0.00	262.31	947.27	473.64	973.73	487.59	113.25	-7.83	0.549
155.00	-9.93	-12.49	0.00	-230.37	0.00	230.37	936.35	468.18	945.55	473.48	117.37	-7.95	0.498
160.00	-9.37	-12.08	0.00	-167.89	0.00	167.89	913.91	456.96	889.79	445.55	125.81	-8.20	0.388
165.00	-8.83	-11.77	0.00	-107.47	0.00	107.47	890.67	445.33	834.90	418.07	134.48	-8.40	0.268
167.00	-4.41	-5.78	0.00	-83.94	0.00	83.94	881.14	440.57	813.20	407.21	138.00	-8.46	0.211

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:35 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.6W

97 mph with No Ice

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

170.00	-4.17	-5.60	0.00	-66.61	0.00	66.61	866.62	433.31	780.97	391.06	143.32	-8.54	0.175
171.00	-4.08	-4.94	0.00	-61.01	0.00	61.01	861.71	430.86	770.30	385.72	145.11	-8.56	0.163
175.00	-3.80	-4.65	0.00	-41.24	0.00	41.24	841.76	420.88	728.08	364.58	152.28	-8.63	0.118
180.00	-3.45	-4.38	0.00	-17.99	0.00	17.99	816.11	408.05	676.33	338.67	161.33	-8.69	0.057
183.00	0.00	-3.80	0.00	-4.87	0.00	4.87	800.33	400.16	645.87	323.41	166.77	-8.71	0.015

Load Case: 0.9D + 1.6W	97 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 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		186.8	0.0					0.0	0.0	186.8	0.0	0.0	0.0
5.00		525.3	1,158.7					0.0	300.6	525.3	1,459.3	0.0	0.0
10.00		670.9	1,137.4					128.2	641.4	799.0	1,778.9	0.0	0.0
15.00		658.3	1,116.2					128.2	641.4	786.5	1,757.6	0.0	0.0
20.00		486.7	1,094.9					128.2	641.4	614.9	1,736.4	0.0	0.0
22.50	Reinf. Top Reinf	319.8	539.5					64.1	320.7	383.9	860.2	0.0	0.0
25.00		379.2	534.2					64.1	320.7	443.3	854.9	0.0	0.0
28.50	Bot - Section 2	315.7	738.9					89.7	449.0	405.4	1,187.9	0.0	0.0
30.00		417.5	634.3					38.4	192.4	456.0	826.7	0.0	0.0
35.00	Top - Section 1	650.7	2,086.6					130.4	641.4	781.1	2,728.1	0.0	0.0
40.00		528.5	1,034.2					134.4	641.4	662.9	1,675.6	0.0	0.0
43.00	Reinf. Top Reinf	333.7	610.3					82.4	384.9	416.2	995.2	0.0	0.0
45.00		471.4	402.6					55.6	256.6	527.1	659.2	0.0	0.0
50.00	Appurtenance(s)	677.3	991.7	83.6	0.0	0.0	68.0	141.4	641.4	902.2	1,701.2	0.0	0.0
55.00		544.5	970.5					144.5	641.4	688.9	1,611.9	0.0	0.0
58.00	Bot - Section 3	343.8	572.1					88.0	384.9	431.9	956.9	0.0	0.0
60.00		383.0	666.4					59.2	256.6	442.3	922.9	0.0	0.0
63.50	Top - Section 2	348.4	1,151.8					104.7	449.0	453.1	1,600.8	0.0	0.0
65.00		452.8	211.9					45.3	192.4	498.0	404.3	0.0	0.0
70.00		695.6	696.0					152.5	641.4	848.0	1,337.4	0.0	0.0
75.00		693.2	680.0					154.8	641.4	848.0	1,321.5	0.0	0.0
80.00		689.5	664.1					157.1	641.4	846.6	1,305.5	0.0	0.0
85.00		548.6	648.2					159.2	641.4	707.9	1,289.6	0.0	0.0
88.00	Bot - Section 4	343.4	381.2					96.5	384.9	440.0	766.1	0.0	0.0
90.00		345.3	464.3					64.7	256.6	410.0	720.9	0.0	0.0
93.00	Top - Section 3	344.0	687.7					97.7	384.9	441.7	1,072.5	0.0	0.0
95.00		477.6	208.0					65.5	256.6	543.1	464.6	0.0	0.0
100.00		509.2	510.7					165.1	641.4	674.3	1,152.2	0.0	0.0
102.50	Reinf. Top	336.4	250.4					83.2	320.7	419.7	571.1	0.0	0.0
105.00		499.7	247.1					83.7	170.4	583.4	417.5	0.0	0.0
110.00		509.3	484.2					168.6	340.8	677.9	825.0	0.0	0.0
115.00		229.9	470.9					0.0	340.8	229.9	811.7	0.0	0.0
116.50	Bot - Section 5	176.5	138.7					0.0	102.2	176.5	240.9	0.0	0.0
120.00		158.9	578.8					0.0	238.6	158.9	817.4	0.0	0.0
121.00	Top - Section 4	174.4	163.2					0.0	68.2	174.4	231.4	0.0	0.0
125.00		208.1	289.0					0.0	272.7	208.1	561.6	0.0	0.0
127.00	Appurtenance(s)	171.2	141.9	4,071.7	0.0	0.0	2,576.3	0.0	136.3	4,242.9	2,854.6	0.0	0.0
130.00		270.3	209.7					0.0	171.8	270.3	381.5	0.0	0.0
135.00		332.4	341.0					0.0	286.4	332.4	627.4	0.0	0.0
140.00		325.4	330.4					0.0	286.4	325.4	616.8	0.0	0.0
145.00	Appurtenance(s)	286.9	319.8	3,212.9	0.0	0.0	2,358.7	0.0	286.4	3,499.8	2,964.9	0.0	0.0
149.00	Bot - Section 6	157.6	248.2					0.0	164.4	157.6	412.5	0.0	0.0
150.00		109.8	107.5					0.0	41.1	109.8	148.6	0.0	0.0
152.50	Top - Section 5	155.5	265.5					0.0	102.7	155.5	368.3	0.0	0.0
155.00		228.8	112.9					0.0	102.7	228.8	215.7	0.0	0.0
160.00		298.9	219.9					0.0	205.5	298.9	425.4	0.0	0.0
165.00		205.2	211.9					0.0	205.5	205.2	417.4	0.0	0.0
167.00	Appurtenance(s)	143.1	82.5	5,103.3	0.0	0.0	3,775.2	0.0	82.2	5,246.4	3,940.0	0.0	0.0

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:44 AM

Customer: T-MOBILE

Load Case: 0.9D + 1.6W

97 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

170.00		113.5	121.4					0.0	73.3	113.5	194.7	0.0	0.0
171.00	Appurtenance(s)	138.8	39.8	489.3	0.0	0.0	71.3	0.0	24.4	628.0	135.5	0.0	0.0
175.00		244.9	156.2					0.0	80.0	244.9	236.2	0.0	0.0
180.00		212.6	188.0					0.0	100.0	212.6	288.0	0.0	0.0
183.00	Appurtenance(s)	78.3	109.0	3,720.6	0.0	4,868.0	2,885.2	0.0	60.0	3,798.9	3,054.2	0.0	0.0
									Totals:	38,864.2	54,906.6	0.00	0.00

Load Case: 0.9D + 1.6W

97 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	-54.83	-38.78	0.00	-4,501.39	0.00	4,501.39	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.788
5.00	-53.24	-38.45	0.00	-4,307.50	0.00	4,307.50	4,284.85	2,142.42	8,295.82	4,154.08	0.11	-0.21	0.778
10.00	-51.32	-37.83	0.00	-4,115.27	0.00	4,115.27	4,205.53	2,102.76	7,989.95	4,000.91	0.44	-0.42	0.767
15.00	-49.44	-37.21	0.00	-3,926.14	0.00	3,926.14	4,126.21	2,063.10	7,689.82	3,850.62	1.00	-0.63	0.755
20.00	-47.61	-36.70	0.00	-3,740.12	0.00	3,740.12	4,046.89	2,023.44	7,395.44	3,703.21	1.77	-0.84	0.743
22.50	-46.68	-36.39	0.00	-3,648.37	0.00	3,648.37	4,007.23	2,003.61	7,250.40	3,630.59	2.24	-0.95	0.737
22.50	-46.68	-36.39	0.00	-3,648.37	0.00	3,648.37	4,007.23	2,003.61	7,250.40	3,630.59	2.24	-0.95	0.737
25.00	-45.76	-36.03	0.00	-3,557.40	0.00	3,557.40	3,967.57	1,983.78	7,106.80	3,558.68	2.76	-1.05	0.730
28.50	-44.51	-35.69	0.00	-3,431.28	0.00	3,431.28	3,912.04	1,956.02	6,908.17	3,459.22	3.59	-1.20	0.721
30.00	-43.61	-35.32	0.00	-3,377.74	0.00	3,377.74	3,888.25	1,944.12	6,823.91	3,417.03	3.98	-1.27	0.709
35.00	-40.77	-34.62	0.00	-3,201.14	0.00	3,201.14	3,899.62	1,949.81	6,864.12	3,437.16	5.42	-1.48	0.676
40.00	-39.02	-34.03	0.00	-3,028.03	0.00	3,028.03	3,820.30	1,910.15	6,586.15	3,297.97	7.08	-1.69	0.661
43.00	-37.98	-33.65	0.00	-2,925.95	0.00	2,925.95	3,772.71	1,886.36	6,422.13	3,215.84	8.18	-1.81	0.652
43.00	-37.98	-33.65	0.00	-2,925.95	0.00	2,925.95	3,772.71	1,886.36	6,422.13	3,215.84	8.18	-1.81	0.652
45.00	-37.26	-33.19	0.00	-2,858.66	0.00	2,858.66	3,740.98	1,870.49	6,313.93	3,161.66	8.96	-1.89	0.646
50.00	-35.48	-32.35	0.00	-2,692.71	0.00	2,692.71	3,661.66	1,830.83	6,047.45	3,028.22	11.04	-2.09	0.630
55.00	-33.80	-31.69	0.00	-2,530.95	0.00	2,530.95	3,582.34	1,791.17	5,786.72	2,897.66	13.34	-2.28	0.614
58.00	-32.81	-31.28	0.00	-2,435.87	0.00	2,435.87	3,534.75	1,767.38	5,633.04	2,820.71	14.81	-2.40	0.604
60.00	-31.85	-30.86	0.00	-2,373.31	0.00	2,373.31	3,503.02	1,751.51	5,531.73	2,769.98	15.84	-2.48	0.591
63.50	-30.22	-30.39	0.00	-2,265.30	0.00	2,265.30	3,173.44	1,586.72	5,061.87	2,534.70	17.71	-2.62	0.567
65.00	-29.77	-29.94	0.00	-2,219.72	0.00	2,219.72	3,152.76	1,576.38	4,994.62	2,501.02	18.54	-2.68	0.561
70.00	-28.36	-29.14	0.00	-2,070.00	0.00	2,070.00	3,081.37	1,540.68	4,769.94	2,388.51	21.46	-2.90	0.542
75.00	-26.98	-28.33	0.00	-1,924.30	0.00	1,924.30	3,009.98	1,504.99	4,550.42	2,278.59	24.61	-3.12	0.522
80.00	-25.62	-27.50	0.00	-1,782.67	0.00	1,782.67	2,938.59	1,469.30	4,336.07	2,171.26	27.99	-3.33	0.501
85.00	-24.30	-26.79	0.00	-1,645.16	0.00	1,645.16	2,867.21	1,433.60	4,126.90	2,066.52	31.59	-3.54	0.480
88.00	-23.51	-26.34	0.00	-1,564.80	0.00	1,564.80	2,824.37	1,412.19	4,003.88	2,004.91	33.85	-3.66	0.466
90.00	-22.78	-25.93	0.00	-1,512.11	0.00	1,512.11	2,795.82	1,397.91	3,922.90	1,964.36	35.40	-3.75	0.452
93.00	-21.69	-25.45	0.00	-1,434.32	0.00	1,434.32	2,304.06	1,152.03	3,254.27	1,629.55	37.79	-3.87	0.486
95.00	-21.20	-24.93	0.00	-1,383.42	0.00	1,383.42	2,286.90	1,143.45	3,196.90	1,600.83	39.43	-3.95	0.474
100.00	-20.04	-24.23	0.00	-1,258.74	0.00	1,258.74	2,243.44	1,121.72	3,054.90	1,529.72	43.67	-4.15	0.444
102.50	-19.45	-23.81	0.00	-1,198.16	0.00	1,198.16	2,221.40	1,110.70	2,984.67	1,494.55	45.87	-4.25	0.429
102.50	-19.45	-23.81	0.00	-1,198.16	0.00	1,198.16	2,221.40	1,110.70	2,984.67	1,494.55	45.87	-4.25	0.811
105.00	-18.99	-23.27	0.00	-1,138.64	0.00	1,138.64	2,198.14	1,099.07	2,913.61	1,458.97	48.12	-4.35	0.790
110.00	-18.08	-22.64	0.00	-1,022.28	0.00	1,022.28	2,138.65	1,069.33	2,757.31	1,380.70	52.87	-4.72	0.749
115.00	-17.20	-22.41	0.00	-909.06	0.00	909.06	2,079.16	1,039.58	2,605.31	1,304.59	57.99	-5.07	0.706
116.50	-16.91	-22.27	0.00	-875.44	0.00	875.44	2,061.32	1,030.66	2,560.55	1,282.18	59.60	-5.17	0.691
120.00	-16.05	-22.08	0.00	-797.50	0.00	797.50	2,019.67	1,009.84	2,457.62	1,230.64	63.48	-5.41	0.656
121.00	-15.77	-21.93	0.00	-775.42	0.00	775.42	1,570.79	785.40	1,940.61	971.75	64.62	-5.48	0.809
125.00	-15.16	-21.72	0.00	-687.71	0.00	687.71	1,545.06	772.53	1,864.04	933.41	69.32	-5.74	0.747
127.00	-12.69	-17.25	0.00	-644.28	0.00	644.28	1,531.99	766.00	1,826.09	914.40	71.75	-5.89	0.713
130.00	-12.26	-17.00	0.00	-592.53	0.00	592.53	1,512.16	756.08	1,769.59	886.11	75.52	-6.10	0.677
135.00	-11.58	-16.67	0.00	-507.53	0.00	507.53	1,478.46	739.23	1,676.61	839.55	82.08	-6.44	0.613
140.00	-10.92	-16.33	0.00	-424.19	0.00	424.19	1,443.96	721.98	1,585.19	793.77	88.98	-6.75	0.542
145.00	-8.34	-12.54	0.00	-342.54	0.00	342.54	1,408.39	704.19	1,495.13	748.68	96.19	-7.04	0.464
149.00	-7.92	-12.35	0.00	-292.40	0.00	292.40	1,370.32	685.16	1,415.01	708.56	102.17	-7.25	0.419
150.00	-7.77	-12.23	0.00	-280.05	0.00	280.05	1,360.80	680.40	1,395.33	698.70	103.69	-7.30	0.407
152.50	-7.40	-12.04	0.00	-249.48	0.00	249.48	947.27	473.64	973.73	487.59	107.53	-7.42	0.520
155.00	-7.18	-11.81	0.00	-219.37	0.00	219.37	936.35	468.18	945.55	473.48	111.43	-7.53	0.472
160.00	-6.76	-11.48	0.00	-160.32	0.00	160.32	913.91	456.96	889.79	445.55	119.43	-7.77	0.368
165.00	-6.35	-11.24	0.00	-102.90	0.00	102.90	890.67	445.33	834.90	418.07	127.65	-7.96	0.254
167.00	-3.17	-5.50	0.00	-80.43	0.00	80.43	881.14	440.57	813.20	407.21	130.99	-8.02	0.201

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:44 AM

Customer: T-MOBILE

Load Case: 0.9D + 1.6W

97 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

170.00	-2.99	-5.36	0.00	-63.94	0.00	63.94	866.62	433.31	780.97	391.06	136.04	-8.09	0.167
171.00	-2.94	-4.72	0.00	-58.58	0.00	58.58	861.71	430.86	770.30	385.72	137.73	-8.11	0.155
175.00	-2.73	-4.45	0.00	-39.70	0.00	39.70	841.76	420.88	728.08	364.58	144.53	-8.18	0.112
180.00	-2.48	-4.20	0.00	-17.46	0.00	17.46	816.11	408.05	676.33	338.67	153.11	-8.24	0.055
183.00	0.00	-3.80	0.00	-4.87	0.00	4.87	800.33	400.16	645.87	323.41	158.28	-8.26	0.015

