Transcend Wireless

10 Industrial Ave,
Suite 3
Mahwah NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

September 6, 2018

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

Notice of Exempt Modification
1320 Chopsey Hill Road, Bridgeport, CT 06606 (also known as 1000 Trumbull Ave.)
Latitude- 41.21961800
Longitude- -73.20121300

Dear Ms. Bachman,

T-Mobile currently maintains (9) existing antennas 202' level of the existing 240' self-support tower at 1320 Chopsey Hill Road in Bridgeport, Connecticut (also known as 1000 Trumbull Ave.). The tower and property are owned by American Tower. T-Mobile now intends to remove (6) of the existing antennas and add (6) new 600/700/1900/2100 MHz antennas. These antennas would be installed at the same 202' level of the tower. T-Mobile also intends to swap (3) remote radio heads and add (2) hybrid cables.

This tower facility was approved by the Siting Council through Petition No. 512 dated June 25, 2002. This modification complies with this approval.

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 Joseph P. Ganim, Mayor of the City of Bridgeport, Dennis Buckley, Zoning Administrator for the City of Bridgeport, 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: Joseph P. Ganim- as elected official
Dennis Buckley- as zoning official
American Tower- as owner

1000 TRUMBULL AV

Location	1000 TRUMBULL AV	**Mblu**	82/ 2778/ 61/B /
Acct#	RT-0049550	**Owner**	GLOBAL TOWER ASSETS LLC
Assessment	$310,420	**Appraisal**	$443,440
PID	32253	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$75,820	$367,620	$443,440
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$53,090	$257,330	$310,420

Owner of Record

Owner	GLOBAL TOWER ASSETS LLC	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	10 PRESIDENTIAL WAY WOBURN, MA 01801	**Book & Page**	9695/ 74
		Sale Date	09/13/2017
		Instrument	04

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
GLOBAL TOWER ASSETS LLC	$0		9695/ 74	04	09/13/2017
GLOBAL TOWER ASSETS LLC	$0		9500/ 294	03	09/14/2016
CELL TOWER LEASE ACQUISION LLC	$0		7342/ 302	03	01/23/2007
UNISON SITE MANAGEMENT LLC	$1,925,000		7342/ 299	03	01/23/2007
TARTAGLIA REMO	$700,000		3018/ 317		07/06/1992

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	Telephone Bldg
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 Full Baths	
Total Half Baths	
Total Xtra Fixtrs:	
Total Rooms	
Bath Style:	
Kitchen Style:	
Fireplaces	
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Garages	
.	

Building Photo

(http://images.vgsi.com/photos2/BridgeportCTPhotos//\00\09\90

Building Layout


Building Layout
(http://images.vgsi.com/photos2/BridgeportCTPhotos//Sketches/

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	200V
Description	Commercial Lnd
Zone	RA
Neighborhood	2140
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	3.05
Frontage	0
Depth	0
Assessed Value	$257,330
Appraised Value	$367,620

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
FN5	Fence 10'			616 LF	$6,160	1
PAV2	Paving Conc			40 SF	$110	1
TWR	Tower			240 LF	$48,000	1
SHD1	Shed	MS	Masonry	1200 SF	$12,240	1
SHD1	Shed	MS	Masonry	432 SF	$4,410	1
SHD1	Shed	MS	Masonry	240 SF	$2,450	1
SHD1	Shed	MS	Masonry	240 SF	$2,450	1

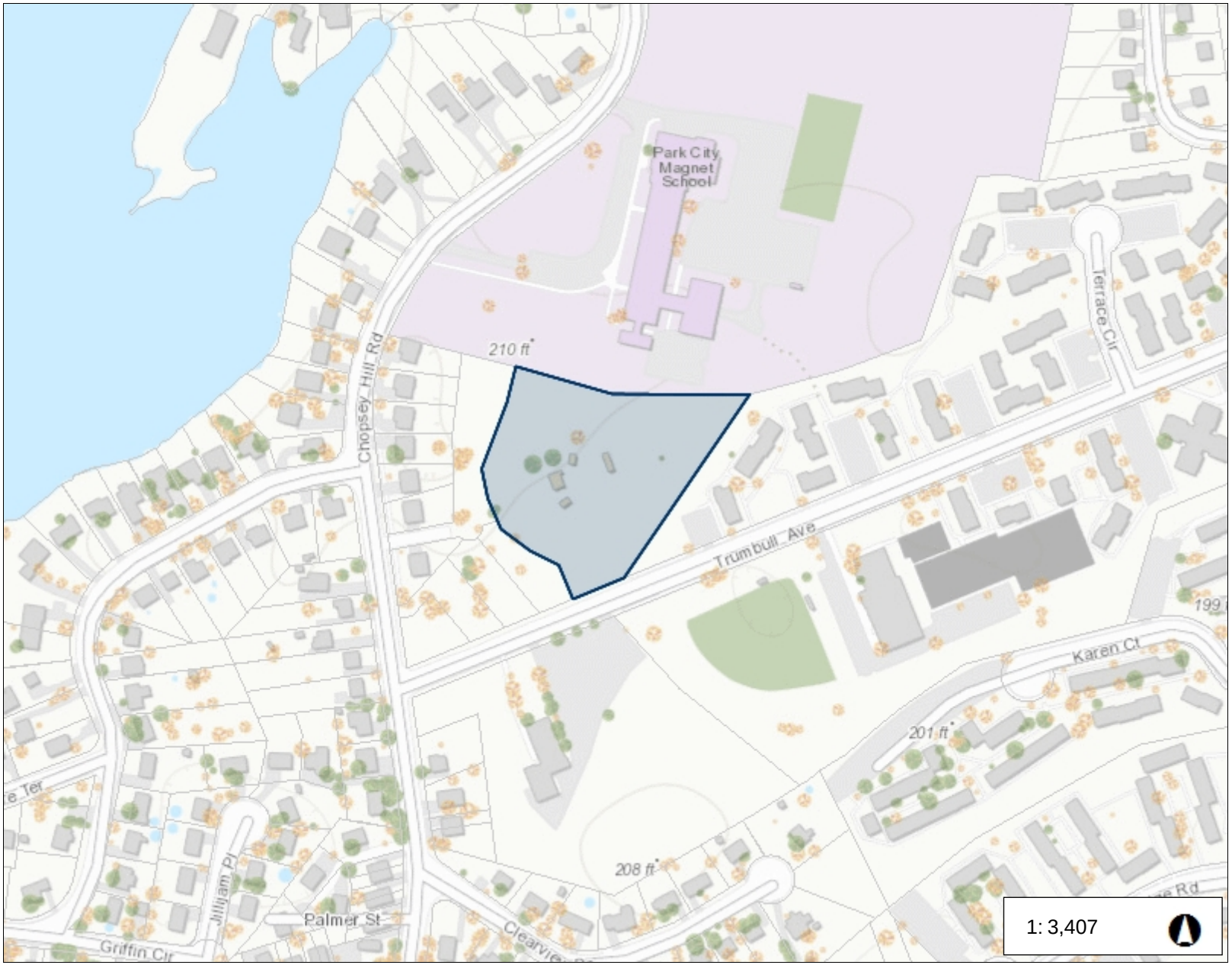
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$75,820	$367,620	$443,440
2016	$75,820	$367,620	$443,440
2015	$75,820	$367,620	$443,440

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$53,090	$257,330	$310,420
2016	$53,090	$257,330	$310,420
2015	$53,090	$257,330	$310,420

City of Bridgeport

CT11680A parcel map



Legend

- Parcel Label
- Parcels

567.8 0 283.90 567.8 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Created by Greater Bridgeport Regional Council

GBRC Greater Bridgeport Regional Council

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11680A

Bridgeport North
1320 Chopsey Hill Road
Bridgeport, CT 06606

August 16, 2018

EBI Project Number: 6218005629

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	13.77 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

August 16, 2018

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

Emissions Analysis for Site: **CT11680A – Bridgeport North**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1320 Chopsey Hill Road, Bridgeport, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands is 1000 $\mu W/cm^2$. 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 **1320 Chopsey Hill Road, Bridgeport, 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) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 15 Watts per Channel.

2) 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.

3) 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.

4) 4 LTE channels (AWS Band – 2100 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 (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

6) 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.

7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB 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.

9) The antennas used in this modeling are the **Ericsson AIR 3246 B66** & **Ericsson AIR32 B66AA/B2A and** the **RFS APXVAARR24_43-U-NA20** for 1900 MHz (PCS), 2100 MHz (AWS) 600 MHz and 700 MHz 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.

10) The antenna mounting height centerline of the proposed antennas is **202 feet** above ground level (AGL).

11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

12) 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 AIR 3246 B66	Make / Model:	Ericsson AIR 3246 B66	Make / Model:	Ericsson AIR 3246 B66
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	202 feet	Height (AGL):	202 feet	Height (AGL):	202 feet
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	160	Total TX Power(W):	160	Total TX Power(W):	160
ERP (W):	6,224.72	ERP (W):	6,224.72	ERP (W):	6,224.72
Antenna A1 MPE%	**0.58**	Antenna B1 MPE%	**0.58**	Antenna C1 MPE%	**0.58**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Ericsson AIR32 B66AA/B2A	Make / Model:	Ericsson AIR32 B66AA/B2A	Make / Model:	Ericsson AIR32 B66AA/B2A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	202 feet	Height (AGL):	202 feet	Height (AGL):	202 feet
Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)	Frequency Bands	1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	110	Total TX Power(W):	110	Total TX Power(W):	110
ERP (W):	4,279.50	ERP (W):	4,279.50	ERP (W):	4,279.50
Antenna A2 MPE%	**0.40**	Antenna B2 MPE%	**0.40**	Antenna C2 MPE%	**0.40**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Gain:	16.35 / 12.95 / 13.35 dBd	Gain:	16.35 / 12.95 / 13.35 dBd	Gain:	16.35 / 12.95 / 13.35 dBd
Height (AGL):	202 feet	Height (AGL):	202 feet	Height (AGL):	202 feet
Frequency Bands	2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	2100 MHz (AWS) / 600 MHz / 700 MHz	Frequency Bands	2100 MHz (AWS) / 600 MHz / 700 MHz
Channel Count	5	Channel Count	5	Channel Count	5
Total TX Power(W):	160	Total TX Power(W):	160	Total TX Power(W):	160
ERP (W):	4,169.10	ERP (W):	4,169.10	ERP (W):	4,169.10
Antenna A3 MPE%	**0.71**	Antenna B3 MPE%	**0.71**	Antenna C3 MPE%	**0.71**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**1.69 %**
Marcus	**0.27 %**
AT&T	**3.17 %**
Red Star	**0.06 %**
Metro Call	**0.42 %**
Clinton Tower	**0.43 %**
AAT	**0.39 %**
Nextel	**0.15 %**
Verizon Wireless	**4.29 %**
Clearwire	**0.06 %**
Sprint	**2.32 %**
MetroPCS	**0.52 %**
Site Total MPE %:	**13.77 %**

T-Mobile Sector A Total:	1.69 %
T-Mobile Sector B Total:	1.69 %
T-Mobile Sector C Total:	1.69 %
Site Total:	13.77 %

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 ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile AWS - 2100 MHz LTE	4	1,556.18	202	5.83	AWS - 2100 MHz	1000.00	0.58%
T-Mobile PCS - 1900 MHz LTE	2	1,556.18	202	2.91	PCS - 1900 MHz	1000.00	0.29%
T-Mobile PCS - 1900 MHz GSM	2	583.57	202	1.09	PCS - 1900 MHz	1000.00	0.11%
T-Mobile AWS - 2100 MHz UMTS	1	1,726.08	202	1.62	AWS - 2100 MHz	1000.00	0.16%
T-Mobile 600 MHz LTE	2	788.97	202	1.48	600 MHz	400.00	0.37%
T-Mobile 700 MHz LTE	2	432.54	202	0.81	700 MHz	467.00	0.18%
						Total:	**1.69%**

