

Alex Murshteyn, Site Acquisition Consultant
c/o Cellco Partnership d/b/a Verizon Wireless
Centerline Communications, LLC
750 West Center Street, Floor 3
West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

February 28, 2020

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

**RE: Notice of Exempt Modification // Site: Waterford CT (ATC: 411183)
53 Dayton Road, Waterford, CT
N 41.37784 // W 72.13936**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless currently maintains 9 antennas at the 132-foot level on the existing 180-foot self-supporting lattice tower, located at 53 Dayton Road in Waterford, CT. The tower is owned by American Tower. The property is owned by Cohanzie Volunteer Fire Service Benefit Association, Inc. Verizon Wireless now intends to install remove 6 of its existing antennas and to replace with 9 on side-by-side mounts for the LTE (700/850/1900/2100/3500 MHz) PCS/AWS/CBRS upgrade. Additionally, Verizon Wireless will replace all 9 of its remote radio head units (RRUs) and upgrade certain cabling; altogether updating leased equipment rights, as reflected by the final configuration outlined in the structural analysis and proposed hereby.

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 Robert J. Brule, First Selectman for the Town of Waterford, the Town's Planning & Development Department, American Tower, the tower owner and the ground owner, Cohanzie Volunteer Fire Department.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Enclosed to accommodate this filing are construction drawings dated February 21, 2020, structural analysis dated November 4, 2019 and antenna mount analysis dated December 5, 2019 by A.T. Engineering Service, PLLC, as well as radio frequency (RF) analysis table showing worst-case RF emission calculation by Verizon Wireless RF Design Engineering.

1. The proposed modifications 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 new antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading, as shown in the attached structural analysis by A.T. Engineering Service, PLLC, dated November 4, 2019 and mount analysis dated December 5, 2019.

For the foregoing reasons, Verizon Wireless 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,



Alex Murshteyn, Site Acquisition Consultant
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West Bridgewater, MA 02379
Mobile: (508) 821-0159
AMurshteyn@centerlinecommunications.com

Attachments

cc: Robert J. Brule, First Selectman, Town of Waterford - as elected official
Town of Waterford Planning and Development Department - as P&Z officials
Cohanzie Volunteer Fire Service Benefit Association, Inc. - as property owner
American Tower Corporation - as tower owner

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ALEX MURSHTEYN 5088210159 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 023791518	1 LBS	1 OF 1
DWT: 14,11,1		
SHIP TO: FIRST SELECTMAN ROBERT J. BRULE TOWN OF WATERFORD 15 ROPE FERRY RD WATERFORD CT 06385-2806		
	CT 063 5-02 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1329 5832		
		
BILLING: P/P		
Reference # 1: 411183 aka Waterford CT Reference # 2: 12984591 / CSC EM - CEO	CS 22.0.11. WNTINV50 83.0A 12/2019	 ™

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DWT: 14,11,1		
SHIP TO: PLANNING & DEVELOPMENT DEPARTMENT TOWN OF WATERFORD 15 ROPE FERRY RD WATERFORD CT 06385-2806		
	CT 063 5-02 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 0752 8824		
		
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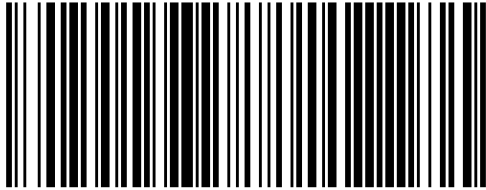
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DWT: 14,11,1		
SHIP TO: COHANZIE VOLUNTEER FIRE SERVICE BENEFIT ASSOCIATION, INC. 53R DAYTON RD WATERFORD CT 06385-4266		
	CT 063 5-02 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 1246 4848		
		
BILLING: P/P		
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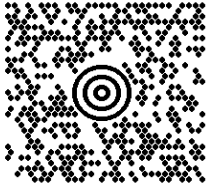


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DWT: 14,11,1		
SHIP TO: BLAKE PAYNTER AMERICAN TOWER CORP 10 PRESIDENTIAL WAY WOBURN MA 01801-1053		
	MA 018 9-04 	
UPS GROUND TRACKING #: 1Z 9Y4 503 03 0543 5857		
		
BILLING: P/P		
Reference # 1: 411183 aka Waterford CT Reference # 2: 12984591 / CSC EM - TO CS 22.0.11.	WNTNV50 83.0A 12/2019	 ™

302

BUILDING DEPARTMENT
TOWN OF WATERFORD, CONNECTICUT

BUILDING PERMIT

Permit #15308
Date Issued: 11/20/98
Zoning Permit #98-325

Est. Cost \$389,336.00
Permit Fee \$0.00
C of O Fee \$0.00

PERMISSION IS HEREBY GRANTED FOR THE FOLLOWING:

Description:
tower foundation and building

Property Address: 53 Dayton Road

Owner: Cohanzie Fire Department
Address: 53 Dayton Road
Waterford, CT 06385

Telephone: 860-444-1910

Leassee:

Contractor: Standard Builders
Address: 52 Holmes Road
Newington, CT 06111-1708

License #: 00900085
Telephone: 860-947-43

NOTE: The recipient of this permit accepts this permit on the condition that he, as owner, or as representing the owner, agrees to comply with all building and zoning ordinances of the Town of Waterford and the State Statues of the State of Connecticut. regarding the use, occupancy, and type of building to be constructed and agrees that this building is to be located the proper distances from all other zones and is located in a zone in which the building and its use is allowed.


Building Official

Tower

BUILDING DEPARTMENT
TOWN OF WATERFORD, CONNECTICUT

BUILDING PERMIT

Permit #15309	Est. Cost	\$0.00
Date Issued: 11/20/98	Permit Fee	\$0.00
Zoning Permit # - 0	C of O Fee	\$0.00

PERMISSION IS HEREBY GRANTED FOR THE FOLLOWING:

Description:
Radio tower

Property Address: 53 Dayton Road

Owner: Cohanzie Fire Department
Address: 53 Dayton Road
Waterford, CT 06385

Telephone: 860-444-1910

Leassee:

Contractor: Standard Builders
Address: 52 Holmes Road
Newington, CT 06111

License #: 00900085
Telephone: 860-594-7143

NOTE: The recipient of this permit accepts this permit on the condition that he, as owner, or as representing the owner, agrees to comply with all building and zoning ordinances of the Town of Waterford and the State Statues of the State of Connecticut regarding the use, occupancy, and type of building to be constructed and agrees that this building is to be located the proper distances from all other zones and is located in a zone in which the building and its use is allowed.

[Signature]

Building Official



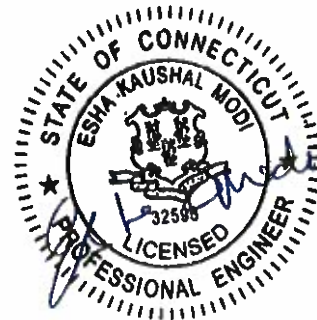
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Self Supported Tower
ATC Site Name : WATERFORD CT, CT
ATC Asset Number : 411183
Engineering Number : 12984591_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : WATERFORD CT
Carrier Site Number : 15366009
Site Location : 53 Dayton Rd.
Waterford, CT 06385-4274
41.377800,-72.141400
County : New London
Date : November 4, 2019
Max Usage : 42%
Result : Pass

Prepared By:
Milan Paudel
Structural Engineer

Reviewed By:



Authorized by "EOR"
Nov 5 2019 7:22 AM

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower Drawings	Rohn Drawing #A982166, dated August 20, 1998
Foundation Drawing	Rohn Drawing #A982167-1, dated August 20, 1998
Geotechnical Report	Clarence Welti Site Name Cohenzie Fire Station; Waterford, CT, dated March 24, 1997

Analysis

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

Basic Wind Speed:	105 mph (3-Second Gust, V_{ASD}) / 135 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 0.75" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.16$, $S_1 = 0.06$
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

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
189.0	1	Generic 15' Omni	Sector Frame & Side Arm	(4) 7/8" Coax	TOWN OF WATERFORD POLICE DEPARTMENT
188.0	1	Generic 15' Omni			
187.0	2	Generic 15' Omni			
182.0	2	Generic 8' Omni		(2) 7/8" Coax	
181.0	1	Generic 5' Omni			
	1	dbSpectra ATS4TMA4-4			
170.0	1	Generic 13' Omni		(1) 7/8" Coax	
166.0	3	Ericsson Radio 4449 B12,B71	Sector Frame	(2) 1 1/4" Hybriflex Cable (12) 1 5/8" Coax (1) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson AIR 21			
	3	Ericsson AIR32 B66Aa/B2a			
	3	RFS APXVAARR24_43-U-NA20			
157.0	6	Powerwave Allgon LGP21401	Sector Frame	(3) 0.39" (10mm) Fiber Trunk (6) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (1) 2" conduit	AT&T MOBILITY
	6	Kaelus DBCT108F1V92-1			
	3	Raycap DC6-48-60-18-8F (23.5" Height)			
	3	Kathrein Scala 80010966			
	3	CCI TPA-65R-LCUUUU-H8			
	3	CCI HPA-65R-BUU-H8			
	3	Ericsson RRUS 4426 B66			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4478 B5 (56.1 lbs)			
	3	Ericsson RRUS-11 (50 lbs.)			
	3	Ericsson RRUS 32 B2			
	3	Ericsson RRUS-32 (77 lbs)			
	3	Powerwave Allgon 7770.00			
156.0	1	Generic 15' Omni	Side Arm	(1) 1 5/8" Coax	TOWN OF WATERFORD POLICE DEPARTMENT
132.0	3	Alcatel-Lucent B25 RRH4x30	Sector Frame	(6) 1 5/8" Coax	VERIZON WIRELESS
	6	Alcatel-Lucent B66A RRH 4x45			
	1	VZW Unused Reserve: 18126 sq in			
50.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	



Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
134.0	3	Raycap RRFDC-1064-PF-48	-	(12) 1 5/8" Coax (3) 1 1/4" Hybriflex Cable	VERIZON WIRELESS
133.0	1	Swedcom SACP 2x5516			
	1	Amphenol Antel BXA-70063-6CF-EDIN-2			
132.0	6	Generic 48" x 12" x 7" Panel			
	2	Amphenol Antel LPA-80063-4CF-EDIN-X			
	3	Amphenol Antel BXA-171063-8CF-EDIN-X			
	2	Swedcom SLCP 2x6015			
	3	Alcatel-Lucent RRH2x40-AWS			
	3	Generic RRH			

Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
132.0	3	Samsung Outdoor CBRS 20W RRH	Sector Frame	(2) 1 5/8" Hybriflex	VERIZON WIRELESS
	2	Raycap RRFDC-1064-PF-48			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung CBRS 64T64R MMU			
	3	Andrew LNX-6512DS-A1M			
	6	JMA Wireless MX06FRO660-02			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing VERIZON WIRELESS lines.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	39%	Pass
Diagonals	42%	Pass
Horizontals	38%	Pass
Anchor Bolts	23%	Pass
Leg Bolts	30%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	621.3	838.8	271.1	32%
Axial (Kips)	732.9	989.4	313.6	32%
Total Shear (Kips)	141.8	191.4	58.6	31%

* 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) (°)
132.0	Samsung Outdoor CBRS 20W RRH	VERIZON WIRELESS	0.080	0.004	0.077
	Raycap RRFDC-1064-PF-48				
	Samsung B5/B13 RRH-BR04C				
	Samsung B2/B66A RRH-BR049				
	Samsung CBRS 64T64R MMU				
	Andrew LNX-6512DS-A1M				
	JMA Wireless MX06FRO660-02				

*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

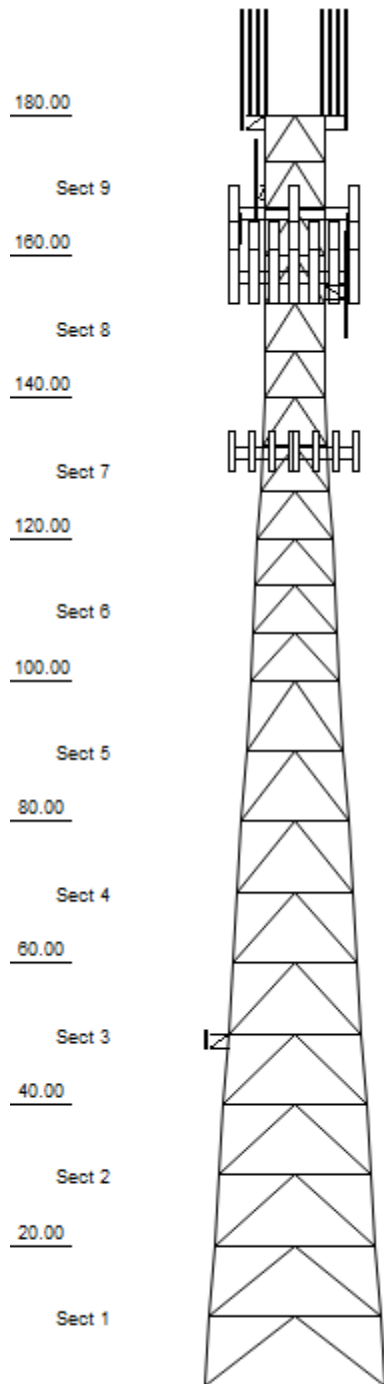
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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.

Quadrant 1



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Loads: 105 mph no ice
 50 mph w/ 3/4" radial ice
 Site Class: D Ss: 0.16 S1: 0.06
 60 mph Serviceability

Job Information

Client : VERIZON WIRELESS
Tower : 411183 **Location :** WATERFORD CT, **Base Width :** 25.55 ft
Code : ANSI/TIA-222-G **Top Width :** 8.50 ft
Tower Ht : 180.00 ft
Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	PX 50 ksi 12" DIA PIPE	PST 50 ksi 3-1/2" DIA PIPE	PST 50 ksi 3" DIA PIPE
3 - 4	PX 50 ksi 10" DIA PIPE	PX 50 ksi 3" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE
5	PSP 50 ksi 8.75" OD x 0.5"	PX 50 ksi 3" DIA PIPE	PX 50 ksi 2" DIA PIPE
6	PX 50 ksi 6" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
7	PSP 50 ksi ROHN 5 EH	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 1-1/2" DIA PIPE
8	PST 50 ksi 4" DIA PIPE	PST 50 ksi 2-1/2" DIA PIPE	PST 50 ksi 2" DIA PIPE
9	PST 50 ksi 3" DIA PIPE	PST 50 ksi 2" DIA PIPE	PST 50 ksi 1-1/2" DIA PIPE

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
180.00		1	dbSpectra ATS4TMA4-4
180.00	Whip	1	Generic 5' Omni
180.00	Whip	2	Generic 8' Omni
180.00	Whip	2	Generic 15' Omni
180.00	Whip	1	Generic 15' Omni
180.00	Whip	1	Generic 15' Omni
180.00	Mounting Frame	1	Round Sector Frame
180.00	Straight Arm	2	Round Side Arm
170.00	Whip	1	Generic 13' Omni
166.00	Mounting Frame	3	Round Sector Frame
166.00	Panel	3	RFS APXVAARR24_43-U-NA20
166.00	Panel	3	Ericsson AIR32 B66Aa/B2a
166.00	Panel	3	Ericsson AIR 21
166.00	Panel	3	Ericsson Radio 4449 B12,B71
157.00	Mounting Frame	3	Round Sector Frame
157.00	Panel	3	Kathrein Scala 80010966
157.00	Panel	3	CCI TPA-65R-LCUIUUU-H8
157.00	Panel	3	CCI HPA-65R-BUU-H8
157.00	Panel	3	Powerwave Allgon 7770.00
157.00	Panel	3	Ericsson RRUS-32 (77 lbs)
157.00	Panel	3	Ericsson RRUS 32 B2
157.00	Panel	3	Ericsson RRUS-11 (50 lbs.)
157.00	Panel	3	Ericsson RRUS 4478 B5 (56.1 lb
157.00	Panel	3	Ericsson RRUS 4478 B14
157.00	Panel	3	Ericsson RRUS 4426 B66
157.00	Panel	3	Raycap DC6-48-60-18-8F (23.5"
157.00	Panel	6	Powerwave Allgon LGP21401
157.00	Panel	6	Kaelus DBCT108F1V92-1
156.00	Straight Arm	1	Round Side Arm
156.00	Whip	1	Generic 15' Omni
132.00	Mounting Frame	3	Round Sector Frame
132.00	Other	1	VZW Unused Reserve: 18126 sq i
132.00	Panel	6	JMA Wireless MX06FRO660-02
132.00	Panel	3	Andrew LNX-6512DS-A1M
132.00	Panel	3	Samsung CBRS 64T64R MMU
132.00	Panel	6	Alcatel-Lucent B66A RRH 4x45
132.00	Panel	3	Alcatel-Lucent B25 RRH4x30
132.00	Panel	3	Samsung B2/B66A RRH-BR049
132.00	Panel	3	Samsung B5/B13 RRH-BR04C
132.00	Panel	2	Raycap RRFDC-1064-PF-48
132.00	Panel	3	Samsung Outdoor CBRS 20W
50.00	Straight Arm	1	Stand-Off
50.00	Whip	1	Generic GPS

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Job Information		
Client : VERIZON WIRELESS		
Tower : 411183	Location : WATERFORD CT,	Base Width : 25.55 ft
Code : ANSI/TIA-222-G		Top Width : 8.50 ft
		Tower Ht : 180.00 ft
		Shape : Triangle

Linear Appurtenance				
Elev (ft)				
From	To	Qty	Description	
0.00	189.00	1	7/8" Coax	
0.00	188.00	1	7/8" Coax	
30.00	187.00	2	7/8" Coax	
0.00	182.00	1	7/8" Coax	
0.00	181.00	1	7/8" Coax	
30.00	180.00	1	Waveguide	
0.00	180.00	1	Waveguide	
0.00	170.00	1	7/8" Coax	
30.00	166.00	1	1 5/8" Hybriflex	
30.00	166.00	2	1 1/4" Hybriflex Cab	
0.00	166.00	1	Waveguide	
0.00	166.00	12	1 5/8" Coax	
30.00	157.00	1	Waveguide	
30.00	157.00	1	2" conduit	
30.00	157.00	12	1 5/8" Coax	
30.00	157.00	6	0.78" (19.7mm) 8 AWG	
30.00	157.00	3	0.39" (10mm) Fiber T	
30.00	156.00	1	1 5/8" Coax	
0.00	132.00	2	1 5/8" Hybriflex	
0.00	132.00	6	1 5/8" Coax	
30.00	50.00	1	1/2" Coax	

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	6,412.30	71.47	58.61
DL + WL + IL	2,061.69	176.86	19.33

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
313.62	271.08	36.00

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:02:59 AM

Customer: VERIZON WIRELESS

Analysis Parameters

Location:	New London County, CT	Height (ft):	180
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	25.55
Tower Manufacturer:	Rohn	Top Face Width (ft):	8.50
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	105 mph
Exposure Category:	B	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):	0.61		
T_L (sec):	6	p:	1.3
S_s :	0.163	S_1 :	0.059
F_a :	1.600	F_v :	2.400
S_{ds} :	0.174	S_{d1} :	0.094
		C_s :	0.052
		C_s , Max:	0.052
		C_s , Min:	0.030

Load Cases

1.2D + 1.6W Normal	105 mph Normal with No Ice
1.2D + 1.6W 60 deg	105 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	105 mph 90 degree with No Ice
0.9D + 1.6W Normal	105 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	105 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	105 mph 90 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice
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
(1.2 + 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
(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
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

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)		
180.0	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	1.0	38.2	28.09	38	12		
180.0	dbSpectra	1	50	2.3	2.6	13.3	11.5	1.00	1.00	1.0	88.2	28.09	88	60		
180.0	Generic 8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	2.0	367.3	28.13	184	60		
180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	9.0	1566.3	28.44	174	48		
180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	8.0	1390.2	28.39	174	48		
180.0	Generic 15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	2429.1	28.35	347	96		
180.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	28.04	321	360		
180.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.04	549	360		
170.0	Generic 13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	0.0	0.0	27.59	146	48		
166.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	27.40	73	266		
166.0	Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	-3.0	1130.4	27.26	377	328		
166.0	Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	27.40	413	476		
166.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	27.40	906	1080		
166.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	27.40	1140	460		
157.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	26.97	55	100		
157.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	194.4	27.07	97	102		
157.0	Raycap DC6-48-60-	3	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.97	111	72		
157.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	26.97	73	174		
157.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	26.97	119	214		
157.0	Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	26.97	120	202		
157.0	Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	2.0	304.2	27.07	152	180		
157.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	2.0	324.4	27.07	162	191		
157.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.71	2.0	415.2	27.07	208	277		
157.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	632.8	27.07	316	126		
157.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	2.0	1536.6	27.07	768	245		
157.0	CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	2.0	1621.5	27.07	811	294		
157.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.97	796	1080		
157.0	Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	26.97	963	413		
156.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	0.0	0.0	26.92	165	48		
156.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.92	190	180		
132.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	25.67	36	67		
132.0	Raycap RRFDC-1064-	2	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	25.67	32	34		
132.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	25.67	79	253		
132.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	25.67	79	304		
132.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	25.67	119	191		
132.0	Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	25.67	290	482		
132.0	Samsung CBRS	3	75	4.5	2.4	18.8	4.8	0.80	0.58	0.0	0.0	25.67	219	270		
132.0	Andrew LNX-	3	30	5.1	4.0	11.9	7.1	0.80	0.69	0.0	0.0	25.67	294	109		
132.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	25.67	1174	331		
132.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.67	758	1080		
132.0	VZW Unused	1	1351	125.9	0.0	0.0	0.0	0.80	0.90	0.0	0.0	25.67	3164	1621		
50.00	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	19.45	24	12		
50.00	Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	19.45	43	48		
Totals		115	10334	756.4											16348	12400

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)
180.0	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	1.0	38.2	28.09	38	9
180.0	dbSpectra	1	50	2.3	2.6	13.3	11.5	1.00	1.00	1.0	88.2	28.09	88	45
180.0	Generic 8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	2.0	367.3	28.13	184	45

Tower Loading

180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	9.0	1566.3	28.44	174	36
180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	8.0	1390.2	28.39	174	36
180.0	Generic 15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	2429.1	28.35	347	72
180.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	28.04	321	270
180.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	28.04	549	270
170.0	Generic 13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	0.0	0.0	27.59	146	36
166.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	27.40	73	200
166.0	Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	-3.0	1130.4	27.26	377	246
166.0	Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	27.40	413	357
166.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	27.40	906	810
166.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	27.40	1140	345
157.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	26.97	55	75
157.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	194.4	27.07	97	76
157.0	Raycap DC6-48-60-	3	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.97	111	54
157.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	26.97	73	131
157.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	26.97	119	160
157.0	Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	26.97	120	151
157.0	Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	2.0	304.2	27.07	152	135
157.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	2.0	324.4	27.07	162	143
157.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.71	2.0	415.2	27.07	208	208
157.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	632.8	27.07	316	95
157.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	2.0	1536.6	27.07	768	184
157.0	CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	2.0	1621.5	27.07	811	220
157.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	26.97	796	810
157.0	Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	26.97	963	309
156.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	0.0	0.0	26.92	165	36
156.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.92	190	135
132.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	25.67	36	50
132.0	Raycap RRFDC-1064-	2	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	25.67	32	25
132.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	25.67	79	190
132.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	25.67	79	228
132.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	25.67	119	143
132.0	Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	25.67	290	362
132.0	Samsung CBRS	3	75	4.5	2.4	18.8	4.8	0.80	0.58	0.0	0.0	25.67	219	203
132.0	Andrew LNX-	3	30	5.1	4.0	11.9	7.1	0.80	0.69	0.0	0.0	25.67	294	82
132.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	25.67	1174	248
132.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.67	758	810
132.0	VZW Unused	1	1351	125.9	0.0	0.0	0.0	0.80	0.90	0.0	0.0	25.67	3164	1215
50.00	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	19.45	24	9
50.00	Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	19.45	43	36
Totals		115	10334	756.4									16348	9300

