

June 19, 2018

Melanie A. Bachman, Esq.  
Executive Director/Staff Attorney  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification  
119 Empire Avenue, Meriden, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the top of an existing 124-foot tower at 119 Empire Avenue in Meriden, Connecticut (the “Property”). The tower is owned by American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2005. Cellco now intends to replace six (6) of its existing antennas with six (6) new antennas (three (3) model JAHH-65B-R3B, 700/850 MHz antennas and three (3) model JAHH-65B-R3B, 1900/2100 MHz antennas) all at the same level on the tower. Cellco also intends to install three (3) remote radio heads (“RRHs”) and two (2) HYBRIFLEX™ fiber optic antenna cables. Included in Attachment 1 are specifications for Cellco’s replacement antennas, RRHs and HYBRIFLEX™ cables.

Please accept this letter as notification pursuant to R.C.S.A. § 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 Meriden’s Mayor, Kevin Scarpati; Robert Seale, Meriden’s Director of Development & Enforcement; 119 Empire Avenue LLC, the owner of the Property; and ATC, the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco’s new antennas and RRHs will be attached to its existing antenna platform at the 124-foot level of the tower.

Melanie A. Bachman, Esq.

June 19, 2018

Page 2

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 installation of replacement antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is included in Attachment 2.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The tower and its foundation can support Cellco's proposed modifications. (See Structural Analysis Report included in Attachment 3).

A copy of the parcel map and property owner information is included in Attachment 4. A Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

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

Sincerely,



Kenneth C. Baldwin

Enclosures

Copy to:

Kevin Scarpati, Mayor

Robert Seale, Director of Development & Enforcement

119 Empire Avenue LLC

ATC

Tim Parks

# **ATTACHMENT 1**



## JAHH-65B-R3B

**8-port sector antenna, 2x 698–787, 2x 824–894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB (Port 5).**

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

### Electrical Specifications

Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain, dBi	14.5	15.8	18.0	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR   Return Loss, dB	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	200	200	300	300	300	250
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

### Electrical Specifications, BASTA\*

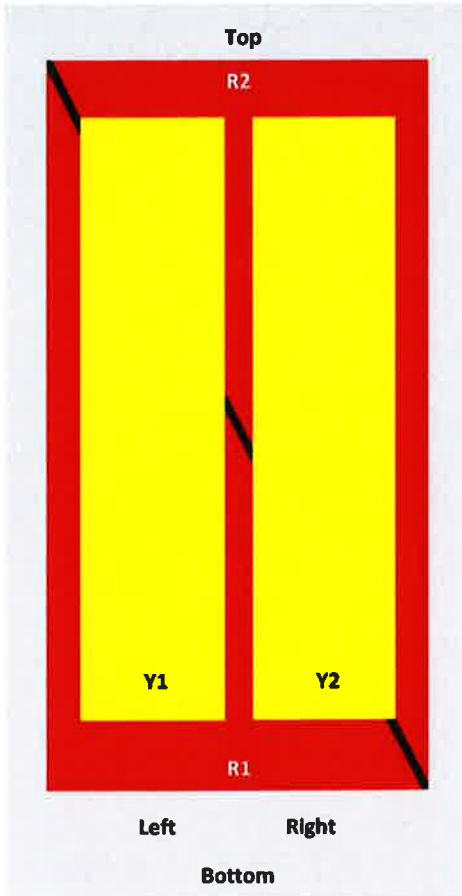
Frequency Band, MHz	698–787	824–894	1695–1880	1850–1990	1920–2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0.5	±0.6
Gain by Beam Tilt, average, dBi	2°   14.3	2°   15.0	0°   17.2	0°   17.6	0°   17.7	0°   17.9
	8°   14.3	8°   14.9	5°   17.6	5°   18.2	5°   18.3	5°   18.7
	14°   14.3	14°   15.4	10°   17.6	10°   18.2	10°   18.3	10°   18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0.1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24
CPR at Sector, dB	11	12	11	11	11	8

\* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

JAHH-65B-R3B

## Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-798	1-2	1	ANXXXXXXXXXXXXX1
R2	824-894	3-4	2	ANXXXXXXXXXXXXX2
Y1	1695-2360	5-6	3	ANXXXXXXXXXXXXX3
Y2	1695-2360	7-8		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

## General Specifications

Operating Frequency Band	1695 – 2360 MHz   698 – 787 MHz   824 – 894 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