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:	1.69 %
Sector B:	1.69 %
Sector C:	1.69 %
T-Mobile Maximum MPE % (Per Sector):	1.69 %
Site Total:	13.77 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.77%** 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	:	**240 ft Self Supported Tower**
ATC Site Name	:	**Tartaglia, CT**
ATC Site Number	:	**383598**
Engineering Number	:	**OAA732813_C3_02**
Proposed Carrier	:	**T-Mobile**
Carrier Site Name	:	**Bridgeport North**
Carrier Site Number	:	**CT11680**
Site Location	:	**1000 Trumbull Ave** **Bridgeport, CT 06606-0000** **41.218800,-73.201700**
County	:	**Fairfield**
Date	:	**August 9, 2018**
Max Usage	:	**88%**
Result	:	**Pass**

Prepared By:
Robert D. Barrett, E.I.
Structural Engineer II

Robert D. Barrett

Reviewed By:

Authorized by "EOR"
Aug 10 2018 10:00 AM
cosign

COA: PEC.0001553

AMERICAN TOWER®
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Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 240 ft self supported tower to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	Rohn Drawing #C880400RI, dated March 3, 1988
Foundation Drawing	Mapping by FDH Project #10-12269E N1, dated January 17, 2011
Geotechnical Report	Soiltesting Job #G96-1987-87, dated January 6, 1988
Modifications	Centek Job #10001.CO78, dated December 6, 2010 GlenMartin Drawing #GM-07602, dated February 21, 2013

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:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.21, 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					
240.0	240.0	1	10' Omni	Side Arm	(1) 1" Conduit (1) 1 1/4" Coax	--
		1	Beacon			
		1	Lightning Rod			
230.0	230.0	2	8' Omni	Side Arms	(2) 7/8" Coax	
223.0	223.0	1	12' Omni	Side Arm	(1) 1 1/4" Coax	
202.0	202.0	3	Ericsson KRY 112 144/2	Sector Frames	(6) 1 5/8" Coax	T-Mobile
		3	Ericsson AIR 32 B66AA B2P			
196.0	196.0	1	3' Yagi	Leg	(1) 7/8" Coax	--
187.0	187.0	2	2' HP Dish	Leg	(4) 1/2" Coax	Clearwire
		1	Andrew VHLP800-11-DW1			
180.6	180.6	3	DragonWave A-ANT-11G-2C	Sector Frames	(6) 5/16" Coax (3) 1 1/4" Hybriflex (3) 1/2" Ethernet (2) 2" Conduit (1) 1.625" Hybrid	Sprint Nextel
		3	RFS APXVTM14-C-I20			
		3	Alcatel-Lucent TD-RRH8x20-25			
		1	PCTEL GPS-TMG-HR-26NCM			
		3	Samsung DAP Heads			
		3	Argus LLPX310R			
		3	Alcatel-Lucent 800MHz 2/50W			
		6	Alcatel-Lucent 1900MHz 2x40W			
		1	RFS APXV9ERR18-C-A20			
		2	RFS APXVSPP18-C-A20			
174.0	174.0	2	Andrew 950F65T4E-M	Leg	(6) 1 5/8" Coax	--
		4	5' x 5" x 2" Panel			
165.0	165.0	1	20' Omni	Sector Frames	(1) 1 1/4" Coax	
		3	Ericsson RRUS 32 B66		(12) 1 5/8" Coax (2) 0.39" Fiber Trunk (4) 0.78" 8 AWG 6	AT&T Mobility
		3	Commscope SBNHH-1D65A			
		3	Ericsson RRUS-32 B2			
		3	Quintel QS66512-3			
		1	Commscope WCS-IMFQ-AMT			
		3	Powerwave 7770			
		3	Ericsson RRUS-11			
		3	Ericsson RRUS-32			
		2	Raycap DC6-48-60-18-8F			
		9	Powerwave LGP21401			
		3	CCI DTMABP7819VG12A			
		6	Powerwave 7020			
		12	Powerwave LGP21901			
155.0	155.0	3	ALU RH_2x80W-850	Sector Frames	(12) 1 5/8" Coax (2) 1 5/8" Hybrid	Verizon
		3	ALU RH_4x45W-AWS			
		6	Commscope JAHH-65B-R3B			
		3	Antel BXA-80063-6BF			
		2	RFS DB-T1-6Z-8AB-0Z			
		3	ALU RH_2x60W-700U			
		3	ALU RH_2x60W-PCS			

Existing and Reserved Equipment (Continued)

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
140.0	140.0	3	Small Side Lights	Leg	-	--
118.0	118.0	1	10' Omni	Side Arm	(1) 7/8" Coax	
108.0	108.0	1	10' Omni	Side Arm	(1) 1 1/4" Coax	
80.0	80.0	-	-	Empty Side Arm	-	
22.0	22.0	1	3' Dish	Leg	(1) 0.24" Cat 5	
20.0	20.0	1	GPS	Leg	(1) 1/2" Coax	Verizon
8.0	8.0	1	GPS	Side Arm	(1) 1/2" Coax	T-Mobile

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
202.0	202.0	3	Ericsson RRUS-11	-	(1) 1 5/8" Coax (1) 1" Hybrid	T-Mobile
		3	Andrew LNX-6515DS-VTM			
		3	Ericsson AIR 21 B2A/B12P-B5P 6FT			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
202.0	202.0	3	RFS APXVAARR24_43-U-NA20	Sector Frames	(2) 1 1/4" Hybriflex Cable (1) 1 5/8" Hybriflex	T-Mobile
		3	Ericsson Radio 4449 B12,B71			
		3	Ericsson Air 3246 B66			

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

Install proposed coax stacked on top of existing T-Mobile coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	41%	Pass
Diagonals	81%	Pass
Horizontals	88%	Pass
Anchor Bolts	46%	Pass
Leg Bolts	34%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	290.0	391.5	262.4	67%
Axial (Kips)	363.0	490.1	324.3	66%
Shear (Kips)	54.0	72.9	46.7	64%

*** The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1**

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
202.0	Ericsson Radio 4449 B12,B71	T-Mobile	0.120	0.003	0.043
	Ericsson Air 3246 B66				
	RFS APXVAARR24_43-U-NA20				
187.0	2' HP Dish	Clearwire	0.113	0.004	0.044
	2' HP Dish				
	Andrew VHLP800-11-DW1				
180.6	DragonWave A-ANT-11G-2C	Sprint Nextel	0.105		0.045
	DragonWave A-ANT-11G-2C				
	DragonWave A-ANT-11G-2C				
22.0	3' Dish	--	0.008	0.002	0.024

***Deflection, Twist 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:

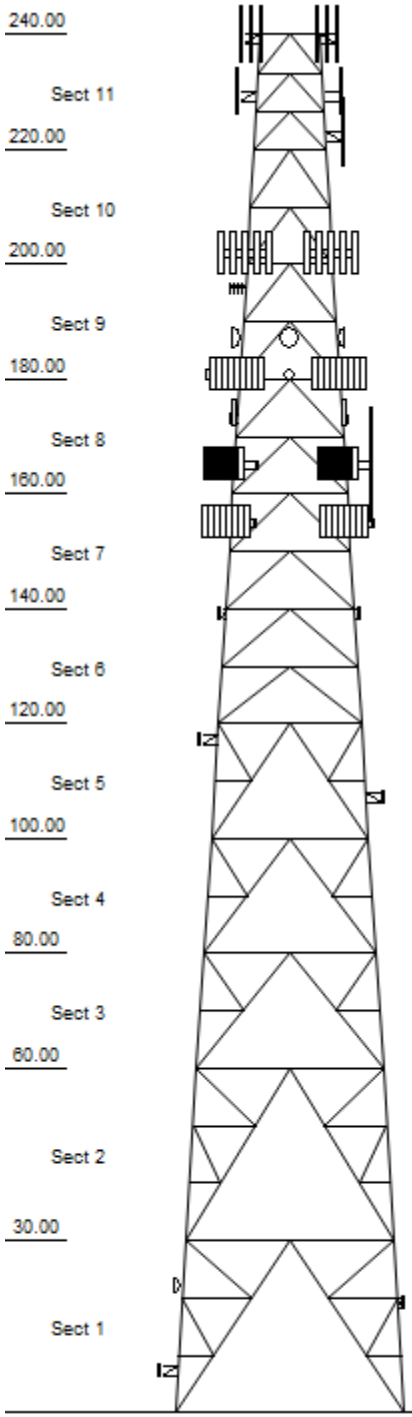
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



Loads: 97 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.21 S1: 0.06
60 mph Serviceability

Job Information

Tower : 383598	**Location : Tartaglia, CT**	**Base Width : 40.33 ft**
Client : T-Mobile		**Top Width : 10.93 ft**
Code : ANSI/TIA-222-G		**Tower Ht : 240.00 ft**
		Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	PX 50 ksi 10" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3-1/2" DIA PIPE
2 - 3	PX 50 ksi 10" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
4	PX 50 ksi 8" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 3" DIA PIPE
5	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
6	PX 50 ksi 8" DIA PIPE	PST 50 ksi 3" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
7 - 8	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
9 - 10	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
11	PX 50 ksi 8" DIA PIPE	PST 50 ksi 2" DIA PIPE	PST 50 ksi 2" DIA PIPE

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
240.00	Straight Arm	1	Empty Round Side Arm
240.00	Whip	1	10' Omni
240.00	Whip	1	Beacon
240.00	Whip	1	Lightning Rod
230.00	Whip	1	8' Omni
230.00	Whip	1	8' Omni
230.00	Straight Arm	3	Round Side Arm
223.00	Straight Arm	1	Round Side Arm
223.00	Whip	1	12' Omni
202.00	Panel	3	RFS APXVAARR24_43-U-NA20
202.00	Panel	3	Ericsson Radio 4449 B12,B71
202.00	Panel	3	Ericsson KRY 112 144/2
202.00	Panel	3	Ericsson AIR 32 B66AA B2P
202.00	Panel	3	Ericsson Air 3246 B66
202.00	Mounting Frame	3	Round Sector Frame
196.00	Yagi	1	3' Yagi
187.00	Dish	1	2' HP Dish
187.00	Dish	1	2' HP Dish
187.00	Dish	1	Andrew VHLP800-11-DW1
180.60	Dish	1	DragonWave A-ANT-11G-2C
180.60	Dish	1	DragonWave A-ANT-11G-2C
180.60	Panel	3	RFS APXVTM14-C-I20
180.60	Panel	3	Alcatel-Lucent TD-RRH8x20-25
180.60	Panel	1	PCTEL GPS-TMG-HR-26NCM
180.60	Dish	1	DragonWave A-ANT-11G-2C
180.60	Panel	3	Samsung DAP Heads
180.60	Panel	3	Argus LLPX310R
180.60	Panel	3	Alcatel-Lucent 800 MHz 2/50W
180.60	Panel	6	Alcatel-Lucent 1900 MHz 2x40W
180.60	Panel	1	RFS APXV9ERR18-C-A20
180.60	Panel	2	RFS APXVSPP18-C-A20
180.60	Mounting Frame	3	Flat Light Sector Frame
174.00	Panel	2	Andrew 950F65T4E-M
174.00	Panel	4	5' x 5" x 2" Panel
165.00	Panel	3	Ericsson RRUS 32 B66
165.00	Panel	3	Commscope SBNHH-1D65A
165.00	Panel	3	Ericsson RRUS-32 B2
165.00	Panel	3	Quintel QS66512-3
165.00	Panel	1	Commscope WCS-IMFQ-AMT
165.00	Panel	3	Powerwave 7770
165.00	Panel	3	Ericsson RRUS-11
165.00	Panel	3	Ericsson RRUS-32
165.00	Panel	1	Raycap DC6-48-60-18-8F
165.00	Panel	1	Raycap DC6-48-60-18-8F
165.00	Panel	9	Powerwave LGP21401

Job Information

Tower : 383598	**Location : Tartaglia, CT**	**Base Width : 40.33 ft**
Client : T-Mobile		**Top Width : 10.93 ft**
Code : ANSI/TIA-222-G		**Tower Ht : 240.00 ft**
		Shape : Triangle