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)
180.0	Generic 5' Omni	1	38	2.4	5.0	2.0	2.0	1.00	1.00	1.0	12.9	6.37	13	40
180.0	dbSpectra	1	139	3.2	2.6	13.3	11.5	1.00	1.00	1.0	17.4	6.37	17	149
180.0	Generic 8' Omni	2	87	5.2	8.0	3.0	3.0	1.00	1.00	2.0	112.5	6.38	56	184
180.0	Generic 15' Omni	1	155	9.9	15.0	3.0	3.0	1.00	1.00	9.0	489.4	6.45	54	163
180.0	Generic 15' Omni	1	155	9.9	15.0	3.0	3.0	1.00	1.00	8.0	434.3	6.44	54	163
180.0	Generic 15' Omni	2	155	9.9	15.0	3.0	3.0	1.00	1.00	7.0	758.9	6.43	108	326
180.0	Round Side Arm	2	224	8.0	0.0	0.0	0.0	0.90	0.90	0.0	0.0	6.36	70	508
180.0	Round Sector Frame	1	673	31.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.36	169	733
170.0	Generic 13' Omni	1	140	8.6	13.0	3.0	3.0	1.00	1.00	0.0	0.0	6.26	46	148
166.0	Ericsson Radio 4449	3	131	2.5	1.2	13.2	9.3	0.80	0.50	0.0	0.0	6.21	16	437

Tower Loading

166.0	Ericsson AIR 21	3	238	8.2	4.7	12.0	7.9	0.80	0.70	-3.0	218.3	6.18	73	770
166.0	Ericsson AIR32	3	294	8.7	4.7	12.9	8.7	0.80	0.71	0.0	0.0	6.21	79	962
166.0	Round Sector Frame	3	673	31.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	6.21	278	2200
166.0	RFS	3	526	24.0	8.0	24.0	8.7	0.80	0.63	0.0	0.0	6.21	192	1655
157.0	Kaelus	6	39	1.2	0.9	7.1	6.8	0.80	0.50	0.0	0.0	6.12	15	251
157.0	Powerwave Allgon	6	39	1.8	1.2	9.2	2.6	0.80	0.50	2.0	45.4	6.14	23	252
157.0	Raycap DC6-48-60-	3	73	1.9	2.0	9.7	9.7	0.80	1.00	0.0	0.0	6.12	24	230
157.0	Ericsson RRUS 4426	3	93	2.5	1.3	13.2	5.8	0.80	0.50	0.0	0.0	6.12	16	308
157.0	Ericsson RRUS 4478	3	121	3.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	6.12	25	398
157.0	Ericsson RRUS 4478	3	116	3.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	6.12	25	382
157.0	Ericsson RRUS-11	3	118	3.6	1.5	17.3	7.2	0.80	0.67	2.0	60.8	6.14	30	385
157.0	Ericsson RRUS 32 B2	3	127	3.9	2.3	12.1	7.0	0.80	0.67	2.0	65.6	6.14	33	412
157.0	Ericsson RRUS-32	3	174	4.6	2.5	13.3	9.5	0.80	0.71	2.0	81.7	6.14	41	570
157.0	Powerwave Allgon	3	170	6.6	4.6	11.0	5.0	0.80	0.65	2.0	106.9	6.14	53	532
157.0	CCI HPA-65R-BUU-H8	3	325	16.6	7.7	14.8	7.4	0.80	0.67	2.0	278.0	6.14	139	1017
157.0	CCI TPA-65R-	3	359	17.0	8.0	14.4	8.6	0.80	0.69	2.0	294.5	6.14	147	1126
157.0	Round Sector Frame	3	669	31.0	0.0	0.0	0.0	0.75	0.67	0.0	0.0	6.12	243	2186
157.0	Kathrein Scala	3	436	21.1	8.0	20.0	6.9	0.80	0.63	0.0	0.0	6.12	165	1378
156.0	Generic 15' Omni	1	153	9.9	15.0	3.0	3.0	1.00	1.00	0.0	0.0	6.10	51	161
156.0	Round Side Arm	1	223	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.10	41	253
132.0	Samsung Outdoor	3	42	1.5	1.0	8.5	4.1	0.80	0.50	0.0	0.0	5.82	9	138
132.0	Raycap RRFDC-1064-	2	55	1.9	1.1	10.2	8.2	0.80	0.50	0.0	0.0	5.82	7	115
132.0	Samsung B5/B13	3	127	2.8	1.3	15.0	8.1	0.80	0.50	0.0	0.0	5.82	16	423
132.0	Samsung B2/B66A	3	147	2.8	1.3	15.0	10.0	0.80	0.50	0.0	0.0	5.82	16	493
132.0	Alcatel-Lucent B25	3	113	3.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	5.82	25	370
132.0	Alcatel-Lucent B66A	6	137	3.7	2.2	12.0	7.3	0.80	0.67	0.0	0.0	5.82	59	904
132.0	Samsung CBRS	3	167	5.9	2.4	18.8	4.8	0.80	0.58	0.0	0.0	5.82	41	546
132.0	Andrew LNX-	3	150	7.0	4.0	11.9	7.1	0.80	0.69	0.0	0.0	5.82	57	468
132.0	JMA Wireless	6	283	12.6	5.9	15.4	10.7	0.80	0.71	0.0	0.0	5.82	212	1752
132.0	Round Sector Frame	3	663	30.8	0.0	0.0	0.0	0.75	0.67	0.0	0.0	5.82	229	2170
132.0	VZW Unused	1	2280	212.5	0.0	0.0	0.0	0.80	0.90	0.0	0.0	5.82	757	2550
50.00	Generic GPS	1	36	1.5	1.0	9.0	6.0	1.00	1.00	0.0	0.0	4.41	6	38
50.00	Stand-Off	1	82	2.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.41	10	90
Totals		115	26268	1194.4									3739	28335

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)
180.0	Generic 5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	1.0	7.8	9.17	8	10
180.0	dbSpectra	1	50	2.3	2.6	13.3	11.5	1.00	1.00	1.0	18.0	9.17	18	50
180.0	Generic 8' Omni	2	25	2.4	8.0	3.0	3.0	1.00	1.00	2.0	75.0	9.19	37	50
180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	9.0	319.7	9.29	36	40
180.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	8.0	283.7	9.27	35	40
180.0	Generic 15' Omni	2	40	4.5	15.0	3.0	3.0	1.00	1.00	7.0	495.7	9.26	71	80
180.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	0.90	0.90	0.0	0.0	9.16	66	300
180.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.16	112	300
170.0	Generic 13' Omni	1	40	3.9	13.0	3.0	3.0	1.00	1.00	0.0	0.0	9.01	30	40
166.0	Ericsson Radio 4449	3	74	1.6	1.2	13.2	9.3	0.80	0.50	0.0	0.0	8.95	15	222
166.0	Ericsson AIR 21	3	91	6.1	4.7	12.0	7.9	0.80	0.70	-3.0	230.7	8.90	77	273
166.0	Ericsson AIR32	3	132	6.5	4.7	12.9	8.7	0.80	0.71	0.0	0.0	8.95	84	397
166.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	8.95	185	900
166.0	RFS	3	128	20.2	8.0	24.0	8.7	0.80	0.63	0.0	0.0	8.95	233	384
157.0	Kaelus	6	14	0.6	0.9	7.1	6.8	0.80	0.50	0.0	0.0	8.81	11	83
157.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	2.0	39.7	8.84	20	85
157.0	Raycap DC6-48-60-	3	20	1.3	2.0	9.7	9.7	0.80	1.00	0.0	0.0	8.81	23	60

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

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Customer: VERIZON WIRELESS

Tower Loading

157.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	8.81	15	145
157.0	Ericsson RRUS 4478	3	59	2.0	1.5	13.4	8.3	0.80	0.67	0.0	0.0	8.81	24	178
157.0	Ericsson RRUS 4478	3	56	2.0	1.5	13.5	7.8	0.80	0.67	0.0	0.0	8.81	25	168
157.0	Ericsson RRUS-11	3	50	2.6	1.5	17.3	7.2	0.80	0.67	2.0	62.1	8.84	31	150
157.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	2.0	66.2	8.84	33	159
157.0	Ericsson RRUS-32	3	77	3.3	2.5	13.3	9.5	0.80	0.71	2.0	84.7	8.84	42	231
157.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	2.0	129.1	8.84	65	105
157.0	CCI HPA-65R-BUU-H8	3	68	13.0	7.7	14.8	7.4	0.80	0.67	2.0	313.6	8.84	157	204
157.0	CCI TPA-65R-	3	82	13.3	8.0	14.4	8.6	0.80	0.69	2.0	330.9	8.84	165	245
157.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.81	162	900
157.0	Kathrein Scala	3	115	17.4	8.0	20.0	6.9	0.80	0.63	0.0	0.0	8.81	196	344
156.0	Generic 15' Omni	1	40	4.5	15.0	3.0	3.0	1.00	1.00	0.0	0.0	8.79	34	40
156.0	Round Side Arm	1	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	8.79	39	150
132.0	Samsung Outdoor	3	19	0.9	1.0	8.5	4.1	0.80	0.50	0.0	0.0	8.38	7	56
132.0	Raycap RRFDC-1064-	2	14	1.2	1.1	10.2	8.2	0.80	0.50	0.0	0.0	8.38	7	28
132.0	Samsung B5/B13	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.0	8.38	16	211
132.0	Samsung B2/B66A	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.0	8.38	16	253
132.0	Alcatel-Lucent B25	3	53	2.1	1.8	12.0	7.2	0.80	0.67	0.0	0.0	8.38	24	159
132.0	Alcatel-Lucent B66A	6	67	2.6	2.2	12.0	7.3	0.80	0.67	0.0	0.0	8.38	59	402
132.0	Samsung CBRS	3	75	4.5	2.4	18.8	4.8	0.80	0.58	0.0	0.0	8.38	45	225
132.0	Andrew LNX-	3	30	5.1	4.0	11.9	7.1	0.80	0.69	0.0	0.0	8.38	60	91
132.0	JMA Wireless	6	46	9.9	5.9	15.4	10.7	0.80	0.71	0.0	0.0	8.38	240	276
132.0	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.67	0.0	0.0	8.38	155	900
132.0	VZW Unused	1	1351	125.9	0.0	0.0	0.0	0.80	0.90	0.0	0.0	8.38	646	1351
50.00	Generic GPS	1	10	0.9	1.0	9.0	6.0	1.00	1.00	0.0	0.0	6.35	5	10
50.00	Stand-Off	1	40	1.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.35	9	40
	Totals	115	10334	756.4									3336	10334

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

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Customer: VERIZON WIRELESS

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	189.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	188.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	187.0	7/8" Coax	2	1.09	0.33	100	Lin App	Cluster	3.22	N	1.00	1.00	0.00
0.00	182.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	181.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	180.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	180.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	170.0	7/8" Coax	1	1.09	0.33	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	1 5/8" Coax	12	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	166.0	1 1/4" Hybriflex	2	1.54	1.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	166.0	1 5/8" Hybriflex	1	1.98	1.30	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	157.0	0.39" (10mm) Fiber	3	0.39	0.06	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
30.00	157.0	0.78" (19.7mm) 8	6	0.78	0.59	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
30.00	157.0	1 5/8" Coax	12	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	157.0	2" conduit	1	2.38	3.65	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	157.0	Waveguide	1	2.00	6.00	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	156.0	1 5/8" Coax	1	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.01
0.00	132.0	1 5/8" Coax	6	1.98	0.82	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	132.0	1 5/8" Hybriflex	2	1.98	1.30	100	Lin App	Individual	0.00	N	1.00	1.00	0.00
30.00	50.00	1/2" Coax	1	0.63	0.15	100	Lin App	Individual	0.00	N	1.00	1.00	0.01

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

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Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

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

Spectral Response Acceleration for Short Period (S_s):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.05
Upper Limit C_s :	0.05
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.61
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.05
Total Unfactored Dead Load:	59.56 k
Seismic Base Shear (E):	4.00 k

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,688	379,255	0.059	236	2,084
8	150.00	2,978	586,521	0.091	365	3,677
7	130.00	3,704	627,274	0.098	390	4,573
6	110.00	4,523	642,318	0.100	400	5,585
5	90.00	6,087	699,590	0.109	435	7,516
4	70.00	7,050	621,594	0.097	387	8,705
3	50.00	7,289	450,783	0.070	281	9,001
2	30.00	7,981	288,041	0.045	179	9,855
1	10.00	7,923	89,787	0.014	56	9,783
Generic 5' Omni	180.00	10	2,387	0.000	1	12
dbSpectra ATS4TMA4-4	180.00	50	11,934	0.002	7	62
Generic 8' Omni	180.00	50	11,934	0.002	7	62
Generic 15' Omni	180.00	40	9,547	0.001	6	49
Generic 15' Omni	180.00	40	9,547	0.001	6	49
Generic 15' Omni	180.00	80	19,094	0.003	12	99
Round Side Arm	180.00	300	71,602	0.011	45	370
Round Sector Frame	180.00	300	71,602	0.011	45	370
Generic 13' Omni	170.00	40	8,989	0.001	6	49
Ericsson Radio 4449 B12,B71	166.00	222	48,650	0.008	30	274
Ericsson AIR 21	166.00	273	59,827	0.009	37	337
Ericsson AIR32 B66Aa/B2a	166.00	397	86,913	0.014	54	490
Round Sector Frame	166.00	900	197,230	0.031	123	1,111
RFS APXVAARR24_43-U-NA20	166.00	384	84,086	0.013	52	474
Kaelus DBCT108F1V92-1	157.00	83	17,233	0.003	11	103
Powerwave Allgon LGP21401	157.00	85	17,481	0.003	11	104

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

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Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

Raycap DC6-48-60-18-8F (23.5" Height)	157.00	60	12,398	0.002	8	74
Ericsson RRUS 4426 B66	157.00	145	30,004	0.005	19	179
Ericsson RRUS 4478 B14	157.00	178	36,823	0.006	23	220
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	34,777	0.005	22	208
Ericsson RRUS-11 (50 lbs.)	157.00	150	30,995	0.005	19	185
Ericsson RRUS 32 B2	157.00	159	32,855	0.005	20	196
Ericsson RRUS-32 (77 lbs)	157.00	231	47,733	0.007	30	285
Powerwave Allgon 7770.00	157.00	105	21,697	0.003	14	130
CCI HPA-65R-BUU-H8	157.00	204	42,154	0.007	26	252
CCI TPA-65R-LCUUUU-H8	157.00	245	50,585	0.008	31	302
Round Sector Frame	157.00	900	185,973	0.029	116	1,111
Kathrein Scala 80010966	157.00	344	71,042	0.011	44	425
Generic 15' Omni	156.00	40	8,210	0.001	5	49
Round Side Arm	156.00	150	30,787	0.005	19	185
Samsung Outdoor CBRS 20W RRH	132.00	56	9,603	0.001	6	69
Raycap RRFDC-1064-PF-48	132.00	28	4,819	0.001	3	35
Samsung B5/B13 RRH-BR04C	132.00	211	36,297	0.006	23	260
Samsung B2/B66A RRH-BR049	132.00	253	43,577	0.007	27	313
Alcatel-Lucent B25 RRH4x30	132.00	159	27,364	0.004	17	196
Alcatel-Lucent B66A RRH 4x45	132.00	402	69,185	0.011	43	496
Samsung CBRS 64T64R MMU	132.00	225	38,723	0.006	24	278
Andrew LNX-6512DS-A1M	132.00	91	15,593	0.002	10	112
JMA Wireless MX06FRO660-02	132.00	276	47,500	0.007	30	341
Round Sector Frame	132.00	900	154,893	0.024	96	1,111
VZW Unused Reserve: 18126 sq in	132.00	1,350	232,425	0.036	145	1,668
Generic GPS	50.00	10	618	0.000	0	12
Stand-Off	50.00	40	2,474	0.000	2	49
		59,557	6,432,323	1.000	4,003	73,539

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,688	379,255	0.059	236	1,460
8	150.00	2,978	586,521	0.091	365	2,577
7	130.00	3,704	627,274	0.098	390	3,205
6	110.00	4,523	642,318	0.100	400	3,914
5	90.00	6,087	699,590	0.109	435	5,267
4	70.00	7,050	621,594	0.097	387	6,099
3	50.00	7,289	450,783	0.070	281	6,307
2	30.00	7,981	288,041	0.045	179	6,906
1	10.00	7,923	89,787	0.014	56	6,855
Generic 5' Omni	180.00	10	2,387	0.000	1	9
dbSpectra ATS4TMA4-4	180.00	50	11,934	0.002	7	43
Generic 8' Omni	180.00	50	11,934	0.002	7	43
Generic 15' Omni	180.00	40	9,547	0.001	6	35
Generic 15' Omni	180.00	40	9,547	0.001	6	35
Generic 15' Omni	180.00	80	19,094	0.003	12	69
Round Side Arm	180.00	300	71,602	0.011	45	260
Round Sector Frame	180.00	300	71,602	0.011	45	260
Generic 13' Omni	170.00	40	8,989	0.001	6	35
Ericsson Radio 4449 B12,B71	166.00	222	48,650	0.008	30	192
Ericsson AIR 21	166.00	273	59,827	0.009	37	236
Ericsson AIR32 B66Aa/B2a	166.00	397	86,913	0.014	54	343

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Equivalent Lateral Force Method

Round Sector Frame	166.00	900	197,230	0.031	123	779
RFS APXVAARR24_43-U-NA20	166.00	384	84,086	0.013	52	332
Kaelus DBCT108F1V92-1	157.00	83	17,233	0.003	11	72
Powerwave Allgon LGP21401	157.00	85	17,481	0.003	11	73
Raycap DC6-48-60-18-8F (23.5" Height)	157.00	60	12,398	0.002	8	52
Ericsson RRUS 4426 B66	157.00	145	30,004	0.005	19	126
Ericsson RRUS 4478 B14	157.00	178	36,823	0.006	23	154
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	34,777	0.005	22	146
Ericsson RRUS-11 (50 lbs.)	157.00	150	30,995	0.005	19	130
Ericsson RRUS 32 B2	157.00	159	32,855	0.005	20	138
Ericsson RRUS-32 (77 lbs)	157.00	231	47,733	0.007	30	200
Powerwave Allgon 7770.00	157.00	105	21,697	0.003	14	91
CCI HPA-65R-BUU-H8	157.00	204	42,154	0.007	26	177
CCI TPA-65R-LCUUUU-H8	157.00	245	50,585	0.008	31	212
Round Sector Frame	157.00	900	185,973	0.029	116	779
Kathrein Scala 80010966	157.00	344	71,042	0.011	44	297
Generic 15' Omni	156.00	40	8,210	0.001	5	35
Round Side Arm	156.00	150	30,787	0.005	19	130
Samsung Outdoor CBRS 20W RRH	132.00	56	9,603	0.001	6	48
Raycap RRFDC-1064-PF-48	132.00	28	4,819	0.001	3	24
Samsung B5/B13 RRH-BR04C	132.00	211	36,297	0.006	23	182
Samsung B2/B66A RRH-BR049	132.00	253	43,577	0.007	27	219
Alcatel-Lucent B25 RRH4x30	132.00	159	27,364	0.004	17	138
Alcatel-Lucent B66A RRH 4x45	132.00	402	69,185	0.011	43	348
Samsung CBRS 64T64R MMU	132.00	225	38,723	0.006	24	195
Andrew LNX-6512DS-A1M	132.00	91	15,593	0.002	10	78
JMA Wireless MX06FRO660-02	132.00	276	47,500	0.007	30	239
Round Sector Frame	132.00	900	154,893	0.024	96	779
VZW Unused Reserve: 18126 sq in	132.00	1,350	232,425	0.036	145	1,168
Generic GPS	50.00	10	618	0.000	0	9
Stand-Off	50.00	40	2,474	0.000	2	35
		59,557	6,432,323	1.000	4,003	51,530

Equivalent Modal Analysis Method

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

Spectral Response Acceleration for Short Period (S_{ps}):	0.16
Spectral Response Acceleration at 1.0 Second Period (S_{p1}):	0.06
Importance Factor (I_p):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.17
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Period Based on Rayleigh Method (sec):	0.61
Redundancy Factor (ρ):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E

Seismic

Section	Height		Seismic				S_{az}	Horizontal Force (lb)	Vertical Force (lb)
	Above Base (ft)	Weight (lb)	a	b	c				
9	170.00	1,688	1.686	1.069	0.793	0.333	243	2,084	
8	150.00	2,978	1.312	0.138	0.347	0.192	248	3,677	
7	130.00	3,704	0.986	-0.113	0.124	0.122	195	4,573	
6	110.00	4,523	0.706	-0.089	0.031	0.090	177	5,585	
5	90.00	6,087	0.472	-0.006	0.006	0.072	189	7,516	
4	70.00	7,050	0.286	0.048	0.013	0.053	163	8,705	
3	50.00	7,289	0.146	0.068	0.031	0.035	111	9,001	
2	30.00	7,981	0.053	0.071	0.042	0.021	74	9,855	
1	10.00	7,923	0.006	0.047	0.027	0.010	34	9,783	
Generic 5' Omni	180.00	10	1.890	1.980	1.140	0.435	2	12	
dbSpectra ATS4TMA4-4	180.00	50	1.890	1.980	1.140	0.435	9	62	
Generic 8' Omni	180.00	50	1.890	1.980	1.140	0.435	9	62	
Generic 15' Omni	180.00	40	1.890	1.980	1.140	0.435	8	49	
Generic 15' Omni	180.00	40	1.890	1.980	1.140	0.435	8	49	
Generic 15' Omni	180.00	80	1.890	1.980	1.140	0.435	15	99	
Round Side Arm	180.00	300	1.890	1.980	1.140	0.435	57	370	
Round Sector Frame	180.00	300	1.890	1.980	1.140	0.435	57	370	
Generic 13' Omni	170.00	40	1.686	1.069	0.793	0.333	6	49	
Ericsson Radio 4449 B12,B71	166.00	222	1.607	0.802	0.680	0.298	29	274	
Ericsson AIR 21	166.00	273	1.607	0.802	0.680	0.298	35	337	
Ericsson AIR32 B66Aa/B2a	166.00	397	1.607	0.802	0.680	0.298	51	490	
Round Sector Frame	166.00	900	1.607	0.802	0.680	0.298	116	1,111	
RFS APXVAARR24_43-U-NA20	166.00	384	1.607	0.802	0.680	0.298	50	474	
Kaelus DBCT108F1V92-1	157.00	83	1.438	0.359	0.472	0.232	8	103	
Powerwave Allgon LGP21401	157.00	85	1.438	0.359	0.472	0.232	9	104	
Raycap DC6-48-60-18-8F (23.5"	157.00	60	1.438	0.359	0.472	0.232	6	74	
Ericsson RRUS 4426 B66	157.00	145	1.438	0.359	0.472	0.232	15	179	
Ericsson RRUS 4478 B14	157.00	178	1.438	0.359	0.472	0.232	18	220	
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	1.438	0.359	0.472	0.232	17	208	
Ericsson RRUS-11 (50 lbs.)	157.00	150	1.438	0.359	0.472	0.232	15	185	
Ericsson RRUS 32 B2	157.00	159	1.438	0.359	0.472	0.232	16	196	
Ericsson RRUS-32 (77 lbs)	157.00	231	1.438	0.359	0.472	0.232	23	285	
Powerwave Allgon 7770.00	157.00	105	1.438	0.359	0.472	0.232	11	130	
CCI HPA-65R-BUU-H8	157.00	204	1.438	0.359	0.472	0.232	21	252	
CCI TPA-65R-LCUUUU-H8	157.00	245	1.438	0.359	0.472	0.232	25	302	
Round Sector Frame	157.00	900	1.438	0.359	0.472	0.232	91	1,111	
Kathrein Scala 80010966	157.00	344	1.438	0.359	0.472	0.232	35	425	
Generic 15' Omni	156.00	40	1.420	0.322	0.452	0.226	4	49	
Round Side Arm	156.00	150	1.420	0.322	0.452	0.226	15	185	
Samsung Outdoor CBRS 20W	132.00	56	1.016	-0.105	0.140	0.126	3	69	