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice	29 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		60.0	0.0					0.0	0.0	60.0	0.0	0.0	0.0
5.00		119.2	1,899.9					0.0	470.4	119.2	2,370.3	0.0	0.0
10.00		117.6	1,906.8					41.5	1,302.7	159.1	3,209.5	0.0	0.0
15.00		115.8	1,892.0					42.5	1,327.9	158.3	3,219.9	0.0	0.0
20.00		85.8	1,870.2					43.1	1,345.4	128.9	3,215.6	0.0	0.0
22.50	Reinf. Top Reinf	56.5	926.7					21.8	678.0	78.2	1,604.6	0.0	0.0
25.00		67.1	920.0					21.9	681.0	89.0	1,601.0	0.0	0.0
28.50	Bot - Section 2	55.9	1,275.7					30.8	958.1	86.7	2,233.8	0.0	0.0
30.00		74.0	973.4					13.3	412.2	87.2	1,385.6	0.0	0.0
35.00	Top - Section 1	115.4	3,204.3					45.5	1,379.9	160.9	4,584.2	0.0	0.0
40.00		93.9	1,799.0					47.7	1,388.3	141.6	3,187.3	0.0	0.0
43.00	Reinf. Top Reinf	59.4	1,065.4					29.6	836.6	89.0	1,902.1	0.0	0.0
45.00		84.1	704.3					20.1	559.2	104.2	1,263.4	0.0	0.0
50.00	Appurtenance(s)	120.9	1,735.7	21.8	0.0	0.0	32.2	51.6	1,402.6	194.3	3,170.4	0.0	0.0
55.00		97.4	1,703.0					53.4	1,408.7	150.8	3,111.8	0.0	0.0
58.00	Bot - Section 3	61.6	1,007.0					32.8	848.0	94.4	1,855.0	0.0	0.0
60.00		68.6	1,053.6					22.2	566.4	90.8	1,620.0	0.0	0.0
63.50	Top - Section 2	62.5	1,821.8					39.4	993.2	101.9	2,815.1	0.0	0.0
65.00		81.3	404.9					17.1	426.4	98.5	831.3	0.0	0.0
70.00		125.2	1,329.0					58.0	1,424.6	183.2	2,753.6	0.0	0.0
75.00		125.0	1,301.8					59.4	1,429.2	184.5	2,731.0	0.0	0.0
80.00		124.7	1,274.3					60.8	1,433.6	185.4	2,707.9	0.0	0.0
85.00		99.4	1,246.6					62.1	1,437.7	161.5	2,684.3	0.0	0.0
88.00	Bot - Section 4	62.3	735.7					37.8	864.5	100.1	1,600.2	0.0	0.0
90.00		62.7	772.2					25.5	577.1	88.1	1,349.3	0.0	0.0
93.00	Top - Section 3	62.5	1,144.0					38.6	866.8	101.1	2,010.8	0.0	0.0
95.00		87.0	427.7					25.9	578.6	112.9	1,006.3	0.0	0.0
100.00		92.8	1,049.2					65.6	1,448.9	158.5	2,498.0	0.0	0.0
102.50	Reinf. Top	61.5	516.4					33.2	725.7	94.7	1,242.1	0.0	0.0
105.00		91.5	510.1					33.5	526.1	125.0	1,036.3	0.0	0.0
110.00		121.0	999.0					67.8	1,054.7	188.8	2,053.8	0.0	0.0
115.00		78.0	973.7					0.0	972.1	78.0	1,945.8	0.0	0.0
116.50	Bot - Section 5	60.0	288.1					0.0	287.4	60.0	575.5	0.0	0.0
120.00		54.1	1,012.4					0.0	671.4	54.1	1,683.8	0.0	0.0
121.00	Top - Section 4	59.4	286.1					0.0	192.0	59.4	478.2	0.0	0.0
125.00		71.0	653.9					0.0	769.1	71.0	1,423.1	0.0	0.0
127.00	Appurtenance(s)	58.6	322.4	909.9	0.0	0.0	7,141.1	0.0	385.1	968.5	7,848.7	0.0	0.0
130.00		92.7	476.4					0.0	534.9	92.7	1,011.2	0.0	0.0
135.00		114.4	774.2					0.0	893.3	114.4	1,667.5	0.0	0.0
140.00		112.4	751.8					0.0	895.5	112.4	1,647.3	0.0	0.0
145.00	Appurtenance(s)	99.4	729.3	720.0	0.0	0.0	5,853.4	0.0	897.6	819.5	7,480.3	0.0	0.0
149.00	Bot - Section 6	54.7	567.9					0.0	439.8	54.7	1,007.7	0.0	0.0
150.00		38.2	203.2					0.0	110.1	38.2	313.2	0.0	0.0
152.50	Top - Section 5	54.2	501.3					0.0	275.4	54.2	776.7	0.0	0.0
155.00		80.0	295.8					0.0	275.6	80.0	571.4	0.0	0.0
160.00		104.9	574.7					0.0	552.1	104.9	1,126.8	0.0	0.0
165.00		72.3	555.3					0.0	553.2	72.3	1,108.6	0.0	0.0
167.00	Appurtenance(s)	50.6	217.9	4,203.1	0.0	0.0	24,229.1	0.0	221.6	4,253.8	24,668.6	0.0	0.0

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:53 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

29 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

170.00		40.2	320.4					0.0	266.0	40.2	586.4	0.0	0.0
171.00	Appurtenance(s)	49.4	105.6	101.0	0.0	0.0	453.9	0.0	88.8	150.4	648.3	0.0	0.0
175.00		87.5	412.4					0.0	243.3	87.5	655.6	0.0	0.0
180.00		76.3	496.9					0.0	304.7	76.3	801.6	0.0	0.0
183.00	Appurtenance(s)	28.2	289.9	891.7	0.0	963.9	7,785.0	0.0	183.1	919.9	8,258.0	0.0	0.0
									Totals:	12,238.9	133,138.	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

29 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	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-133.13	-12.28	0.00	-1,907.75	0.00	1,907.75	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.354
5.00	-130.74	-12.37	0.00	-1,846.34	0.00	1,846.34	4,284.85	2,142.42	8,295.82	4,154.08	0.05	-0.09	0.353
10.00	-127.51	-12.40	0.00	-1,784.50	0.00	1,784.50	4,205.53	2,102.76	7,989.95	4,000.91	0.19	-0.18	0.352
15.00	-124.27	-12.43	0.00	-1,722.48	0.00	1,722.48	4,126.21	2,063.10	7,689.82	3,850.62	0.43	-0.27	0.351
20.00	-121.04	-12.44	0.00	-1,660.32	0.00	1,660.32	4,046.89	2,023.44	7,395.44	3,703.21	0.76	-0.36	0.349
22.50	-119.43	-12.45	0.00	-1,629.23	0.00	1,629.23	4,007.23	2,003.61	7,250.40	3,630.59	0.96	-0.41	0.348
22.50	-119.43	-12.45	0.00	-1,629.23	0.00	1,629.23	4,007.23	2,003.61	7,250.40	3,630.59	0.96	-0.41	0.348
25.00	-117.81	-12.46	0.00	-1,598.12	0.00	1,598.12	3,967.57	1,983.78	7,106.80	3,558.68	1.19	-0.46	0.347
28.50	-115.57	-12.46	0.00	-1,554.49	0.00	1,554.49	3,912.04	1,956.02	6,908.17	3,459.22	1.56	-0.53	0.346
30.00	-114.17	-12.48	0.00	-1,535.81	0.00	1,535.81	3,888.25	1,944.12	6,823.91	3,417.03	1.73	-0.56	0.341
35.00	-109.57	-12.46	0.00	-1,473.41	0.00	1,473.41	3,899.62	1,949.81	6,864.12	3,437.16	2.36	-0.65	0.329
40.00	-106.37	-12.42	0.00	-1,411.14	0.00	1,411.14	3,820.30	1,910.15	6,586.15	3,297.97	3.10	-0.75	0.326
43.00	-104.46	-12.39	0.00	-1,373.89	0.00	1,373.89	3,772.71	1,886.36	6,422.13	3,215.84	3.59	-0.81	0.324
43.00	-104.46	-12.39	0.00	-1,373.89	0.00	1,373.89	3,772.71	1,886.36	6,422.13	3,215.84	3.59	-0.81	0.324
45.00	-103.18	-12.39	0.00	-1,349.12	0.00	1,349.12	3,740.98	1,870.49	6,313.93	3,161.66	3.93	-0.84	0.322
50.00	-99.99	-12.31	0.00	-1,287.19	0.00	1,287.19	3,661.66	1,830.83	6,047.45	3,028.22	4.87	-0.94	0.319
55.00	-96.87	-12.23	0.00	-1,225.66	0.00	1,225.66	3,582.34	1,791.17	5,786.72	2,897.66	5.90	-1.03	0.314
58.00	-95.01	-12.18	0.00	-1,188.97	0.00	1,188.97	3,534.75	1,767.38	5,633.04	2,820.71	6.57	-1.09	0.311
60.00	-93.38	-12.15	0.00	-1,164.61	0.00	1,164.61	3,503.02	1,751.51	5,531.73	2,769.98	7.03	-1.13	0.307
63.50	-90.55	-12.06	0.00	-1,122.10	0.00	1,122.10	3,173.44	1,586.72	5,061.87	2,534.70	7.89	-1.20	0.297
65.00	-89.71	-12.06	0.00	-1,104.00	0.00	1,104.00	3,152.76	1,576.38	4,994.62	2,501.02	8.27	-1.23	0.296
70.00	-86.94	-11.98	0.00	-1,043.72	0.00	1,043.72	3,081.37	1,540.68	4,769.94	2,388.51	9.61	-1.34	0.289
75.00	-84.19	-11.89	0.00	-983.82	0.00	983.82	3,009.98	1,504.99	4,550.42	2,278.59	11.07	-1.45	0.283
80.00	-81.47	-11.79	0.00	-924.37	0.00	924.37	2,938.59	1,469.30	4,336.07	2,171.26	12.64	-1.56	0.276
85.00	-78.77	-11.67	0.00	-865.43	0.00	865.43	2,867.21	1,433.60	4,126.90	2,066.52	14.33	-1.67	0.268
88.00	-77.16	-11.60	0.00	-830.41	0.00	830.41	2,824.37	1,412.19	4,003.88	2,004.91	15.40	-1.73	0.263
90.00	-75.80	-11.54	0.00	-807.21	0.00	807.21	2,795.82	1,397.91	3,922.90	1,964.36	16.13	-1.78	0.256
93.00	-73.79	-11.45	0.00	-772.58	0.00	772.58	2,304.06	1,152.03	3,254.27	1,629.55	17.27	-1.84	0.278
95.00	-72.77	-11.40	0.00	-749.69	0.00	749.69	2,286.90	1,143.45	3,196.90	1,600.83	18.05	-1.88	0.274
100.00	-70.26	-11.26	0.00	-692.69	0.00	692.69	2,243.44	1,121.72	3,054.90	1,529.72	20.08	-2.00	0.261
102.50	-69.01	-11.19	0.00	-664.54	0.00	664.54	2,221.40	1,110.70	2,984.67	1,494.55	21.15	-2.05	0.254
102.50	-69.01	-11.19	0.00	-664.54	0.00	664.54	2,221.40	1,110.70	2,984.67	1,494.55	21.15	-2.05	0.476
105.00	-67.96	-11.18	0.00	-636.57	0.00	636.57	2,198.14	1,099.07	2,913.61	1,458.97	22.23	-2.11	0.467
110.00	-65.87	-11.15	0.00	-580.66	0.00	580.66	2,138.65	1,069.33	2,757.31	1,380.70	24.55	-2.31	0.451
115.00	-63.91	-11.13	0.00	-524.92	0.00	524.92	2,079.16	1,039.58	2,605.31	1,304.59	27.08	-2.51	0.433
116.50	-63.31	-11.16	0.00	-508.22	0.00	508.22	2,061.32	1,030.66	2,560.55	1,282.18	27.88	-2.58	0.427
120.00	-61.62	-11.12	0.00	-469.16	0.00	469.16	2,019.67	1,009.84	2,457.62	1,230.64	29.82	-2.71	0.412
121.00	-61.12	-11.15	0.00	-458.03	0.00	458.03	1,570.79	785.40	1,940.61	971.75	30.39	-2.76	0.510
125.00	-59.68	-11.13	0.00	-413.45	0.00	413.45	1,545.06	772.53	1,864.04	933.41	32.77	-2.91	0.482
127.00	-51.88	-9.86	0.00	-391.19	0.00	391.19	1,531.99	766.00	1,826.09	914.40	34.00	-3.00	0.462
130.00	-50.84	-9.87	0.00	-361.61	0.00	361.61	1,512.16	756.08	1,769.59	886.11	35.93	-3.13	0.442
135.00	-49.15	-9.83	0.00	-312.28	0.00	312.28	1,478.46	739.23	1,676.61	839.55	39.32	-3.34	0.405
140.00	-47.48	-9.77	0.00	-263.14	0.00	263.14	1,443.96	721.98	1,585.19	793.77	42.92	-3.53	0.365
145.00	-40.04	-8.59	0.00	-214.29	0.00	214.29	1,408.39	704.19	1,495.13	748.68	46.71	-3.71	0.315
149.00	-39.03	-8.52	0.00	-179.94	0.00	179.94	1,370.32	685.16	1,415.01	708.56	49.87	-3.84	0.283
150.00	-38.71	-8.50	0.00	-171.42	0.00	171.42	1,360.80	680.40	1,395.33	698.70	50.67	-3.87	0.274
152.50	-37.93	-8.44	0.00	-150.18	0.00	150.18	947.27	473.64	973.73	487.59	52.72	-3.94	0.348
155.00	-37.35	-8.39	0.00	-129.10	0.00	129.10	936.35	468.18	945.55	473.48	54.80	-4.01	0.313
160.00	-36.22	-8.27	0.00	-87.17	0.00	87.17	913.91	456.96	889.79	445.55	59.07	-4.14	0.236
165.00	-35.11	-8.16	0.00	-45.80	0.00	45.80	890.67	445.33	834.90	418.07	63.46	-4.24	0.149
167.00	-10.82	-2.09	0.00	-29.50	0.00	29.50	881.14	440.57	813.20	407.21	65.24	-4.26	0.085

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:02:53 AM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

29 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

170.00	-10.24	-2.01	0.00	-23.23	0.00	23.23	866.62	433.31	780.97	391.06	67.93	-4.29	0.071
171.00	-9.61	-1.81	0.00	-21.23	0.00	21.23	861.71	430.86	770.30	385.72	68.82	-4.30	0.066
175.00	-8.96	-1.68	0.00	-13.98	0.00	13.98	841.76	420.88	728.08	364.58	72.43	-4.32	0.049
180.00	-8.16	-1.54	0.00	-5.59	0.00	5.59	816.11	408.05	676.33	338.67	76.97	-4.34	0.027
183.00	0.00	-0.92	0.00	-0.96	0.00	0.96	800.33	400.16	645.87	323.41	79.70	-4.35	0.003

Load Case: 1.0D + 1.0W	Serviceability 60 mph	26 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		44.7	0.0					0.0	0.0	44.7	0.0	0.0	0.0
5.00		125.6	1,287.4					0.0	334.0	125.6	1,621.4	0.0	0.0
10.00		160.4	1,263.8					33.6	712.7	194.1	1,976.5	0.0	0.0
15.00		157.4	1,240.2					33.6	712.7	191.1	1,952.9	0.0	0.0
20.00		116.4	1,216.6					33.6	712.7	150.0	1,929.3	0.0	0.0
22.50	Reinf. Top Reinf	76.5	599.4					16.8	356.3	93.3	955.8	0.0	0.0
25.00		90.7	593.5					16.8	356.3	107.5	949.9	0.0	0.0
28.50	Bot - Section 2	75.5	821.0					23.5	498.9	99.0	1,319.9	0.0	0.0
30.00		99.8	704.8					10.1	213.8	109.9	918.6	0.0	0.0
35.00	Top - Section 1	155.6	2,318.5					34.4	712.7	190.1	3,031.2	0.0	0.0
40.00		126.4	1,149.1					35.9	712.7	162.3	1,861.8	0.0	0.0
43.00	Reinf. Top Reinf	79.8	678.1					22.2	427.6	102.0	1,105.8	0.0	0.0
45.00		112.7	447.4					15.0	285.1	127.8	732.5	0.0	0.0
50.00	Appurtenance(s)	162.0	1,101.9	20.0	0.0	0.0	75.6	38.4	712.7	220.3	1,890.2	0.0	0.0
55.00		130.2	1,078.3					39.5	712.7	169.7	1,791.0	0.0	0.0
58.00	Bot - Section 3	82.2	635.6					24.2	427.6	106.4	1,063.3	0.0	0.0
60.00		91.6	740.4					16.3	285.1	107.9	1,025.5	0.0	0.0
63.50	Top - Section 2	83.3	1,279.8					29.0	498.9	112.3	1,778.7	0.0	0.0
65.00		108.3	235.4					12.6	213.8	120.8	449.3	0.0	0.0
70.00		166.3	773.3					42.4	712.7	208.8	1,486.0	0.0	0.0
75.00		165.8	755.6					43.3	712.7	209.1	1,468.3	0.0	0.0
80.00		164.9	737.9					44.2	712.7	209.0	1,450.6	0.0	0.0
85.00		131.2	720.2					45.0	712.7	176.1	1,432.9	0.0	0.0
88.00	Bot - Section 4	82.1	423.6					27.3	427.6	109.5	851.2	0.0	0.0
90.00		82.6	515.9					18.4	285.1	100.9	801.0	0.0	0.0
93.00	Top - Section 3	82.3	764.1					27.8	427.6	110.0	1,191.7	0.0	0.0
95.00		114.2	231.1					18.7	285.1	132.9	516.2	0.0	0.0
100.00		121.8	567.5					47.1	712.7	168.9	1,280.2	0.0	0.0
102.50	Reinf. Top	80.5	278.2					23.8	356.3	104.3	634.6	0.0	0.0
105.00		119.5	274.5					24.0	189.4	143.5	463.9	0.0	0.0
110.00		121.8	538.0					48.5	378.7	170.3	916.7	0.0	0.0
115.00		55.0	523.2					0.0	378.7	55.0	901.9	0.0	0.0
116.50	Bot - Section 5	42.2	154.1					0.0	113.6	42.2	267.7	0.0	0.0
120.00		38.0	643.2					0.0	265.1	38.0	908.2	0.0	0.0
121.00	Top - Section 4	41.7	181.4					0.0	75.7	41.7	257.1	0.0	0.0
125.00		49.8	321.1					0.0	303.0	49.8	624.0	0.0	0.0
127.00	Appurtenance(s)	40.9	157.7	973.7	0.0	0.0	2,862.6	0.0	151.5	1,014.6	3,171.8	0.0	0.0
130.00		64.6	233.0					0.0	190.9	64.6	423.9	0.0	0.0
135.00		79.5	378.9					0.0	318.2	79.5	697.1	0.0	0.0
140.00		77.8	367.1					0.0	318.2	77.8	685.3	0.0	0.0
145.00	Appurtenance(s)	68.6	355.3	768.3	0.0	0.0	2,620.8	0.0	318.2	836.9	3,294.3	0.0	0.0
149.00	Bot - Section 6	37.7	275.7					0.0	182.6	37.7	458.4	0.0	0.0
150.00		26.3	119.5					0.0	45.7	26.3	165.1	0.0	0.0
152.50	Top - Section 5	37.2	295.0					0.0	114.1	37.2	409.2	0.0	0.0
155.00		54.7	125.5					0.0	114.1	54.7	239.6	0.0	0.0
160.00		71.5	244.3					0.0	228.3	71.5	472.6	0.0	0.0
165.00		49.1	235.5					0.0	228.3	49.1	463.8	0.0	0.0
167.00	Appurtenance(s)	34.2	91.7	1,220.4	0.0	0.0	4,194.7	0.0	91.3	1,254.6	4,377.7	0.0	0.0

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:03:02 AM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

170.00		27.1	134.9					0.0	81.4	27.1	216.3	0.0	0.0
171.00	Appurtenance(s)	33.2	44.3	117.0	0.0	0.0	79.2	0.0	27.1	150.2	150.6	0.0	0.0
175.00		58.6	173.5					0.0	88.9	58.6	262.4	0.0	0.0
180.00		50.8	208.9					0.0	111.1	50.8	320.0	0.0	0.0
183.00	Appurtenance(s)	18.7	121.1	889.7	0.0	1,164.1	3,205.8	0.0	66.7	908.4	3,393.6	0.0	0.0
Totals:									9,404.43	61,007.3		0.00	0.00