165.00	Panel	3	CCI DTMABP7819VG12A
165.00	Panel	6	Powerwave 7020
165.00	Panel	12	Powerwave LGP21901
165.00	Mounting Frame	3	Round Sector Frame
165.00	Whip	1	20' Omni
155.00	Panel	3	ALU RH_2x80W-850
155.00	Panel	3	ALU RH_4x45W-AWS
155.00	Panel	6	Commscope JAHH-65B-R3B
155.00	Mounting Frame	3	Flat Light Sector Frame
155.00	Panel	3	Antel BXA-80063-6BF
155.00	Panel	2	RFS DB-T1-6Z-8AB-0Z
155.00	Panel	3	ALU RH_2x60W-700U
155.00	Panel	3	ALU RH_2x60W-PCS
140.00	Whip	3	Small Side Lights
118.00	Straight Arm	1	Round Side Arm
118.00	Whip	1	10' Omni
108.00	Straight Arm	1	Round Side Arm
108.00	Whip	1	10' Omni
80.00	Straight Arm	1	Empty Round Side Arm
22.00	Dish	1	3' Dish
20.00	Whip	1	GPS
8.00	Straight Arm	1	Round Side Arm
8.00	Whip	1	GPS

Linear Appurtenance

Elev (ft) From	To	Qty	Description
0.00	240.00	1	1" Conduit
0.00	240.00	1	1 1/4" Coax
0.00	230.00	2	7/8" Coax
0.00	223.00	1	1 1/4" Coax
0.00	202.00	1	Waveguide
0.00	202.00	1	1 5/8" Hybriflex
0.00	202.00	6	1 5/8" Coax
0.00	202.00	2	1 1/4" Hybriflex Cab
0.00	196.00	1	7/8" Coax
0.00	187.00	4	1/2" Coax
0.00	180.60	1	Waveguide
0.00	180.60	6	5/16" Coax
0.00	180.60	2	2" Conduit
0.00	180.60	3	1/2" Ethernet
0.00	180.60	1	1.625" Hybrid
0.00	180.60	3	1 1/4" Hybriflex
0.00	174.00	1	Waveguide
0.00	174.00	6	1 5/8" Coax
0.00	165.00	1	Waveguide
0.00	165.00	12	1 5/8" Coax
0.00	165.00	1	1 1/4" Coax
0.00	165.00	2	0.78" 8 AWG 6
0.00	165.00	2	0.78" 8 AWG 6
0.00	165.00	1	0.39" Fiber Trunk
0.00	165.00	1	0.39" Fiber Trunk
0.00	155.00	1	1 5/8" Hybrid
0.00	155.00	1	1 5/8" Hybrid
0.00	155.00	12	1 5/8" Coax
0.00	152.00	1	Waveguide
0.00	118.00	1	7/8" Coax
0.00	108.00	1	1 1/4" Coax
0.00	22.00	1	0.24" Cat 5
0.00	20.00	1	1/2" Coax
0.00	8.00	1	1/2" Coax

Job Information

Tower : 383598	**Location :** Tartaglia, CT	**Base Width :** 40.33 ft
Client : T-Mobile		**Top Width :** 10.93 ft
Code : ANSI/TIA-222-G		**Tower Ht :** 240.00 ft
		Shape : Triangle

Global Base Foundation Design Loads

Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	10,095.43	105.86	77.87
DL + WL + IL	3,464.32	254.42	27.31

Individual Base Foundation Design Loads

Vertical (kip)	Uplift (kip)	Horizontal (kip)
324.31	262.37	46.69

Site Number:	383598	Code:	ANSI/TIA-222-G	
Site Name:	Tartaglia, CT	Engineering Number:	OAA732813_C3_02	8/9/2018 3:23:07 PM
Customer:	T-Mobile			

Analysis Parameters

Location:	Fairfield County, CT	Height (ft):	240
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	40.33
Tower Manufacturer:	Rohn	Top Face Width (ft):	10.93
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	97 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	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):	0.69				
T_L (sec):	6	p:	1.3	C_S:	0.050
S_S :	0.207	S_1 :	0.065	C_S, Max:	0.050
F_a :	1.600	F_V :	2.400	C_S, Min:	0.030
S_{ds} :	0.221	S_{d1} :	0.104		

Load Cases

1.2D + 1.6W Normal	97 mph Normal to Face with No Ice
1.2D + 1.6W 60 deg	97 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	97 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	97 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	97 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	97 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	97 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	97 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	97 mph 330 degree with No Ice
0.9D + 1.6W Normal	97 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	97 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	97 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 120 deg	97 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	97 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 210 deg	97 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.6W 240 deg	97 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.6W 300 deg	97 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.6W 330 deg	97 mph 330 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice

Analysis Parameters

1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Tower Loading

Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	42	12
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	127	30
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	31.16	191	84
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	31.16	220	180
230.0	8' Omni	1	40	2.4	8.0	4.0	4.0	1.00	1.00	0.0	0.0	30.88	101	48
230.0	8' Omni	1	40	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.0	30.88	101	48
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	30.88	439	540
223.0	12' Omni	1	40	3.6	12.0	4.0	4.0	1.00	1.00	0.0	0.0	30.68	150	48
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	217	180
202.0	Ericsson KRY 112	3	10	0.5	6.7	3.2	1.9	0.80	0.50	0.0	0.0	30.05	24	35
202.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	30.05	80	266
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	30.05	478	392
202.0	Ericsson Air 3246	3	180	7.9	4.8	15.7	9.4	0.80	0.69	0.0	0.0	30.05	537	648
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.05	887	1080
202.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	30.05	1251	460
196.0	3' Yagi	1	10	3.0	3.0	36.0	3.0	1.00	1.00	0.0	0.0	29.86	121	12
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.79	0.0	0.0	29.56	126	108
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.97	0.0	0.0	29.56	154	108
187.0	Andrew VHLP800-11-	1	121	16.7	4.1	0.0	0.0	1.00	1.00	0.0	0.0	29.56	672	145
180.6	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	29.35	3	1
180.6	Samsung DAP Heads	3	33	1.8	1.4	11.6	5.3	0.80	0.50	0.0	0.0	29.35	87	119
180.6	Alcatel-Lucent 800	3	64	2.4	1.6	13.0	12.2	0.80	0.50	0.0	0.0	29.35	115	230
180.6	Alcatel-Lucent 1900	6	44	3.8	1.9	17.3	13.0	0.80	0.50	0.0	0.0	29.35	367	317
180.6	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	29.35	259	103
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.61	0.0	0.0	29.35	91	32
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	29.35	150	32
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.55	0.0	0.0	29.35	82	32
180.6	Alcatel-Lucent TD-	3	70	4.7	2.2	18.6	6.7	0.80	0.67	0.0	0.0	29.35	303	252
180.6	RFS APXVTM14-C-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	29.35	401	202
180.6	RFS APXVSPP18-C-	2	57	8.0	6.0	11.8	7.0	0.80	0.71	0.0	0.0	29.35	364	137
180.6	RFS APXV9ERR18-C-	1	62	8.0	6.0	11.8	7.9	0.80	0.71	0.0	0.0	29.35	182	74
180.6	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.35	1077	1440
174.0	5' x 5" x 2" Panel	4	30	3.3	5.0	5.0	2.0	1.00	0.74	0.0	0.0	29.12	382	144
174.0	Andrew 950F65T4E-	2	16	4.8	5.0	11.0	7.0	1.00	0.90	0.0	0.0	29.12	339	38
165.0	Powerwave	12	6	0.2	0.5	4.0	3.0	0.80	0.50	0.0	0.0	28.79	38	79
165.0	Powerwave 7020	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	28.79	38	16
165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	28.79	46	69
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.0	28.79	31	35
165.0	Powerwave	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	28.79	155	152
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	24
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	24
165.0	Ericsson RRUS-32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	183
165.0	Ericsson RRUS-32 B2	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	183
165.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	28.79	129	191
165.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	28.79	131	183
165.0	Powerwave 7770	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	28.79	336	126
165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	28.79	381	147
165.0	20' Omni	1	55	6.0	20.0	4.0	4.0	0.80	1.00	0.0	0.0	28.79	188	66
165.0	Quintel QS66512-3	3	105	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	28.79	565	378
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.79	850	1080
155.0	ALU RH_2x80W-850	3	35	1.0	1.4	7.4	6.5	0.80	0.50	0.0	0.0	28.42	48	127
155.0	ALU RH_2x60W-PCS	3	46	1.8	1.6	11.2	8.2	0.80	0.50	0.0	0.0	28.42	85	166
155.0	ALU RH_2x60W-	3	57	2.2	1.8	12.0	9.0	0.80	0.50	0.0	0.0	28.42	100	206
155.0	ALU RH_4x45W-AWS	3	57	2.5	2.2	11.8	7.2	0.80	0.50	0.0	0.0	28.42	118	204

Site Number: 383598 Code: ANSI/TIA-222-G

Site Name: Tartaglia, CT Engineering Number: OAA732813_C3_02 8/9/2018 3:23:07 PM

Customer: T-Mobile

Tower Loading

155.0	RFS DB-T1-6Z-8AB-	2	7	4.8	2.0	24.0	10.0	0.80	0.50	0.0	0.0	28.42	148	16
155.0	Antel BXA-80063-6BF	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	28.42	445	69
155.0	Commscope JAHH-	6	63	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	28.42	1166	456
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.42	1043	1440
140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	27.81	227	162
118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	26.83	5	10
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.83	190	180
108.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	26.34	5	10
108.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.34	186	180
80.00	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	175	180
22.00	3' Dish	1	100	6.1	3.0	0.0	0.0	1.00	0.64	0.0	0.0	18.84	100	120
20.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	18.47	25	12
8.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	17.40	24	12
8.00	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	17.40	123	180
	Totals	166	11870	780.3									17542	14244

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	42	9
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	0.0	0.0	31.16	127	23
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	31.16	191	63
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	31.16	220	135
230.0	8' Omni	1	40	2.4	8.0	4.0	4.0	1.00	1.00	0.0	0.0	30.88	101	36
230.0	8' Omni	1	40	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.0	30.88	101	36
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	30.88	439	405
223.0	12' Omni	1	40	3.6	12.0	4.0	4.0	1.00	1.00	0.0	0.0	30.68	150	36
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	30.68	217	135
202.0	Ericsson KRY 112	3	10	0.5	6.7	3.2	1.9	0.80	0.50	0.0	0.0	30.05	24	26
202.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	30.05	80	200
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	30.05	478	294
202.0	Ericsson Air 3246	3	180	7.9	4.8	15.7	9.4	0.80	0.69	0.0	0.0	30.05	537	486
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	30.05	887	810
202.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	30.05	1251	345
196.0	3' Yagi	1	10	3.0	3.0	36.0	3.0	1.00	1.00	0.0	0.0	29.86	121	9
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.79	0.0	0.0	29.56	126	81
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.97	0.0	0.0	29.56	154	81
187.0	Andrew VHLP800-11-	1	121	16.7	4.1	0.0	0.0	1.00	1.00	0.0	0.0	29.56	672	109
180.6	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	29.35	3	1
180.6	Samsung DAP Heads	3	33	1.8	1.4	11.6	5.3	0.80	0.50	0.0	0.0	29.35	87	89
180.6	Alcatel-Lucent 800	3	64	2.4	1.6	13.0	12.2	0.80	0.50	0.0	0.0	29.35	115	173
180.6	Alcatel-Lucent 1900	6	44	3.8	1.9	17.3	13.0	0.80	0.50	0.0	0.0	29.35	367	238
180.6	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	29.35	259	77
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.61	0.0	0.0	29.35	91	24
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	29.35	150	24
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.55	0.0	0.0	29.35	82	24
180.6	Alcatel-Lucent TD-	3	70	4.7	2.2	18.6	6.7	0.80	0.67	0.0	0.0	29.35	303	189
180.6	RFS APXVTM14-C-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	29.35	401	151
180.6	RFS APXVSPP18-C-	2	57	8.0	6.0	11.8	7.0	0.80	0.71	0.0	0.0	29.35	364	103
180.6	RFS APXV9ERR18-C-	1	62	8.0	6.0	11.8	7.9	0.80	0.71	0.0	0.0	29.35	182	56
180.6	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	29.35	1077	1080
174.0	5' x 5" x 2" Panel	4	30	3.3	5.0	5.0	2.0	1.00	0.74	0.0	0.0	29.12	382	108
174.0	Andrew 950F65T4E-	2	16	4.8	5.0	11.0	7.0	1.00	0.90	0.0	0.0	29.12	339	28
165.0	Powerwave	12	6	0.2	0.5	4.0	3.0	0.80	0.50	0.0	0.0	28.79	38	59
165.0	Powerwave 7020	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	28.79	38	12