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Equivalent Modal Analysis Method

Raycap RRFDC-1064-PF-48	132.00	28	1.016	-0.105	0.140	0.126	2	35
Samsung B5/B13 RRH-BR04C	132.00	211	1.016	-0.105	0.140	0.126	12	260
Samsung B2/B66A RRH-BR049	132.00	253	1.016	-0.105	0.140	0.126	14	313
Alcatel-Lucent B25 RRH4x30	132.00	159	1.016	-0.105	0.140	0.126	9	196
Alcatel-Lucent B66A RRH 4x45	132.00	402	1.016	-0.105	0.140	0.126	22	496
Samsung CBRS 64T64R MMU	132.00	225	1.016	-0.105	0.140	0.126	12	278
Andrew LNX-6512DS-A1M	132.00	91	1.016	-0.105	0.140	0.126	5	112
JMA Wireless MX06FRO660-02	132.00	276	1.016	-0.105	0.140	0.126	15	341
Round Sector Frame	132.00	900	1.016	-0.105	0.140	0.126	49	1,111
VZW Unused Reserve: 18126 sq	132.00	1,350	1.016	-0.105	0.140	0.126	74	1,668
Generic GPS	50.00	10	0.146	0.068	0.031	0.035	0	12
Stand-Off	50.00	40	0.146	0.068	0.031	0.035	1	49
		59,557	64.937	26.804	23.838	11.397	2,430	73,539

LoadCase (0.9 - 0.2Sds) * DL + E

Seismic (Reduced DL)

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
9	170.00	1,688	1.686	1.069	0.793	0.333	243	1,460
8	150.00	2,978	1.312	0.138	0.347	0.192	248	2,577
7	130.00	3,704	0.986	-0.113	0.124	0.122	195	3,205
6	110.00	4,523	0.706	-0.089	0.031	0.090	177	3,914
5	90.00	6,087	0.472	-0.006	0.006	0.072	189	5,267
4	70.00	7,050	0.286	0.048	0.013	0.053	163	6,099
3	50.00	7,289	0.146	0.068	0.031	0.035	111	6,307
2	30.00	7,981	0.053	0.071	0.042	0.021	74	6,906
1	10.00	7,923	0.006	0.047	0.027	0.010	34	6,855
Generic 5' Omni	180.00	10	1.890	1.980	1.140	0.435	2	9
dbSpectra ATS4TMA4-4	180.00	50	1.890	1.980	1.140	0.435	9	43
Generic 8' Omni	180.00	50	1.890	1.980	1.140	0.435	9	43
Generic 15' Omni	180.00	40	1.890	1.980	1.140	0.435	8	35
Generic 15' Omni	180.00	40	1.890	1.980	1.140	0.435	8	35
Generic 15' Omni	180.00	80	1.890	1.980	1.140	0.435	15	69
Round Side Arm	180.00	300	1.890	1.980	1.140	0.435	57	260
Round Sector Frame	180.00	300	1.890	1.980	1.140	0.435	57	260
Generic 13' Omni	170.00	40	1.686	1.069	0.793	0.333	6	35
Ericsson Radio 4449 B12,B71	166.00	222	1.607	0.802	0.680	0.298	29	192
Ericsson AIR 21	166.00	273	1.607	0.802	0.680	0.298	35	236
Ericsson AIR32 B66Aa/B2a	166.00	397	1.607	0.802	0.680	0.298	51	343
Round Sector Frame	166.00	900	1.607	0.802	0.680	0.298	116	779
RFS APXVAARR24_43-U-NA20	166.00	384	1.607	0.802	0.680	0.298	50	332
Kaelus DBCT108F1V92-1	157.00	83	1.438	0.359	0.472	0.232	8	72
Powerwave Allgon LGP21401	157.00	85	1.438	0.359	0.472	0.232	9	73
Raycap DC6-48-60-18-8F (23.5"	157.00	60	1.438	0.359	0.472	0.232	6	52
Ericsson RRUS 4426 B66	157.00	145	1.438	0.359	0.472	0.232	15	126
Ericsson RRUS 4478 B14	157.00	178	1.438	0.359	0.472	0.232	18	154
Ericsson RRUS 4478 B5 (56.1 lbs)	157.00	168	1.438	0.359	0.472	0.232	17	146
Ericsson RRUS-11 (50 lbs.)	157.00	150	1.438	0.359	0.472	0.232	15	130
Ericsson RRUS 32 B2	157.00	159	1.438	0.359	0.472	0.232	16	138
Ericsson RRUS-32 (77 lbs)	157.00	231	1.438	0.359	0.472	0.232	23	200
Powerwave Allgon 7770.00	157.00	105	1.438	0.359	0.472	0.232	11	91
CCI HPA-65R-BUU-H8	157.00	204	1.438	0.359	0.472	0.232	21	177
CCI TPA-65R-LCUUUU-H8	157.00	245	1.438	0.359	0.472	0.232	25	212
Round Sector Frame	157.00	900	1.438	0.359	0.472	0.232	91	779
Kathrein Scala 80010966	157.00	344	1.438	0.359	0.472	0.232	35	297
Generic 15' Omni	156.00	40	1.420	0.322	0.452	0.226	4	35
Round Side Arm	156.00	150	1.420	0.322	0.452	0.226	15	130
Samsung Outdoor CBRS 20W	132.00	56	1.016	-0.105	0.140	0.126	3	48
Raycap RRFDC-1064-PF-48	132.00	28	1.016	-0.105	0.140	0.126	2	24
Samsung B5/B13 RRH-BR04C	132.00	211	1.016	-0.105	0.140	0.126	12	182
Samsung B2/B66A RRH-BR049	132.00	253	1.016	-0.105	0.140	0.126	14	219
Alcatel-Lucent B25 RRH4x30	132.00	159	1.016	-0.105	0.140	0.126	9	138
Alcatel-Lucent B66A RRH 4x45	132.00	402	1.016	-0.105	0.140	0.126	22	348

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Equivalent Modal Analysis Method

Samsung CBRS 64T64R MMU	132.00	225	1.016	-0.105	0.140	0.126	12	195
Andrew LNX-6512DS-A1M	132.00	91	1.016	-0.105	0.140	0.126	5	78
JMA Wireless MX06FRO660-02	132.00	276	1.016	-0.105	0.140	0.126	15	239
Round Sector Frame	132.00	900	1.016	-0.105	0.140	0.126	49	779
VZW Unused Reserve: 18126 sq	132.00	1,350	1.016	-0.105	0.140	0.126	74	1,168
Generic GPS	50.00	10	0.146	0.068	0.031	0.035	0	9
Stand-Off	50.00	40	0.146	0.068	0.031	0.035	1	35
		59,557	64.937	26.804	23.838	11.397	2,430	51,530

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PX - 12" DIA PIPE	-301.06	1.2D + 1.6W Normal	10.02	100	100	100	27.8	50.0	816.60	0	0	0.00	0.00	36 Member X
HORIZ	PST - 3" DIA PIPE	-8.41	1.2D + 1.6W 90 deg	12.17	100	100	100	125.9	50.0	31.77	2	0	0.00	0.00	26 Member X
DIAG	PST - 3-1/2" DIA PIP	-13.05	1.2D + 1.6W 90 deg	15.75	100	100	100	141.1	50.0	30.41	3	0	0.00	0.00	42 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 - 12" DIA PIPE	260.63	0.9D + 1.6W 60 deg	50	65	864.00	0	0	0.00	0.00		30	Member		
HORIZ	PST - 3" DIA PIPE	9.90	1.2D + 1.6W 90 deg	50	65	100.35	2	0	0.00	32.43	0.00	30	Bolt Bear		
DIAG	PST - 3-1/2" DIA PIP	12.18	0.9D + 1.6W 90 deg	50	65	120.60	3	0	0.00	55.09	0.00	22	Bolt Bear		
Max Splice Forces															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		246.74	0.9D + 1.6W 60 deg	0.00	0	0									
Top Compression		284.88	1.2D + 1.6W Normal	0.00	0										
Bot Tension		273.12	0.9D + 1.6W 60 deg	1453.79	23	24	1" A354-BC								
Bot Compression		314.71	1.2D + 1.6W Normal	0.00	0										

Section: 2		1		Bot Elev (ft): 20.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PX - 12" DIA PIPE	-272.16	1.2D + 1.6W Normal	10.03	100	100	100	27.8	50.0	816.53	0	0	0.00	0.00	33 Member X
HORIZ	PST - 3" DIA PIPE	-7.74	1.2D + 1.6W 90 deg	10.88	100	100	100	112.6	50.0	39.73	2	0	0.00	0.00	19 Member X
DIAG	PST - 3-1/2" DIA PIP	-11.72	1.2D + 1.6W 90 deg	15.29	100	100	100	137.0	50.0	32.26	3	0	0.00	0.00	36 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 - 12" DIA PIPE	236.37	0.9D + 1.6W 60 deg	50	65	864.00	0	0	0.00	0.00		27	Member		
HORIZ	PST - 3" DIA PIPE	8.35	1.2D + 1.6W 90 deg	50	65	100.35	2	0	0.00	32.43	0.00	25	Bolt Bear		
DIAG	PST - 3-1/2" DIA PIP	10.49	1.2D + 1.6W 90 deg	50	65	120.60	3	0	0.00	55.09	0.00	19	Bolt Bear		
Max Splice Forces															
		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		223.79	0.9D + 1.6W 60 deg	0.00	0	0									
Top Compression		256.79	1.2D + 1.6W Normal	0.00	0										
Bot Tension		246.74	0.9D + 1.6W 60 deg	872.27	28	16	1 A325								
Bot Compression		0.00		0.00	0										

Force/Stress Summary

Section: 3		1		Bot Elev (ft): 40.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 10" DIA PIPE	-241.07	1.2D + 1.6W Normal	10.03	100	100	100	33.1	50.0	668.58	0	0	0.00	0.00	36 Member X
HORIZ	PST - 2-1/2" DIA PIP	-8.17	1.2D + 1.6W 90 deg	9.570	100	100	100	121.3	50.0	26.18	2	0	0.00	0.00	31 Member X
DIAG	PX - 3" DIA PIPE	-12.87	1.2D + 1.6W 90 deg	14.28	100	100	100	150.4	50.0	30.17	3	0	0.00	0.00	42 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	210.69	0.9D + 1.6W 60 deg	50	65	724.50	0	0	0.00	0.00		29	Member		
HORIZ	PST - 2-1/2" DIA PIP	8.61	1.2D + 1.6W 90 deg	50	65	76.68	2	0	0.00	30.48	0.00	28	Bolt Bear		
DIAG	PX - 3" DIA PIPE	11.82	1.2D + 1.6W 90 deg	50	65	135.90	3	0	0.00	73.13	0.00	16	Bolt Bear		
Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		195.48	0.9D + 1.6W 60 deg	0.00	0	0									
Top Compression		223.27	1.2D + 1.6W Normal	0.00	0										
Bot Tension		223.79	0.9D + 1.6W 60 deg	872.27	26	16	1 A325								
Bot Compression		0.00		0.00	0										

Section: 4		1		Bot Elev (ft): 60.00				Height (ft): 20.000							
Max Compression Member		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PX - 10" DIA PIPE	-207.27	1.2D + 1.6W Normal	10.03	100	100	100	33.2	50.0	668.56	0	0	0.00	0.00	31 Member X
HORIZ	PST - 2-1/2" DIA PIP	-7.40	1.2D + 1.6W 90 deg	8.298	100	100	100	105.1	50.0	34.17	2	0	0.00	0.00	21 Member X
DIAG	PX - 3" DIA PIPE	-12.52	1.2D + 1.6W 90 deg	13.42	100	100	100	141.3	50.0	34.18	3	0	0.00	0.00	36 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	181.88	0.9D + 1.6W 60 deg	50	65	724.50	0	0	0.00	0.00		25	Member		
HORIZ	PST - 2-1/2" DIA PIP	7.75	1.2D + 1.6W 90 deg	50	65	76.68	2	0	0.00	30.48	0.00	25	Bolt Bear		
DIAG	PX - 3" DIA PIPE	11.57	1.2D + 1.6W 90 deg	50	65	135.90	3	0	0.00	73.13	0.00	15	Bolt Bear		
Max Splice Forces		Pu (kip)	Load Case	phiRnt (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		166.22	0.9D + 1.6W 60 deg	0.00	0	0									
Top Compression		189.19	1.2D + 1.6W Normal	0.00	0										
Bot Tension		195.48	0.9D + 1.6W 60 deg	654.20	30	12	1 A325								
Bot Compression		0.00		0.00	0										

Site Number: 411183

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 5		1		Bot Elev (ft): 80.00				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - 8.75" OD x 0.5	-171.20	1.2D + 1.6W Normal	10.03	100	100	100	41.2	50.0	515.18	0	0	0.00	0.00	33 Member X
HORIZ	PX - 2" DIA PIPE	-7.16	1.2D + 1.6W 90 deg	7.035	100	100	100	110.2	50.0	27.40	2	0	0.00	0.00	26 Member X
DIAG	PX - 3" DIA PIPE	-13.10	1.2D + 1.6W 90 deg	12.59	100	100	100	132.6	50.0	38.81	3	0	0.00	0.00	33 Member X
Max Tension Member															
LEG	PSP - 8.75" OD x 0.5	147.83	1.2D + 1.6W 60 deg	50	65	583.15	0	0	0.00	0.00	0	0			25 Member
HORIZ	PX - 2" DIA PIPE	7.37	1.2D + 1.6W 90 deg	50	65	66.60	2	0	0.00	32.73	0	0	0.00	0.00	22 Bolt Bear
DIAG	PX - 3" DIA PIPE	12.70	1.2D + 1.6W 90 deg	50	65	135.90	3	0	0.00	73.13	0	0	0.00	0.00	17 Bolt Bear
Max Splice Forces															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
	Top Tension	132.14	0.9D + 1.6W 60 deg			0.00	0	0							
	Top Compression	150.88	1.2D + 1.6W Normal			0.00	0								
	Bot Tension	166.22	0.9D + 1.6W 60 deg			654.20	25	12	1 A325						
	Bot Compression	0.00				0.00	0								

Section: 6		1		Bot Elev (ft): 100.0				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PX - 6" DIA PIPE	-136.97	1.2D + 1.6W Normal	6.68	100	100	100	36.5	50.0	342.89	0	0	0.00	0.00	39 Member X
HORIZ	PST - 2" DIA PIPE	-7.22	1.2D + 1.6W 90 deg	6.072	100	100	100	92.6	50.0	25.73	2	0	0.00	0.00	28 Member X
DIAG	PST - 2-1/2" DIA PIP	-11.17	1.2D + 1.6W 90 deg	9.258	100	100	100	117.3	50.0	27.97	3	0	0.00	0.00	39 Member X
Max Tension Member															
LEG	PX - 6" DIA PIPE	117.70	1.2D + 1.6W 60 deg	50	65	378.00	0	0	0.00	0.00	0	0			31 Member
HORIZ	PST - 2" DIA PIPE	7.36	1.2D + 1.6W 90 deg	50	65	48.15	2	0	0.00	19.22	0	0	0.00	0.00	38 Bolt Bear
DIAG	PST - 2-1/2" DIA PIP	11.13	0.9D + 1.6W 90 deg	50	65	76.68	3	0	0.00	41.17	0	0	0.00	0.00	27 Bolt Bear
Max Splice Forces															
		Pu (kip)	Load Case			phiRnt (kip)	Use %	Num Bolts	Bolt Type						
	Top Tension	90.87	0.9D + 1.6W 60 deg			0.00	0	0							
	Top Compression	106.07	1.2D + 1.6W Normal			0.00	0								
	Bot Tension	132.14	0.9D + 1.6W 60 deg			436.14	30	8	1 A325						
	Bot Compression	0.00				0.00	0								

Force/Stress Summary

Section: 7		1		Bot Elev (ft): 120.0				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - ROHN 5 EH	-90.65	1.2D + 1.6W Normal	6.68	100	100	100	43.6	50.0	239.34	0	0	0.00	0.00	37 Member X
HORIZ	PST - 1-1/2" DIA PIP	-6.92	1.2D + 1.6W 90 deg	5.030	100	100	100	96.9	50.0	18.10	2	0	0.00	0.00	38 Member X
DIAG	PST - 2-1/2" DIA PIP	-11.74	1.2D + 1.6W 90 deg	8.566	100	100	100	108.5	50.0	32.40	3	0	0.00	0.00	36 Member X
Max Tension Member															
LEG	PSP - ROHN 5 EH	74.62	1.2D + 1.6W 60 deg	50	65	274.95	0	0	0.00	0.00				27 Member	
HORIZ	PST - 1-1/2" DIA PIP	7.02	1.2D + 1.6W 90 deg	50	65	35.96	2	0	0.00	18.10			0.00	38 Bolt Bear	
DIAG	PST - 2-1/2" DIA PIP	11.64	1.2D + 1.6W 90 deg	50	65	76.68	3	0	0.00	41.17			0.00	28 Bolt Bear	
Max Splice Forces															
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type							
	Top Tension	49.65	0.9D + 1.6W 60 deg		0.00	0	0								
	Top Compression	59.79	1.2D + 1.6W Normal		0.00	0									
	Bot Tension	90.87	0.9D + 1.6W 60 deg		327.10	28	6	1 A325							
	Bot Compression	0.00			0.00	0									

Section: 8		1		Bot Elev (ft): 140.0				Height (ft): 20.000							
		Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic (kip)	Pn Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
Max Compression Member															
LEG	PST - 4" DIA PIPE	-44.20	1.2D + 1.6W Normal	6.67	100	100	100	53.0	50.0	116.18	0	0	0.00	0.00	38 Member X
HORIZ	PST - 2" DIA PIPE	-5.43	1.2D + 1.6W 90 deg	4.325	100	100	100	66.0	50.0	35.03	2	0	0.00	0.00	15 Member X
DIAG	PST - 2-1/2" DIA PIP	-10.65	1.2D + 1.6W 90 deg	7.955	100	100	100	100.8	50.0	36.48	3	0	0.00	0.00	29 Member X
Max Tension Member															
LEG	PST - 4" DIA PIPE	34.97	0.9D + 1.6W 60 deg	50	65	142.65	0	0	0.00	0.00				24 Member	
HORIZ	PST - 2" DIA PIPE	5.53	1.2D + 1.6W 90 deg	50	65	48.15	2	0	0.00	19.22			0.00	28 Bolt Bear	
DIAG	PST - 2-1/2" DIA PIP	10.41	1.2D + 1.6W 90 deg	50	65	76.68	3	0	0.00	41.17			0.00	25 Bolt Bear	
Max Splice Forces															
		Pu (kip)	Load Case		phiRnt (kip)	Use %	Num Bolts	Bolt Type							
	Top Tension	9.49	0.9D + 1.6W 60 deg		0.00	0	0								
	Top Compression	16.51	1.2D + 1.6W Normal		0.00	0									
	Bot Tension	49.65	0.9D + 1.6W 60 deg		218.07	23	4	1 A325							
	Bot Compression	0.00			0.00	0									

Site Number: 411183

Code: ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Force/Stress Summary

Section: 9		1		Bot Elev (ft): 160.0				Height (ft): 20.000							
		Pu	Load Case	Len	Bracing %			F'y	Phic Pn Num	Num	Shear phiRnv	Bear phiRn	Use		
		(kip)		(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	% Controls	
Max Compression Member															
LEG	PST - 3" DIA PIPE	-8.08	1.2D + 1.6W Normal	6.67	100	100	100	69.0	50.0	70.87	0	0	0.00	0.00	11 Member X
HORIZ	PST - 1-1/2" DIA PIP	-2.47	1.2D + 1.6W Normal	4.280	100	100	100	82.4	50.0	21.87	2	0	0.00	0.00	11 Member X
DIAG	PST - 2" DIA PIPE	-4.52	1.2D + 1.6W 90 deg	7.931	100	100	100	120.9	50.0	16.53	3	0	0.00	0.00	27 Member X
Max Tension Member															
LEG	PST - 3" DIA PIPE	4.05	0.9D + 1.6W 60 deg	50	65	100.35	0	0	0.00	0.00				4 Member	
HORIZ	PST - 1-1/2" DIA PIP	2.40	1.2D + 1.6W 60 deg	50	65	35.96	2	0	0.00	18.10			0.00	13 Bolt Bear	
DIAG	PST - 2" DIA PIPE	4.39	1.2D + 1.6W 90 deg	50	65	48.15	3	0	0.00	31.23			0.00	14 Bolt Bear	
Max Splice Forces															
		Pu	Load Case		phiRnt	Use	Num								
		(kip)			(kip)	%	Bolts	Bolt Type							
	Top Tension	0.00			0.00	0	0								
	Top Compression	1.13	1.2D + 1.0Di + 1.0Wi		0.00	0									
	Bot Tension	9.49	0.9D + 1.6W 60 deg		166.22	6	4	0.875" A325							
	Bot Compression	0.00			0.00	0									