Site Number: 302535

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:03:02 AM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-61.00	-9.39	0.00	-1,093.03	0.00	1,093.03	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.200
5.00	-59.37	-9.31	0.00	-1,046.11	0.00	1,046.11	4,284.85	2,142.42	8,295.82	4,154.08	0.03	-0.05	0.197
10.00	-57.39	-9.17	0.00	-999.54	0.00	999.54	4,205.53	2,102.76	7,989.95	4,000.91	0.11	-0.10	0.195
15.00	-55.43	-9.02	0.00	-953.71	0.00	953.71	4,126.21	2,063.10	7,689.82	3,850.62	0.24	-0.15	0.192
20.00	-53.49	-8.90	0.00	-908.61	0.00	908.61	4,046.89	2,023.44	7,395.44	3,703.21	0.43	-0.20	0.189
22.50	-52.53	-8.83	0.00	-886.35	0.00	886.35	4,007.23	2,003.61	7,250.40	3,630.59	0.54	-0.23	0.187
22.50	-52.53	-8.83	0.00	-886.35	0.00	886.35	4,007.23	2,003.61	7,250.40	3,630.59	0.54	-0.23	0.187
25.00	-51.58	-8.74	0.00	-864.29	0.00	864.29	3,967.57	1,983.78	7,106.80	3,558.68	0.67	-0.26	0.185
28.50	-50.26	-8.66	0.00	-833.68	0.00	833.68	3,912.04	1,956.02	6,908.17	3,459.22	0.87	-0.29	0.183
30.00	-49.33	-8.58	0.00	-820.69	0.00	820.69	3,888.25	1,944.12	6,823.91	3,417.03	0.97	-0.31	0.180
35.00	-46.30	-8.41	0.00	-777.81	0.00	777.81	3,899.62	1,949.81	6,864.12	3,437.16	1.32	-0.36	0.171
40.00	-44.43	-8.27	0.00	-735.76	0.00	735.76	3,820.30	1,910.15	6,586.15	3,297.97	1.72	-0.41	0.168
43.00	-43.32	-8.17	0.00	-710.97	0.00	710.97	3,772.71	1,886.36	6,422.13	3,215.84	1.99	-0.44	0.165
43.00	-43.32	-8.17	0.00	-710.97	0.00	710.97	3,772.71	1,886.36	6,422.13	3,215.84	1.99	-0.44	0.165
45.00	-42.59	-8.07	0.00	-694.62	0.00	694.62	3,740.98	1,870.49	6,313.93	3,161.66	2.18	-0.46	0.164
50.00	-40.69	-7.86	0.00	-654.29	0.00	654.29	3,661.66	1,830.83	6,047.45	3,028.22	2.68	-0.51	0.160
55.00	-38.90	-7.70	0.00	-614.97	0.00	614.97	3,582.34	1,791.17	5,786.72	2,897.66	3.24	-0.56	0.156
58.00	-37.83	-7.60	0.00	-591.86	0.00	591.86	3,534.75	1,767.38	5,633.04	2,820.71	3.60	-0.58	0.153
60.00	-36.80	-7.50	0.00	-576.66	0.00	576.66	3,503.02	1,751.51	5,531.73	2,769.98	3.85	-0.60	0.150
63.50	-35.02	-7.38	0.00	-550.41	0.00	550.41	3,173.44	1,586.72	5,061.87	2,534.70	4.30	-0.64	0.144
65.00	-34.57	-7.28	0.00	-539.33	0.00	539.33	3,152.76	1,576.38	4,994.62	2,501.02	4.50	-0.65	0.142
70.00	-33.08	-7.08	0.00	-502.94	0.00	502.94	3,081.37	1,540.68	4,769.94	2,388.51	5.21	-0.70	0.138
75.00	-31.61	-6.88	0.00	-467.53	0.00	467.53	3,009.98	1,504.99	4,550.42	2,278.59	5.98	-0.76	0.132
80.00	-30.15	-6.68	0.00	-433.12	0.00	433.12	2,938.59	1,469.30	4,336.07	2,171.26	6.80	-0.81	0.127
85.00	-28.72	-6.50	0.00	-399.71	0.00	399.71	2,867.21	1,433.60	4,126.90	2,066.52	7.68	-0.86	0.122
88.00	-27.87	-6.39	0.00	-380.19	0.00	380.19	2,824.37	1,412.19	4,003.88	2,004.91	8.23	-0.89	0.119
90.00	-27.07	-6.29	0.00	-367.41	0.00	367.41	2,795.82	1,397.91	3,922.90	1,964.36	8.60	-0.91	0.115
93.00	-25.87	-6.17	0.00	-348.53	0.00	348.53	2,304.06	1,152.03	3,254.27	1,629.55	9.18	-0.94	0.124
95.00	-25.36	-6.05	0.00	-336.18	0.00	336.18	2,286.90	1,143.45	3,196.90	1,600.83	9.58	-0.96	0.121
100.00	-24.08	-5.87	0.00	-305.93	0.00	305.93	2,243.44	1,121.72	3,054.90	1,529.72	10.61	-1.01	0.113
102.50	-23.44	-5.77	0.00	-291.25	0.00	291.25	2,221.40	1,110.70	2,984.67	1,494.55	11.15	-1.03	0.109
102.50	-23.44	-5.77	0.00	-291.25	0.00	291.25	2,221.40	1,110.70	2,984.67	1,494.55	11.15	-1.03	0.205
105.00	-22.97	-5.64	0.00	-276.83	0.00	276.83	2,198.14	1,099.07	2,913.61	1,458.97	11.70	-1.06	0.200
110.00	-22.05	-5.48	0.00	-248.64	0.00	248.64	2,138.65	1,069.33	2,757.31	1,380.70	12.85	-1.15	0.190
115.00	-21.15	-5.43	0.00	-221.22	0.00	221.22	2,079.16	1,039.58	2,605.31	1,304.59	14.10	-1.23	0.180
116.50	-20.88	-5.40	0.00	-213.07	0.00	213.07	2,061.32	1,030.66	2,560.55	1,282.18	14.49	-1.26	0.176
120.00	-19.96	-5.35	0.00	-194.18	0.00	194.18	2,019.67	1,009.84	2,457.62	1,230.64	15.43	-1.32	0.168
121.00	-19.70	-5.32	0.00	-188.82	0.00	188.82	1,570.79	785.40	1,940.61	971.75	15.71	-1.33	0.207
125.00	-19.08	-5.27	0.00	-167.54	0.00	167.54	1,545.06	772.53	1,864.04	933.41	16.85	-1.40	0.192
127.00	-15.93	-4.19	0.00	-157.00	0.00	157.00	1,531.99	766.00	1,826.09	914.40	17.45	-1.43	0.182
130.00	-15.50	-4.13	0.00	-144.43	0.00	144.43	1,512.16	756.08	1,769.59	886.11	18.36	-1.48	0.173
135.00	-14.80	-4.06	0.00	-123.76	0.00	123.76	1,478.46	739.23	1,676.61	839.55	19.96	-1.57	0.157
140.00	-14.11	-3.98	0.00	-103.48	0.00	103.48	1,443.96	721.98	1,585.19	793.77	21.64	-1.64	0.140
145.00	-10.84	-3.06	0.00	-83.59	0.00	83.59	1,408.39	704.19	1,495.13	748.68	23.40	-1.71	0.119
149.00	-10.38	-3.01	0.00	-71.37	0.00	71.37	1,370.32	685.16	1,415.01	708.56	24.86	-1.76	0.108
150.00	-10.22	-2.98	0.00	-68.36	0.00	68.36	1,360.80	680.40	1,395.33	698.70	25.23	-1.77	0.105
152.50	-9.81	-2.94	0.00	-60.90	0.00	60.90	947.27	473.64	973.73	487.59	26.16	-1.80	0.135
155.00	-9.57	-2.88	0.00	-53.56	0.00	53.56	936.35	468.18	945.55	473.48	27.12	-1.83	0.123
160.00	-9.10	-2.80	0.00	-39.15	0.00	39.15	913.91	456.96	889.79	445.55	29.07	-1.89	0.098
165.00	-8.63	-2.74	0.00	-25.13	0.00	25.13	890.67	445.33	834.90	418.07	31.07	-1.94	0.070
167.00	-4.30	-1.34	0.00	-19.64	0.00	19.64	881.14	440.57	813.20	407.21	31.89	-1.95	0.053

Site Number: 302535

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:03:03 AM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

170.00	-4.08	-1.31	0.00	-15.61	0.00	15.61	866.62	433.31	780.97	391.06	33.12	-1.97	0.045
171.00	-3.94	-1.15	0.00	-14.30	0.00	14.30	861.71	430.86	770.30	385.72	33.53	-1.97	0.042
175.00	-3.68	-1.09	0.00	-9.68	0.00	9.68	841.76	420.88	728.08	364.58	35.19	-1.99	0.031
180.00	-3.36	-1.03	0.00	-4.24	0.00	4.24	816.11	408.05	676.33	338.67	37.29	-2.01	0.017
183.00	0.00	-0.91	0.00	-1.16	0.00	1.16	800.33	400.16	645.87	323.41	38.55	-2.01	0.004

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	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}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	3.19
Redundancy Factor (ρ):	1.00
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	61.01 k
Seismic Base Shear (E):	1.83 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
52	181.50	188	6,185	0.010	18	233
51	177.50	320	10,083	0.016	29	397
50	173.00	262	7,853	0.012	22	326
49	170.50	71	2,076	0.003	6	89
48	168.50	216	6,142	0.010	18	268
47	166.00	183	5,044	0.008	14	227
46	162.50	464	12,247	0.019	35	575
45	157.50	473	11,725	0.018	33	586
44	153.75	240	5,665	0.009	16	297
43	151.25	409	9,361	0.015	27	508
42	149.50	165	3,690	0.006	11	205
41	147.00	458	9,905	0.015	28	569
40	142.50	674	13,676	0.021	39	836
39	137.50	685	12,957	0.020	37	850
38	132.50	697	12,239	0.019	35	865
37	128.50	424	7,000	0.011	20	526
36	126.00	309	4,909	0.008	14	384
35	123.00	624	9,441	0.015	27	774
34	120.50	257	3,733	0.006	11	319
33	118.25	908	12,700	0.020	36	1,127
32	115.75	268	3,587	0.006	10	332
31	112.50	902	11,415	0.018	33	1,119
30	107.50	917	10,593	0.017	30	1,137

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

29	103.75	464	4,993	0.008	14	576
28	101.25	635	6,505	0.010	19	787
27	97.50	1,280	12,170	0.019	35	1,588
26	94.00	516	4,561	0.007	13	640
25	91.50	1,192	9,977	0.016	28	1,479
24	89.00	801	6,344	0.010	18	994
23	86.50	851	6,369	0.010	18	1,056
22	82.50	1,433	9,752	0.015	28	1,778
21	77.50	1,451	8,713	0.014	25	1,800
20	72.50	1,468	7,718	0.012	22	1,822
19	67.50	1,486	6,771	0.011	19	1,844
18	64.25	449	1,855	0.003	5	557
17	61.75	1,779	6,782	0.011	19	2,207
16	59.00	1,025	3,570	0.006	10	1,272
15	56.50	1,063	3,394	0.005	10	1,319
14	52.50	1,791	4,936	0.008	14	2,222
13	47.50	1,815	4,094	0.006	12	2,251
12	44.00	732	1,418	0.002	4	909
11	41.50	1,106	1,904	0.003	5	1,372
10	37.50	1,862	2,618	0.004	7	2,310
9	32.50	3,031	3,202	0.005	9	3,761
8	29.25	919	786	0.001	2	1,140
7	26.75	1,320	944	0.001	3	1,638
6	23.75	950	536	0.001	2	1,179
5	21.25	956	432	0.001	1	1,186
4	17.50	1,929	591	0.001	2	2,394
3	12.50	1,953	305	0.000	1	2,423
2	7.50	1,977	111	0.000	0	2,452
1	2.50	1,621	10	0.000	0	2,012
DragonWave Horizon C	183.00	21	710	0.001	2	26
Alcatel-Lucent RRH2x	183.00	317	10,629	0.017	30	394
Alcatel-Lucent 1900	183.00	180	6,028	0.009	17	223
Decibel DB844H90E-XY	183.00	42	1,407	0.002	4	52
Nokia 2.5G MAA - AAH	183.00	311	10,408	0.016	30	386
DragonWave A-ANT-18G	183.00	54	1,815	0.003	5	67
Andrew 844G65VTZASX	183.00	48	1,607	0.003	5	60
Commscope NNVV-65B-R	183.00	232	7,776	0.012	22	288
Site Pro 1 RMQP-496-	183.00	2,000	66,978	0.104	191	2,481
RFS APXV18-206517S-C	171.00	79	2,316	0.004	7	98
CCI TPX-070821	167.00	45	1,255	0.002	4	56
Kaelus DBCT108F1V92-	167.00	83	2,326	0.004	7	103
Commscope WCS-IMFQ-A	167.00	30	823	0.001	2	37
Powerwave Allgon LGP	167.00	85	2,359	0.004	7	105
Raycap DC6-48-60-18-	167.00	40	1,116	0.002	3	50
Raycap DC6-48-60-18-	167.00	32	887	0.001	3	39
Ericsson RRUS 4426 B	167.00	145	4,049	0.006	12	180
Ericsson RRUS 4478 B	167.00	180	5,012	0.008	14	223
Ericsson RRUS 4478 B	167.00	180	5,012	0.008	14	223
Ericsson RRUS 11 (Ba	167.00	132	3,681	0.006	10	164
Ericsson RRUS 32 B2	167.00	159	4,434	0.007	13	197
Ericsson RRUS-32 (77	167.00	231	6,442	0.010	18	287
Powerwave Allgon 777	167.00	105	2,928	0.005	8	130
CCI OPA-65R-LCUU-H4	167.00	171	4,769	0.007	14	212
Quintel QS66512-2	167.00	333	9,287	0.014	26	413
Kathrein Scala 80010	167.00	245	6,827	0.011	19	304
Flat Platform w/ Han	167.00	2,000	55,778	0.087	159	2,481
Kathrein Scala Smart	145.00	10	208	0.000	1	12
Ericsson KRY 112 144	145.00	29	612	0.001	2	36
Ericsson KRY 112 489	145.00	46	971	0.002	3	57
Ericsson Radio 4449	145.00	222	4,668	0.007	13	275
Ericsson AIR 32 B2A/	145.00	430	9,039	0.014	26	533
RFS APXVAARR24_43-U-	145.00	384	8,067	0.013	23	476
Flat Low Profile Pla	145.00	1,500	31,538	0.049	90	1,861
RFS FD9R6004/1C-3L	127.00	19	300	0.000	1	23

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

Alcatel-Lucent RRH2X	127.00	138	2,226	0.003	6	171
Alcatel-Lucent RRH2X	127.00	132	2,129	0.003	6	164
Alcatel-Lucent RRH2x	127.00	132	2,129	0.003	6	164
RFS DB-T1-6Z-8AB-0Z	127.00	88	1,419	0.002	4	109
Andrew HBXX-6516DS-A	127.00	92	1,481	0.002	4	114
Andrew LNX-4514DS-A1	127.00	89	1,427	0.002	4	110
Antel BXA-80063/6CF	127.00	45	721	0.001	2	55
Andrew HBXX-6517DS-A	127.00	129	2,081	0.003	6	160
Flat Platform w/ Han	127.00	2,000	32,258	0.050	92	2,481
Thales PCS VP/360/2	50.00	1	2	0.000	0	1
Stand-Off	50.00	75	188	0.000	1	93
		61,007	641,710	1.000	1,830	75,695

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
52	181.50	188	6,185	0.010	18	161
51	177.50	320	10,083	0.016	29	275
50	173.00	262	7,853	0.012	22	225
49	170.50	71	2,076	0.003	6	61
48	168.50	216	6,142	0.010	18	186
47	166.00	183	5,044	0.008	14	157
46	162.50	464	12,247	0.019	35	399
45	157.50	473	11,725	0.018	33	406
44	153.75	240	5,665	0.009	16	206
43	151.25	409	9,361	0.015	27	352
42	149.50	165	3,690	0.006	11	142
41	147.00	458	9,905	0.015	28	394
40	142.50	674	13,676	0.021	39	579
39	137.50	685	12,957	0.020	37	589
38	132.50	697	12,239	0.019	35	599
37	128.50	424	7,000	0.011	20	364
36	126.00	309	4,909	0.008	14	266
35	123.00	624	9,441	0.015	27	536
34	120.50	257	3,733	0.006	11	221
33	118.25	908	12,700	0.020	36	780
32	115.75	268	3,587	0.006	10	230
31	112.50	902	11,415	0.018	33	775
30	107.50	917	10,593	0.017	30	788
29	103.75	464	4,993	0.008	14	399
28	101.25	635	6,505	0.010	19	545
27	97.50	1,280	12,170	0.019	35	1,100
26	94.00	516	4,561	0.007	13	444
25	91.50	1,192	9,977	0.016	28	1,024
24	89.00	801	6,344	0.010	18	688
23	86.50	851	6,369	0.010	18	731
22	82.50	1,433	9,752	0.015	28	1,231
21	77.50	1,451	8,713	0.014	25	1,246
20	72.50	1,468	7,718	0.012	22	1,262
19	67.50	1,486	6,771	0.011	19	1,277
18	64.25	449	1,855	0.003	5	386
17	61.75	1,779	6,782	0.011	19	1,528
16	59.00	1,025	3,570	0.006	10	881
15	56.50	1,063	3,394	0.005	10	914
14	52.50	1,791	4,936	0.008	14	1,539
13	47.50	1,815	4,094	0.006	12	1,559
12	44.00	732	1,418	0.002	4	629
11	41.50	1,106	1,904	0.003	5	950
10	37.50	1,862	2,618	0.004	7	1,600