Tower Loading

165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	28.79	46	52
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.0	28.79	31	27
165.0	Powerwave	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	28.79	155	114
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	18
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	28.79	35	18
165.0	Ericsson RRUS-32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	137
165.0	Ericsson RRUS-32 B2	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	28.79	126	137
165.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	28.79	129	143
165.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	28.79	131	137
165.0	Powerwave 7770	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	28.79	336	95
165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	28.79	381	110
165.0	20' Omni	1	55	6.0	20.0	4.0	4.0	0.80	1.00	0.0	0.0	28.79	188	50
165.0	Quintel QS66512-3	3	105	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	28.79	565	284
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.79	850	810
155.0	ALU RH_2x80W-850	3	35	1.0	1.4	7.4	6.5	0.80	0.50	0.0	0.0	28.42	48	95
155.0	ALU RH_2x60W-PCS	3	46	1.8	1.6	11.2	8.2	0.80	0.50	0.0	0.0	28.42	85	124
155.0	ALU RH_2x60W-	3	57	2.2	1.8	12.0	9.0	0.80	0.50	0.0	0.0	28.42	100	154
155.0	ALU RH_4x45W-AWS	3	57	2.5	2.2	11.8	7.2	0.80	0.50	0.0	0.0	28.42	118	153
155.0	RFS DB-T1-6Z-8AB-	2	7	4.8	2.0	24.0	10.0	0.80	0.50	0.0	0.0	28.42	148	12
155.0	Antel BXA-80063-6BF	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	28.42	445	52
155.0	Commscope JAHH-	6	63	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	28.42	1166	342
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	28.42	1043	1080
140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	27.81	227	122
118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	26.83	5	7
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.83	190	135
108.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	26.34	5	7
108.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.34	186	135
80.00	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	24.72	175	135
22.00	3' Dish	1	100	6.1	3.0	0.0	0.0	1.00	0.64	0.0	0.0	18.84	100	90
20.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	18.47	25	9
8.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	17.40	24	9
8.00	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	17.40	123	135
	Totals	166	11870	780.3									17542	10683

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
240.0	Lightning Rod	1	70	1.9	4.0	3.0	3.0	1.00	1.00	0.0	0.0	8.28	14	72
240.0	10' Omni	1	167	6.0	10.0	3.0	3.0	1.00	1.00	0.0	0.0	8.28	42	172
240.0	Beacon	1	294	4.2	3.0	18.0	18.0	1.00	1.00	0.0	0.0	8.28	29	308
240.0	Empty Round Side	1	227	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.28	57	257
230.0	8' Omni	1	179	4.9	8.0	4.0	4.0	1.00	1.00	0.0	0.0	8.20	34	187
230.0	8' Omni	1	154	4.5	8.0	3.0	3.0	1.00	1.00	0.0	0.0	8.20	31	162
230.0	Round Side Arm	3	227	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	8.20	113	770
223.0	12' Omni	1	242	8.4	12.0	4.0	4.0	1.00	1.00	0.0	0.0	8.15	58	250
223.0	Round Side Arm	1	226	8.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.15	56	256
202.0	Ericsson KRY 112	3	95	4.8	6.7	3.2	1.9	0.80	0.50	0.0	0.0	7.98	39	290
202.0	Ericsson Radio 4449	3	144	2.2	1.2	13.2	9.3	0.80	0.50	0.0	0.0	7.98	18	476
202.0	Ericsson AIR 32	3	305	8.1	4.9	12.9	8.7	0.80	0.71	0.0	0.0	7.98	93	981
202.0	Ericsson Air 3246	3	428	10.9	4.8	15.7	9.4	0.80	0.69	0.0	0.0	7.98	122	1392
202.0	Round Sector Frame	3	677	31.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.98	321	2212
202.0	RFS	3	570	22.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	7.98	228	1786
196.0	3' Yagi	1	102	9.4	3.0	36.0	3.0	1.00	1.00	0.0	0.0	7.93	63	104
187.0	2' HP Dish	1	225	5.1	2.0	0.0	0.0	1.00	0.79	0.0	0.0	7.85	27	243
187.0	2' HP Dish	1	225	5.1	2.0	0.0	0.0	1.00	0.97	0.0	0.0	7.85	33	243

Tower Loading

187.0	Andrew VHLP800-11-	1	466	19.2	4.1	0.0	0.0	1.00	1.00	0.0	0.0	7.85	128	490
180.6	PCTEL GPS-TMG-HR-	1	11	0.3	0.4	3.2	3.2	0.80	1.00	0.0	0.0	7.80	2	12
180.6	Samsung DAP Heads	3	86	2.1	1.4	11.6	5.3	0.80	0.50	0.0	0.0	7.80	17	279
180.6	Alcatel-Lucent 800	3	156	2.7	1.6	13.0	12.2	0.80	0.50	0.0	0.0	7.80	21	507
180.6	Alcatel-Lucent 1900	6	172	4.0	1.9	17.3	13.0	0.80	0.50	0.0	0.0	7.80	64	1084
180.6	Argus LLPX310R	3	138	5.2	3.5	11.8	4.5	0.80	0.63	0.0	0.0	7.80	52	432
180.6	DragonWave A-ANT-	1	126	6.0	2.2	0.0	0.0	0.80	0.61	0.0	0.0	7.80	19	131
180.6	DragonWave A-ANT-	1	126	6.0	2.2	0.0	0.0	0.80	1.00	0.0	0.0	7.80	32	131
180.6	DragonWave A-ANT-	1	126	6.0	2.2	0.0	0.0	0.80	0.55	0.0	0.0	7.80	17	131
180.6	Alcatel-Lucent TD-	3	164	6.7	2.2	18.6	6.7	0.80	0.67	0.0	0.0	7.80	72	533
180.6	RFS APXVTM14-C-I20	3	204	8.5	4.7	12.6	6.3	0.80	0.66	0.0	0.0	7.80	90	645
180.6	RFS APXVSPP18-C-	2	260	9.3	6.0	11.8	7.0	0.80	0.71	0.0	0.0	7.80	70	542
180.6	RFS APXV9ERR18-C-	1	274	9.3	6.0	11.8	7.9	0.80	0.71	0.0	0.0	7.80	35	286
180.6	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.80	332	2356
174.0	5' x 5" x 2" Panel	4	108	4.3	5.0	5.0	2.0	1.00	0.74	0.0	0.0	7.74	84	455
174.0	Andrew 950F65T4E-	2	181	7.2	5.0	11.0	7.0	1.00	0.90	0.0	0.0	7.74	86	369
165.0	Powerwave	12	18	0.4	0.5	4.0	3.0	0.80	0.50	0.0	0.0	7.65	13	231
165.0	Powerwave 7020	6	18	0.6	0.4	8.3	2.4	0.80	0.50	0.0	0.0	7.65	10	110
165.0	CCI	3	54	1.4	0.9	11.0	3.8	0.80	0.50	0.0	0.0	7.65	11	174
165.0	Commscope WCS-	1	175	1.3	0.9	10.6	6.9	0.80	1.00	0.0	0.0	7.65	7	181
165.0	Powerwave	9	48	1.6	1.2	9.2	2.6	0.80	0.50	0.0	0.0	7.65	37	455
165.0	Raycap DC6-48-60-	1	101	2.5	2.0	9.7	9.7	0.80	1.00	0.0	0.0	7.65	13	105
165.0	Raycap DC6-48-60-	1	101	2.5	2.0	9.7	9.7	0.80	1.00	0.0	0.0	7.65	13	105
165.0	Ericsson RRUS-32	3	115	3.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	7.65	29	376
165.0	Ericsson RRUS-32 B2	3	137	3.4	2.2	12.1	6.8	0.80	0.50	0.0	0.0	7.65	27	441
165.0	Ericsson RRUS 32	3	141	3.5	2.3	12.1	7.0	0.80	0.50	0.0	0.0	7.65	27	455
165.0	Ericsson RRUS-11	3	137	3.5	1.6	17.0	7.2	0.80	0.50	0.0	0.0	7.65	27	442
165.0	Powerwave 7770	3	170	6.6	4.6	11.0	5.0	0.80	0.65	0.0	0.0	7.65	67	532
165.0	Commscope SBNHH-	3	199	7.0	4.6	11.9	7.1	0.80	0.69	0.0	0.0	7.65	75	622
165.0	20' Omni	1	373	15.2	20.0	4.0	4.0	0.80	1.00	0.0	0.0	7.65	79	384
165.0	Quintel QS66512-3	3	332	9.4	6.0	12.0	9.6	0.80	0.74	0.0	0.0	7.65	109	1060
165.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.65	304	2186
155.0	ALU RH_2x80W-850	3	81	1.5	1.4	7.4	6.5	0.80	0.50	0.0	0.0	7.55	12	263
155.0	ALU RH_2x60W-PCS	3	100	2.7	1.6	11.2	8.2	0.80	0.50	0.0	0.0	7.55	21	327
155.0	ALU RH_2x60W-	3	139	2.8	1.8	12.0	9.0	0.80	0.50	0.0	0.0	7.55	21	451
155.0	ALU RH_4x45W-AWS	3	141	3.2	2.2	11.8	7.2	0.80	0.50	0.0	0.0	7.55	25	457
155.0	RFS DB-T1-6Z-8AB-	2	150	5.7	2.0	24.0	10.0	0.80	0.50	0.0	0.0	7.55	29	303
155.0	Antel BXA-80063-6BF	3	189	8.5	5.7	11.2	5.3	0.80	0.66	0.0	0.0	7.55	86	579
155.0	Commscope JAHH-	6	294	10.5	6.0	13.8	8.2	0.80	0.69	0.0	0.0	7.55	222	1839
155.0	Flat Light Sector	3	702	33.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.55	319	2345
140.0	Small Side Lights	3	86	0.9	1.0	8.0	8.0	1.00	1.00	0.0	0.0	7.39	16	284
118.0	10' Omni	1	21	0.4	1.0	2.0	2.0	1.00	1.00	0.0	0.0	7.13	2	22
118.0	Round Side Arm	1	221	7.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.13	48	251
108.0	10' Omni	1	20	0.4	1.0	2.0	2.0	1.00	1.00	0.0	0.0	7.00	2	22
108.0	Round Side Arm	1	220	7.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.00	46	250
80.00	Empty Round Side	1	218	7.7	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.57	43	248
22.00	3' Dish	1	245	7.1	3.0	0.0	0.0	1.00	0.64	0.0	0.0	5.01	19	265
20.00	GPS	1	38	0.8	1.0	9.0	6.0	1.00	1.00	0.0	0.0	4.91	4	40
8.00	GPS	1	38	0.8	1.0	9.0	6.0	1.00	1.00	0.0	0.0	4.62	3	40
8.00	Round Side Arm	1	208	7.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.62	29	238
	Totals	166	32252	1150.3									4296	34626

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient. Factor	Vert. Ecc.(ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)