## Mechanical Specifications

RF Connector Quantity, total	8
RF Connector Quantity, low band	4
RF Connector Quantity, high band	4
RF Connector Interface	4.3-10 Female

JAHH-65B-R3B

Color	Light gray
Grounding Type	RF connector body grounded to reflector and mounting bracket
Radiator Material	Aluminum   Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	301.0 N @ 150 km/h 67.7 lbf @ 150 km/h
Wind Loading, lateral	254.0 N @ 150 km/h 57.1 lbf @ 150 km/h
Wind Loading, maximum	638.0 N @ 150 km/h 143.4 lbf @ 150 km/h
Wind Speed, maximum	241 km/h   150 mph

## Dimensions

Length	1828.0 mm   72.0 in
Width	350.0 mm   13.8 in
Depth	208.0 mm   8.2 in
Net Weight, without mounting kit	28.7 kg   63.3 lb

## Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1   Port 5
Internal RET	High band (1)   Low band (2)
Power Consumption, idle state, maximum	2 W
Power Consumption, normal conditions, maximum	13 W
Protocol	3GPP/AISG 2.0 (Single RET)
RET Interface	8-pin DIN Female   8-pin DIN Male
RET Interface, quantity	2 female   2 male

## Packed Dimensions

Length	1975.0 mm   77.8 in
Width	456.0 mm   18.0 in
Depth	357.0 mm   14.1 in
Shipping Weight	42.0 kg   92.6 lb

## Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
China RoHS SJ/T 11364-2006	Above Maximum Concentration Value (MCV)
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system



JAHH-65BR3B

## Included Products

---

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

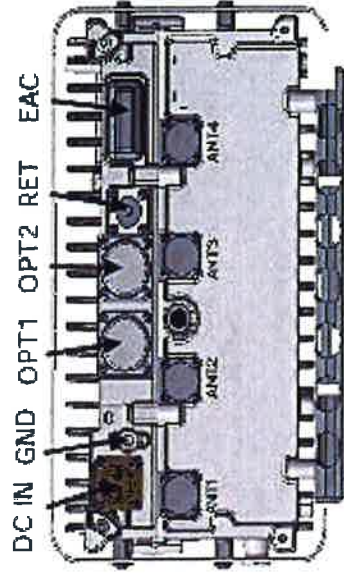
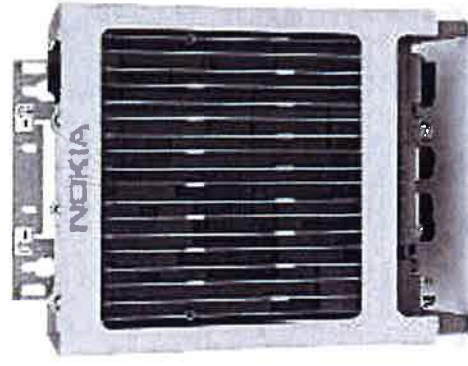
## \* Footnotes

---

Performance Note      Severe environmental conditions may degrade optimum performance

# AHCA AirScale RRH 4T4R B5 160W

Supported Frequency bands	3GPP band 5
Frequencies	DL 869-894MHz, UL 824-849MHz
Number of TX/RX paths/pipes	4TX/4RX
Instantaneous Bandwidth IBW	25MHz (Full Band)
Occupied Bandwidth OBW	25MHz (Full Band)
Output Power	4T4R @ 40W / 2T4R @ 60W
RF Sharing	LTE WCDMA, LTE + NB-IoT supported
256 QAM Back Off	No backoff at 40W and 0.8dB at 60W.
Supply Voltage / Voltage Range	DC -4.8V / -3.6V to -60V
Typical Power Consumption	365W [50% ETSI Busy Hour Load at 4 TX @ 40W]
	529W [100% RF Load at 4 TX @ 40W]
	574W [100% RF Load at 4 TX @ 40W with SBT and MISO ON]
Antenna Ports	4 Ports, 4.3-10+
Optical Ports	2x CPRI 9.8 Gbps
ALD Control Interfaces	MISO3.0 from ANT1, 2, 3, 4 and RET (Power supply ANT1 and ANT3)
Other Interfaces	External Alarm MDR-26 Serial connector (4 inputs, 1 Output) DC Circular Power Connector



Operational Temperature Range	-40°C to 55°C (with solar cover)
Dimensions (mm)	337 x 295 x 165 (radio only)
Height x width x depth	13.3" x 11.7" x 6.5" 428 x 324 x 208 (with bracket and enclosure) 16.9" x 12.8" x 8.2"
Volume (liters)	16.5
Weight (kg)	16 / 35.3 lb - w/o bracket
Ingress protection class	IP65
Installation options	Pole or Wall, vertical or horizontal Book Mount
Surge protection	Class II 5kA







**HYBRIFLEX™ RRH Hybrid Feeder Cabling Solution, 1-5/8", Single-Mode Fiber**

**Product Description**

RFS' HYBRIFLEX Remote Radio Head (RRH) hybrid feeder cabling solution combines optical fiber and DC power for RRHs in a single lightweight aluminum corrugated cable, making it the world's most innovative solution for RRH deployments.