Site Number: 302535

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

9	32.50	3,031	3,202	0.005	9	2,605
8	29.25	919	786	0.001	2	789
7	26.75	1,320	944	0.001	3	1,134
6	23.75	950	536	0.001	2	816
5	21.25	956	432	0.001	1	821
4	17.50	1,929	591	0.001	2	1,658
3	12.50	1,953	305	0.000	1	1,678
2	7.50	1,977	111	0.000	0	1,698
1	2.50	1,621	10	0.000	0	1,393
DragonWave Horizon C	183.00	21	710	0.001	2	18
Alcatel-Lucent RRH2x	183.00	317	10,629	0.017	30	273
Alcatel-Lucent 1900	183.00	180	6,028	0.009	17	155
Decibel DB844H90E-XY	183.00	42	1,407	0.002	4	36
Nokia 2.5G MAA - AAH	183.00	311	10,408	0.016	30	267
DragonWave A-ANT-18G	183.00	54	1,815	0.003	5	47
Andrew 844G65VTZASX	183.00	48	1,607	0.003	5	41
Commscope NNVV-65B-R	183.00	232	7,776	0.012	22	200
Site Pro 1 RMQP-496-	183.00	2,000	66,978	0.104	191	1,719
RFS APXV18-206517S-C	171.00	79	2,316	0.004	7	68
CCI TPX-070821	167.00	45	1,255	0.002	4	39
Kaelus DBCT108F1V92-	167.00	83	2,326	0.004	7	72
Commscope WCS-IMFQ-A	167.00	30	823	0.001	2	25
Powerwave Allgon LGP	167.00	85	2,359	0.004	7	73
Raycap DC6-48-60-18-	167.00	40	1,116	0.002	3	34
Raycap DC6-48-60-18-	167.00	32	887	0.001	3	27
Ericsson RRUS 4426 B	167.00	145	4,049	0.006	12	125
Ericsson RRUS 4478 B	167.00	180	5,012	0.008	14	154
Ericsson RRUS 4478 B	167.00	180	5,012	0.008	14	154
Ericsson RRUS 11 (Ba	167.00	132	3,681	0.006	10	113
Ericsson RRUS 32 B2	167.00	159	4,434	0.007	13	137
Ericsson RRUS-32 (77	167.00	231	6,442	0.010	18	198
Powerwave Allgon 777	167.00	105	2,928	0.005	8	90
CCI OPA-65R-LCUU-H4	167.00	171	4,769	0.007	14	147
Quintel QS66512-2	167.00	333	9,287	0.014	26	286
Kathrein Scala 80010	167.00	245	6,827	0.011	19	210
Flat Platform w/ Han	167.00	2,000	55,778	0.087	159	1,719
Kathrein Scala Smart	145.00	10	208	0.000	1	9
Ericsson KRY 112 144	145.00	29	612	0.001	2	25
Ericsson KRY 112 489	145.00	46	971	0.002	3	40
Ericsson Radio 4449	145.00	222	4,668	0.007	13	191
Ericsson AIR 32 B2A/	145.00	430	9,039	0.014	26	369
RFS APXVAARR24_43-U-	145.00	384	8,067	0.013	23	330
Flat Low Profile Pla	145.00	1,500	31,538	0.049	90	1,289
RFS FD9R6004/1C-3L	127.00	19	300	0.000	1	16
Alcatel-Lucent RRH2X	127.00	138	2,226	0.003	6	119
Alcatel-Lucent RRH2X	127.00	132	2,129	0.003	6	113
Alcatel-Lucent RRH2x	127.00	132	2,129	0.003	6	113
RFS DB-T1-6Z-8AB-0Z	127.00	88	1,419	0.002	4	76
Andrew HBXX-6516DS-A	127.00	92	1,481	0.002	4	79
Andrew LNX-4514DS-A1	127.00	89	1,427	0.002	4	76
Antel BXA-80063/6CF	127.00	45	721	0.001	2	38
Andrew HBXX-6517DS-A	127.00	129	2,081	0.003	6	111
Flat Platform w/ Han	127.00	2,000	32,258	0.050	92	1,719
Thales PCS VP/360/2	50.00	1	2	0.000	0	1
Stand-Off	50.00	75	188	0.000	1	64
		61,007	641,710	1.000	1,830	52,421

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-73.68	-1.84	0.00	-274.76	0.00	274.76	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.061
5.00	-71.23	-1.85	0.00	-265.58	0.00	265.58	4,284.85	2,142.42	8,295.82	4,154.08	0.01	-0.01	0.061
10.00	-68.81	-1.87	0.00	-256.31	0.00	256.31	4,205.53	2,102.76	7,989.95	4,000.91	0.03	-0.03	0.060
15.00	-66.41	-1.88	0.00	-246.98	0.00	246.98	4,126.21	2,063.10	7,689.82	3,850.62	0.06	-0.04	0.060
20.00	-65.23	-1.89	0.00	-237.58	0.00	237.58	4,046.89	2,023.44	7,395.44	3,703.21	0.11	-0.05	0.059
22.50	-64.05	-1.89	0.00	-232.86	0.00	232.86	4,007.23	2,003.61	7,250.40	3,630.59	0.14	-0.06	0.059
22.50	-64.05	-1.89	0.00	-232.86	0.00	232.86	4,007.23	2,003.61	7,250.40	3,630.59	0.14	-0.06	0.059
25.00	-62.41	-1.90	0.00	-228.13	0.00	228.13	3,967.57	1,983.78	7,106.80	3,558.68	0.17	-0.07	0.059
28.50	-61.27	-1.90	0.00	-221.48	0.00	221.48	3,912.04	1,956.02	6,908.17	3,459.22	0.22	-0.08	0.058
30.00	-57.51	-1.90	0.00	-218.63	0.00	218.63	3,888.25	1,944.12	6,823.91	3,417.03	0.25	-0.08	0.057
35.00	-55.20	-1.90	0.00	-209.15	0.00	209.15	3,899.62	1,949.81	6,864.12	3,437.16	0.34	-0.09	0.055
40.00	-53.83	-1.90	0.00	-199.65	0.00	199.65	3,820.30	1,910.15	6,586.15	3,297.97	0.44	-0.11	0.054
43.00	-52.92	-1.90	0.00	-193.95	0.00	193.95	3,772.71	1,886.36	6,422.13	3,215.84	0.51	-0.12	0.054
43.00	-52.92	-1.90	0.00	-193.95	0.00	193.95	3,772.71	1,886.36	6,422.13	3,215.84	0.51	-0.12	0.054
45.00	-50.66	-1.89	0.00	-190.15	0.00	190.15	3,740.98	1,870.49	6,313.93	3,161.66	0.56	-0.12	0.053
50.00	-48.35	-1.88	0.00	-180.68	0.00	180.68	3,661.66	1,830.83	6,047.45	3,028.22	0.70	-0.13	0.052
55.00	-47.03	-1.88	0.00	-171.26	0.00	171.26	3,582.34	1,791.17	5,786.72	2,897.66	0.84	-0.15	0.051
58.00	-45.76	-1.87	0.00	-165.62	0.00	165.62	3,534.75	1,767.38	5,633.04	2,820.71	0.94	-0.16	0.050
60.00	-43.55	-1.85	0.00	-161.87	0.00	161.87	3,503.02	1,751.51	5,531.73	2,769.98	1.01	-0.16	0.049
63.50	-42.99	-1.85	0.00	-155.39	0.00	155.39	3,173.44	1,586.72	5,061.87	2,534.70	1.13	-0.17	0.048
65.00	-41.15	-1.83	0.00	-152.61	0.00	152.61	3,152.76	1,576.38	4,994.62	2,501.02	1.18	-0.17	0.047
70.00	-39.33	-1.82	0.00	-143.45	0.00	143.45	3,081.37	1,540.68	4,769.94	2,388.51	1.37	-0.19	0.046
75.00	-37.53	-1.79	0.00	-134.37	0.00	134.37	3,009.98	1,504.99	4,550.42	2,278.59	1.58	-0.20	0.045
80.00	-35.75	-1.77	0.00	-125.40	0.00	125.40	2,938.59	1,469.30	4,336.07	2,171.26	1.80	-0.22	0.043
85.00	-34.69	-1.75	0.00	-116.55	0.00	116.55	2,867.21	1,433.60	4,126.90	2,066.52	2.04	-0.23	0.042
88.00	-33.70	-1.74	0.00	-111.29	0.00	111.29	2,824.37	1,412.19	4,003.88	2,004.91	2.19	-0.24	0.041
90.00	-32.22	-1.71	0.00	-107.82	0.00	107.82	2,795.82	1,397.91	3,922.90	1,964.36	2.29	-0.25	0.040
93.00	-31.58	-1.69	0.00	-102.70	0.00	102.70	2,304.06	1,152.03	3,254.27	1,629.55	2.45	-0.26	0.043
95.00	-29.99	-1.66	0.00	-99.31	0.00	99.31	2,286.90	1,143.45	3,196.90	1,600.83	2.56	-0.26	0.042
100.00	-29.20	-1.64	0.00	-91.03	0.00	91.03	2,243.44	1,121.72	3,054.90	1,529.72	2.84	-0.28	0.040
102.50	-28.63	-1.63	0.00	-86.93	0.00	86.93	2,221.40	1,110.70	2,984.67	1,494.55	2.99	-0.29	0.039
102.50	-28.63	-1.63	0.00	-86.93	0.00	86.93	2,221.40	1,110.70	2,984.67	1,494.55	2.99	-0.29	0.071
105.00	-27.49	-1.60	0.00	-82.86	0.00	82.86	2,198.14	1,099.07	2,913.61	1,458.97	3.14	-0.29	0.069
110.00	-26.37	-1.57	0.00	-74.87	0.00	74.87	2,138.65	1,069.33	2,757.31	1,380.70	3.46	-0.32	0.067
115.00	-26.04	-1.57	0.00	-67.00	0.00	67.00	2,079.16	1,039.58	2,605.31	1,304.59	3.81	-0.34	0.064
116.50	-24.91	-1.53	0.00	-64.65	0.00	64.65	2,061.32	1,030.66	2,560.55	1,282.18	3.92	-0.35	0.063
120.00	-24.59	-1.52	0.00	-59.29	0.00	59.29	2,019.67	1,009.84	2,457.62	1,230.64	4.18	-0.37	0.060
121.00	-23.82	-1.50	0.00	-57.77	0.00	57.77	1,570.79	785.40	1,940.61	971.75	4.26	-0.38	0.075
125.00	-23.43	-1.49	0.00	-51.78	0.00	51.78	1,545.06	772.53	1,864.04	933.41	4.58	-0.39	0.071
127.00	-19.35	-1.31	0.00	-48.81	0.00	48.81	1,531.99	766.00	1,826.09	914.40	4.75	-0.41	0.066
130.00	-18.49	-1.28	0.00	-44.88	0.00	44.88	1,512.16	756.08	1,769.59	886.11	5.01	-0.42	0.063
135.00	-17.64	-1.24	0.00	-38.50	0.00	38.50	1,478.46	739.23	1,676.61	839.55	5.47	-0.45	0.058
140.00	-16.80	-1.20	0.00	-32.30	0.00	32.30	1,443.96	721.98	1,585.19	793.77	5.95	-0.47	0.052
145.00	-12.98	-0.99	0.00	-26.29	0.00	26.29	1,408.39	704.19	1,495.13	748.68	6.46	-0.49	0.044
149.00	-12.78	-0.98	0.00	-22.34	0.00	22.34	1,370.32	685.16	1,415.01	708.56	6.88	-0.51	0.041
150.00	-12.27	-0.95	0.00	-21.36	0.00	21.36	1,360.80	680.40	1,395.33	698.70	6.98	-0.51	0.040
152.50	-11.97	-0.93	0.00	-18.99	0.00	18.99	947.27	473.64	973.73	487.59	7.25	-0.52	0.052
155.00	-11.39	-0.90	0.00	-16.67	0.00	16.67	936.35	468.18	945.55	473.48	7.53	-0.53	0.047
160.00	-10.81	-0.86	0.00	-12.19	0.00	12.19	913.91	456.96	889.79	445.55	8.10	-0.55	0.039
165.00	-10.59	-0.84	0.00	-7.90	0.00	7.90	890.67	445.33	834.90	418.07	8.68	-0.56	0.031
167.00	-5.12	-0.44	0.00	-6.21	0.00	6.21	881.14	440.57	813.20	407.21	8.92	-0.57	0.021
170.00	-5.03	-0.43	0.00	-4.90	0.00	4.90	866.62	433.31	780.97	391.06	9.28	-0.57	0.018
171.00	-4.60	-0.40	0.00	-4.47	0.00	4.47	861.71	430.86	770.30	385.72	9.40	-0.58	0.017
175.00	-4.21	-0.37	0.00	-2.87	0.00	2.87	841.76	420.88	728.08	364.58	9.88	-0.58	0.013
180.00	-3.97	-0.35	0.00	-1.04	0.00	1.04	816.11	408.05	676.33	338.67	10.49	-0.58	0.008
183.00	0.00	-0.31	0.00	0.00	0.00	0.00	800.33	400.16	645.87	323.41	10.86	-0.59	0.000

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

8/29/2018 10:03:03 AM

Customer: T-MOBILE

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total		
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	Ratio
0.00	-51.03	-1.83	0.00	-268.26	0.00	268.26	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.056
5.00	-49.33	-1.85	0.00	-259.09	0.00	259.09	4,284.85	2,142.42	8,295.82	4,154.08	0.01	-0.01	0.055
10.00	-47.65	-1.85	0.00	-249.86	0.00	249.86	4,205.53	2,102.76	7,989.95	4,000.91	0.03	-0.03	0.055
15.00	-45.99	-1.86	0.00	-240.59	0.00	240.59	4,126.21	2,063.10	7,689.82	3,850.62	0.06	-0.04	0.054
20.00	-45.17	-1.87	0.00	-231.28	0.00	231.28	4,046.89	2,023.44	7,395.44	3,703.21	0.11	-0.05	0.054
22.50	-44.35	-1.87	0.00	-226.61	0.00	226.61	4,007.23	2,003.61	7,250.40	3,630.59	0.14	-0.06	0.054
22.50	-44.35	-1.87	0.00	-226.61	0.00	226.61	4,007.23	2,003.61	7,250.40	3,630.59	0.14	-0.06	0.054
25.00	-43.22	-1.87	0.00	-221.93	0.00	221.93	3,967.57	1,983.78	7,106.80	3,558.68	0.17	-0.06	0.053
28.50	-42.43	-1.87	0.00	-215.37	0.00	215.37	3,912.04	1,956.02	6,908.17	3,459.22	0.22	-0.07	0.053
30.00	-39.83	-1.87	0.00	-212.56	0.00	212.56	3,888.25	1,944.12	6,823.91	3,417.03	0.24	-0.08	0.052
35.00	-38.23	-1.87	0.00	-203.22	0.00	203.22	3,899.62	1,949.81	6,864.12	3,437.16	0.33	-0.09	0.050
40.00	-37.27	-1.87	0.00	-193.88	0.00	193.88	3,820.30	1,910.15	6,586.15	3,297.97	0.43	-0.10	0.049
43.00	-36.65	-1.87	0.00	-188.28	0.00	188.28	3,772.71	1,886.36	6,422.13	3,215.84	0.50	-0.11	0.049
43.00	-36.65	-1.87	0.00	-188.28	0.00	188.28	3,772.71	1,886.36	6,422.13	3,215.84	0.50	-0.11	0.049
45.00	-35.09	-1.86	0.00	-184.55	0.00	184.55	3,740.98	1,870.49	6,313.93	3,161.66	0.55	-0.12	0.048
50.00	-33.48	-1.85	0.00	-175.27	0.00	175.27	3,661.66	1,830.83	6,047.45	3,028.22	0.68	-0.13	0.048
55.00	-32.57	-1.84	0.00	-166.03	0.00	166.03	3,582.34	1,791.17	5,786.72	2,897.66	0.82	-0.14	0.047
58.00	-31.69	-1.83	0.00	-160.51	0.00	160.51	3,534.75	1,767.38	5,633.04	2,820.71	0.91	-0.15	0.046
60.00	-30.16	-1.81	0.00	-156.85	0.00	156.85	3,503.02	1,751.51	5,531.73	2,769.98	0.98	-0.16	0.045
63.50	-29.77	-1.81	0.00	-150.51	0.00	150.51	3,173.44	1,586.72	5,061.87	2,534.70	1.10	-0.17	0.044
65.00	-28.49	-1.79	0.00	-147.80	0.00	147.80	3,152.76	1,576.38	4,994.62	2,501.02	1.15	-0.17	0.043
70.00	-27.23	-1.77	0.00	-138.84	0.00	138.84	3,081.37	1,540.68	4,769.94	2,388.51	1.33	-0.18	0.042
75.00	-25.99	-1.75	0.00	-129.99	0.00	129.99	3,009.98	1,504.99	4,550.42	2,278.59	1.53	-0.20	0.041
80.00	-24.75	-1.72	0.00	-121.24	0.00	121.24	2,938.59	1,469.30	4,336.07	2,171.26	1.75	-0.21	0.039
85.00	-24.02	-1.71	0.00	-112.63	0.00	112.63	2,867.21	1,433.60	4,126.90	2,066.52	1.98	-0.23	0.038
88.00	-23.33	-1.69	0.00	-107.51	0.00	107.51	2,824.37	1,412.19	4,003.88	2,004.91	2.13	-0.24	0.037
90.00	-22.31	-1.66	0.00	-104.13	0.00	104.13	2,795.82	1,397.91	3,922.90	1,964.36	2.23	-0.24	0.036
93.00	-21.87	-1.65	0.00	-99.15	0.00	99.15	2,304.06	1,152.03	3,254.27	1,629.55	2.38	-0.25	0.039
95.00	-20.77	-1.61	0.00	-95.86	0.00	95.86	2,286.90	1,143.45	3,196.90	1,600.83	2.49	-0.26	0.038
100.00	-20.22	-1.59	0.00	-87.81	0.00	87.81	2,243.44	1,121.72	3,054.90	1,529.72	2.76	-0.27	0.036
102.50	-19.82	-1.58	0.00	-83.82	0.00	83.82	2,221.40	1,110.70	2,984.67	1,494.55	2.90	-0.28	0.035
102.50	-19.82	-1.58	0.00	-83.82	0.00	83.82	2,221.40	1,110.70	2,984.67	1,494.55	2.90	-0.28	0.035
105.00	-19.03	-1.55	0.00	-79.87	0.00	79.87	2,198.14	1,099.07	2,913.61	1,458.97	3.05	-0.28	0.063
110.00	-18.26	-1.52	0.00	-72.12	0.00	72.12	2,138.65	1,069.33	2,757.31	1,380.70	3.36	-0.31	0.061
115.00	-18.03	-1.52	0.00	-64.50	0.00	64.50	2,079.16	1,039.58	2,605.31	1,304.59	3.70	-0.33	0.058
116.50	-17.25	-1.48	0.00	-62.23	0.00	62.23	2,061.32	1,030.66	2,560.55	1,282.18	3.80	-0.34	0.057
120.00	-17.03	-1.47	0.00	-57.05	0.00	57.05	2,019.67	1,009.84	2,457.62	1,230.64	4.06	-0.36	0.055
121.00	-16.49	-1.44	0.00	-55.58	0.00	55.58	1,570.79	785.40	1,940.61	971.75	4.14	-0.36	0.068
125.00	-16.22	-1.43	0.00	-49.81	0.00	49.81	1,545.06	772.53	1,864.04	933.41	4.45	-0.38	0.064
127.00	-13.40	-1.26	0.00	-46.94	0.00	46.94	1,531.99	766.00	1,826.09	914.40	4.61	-0.39	0.060
130.00	-12.80	-1.23	0.00	-43.15	0.00	43.15	1,512.16	756.08	1,769.59	886.11	4.86	-0.41	0.057
135.00	-12.21	-1.19	0.00	-37.00	0.00	37.00	1,478.46	739.23	1,676.61	839.55	5.31	-0.43	0.052
140.00	-11.63	-1.15	0.00	-31.03	0.00	31.03	1,443.96	721.98	1,585.19	793.77	5.77	-0.46	0.047
145.00	-8.99	-0.95	0.00	-25.26	0.00	25.26	1,408.39	704.19	1,495.13	748.68	6.26	-0.48	0.040
149.00	-8.85	-0.94	0.00	-21.46	0.00	21.46	1,370.32	685.16	1,415.01	708.56	6.67	-0.49	0.037
150.00	-8.50	-0.91	0.00	-20.52	0.00	20.52	1,360.80	680.40	1,395.33	698.70	6.77	-0.50	0.036
152.50	-8.29	-0.89	0.00	-18.24	0.00	18.24	947.27	473.64	973.73	487.59	7.03	-0.50	0.046
155.00	-7.88	-0.86	0.00	-16.00	0.00	16.00	936.35	468.18	945.55	473.48	7.30	-0.51	0.042
160.00	-7.49	-0.82	0.00	-11.71	0.00	11.71	913.91	456.96	889.79	445.55	7.85	-0.53	0.034
165.00	-7.33	-0.81	0.00	-7.59	0.00	7.59	890.67	445.33	834.90	418.07	8.41	-0.54	0.026
167.00	-3.54	-0.42	0.00	-5.98	0.00	5.98	881.14	440.57	813.20	407.21	8.64	-0.55	0.019
170.00	-3.48	-0.42	0.00	-4.71	0.00	4.71	866.62	433.31	780.97	391.06	8.99	-0.55	0.016
171.00	-3.19	-0.38	0.00	-4.30	0.00	4.30	861.71	430.86	770.30	385.72	9.10	-0.56	0.015
175.00	-2.91	-0.35	0.00	-2.76	0.00	2.76	841.76	420.88	728.08	364.58	9.57	-0.56	0.011
180.00	-2.75	-0.33	0.00	-1.00	0.00	1.00	816.11	408.05	676.33	338.67	10.16	-0.56	0.006
183.00	0.00	-0.31	0.00	0.00	0.00	0.00	800.33	400.16	645.87	323.41	10.51	-0.57	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	3.19
Redundancy Factor (p):	1.00