Tower Loading

240.0	Lightning Rod	1	10	1.0	4.0	3.0	3.0	1.00	1.00	0.0	0.0	11.92	10	10
240.0	10' Omni	1	25	3.0	10.0	3.0	3.0	1.00	1.00	0.0	0.0	11.92	30	25
240.0	Beacon	1	70	4.5	3.0	18.0	18.0	1.00	1.00	0.0	0.0	11.92	46	70
240.0	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.92	53	150
230.0	8' Omni	1	40	2.4	8.0	4.0	4.0	1.00	1.00	0.0	0.0	11.81	24	40
230.0	8' Omni	1	40	2.4	8.0	3.0	3.0	1.00	1.00	0.0	0.0	11.81	24	40
230.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.81	105	450
223.0	12' Omni	1	40	3.6	12.0	4.0	4.0	1.00	1.00	0.0	0.0	11.74	36	40
223.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	11.74	52	150
202.0	Ericsson KRY 112	3	10	0.5	6.7	3.2	1.9	0.80	0.50	0.0	0.0	11.50	6	29
202.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	11.50	19	222
202.0	Ericsson AIR 32	3	109	6.9	4.9	12.9	8.7	0.80	0.71	0.0	0.0	11.50	114	327
202.0	Ericsson Air 3246	3	180	7.9	4.8	15.7	9.4	0.80	0.69	0.0	0.0	11.50	128	540
202.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.50	212	900
202.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	11.50	299	384
196.0	3' Yagi	1	10	3.0	3.0	36.0	3.0	1.00	1.00	0.0	0.0	11.42	29	10
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.79	0.0	0.0	11.31	30	90
187.0	2' HP Dish	1	90	4.0	2.0	0.0	0.0	1.00	0.97	0.0	0.0	11.31	37	90
187.0	Andrew VHLP800-11-	1	121	16.7	4.1	0.0	0.0	1.00	1.00	0.0	0.0	11.31	161	121
180.6	PCTEL GPS-TMG-HR-	1	1	0.1	0.4	3.2	3.2	0.80	1.00	0.0	0.0	11.23	1	1
180.6	Samsung DAP Heads	3	33	1.8	1.4	11.6	5.3	0.80	0.50	0.0	0.0	11.23	21	99
180.6	Alcatel-Lucent 800	3	64	2.4	1.6	13.0	12.2	0.80	0.50	0.0	0.0	11.23	27	192
180.6	Alcatel-Lucent 1900	6	44	3.8	1.9	17.3	13.0	0.80	0.50	0.0	0.0	11.23	88	264
180.6	Argus LLPX310R	3	29	4.3	3.5	11.8	4.5	0.80	0.63	0.0	0.0	11.23	62	86
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.61	0.0	0.0	11.23	22	27
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	1.00	0.0	0.0	11.23	36	27
180.6	DragonWave A-ANT-	1	27	4.7	2.2	0.0	0.0	0.80	0.55	0.0	0.0	11.23	20	27
180.6	Alcatel-Lucent TD-	3	70	4.7	2.2	18.6	6.7	0.80	0.67	0.0	0.0	11.23	72	210
180.6	RFS APXVTM14-C-I20	3	56	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	11.23	96	168
180.6	RFS APXVSPP18-C-	2	57	8.0	6.0	11.8	7.0	0.80	0.71	0.0	0.0	11.23	87	114
180.6	RFS APXV9ERR18-C-	1	62	8.0	6.0	11.8	7.9	0.80	0.71	0.0	0.0	11.23	43	62
180.6	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.23	258	1200
174.0	5' x 5" x 2" Panel	4	30	3.3	5.0	5.0	2.0	1.00	0.74	0.0	0.0	11.14	91	120
174.0	Andrew 950F65T4E-	2	16	4.8	5.0	11.0	7.0	1.00	0.90	0.0	0.0	11.14	81	31
165.0	Powerwave	12	6	0.2	0.5	4.0	3.0	0.80	0.50	0.0	0.0	11.02	9	66
165.0	Powerwave 7020	6	2	0.4	0.4	8.3	2.4	0.80	0.50	0.0	0.0	11.02	9	13
165.0	CCI	3	19	1.0	0.9	11.0	3.8	0.80	0.50	0.0	0.0	11.02	11	58
165.0	Commscope WCS-	1	30	1.0	0.9	10.6	6.9	0.80	1.00	0.0	0.0	11.02	7	30
165.0	Powerwave	9	14	1.1	1.2	9.2	2.6	0.80	0.50	0.0	0.0	11.02	37	127
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	11.02	8	20
165.0	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	11.02	8	20
165.0	Ericsson RRUS-32	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	11.02	30	152
165.0	Ericsson RRUS-32 B2	3	51	2.7	2.2	12.1	6.8	0.80	0.50	0.0	0.0	11.02	30	152
165.0	Ericsson RRUS 32	3	53	2.7	2.3	12.1	7.0	0.80	0.50	0.0	0.0	11.02	31	159
165.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	11.02	31	152
165.0	Powerwave 7770	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.0	11.02	80	105
165.0	Commscope SBNHH-	3	41	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	11.02	91	123
165.0	20' Omni	1	55	6.0	20.0	4.0	4.0	0.80	1.00	0.0	0.0	11.02	45	55
165.0	Quintel QS66512-3	3	105	8.1	6.0	12.0	9.6	0.80	0.74	0.0	0.0	11.02	135	315
165.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.02	203	900
155.0	ALU RH_2x80W-850	3	35	1.0	1.4	7.4	6.5	0.80	0.50	0.0	0.0	10.87	12	106
155.0	ALU RH_2x60W-PCS	3	46	1.8	1.6	11.2	8.2	0.80	0.50	0.0	0.0	10.87	20	138
155.0	ALU RH_2x60W-	3	57	2.2	1.8	12.0	9.0	0.80	0.50	0.0	0.0	10.87	24	172
155.0	ALU RH_4x45W-AWS	3	57	2.5	2.2	11.8	7.2	0.80	0.50	0.0	0.0	10.87	28	170
155.0	RFS DB-T1-6Z-8AB-	2	7	4.8	2.0	24.0	10.0	0.80	0.50	0.0	0.0	10.87	35	13
155.0	Antel BXA-80063-6BF	3	19	7.3	5.7	11.2	5.3	0.80	0.66	0.0	0.0	10.87	106	58
155.0	Commscope JAHH-	6	63	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.0	10.87	279	380
155.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.87	249	1200
140.0	Small Side Lights	3	45	2.0	1.0	8.0	8.0	1.00	1.00	0.0	0.0	10.64	54	135

Site Number: 383598
Site Name: Tartaglia, CT
Customer: T-Mobile

Code: ANSI/TIA-222-G
Engineering Number: OAA732813_C3_02

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Tower Loading

118.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	10.27	1	8
118.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.27	45	150
108.0	10' Omni	1	8	0.1	1.0	2.0	2.0	1.00	1.00	0.0	0.0	10.08	1	8
108.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.08	45	150
80.00	Empty Round Side	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.46	42	150
22.00	3' Dish	1	100	6.1	3.0	0.0	0.0	1.00	0.64	0.0	0.0	7.21	24	100
20.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	7.07	6	10
8.00	GPS	1	10	1.0	1.0	9.0	6.0	1.00	1.00	0.0	0.0	6.66	6	10
8.00	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.66	29	150
	Totals	166	11870	780.3									4195	11870

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	240.0	1 1/4" Coax	1	1.55	0.63	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	240.0	1" Conduit	1	1.30	1.68	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	230.0	7/8" Coax	2	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	223.0	1 1/4" Coax	1	1.55	0.63	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	202.0	1 1/4" Hybriflex	2	1.54	1.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	202.0	1 5/8" Coax	6	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	202.0	1 5/8" Hybriflex	1	1.98	1.30	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	202.0	Waveguide	1	1.50	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	196.0	7/8" Coax	1	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	187.0	1/2" Coax	4	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.01
0.00	180.6	1 1/4" Hybriflex	3	1.54	1.00	67	2	Block	0.00	N	0.00	1.00	0.00
0.00	180.6	1.625" Hybrid	1	1.63	1.61	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	180.6	1/2" Ethernet	3	0.50	0.14	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	180.6	2" Conduit	2	2.38	3.65	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	180.6	5/16" Coax	6	0.32	0.04	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	180.6	Waveguide	1	1.50	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	174.0	1 5/8" Coax	6	1.98	0.82	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	174.0	Waveguide	1	1.50	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	165.0	0.39" Fiber Trunk	1	0.39	0.06	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	0.39" Fiber Trunk	1	0.39	0.06	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	0.78" 8 AWG 6	2	0.78	0.59	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	0.78" 8 AWG 6	2	0.78	0.59	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	1 1/4" Coax	1	1.55	0.63	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	165.0	1 5/8" Coax	12	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
0.00	165.0	Waveguide	1	1.50	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	155.0	1 5/8" Coax	12	1.98	0.82	50	3	Block	0.00	N	0.00	1.00	0.00
0.00	155.0	1 5/8" Hybrid	1	1.98	1.30	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	155.0	1 5/8" Hybrid	1	1.98	1.30	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	152.0	Waveguide	1	1.50	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	118.0	7/8" Coax	1	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	108.0	1 1/4" Coax	1	1.55	0.63	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	22.00	0.24" Cat 5	1	0.24	0.04	0	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	20.00	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	8.00	1/2" Coax	1	0.63	0.15	0	3	Individual	0.00	N	1.00	1.00	0.00

Force/Stress Summary

Section: 1 1 Bot Elev (ft): 0.00 Height (ft): 30.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	-280.14	1.2D + 1.6W	30.08	33	33	33	32.8	50.0	669.65	0	0	0.00	0.00	41	Member X
HORIZ PST - 3-1/2" DIA PIP	-14.90	1.2D + 1.6W 90	18.29	100	100	100	163.8	50.0	22.56	2	0	0.00	0.00	66	Member X
DIAG PST - 3" DIA PIPE	-29.85	1.2D + 1.6W 90	36.16	32	32	32	0.0	0.0	41.40	3	0	0.00	0.00	72	User Input

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	224.15	0.9D + 1.6W 60	50	65	724.50	0	0	0.00	0.00		30	Member
HORIZ PST - 3-1/2" DIA PIP	15.65	1.2D + 1.6W 90	50	65	120.60	2	0	0.00	18.07	0.00	86	Bolt Bear
DIAG PST - 3" DIA PIPE	27.81	1.2D + 1.6W 90	50	65	100.35	3	0	0.00	37.49	0.00	74	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	222.56	0.9D + 1.6W 180	0.00	0	0	
Top Compression	278.47	1.2D + 1.6W	0.00	0		
Bot Tension	265.94	0.9D + 1.6W 180	726.89	46	12	1" A193-B7
Bot Compression	325.00	1.2D + 1.6W 120	0.00	0		

Section: 2 2 Bot Elev (ft): 30.00 Height (ft): 30.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	-229.93	1.2D + 1.6W	30.08	33	33	33	32.8	50.0	669.65	0	0	0.00	0.00	34	Member X
HORIZ PST - 3" DIA PIPE	-14.49	0.9D + 1.6W 90	16.41	96	96	96	163.0	50.0	18.95	2	0	0.00	0.00	76	Member X
DIAG PST - 3" DIA PIPE	-32.49	1.2D + 1.6W 90	35.15	31	31	31	112.7	50.0	39.62	3	0	0.00	0.00	81	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	174.09	1.2D + 1.6W 60	50	65	724.50	0	0	0.00	0.00		24	Member
HORIZ PST - 3" DIA PIPE	15.28	1.2D + 1.6W 90	50	65	100.35	2	0	0.00	17.27	0.00	88	Bolt Bear
DIAG PST - 3" DIA PIPE	30.21	0.9D + 1.6W 90	50	65	100.35	3	0	0.00	37.49	0.00	80	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	179.41	0.9D + 1.6W 180	0.00	0	0	
Top Compression	228.33	1.2D + 1.6W	0.00	0		
Bot Tension	222.56	0.9D + 1.6W 180	654.20	34	12	1 A325
Bot Compression	278.47	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 3 3 Bot Elev (ft): 60.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	-195.44	1.2D + 1.6W	20.05	50	50	50	33.1	50.0	668.58	0	0	0.00	0.00	29	Member X
HORIZ PST - 3" DIA PIPE	-13.19	0.9D + 1.6W 90	15.16	100	100	100	156.9	50.0	20.47	2	0	0.00	0.00	64	Member X
DIAG PST - 3" DIA PIPE	-23.90	1.2D + 1.6W 90	25.88	48	48	48	128.5	50.0	30.49	3	0	0.00	0.00	78	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 10" DIA PIPE	153.00	0.9D + 1.6W 60	50	65	724.50	0	0	0.00	0.00		21	Member
HORIZ PST - 3" DIA PIPE	13.92	1.2D + 1.6W 90	50	65	100.35	2	0	0.00	17.27	0.00	80	Bolt Bear
DIAG PST - 3" DIA PIPE	22.17	0.9D + 1.6W 90	50	65	100.35	3	0	0.00	31.17	0.00	71	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	151.61	0.9D + 1.6W 60	0.00	0	0	
Top Compression	193.95	1.2D + 1.6W 120	0.00	0		
Bot Tension	179.41	0.9D + 1.6W 180	654.20	27	12	1 A325
Bot Compression	228.33	1.2D + 1.6W	0.00	0		