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	14.75	00.00	0	1	0.00	313.62	-36.00	
	14.75	00.00	120	1a	10.38	-121.08	-11.31	
	14.75	00.00	240	1b	-10.38	-121.08	-11.31	
1.2D + 1.6W 60 deg	14.75	00.00	0	1	-4.50	168.72	-19.18	
	14.75	00.00	120	1a	-18.85	168.05	5.70	
	14.75	00.00	240	1b	-27.41	-265.31	-15.82	
1.2D + 1.6W 90 deg	14.75	00.00	0	1	-5.26	23.82	-2.30	
	14.75	00.00	120	1a	-28.55	274.02	13.51	
	14.75	00.00	240	1b	-24.79	-226.38	-11.21	
0.9D + 1.6W Normal	14.75	00.00	0	1	0.00	307.48	-35.42	
	14.75	00.00	120	1a	10.87	-126.94	-11.60	
	14.75	00.00	240	1b	-10.87	-126.94	-11.60	
0.9D + 1.6W 60 deg	14.75	00.00	0	1	-4.50	162.68	-18.61	
	14.75	00.00	120	1a	-18.35	162.01	5.40	
	14.75	00.00	240	1b	-27.90	-271.08	-16.10	
0.9D + 1.6W 90 deg	14.75	00.00	0	1	-5.27	17.87	-1.73	
	14.75	00.00	120	1a	-28.05	267.91	13.22	
	14.75	00.00	240	1b	-25.29	-232.18	-11.49	
1.2D + 1.0Di + 1.0Wi Normal	14.75	00.00	0	1	0.00	152.13	-15.18	
	14.75	00.00	120	1a	0.52	12.37	-2.07	
	14.75	00.00	240	1b	-0.52	12.37	-2.07	
1.2D + 1.0Di + 1.0Wi 60 deg	14.75	00.00	0	1	-1.53	105.54	-9.63	
	14.75	00.00	120	1a	-9.10	105.37	3.49	
	14.75	00.00	240	1b	-6.11	-34.05	-3.53	
1.2D + 1.0Di + 1.0Wi 90 deg	14.75	00.00	0	1	-1.77	58.95	-4.07	
	14.75	00.00	120	1a	-12.29	139.45	6.08	
	14.75	00.00	240	1b	-5.27	-21.54	-2.01	
(1.2 + 0.2Sds) * DL + E Normal M1	14.75	00.00	0	1	0.00	45.42	-4.70	
	14.75	00.00	120	1a	-1.17	13.08	0.37	
	14.75	00.00	240	1b	1.17	13.08	0.37	
(1.2 + 0.2Sds) * DL + E Normal M2	14.75	00.00	0	1	0.00	38.28	-3.80	
	14.75	00.00	120	1a	-1.49	16.65	0.70	
	14.75	00.00	240	1b	1.49	16.65	0.70	
(1.2 + 0.2Sds) * DL + E 60 deg M1	14.75	00.00	0	1	-0.26	34.64	-3.53	
	14.75	00.00	120	1a	-3.19	34.64	1.54	
	14.75	00.00	240	1b	0.03	2.31	0.02	
(1.2 + 0.2Sds) * DL + E 60 deg M2	14.75	00.00	0	1	-0.14	30.98	-3.08	
	14.75	00.00	120	1a	-2.73	30.98	1.42	
	14.75	00.00	240	1b	0.82	9.63	0.47	
(1.2 + 0.2Sds) * DL + E 90 deg M1	14.75	00.00	0	1	-0.31	23.86	-2.36	
	14.75	00.00	120	1a	-3.87	42.53	2.06	
	14.75	00.00	240	1b	0.22	5.19	0.31	
(1.2 + 0.2Sds) * DL + E 90 deg M2	14.75	00.00	0	1	-0.16	23.86	-2.36	
	14.75	00.00	120	1a	-3.17	36.35	1.74	

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11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

	14.75	00.00	240	1b	0.93	11.37	0.63
(0.9 - 0.2Sds) * DL + E Normal M1	14.75	00.00	0	1	0.00	38.26	-3.99
	14.75	00.00	120	1a	-0.56	5.95	0.02
	14.75	00.00	240	1b	0.56	5.95	0.02
(0.9 - 0.2Sds) * DL + E Normal M2	14.75	00.00	0	1	0.00	31.13	-3.10
	14.75	00.00	120	1a	-0.88	9.51	0.35
	14.75	00.00	240	1b	0.88	9.51	0.35
(0.9 - 0.2Sds) * DL + E 60 deg M1	14.75	00.00	0	1	-0.27	27.49	-2.82
	14.75	00.00	120	1a	-2.58	27.49	1.18
	14.75	00.00	240	1b	-0.58	-4.82	-0.34
(0.9 - 0.2Sds) * DL + E 60 deg M2	14.75	00.00	0	1	-0.14	23.83	-2.37
	14.75	00.00	120	1a	-2.12	23.83	1.07
	14.75	00.00	240	1b	0.20	2.50	0.12
(0.9 - 0.2Sds) * DL + E 90 deg M1	14.75	00.00	0	1	-0.31	16.72	-1.66
	14.75	00.00	120	1a	-3.26	35.37	1.71
	14.75	00.00	240	1b	-0.39	-1.93	-0.05
(0.9 - 0.2Sds) * DL + E 90 deg M2	14.75	00.00	0	1	-0.16	16.72	-1.66
	14.75	00.00	120	1a	-2.55	29.20	1.38
	14.75	00.00	240	1b	0.32	4.24	0.27
1.0D + 1.0W Service Normal	14.75	00.00	0	1	0.00	79.71	-8.94
	14.75	00.00	120	1a	0.91	-10.08	-1.63
	14.75	00.00	240	1b	-0.91	-10.08	-1.63
1.0D + 1.0W Service 60 deg	14.75	00.00	0	1	-0.95	49.78	-5.43
	14.75	00.00	120	1a	-5.17	49.65	1.89
	14.75	00.00	240	1b	-4.43	-39.87	-2.56
1.0D + 1.0W Service 90 deg	14.75	00.00	0	1	-1.10	19.85	-1.92
	14.75	00.00	120	1a	-7.20	71.54	3.52
	14.75	00.00	240	1b	-3.89	-31.83	-1.61

Max Uplift:	271.08 (kip)	Moment Ice:	2,061.69 (kip-ft)	Moment:	6,412.30 (kip-ft)	1.2D + 1.6W Normal
Max Down:	313.62 (kip)	Total Down Ice:	176.86 (kip)	Total Down:	71.47 (kip)	
Max Shear:	36.00 (kip)	Total Shear Ice:	19.33 (kip)	Total Shear:	58.61 (kip)	

Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
105 mph Normal with No Ice	50.00	0.056	0.0055	0.1128	0.1129
105 mph Normal with No Ice	133.33	0.388	0.0109	0.3750	0.3751
105 mph Normal with No Ice	153.33	0.530	0.0046	0.4248	0.4248
105 mph Normal with No Ice	160.00	0.583	0.0024	0.5542	0.5543
105 mph Normal with No Ice	166.67	0.637	0.0008	0.4265	0.4265
105 mph Normal with No Ice	180.00	0.744	0.0071	0.8176	0.8176
105 mph 60 degree with No Ice	50.00	0.056	0.0070	0.1126	0.1127
105 mph 60 degree with No Ice	133.33	0.386	0.0264	0.3715	0.3716
105 mph 60 degree with No Ice	153.33	0.527	0.0428	0.4537	0.4554
105 mph 60 degree with No Ice	160.00	0.579	0.0492	0.4144	0.4173
105 mph 60 degree with No Ice	166.67	0.631	0.0594	0.4682	0.4720
105 mph 60 degree with No Ice	180.00	0.735	0.0843	0.4176	0.4260
105 mph 90 degree with No Ice	50.00	0.056	-0.0071	0.1126	0.1128
105 mph 90 degree with No Ice	133.33	0.386	-0.0204	0.3704	0.3710
105 mph 90 degree with No Ice	153.33	0.526	-0.0261	0.4633	0.4641
105 mph 90 degree with No Ice	160.00	0.577	-0.0286	0.3551	0.3563
105 mph 90 degree with No Ice	166.67	0.629	-0.0320	0.4812	0.4814
105 mph 90 degree with No Ice	180.00	0.732	-0.0391	0.0875	0.0952
105 mph Normal with No Ice (Reduced DL)	50.00	0.056	0.0055	0.1127	0.1129
105 mph Normal with No Ice (Reduced DL)	133.33	0.388	0.0109	0.3745	0.3747
105 mph Normal with No Ice (Reduced DL)	153.33	0.529	0.0046	0.4242	0.4243
105 mph Normal with No Ice (Reduced DL)	160.00	0.583	0.0024	0.5537	0.5537
105 mph Normal with No Ice (Reduced DL)	166.67	0.636	0.0008	0.4260	0.4260
105 mph Normal with No Ice (Reduced DL)	180.00	0.743	0.0071	0.8170	0.8171
105 mph 60 deg with No Ice (Reduced DL)	50.00	0.056	0.0070	0.1125	0.1126
105 mph 60 deg with No Ice (Reduced DL)	133.33	0.386	0.0264	0.3712	0.3712
105 mph 60 deg with No Ice (Reduced DL)	153.33	0.526	0.0427	0.4532	0.4549
105 mph 60 deg with No Ice (Reduced DL)	160.00	0.578	0.0492	0.4139	0.4168
105 mph 60 deg with No Ice (Reduced DL)	166.67	0.631	0.0594	0.4677	0.4714
105 mph 60 deg with No Ice (Reduced DL)	180.00	0.734	0.0842	0.4172	0.4256
105 mph 90 deg with No Ice (Reduced DL)	50.00	0.056	-0.0071	0.1125	0.1127
105 mph 90 deg with No Ice (Reduced DL)	133.33	0.386	-0.0204	0.3700	0.3706
105 mph 90 deg with No Ice (Reduced DL)	153.33	0.525	-0.0261	0.4628	0.4635
105 mph 90 deg with No Ice (Reduced DL)	160.00	0.577	-0.0286	0.3546	0.3558
105 mph 90 deg with No Ice (Reduced DL)	166.67	0.629	-0.0320	0.4806	0.4809
105 mph 90 deg with No Ice (Reduced DL)	180.00	0.731	-0.0391	0.0869	0.0947
50 mph Normal with 0.75 in Radial Ice	50.00	0.019	0.0018	0.0365	0.0366
50 mph Normal with 0.75 in Radial Ice	133.33	0.122	0.0037	0.1139	0.1140
50 mph Normal with 0.75 in Radial Ice	153.33	0.165	0.0020	0.1299	0.1299
50 mph Normal with 0.75 in Radial Ice	160.00	0.181	0.0014	0.1545	0.1545
50 mph Normal with 0.75 in Radial Ice	166.67	0.197	0.0003	0.1351	0.1351
50 mph Normal with 0.75 in Radial Ice	180.00	0.229	0.0017	0.2505	0.2505
50 mph 60 deg with 0.75 in Radial Ice	50.00	0.020	0.0020	0.0364	0.0364
50 mph 60 deg with 0.75 in Radial Ice	133.33	0.122	0.0055	0.1130	0.1130
50 mph 60 deg with 0.75 in Radial Ice	153.33	0.164	0.0065	0.1343	0.1344
50 mph 60 deg with 0.75 in Radial Ice	160.00	0.180	0.0070	0.1278	0.1280
50 mph 60 deg with 0.75 in Radial Ice	166.67	0.196	0.0078	0.1376	0.1378
50 mph 60 deg with 0.75 in Radial Ice	180.00	0.227	0.0111	0.1270	0.1275
50 mph 90 deg with 0.75 in Radial Ice	50.00	0.020	-0.0023	0.0364	0.0365
50 mph 90 deg with 0.75 in Radial Ice	133.33	0.122	-0.0063	0.1127	0.1127
50 mph 90 deg with 0.75 in Radial Ice	153.33	0.164	-0.0078	0.1360	0.1362
50 mph 90 deg with 0.75 in Radial Ice	160.00	0.179	-0.0084	0.1175	0.1178
50 mph 90 deg with 0.75 in Radial Ice	166.67	0.195	-0.0095	0.1386	0.1387
50 mph 90 deg with 0.75 in Radial Ice	180.00	0.226	-0.0117	0.0226	0.0250
Seismic Normal M1	50.00	0.004	0.0005	0.0086	0.0086

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Seismic Normal M1	133.33	0.030	0.0013	0.0292	0.0292
Seismic Normal M1	153.33	0.041	0.0012	0.0344	0.0344
Seismic Normal M1	160.00	0.045	0.0012	0.0353	0.0353
Seismic Normal M1	166.67	0.049	0.0012	0.0363	0.0363
Seismic Normal M1	180.00	0.057	0.0011	0.0356	0.0356
Seismic Normal M2	50.00	0.003	0.0003	0.0057	0.0057
Seismic Normal M2	133.33	0.021	0.0009	0.0229	0.0229
Seismic Normal M2	153.33	0.030	0.0009	0.0284	0.0284
Seismic Normal M2	160.00	0.033	0.0009	0.0295	0.0295
Seismic Normal M2	166.67	0.037	0.0008	0.0306	0.0306
Seismic Normal M2	180.00	0.044	0.0008	0.0299	0.0299
Seismic 60 deg M1	50.00	0.004	0.0005	0.0086	0.0086
Seismic 60 deg M1	133.33	0.030	0.0013	0.0292	0.0292
Seismic 60 deg M1	153.33	0.041	0.0012	0.0344	0.0344
Seismic 60 deg M1	160.00	0.045	0.0012	0.0353	0.0353
Seismic 60 deg M1	166.67	0.049	0.0012	0.0363	0.0363
Seismic 60 deg M1	180.00	0.057	0.0011	0.0358	0.0358
Seismic 60 deg M2	50.00	0.003	0.0003	0.0056	0.0056
Seismic 60 deg M2	133.33	0.021	0.0009	0.0226	0.0226
Seismic 60 deg M2	153.33	0.030	0.0008	0.0280	0.0280
Seismic 60 deg M2	160.00	0.033	0.0008	0.0290	0.0290
Seismic 60 deg M2	166.67	0.036	0.0008	0.0301	0.0302
Seismic 60 deg M2	180.00	0.043	0.0007	0.0296	0.0296
Seismic 90 deg M1	50.00	0.004	-0.0005	0.0086	0.0086
Seismic 90 deg M1	133.33	0.030	-0.0015	0.0292	0.0292
Seismic 90 deg M1	153.33	0.041	-0.0014	0.0344	0.0344
Seismic 90 deg M1	160.00	0.045	-0.0014	0.0353	0.0353
Seismic 90 deg M1	166.67	0.049	-0.0014	0.0363	0.0363
Seismic 90 deg M1	180.00	0.057	-0.0013	0.0357	0.0357
Seismic 90 deg M2	50.00	0.003	-0.0003	0.0057	0.0057
Seismic 90 deg M2	133.33	0.021	-0.0010	0.0229	0.0229
Seismic 90 deg M2	153.33	0.030	-0.0010	0.0284	0.0284
Seismic 90 deg M2	160.00	0.033	-0.0010	0.0295	0.0295
Seismic 90 deg M2	166.67	0.037	-0.0010	0.0306	0.0306
Seismic 90 deg M2	180.00	0.044	-0.0009	0.0300	0.0300
Seismic (Reduced DL) Normal M1	50.00	0.004	0.0005	0.0085	0.0085
Seismic (Reduced DL) Normal M1	133.33	0.029	0.0013	0.0291	0.0291
Seismic (Reduced DL) Normal M1	153.33	0.041	0.0012	0.0344	0.0344
Seismic (Reduced DL) Normal M1	160.00	0.045	0.0012	0.0353	0.0353
Seismic (Reduced DL) Normal M1	166.67	0.049	0.0012	0.0362	0.0362
Seismic (Reduced DL) Normal M1	180.00	0.057	0.0011	0.0355	0.0356
Seismic (Reduced DL) Normal M2	50.00	0.003	0.0003	0.0057	0.0057
Seismic (Reduced DL) Normal M2	133.33	0.021	0.0009	0.0228	0.0228
Seismic (Reduced DL) Normal M2	153.33	0.030	0.0009	0.0284	0.0284
Seismic (Reduced DL) Normal M2	160.00	0.033	0.0009	0.0294	0.0294
Seismic (Reduced DL) Normal M2	166.67	0.037	0.0008	0.0305	0.0305
Seismic (Reduced DL) Normal M2	180.00	0.044	0.0008	0.0298	0.0298
Seismic (Reduced DL) 60 deg M1	50.00	0.004	0.0005	0.0085	0.0085
Seismic (Reduced DL) 60 deg M1	133.33	0.029	0.0013	0.0291	0.0291
Seismic (Reduced DL) 60 deg M1	153.33	0.041	0.0012	0.0343	0.0343
Seismic (Reduced DL) 60 deg M1	160.00	0.045	0.0012	0.0353	0.0353
Seismic (Reduced DL) 60 deg M1	166.67	0.049	0.0012	0.0362	0.0362
Seismic (Reduced DL) 60 deg M1	180.00	0.057	0.0011	0.0356	0.0356
Seismic (Reduced DL) 60 deg M2	50.00	0.003	0.0003	0.0056	0.0056
Seismic (Reduced DL) 60 deg M2	133.33	0.021	0.0009	0.0225	0.0225
Seismic (Reduced DL) 60 deg M2	153.33	0.030	0.0008	0.0279	0.0279
Seismic (Reduced DL) 60 deg M2	160.00	0.033	0.0008	0.0290	0.0290
Seismic (Reduced DL) 60 deg M2	166.67	0.036	0.0008	0.0301	0.0301
Seismic (Reduced DL) 60 deg M2	180.00	0.043	0.0007	0.0295	0.0295
Seismic (Reduced DL) 90 deg M1	50.00	0.004	-0.0005	0.0085	0.0085
Seismic (Reduced DL) 90 deg M1	133.33	0.029	-0.0015	0.0291	0.0291
Seismic (Reduced DL) 90 deg M1	153.33	0.041	-0.0014	0.0344	0.0344

Site Number: 411183

Code:

ANSI/TIA-222-G

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Site Name: WATERFORD CT, CT

Engineering Number: 12984591_C3_03

11/4/2019 11:03:00 AM

Customer: VERIZON WIRELESS

Seismic (Reduced DL) 90 deg M1	160.00	0.045	-0.0014	0.0353	0.0353
Seismic (Reduced DL) 90 deg M1	166.67	0.049	-0.0013	0.0362	0.0362
Seismic (Reduced DL) 90 deg M1	180.00	0.057	-0.0013	0.0356	0.0356
Seismic (Reduced DL) 90 deg M2	50.00	0.003	-0.0003	0.0057	0.0057
Seismic (Reduced DL) 90 deg M2	133.33	0.021	-0.0010	0.0228	0.0228
Seismic (Reduced DL) 90 deg M2	153.33	0.030	-0.0010	0.0284	0.0284
Seismic (Reduced DL) 90 deg M2	160.00	0.033	-0.0010	0.0294	0.0294
Seismic (Reduced DL) 90 deg M2	166.67	0.037	-0.0010	0.0305	0.0305
Seismic (Reduced DL) 90 deg M2	180.00	0.044	-0.0009	0.0299	0.0299
Serviceability - 60 mph Wind Normal	50.00	0.012	0.0011	0.0233	0.0233
Serviceability - 60 mph Wind Normal	133.33	0.080	0.0022	0.0768	0.0769
Serviceability - 60 mph Wind Normal	153.33	0.109	0.0009	0.0868	0.0868
Serviceability - 60 mph Wind Normal	160.00	0.120	0.0004	0.1132	0.1132
Serviceability - 60 mph Wind Normal	166.67	0.131	0.0002	0.0871	0.0871
Serviceability - 60 mph Wind Normal	180.00	0.152	0.0016	0.1669	0.1669
Serviceability - 60 mph Wind 60 deg	50.00	0.012	0.0012	0.0232	0.0233
Serviceability - 60 mph Wind 60 deg	133.33	0.079	0.0033	0.0759	0.0759
Serviceability - 60 mph Wind 60 deg	153.33	0.108	0.0037	0.0926	0.0927
Serviceability - 60 mph Wind 60 deg	160.00	0.119	0.0039	0.0846	0.0847
Serviceability - 60 mph Wind 60 deg	166.67	0.130	0.0045	0.0956	0.0957
Serviceability - 60 mph Wind 60 deg	180.00	0.151	0.0064	0.0850	0.0852
Serviceability - 60 mph Wind 90 deg	50.00	0.012	-0.0015	0.0233	0.0233
Serviceability - 60 mph Wind 90 deg	133.33	0.079	-0.0041	0.0758	0.0759
Serviceability - 60 mph Wind 90 deg	153.33	0.108	-0.0051	0.0947	0.0948
Serviceability - 60 mph Wind 90 deg	160.00	0.118	-0.0055	0.0726	0.0728
Serviceability - 60 mph Wind 90 deg	166.67	0.129	-0.0062	0.0983	0.0983
Serviceability - 60 mph Wind 90 deg	180.00	0.150	-0.0075	0.0180	0.0193

Maximum Reactions Summary

Anchor Group	Vertical (kip)				Horizontal (kip)		Moment (kip-ft)	
	DL+WL	DL+WL+IL	UpLift	Shear	DL+WL	DL+WL+IL	DL+WL	DL+WL+IL
Base	71.47	176.86	313.62	36.00	58.61	19.33	6412.30	2061.69



AMERICAN TOWER®
CORPORATION

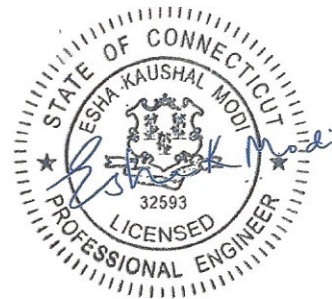
Antenna Mount Analysis Report

ATC Site Name : WATERFORD CT
ATC Site Number : 411183
Engineering Number : 12984591_C8_06
Mount Elevation : 131 ft
Carrier : Verizon Wireless
Carrier Site Name : WATERFORD CT
Carrier Site Number : 15366009
Site Location : 53 Dayton Rd.
Waterford, CT 06385-4274
41.377, -72.141
County : New London
Date : December 5, 2019
Max Usage : 62%
Result : Pass

Prepared By:
Geneva Liljestrand
Structural Engineer

Geneva Liljestrand

Reviewed By:



Authorized by "EOR"
05 Dec 2019 04:41:22

cosign

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 131 ft.

Analysis

Basic Wind Speed:	105 mph (3-Second Gust, Vasd) / 135 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.163$, $S_1 = 0.059$
Site Class:	D - Stiff Soil
Live Loads:	$L_m = 500$ lbs, $L_v = 250$ lbs

Conclusion

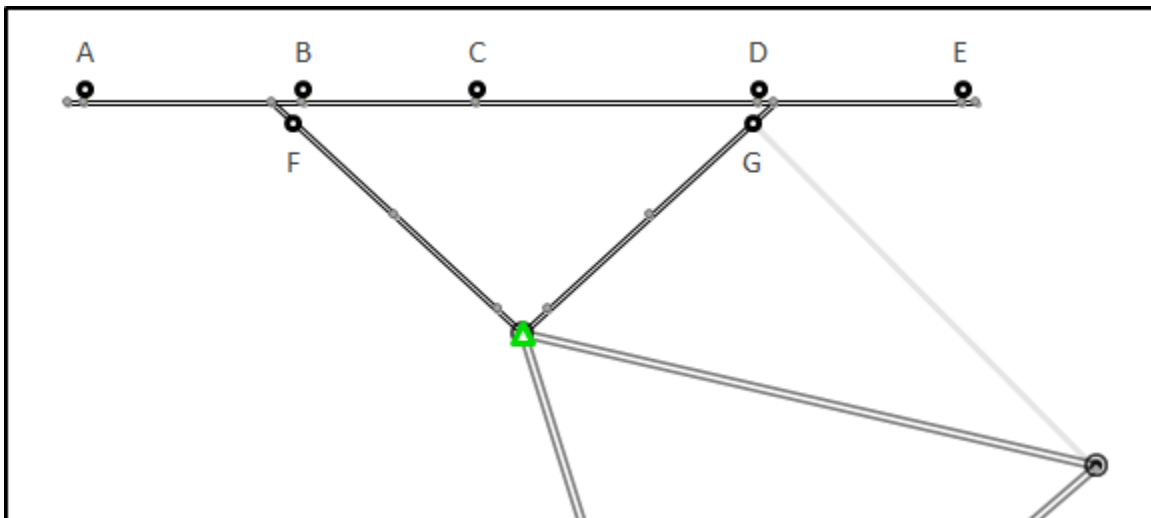
Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

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.