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)
52	181.50	188	1.859	1.821	1.082	0.361	45	233
51	177.50	320	1.778	1.441	0.940	0.308	66	397
50	173.00	262	1.689	1.081	0.798	0.252	44	326
49	170.50	71	1.641	0.910	0.727	0.223	11	89
48	168.50	216	1.602	0.786	0.673	0.201	29	268
47	166.00	183	1.555	0.646	0.611	0.175	21	227
46	162.50	464	1.490	0.477	0.531	0.140	43	575
45	157.50	473	1.400	0.284	0.432	0.096	30	586
44	153.75	240	1.334	0.171	0.367	0.066	11	297
43	151.25	409	1.291	0.108	0.328	0.048	13	508
42	149.50	165	1.261	0.070	0.303	0.036	4	205
41	147.00	458	1.220	0.024	0.270	0.020	6	569
40	142.50	674	1.146	-0.040	0.217	-0.005	-2	836
39	137.50	685	1.067	-0.087	0.167	-0.028	-13	850
38	132.50	697	0.991	-0.112	0.127	-0.046	-21	865
37	128.50	424	0.932	-0.121	0.100	-0.057	-16	526
36	126.00	309	0.896	-0.122	0.086	-0.062	-13	384
35	123.00	624	0.854	-0.119	0.071	-0.065	-27	774
34	120.50	257	0.819	-0.115	0.060	-0.067	-12	319
33	118.25	908	0.789	-0.110	0.051	-0.068	-41	1,127
32	115.75	268	0.756	-0.102	0.042	-0.067	-12	332
31	112.50	902	0.714	-0.091	0.033	-0.063	-38	1,119
30	107.50	917	0.652	-0.071	0.022	-0.053	-32	1,137
29	103.75	464	0.607	-0.056	0.015	-0.042	-13	576
28	101.25	635	0.579	-0.045	0.012	-0.033	-14	787
27	97.50	1,280	0.536	-0.030	0.009	-0.019	-16	1,588
26	94.00	516	0.499	-0.016	0.007	-0.004	-1	640
25	91.50	1,192	0.472	-0.006	0.006	0.006	5	1,479
24	89.00	801	0.447	0.003	0.006	0.016	8	994
23	86.50	851	0.422	0.011	0.006	0.025	14	1,056
22	82.50	1,433	0.384	0.023	0.007	0.037	36	1,778
21	77.50	1,451	0.339	0.036	0.009	0.049	47	1,800
20	72.50	1,468	0.297	0.046	0.013	0.057	55	1,822
19	67.50	1,486	0.257	0.054	0.016	0.061	60	1,844

18	64.25	449	0.233	0.058	0.019	0.063	19	557
17	61.75	1,779	0.215	0.061	0.021	0.063	75	2,207
16	59.00	1,025	0.196	0.063	0.024	0.063	43	1,272
15	56.50	1,063	0.180	0.065	0.026	0.063	45	1,319
14	52.50	1,791	0.156	0.067	0.029	0.063	75	2,222
13	47.50	1,815	0.127	0.070	0.033	0.062	75	2,251
12	44.00	732	0.109	0.071	0.036	0.061	30	909
11	41.50	1,106	0.097	0.071	0.038	0.060	44	1,372
10	37.50	1,862	0.079	0.072	0.040	0.059	74	2,310
9	32.50	3,031	0.060	0.072	0.041	0.058	117	3,761
8	29.25	919	0.048	0.071	0.042	0.057	35	1,140
7	26.75	1,320	0.040	0.070	0.042	0.057	50	1,638
6	23.75	950	0.032	0.069	0.041	0.055	35	1,179
5	21.25	956	0.025	0.067	0.040	0.054	35	1,186
4	17.50	1,929	0.017	0.062	0.037	0.052	67	2,394
3	12.50	1,953	0.009	0.053	0.031	0.046	60	2,423
2	7.50	1,977	0.003	0.038	0.021	0.036	48	2,452
1	2.50	1,621	0.000	0.015	0.008	0.017	19	2,012
DragonWave Horizon C	183.00	21	1.890	1.980	1.140	0.382	5	26
Alcatel-Lucent RRH2x	183.00	317	1.890	1.980	1.140	0.382	81	394
Alcatel-Lucent 1900	183.00	180	1.890	1.980	1.140	0.382	46	223
Decibel DB844H90E-XY	183.00	42	1.890	1.980	1.140	0.382	11	52
Nokia 2.5G MAA - AAH	183.00	311	1.890	1.980	1.140	0.382	79	386
DragonWave A-ANT-18G	183.00	54	1.890	1.980	1.140	0.382	14	67
Andrew 844G65VTZASX	183.00	48	1.890	1.980	1.140	0.382	12	60
Commscope NNVV-	183.00	232	1.890	1.980	1.140	0.382	59	288
Site Pro 1 RMQP-496-	183.00	2,000	1.890	1.980	1.140	0.382	510	2,481
RFS APXV18-206517S-C	171.00	79	1.650	0.943	0.740	0.229	12	98
CCI TPX-070821	167.00	45	1.574	0.700	0.635	0.185	6	56
Kaelus DBCT108F1V92-	167.00	83	1.574	0.700	0.635	0.185	10	103
Commscope WCS-	167.00	30	1.574	0.700	0.635	0.185	4	37
Powerwave Allgon LGP	167.00	85	1.574	0.700	0.635	0.185	10	105
Raycap DC6-48-60-18-	167.00	40	1.574	0.700	0.635	0.185	5	50
Raycap DC6-48-60-18-	167.00	32	1.574	0.700	0.635	0.185	4	39
Ericsson RRUS 4426 B	167.00	145	1.574	0.700	0.635	0.185	18	180
Ericsson RRUS 4478 B	167.00	180	1.574	0.700	0.635	0.185	22	223
Ericsson RRUS 4478 B	167.00	180	1.574	0.700	0.635	0.185	22	223
Ericsson RRUS 11 (Ba	167.00	132	1.574	0.700	0.635	0.185	16	164
Ericsson RRUS 32 B2	167.00	159	1.574	0.700	0.635	0.185	20	197
Ericsson RRUS-32 (77	167.00	231	1.574	0.700	0.635	0.185	29	287
Powerwave Allgon 777	167.00	105	1.574	0.700	0.635	0.185	13	130
CCI OPA-65R-LCUU-H4	167.00	171	1.574	0.700	0.635	0.185	21	212
Quintel QS66512-2	167.00	333	1.574	0.700	0.635	0.185	41	413
Kathrein Scala 80010	167.00	245	1.574	0.700	0.635	0.185	30	304
Flat Platform w/ Han	167.00	2,000	1.574	0.700	0.635	0.185	247	2,481
Kathrein Scala Smart	145.00	10	1.187	-0.008	0.245	0.008	0	12
Ericsson KRY 112 144	145.00	29	1.187	-0.008	0.245	0.008	0	36
Ericsson KRY 112 489	145.00	46	1.187	-0.008	0.245	0.008	0	57
Ericsson Radio 4449	145.00	222	1.187	-0.008	0.245	0.008	1	275
Ericsson AIR 32 B2A/	145.00	430	1.187	-0.008	0.245	0.008	2	533
RFS APXVAARR24_43-U-	145.00	384	1.187	-0.008	0.245	0.008	2	476
Flat Low Profile Pla	145.00	1,500	1.187	-0.008	0.245	0.008	8	1,861
RFS FD9R6004/1C-3L	127.00	19	0.910	-0.122	0.091	-0.060	-1	23
Alcatel-Lucent RRH2X	127.00	138	0.910	-0.122	0.091	-0.060	-5	171
Alcatel-Lucent RRH2X	127.00	132	0.910	-0.122	0.091	-0.060	-5	164
Alcatel-Lucent RRH2x	127.00	132	0.910	-0.122	0.091	-0.060	-5	164
RFS DB-T1-6Z-8AB-0Z	127.00	88	0.910	-0.122	0.091	-0.060	-4	109
Andrew HBXX-6516DS-A	127.00	92	0.910	-0.122	0.091	-0.060	-4	114
Andrew LNX-4514DS-A1	127.00	89	0.910	-0.122	0.091	-0.060	-4	110
Antel BXA-80063/6CF	127.00	45	0.910	-0.122	0.091	-0.060	-2	55
Andrew HBXX-6517DS-A	127.00	129	0.910	-0.122	0.091	-0.060	-5	160
Flat Platform w/ Han	127.00	2,000	0.910	-0.122	0.091	-0.060	-80	2,481
Thales PCS VP/360/2	50.00	1	0.141	0.069	0.031	0.062	0	1
Stand-Off	50.00	75	0.141	0.069	0.031	0.062	3	93

			61,007	97.315	37.395	33.201	8.892	2,473	75,695
<u>Load Case (0.9 - 0.2Sds) * DL + E EMAM</u>			Seismic (Reduced DL) Equivalent Modal Analysis Method						
Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)	
52	181.50	188	1.859	1.821	1.082	0.361	45	161	
51	177.50	320	1.778	1.441	0.940	0.308	66	275	
50	173.00	262	1.689	1.081	0.798	0.252	44	225	
49	170.50	71	1.641	0.910	0.727	0.223	11	61	
48	168.50	216	1.602	0.786	0.673	0.201	29	186	
47	166.00	183	1.555	0.646	0.611	0.175	21	157	
46	162.50	464	1.490	0.477	0.531	0.140	43	399	
45	157.50	473	1.400	0.284	0.432	0.096	30	406	
44	153.75	240	1.334	0.171	0.367	0.066	11	206	
43	151.25	409	1.291	0.108	0.328	0.048	13	352	
42	149.50	165	1.261	0.070	0.303	0.036	4	142	
41	147.00	458	1.220	0.024	0.270	0.020	6	394	
40	142.50	674	1.146	-0.040	0.217	-0.005	-2	579	
39	137.50	685	1.067	-0.087	0.167	-0.028	-13	589	
38	132.50	697	0.991	-0.112	0.127	-0.046	-21	599	
37	128.50	424	0.932	-0.121	0.100	-0.057	-16	364	
36	126.00	309	0.896	-0.122	0.086	-0.062	-13	266	
35	123.00	624	0.854	-0.119	0.071	-0.065	-27	536	
34	120.50	257	0.819	-0.115	0.060	-0.067	-12	221	
33	118.25	908	0.789	-0.110	0.051	-0.068	-41	780	
32	115.75	268	0.756	-0.102	0.042	-0.067	-12	230	
31	112.50	902	0.714	-0.091	0.033	-0.063	-38	775	
30	107.50	917	0.652	-0.071	0.022	-0.053	-32	788	
29	103.75	464	0.607	-0.056	0.015	-0.042	-13	399	
28	101.25	635	0.579	-0.045	0.012	-0.033	-14	545	
27	97.50	1,280	0.536	-0.030	0.009	-0.019	-16	1,100	
26	94.00	516	0.499	-0.016	0.007	-0.004	-1	444	
25	91.50	1,192	0.472	-0.006	0.006	0.006	5	1,024	
24	89.00	801	0.447	0.003	0.006	0.016	8	688	
23	86.50	851	0.422	0.011	0.006	0.025	14	731	
22	82.50	1,433	0.384	0.023	0.007	0.037	36	1,231	
21	77.50	1,451	0.339	0.036	0.009	0.049	47	1,246	
20	72.50	1,468	0.297	0.046	0.013	0.057	55	1,262	
19	67.50	1,486	0.257	0.054	0.016	0.061	60	1,277	
18	64.25	449	0.233	0.058	0.019	0.063	19	386	
17	61.75	1,779	0.215	0.061	0.021	0.063	75	1,528	
16	59.00	1,025	0.196	0.063	0.024	0.063	43	881	
15	56.50	1,063	0.180	0.065	0.026	0.063	45	914	
14	52.50	1,791	0.156	0.067	0.029	0.063	75	1,539	
13	47.50	1,815	0.127	0.070	0.033	0.062	75	1,559	
12	44.00	732	0.109	0.071	0.036	0.061	30	629	
11	41.50	1,106	0.097	0.071	0.038	0.060	44	950	
10	37.50	1,862	0.079	0.072	0.040	0.059	74	1,600	
9	32.50	3,031	0.060	0.072	0.041	0.058	117	2,605	
8	29.25	919	0.048	0.071	0.042	0.057	35	789	
7	26.75	1,320	0.040	0.070	0.042	0.057	50	1,134	
6	23.75	950	0.032	0.069	0.041	0.055	35	816	
5	21.25	956	0.025	0.067	0.040	0.054	35	821	
4	17.50	1,929	0.017	0.062	0.037	0.052	67	1,658	
3	12.50	1,953	0.009	0.053	0.031	0.046	60	1,678	
2	7.50	1,977	0.003	0.038	0.021	0.036	48	1,698	
1	2.50	1,621	0.000	0.015	0.008	0.017	19	1,393	
DragonWave Horizon C	183.00	21	1.890	1.980	1.140	0.382	5	18	

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

Alcatel-Lucent RRH2x	183.00	317	1.890	1.980	1.140	0.382	81	273
Alcatel-Lucent 1900	183.00	180	1.890	1.980	1.140	0.382	46	155
Decibel DB844H90E-XY	183.00	42	1.890	1.980	1.140	0.382	11	36
Nokia 2.5G MAA - AAH	183.00	311	1.890	1.980	1.140	0.382	79	267
DragonWave A-ANT-18G	183.00	54	1.890	1.980	1.140	0.382	14	47
Andrew 844G65VTZASX	183.00	48	1.890	1.980	1.140	0.382	12	41
Commscope NNVV-	183.00	232	1.890	1.980	1.140	0.382	59	200
Site Pro 1 RMQP-496-	183.00	2,000	1.890	1.980	1.140	0.382	510	1,719
RFS APXV18-206517S-C	171.00	79	1.650	0.943	0.740	0.229	12	68
CCI TPX-070821	167.00	45	1.574	0.700	0.635	0.185	6	39
Kaelus DBCT108F1V92-	167.00	83	1.574	0.700	0.635	0.185	10	72
Commscope WCS-	167.00	30	1.574	0.700	0.635	0.185	4	25
Powerwave Allgon LGP	167.00	85	1.574	0.700	0.635	0.185	10	73
Raycap DC6-48-60-18-	167.00	40	1.574	0.700	0.635	0.185	5	34
Raycap DC6-48-60-18-	167.00	32	1.574	0.700	0.635	0.185	4	27
Ericsson RRUS 4426 B	167.00	145	1.574	0.700	0.635	0.185	18	125
Ericsson RRUS 4478 B	167.00	180	1.574	0.700	0.635	0.185	22	154
Ericsson RRUS 4478 B	167.00	180	1.574	0.700	0.635	0.185	22	154
Ericsson RRUS 11 (Ba	167.00	132	1.574	0.700	0.635	0.185	16	113
Ericsson RRUS 32 B2	167.00	159	1.574	0.700	0.635	0.185	20	137
Ericsson RRUS-32 (77	167.00	231	1.574	0.700	0.635	0.185	29	198
Powerwave Allgon 777	167.00	105	1.574	0.700	0.635	0.185	13	90
CCI OPA-65R-LCUU-H4	167.00	171	1.574	0.700	0.635	0.185	21	147
Quintel QS66512-2	167.00	333	1.574	0.700	0.635	0.185	41	286
Kathrein Scala 80010	167.00	245	1.574	0.700	0.635	0.185	30	210
Flat Platform w/ Han	167.00	2,000	1.574	0.700	0.635	0.185	247	1,719
Kathrein Scala Smart	145.00	10	1.187	-0.008	0.245	0.008	0	9
Ericsson KRY 112 144	145.00	29	1.187	-0.008	0.245	0.008	0	25
Ericsson KRY 112 489	145.00	46	1.187	-0.008	0.245	0.008	0	40
Ericsson Radio 4449	145.00	222	1.187	-0.008	0.245	0.008	1	191
Ericsson AIR 32 B2A/	145.00	430	1.187	-0.008	0.245	0.008	2	369
RFS APXVAARR24_43-U-	145.00	384	1.187	-0.008	0.245	0.008	2	330
Flat Low Profile Pla	145.00	1,500	1.187	-0.008	0.245	0.008	8	1,289
RFS FD9R6004/1C-3L	127.00	19	0.910	-0.122	0.091	-0.060	-1	16
Alcatel-Lucent RRH2X	127.00	138	0.910	-0.122	0.091	-0.060	-5	119
Alcatel-Lucent RRH2X	127.00	132	0.910	-0.122	0.091	-0.060	-5	113
Alcatel-Lucent RRH2x	127.00	132	0.910	-0.122	0.091	-0.060	-5	113
RFS DB-T1-6Z-8AB-0Z	127.00	88	0.910	-0.122	0.091	-0.060	-4	76
Andrew HBXX-6516DS-A	127.00	92	0.910	-0.122	0.091	-0.060	-4	79
Andrew LNX-4514DS-A1	127.00	89	0.910	-0.122	0.091	-0.060	-4	76
Antel BXA-80063/6CF	127.00	45	0.910	-0.122	0.091	-0.060	-2	38
Andrew HBXX-6517DS-A	127.00	129	0.910	-0.122	0.091	-0.060	-5	111
Flat Platform w/ Han	127.00	2,000	0.910	-0.122	0.091	-0.060	-80	1,719
Thales PCS VP/360/2	50.00	1	0.141	0.069	0.031	0.062	0	1
Stand-Off	50.00	75	0.141	0.069	0.031	0.062	3	64
		61,007	97.315	37.395	33.201	8.892	2,473	52,421

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

Calculated Forces

Table with columns: 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. Rows range from 0.00 to 183.00.