Section: 4 4 Bot Elev (ft): 80.00 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-162.19	1.2D + 1.6W	20.06	50	50	50	41.8	50.0	506.95	0	0	0.00	0.00	31	Member X
HORIZ PST - 3" DIA PIPE	-12.06	0.9D + 1.6W 90	13.83	100	100	100	143.2	50.0	24.58	2	0	0.00	0.00	49	Member X
DIAG PST - 3" DIA PIPE	-22.79	1.2D + 1.6W 90	25.11	48	48	48	124.7	50.0	32.40	3	0	0.00	0.00	70	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	124.93	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		21	Member
HORIZ PST - 3" DIA PIPE	12.45	1.2D + 1.6W 90	50	65	100.35	2	0	0.00	17.27	0.00	72	Bolt Bear
DIAG PST - 3" DIA PIPE	21.28	0.9D + 1.6W 90	50	65	100.35	3	0	0.00	31.17	0.00	68	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	123.61	0.9D + 1.6W 60	0.00	0	0	
Top Compression	160.82	1.2D + 1.6W	0.00	0		
Bot Tension	151.61	0.9D + 1.6W 60	654.20	23	12	1 A325
Bot Compression	193.95	1.2D + 1.6W 120	0.00	0		

Force/Stress Summary

Section: 5 5 Bot Elev (ft): 100.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-128.16	1.2D + 1.6W	20.05	50	50	50	41.8	50.0	507.00	0	0	0.00	0.00	25	Member X
HORIZ PST - 2-1/2" DIA PIP	-11.03	1.2D + 1.6W 90	12.58	98	98	98	156.3	50.0	15.75	2	0	0.00	0.00	70	Member X
DIAG PST - 2-1/2" DIA PIP	-22.68	1.2D + 1.6W 90	24.33	48	48	48	0.0	0.0	28.20	3	0	0.00	0.00	80	User Input

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	95.74	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		16	Member
HORIZ PST - 2-1/2" DIA PIP	11.77	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	16.23	0.00	72	Bolt Bear
DIAG PST - 2-1/2" DIA PIP	21.10	1.2D + 1.6W 90	50	65	76.68	3	0	0.00	29.29	0.00	72	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	94.58	0.9D + 1.6W 180	0.00	0	0	
Top Compression	126.91	1.2D + 1.6W	0.00	0		
Bot Tension	123.61	0.9D + 1.6W 60	654.20	19	12	1 A325
Bot Compression	160.82	1.2D + 1.6W	0.00	0		

Section: 6 6 Bot Elev (ft): 120.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-110.87	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	21	Member X
HORIZ PST - 2-1/2" DIA PIP	-10.11	1.2D + 1.6W 90	11.96	100	100	100	151.6	50.0	16.75	2	0	0.00	0.00	60	Member X
DIAG PST - 3" DIA PIPE	-14.64	1.2D + 1.6W 90	16.08	96	96	96	159.7	50.0	19.75	3	0	0.00	0.00	74	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	82.09	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		14	Member
HORIZ PST - 2-1/2" DIA PIP	10.83	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	13.46	0.00	80	Bolt Bear
DIAG PST - 3" DIA PIPE	13.52	1.2D + 1.6W 90	50	65	100.35	3	0	0.00	31.17	0.00	43	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	67.08	0.9D + 1.6W 60	0.00	0	0	
Top Compression	93.33	1.2D + 1.6W 120	0.00	0		
Bot Tension	94.58	0.9D + 1.6W 180	436.14	22	8	1 A325
Bot Compression	126.91	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 7 7 Bot Elev (ft): 140.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-78.12	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	15	Member X
HORIZ PST - 2-1/2" DIA PIP	-8.85	1.2D + 1.6W 90	10.71	100	100	100	135.8	50.0	20.89	2	0	0.00	0.00	42	Member X
DIAG PST - 2-1/2" DIA PIP	-13.45	1.2D + 1.6W 90	15.12	100	100	100	0.0	0.0	23.40	3	0	0.00	0.00	57	User Input

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	54.33	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		9	Member
HORIZ PST - 2-1/2" DIA PIP	9.47	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	13.46	0.00	70	Bolt Bear
DIAG PST - 2-1/2" DIA PIP	12.42	1.2D + 1.6W 90	50	65	76.68	3	0	0.00	29.29	0.00	42	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	39.79	0.9D + 1.6W 180	0.00	0	0	
Top Compression	61.15	1.2D + 1.6W 120	0.00	0		
Bot Tension	67.08	0.9D + 1.6W 60	436.14	15	8	1 A325
Bot Compression	93.33	1.2D + 1.6W 120	0.00	0		

Section: 8 8 Bot Elev (ft): 160.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-47.79	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	9	Member X
HORIZ PST - 2-1/2" DIA PIP	-5.89	0.9D + 1.6W 90	9.464	100	100	100	119.9	50.0	26.77	2	0	0.00	0.00	22	Member X
DIAG PST - 2-1/2" DIA PIP	-9.48	1.2D + 1.6W 90	14.20	96	96	96	172.9	50.0	12.88	3	0	0.00	0.00	73	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	29.60	1.2D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		5	Member
HORIZ PST - 2-1/2" DIA PIP	6.27	1.2D + 1.6W 90	50	65	76.68	2	0	0.00	13.46	0.00	46	Bolt Bear
DIAG PST - 2-1/2" DIA PIP	8.79	0.9D + 1.6W 90	50	65	76.68	3	0	0.00	29.29	0.00	30	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	21.82	0.9D + 1.6W 180	0.00	0	0	
Top Compression	35.69	1.2D + 1.6W	0.00	0		
Bot Tension	39.79	0.9D + 1.6W 180	436.14	9	8	1 A325
Bot Compression	61.15	1.2D + 1.6W 120	0.00	0		

Force/Stress Summary

Section: 9 9 Bot Elev (ft): 180.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-26.22	1.2D + 1.6W	10.03	100	100	100	41.8	50.0	507.00	0	0	0.00	0.00	5	Member X
HORIZ PST - 2" DIA PIPE	-3.66	1.2D + 1.6W 90	8.214	100	100	100	125.2	50.0	15.41	2	0	0.00	0.00	23	Member X
DIAG PST - 2-1/2" DIA PIP	-6.46	1.2D + 1.6W 90	13.35	100	100	100	169.2	50.0	13.45	3	0	0.00	0.00	47	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	14.34	1.2D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		2	Member
HORIZ PST - 2" DIA PIPE	3.94	1.2D + 1.6W 90	50	65	48.15	2	0	0.00	10.21	0.00	38	Bolt Bear
DIAG PST - 2-1/2" DIA PIP	5.87	1.2D + 1.6W 90	50	65	76.68	3	0	0.00	29.29	0.00	20	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	9.12	0.9D + 1.6W 180	0.00	0	0	
Top Compression	17.75	1.2D + 1.6W	0.00	0		
Bot Tension	21.82	0.9D + 1.6W 180	436.14	5	8	1 A325
Bot Compression	35.69	1.2D + 1.6W	0.00	0		

Section: 10 10 Bot Elev (ft): 200.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-11.65	1.2D + 1.6W	10.02	100	100	100	41.8	50.0	507.06	0	0	0.00	0.00	2	Member X
HORIZ PST - 2" DIA PIPE	-1.68	1.2D + 1.6W 90	7.026	100	100	100	107.1	50.0	20.80	2	0	0.00	0.00	8	Member X
DIAG PST - 2-1/2" DIA PIP	-3.57	1.2D + 1.6W 90	12.55	100	100	100	159.1	50.0	15.20	3	0	0.00	0.00	23	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	6.16	0.9D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		1	Member
HORIZ PST - 2" DIA PIPE	1.90	1.2D + 1.6W 90	50	65	48.15	2	0	0.00	10.21	0.00	18	Bolt Bear
DIAG PST - 2-1/2" DIA PIP	3.07	1.2D + 1.6W 90	50	65	76.68	3	0	0.00	29.29	0.00	10	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	2.59	0.9D + 1.6W 180	0.00	0	0	
Top Compression	6.64	1.2D + 1.6W 120	0.00	0		
Bot Tension	9.12	0.9D + 1.6W 180	436.14	2	8	1 A325
Bot Compression	17.75	1.2D + 1.6W	0.00	0		

Force/Stress Summary

Section: 11 11 Bot Elev (ft): 220.0 Height (ft): 20.000

Max Compression Member	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	-3.98	1.2D + 1.6W	6.68	100	100	100	27.8	50.0	544.30	0	0	0.00	0.00	0	Member X
HORIZ PST - 2" DIA PIPE	-0.87	1.2D + 1.6W	6.130	100	100	100	93.5	50.0	25.42	2	0	0.00	0.00	3	Member X
DIAG PST - 2" DIA PIPE	-1.84	1.2D + 1.6W 90	9.288	100	100	100	141.6	50.0	12.05	3	0	0.00	0.00	15	Member X

Max Tension Member	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls
LEG PX - 8" DIA PIPE	0.79	1.2D + 1.6W 60	50	65	576.00	0	0	0.00	0.00		0	Member
HORIZ PST - 2" DIA PIPE	1.06	1.2D + 1.6W 60	50	65	48.15	2	0	0.00	10.21	0.00	10	Bolt Bear
DIAG PST - 2" DIA PIPE	1.48	1.2D + 1.6W 90	50	65	48.15	3	0	0.00	22.22	0.00	6	Bolt Bear

Max Splice Forces	Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type
Top Tension	0.00		0.00	0	0	
Top Compression	0.80	1.2D + 1.0Di +	0.00	0		
Bot Tension	2.59	0.9D + 1.6W 180	436.14	1	8	1 A325
Bot Compression	6.64	1.2D + 1.6W 120	0.00	0		

VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: TARTAGLIA
ATC SITE NUMBER: 383598
T-MOBILE SITE ID: CT11680A
SITE ADDRESS: 1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

LOCATION MAP

T-MOBILE ANTENNA AMENDMENT
67D92M OUTDOOR CONFIGURATION

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.

1. INTERNATIONAL BUILDING CODE (IBC)
2. NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: UNKNOWN
PHONE: N/A

TELEPHONE COMPANY: UNKNOWN
PHONE: N/A

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

PROJECT SUMMARY

SITE ADDRESS:

1000 TRUMBULL AVE
BRIDGEPORT, CT 06606
COUNTY: FAIRFIELD

GEOGRAPHIC COORDINATES:

LATITUDE: 41° 13' 10.56" N41.21960000
LONGITUDE: 73° 12' 4.63" W-73.20128611
GROUND ELEVATION: 175' AMSL

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

PROPERTY OWNER:

AMERICAN TOWER
116 HUNTINGTON AVE
BOSTON, MA 02116

APPLICANT:

T-MOBILE
103 MONARCH DRIVE
LIVERPOOL, NY 13088

CARRIER CONTACT:

PETE BERIE
(315) 263-1882

PROJECT DESCRIPTION

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

REMOVE (6) PANELS, (3) RRUs, AND (1) 1" HYBRID CABLE

INSTALL (6) NEW PANELS, (3) RRUs, AND (2) 1-1/4" HYBRID CABLE

EXISTING (3) TTAs, (7) 1-5/8" COAX CABLES, AND (1) 1-5/8" HYBRID CABLE TO REMAIN

PROJECT NOTES

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

PROJECT LOCATION DIRECTIONS

FROM BRIDGEPORT, CN:

TAKE RT 25 NORTH, TAKE EXIT FIVE ONTO CHOPSEY HILL RD, ACCESS ROAD WILL BE ON RIGHT

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	0	09/05/18	NS
G-002	GENERAL NOTES	0	09/05/18	NS
C-101	DETAILED SITE PLAN & TOWER ELEVATION	0	09/05/18	NS
C-501	ANTENNA INFORMATION & SCHEDULE	0	09/05/18	NS
E-501	GROUNDING DETAILS	0	09/05/18	NS
R-601	SUPPLEMENTAL			

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: P-1177

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	NS	09/05/18

ATC SITE NUMBER:
383598

ATC SITE NAME:
TARTAGLIA

SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

SEAL:

Authorized by "EOR"
Sep 6 2018 12:05 PM cosign

T-Mobile

DRAWN BY:	NS
APPROVED BY:	KRF
DATE DRAWN:	09/05/18
ATC JOB NO:	12588473

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	0

GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT 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 ½" 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.