Application Loading

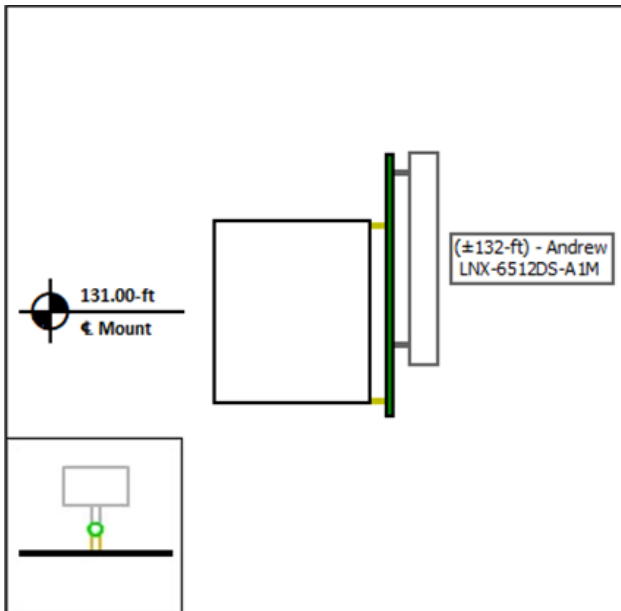
Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
131.0	132.0	3	Samsung Outdoor CBRS 20W RRH
		2	Raycap RRFDC-1064-PF-48
		3	Samsung B5/B13 RRH-BR04C
		3	Samsung B2/B66A RRH-BR049
		3	Samsung CBRS 64T64R MMU
		3	Andrew LNX-6512DS-A1M
		6	JMA Wireless MX06FRO660-02

Mount Layout

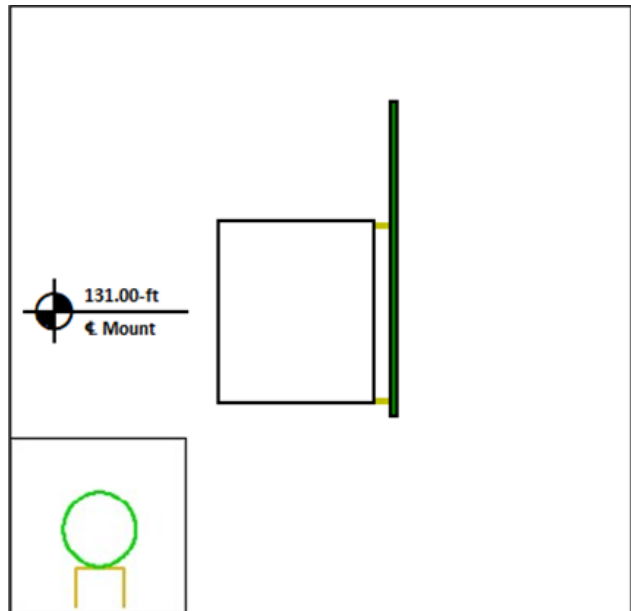


Equipment Layout

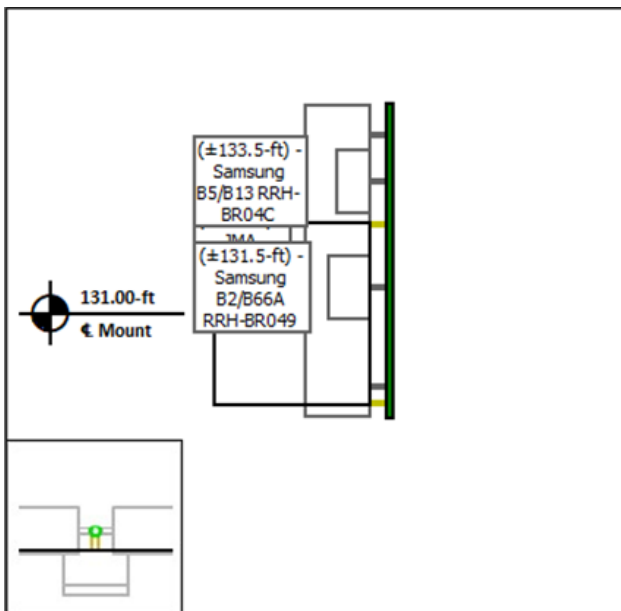
Mount Pipe A



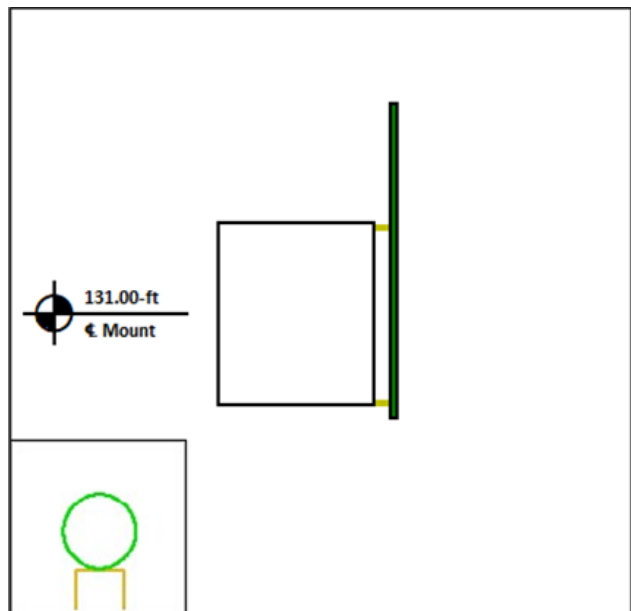
Mount Pipe B



Mount Pipe C

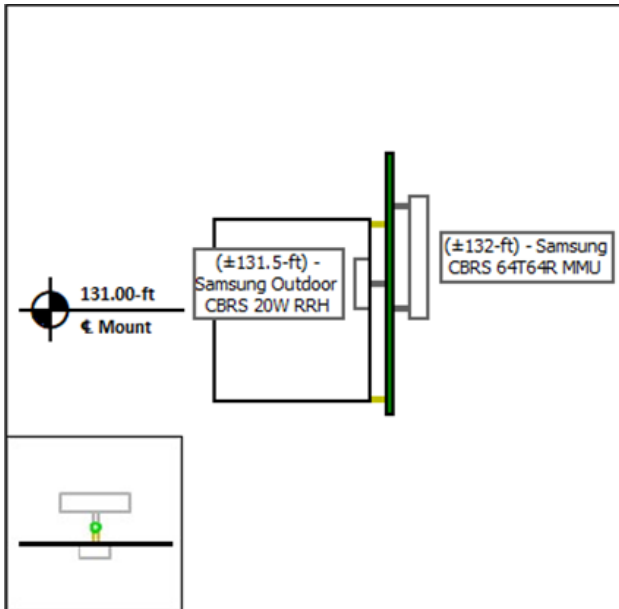


Mount Pipe D

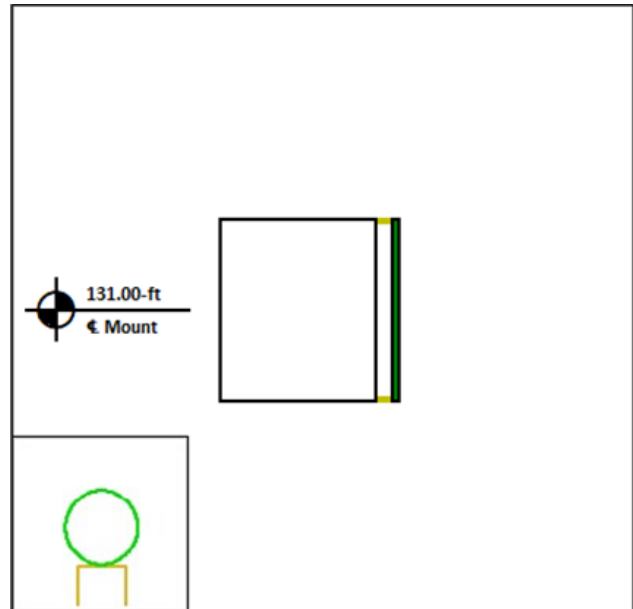


Equipment Layout Cont'd.

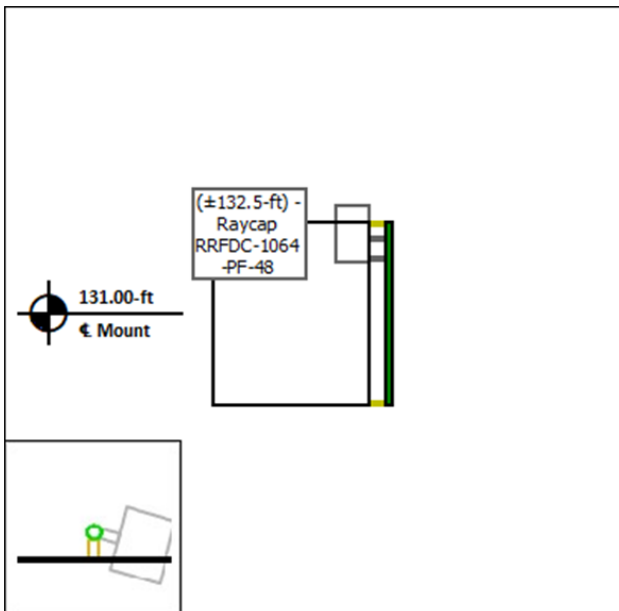
Mount Pipe E



Mount Pipe F



Mount Pipe 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

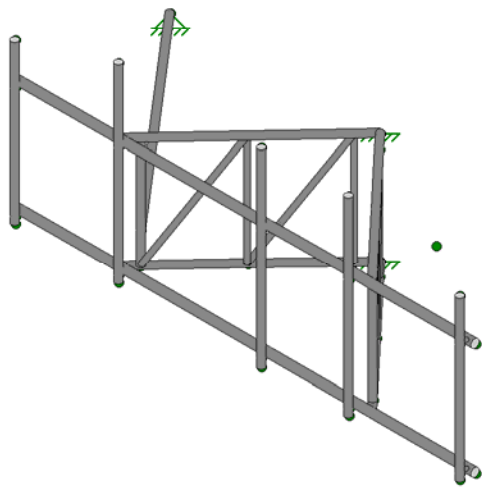
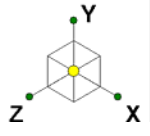
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

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.



American Tower Corp.

Geneva.Liljestrand

12984591_C8_06

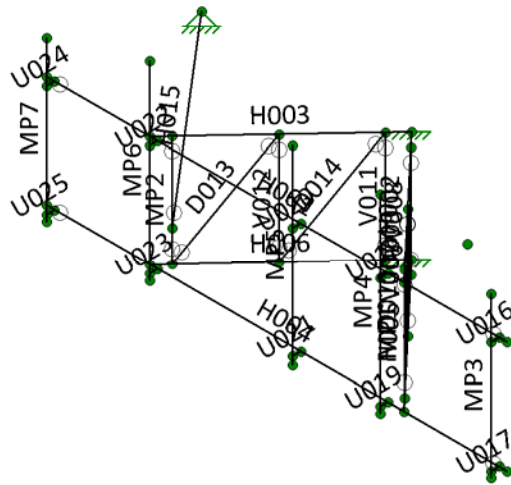
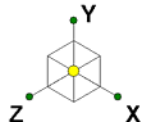
411183, WATERFORD CT

3D Rendering

SK - 1

Dec 5, 2019 at 10:53 AM

R3D. VERIZON WIRELESS @ 411...



American Tower Corp.

Geneva.Liljestrand

12984591_C8_06

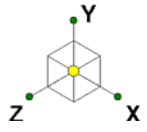
411183, WATERFORD CT

Member Labels

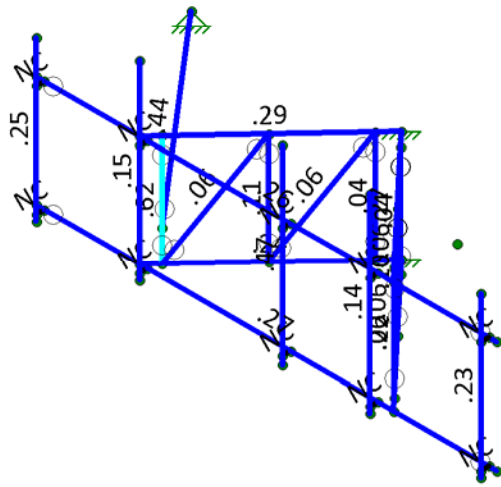
SK - 2

Dec 5, 2019 at 10:53 AM

R3D. VERIZON WIRELESS @ 411...

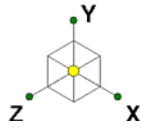


Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50

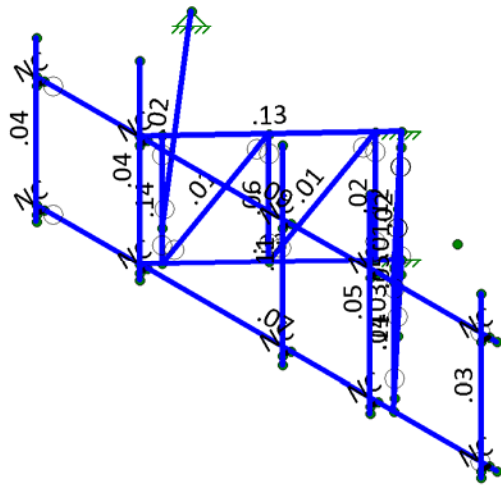


Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.	411183, WATERFORD CT Unity Bending Checks	SK - 3
Geneva.Liljestrand		Dec 5, 2019 at 10:53 AM
12984591_C8_06		R3D. VERIZON WIRELESS @ 411...



Shear Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.4D

American Tower Corp.	411183, WATERFORD CT Shear Checks	SK - 4
Geneva.Liljestrand		Dec 5, 2019 at 10:54 AM
12984591_C8_06		R3D. VERIZON WIRELESS @ 411...



Company : American Tower Corp.
 Designer : Geneva.Liljestrand
 Job Number : 12984591_C8_06
 Model Name : 411183, WATERFORD CT

Dec 5, 2019
 10:54 AM
 Checked By: -

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm (/1...	Density[lb...	Yield[psi]	Ry	Fu[psi]	Rt
1	A36	2.9e+7	1.115e+7	.3	.65	490	36000	1.5	58000	1.2
2	A572-50	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
3	A500 Gr. B [RND]	2.9e+7	1.115e+7	.3	.65	527	42000	1.4	58000	1.3
4	A500 Gr. B [SQR]	2.9e+7	1.115e+7	.3	.65	527	46000	1.4	58000	1.3
5	A1085	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
6	A53 Gr. B	2.9e+7	1.115e+7	.3	.65	490	35000	1.6	60000	1.2
7	A992	2.9e+7	1.115e+7	.3	.65	490	50000	1.1	65000	1.1
8	SAE J429 Gr. 2	2.9e+7	1.115e+7	.3	.65	490	57000	1.1	74000	1.1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	H001	N002	N003			PIPE 2.5	Beam	None	A53 Gr. B	Typical
2	H002	N004	N001			PIPE 2.0	Beam	None	A53 Gr. B	Typical
3	H003	N005	N001			PIPE 2.0	Beam	None	A53 Gr. B	Typical
4	H004	N007	N008			PIPE 2.5	Beam	None	A53 Gr. B	Typical
5	H005	N009	N006			PIPE 2.0	Beam	None	A53 Gr. B	Typical
6	H006	N010	N006			PIPE 2.0	Beam	None	A53 Gr. B	Typical
7	V007	N013	N014			PIPE 1.25	Column	None	A53 Gr. B	Typical
8	V008	N012	N011			PIPE 1.25	Column	None	A53 Gr. B	Typical
9	D009	N012	N014			PIPE 1.25	Column	None	A53 Gr. B	Typical
10	D010	N013	N015			PIPE 1.25	Column	None	A53 Gr. B	Typical
11	V011	N022	N021			PIPE 1.25	Column	None	A53 Gr. B	Typical
12	V012	N019	N020			PIPE 1.25	Column	None	A53 Gr. B	Typical
13	D013	N019	N017			PIPE 1.25	Column	None	A53 Gr. B	Typical
14	D014	N022	N020			PIPE 1.25	Column	None	A53 Gr. B	Typical
15	H015	N023	N024			PIPE 2.0	Beam	None	A53 Gr. B	Typical
16	U016	N025	N030			(2) 1/2 U-Bolts	Beam	None	A36	Typical
17	U017	N031	N032			(2) 1/2 U-Bolts	Beam	None	A36	Typical
18	U018	N026	N036			(2) 1/2 U-Bolts	Beam	None	A36	Typical
19	U019	N037	N038			(2) 1/2 U-Bolts	Beam	None	A36	Typical
20	U020	N027	N039			(2) 1/2 U-Bolts	Beam	None	A36	Typical
21	U021	N040	N041			(2) 1/2 U-Bolts	Beam	None	A36	Typical
22	U022	N028	N042			(2) 1/2 U-Bolts	Beam	None	A36	Typical



Company : American Tower Corp.
 Designer : Geneva.Liljestrand
 Job Number : 12984591_C8_06
 Model Name : 411183, WATERFORD CT

Dec 5, 2019
 10:54 AM
 Checked By: -

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
23	U023	N043	N044			(2) 1/2 U-Bolts	Beam	None	A36	Typical
24	U024	N029	N033			(2) 1/2 U-Bolts	Beam	None	A36	Typical
25	U025	N034	N035			(2) 1/2 U-Bolts	Beam	None	A36	Typical
26	MP1	N016	N015			PIPE_2.0	Column	None	A53 Gr. B	Typical
27	MP2	N018	N017			PIPE_2.0	Column	None	A53 Gr. B	Typical
28	MP3	MP3t	MP3b			PIPE_2.0	Column	None	A53 Gr. B	Typical
29	MP4	MP4t	MP4b			PIPE_2.0	Column	None	A53 Gr. B	Typical
30	MP5	MP5t	MP5b			PIPE_2.0	Column	None	A53 Gr. B	Typical
31	MP6	MP6t	MP6b			PIPE_2.0	Column	None	A53 Gr. B	Typical
32	MP7	MP7t	MP7b			PIPE_2.0	Column	None	A53 Gr. B	Typical

Basic Load Cases

	BLC Description	Category	X Gravi...	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(Pl...
1	Dead	DL		-1			13		
2	Ice	IL					13	22	
3	Wind -Z	WLZ					13		1
4	Wind -X	WLX					13		1
5	Wind -Z (Ice)	WL-Z					13	22	1
6	Wind -X (Ice)	WL-X					13	22	1
7	Wind -Z (Working)	WLZP1					13		1
8	Wind -X (Working)	WLXP1					13		1
9	Ev -Y (Seismic)	ELY						22	
10	Eh -Z (Seismic)	ELZ						22	
11	Eh -X (Seismic)	ELX						22	
12	Lv (1)	LL					1		
13	Lv (2)	LL					1		
14	Lv (3)	LL					1		
15	Lv (4)	LL					1		
16	Lv (5)	LL					1		
17	Lv (6)	LL					1		
18	Lv (7)	LL					1		
19	Lv (8)	LL				1			
20	Lm (1)	LL				1			
21	Lm (2)	LL				1			
22	Lm (3)	LL				1			
23	Lm (4)	LL				1			
24	Lm (5)	LL				1			
25	Lm (6)	LL				1			



Basic Load Cases (Continued)

	BLC Description	Category	X Gravi...	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(Pl...
26	Lm (7)	LL				1			
27	BLC 3 Transient Area L...	None						22	
28	BLC 4 Transient Area L...	None						30	
29	BLC 5 Transient Area L...	None						22	
30	BLC 6 Transient Area L...	None						30	
31	BLC 7 Transient Area L...	None						22	
32	BLC 8 Transient Area L...	None						30	

Load Combinations

	Description	S...	P...	SRSS	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...
1	1.4D	Yes	Y		DL 1.4								
2	1.2D + 1.6Wo [0°]	Yes	Y		DL 1.2	W...001	W...1.6						
3	1.2D + 1.6Wo [30°]	Yes	Y		DL 1.2	W... .8	W...1.3...						
4	1.2D + 1.6Wo [60°]	Yes	Y		DL 1.2	W...1.3...	W... .8						
5	1.2D + 1.6Wo [90°]	Yes	Y		DL 1.2	W...1.6	W...001						
6	1.2D + 1.6Wo [120°]	Yes	Y		DL 1.2	W...1.3...	W...-.8						
7	1.2D + 1.6Wo [150°]	Yes	Y		DL 1.2	W... .8	W...-1....						
8	1.2D + 1.6Wo [180°]	Yes	Y		DL 1.2	W...001	W...-1.6						
9	1.2D + 1.6Wo [210°]	Yes	Y		DL 1.2	W...-.8	W...-1....						
10	1.2D + 1.6Wo [240°]	Yes	Y		DL 1.2	W...-1....	W...-.8						
11	1.2D + 1.6Wo [270°]	Yes	Y		DL 1.2	W...-1.6	W...001						
12	1.2D + 1.6Wo [300°]	Yes	Y		DL 1.2	W...-1....	W... .8						
13	1.2D + 1.6Wo [330°]	Yes	Y		DL 1.2	W...-.8	W...1.3...						
14	0.9D + 1.6Wo [0°]	Yes	Y		DL .9	W...001	W...1.6						
15	0.9D + 1.6Wo [30°]	Yes	Y		DL .9	W... .8	W...1.3...						
16	0.9D + 1.6Wo [60°]	Yes	Y		DL .9	W...1.3...	W... .8						
17	0.9D + 1.6Wo [90°]	Yes	Y		DL .9	W...1.6	W...001						
18	0.9D + 1.6Wo [120°]	Yes	Y		DL .9	W...1.3...	W...-.8						
19	0.9D + 1.6Wo [150°]	Yes	Y		DL .9	W... .8	W...-1....						
20	0.9D + 1.6Wo [180°]	Yes	Y		DL .9	W...001	W...-1.6						
21	0.9D + 1.6Wo [210°]	Yes	Y		DL .9	W...-.8	W...-1....						
22	0.9D + 1.6Wo [240°]	Yes	Y		DL .9	W...-1....	W...-.8						
23	0.9D + 1.6Wo [270°]	Yes	Y		DL .9	W...-1.6	W...001						
24	0.9D + 1.6Wo [300°]	Yes	Y		DL .9	W...-1....	W... .8						
25	0.9D + 1.6Wo [330°]	Yes	Y		DL .9	W...-.8	W...1.3...						
26	1.2D + 1.0Di + 1.0Wi [0°] + 1.0Ti	Yes	Y		DL 1.2	IL 1	W...001	W... 1					
27	1.2D + 1.0Di + 1.0Wi [30°] + 1.0Ti	Yes	Y		DL 1.2	IL 1	W... .5	W...866					
28	1.2D + 1.0Di + 1.0Wi [60°] + 1.0Ti	Yes	Y		DL 1.2	IL 1	W...866	W... .5					



Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...
29	1.2D + 1.0Di + 1.0Wi [90°] + 1.0Ti	Yes	Y		DL	1.2	IL	1	W...	1	W...	.001		
30	1.2D + 1.0Di + 1.0Wi [120°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.866	W...	-.5		
31	1.2D + 1.0Di + 1.0Wi [150°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.5	W...	-.8...		
32	1.2D + 1.0Di + 1.0Wi [180°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	.001	W...	-.1		
33	1.2D + 1.0Di + 1.0Wi [210°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.5	W...	-.8...		
34	1.2D + 1.0Di + 1.0Wi [240°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.8...	W...	-.5		
35	1.2D + 1.0Di + 1.0Wi [270°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.1	W...	.001		
36	1.2D + 1.0Di + 1.0Wi [300°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.8...	W...	.5		
37	1.2D + 1.0Di + 1.0Wi [330°] + 1.0...	Yes	Y		DL	1.2	IL	1	W...	-.5	W...	.866		
38	1.2D + 1.0Ev + 1.0Eh [0°]	Yes	Y		DL	1.2	ELY	1	ELZ	1	ELX	.001		
39	1.2D + 1.0Ev + 1.0Eh [30°]	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	.5		
40	1.2D + 1.0Ev + 1.0Eh [60°]	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	.866		
41	1.2D + 1.0Ev + 1.0Eh [90°]	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	1		
42	1.2D + 1.0Ev + 1.0Eh [120°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	.866		
43	1.2D + 1.0Ev + 1.0Eh [150°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	.5		
44	1.2D + 1.0Ev + 1.0Eh [180°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.1	ELX	.001		
45	1.2D + 1.0Ev + 1.0Eh [210°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.8...	ELX	-.5		
46	1.2D + 1.0Ev + 1.0Eh [240°]	Yes	Y		DL	1.2	ELY	1	ELZ	-.5	ELX	-.8...		
47	1.2D + 1.0Ev + 1.0Eh [270°]	Yes	Y		DL	1.2	ELY	1	ELZ	.001	ELX	-.1		
48	1.2D + 1.0Ev + 1.0Eh [300°]	Yes	Y		DL	1.2	ELY	1	ELZ	.5	ELX	-.8...		
49	1.2D + 1.0Ev + 1.0Eh [330°]	Yes	Y		DL	1.2	ELY	1	ELZ	.866	ELX	-.5		
50	0.9D + 1.0Ev + 1.0Eh [0°]	Yes	Y		DL	.9	ELY	1	ELZ	1	ELX	.001		
51	0.9D + 1.0Ev + 1.0Eh [30°]	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	.5		
52	0.9D + 1.0Ev + 1.0Eh [60°]	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	.866		
53	0.9D + 1.0Ev + 1.0Eh [90°]	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	1		
54	0.9D + 1.0Ev + 1.0Eh [120°]	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	.866		
55	0.9D + 1.0Ev + 1.0Eh [150°]	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	.5		
56	0.9D + 1.0Ev + 1.0Eh [180°]	Yes	Y		DL	.9	ELY	1	ELZ	-.1	ELX	.001		
57	0.9D + 1.0Ev + 1.0Eh [210°]	Yes	Y		DL	.9	ELY	1	ELZ	-.8...	ELX	-.5		
58	0.9D + 1.0Ev + 1.0Eh [240°]	Yes	Y		DL	.9	ELY	1	ELZ	-.5	ELX	-.8...		
59	0.9D + 1.0Ev + 1.0Eh [270°]	Yes	Y		DL	.9	ELY	1	ELZ	.001	ELX	-.1		
60	0.9D + 1.0Ev + 1.0Eh [300°]	Yes	Y		DL	.9	ELY	1	ELZ	.5	ELX	-.8...		
61	0.9D + 1.0Ev + 1.0Eh [330°]	Yes	Y		DL	.9	ELY	1	ELZ	.866	ELX	-.5		
62	1.2D + 1.5Lv(1)	Yes	Y		DL	1.2	12	1.5						
63	1.2D + 1.5Lv(2)	Yes	Y		DL	1.2	13	1.5						
64	1.2D + 1.5Lv(3)	Yes	Y		DL	1.2	14	1.5						
65	1.2D + 1.5Lv(4)	Yes	Y		DL	1.2	15	1.5						
66	1.2D + 1.5Lv(5)	Yes	Y		DL	1.2	16	1.5						
67	1.2D + 1.5Lv(6)	Yes	Y		DL	1.2	17	1.5						



Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...
68	1.2D + 1.5Lv(7)	Yes	Y		DL	1.2	18	1.5						
69	1.2D + 1.5Lv(8)	Yes	Y		DL	1.2	19	1.5						
70	1.2D + 1.5Lm(1) + 1.0Wm [0°]	Yes	Y		DL	1.2	20	1.5	W...	001	W...	1		
71	1.2D + 1.5Lm(1) + 1.0Wm [30°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	.866		
72	1.2D + 1.5Lm(1) + 1.0Wm [60°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	.5		
73	1.2D + 1.5Lm(1) + 1.0Wm [90°]	Yes	Y		DL	1.2	20	1.5	W...	1	W...	.001		
74	1.2D + 1.5Lm(1) + 1.0Wm [120°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	.5		
75	1.2D + 1.5Lm(1) + 1.0Wm [150°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	.866		
76	1.2D + 1.5Lm(1) + 1.0Wm [180°]	Yes	Y		DL	1.2	20	1.5	W...	.001	W...	.5		
77	1.2D + 1.5Lm(1) + 1.0Wm [210°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	.866		
78	1.2D + 1.5Lm(1) + 1.0Wm [240°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	.5		
79	1.2D + 1.5Lm(1) + 1.0Wm [270°]	Yes	Y		DL	1.2	20	1.5	W...	1	W...	.001		
80	1.2D + 1.5Lm(1) + 1.0Wm [300°]	Yes	Y		DL	1.2	20	1.5	W...	.866	W...	.5		
81	1.2D + 1.5Lm(1) + 1.0Wm [330°]	Yes	Y		DL	1.2	20	1.5	W...	.5	W...	.866		
82	1.2D + 1.5Lm(2) + 1.0Wm [0°]	Yes	Y		DL	1.2	21	1.5	W...	001	W...	1		
83	1.2D + 1.5Lm(2) + 1.0Wm [30°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	.866		
84	1.2D + 1.5Lm(2) + 1.0Wm [60°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	.5		
85	1.2D + 1.5Lm(2) + 1.0Wm [90°]	Yes	Y		DL	1.2	21	1.5	W...	1	W...	.001		
86	1.2D + 1.5Lm(2) + 1.0Wm [120°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	.5		
87	1.2D + 1.5Lm(2) + 1.0Wm [150°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	.866		
88	1.2D + 1.5Lm(2) + 1.0Wm [180°]	Yes	Y		DL	1.2	21	1.5	W...	.001	W...	.5		
89	1.2D + 1.5Lm(2) + 1.0Wm [210°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	.866		
90	1.2D + 1.5Lm(2) + 1.0Wm [240°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	.5		
91	1.2D + 1.5Lm(2) + 1.0Wm [270°]	Yes	Y		DL	1.2	21	1.5	W...	1	W...	.001		
92	1.2D + 1.5Lm(2) + 1.0Wm [300°]	Yes	Y		DL	1.2	21	1.5	W...	.866	W...	.5		
93	1.2D + 1.5Lm(2) + 1.0Wm [330°]	Yes	Y		DL	1.2	21	1.5	W...	.5	W...	.866		
94	1.2D + 1.5Lm(3) + 1.0Wm [0°]	Yes	Y		DL	1.2	22	1.5	W...	001	W...	1		
95	1.2D + 1.5Lm(3) + 1.0Wm [30°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	.866		
96	1.2D + 1.5Lm(3) + 1.0Wm [60°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	.5		
97	1.2D + 1.5Lm(3) + 1.0Wm [90°]	Yes	Y		DL	1.2	22	1.5	W...	1	W...	.001		
98	1.2D + 1.5Lm(3) + 1.0Wm [120°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	.5		
99	1.2D + 1.5Lm(3) + 1.0Wm [150°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	.866		
100	1.2D + 1.5Lm(3) + 1.0Wm [180°]	Yes	Y		DL	1.2	22	1.5	W...	.001	W...	.5		
101	1.2D + 1.5Lm(3) + 1.0Wm [210°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	.866		
102	1.2D + 1.5Lm(3) + 1.0Wm [240°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	.5		
103	1.2D + 1.5Lm(3) + 1.0Wm [270°]	Yes	Y		DL	1.2	22	1.5	W...	1	W...	.001		
104	1.2D + 1.5Lm(3) + 1.0Wm [300°]	Yes	Y		DL	1.2	22	1.5	W...	.866	W...	.5		
105	1.2D + 1.5Lm(3) + 1.0Wm [330°]	Yes	Y		DL	1.2	22	1.5	W...	.5	W...	.866		
106	1.2D + 1.5Lm(4) + 1.0Wm [0°]	Yes	Y		DL	1.2	23	1.5	W...	001	W...	1		



Company : American Tower Corp.
 Designer : Geneva.Liljestrand
 Job Number : 12984591_C8_06
 Model Name : 411183, WATERFORD CT

Dec 5, 2019
 10:54 AM
 Checked By: -

Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...
107	1.2D + 1.5Lm(4) + 1.0Wm [30°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	.866		
108	1.2D + 1.5Lm(4) + 1.0Wm [60°]	Yes	Y		DL	1.2	23	1.5	W...	.866	W...	.5		
109	1.2D + 1.5Lm(4) + 1.0Wm [90°]	Yes	Y		DL	1.2	23	1.5	W...	1	W...	.001		
110	1.2D + 1.5Lm(4) + 1.0Wm [120°]	Yes	Y		DL	1.2	23	1.5	W...	.866	W...	.5		
111	1.2D + 1.5Lm(4) + 1.0Wm [150°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	.8...		
112	1.2D + 1.5Lm(4) + 1.0Wm [180°]	Yes	Y		DL	1.2	23	1.5	W...	.001	W...	.5		
113	1.2D + 1.5Lm(4) + 1.0Wm [210°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	.8...		
114	1.2D + 1.5Lm(4) + 1.0Wm [240°]	Yes	Y		DL	1.2	23	1.5	W...	.8...	W...	.5		
115	1.2D + 1.5Lm(4) + 1.0Wm [270°]	Yes	Y		DL	1.2	23	1.5	W...	.1	W...	.001		
116	1.2D + 1.5Lm(4) + 1.0Wm [300°]	Yes	Y		DL	1.2	23	1.5	W...	.8...	W...	.5		
117	1.2D + 1.5Lm(4) + 1.0Wm [330°]	Yes	Y		DL	1.2	23	1.5	W...	.5	W...	.866		
118	1.2D + 1.5Lm(5) + 1.0Wm [0°]	Yes	Y		DL	1.2	24	1.5	W...	.001	W...	1		
119	1.2D + 1.5Lm(5) + 1.0Wm [30°]	Yes	Y		DL	1.2	24	1.5	W...	.5	W...	.866		
120	1.2D + 1.5Lm(5) + 1.0Wm [60°]	Yes	Y		DL	1.2	24	1.5	W...	.866	W...	.5		
121	1.2D + 1.5Lm(5) + 1.0Wm [90°]	Yes	Y		DL	1.2	24	1.5	W...	1	W...	.001		
122	1.2D + 1.5Lm(5) + 1.0Wm [120°]	Yes	Y		DL	1.2	24	1.5	W...	.866	W...	.5		
123	1.2D + 1.5Lm(5) + 1.0Wm [150°]	Yes	Y		DL	1.2	24	1.5	W...	.5	W...	.8...		
124	1.2D + 1.5Lm(5) + 1.0Wm [180°]	Yes	Y		DL	1.2	24	1.5	W...	.001	W...	.5		
125	1.2D + 1.5Lm(5) + 1.0Wm [210°]	Yes	Y		DL	1.2	24	1.5	W...	.5	W...	.8...		
126	1.2D + 1.5Lm(5) + 1.0Wm [240°]	Yes	Y		DL	1.2	24	1.5	W...	.8...	W...	.5		
127	1.2D + 1.5Lm(5) + 1.0Wm [270°]	Yes	Y		DL	1.2	24	1.5	W...	.1	W...	.001		
128	1.2D + 1.5Lm(5) + 1.0Wm [300°]	Yes	Y		DL	1.2	24	1.5	W...	.8...	W...	.5		
129	1.2D + 1.5Lm(5) + 1.0Wm [330°]	Yes	Y		DL	1.2	24	1.5	W...	.5	W...	.866		
130	1.2D + 1.5Lm(6) + 1.0Wm [0°]	Yes	Y		DL	1.2	25	1.5	W...	.001	W...	1		
131	1.2D + 1.5Lm(6) + 1.0Wm [30°]	Yes	Y		DL	1.2	25	1.5	W...	.5	W...	.866		
132	1.2D + 1.5Lm(6) + 1.0Wm [60°]	Yes	Y		DL	1.2	25	1.5	W...	.866	W...	.5		
133	1.2D + 1.5Lm(6) + 1.0Wm [90°]	Yes	Y		DL	1.2	25	1.5	W...	1	W...	.001		
134	1.2D + 1.5Lm(6) + 1.0Wm [120°]	Yes	Y		DL	1.2	25	1.5	W...	.866	W...	.5		
135	1.2D + 1.5Lm(6) + 1.0Wm [150°]	Yes	Y		DL	1.2	25	1.5	W...	.5	W...	.8...		
136	1.2D + 1.5Lm(6) + 1.0Wm [180°]	Yes	Y		DL	1.2	25	1.5	W...	.001	W...	.5		
137	1.2D + 1.5Lm(6) + 1.0Wm [210°]	Yes	Y		DL	1.2	25	1.5	W...	.5	W...	.8...		
138	1.2D + 1.5Lm(6) + 1.0Wm [240°]	Yes	Y		DL	1.2	25	1.5	W...	.8...	W...	.5		
139	1.2D + 1.5Lm(6) + 1.0Wm [270°]	Yes	Y		DL	1.2	25	1.5	W...	.1	W...	.001		
140	1.2D + 1.5Lm(6) + 1.0Wm [300°]	Yes	Y		DL	1.2	25	1.5	W...	.8...	W...	.5		
141	1.2D + 1.5Lm(6) + 1.0Wm [330°]	Yes	Y		DL	1.2	25	1.5	W...	.5	W...	.866		
142	1.2D + 1.5Lm(7) + 1.0Wm [0°]	Yes	Y		DL	1.2	26	1.5	W...	.001	W...	1		
143	1.2D + 1.5Lm(7) + 1.0Wm [30°]	Yes	Y		DL	1.2	26	1.5	W...	.5	W...	.866		
144	1.2D + 1.5Lm(7) + 1.0Wm [60°]	Yes	Y		DL	1.2	26	1.5	W...	.866	W...	.5		
145	1.2D + 1.5Lm(7) + 1.0Wm [90°]	Yes	Y		DL	1.2	26	1.5	W...	1	W...	.001		



Company : American Tower Corp.
 Designer : Geneva.Liljestrand
 Job Number : 12984591_C8_06
 Model Name : 411183, WATERFORD CT

Dec 5, 2019
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Load Combinations (Continued)

	Description	S...	P...	SRSS	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...	BLC Fa...
146	1.2D + 1.5Lm(7) + 1.0Wm [120°]	Yes	Y		DL	1.2	26	1.5	W...	.866	W...	-.5		
147	1.2D + 1.5Lm(7) + 1.0Wm [150°]	Yes	Y		DL	1.2	26	1.5	W...	.5	W...	-.8...		
148	1.2D + 1.5Lm(7) + 1.0Wm [180°]	Yes	Y		DL	1.2	26	1.5	W...	.001	W...	-.5		
149	1.2D + 1.5Lm(7) + 1.0Wm [210°]	Yes	Y		DL	1.2	26	1.5	W...	-.5	W...	-.8...		
150	1.2D + 1.5Lm(7) + 1.0Wm [240°]	Yes	Y		DL	1.2	26	1.5	W...	-.8...	W...	-.5		
151	1.2D + 1.5Lm(7) + 1.0Wm [270°]	Yes	Y		DL	1.2	26	1.5	W...	-.1	W...	.001		
152	1.2D + 1.5Lm(7) + 1.0Wm [300°]	Yes	Y		DL	1.2	26	1.5	W...	-.8...	W...	.5		
153	1.2D + 1.5Lm(7) + 1.0Wm [330°]	Yes	Y		DL	1.2	26	1.5	W...	-.5	W...	.866		

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N001	max	1536.772	145	1535.459	27	1213.195	14	-152.468	14	757.854	5	270.927	103
2		min	-1327.534	23	434.375	20	-3369.897	32	-593.412	33	-717.581	23	-320.404	145
3	N006	max	1246.786	97	1097.888	32	3213.325	37	-107.17	14	122.624	17	211.175	103
4		min	-1462.702	151	311.874	14	-593.02	19	-438.974	32	-143.223	11	-251.74	145
5	N024	max	1138.577	17	392.507	69	1265.002	17	0	153	0	153	0	153
6		min	-1141.192	11	12.933	17	-1266.912	11	0	1	0	1	0	1
7	Totals:	max	2625.824	17	2671.63	37	3068.627	14						
8		min	-2625.824	11	762.692	14	-3068.627	8						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

Mem...	Shape	Code C...	Loc[in]	LC	Shear C...	Loc[i...Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn y-y [...	phi*Mn z-z [...	Cb	Eqn	
1	MP2	PIPE_2.0	.620	29.75	5	.143	30.1...	5	16811.605	32130	1871.625	1871.625	1.4...	H1-1b
2	MP5	PIPE_2.0	.467	27	11	.114	27	5	6195.892	32130	1871.625	1871.625	2.3...	H1-1b
3	H015	PIPE_2.0	.441	50.441	68	.021	0	68	18680.197	32130	1871.625	1871.625	1.3...	H1-1b
4	H003	PIPE_2.0	.285	70.036	145	.134	70.0...	145	21357.148	32130	1871.625	1871.625	2.7...	H1-1b
5	H004	PIPE_2.5	.269	135.9...	144	.066	39.8...	34	10819.554	50715	3596.25	3596.25	2.5...	H1-1b
6	H002	PIPE_2.0	.268	70.036	103	.124	70.0...	103	21357.148	32130	1871.625	1871.625	2.7...	H1-1b
7	H001	PIPE_2.5	.262	135.9...	146	.086	45.3...	9	10819.554	50715	3596.25	3596.25	2.5...	H1-1b
8	MP7	PIPE_2.0	.248	57.5	151	.037	16.25	7	8922.084	32130	1871.625	1871.625	2.4...	H1-1b
9	H006	PIPE_2.0	.237	70.036	143	.130	5.836	5	21357.148	32130	1871.625	1871.625	2.4...	H1-1b
10	MP3	PIPE_2.0	.232	57.5	97	.031	16.25	8	8922.084	32130	1871.625	1871.625	2.5...	H1-1b
11	H005	PIPE_2.0	.224	70.036	104	.108	5.836	103	21357.148	32130	1871.625	1871.625	2.4...	H1-1b
12	MP6	PIPE_2.0	.154	69.75	6	.039	69.75	5	6195.892	32130	1871.625	1871.625	2.2...	H1-1b
13	MP4	PIPE_2.0	.139	27.75	114	.052	69.75	10	6195.892	32130	1871.625	1871.625	2.2...	H1-1b
14	V012	PIPE_1...	.111	42	145	.056	42	5	14487.825	19687.5	800.625	800.625	1.1...	H1-1b*



Company : American Tower Corp.
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 Job Number : 12984591_C8_06
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Dec 5, 2019
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 Checked By: -

Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

Mem...	Shape	Code C...	Loc[in]	LC	Shear C...	Loc[i...Dir	LC	phi*Pnc ...	phi*Pnt ...	phi*Mn y-y [...	phi*Mn z-z [...	Cb	Eqn	
15	V007	PIPE_1...	.105	42	103	.052	0	5	14487.825	19687.5	800.625	800.625	1.1...	H1-1b*
16	D009	PIPE_1...	.061	25.378	26	.007	0	5	12579.861	19687.5	800.625	800.625	1.1...	H1-1b
17	D014	PIPE_1...	.060	25.378	26	.007	0	4	12579.861	19687.5	800.625	800.625	1.1...	H1-1b
18	D013	PIPE_1...	.059	25.378	153	.007	0	37	12579.861	19687.5	800.625	800.625	1.1...	H1-1b
19	D010	PIPE_1...	.058	25.378	26	.029	0	5	12579.861	19687.5	800.625	800.625	1.1...	H1-1b
20	MP1	PIPE_2.0	.055	42	80	.044	0	5	16811.605	32130	1871.625	1871.625	1.1...	H1-1b*
21	V011	PIPE_1...	.042	42	145	.024	0	5	14487.825	19687.5	800.625	800.625	1.1...	H1-1b*
22	V008	PIPE_1...	.040	42	35	.021	0	5	14487.825	19687.5	800.625	800.625	1.1...	H1-1b*

Site Name: Waterford CT

Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW CBRS	3600	4	50	200	134	0.0040	2.4	0.17%
VZW PCS	1970	4	1462	5848	134	0.1171	1.0	11.71%
VZW Cellular	869	2	265	530	134	0.0106	0.579333333	1.83%
VZW Cellular	880	4	306	1224	134	0.0245	0.586666667	4.18%
VZW AWS	2145	4	1496	5984	134	0.1198	1.0	11.98%
VZW 700	746	4	610	2440	134	0.0489	0.497333333	9.83%

Total Percentage of Maximum Permissible Exposure 39.53%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used, including the following assumptions:

1. closest accessible point is distance from antenna to base of pole;
2. continuous transmission from all available channels at full power for indefinite time period; and,
3. all RF energy is assumed to be directed solely to the base of the pole.

Property Viewer (Public)

Click the About icon below the search bar for more information.