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

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

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-51.03	-2.46	0.00	-314.58	0.00	314.58	4,364.17	2,182.08	8,607.44	4,310.12	0.00	0.00	0.064
5.00	-49.33	-2.42	0.00	-302.28	0.00	302.28	4,284.85	2,142.42	8,295.82	4,154.08	0.01	-0.01	0.063
10.00	-47.65	-2.38	0.00	-290.16	0.00	290.16	4,205.53	2,102.76	7,989.95	4,000.91	0.03	-0.03	0.062
15.00	-45.99	-2.32	0.00	-278.28	0.00	278.28	4,126.21	2,063.10	7,689.82	3,850.62	0.07	-0.04	0.062
20.00	-45.17	-2.29	0.00	-266.68	0.00	266.68	4,046.89	2,023.44	7,395.44	3,703.21	0.12	-0.06	0.061
22.50	-44.35	-2.26	0.00	-260.95	0.00	260.95	4,007.23	2,003.61	7,250.40	3,630.59	0.16	-0.07	0.061
22.50	-44.35	-2.26	0.00	-260.95	0.00	260.95	4,007.23	2,003.61	7,250.40	3,630.59	0.16	-0.07	0.061
25.00	-43.22	-2.22	0.00	-255.29	0.00	255.29	3,967.57	1,983.78	7,106.80	3,558.68	0.19	-0.07	0.060
28.50	-42.43	-2.19	0.00	-247.53	0.00	247.53	3,912.04	1,956.02	6,908.17	3,459.22	0.25	-0.09	0.060
30.00	-39.82	-2.07	0.00	-244.24	0.00	244.24	3,888.25	1,944.12	6,823.91	3,417.03	0.28	-0.09	0.059
35.00	-38.22	-2.01	0.00	-233.87	0.00	233.87	3,899.62	1,949.81	6,864.12	3,437.16	0.38	-0.11	0.056
40.00	-37.27	-1.97	0.00	-223.84	0.00	223.84	3,820.30	1,910.15	6,586.15	3,297.97	0.50	-0.12	0.056
43.00	-36.64	-1.94	0.00	-217.93	0.00	217.93	3,772.71	1,886.36	6,422.13	3,215.84	0.58	-0.13	0.055
43.00	-36.64	-1.94	0.00	-217.93	0.00	217.93	3,772.71	1,886.36	6,422.13	3,215.84	0.58	-0.13	0.055
45.00	-35.08	-1.87	0.00	-214.04	0.00	214.04	3,740.98	1,870.49	6,313.93	3,161.66	0.64	-0.14	0.055
50.00	-33.48	-1.80	0.00	-204.69	0.00	204.69	3,661.66	1,830.83	6,047.45	3,028.22	0.79	-0.15	0.054
55.00	-32.57	-1.76	0.00	-195.70	0.00	195.70	3,582.34	1,791.17	5,786.72	2,897.66	0.95	-0.17	0.054
58.00	-31.69	-1.72	0.00	-190.42	0.00	190.42	3,534.75	1,767.38	5,633.04	2,820.71	1.06	-0.17	0.053
60.00	-30.16	-1.64	0.00	-186.99	0.00	186.99	3,503.02	1,751.51	5,531.73	2,769.98	1.13	-0.18	0.052
63.50	-29.77	-1.62	0.00	-181.25	0.00	181.25	3,173.44	1,586.72	5,061.87	2,534.70	1.27	-0.19	0.051
65.00	-28.49	-1.57	0.00	-178.81	0.00	178.81	3,152.76	1,576.38	4,994.62	2,501.02	1.33	-0.20	0.051
70.00	-27.23	-1.51	0.00	-170.98	0.00	170.98	3,081.37	1,540.68	4,769.94	2,388.51	1.55	-0.21	0.050
75.00	-25.99	-1.47	0.00	-163.41	0.00	163.41	3,009.98	1,504.99	4,550.42	2,278.59	1.78	-0.23	0.050
80.00	-24.75	-1.44	0.00	-156.06	0.00	156.06	2,938.59	1,469.30	4,336.07	2,171.26	2.04	-0.25	0.049
85.00	-24.02	-1.43	0.00	-148.87	0.00	148.87	2,867.21	1,433.60	4,126.90	2,066.52	2.31	-0.27	0.049
88.00	-23.33	-1.42	0.00	-144.59	0.00	144.59	2,824.37	1,412.19	4,003.88	2,004.91	2.48	-0.28	0.048
90.00	-22.31	-1.41	0.00	-141.75	0.00	141.75	2,795.82	1,397.91	3,922.90	1,964.36	2.60	-0.29	0.047
93.00	-21.87	-1.42	0.00	-137.52	0.00	137.52	2,304.06	1,152.03	3,254.27	1,629.55	2.79	-0.30	0.052
95.00	-20.77	-1.43	0.00	-134.68	0.00	134.68	2,286.90	1,143.45	3,196.90	1,600.83	2.91	-0.31	0.051
100.00	-20.22	-1.45	0.00	-127.53	0.00	127.53	2,243.44	1,121.72	3,054.90	1,529.72	3.25	-0.33	0.050
102.50	-19.82	-1.46	0.00	-123.91	0.00	123.91	2,221.40	1,110.70	2,984.67	1,494.55	3.42	-0.34	0.049
102.50	-19.82	-1.46	0.00	-123.91	0.00	123.91	2,221.40	1,110.70	2,984.67	1,494.55	3.42	-0.34	0.092
105.00	-19.03	-1.50	0.00	-120.26	0.00	120.26	2,198.14	1,099.07	2,913.61	1,458.97	3.60	-0.35	0.091
110.00	-18.26	-1.54	0.00	-112.77	0.00	112.77	2,138.65	1,069.33	2,757.31	1,380.70	3.99	-0.39	0.090
115.00	-18.03	-1.56	0.00	-105.06	0.00	105.06	2,079.16	1,039.58	2,605.31	1,304.59	4.42	-0.43	0.089
116.50	-17.24	-1.60	0.00	-102.71	0.00	102.71	2,061.32	1,030.66	2,560.55	1,282.18	4.55	-0.44	0.088
120.00	-17.02	-1.62	0.00	-97.10	0.00	97.10	2,019.67	1,009.84	2,457.62	1,230.64	4.89	-0.47	0.087
121.00	-16.49	-1.65	0.00	-95.49	0.00	95.49	1,570.79	785.40	1,940.61	971.75	4.99	-0.48	0.109
125.00	-16.22	-1.66	0.00	-88.90	0.00	88.90	1,545.06	772.53	1,864.04	933.41	5.40	-0.51	0.106
127.00	-13.39	-1.77	0.00	-85.57	0.00	85.57	1,531.99	766.00	1,826.09	914.40	5.62	-0.53	0.102
130.00	-12.79	-1.80	0.00	-80.25	0.00	80.25	1,512.16	756.08	1,769.59	886.11	5.96	-0.56	0.099
135.00	-12.20	-1.82	0.00	-71.25	0.00	71.25	1,478.46	739.23	1,676.61	839.55	6.57	-0.60	0.093
140.00	-11.62	-1.82	0.00	-62.17	0.00	62.17	1,443.96	721.98	1,585.19	793.77	7.23	-0.65	0.086
145.00	-8.98	-1.78	0.00	-53.07	0.00	53.07	1,408.39	704.19	1,495.13	748.68	7.93	-0.69	0.077
149.00	-8.83	-1.77	0.00	-45.97	0.00	45.97	1,370.32	685.16	1,415.01	708.56	8.53	-0.72	0.071
150.00	-8.48	-1.76	0.00	-44.20	0.00	44.20	1,360.80	680.40	1,395.33	698.70	8.68	-0.73	0.069
152.50	-8.28	-1.75	0.00	-39.80	0.00	39.80	947.27	473.64	973.73	487.59	9.07	-0.75	0.090
155.00	-7.87	-1.72	0.00	-35.44	0.00	35.44	936.35	468.18	945.55	473.48	9.47	-0.77	0.083
160.00	-7.47	-1.67	0.00	-26.86	0.00	26.86	913.91	456.96	889.79	445.55	10.30	-0.81	0.068
165.00	-7.31	-1.65	0.00	-18.51	0.00	18.51	890.67	445.33	834.90	418.07	11.16	-0.84	0.052
167.00	-3.53	-1.05	0.00	-15.21	0.00	15.21	881.14	440.57	813.20	407.21	11.52	-0.85	0.041
170.00	-3.47	-1.04	0.00	-12.06	0.00	12.06	866.62	433.31	780.97	391.06	12.06	-0.87	0.035
171.00	-3.18	-0.98	0.00	-11.03	0.00	11.03	861.71	430.86	770.30	385.72	12.24	-0.87	0.032
175.00	-2.90	-0.91	0.00	-7.12	0.00	7.12	841.76	420.88	728.08	364.58	12.97	-0.88	0.023
180.00	-2.74	-0.86	0.00	-2.58	0.00	2.58	816.11	408.05	676.33	338.67	13.91	-0.89	0.011
183.00	0.00	-0.82	0.00	0.00	0.00	0.00	800.33	400.16	645.87	323.41	14.47	-0.90	0.000

Site Number: 302535

Code: ANSI/TIA-222-G

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Site Name: Milford CT 2, CT

Engineering Number: 12598482_C3_04

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Customer: T-MOBILE

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	39.59	0.00	73.13	0.00	0.00	4700.51	102.50	0.86
0.9D + 1.6W	38.78	0.00	54.83	0.00	0.00	4501.39	102.50	0.81
1.2D + 1.0Di + 1.0Wi	12.28	0.00	133.13	0.00	0.00	1907.75	121.00	0.51
(1.2 + 0.2Sds) * DL + E ELFM	1.84	0.00	73.68	0.00	0.00	274.76	121.00	0.07
(1.2 + 0.2Sds) * DL + E EMAM	2.46	0.00	73.68	0.00	0.00	322.92	121.00	0.12
(0.9 - 0.2Sds) * DL + E ELFM	1.83	0.00	51.03	0.00	0.00	268.26	121.00	0.07
(0.9 - 0.2Sds) * DL + E EMAM	2.46	0.00	51.03	0.00	0.00	314.58	121.00	0.11
1.0D + 1.0W	9.39	0.00	61.00	0.00	0.00	1093.03	121.00	0.21

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Applied (kips)	phiVn (kips)	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Pu (kip)	phiPn (kip)	Ratio
0.00	22.5	(4) SOL-#20 All Thre	199.5	4.0	16.8	0.0	12.0	0	0	0.0	12.0	0	0	261.4	343.1	0.762
22.5	43.0	(4) SOL-#20 All Thre	210.6	3.8	16.8	0.0	12.0	0	0	0.0	12.0	0	0	247.9	345.0	0.718
43.0	102.	(4) SOL-#20 All Thre	296.8	8.9	16.8	179.6	12.0	15	16	0.0	12.0	0	0	232.2	330.5	0.703



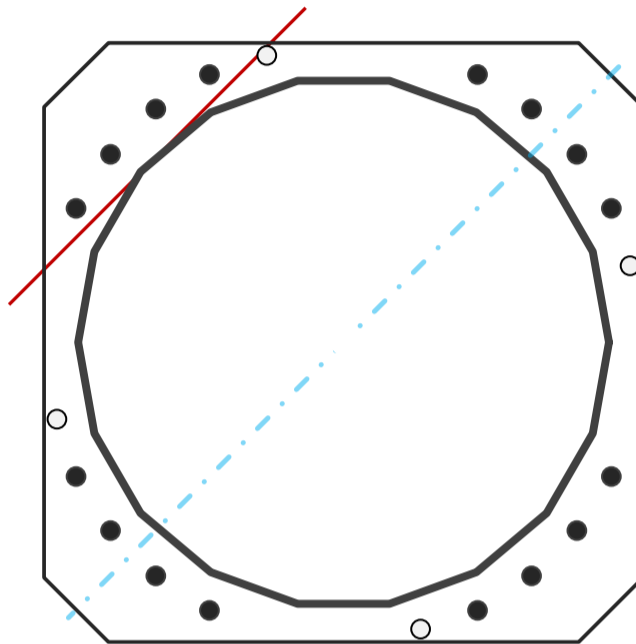
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	18	-
Diameter	48.62	in
Thickness	0.5	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	4700.5	k-ft
Axial, Pu	73.1	k
Shear, Vu	39.6	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	80%	Pass
Anchor Rods	73%	Pass
Dwyidag	59%	Pass

Base Plate		
Shape	Square	-
Width	56	in
Thickness	2 3/4	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	6	in
Orientation Offset	0	°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	2056.9	k
Bending Stress, ϕMn	2580.1	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	55.50	in
Orientation Offset	15	°
Applied Force, Pu	231.5	k
Dwyidag Bar, ϕPn	392.7	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	16	-
Diameter, ϕ	2 1/4	in
Bolt Circle	56	in
Grade	A615-75	-
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	189.1	k
Anchor Rods, ϕPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	39.6	3488.1	0.74
Anchor Rod Forces	39.6	3488.1	0.74
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1212.4	0.26
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	75.2036	4.1780	0.3500		21773.35
Bolt	3.9761	3.2477	0.8393	4.5	20382.94
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		7567.74
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate

Shape	Square	-
Width, W	56	in
Thickness, t	2.75	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	27.787	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods

Anchor Rod Quantity, N	16	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	56	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	189.1	k
Applied Shear, Vu	0.0	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.728	OK
Interaction Capacity	0.728	OK

External Base Plate

Chord Length AA	30.326	in
Additional AA	0.000	in
Section Modulus, Z	57.335	in ³
Applied Moment, Mu	2056.9	k-ft
Bending Capacity, φMn	2580.1	k-ft
Capacity, Mu/φMn	0.797	OK

Chord Length AB	29.572	in
Additional AB	0.000	in
Section Modulus, Z	55.910	in ³
Applied Moment, Mu	1778.2	k-ft
Bending Capacity, φMn	2515.9	k-ft
Capacity, Mu/φMn	0.707	OK

Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Internal Base Plate

Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement

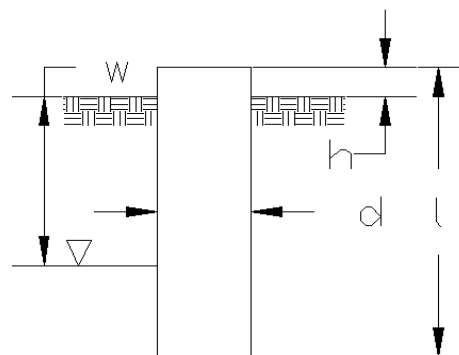
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	55.5	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	231.5	k
Compressive Capacity, φPn	392.7	k
Capacity, Pu/φPn	0.590	OK

Site Name: Milford CT2, CT
 Site Number: 302535
 Engineer: travis.gatling
 Engineering Number: 12598482
 Date: 08/29/18

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):	4700.5 k-ft
Shear/Leg (V):	39.6 k
Axial Load (P):	73.1 k
Uplift/Leg (U):	0.0 k
Tower Type (GT / SST / MP):	MP



Diameter of Caisson (d):	6.0 ft
Caisson Embedment (L-h):	20.0 ft
Caisson Height Above Ground (h):	0.5 ft
Depth Below Ground Surface to Water Table (w):	99.0 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Water:	62.4 pcf
Tension Skin Friction/Compression Skin Friction:	1.00
Pullout Angle:	30.0 degrees

Engineer Notes

Soil Mechanical Properties

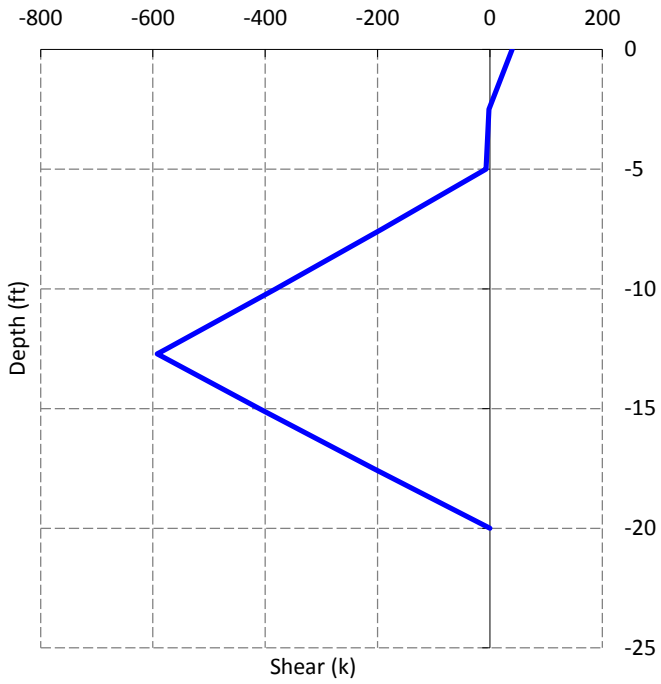
Depth (ft)		γ_{Soil}	Cohesion	ϕ	Ultimate Skin	Ultimate Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	3.5	105	0	0	0	0
3.5	21.0	140	5000	0	2250	69294

Volume of Concrete:	579.6 ft ³ = 21.5 yd ³
Weight of Concrete (Buoyancy Effect Considered):	86.9 k
Average Soil Unit Weight:	133.9 pcf
Skin Friction Resistance:	699.8 k
Compressive Bearing Resistance:	1959.2 k
Pullout Weight (Minus Concrete Weight):	665.2 k
Nominal Uplift Capacity per Leg ($\phi_s T_n$):	498.9 k
Nominal Compressive Capacity per Leg ($\phi_s P_n$):	1994.3 k
P_u :	84.1 k
$T_u / \phi_s T_n$:	0.00 Result: OK
$P_u / \phi_s P_n$:	0.04 Result: OK
Total Lateral Resistance:	3454.9 k
Inflection Point (Below Ground Surface):	12.7 ft
Design Overturning Moment At Inflection Point (M_D):	5223.8 k-ft
Nominal Moment Capacity ($\phi_s M_n$):	9794.1 k-ft
$M_D / \phi_s M_n$:	0.53 Result: OK
ϕ_s :	0.75