It was developed to reduce installation complexity and costs at Cellular sites. HYBRIFLEX allows mobile operators deploying an RRH architecture to standardize the RRH installation process and eliminate the need for and cost of cable grounding. HYBRIFLEX combines optical fiber (multi-mode or single-mode) and power in a single corrugated cable. It eliminates the need for junction boxes and can connect multiple RRHs with a single feeder. Standard RFS CELLFLEX® accessories can be used with HYBRIFLEX cable. Both pre-connectorized and on-site options are available.

**Features/Benefits**

- Aluminum corrugated armor with outstanding bending characteristics - minimizes installation time and enables mechanical protection and shielding
- Same accessories as 1 5/8" coaxial cable
- Outer conductor grounding - Eliminates typical grounding requirements and saves on installation costs
- Lightweight solution and compact design - Decreases tower loading
- Robust cabling - Eliminates need for expensive cable trays and ducts
- Installation of tight bundled fiber optic cable pairs directly to the RRH - Reduces CAPEX and wind load by eliminating need for interconnection
- Optical fiber and power cables housed in single corrugated cable - Saves CAPEX by standardizing RRH cable installation and reducing installation requirements
- Outdoor polyethylene jacket - Ensures long-lasting cable protection



Figure 1: HYBRIFLEX Series

**Technical Specifications**

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
<b>Mechanical Properties</b>			
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
<b>Electrical Properties</b>			
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	0.68 (0.205)
DC-Resistance Power Cable, 8 4mm <sup>2</sup> (8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
<b>Optical Properties</b>			
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[μm]	50/125
Primary Coating (Acrylate)		[μm]	245
Buffer Diameter, Nominal		[μm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
<b>DC Power Cable Properties</b>			
Size (Power)		[mm (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
<b>Installation</b>			
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to 149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to 149)

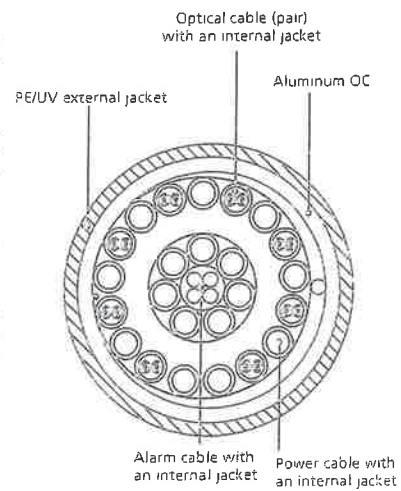


Figure 2: Construction Detail

All information contained in the present datasheet is subject to confirmation at time of ordering.

# **ATTACHMENT 2**

Site Name: Meriden N Tower Height: 124Ft	General		Power		Density							
	CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total			
*Nextel	24	100	75	851	0.1813	0.5673	3.20%					
*Cingular	2	419	97	850	0.0364	0.5667	0.64%					
*Cingular	2	817	97	1900	0.0710	1.0000	0.71%					
*Cingular	2	728	97	850	0.0632	0.5667	1.12%					
*Cingular	2	1298	97	700	0.1127	0.4667	2.42%					
*Cingular	2	2010	97	1900	0.1746	1.0000	1.75%					
*Sprint	2	693	105.3	1900	0.0505	1.0000	0.51%					
*Sprint	1	390	105.3	850	0.0142	0.5667	0.25%					
*Clearwire	2	153	105	2496	0.0112	1.0000	0.11%					
*Clearwire	1	211	110	11 GHz	0.0070	1.0000	0.07%					
*T-Mobile	2	2334	115	2100	0.1413	1.0000	1.41%					
*T-Mobile	1	865	115	700	0.0262	0.4667	0.56%					
*T-Mobile	2	1167	115	1900	0.0707	1.0000	0.71%					
*T-Mobile	2	1167	115	2100	0.0707	1.0000	0.71%					
<b>VZW PCS</b>	<b>1</b>	<b>0</b>	<b>124</b>	<b>0.0000</b>	<b>1970</b>	<b>1.0000</b>	<b>0.00%</b>					
<b>VZW Cellular</b>	<b>3</b>	<b>255</b>	<b>124</b>	<b>0.0179</b>	<b>876</b>	<b>0.5840</b>	<b>3.06%</b>					
<b>VZW Cellular</b>	<b>1</b>	<b>1451</b>	<b>124</b>	<b>0.0339</b>	<b>869</b>	<b>0.5793</b>	<b>5.86%</b>					
<b>VZW AWS</b>	<b>1</b>	<b>3304</b>	<b>124</b>	<b>0.0773</b>	<b>2145</b>	<b>1.0000</b>	<b>7.73%</b>					
<b>VZW 700</b>	<b>1</b>	<b>945</b>	<b>124</b>	<b>0.0221</b>	<b>746</b>	<b>0.4973</b>	<b>4.44%</b>				<b>24.48%</b>	
* Source: Siting Council												