53 Dayton Rd, Waterford, Town X



Parcel Location	53 DAYTON ROAD
Parcel Street Number	53
Parcel Unit Number	
Parcel Street Name	DAYTON ROAD
Parcel City	WATERFORD
Parcel Zip Code	
Mailing Address Line 1	53 DAYTON RD
Mailing Address Line 2	
Mailing Address City	WATERFORD
Mailing Address State	CT
Mailing Address Zip Code (Leading 0 omitted)	6385
Mailing Address County	
Zoom to

-72.139 41.379 Degrees

53 DAYTON ROAD

Location 53 DAYTON ROAD

Mblu 92/ / 1844/ /

Acct# 00158300

Assessment \$1,294,780

Appraisal \$1,849,680

PID 1844

Building Count 2

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2013	\$923,090	\$926,590	\$1,849,680

Assessment			
Valuation Year	Improvements	Land	Total
2013	\$646,170	\$648,610	\$1,294,780

Building Information

Building 1 : Section 1

Year Built: 1950
Living Area: 8615
Replacement Cost: \$755,799
Building Percent Good: 68

Building Attributes	
Field	Description
STYLE	Fire Station
MODEL	Comm/Ind
Grade	Above Ave
Stories:	1.00
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick Veneer
Roof Structure	Gambrel
Roof Cover	Asphalt
Interior Wall 1	Plaster
Interior Wall 2	Drywall
Interior Floor 1	Concrete
Interior Floor 2	Comp Tile
Heating Fuel	Oil

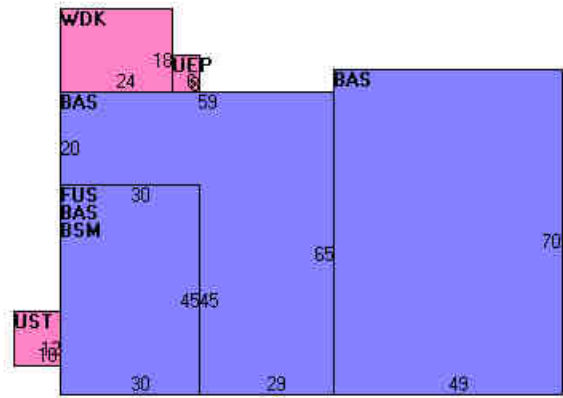
Building Photo



(<http://images.vgsi.com/photos/WaterfordCTPhotos/\\00\00\88>)

Heating Type	Hot Water
% Central Air	0
Foundation	Poured Conc
Bldg Use	Exempt Comm
Total Rooms	0
Total Bedrms	0
Total Fixtures	22
% Wet Sprinkler	100
% Dry Sprinkler	
1st Floor Use	
Heat/AC	Typical
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
% Finished	60
Class	C
Wall Height	11

Building Layout



Building Sub-Areas			Legend	
Code	Description	Gross Area	Living Area	
BAS	First Floor	7265	7265	
FUS	Finished Upper Story	1350	1350	
BSM	Basement	1350	0	
UEP	Unfin. Enclosed Porch	48	0	
UST	Unfinished Utility Area	120	0	
WDK	Deck	432	0	
		10565	8615	

Building 2 : Section 1

Year Built: 1950
Living Area: 3360
Replacement Cost: \$347,072
Building Percent Good: 62

Building Attributes : Bldg 2 of 2	
Field	Description
STYLE	Fire Station
MODEL	Comm/Ind
Grade	Above Ave
Stories:	2.00
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	Brick Veneer
Roof Structure	Gambrel
Roof Cover	Asphalt
Interior Wall 1	Plaster
Interior Wall 2	Drywall
Interior Floor 1	Concrete

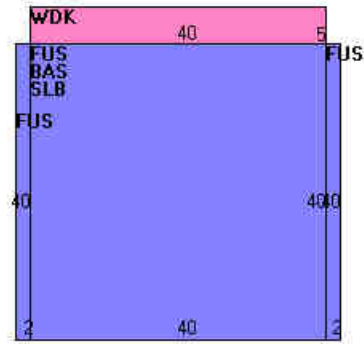
Building Photo



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

Interior Floor 2	Comp Tile
Heating Fuel	Oil
Heating Type	Forced Hot Air
% Central Air	0
Foundation	Poured Conc
Bldg Use	Exempt Comm
Total Rooms	0
Total Bedrms	0
Total Fixtures	0
% Wet Sprinkler	
% Dry Sprinkler	
1st Floor Use	
Heat/AC	Typical
Frame Type	MASONRY
Baths/Plumbing	LIGHT
% Finished	0
Class	C
Wall Height	11

Building Layout



Building Sub-Areas			Legend	
Code	Description	Gross Area	Living Area	
FUS	Finished Upper Story	1760	1760	
BAS	First Floor	1600	1600	
SLB	Slab	1600	0	
WDK	Deck	200	0	
		5160	3360	

Extra Features

Extra Features					Legend
Code	Description	Size	Value	Bldg #	
FBM	Finished Bsmt	475 S.F.	\$3,230		1

Land

Land Use

Use Code	920
Description	Exempt Comm
Zone	R-40
Neighborhood	200
Alt Land Appr Category	No

Land Line Valuation

Size (Acres)	9.91
Frontage	0
Depth	0
Assessed Value	\$648,610
Appraised Value	\$926,590

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN1	Fence			928 L.F.	\$7,660	2
FGR1	Garage	MS	Masonry	220 S.F.	\$3,300	1
LSUM	Lump Sum			120000 UNITS	\$90,000	2

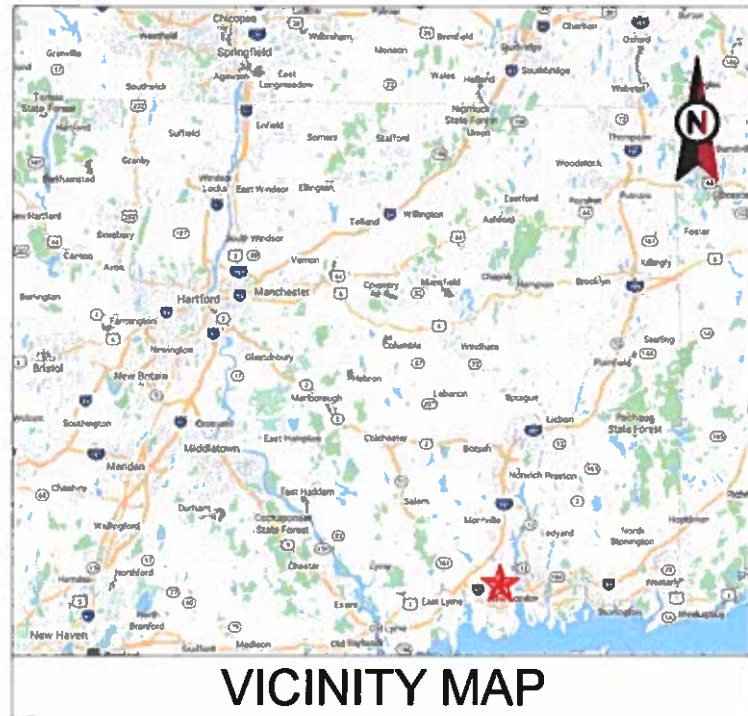
PAV1	Paving	AS	Asphalt	39900 S.F.	\$49,880	1
SHD1	Shed	FR	Frame	800 S.F.	\$6,000	1
FN1	Fence			1408 L.F.	\$7,740	1
FOP	Porch			1600 S.F.	\$24,000	1
LSUM	Lump Sum			4320 UNITS	\$2,160	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2010	\$0	\$0	\$3,234,857
2009	\$0	\$0	\$3,234,857
2008	\$0	\$0	\$3,234,857

Assessment			
Valuation Year	Improvements	Land	Total
2010	\$0	\$0	\$2,264,400
2009	\$0	\$0	\$2,264,400
2008	\$0	\$0	\$2,264,400

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VICINITY MAP

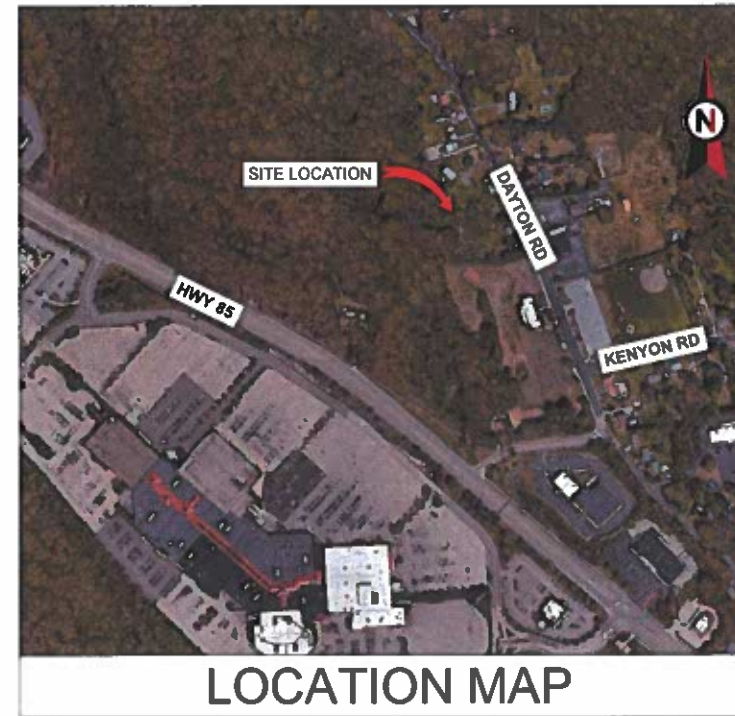


AMERICAN TOWER®

ATC SITE NAME: WATERFORD CT
 ATC SITE NUMBER: 411183
 VERIZON SITE NAME: STORE WATERFORD CT
 VERIZON SITE NUMBER: 15366009
 SITE ADDRESS: 53 DAYTON RD.

WATERFORD, CT 06385

**VERIZON WIRELESS
 ANTENNA AMENDMENT DRAWINGS**



LOCATION MAP

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

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REV.	DESCRIPTION	BY	DATE
1	FOR CONSTRUCTION	TC	12/02/19
2	JURISDICTION COMMENTS	TC	02/03/20
3	LABEL CORRECTION	TC	02/21/20
4			
5			

ATC SITE NUMBER:
411183
 ATC SITE NAME:
WATERFORD CT
 SITE ADDRESS:
 53 DAYTON RD.
 WATERFORD, CT 06385



Authorized by "EOR"
 Feb 4 2020
Verizon design

DRAWN BY:	GD
APPROVED BY:	PPB
DATE DRAWN:	12/02/19
ATC JOB NO:	12984591
CUSTOMER ID:	STORE WATERFORD CT
CUSTOMER #:	15366009

COVER SHEET
 SHEET NUMBER:
G-001
 REVISION:
2

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
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	<u>SITE ADDRESS:</u> 53 DAYTON RD. WATERFORD, CT 06385 COUNTY: NEW LONDON <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.37778 LONGITUDE: -72.141389 GROUND ELEVATION: 186' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: REMOVE (6) PANELS, (3) RRU's, (2) 1-1/4" HYBRID CABLES, AND (6) 1-5/8" COAX CABLES INSTALL (9) NEW PANELS, (9) RRU's, (3) SIDE BY SIDE MOUNTS, AND (2) 1-5/8" HYBRID CABLES EXISTING (3) PANELS, (6) RRU's, (6) 1-5/8" COAX CABLES, AND (2) OVPs TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> COHANZIE VOLUNTEER FIRE SERVICE BENEFIT ASSOC 53 DAYTON RD, WATERFORD, CT 06385 <u>APPLICANT:</u> VERIZON WIRELESS 20 ALEXANDER DRIVE, 2ND FLOOR WALLINGFORD, CT 06492	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.	G-001 COVER SHEET G-002 GENERAL NOTES C-101 DETAILED SITE PLAN C-102 TOWER ELEVATION C-501 RF SCHEDULE AND ANTENNA INSTALLATION C-502 CONSTRUCTION DETAILS R-601 SUPPLEMENTAL				
	PROJECT TEAM UTILITY COMPANIES POWER COMPANY: NORTHEAST PHONE: (860) 665-6792 TELEPHONE COMPANY: UNKNOWN PHONE: N/A	PROJECT LOCATION DIRECTIONS TAKE I-91 S TOWARDS NEW HAVEN. STAY IN LEFT LANE, GET ON I-95 N TO EXIT 76 (LEFT HAND EXIT I-395 N), I-395 N TO EXIT 77 (RTE 85). TAKE RIGHT AT END OF THE RAMP (RTE 85 S). TAKE LEFT AT TRAFFIC LIGHT (DAYTON). FOLLOW TO FIRE HOUSE (COHANZIE FIRE CO. #5). GO IN PARKING LOT OF FIREHOUSE AND IN THE BACK LEFT THERE IS A CHAIN COMBO 4667. GO IN GATE TO TOWER COMBO 4667 AND UP STAIRS. WE ARE IN THE FIRST DOOR WITH THE CODE PAD 4667. THEN THE ROOM ON LEFT (CT KEY) GENERATOR COMPOUND COMBO IS 9687					



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GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEA/ITIA-222, AND COMPLY WITH ATC CONSTRUCTION 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 VERIZON WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE VERIZON WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON 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 VERIZON WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY VERIZON WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO VERIZON WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO VERIZON 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 VERIZON WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE VERIZON WIRELESS REP. ANY WORK FOUND BY THE VERIZON WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

STRUCTURAL STEEL NOTES:

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



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REV.	DESCRIPTION	BY	DATE
△	FOR CONSTRUCTION	TC	12/02/19
△			
△			
△			
△			

ATC SITE NUMBER:
411183

ATC SITE NAME:
WATERFORD CT

SITE ADDRESS:
 53 DAYTON RD.
 WATERFORD, CT 06385

SEAL:



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 Feb 4 2020

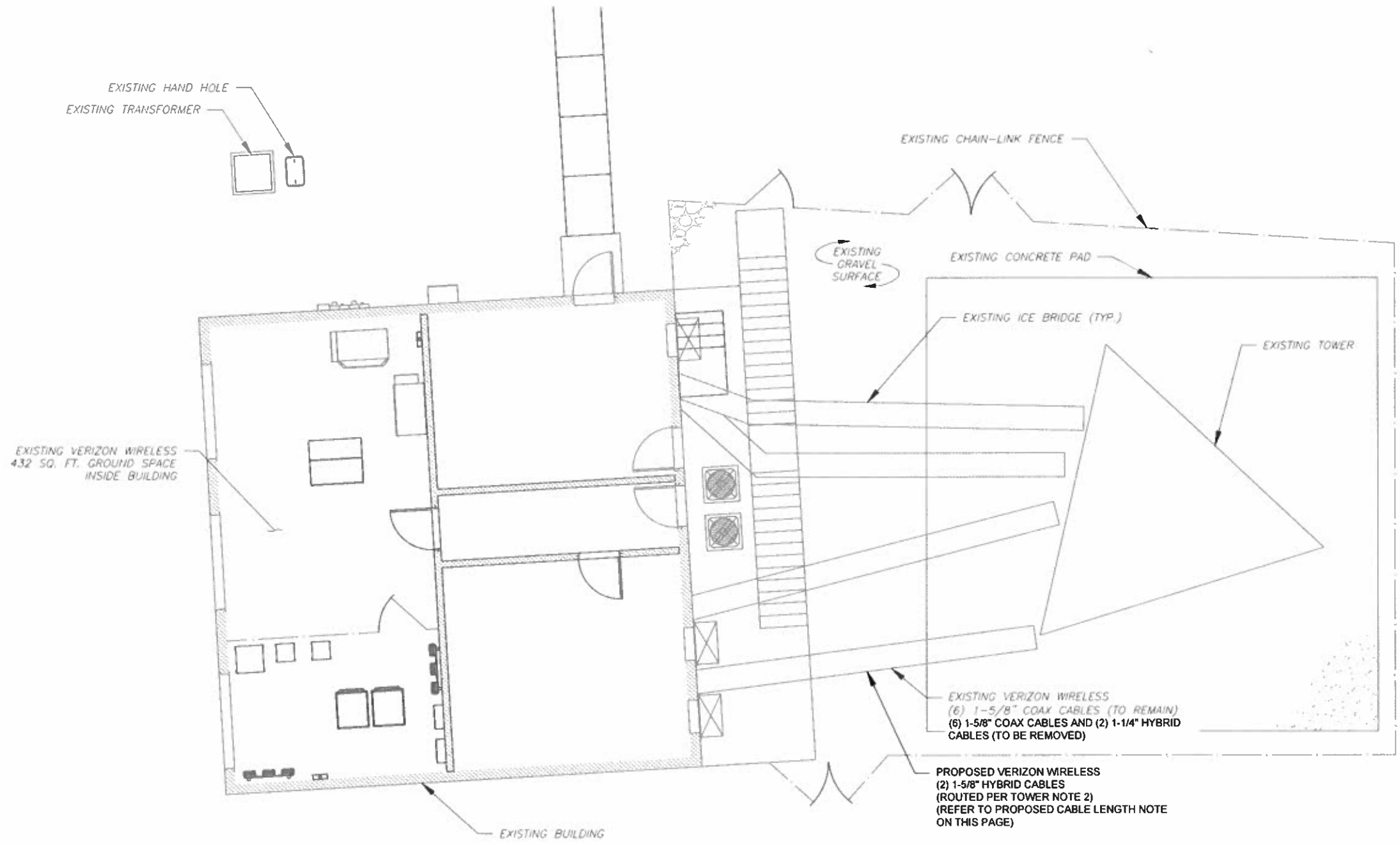

DRAWN BY:	GD
APPROVED BY:	PPB
DATE DRAWN:	12/02/19
ATC JOB NO:	12984591
CUSTOMER ID:	STORE WATERFORD CT
CUSTOMER #:	15366009

GENERAL NOTES	
SHEET NUMBER:	REVISION:
G-002	0

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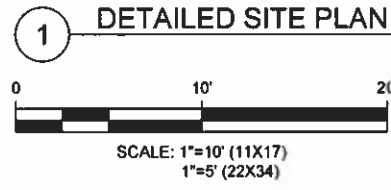
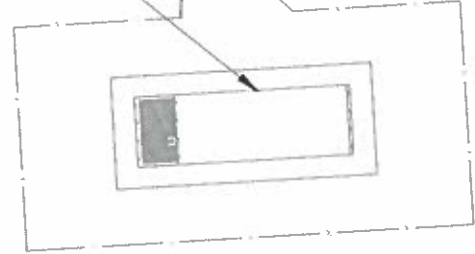
SITE PLAN NOTES:

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, CABLE SUPPORTS, AND CABLES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN BEFORE INSTALLING NEW CABLE SUPPORT STRUCTURES, COAX PORTS, OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



PROPOSED VERIZON WIRELESS
 (2) 1-5/8" HYBRID CABLES
 (ROUTED PER TOWER NOTE 2)
 (REFER TO PROPOSED CABLE LENGTH NOTE
 ON THIS PAGE)

EXISTING GENERATOR



PROPOSED CABLE LENGTH:
 ESTIMATED LENGTH OF PROPOSED CABLE IS 153'.
 ESTIMATED LENGTH OF CABLE IS CALCULATED BY
 ADDING THE RAD CENTER AND THE DISTANCE FROM
 THE SHELTER ENTRY PLATE TO THE TOWER (ALONG
 THE ICE BRIDGE) AND A SAFETY FACTOR
 MEASUREMENT OF 15% (OF THE TWO PREVIOUS
 VALUES).



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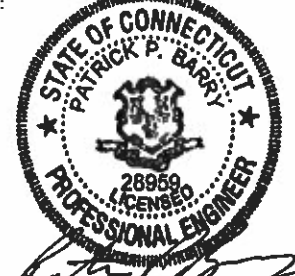
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	12/02/19

ATC SITE NUMBER:
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ATC SITE NAME:
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SITE ADDRESS:
 53 DAYTON RD.
 WATERFORD, CT 06385

SEAL:



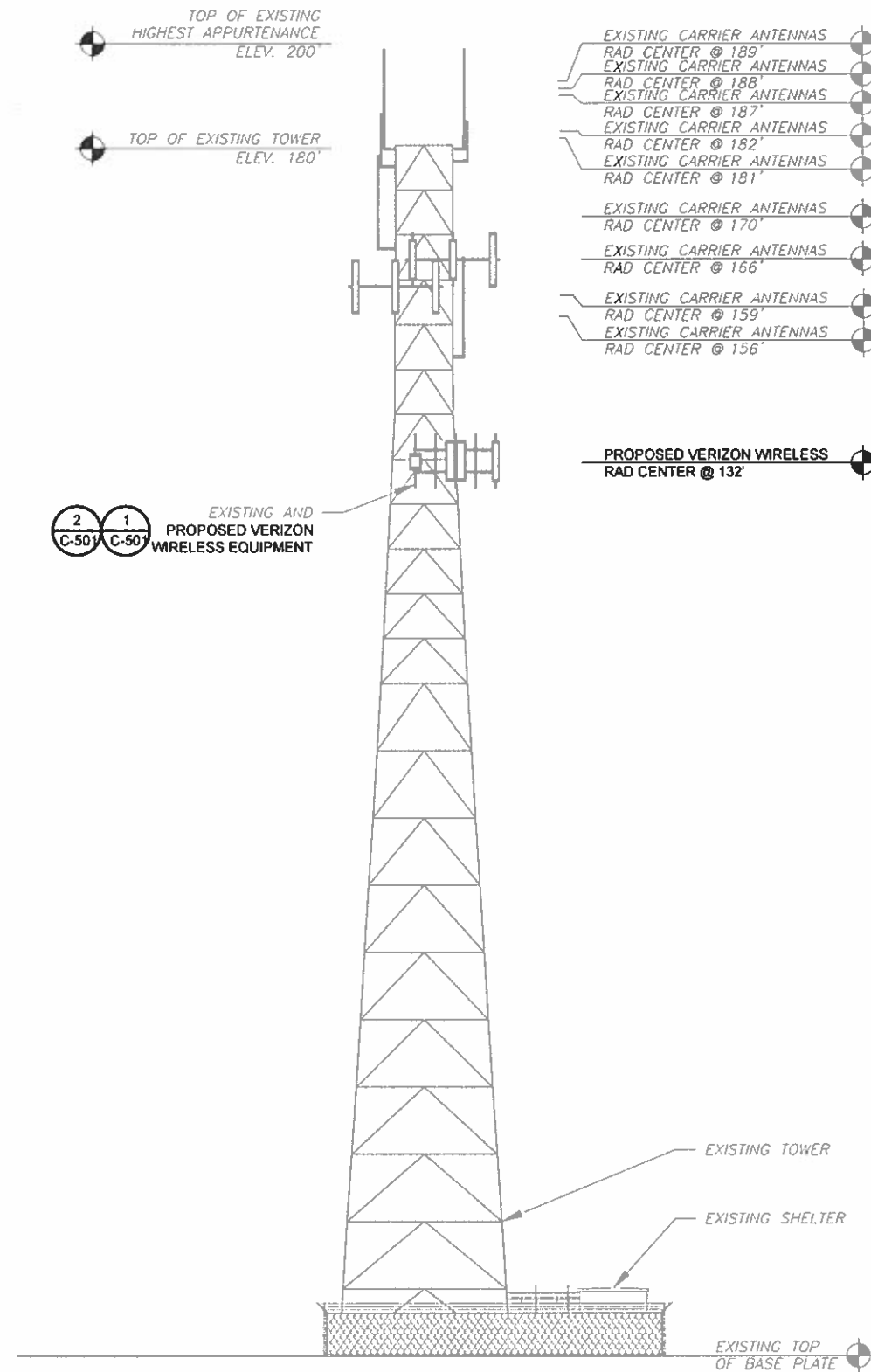
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DRAWN BY:	GD
APPROVED BY:	PPB
DATE DRAWN:	12/02/19
ATC JOB NO:	12984591
CUSTOMER ID:	STORE WATERFORD CT
CUSTOMER #:	15366009

DETAILED SITE PLAN	
SHEET NUMBER:	REVISION:
C-101	0

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PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 12/05/19, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 TOWER ELEVATION
SCALE: NOT TO SCALE

TOWER NOTE:

- 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.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES. USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
- ATC DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, ANTENNA HEIGHTS, ANTENNA AZIMUTHS AND MOUNT CONFIGURATION.
- TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)
- MOUNT ATTACHMENT HEIGHT AND ANTENNA CENTERLINE MAY VARY.