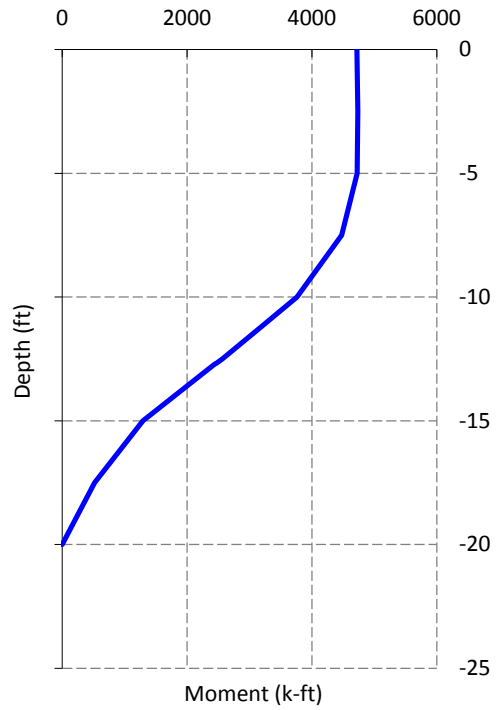
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
# of Vertical Steel Rebars:	33
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	4
Horizontal Tie / Stirrup Area:	0.20 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	64.0 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_V):	0.65 ACI318-05 - 9.3.2.2
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	4735.1 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	6808.9 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$:	0.70 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	2779.9 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	84.1 k
Nominal Compression Capacity ($\phi_P P_n$):	5330.6 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.02 Result: OK
Bending Reinforcement Ratio:	0.013 ACI318-05 - 10.8.4 & 10.9.1
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.70 Result: OK

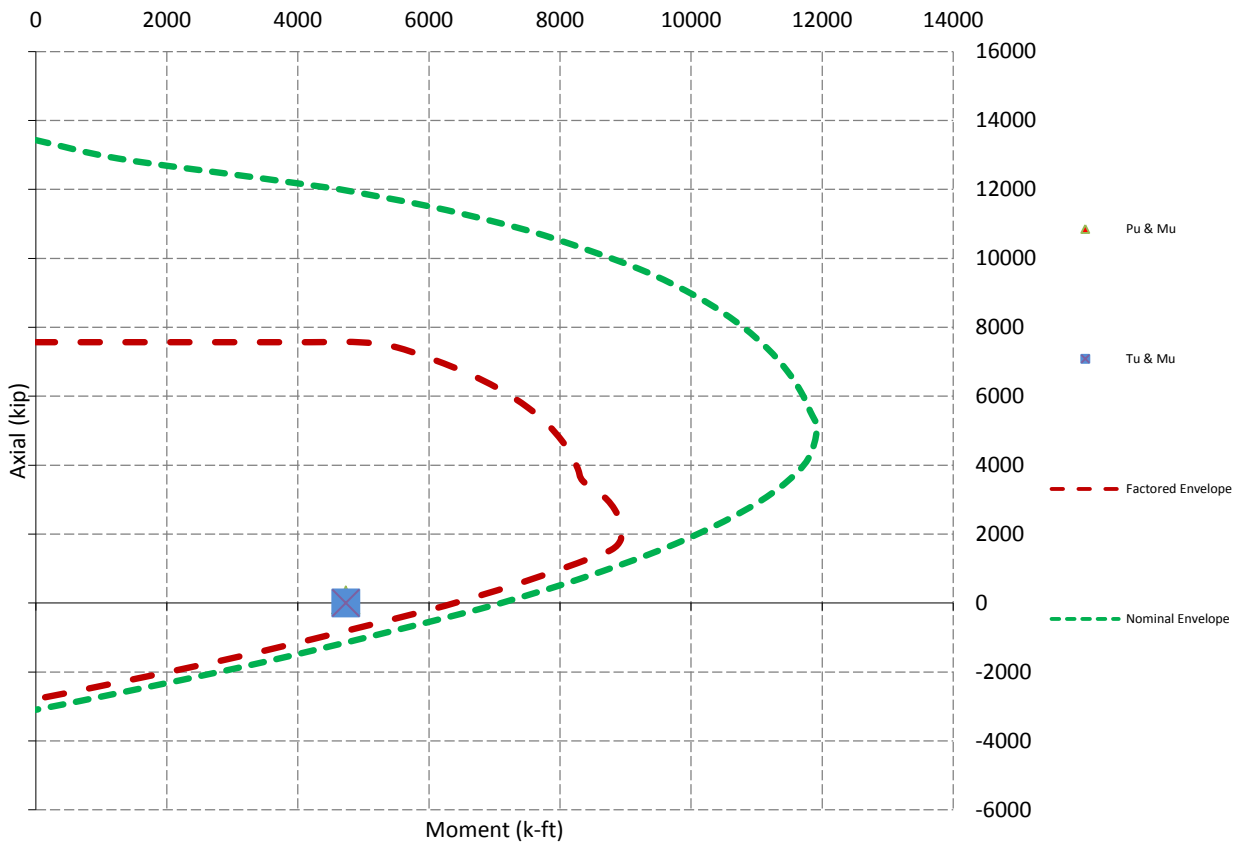
Design Factored Shear / Depth

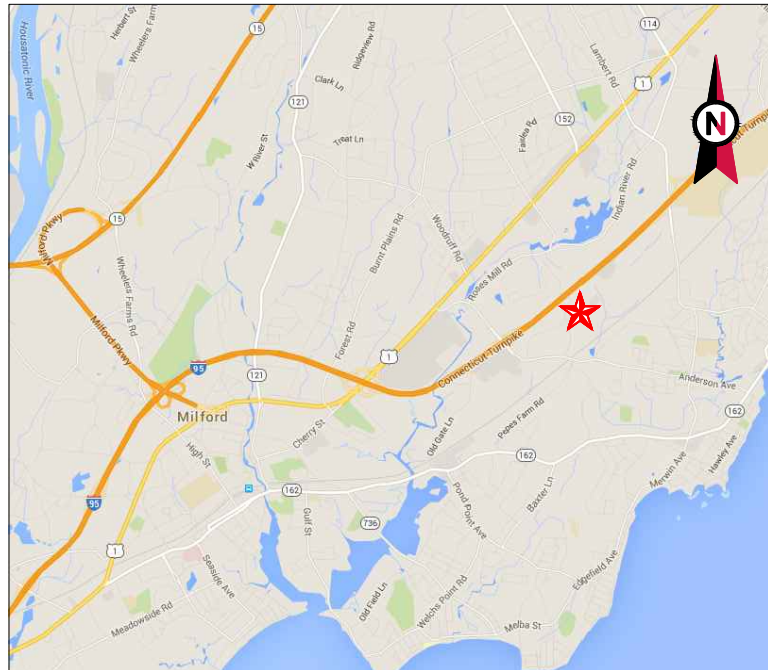


Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads





VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: MILFORD CT 2
 ATC SITE NUMBER: 302535
 T-MOBILE SITE ID: CT11020D
 SITE ADDRESS: 185 RESEARCH DRIVE
 MILFORD, CT 06460



LOCATION MAP

**T-MOBILE ANTENNA AMENDMENT
 67D94DB CONFIGURATION**



AMERICAN TOWER®
 A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	08/29/18


ATC SITE NUMBER:
302535

ATC SITE NAME:
MILFORD CT 2

SITE ADDRESS:
 185 RESEARCH DRIVE
 MILFORD, CT 06460

SEAL:



Authorized by "EOR"
 Aug 29 2018 3:39 PM 



DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12603773

TITLE SHEET

SHEET NUMBER:
G-001

REVISION:
0

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- INTERNATIONAL BUILDING CODE (IBC)
- NATIONAL ELECTRIC CODE (NEC)
- LOCAL BUILDING CODE
- CITY/COUNTY ORDINANCES

PROJECT SUMMARY

SITE ADDRESS:
 185 RESEARCH DRIVE
 MILFORD, CT 06460
 COUNTY: NEW HAVEN

GEOGRAPHIC COORDINATES:
 LATITUDE: 41.24041944
 LONGITUDE: -73.0119
 GROUND ELEVATION: 94' AMSL

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

REMOVE (3) PANELS AND (6) TTAs, AND FLUSH MOUNTS

INSTALL (6) NEW PANELS, (6) TTAs, (3) RRUs, (2) 1-5/8" HYBRID CABLE, AND (1) PLATFORM

EXISTING (3) SMART BIAS Ts, AND (18) 1-5/8" COAX CABLES TO REMAIN

PROJECT NOTES

- THE FACILITY IS UNMANNED.
- A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
- THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
- NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
- HANDICAP ACCESS IS NOT REQUIRED.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	08/29/18	KTL
G-002	GENERAL NOTES	0	08/29/18	KTL
C-101	DETAILED SITE PLAN & TOWER ELEVATION	0	08/29/18	KTL
C-501	ANTENNA INFORMATION & SCHEDULE	0	08/29/18	KTL
C-502	CONSTRUCTION DETAILS	0	08/29/18	KTL
R-601	SUPPLEMENTAL			

UTILITY COMPANIES

POWER COMPANY: CL&P
 PHONE: (888) 783-6617

TELEPHONE COMPANY: FRONTIER COMMUNICATIONS
 PHONE: (877) 870-4601

PROJECT TEAM

TOWER OWNER:
 AMERICAN TOWER
 10 PRESIDENTIAL WAY
 WOBURN, MA 01801

ENGINEER:
 ATC TOWER SERVICES, LLC
 3500 REGENCY PKWY STE 100
 CARY, NC 27518

PROJECT LOCATION DIRECTIONS

FROM NEW HAVEN, CT:

TRAVEL ON I 95 SOUTH TO EXIT 40. TAKE LEFT AT OFF RAMP AND PROCEED TO FIRST SET OF LIGHTS AND TURN LEFT ON RESEARCH DRIVE. FOLLOW TO # 185



811
 Know what's below.
 Call before you dig.

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GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH T-MOBILE WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY T-MOBILE WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 - B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 - C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 - D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 - E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 - F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 - G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	08/29/18

ATC SITE NUMBER:

302535

ATC SITE NAME:

MILFORD CT 2

SITE ADDRESS:

185 RESEARCH DRIVE
MILFORD, CT 06460

SEAL:



Authorized by "EOR"
Aug 29 2018 3:39 PM **cosign**



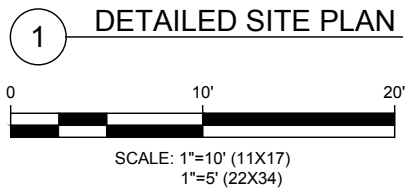
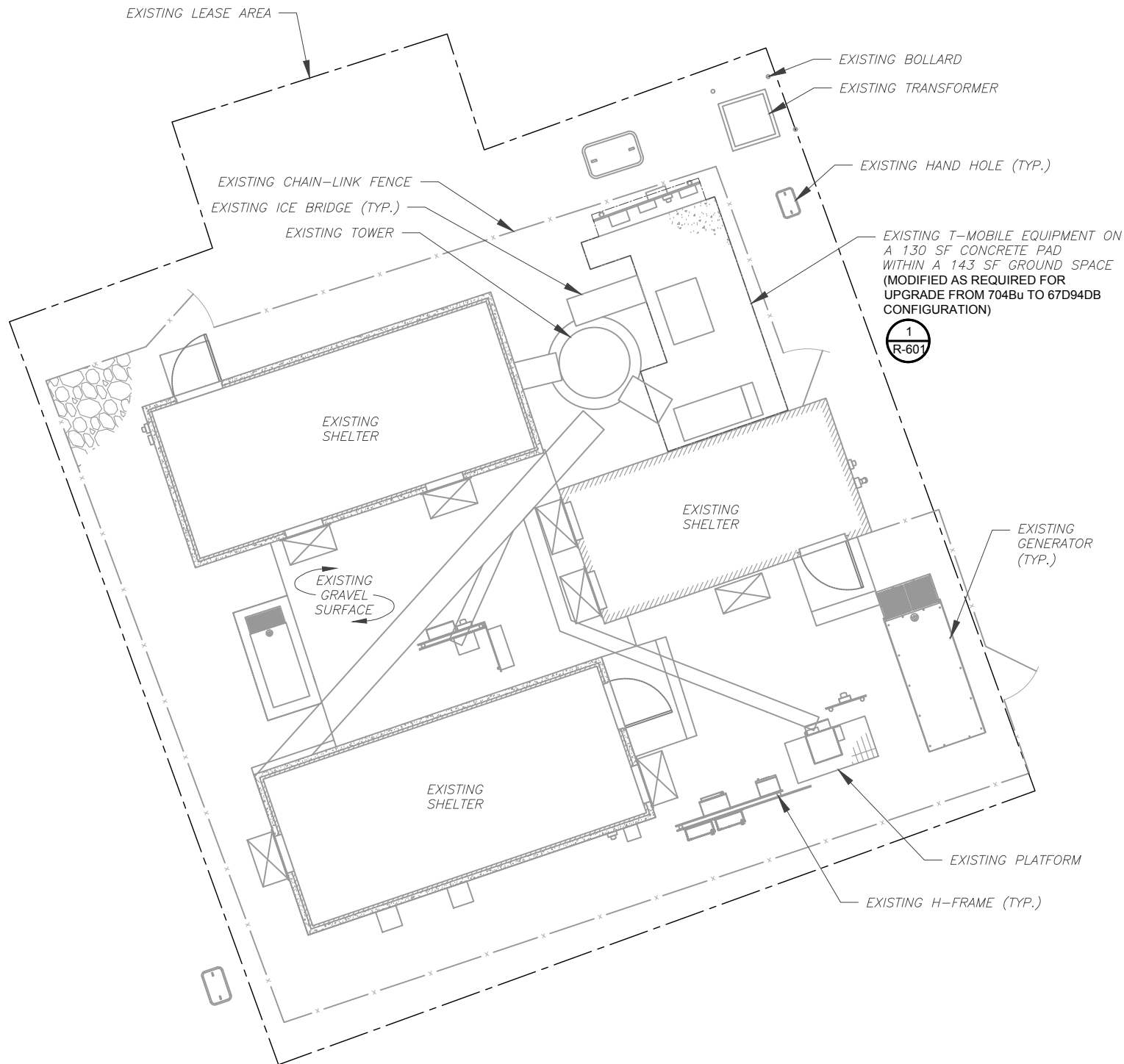
DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12603773

GENERAL NOTES

SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



TOP OF EXISTING HIGHEST APPURTENANCE
ELEV. 188' A.G.L.
TOP OF EXISTING TOWER
ELEV. 183' A.G.L.

EXISTING AND PROPOSED TMOBILE ANTENNAS (SEE TOWER NOTE 3)

1 2
C-501 C-501

EXISTING CARRIER ANTENNAS
RAD CENTER @ 185' A.G.L.

EXISTING CARRIER ANTENNAS
RAD CENTER @ 171' A.G.L.
EXISTING CARRIER ANTENNAS
RAD CENTER @ 167' A.G.L.

PROPOSED ANTENNA
RAD CENTER @ 145' A.G.L.

EXISTING CARRIER ANTENNAS
RAD CENTER @ 127' A.G.L.

EXISTING TOWER

EXISTING SHELTER

EXISTING TOP OF BASE PLATE

2 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATIONS.
3. THE PROPOSED PROJECT INCLUDES MODIFYING TOWER MOUNTED EQUIPMENT AS INDICATED ON SHEET C-501.



THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	08/29/18

ATC SITE NUMBER:
302535

ATC SITE NAME:
MILFORD CT 2

SITE ADDRESS:
185 RESEARCH DRIVE
MILFORD, CT 06460

SEAL:



Authorized by "EOR"
Aug 29 2018 3:39 PM cosign

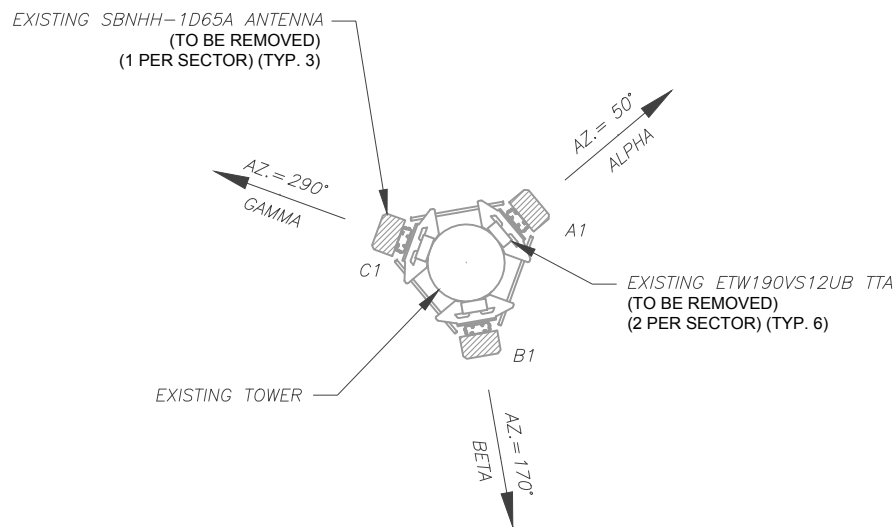


DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12603773

DETAILED SITE PLAN & TOWER ELEVATION

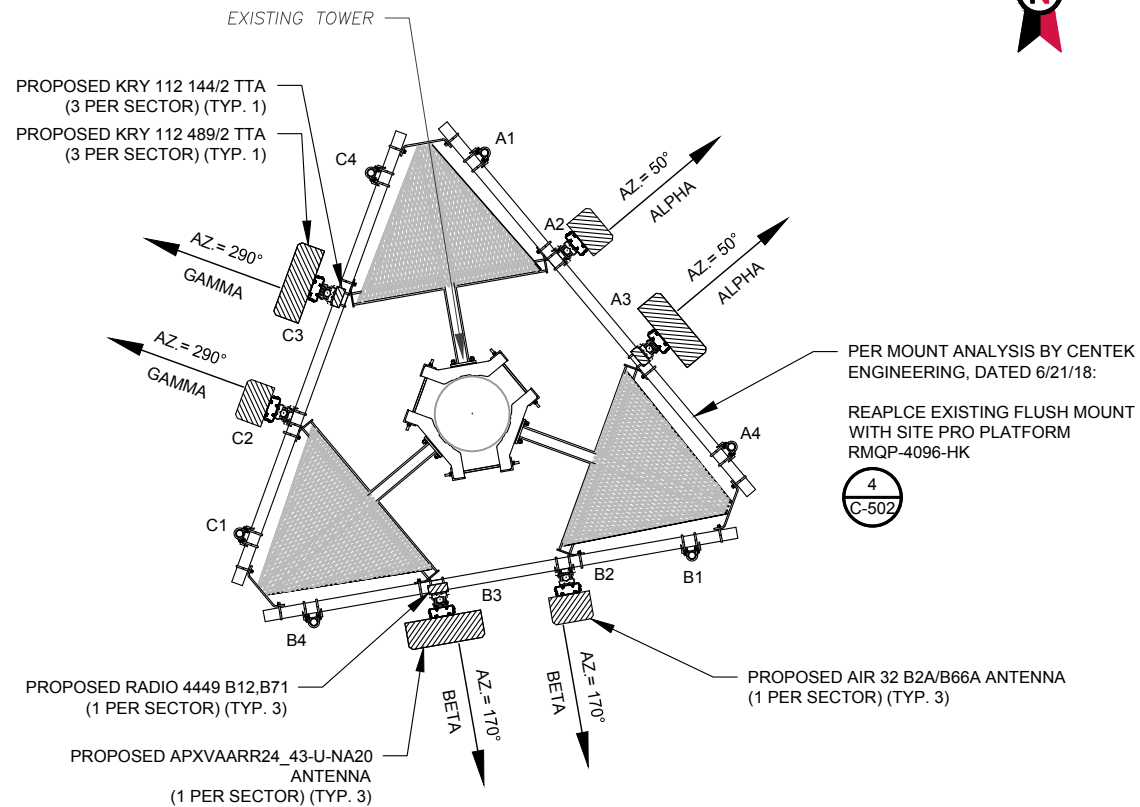
SHEET NUMBER:
C-101

REVISION:
0



1 EXISTING ANTENNA PLAN

- NOTES:
- ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIGURATION OR MOUNT CONFIGURATION. CONTRACTOR TO VERIFY MOUNT CONFIGURATION HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (I.E. CLEARANCES, MOUNT PIPE OR SUFFICIENT LENGTH, ETC.) ATC DID NOT ANALYZE ANTENNA MOUNT TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR ANY LESSEE LOADING.