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: P-1177

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	NS	09/05/18

ATC SITE NUMBER:
383598

ATC SITE NAME:
TARTAGLIA

SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

SEAL:

Authorized by "EOR"
Sep 6 2018 12:06 PM cosign

T-Mobile

DRAWN BY:	NS
APPROVED BY:	KRF
DATE DRAWN:	09/05/18
ATC JOB NO:	12588473

GENERAL NOTES

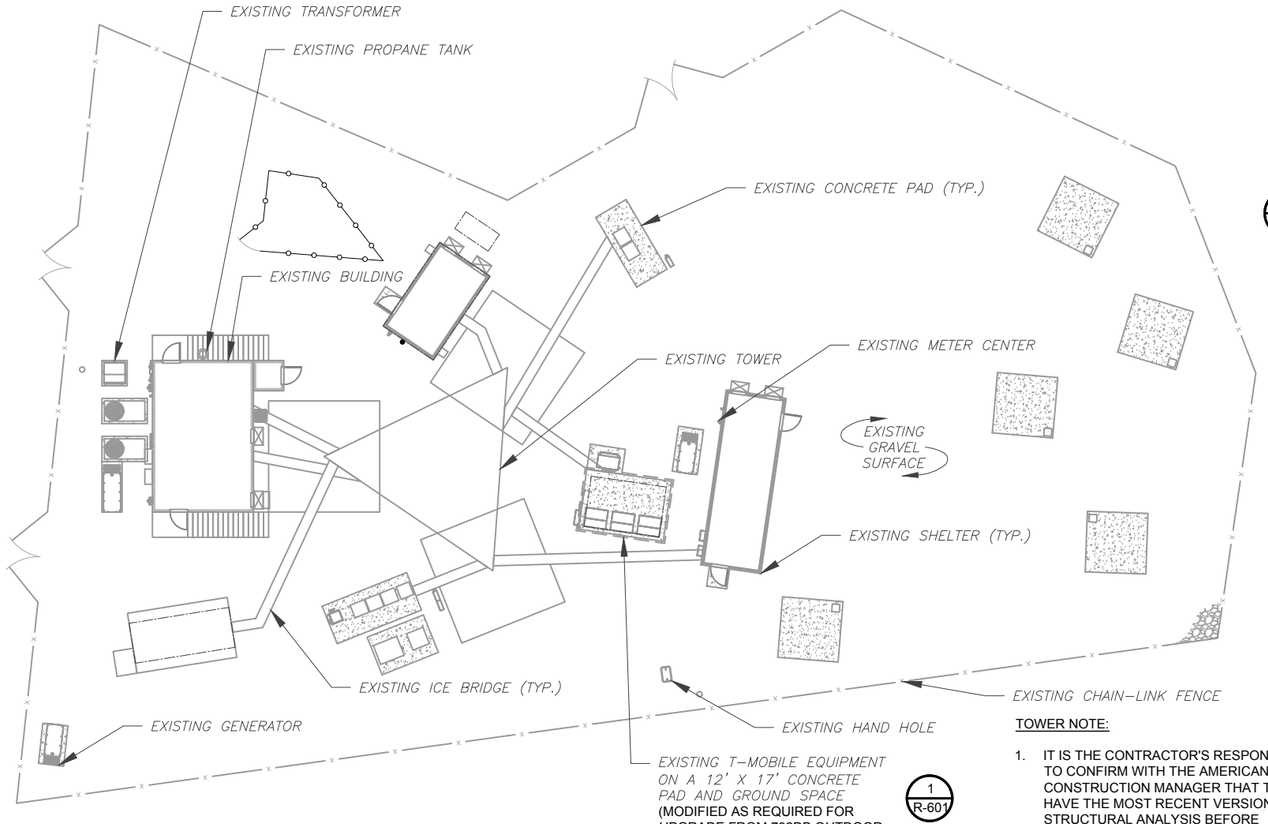
SHEET NUMBER:	REVISION:
G-002	0

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.

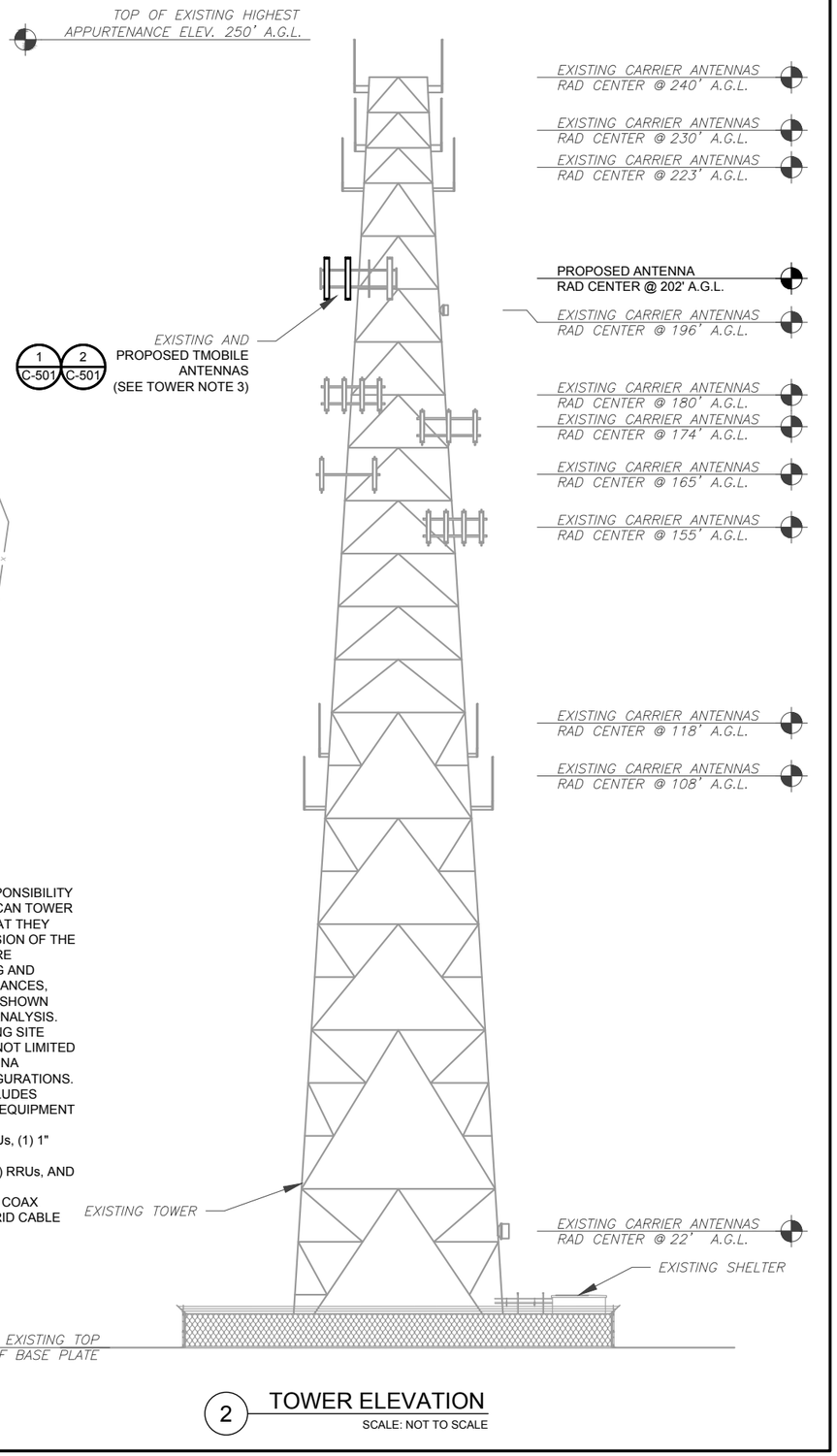
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, 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.



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 PER BELOW:
   - REMOVE (6) PANELS, (3) RRUs, (1) 1" HYBRID CABLE
   - INSTALL (6) NEW PANELS, (3) RRUs, AND (2) 1-1/4" HYBRID CABLES
   - EXISTING (3) TTAs, (7) 1-1/5" COAX CABLES, AND (1) 1-5/8" HYBRID CABLE TO REMAIN



1 DETAILED SITE PLAN

0 10' 20'

SCALE: 1"=10' (11X17)
1"=5' (22X34)

2 TOWER ELEVATION

SCALE: NOT TO SCALE

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: P-1177

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	NS	09/05/18

ATC SITE NUMBER:
383598

ATC SITE NAME:
TARTAGLIA

SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

SEAL:

STATE OF CONNECTICUT
PATRICK P. BARRY
28959
LICENSED
PROFESSIONAL ENGINEER

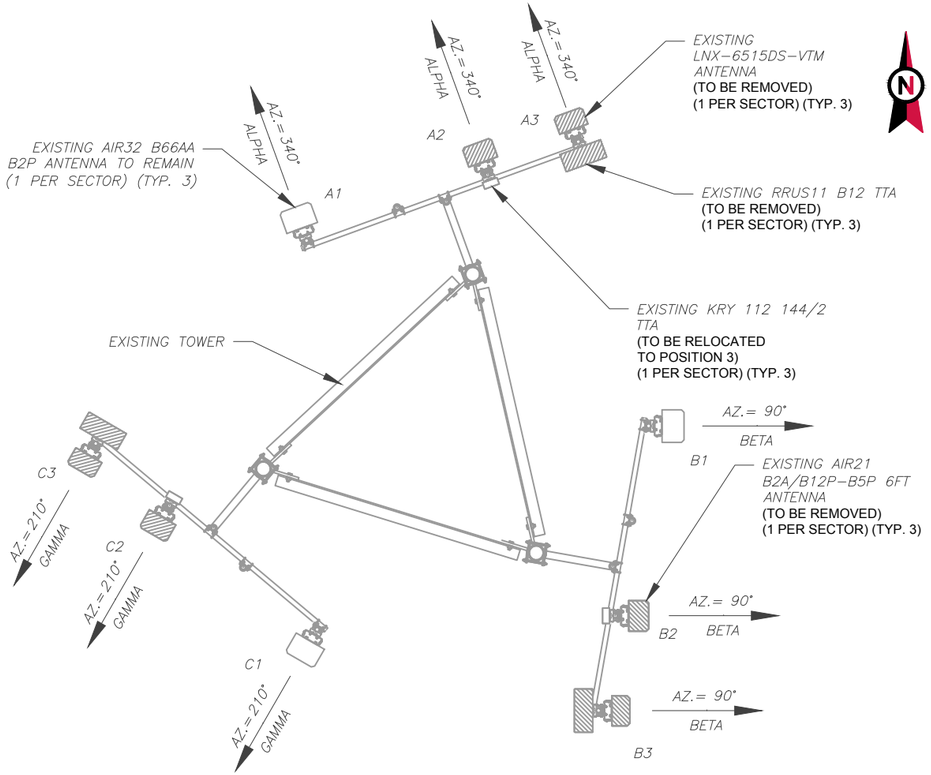
Authorized by "EOR"
Sep 6 2018 12:06 PM cosign