ANTENNA NOTES:

- ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH VERIZON RF ENGINEER.
- ANTENNA CENTERLINE HEIGHT IS ABOVE GROUND LEVEL (AGL).
- CONTRACTOR SHALL VERIFY ANTENNA TYPE, AZIMUTH, DOWNTILT, AND ANTENNA NUMBER PER SECTOR WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.
- ALL PERSONNEL WORKING ON THE TOWER MUST COMPLY WITH VERIZON'S RF EMISSIONS GUIDELINE POLICY.
- CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE AND AZIMUTH.
- CONTRACTOR SHALL NOT INSTALL SHRINK WRAP UNTIL AFTER CABLES HAVE BEEN SWEEPED.
- THE USE OF ALTERNATE GROUNDING MEANS (SUCH AS LYNCOLE XIT) SHALL COMPLY WITH O.C.E.I. CONSTRUCTION SPECIFICATIONS AND BUILDING PRACTICES.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	12/02/19
1	JURISDICTION COMMENTS	TC	02/03/20

ATC SITE NUMBER:
411183

ATC SITE NAME:
WATERFORD CT

SITE ADDRESS:
 53 DAYTON RD.
 WATERFORD, CT 06385

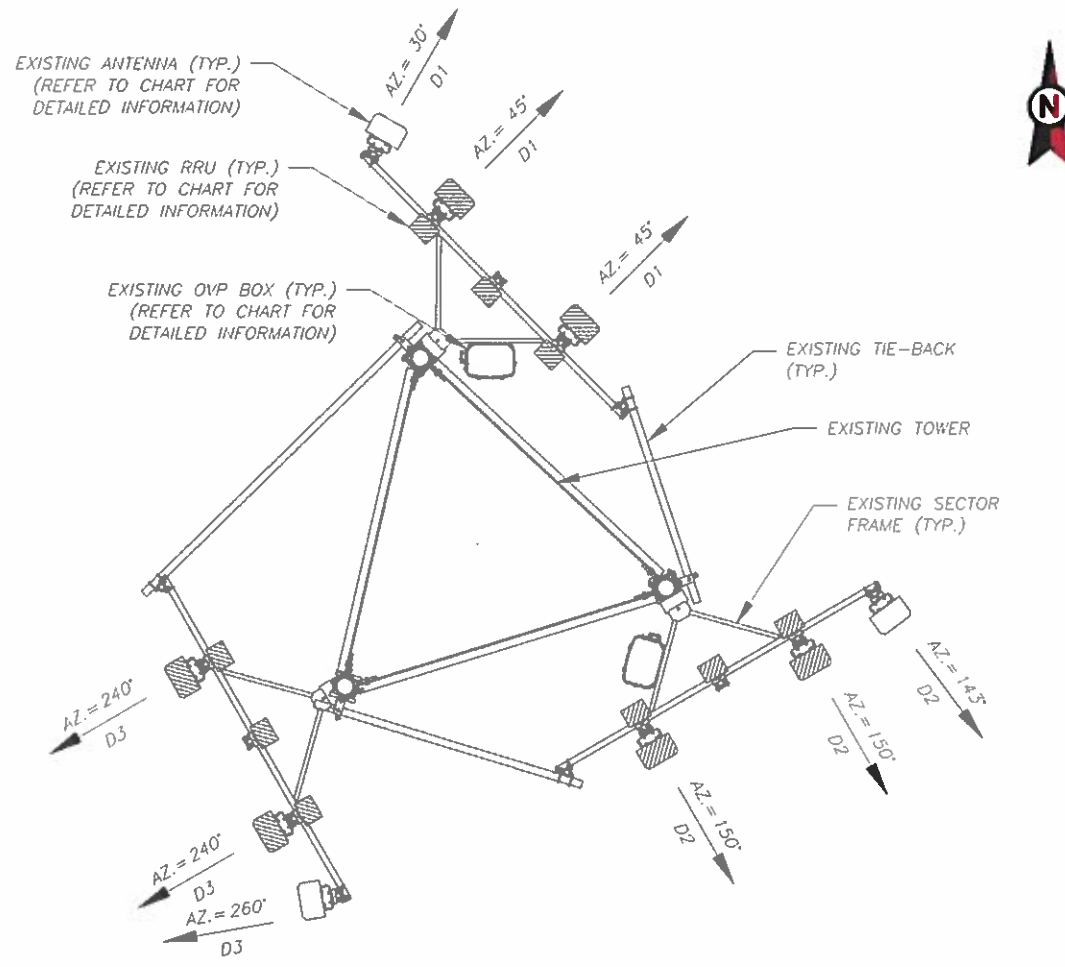


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 Feb 4, 2020
Verizon sign

DRAWN BY:	GD
APPROVED BY:	PPB
DATE DRAWN:	12/02/19
ATC JOB NO:	12984591
CUSTOMER ID:	STORE WATERFORD CT
CUSTOMER #:	15366009

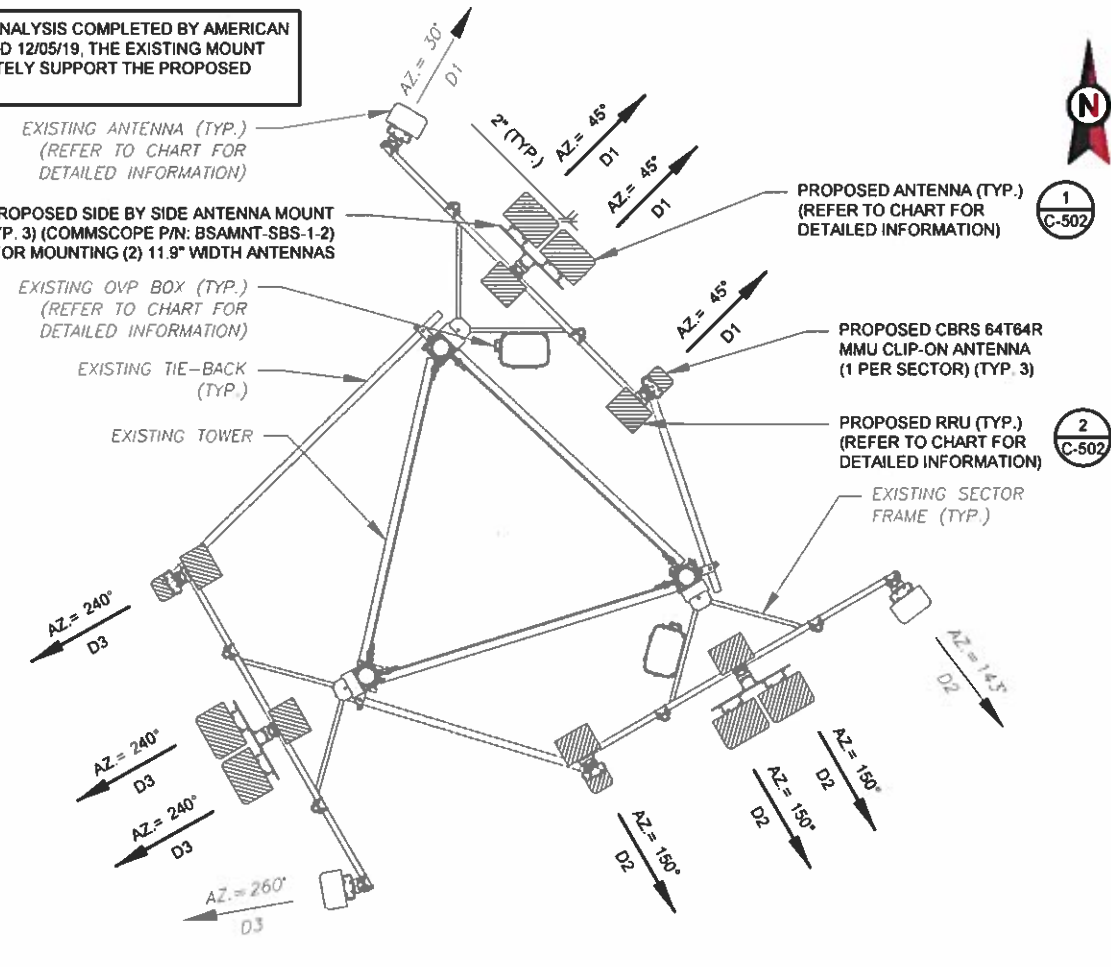
TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-102	1



1 CURRENT ANTENNA PLAN

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER, DATED 12/05/19, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 FINAL ANTENNA PLAN

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	TC	12/02/19
1	JURISDICTION COMMENTS	TC	02/03/20
2	LABEL CORRECTION	TC	02/21/20

ATC SITE NUMBER:
411183
 ATC SITE NAME:
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 SITE ADDRESS:
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 WATERFORD, CT 06385

SEAL:

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DRAWN BY:	GD
APPROVED BY:	PPB
DATE DRAWN:	12/02/19
ATC JOB NO:	12984591
CUSTOMER ID:	STORE WATERFORD CT
CUSTOMER #:	15366009

RF SCHEDULE AND ANTENNA INSTALLATION

SHEET NUMBER: **C-501** REVISION: **2**

EXISTING ANTENNA SCHEDULE									
LOCATION		ANTENNA SUMMARY					NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS	
D1	133'	30°	A1	LNx-6512DS-A1M	850 CDMA	RMN	-	-	
		45°	A2	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X30 B25	RSRV	
		-	A3	-	-	-	-	RRH4X30 B13	RMV
		45°	A4	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X45 AWS	RSRV	
		-	A5	-	-	-	-	-	-
D2	133'	143°	B1	LNx-6512DS-A1M	850 CDMA	RMN	-	-	
		150°	B2	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X30 B25	RSRV	
		-	B3	-	-	-	-	RRH4X30 B13	RMV
		150°	B4	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X45 AWS	RSRV	
		-	B5	-	-	-	-	-	-
D3	133'	260°	C1	LNx-6512DS-A1M	850 CDMA	RMN	-	-	
		240°	C2	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X30 B25	RSRV	
		-	C3	-	-	-	-	RRH4X30 B13	RMV
		240°	C4	SBNHH-1D65B	700/1900/2100 LTE	RMV	RRH4X45 AWS	RSRV	
		-	C5	-	-	-	-	-	-

- NOTES**
- BASED ON APPROVED ATC APPLICATION 12984591, DATED 10/21/2019. CONFIRM WITH VERIZON WIRELESS REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - ATC HAS NOT YET VERIFIED ANY EXISTING ANTENNA CONFIG OR MOUNT CONFIG. CONTRACTOR TO VERIFY MOUNT CONFIG HAS SUFFICIENT SPACE FOR PROPOSED LESSEE EQUIPMENT (EQUIP) (I.E. CLEARANCES, MOUNT PIPE, SUFFICIENT LENGTH, ETC.)
 - ALL PROPOSED EQUIP INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH ATC'S CM.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - POSITIONS START WITH FIRST PIPE ON THE LEFT SIDE (AS VIEWED FROM BEHIND THE MOUNT).

FINAL ANTENNA SCHEDULE								
LOCATION		ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
D1	132'	30°	A1	LNx-6512DS-A1M	850 CDMA	RMN	-	-
		-	A2	-	-	-	-	-
		45°	A3	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C, B2/B66A RRH-BR049	ADD
		-	A4	-	-	-	-	-
		45°	A5	CBRS 64T64R MMU	-	ADD	CBRS 20W RRH	ADD
D2	132'	143°	B1	LNx-6512DS-A1M	850 CDMA	RMN	-	-
		-	B2	-	-	-	-	-
		150°	B3	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C, B2/B66A RRH-BR049	ADD
		-	B4	-	-	-	-	-
		150°	B5	CBRS 64T64R MMU	-	ADD	CBRS 20W RRH	ADD
D3	132'	260°	C1	LNx-6512DS-A1M	850 CDMA	RMN	-	-
		-	C2	-	-	-	-	-
		240°	C3	(2) MX06FRO660-02	700/850/1900/2100 LTE	ADD	B5/B13 RRH-BR04C, B2/B66A RRH-BR049	ADD
		-	C4	-	-	-	-	-
		240°	C5	CBRS 64T64R MMU	-	ADD	CBRS 20W RRH	ADD

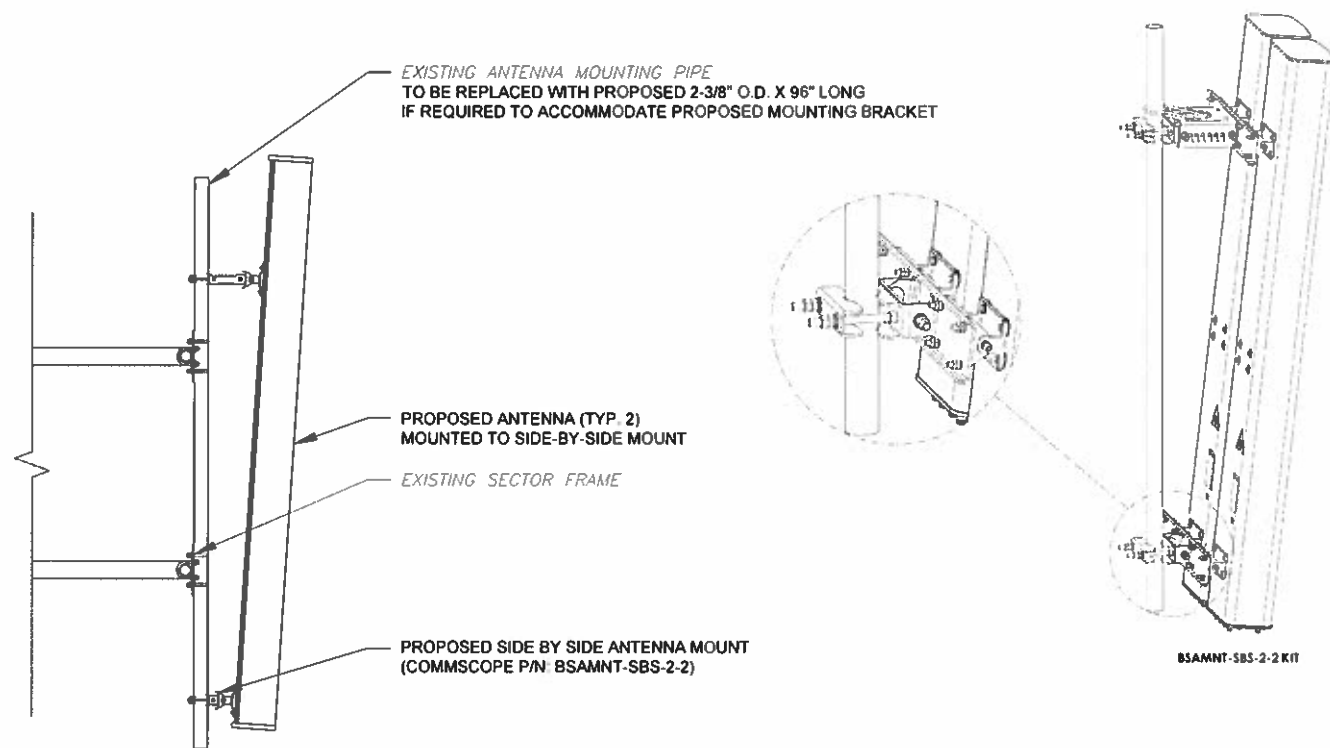
EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
(2) RRFDC-1064-PF-48	RMN	(6) 1-5/8"	-	RMN
-	-	(6) 1-5/8"	(3) 1-1/4"	RMV

STATUS ABBREVIATIONS
 RMV: TO BE REMOVED
 RMN: TO REMAIN
 REL: TO BE RELOCATED
 DSC: TO BE DISCONNECTED & REMAIN
 ADD: TO BE ADDED
 RSRV: REMOVED BUT RESERVED

3 EQUIPMENT SCHEDULES

CABLE LENGTHS FOR JUMPERS
 FIBER DISTRIBUTION/OVP TO RRU: 15'
 RRU TO ANTENNA: 10'

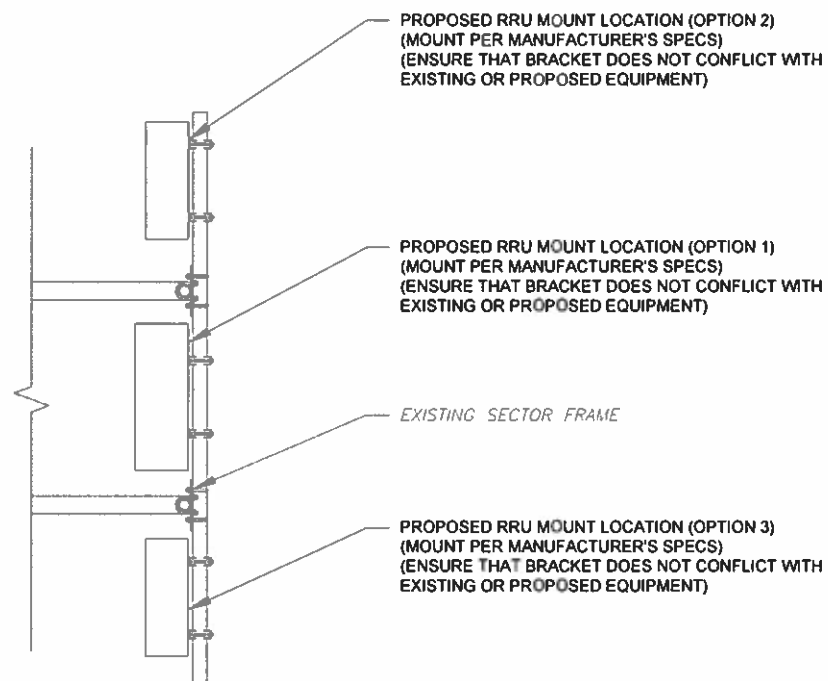
FINAL FIBER DISTRIBUTION/OVP BOX		FINAL CABLING SUMMARY			
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS	
(2) RRFDC-1064-PF-48	RMN	(6) 1-5/8"	-	RMN	
-	-	-	(2) 1-5/8"	ADD	



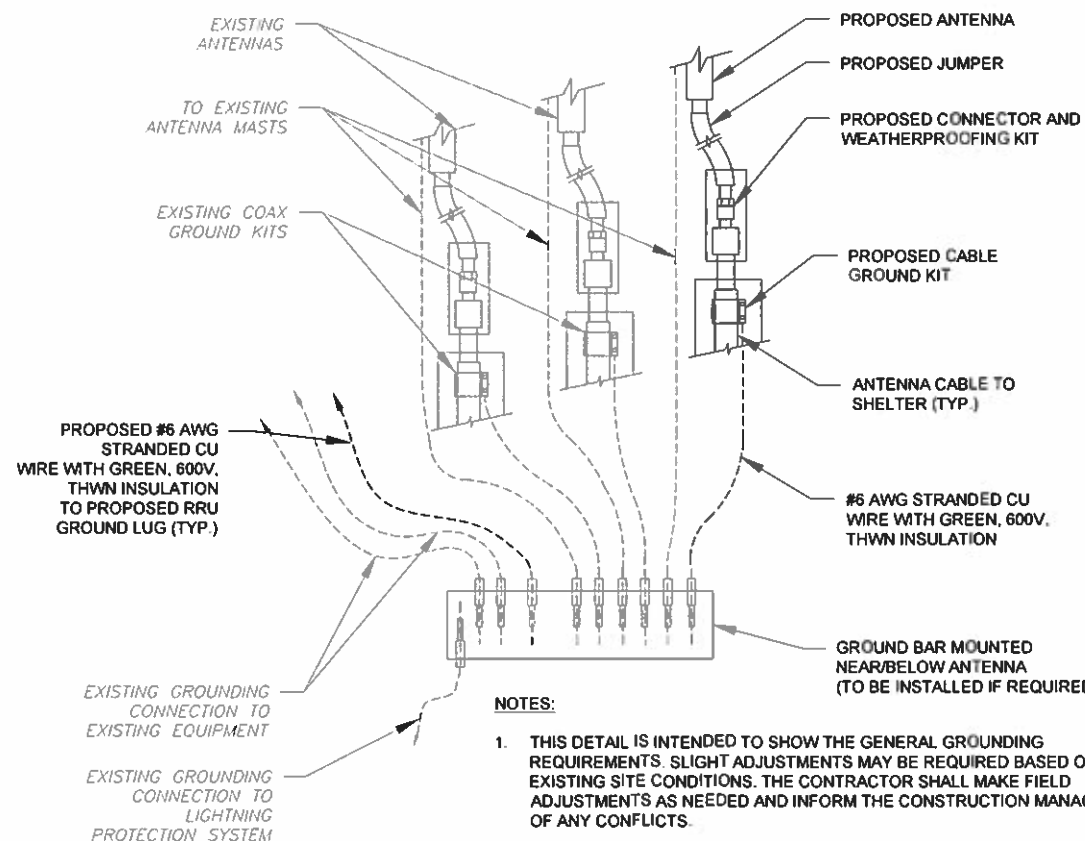
PROFILE VIEW

ISOMETRIC VIEW (BY MANUFACTURER)

1 PROPOSED SIDE-BY-SIDE MOUNT
SCALE: NOT TO SCALE



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: NOT TO SCALE



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 VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

3 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



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0	FOR CONSTRUCTION	TC	12/02/19

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411183

ATC SITE NAME:

WATERFORD CT

SITE ADDRESS:

53 DAYTON RD.
 WATERFORD, CT 06385

SEAL:



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CUSTOMER #:	15366009

CONSTRUCTION
 DETAILS

SHEET NUMBER:

C-502

REVISION:

0



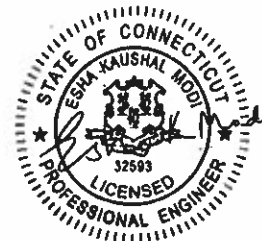
Antenna Mount Analysis Report

ATC Site Name : WATERFORD CT
ATC Site Number : 411183
Engineering Number : 12984591_C8_06
Mount Elevation : 131 ft
Carrier : Verizon Wireless
Carrier Site Name : WATERFORD CT
Carrier Site Number : 15366009
Site Location : 53 Dayton Rd.
 Waterford, CT 06385-4274
 41.377, -72.141
County : New London
Date : December 5, 2019
Max Usage : 62%
Result : Pass

Prepared By:
Geneva Liljestrand
Structural Engineer

Geneva Liljestrand

Reviewed By:



Authorized by "EOR"
05 Dec 2019 04:41:22

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for Verizon Wireless at 131 ft.

Analysis

Basic Wind Speed:	105 mph (3-Second Gust, Vasd) / 135 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Codes:	ANSI/TIA-222-G / 2015 / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	S _s = 0.163, S ₁ = 0.059
Site Class:	D - Stiff Soil
Live Loads:	L _m = 500 lbs, L _v = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount 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.

SUPPLEMENTAL

SHEET NUMBER:
R-601

REVISION:
1