2 FINAL ANTENNA PLAN

- NOTES:
- ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
 - SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS.

EXISTING ANTENNA/ COAX SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA COAX DESCRIPTION
ALPHA	A1	SBNHH-1D65A	145'-0"	50°	0°	2°	(2) ETW190VS12UB	(6) 1-5/8"
BETA	B1	SBNHH-1D65A	145'-0"	170°	0°	2°	(2) ETW190VS12UB	(6) 1-5/8"
GAMMA	C1	SBNHH-1D65A	145'-0"	290°	0°	2°	(2) ETW190VS12UB	(6) 1-5/8"

1. (3) EXISTING SMART BIAS TS (TO REMAIN).

FINAL ANTENNA/ COAX SCHEDULE

SECTOR	ANT.	MANUFACTURER (MODEL #)	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA COAX DESCRIPTION
ALPHA	A1	-	-	-	-	-	-	-
ALPHA	A2	AIR 32 B2A/B66A	145'-0"	50°	-	-	-	-
ALPHA	A3	APXVAARR24_43-U-NA20	145'-0"	50°	-	-	KRY 112 144/1 KRY 112 489/2 RADIO 4449 B12,B71	(6) 1-5/8"
ALPHA	A4	-	-	-	-	-	-	-
BETA	B1	-	-	-	-	-	-	-
BETA	B2	AIR 32 B2A/B66A	145'-0"	170°	-	-	-	-
BETA	B3	APXVAARR24_43-U-NA20	145'-0"	170°	-	-	KRY 112 144/1 KRY 112 489/2 RADIO 4449 B12,B71	(6) 1-5/8"
BETA	B4	-	-	-	-	-	-	-
GAMMA	C1	-	-	-	-	-	-	-
GAMMA	C2	AIR 32 B2A/B66A	145'-0"	290°	-	-	-	-
GAMMA	C3	APXVAARR24_43-U-NA20	145'-0"	290°	-	-	KRY 112 144/1 KRY 112 489/2 RADIO 4449 B12,B71	(6) 1-5/8"
GAMMA	C4	-	-	-	-	-	-	-

1. BASED ON APPROVED ATC APPLICATION OAA12598482, DATED 08-08-2018. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
 2. (3) EXISTING SMART BIAS TS (TO REMAIN).
 3. (2) PROPOSED 1-5/8" HYBRID CABLE (184±)

3 ANTENNA SCHEDULE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIORITY OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	KTL	08/29/18

ATC SITE NUMBER:
302535

ATC SITE NAME:
MILFORD CT 2

SITE ADDRESS:
 185 RESEARCH DRIVE
 MILFORD, CT 06460

SEAL:



Authorized by "EOR"
 Aug 29 2018 3:39 PM cosign

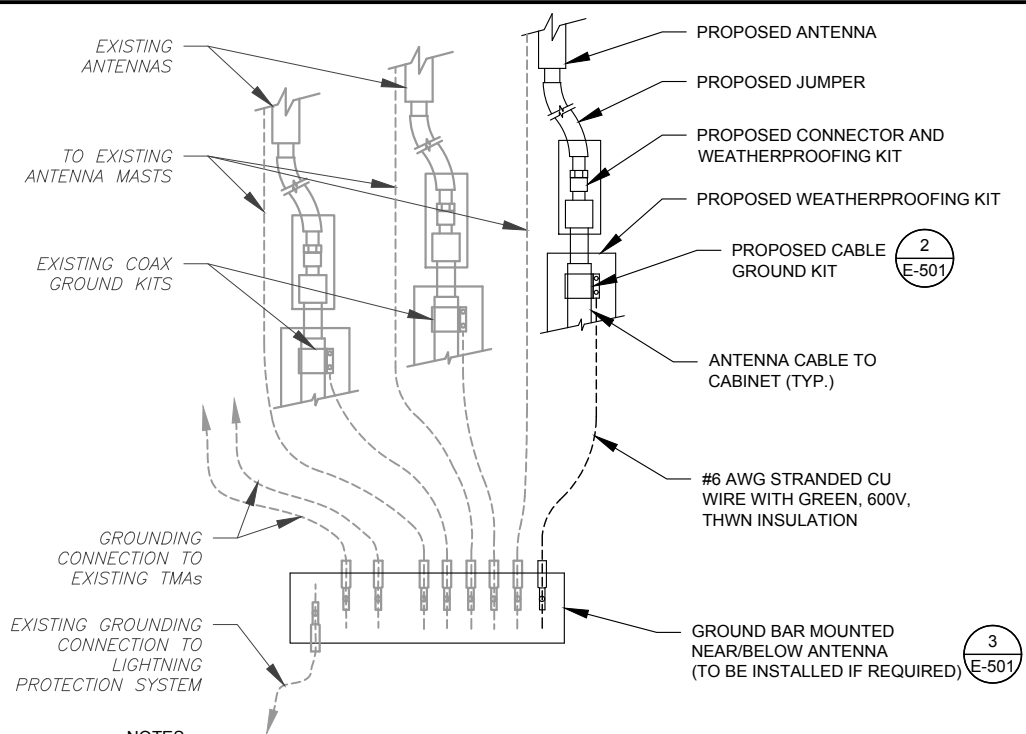
T-Mobile

DRAWN BY:	KTL
APPROVED BY:	KRF
DATE DRAWN:	08/29/18
ATC JOB NO:	12603773

ANTENNA INFORMATION & SCHEDULE

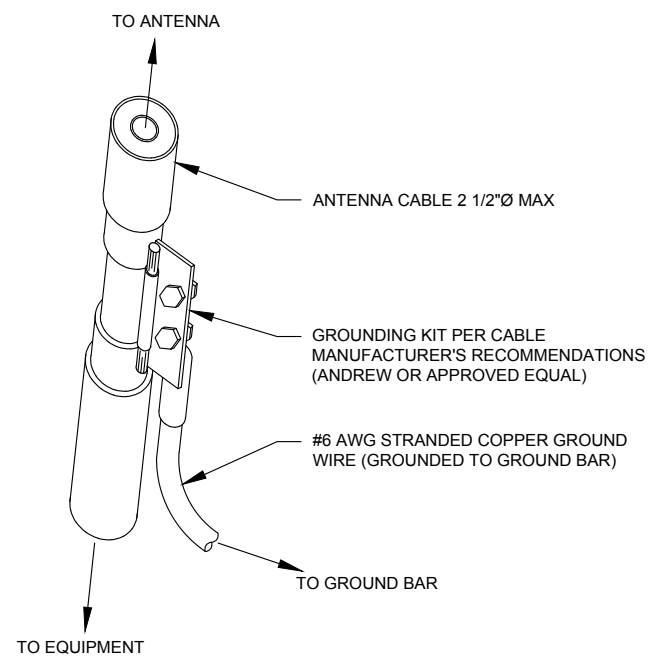
SHEET NUMBER:
C-501

REVISION:
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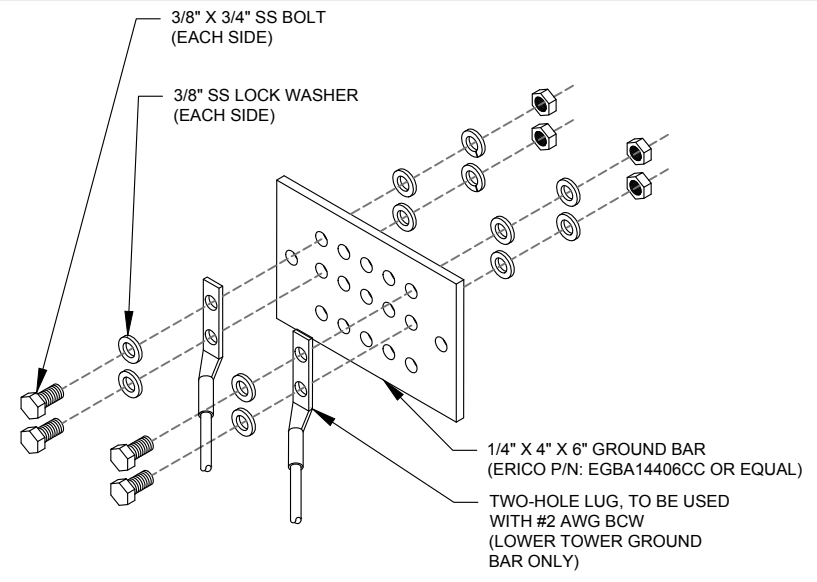
- NOTES:**
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



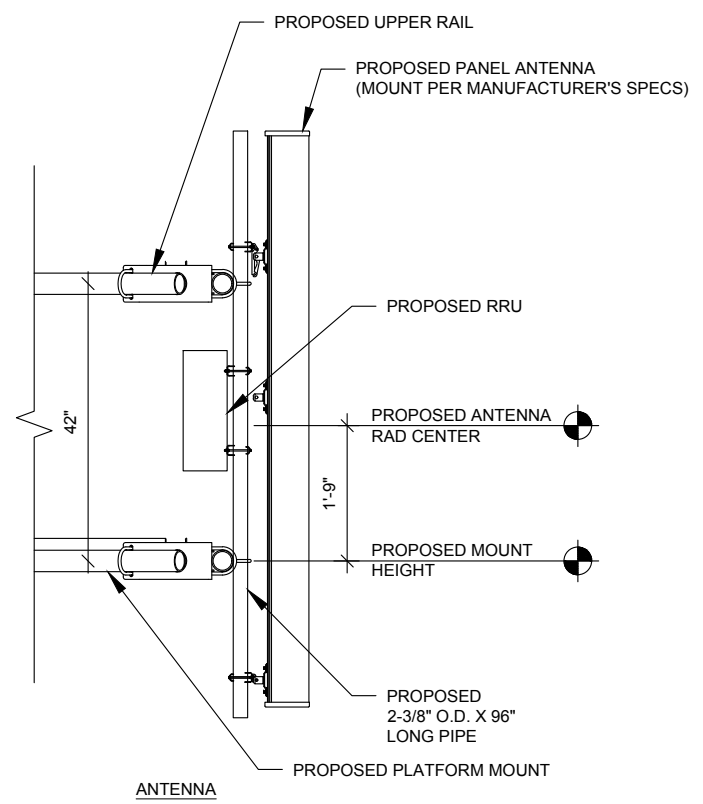
- GROUND KIT NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: NOT TO SCALE



- GROUND BAR NOTES:**
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: NOT TO SCALE



4 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)
SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
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MILFORD, CT 06460

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Authorized by "EOR"
Aug 29 2018 3:39 PM **cosign**



DRAWN BY:	KTL
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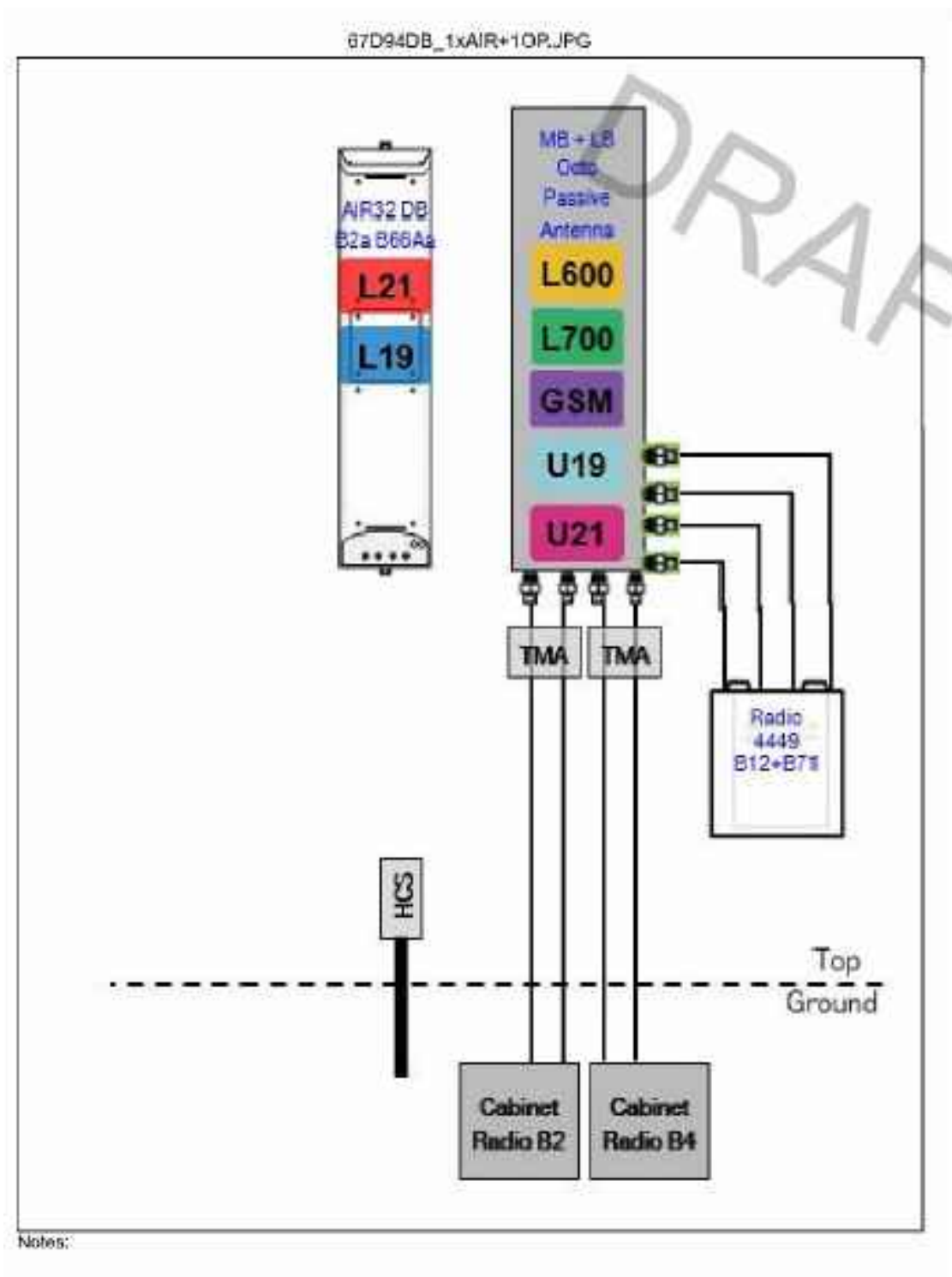
**CONSTRUCTION
DETAILS**

SHEET NUMBER:	REVISION:
C-502	0

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Section 5 - RAN Equipment		
Existing RAN Equipment		
Template: 7048u Outdoor		
Enclosure	1	2
Enclosure Type	RBS 3106	RBS 6102
Baseband		DUG20 (G1900, U1900) DUW30 (U2100) DUS4+1 (L2100, L700)
Multiplexer		XMU (L2100, L700)
Radio		RUS01 B2 (x3) (G1900, U1900) RUS01 B4 (x6) (L2100, L700) RRUS11 B12 (x3)
Proposed RAN Equipment		
Template: 87D94DB Hybrid (evolved from 4B)		
Enclosure	1	2
Enclosure Type	RBS 6102	Ancillary Equipment
Baseband	BS 5216 (L2100, L1900, L700, L600) DUW30 (U2100) DUW30 (U1900) DUG20 (G1900)	
Hybrid Cable System		Ericsson 6x12 HCS 4AWG 80m (x2)
Multiplexer	XMU	
Radio	RUS01 B2 (x3) (G1900, U1900) RUS01 B4 (x6) (L2100)	
RAN Scope of Work:		

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

SUPPLEMENTAL

SHEET NUMBER: R-601
REVISION: 0

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, October 1, 2018 8:57 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11020D zoning



Your package has been delivered.

Delivery Date: Monday, 10/01/2018
Delivery Time: 08:50 AM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	<u>1ZV257424292184077</u>
Ship To:	David Sulkis City of Milford 70 W RIVER ST MILFORD, CT 06460 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	CLERCK OFFICE KUNENYCH
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11020D zoning



[Download the UPS mobile app](#)

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, October 1, 2018 9:07 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11020D Mayor



Your package has been delivered.

Delivery Date: Monday, 10/01/2018
Delivery Time: 09:01 AM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	<u>1ZV257424290554064</u>
Ship To:	Benjamin G. Blake City of Milford 110 RIVER ST MILFORD, CT 06460 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	FRONT DESK DECOCO
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11020D Mayor



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Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Tuesday, October 2, 2018 11:08 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11020D ATC



Your package has been delivered.

Delivery Date: Tuesday, 10/02/2018
Delivery Time: 11:05 AM

At the request of TRANSCEND WIRELESS this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	<u>1ZV257424294328051</u>
Ship To:	American Tower Corporation 10 PRESIDENTIAL WAY WOBURN, MA 01801 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER LONG
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11020D ATC



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