# **ATTACHMENT 3**



**AMERICAN TOWER®**  
CORPORATION

---

## Structural Analysis Report

**Structure** : 124 ft Monopole  
**ATC Site Name** : Atlas Container, CT  
**ATC Site Number** : 383657  
**Engineering Number** : 12365545  
**Proposed Carrier** : Verizon Wireless  
**Carrier Site Name** : Meriden North CT  
**Carrier Site Number** : LC468208  
**Site Location** : 119 Empire Ave.  
Meriden, CT  
41.57305556, 72.77916667  
**County** : New Haven  
**Date** : March 1, 2018  
**Max Usage** : 34%  
**Result** : Pass

Prepared By:  
Isaac P. Dodson  
Structural Engineer II

*Isaac P. Dodson*

Reviewed By:



Mar 1 2018 5:42 PM **cosign**

**COA: PEC.0001553**



**Table of Contents**

Introduction .....	1
Supporting Documents .....	1
Analysis .....	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
Proposed Equipment .....	2
Structure Usages .....	3
Foundations .....	3
Deflection, Twist, and Sway.....	3
Standard Conditions .....	4
Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 124 ft monopole to reflect the change in loading by Verizon Wireless.

## Supporting Documents

<b>Tower Drawings</b>	EET Project #13454, dated October 20, 2005 Mapping by ETS Job #141008, dated November 14, 2014
<b>Foundation Drawing</b>	Mapping by ETS Job #141008, dated November 17, 2014

## Analysis

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

<b>Basic Wind Speed:</b>	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
<b>Basic Wind Speed w/ Ice:</b>	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft

## 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](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



**Existing and Reserved Equipment**

Elevation <sup>1</sup> (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
124.0	124.0	3	Alcatel-Lucent RRH4x45W-AWS	Low Profile Platform w/ Commscope BSAMNT-SBS-2-2	(6) 1 5/8 Coax	Verizon
		3	Alcatel-Lucent RRH4x30-B13-LTE			
		2	RFS DB-T1-6Z-8AB-OZ			
		6	Antel LPA-80080/4CF			
114.0	114.0	3	Ericsson KRY 112 71	Low Profile Platform	(12) 1 5/8 Coax	T-Mobile
		3	EMS RR90-17-02DP			
		6	Ericsson AIR 21, 1.3M, B2A B4P			

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
124.0	124.0	9	Existing Antennas	-	(6) 1 5/8 Coax	Verizon

**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	RAD					
124.0	124.0	3	Nokia 850 Airscale RRH 4T4R B5	Low Profile Platform w/ Commscope BSAMNT-SBS-2-2	(2) 1 5/8 Hybriflex	Verizon
		6	Commscope JAHH-65B-R3B			

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

Install proposed coax inside the pole shaft.