T-Mobile

DRAWN BY:	NS
APPROVED BY:	KRF
DATE DRAWN:	09/05/18
ATC JOB NO:	12588473

DETAILED SITE PLAN & TOWER ELEVATION

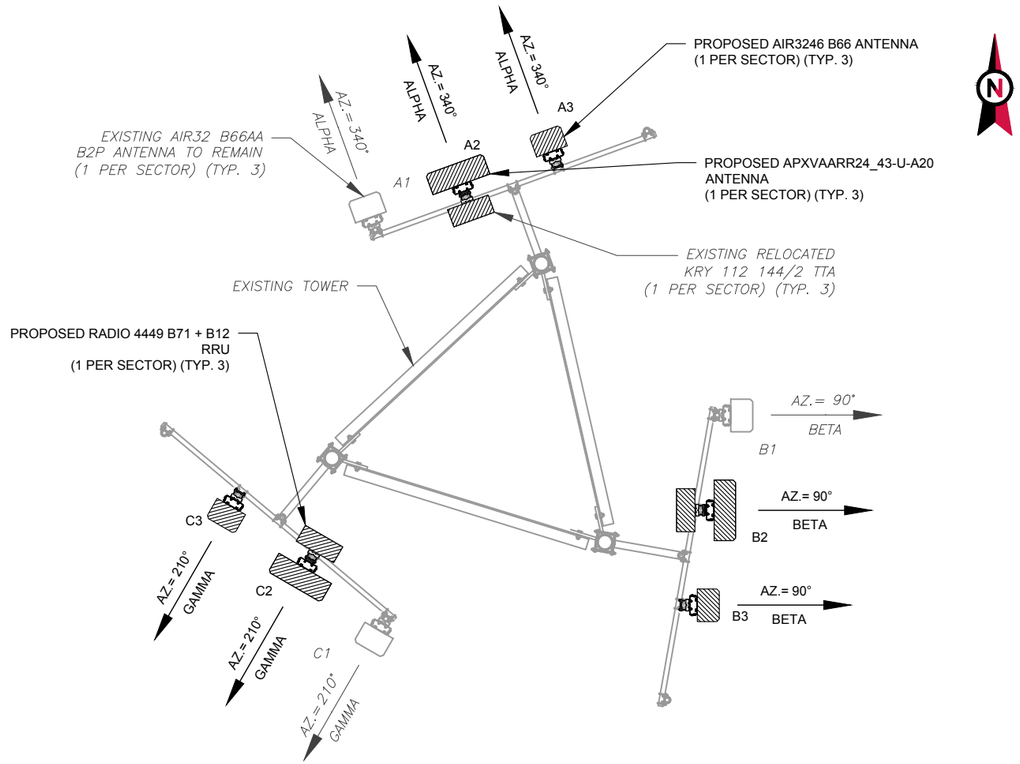
SHEET NUMBER:	REVISION:
C-101	0



1 EXISTING ANTENNA PLAN

NOTES:

1. 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:

1. ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
2. 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	AIR32 B66AA B2P	202'-0"	340°	0°	6°	–	–
ALPHA	A2	AIR21 B2A/B12P-B5P 6FT	202'-0"	340°	0°	6°	KRY 112 144/2	(2) 1-5/8"
ALPHA	A3	LNX-6515DS-VTM	202'-0"	340°	0°	2°	RRUS11 B12	–
BETA	B1	AIR32 B66AAB2A	202'-0"	90°	0°	6°	–	–
BETA	B2	AIR 21 B2A B4P	202'-0"	90°	0°	6°	KRY 112 144/2	(2) 1-5/8"
BETA	B3	LNX-6515DS-A1M	202'-0"	90°	0°	2°	RRUS11 B12	–
GAMMA	C1	AIR32 B66AAB2A	202'-0"	210°	0°	6°	–	–
GAMMA	C2	AIR 21 B2A B4P	202'-0"	210°	0°	6°	KRY 112 144/2	(2) 1-5/8"
GAMMA	C3	LNX-6515DS-A1M	202'-0"	210°	0°	2°	RRUS11 B12	–

1. (1) EXISTING 1" HYBRID CABLE (TO BE REMOVED)
2. (1) EXISTING 1-5/8" HYBRID CABLE (TO REMAIN)

3 ANTENNA SCHEDULE

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	AIR32 B66AA B2P	202'-0"	340°	–	-	-	–
ALPHA	A2	APXVAARR24_43-U-A20	202'-0"	340°	–	-	RADIO 4449 B71 + B12 KRY 112 144/2	(2) 1-5/8"
ALPHA	A3	AIR3246 B66	202'-0"	340°	–	-	-	–
BETA	B1	AIR32 B66AAB2A	202'-0"	90°	–	-	-	–
BETA	B2	APXVAARR24_43-U-A20	202'-0"	90°	–	-	RADIO 4449 B71 + B12 KRY 112 144/2	(2) 1-5/8"
BETA	B3	AIR3246 B66	202'-0"	90°	–	-	-	–
GAMMA	C1	AIR32 B66AAB2A	202'-0"	210°	–	-	-	–
GAMMA	C2	APXVAARR24_43-U-A20	202'-0"	210°	–	-	RADIO 4449 B71 + B12 KRY 112 144/2	(2) 1-5/8"
GAMMA	C3	AIR3246 B66	202'-0"	210°	–	-	-	–

1. BASED ON APPROVED ATC APPLICATION OAA732813, DATED 06/04/2018. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
2. (1) EXISTING 1-5/8" HYBRID CABLE (TO REMAIN)
3. (2) PROPOSED 1-1/4" HYBRID CABLE (±260')

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: P-1177

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	NS	09/05/18

ATC SITE NUMBER:
383598

ATC SITE NAME:
TARTAGLIA

SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

SEAL:

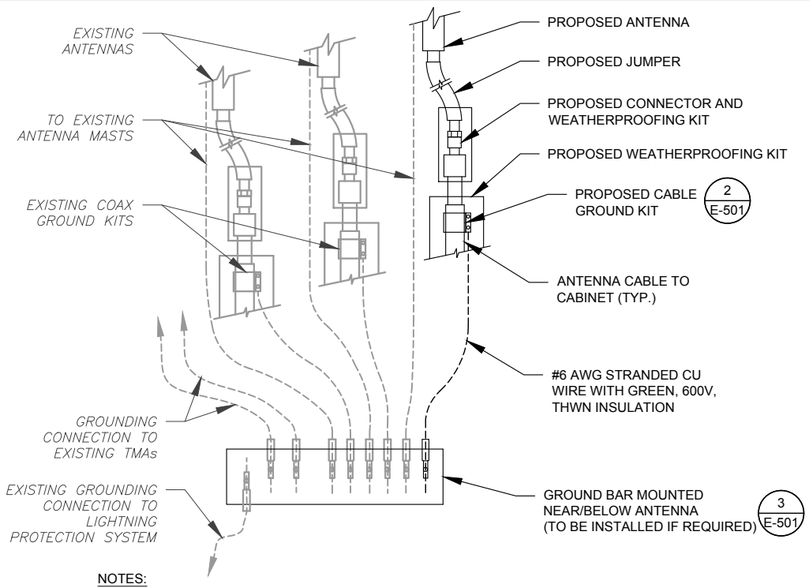
Authorized by "EOR"
Sep 6 2018 12:06 PM cosign

T-Mobile

DRAWN BY:	NS
APPROVED BY:	KRF
DATE DRAWN:	09/05/18
ATC JOB NO:	12588473

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	0

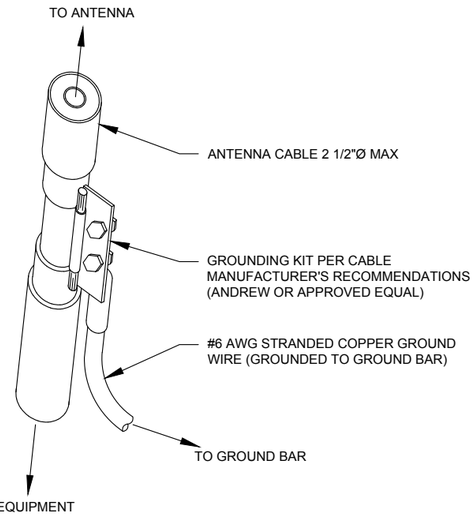


NOTES:

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

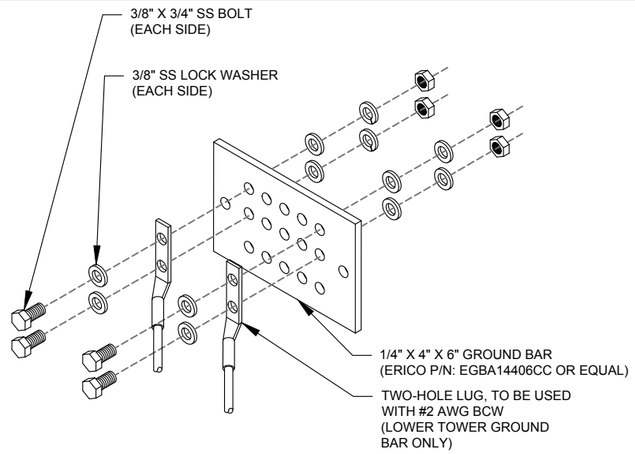


GROUND KIT NOTES:

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

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: P-1177

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	NS	09/05/18

ATC SITE NUMBER:
383598

ATC SITE NAME:
TARTAGLIA

SITE ADDRESS:
1000 TRUMBULL AVE
BRIDGEPORT, CT 06606

SEAL:

Authorized by "EOR"
Sep 6 2018 12:07 PM cosign

T-Mobile

DRAWN BY:	NS
APPROVED BY:	KRF
DATE DRAWN:	09/05/18
ATC JOB NO:	12588473

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 792DB Outdoor

Enclosure	1	2
Enclosure Type	RBS 6131	Ancillary Equipment
Baseband	DUS41 (x2) DUW30 (x2) DUG20	
Hybrid Cable System		Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG*
Multiplexer	XMU	
Radio	RU22 (x5)	

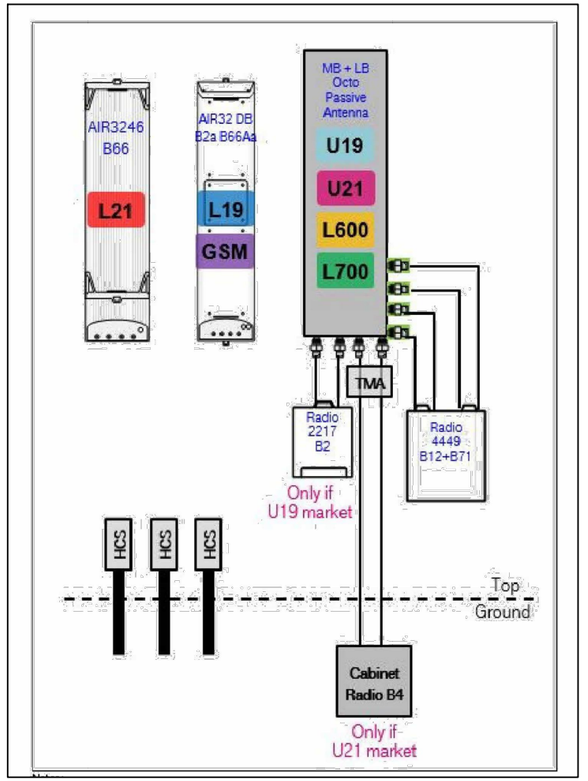
Proposed RAN Equipment

Template: 67D82M Outdoor

Enclosure	1	2
Enclosure Type	RBS 6131	Ancillary Equipment
Baseband	BB 5216 (L1900, L700, L600) BB 5216 (L2100) DUW30 (U1900) DUW30 (U2100) DUG20 (G1900)	
Hybrid Cable System		Ericsson 9x18 HCS *Select Length* Ericsson 6x12 HCS *Select Length & AWG* (x2)
Multiplexer	XMU (L1900, L700, L600)	
Radio	RU22 (x6) (U2100)	

RAN Scope of Work:

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

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

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-601	0

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, September 17, 2018 9:47 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11680A Zoning

Your package has been delivered.

Delivery Date: Monday, 09/17/2018
Delivery Time: 09:40 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:	1ZV257424294007737
Ship To:	Dennis Buckley City of Bridgeport 45 LYON TER FLOOR 2 ROOM 210 BRIDGEPORT, CT 06604 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	OFFICE ST PETHER
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11680A Zoning


Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, September 17, 2018 11:08 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11680A Mayor

Your package has been delivered.

Delivery Date: Monday, 09/17/2018
Delivery Time: 11:04 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:	1ZV257424293513727
Ship To:	Joseph Ganim City of Bridgeport 999 BROAD ST FLOOR 2 BRIDGEPORT, CT 06604 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	OFFICE GGO
Signature Required:	A signature is required for package delivery
Reference Number 1:	CT11680A Mayor


Download the UPS mobile app

Kyle Richers

From: UPS Quantum View <pkginfo@ups.com>
Sent: Monday, September 17, 2018 11:14 AM
To: krichers@transcendwireless.com
Subject: UPS Delivery Notification, Reference Number 1: CT11680A Owner

Your package has been delivered.

Delivery Date: Monday, 09/17/2018
Delivery Time: 11:09 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:	1ZV257424294023719
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:	CT11680A Owner

Download the UPS mobile app