**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	34%	Pass
Shaft	19%	Pass
Base Plate	24%	Pass

**Foundations**

Reaction Component	Combined Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,014.3	6%
Axial (Kips)	97.1	7%
Shear (Kips)	52.6	4%

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

**Deflection and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
124.0	Nokia 850 Airscale RRH 4T4R B5	Verizon Wireless	0.257	0.213
	Commscope JAHH-65B-R3B			

\*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



## **Standard Conditions**

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

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

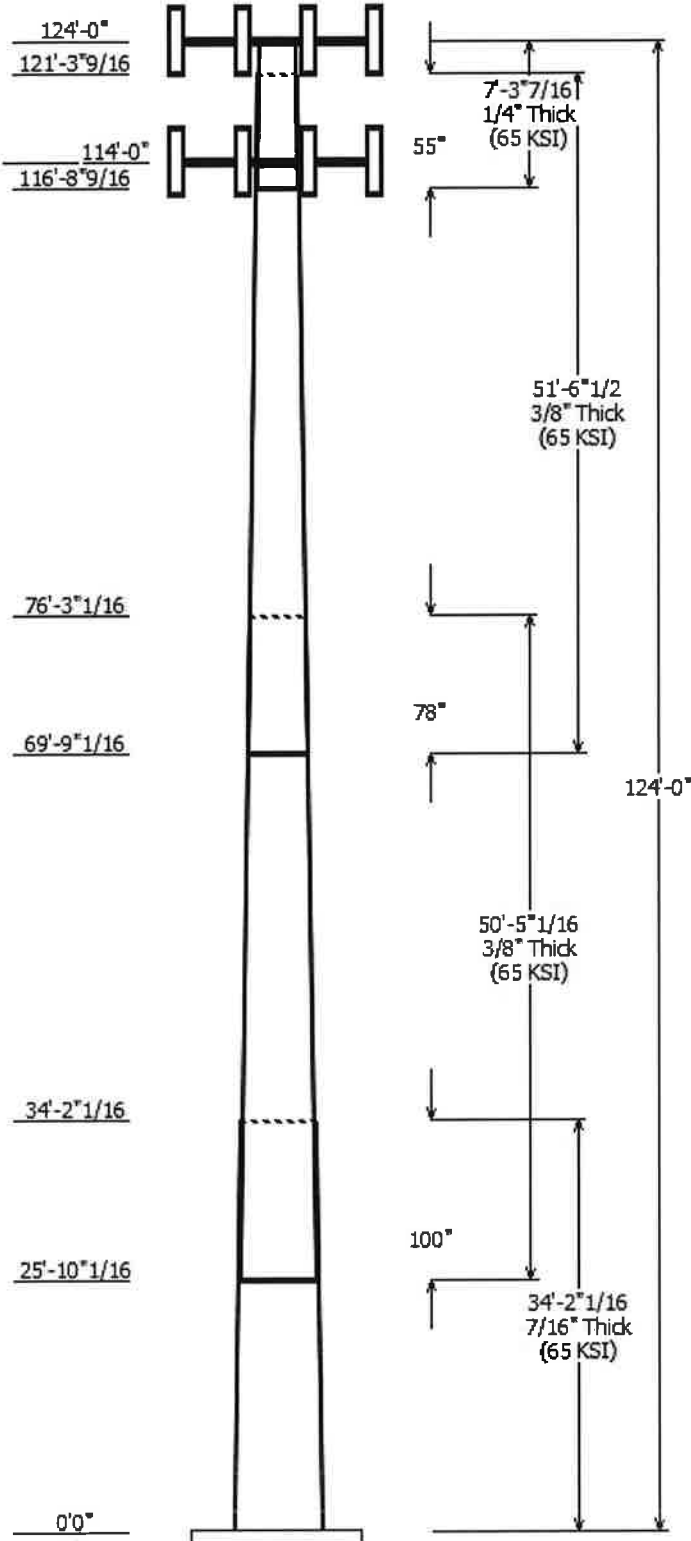
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

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

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

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

© 2007 - 2018 by ATC IP LLC. All rights reserved.



Job Information	
Pole : 383657	Code: ANSI/TIA-222-G
Location : Atlas Container, CT	
Description : 125' EEI Monopole	
Client : Verizon Wireless	Struct Class : II
Shape : 18 Sides	Exposure : B
Height : 124.00 (ft)	Topo : 1
Base Elev (ft): 1.00	
Taper: 0.33870(in/ft)	

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Shape	Steel Grade (ksi)
		Across Top	Across Bottom					
1	34.170	58.42	70.00	0.438		0.000	18 Sides	65
2	50.420	44.92	61.99	0.375	Slip Joint	100.000	18 Sides	65
3	51.540	30.41	47.87	0.375	Slip Joint	78.000	18 Sides	65
4	7.287	30.00	32.46	0.250	Slip Joint	55.000	18 Sides	65

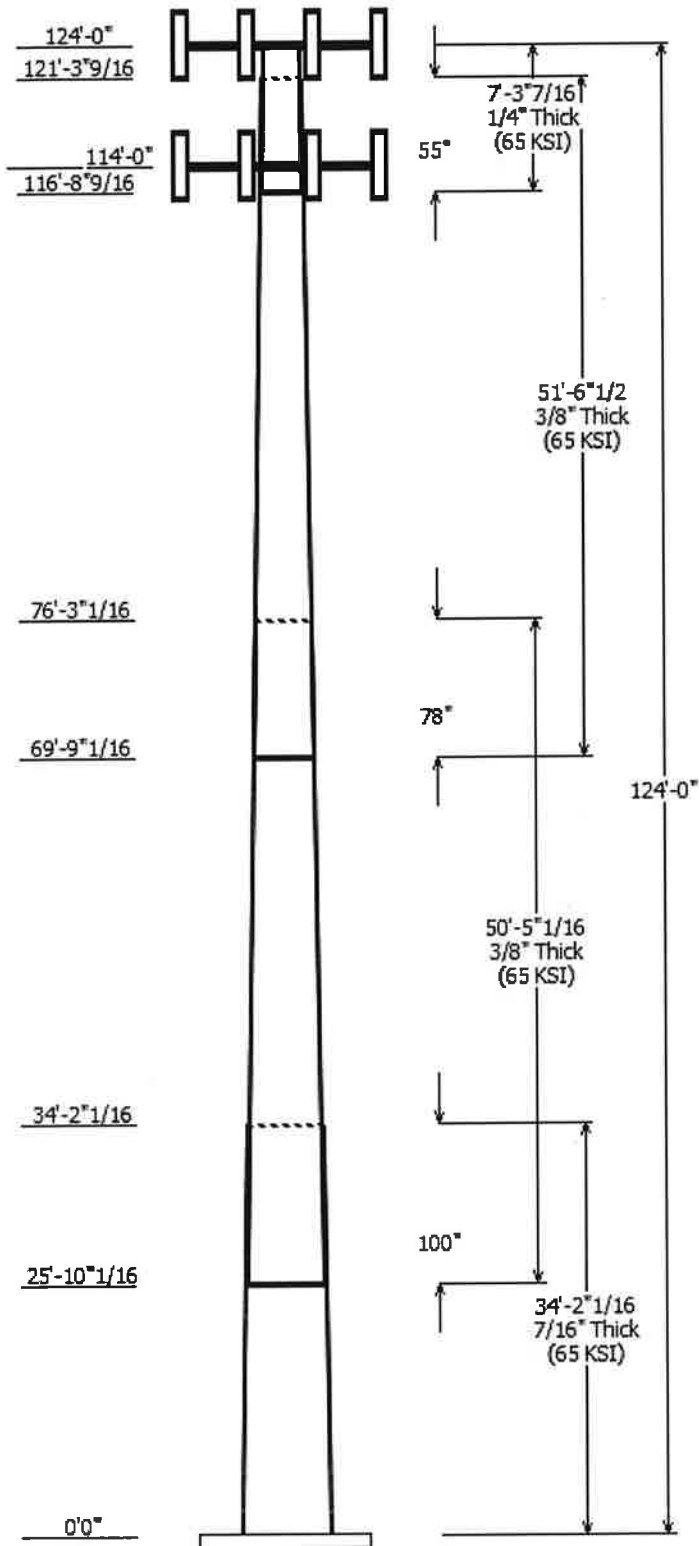
Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
124.000	124.000	1	Flat Low Profile Platform	
124.000	124.000	6	Commscope JAHH-65B-R3B	
124.000	124.000	6	Antel LPA-80080/4CF	
124.000	124.000	2	RFS DB-T1-6Z-8AB-OZ	
124.000	124.000	3	Alcatel-Lucent RRH4x30-B13-	
124.000	124.000	3	Alcatel-Lucent RRH4x45W-	
124.000	124.000	3	Nokia 850 Airscale RRH 4T4R B5	
114.000	114.000	1	Flat Low Profile Platform	
114.000	114.000	6	Ericsson AIR 21, 1.3M, B2A B4P	
114.000	114.000	3	EMS RR90-17-02DP	
114.000	114.000	3	Ericsson KRY 112 71	

Linear Appurtenance				
Elev (ft)		Description	Exposed To Wind	
From	To			
0.000	114.0	1 5/8" Coax	No	
0.000	114.0	1 5/8" Hybriflex	No	
0.000	124.0	1 5/8" Coax	No	
0.000	124.0	1 5/8" Hybriflex	No	

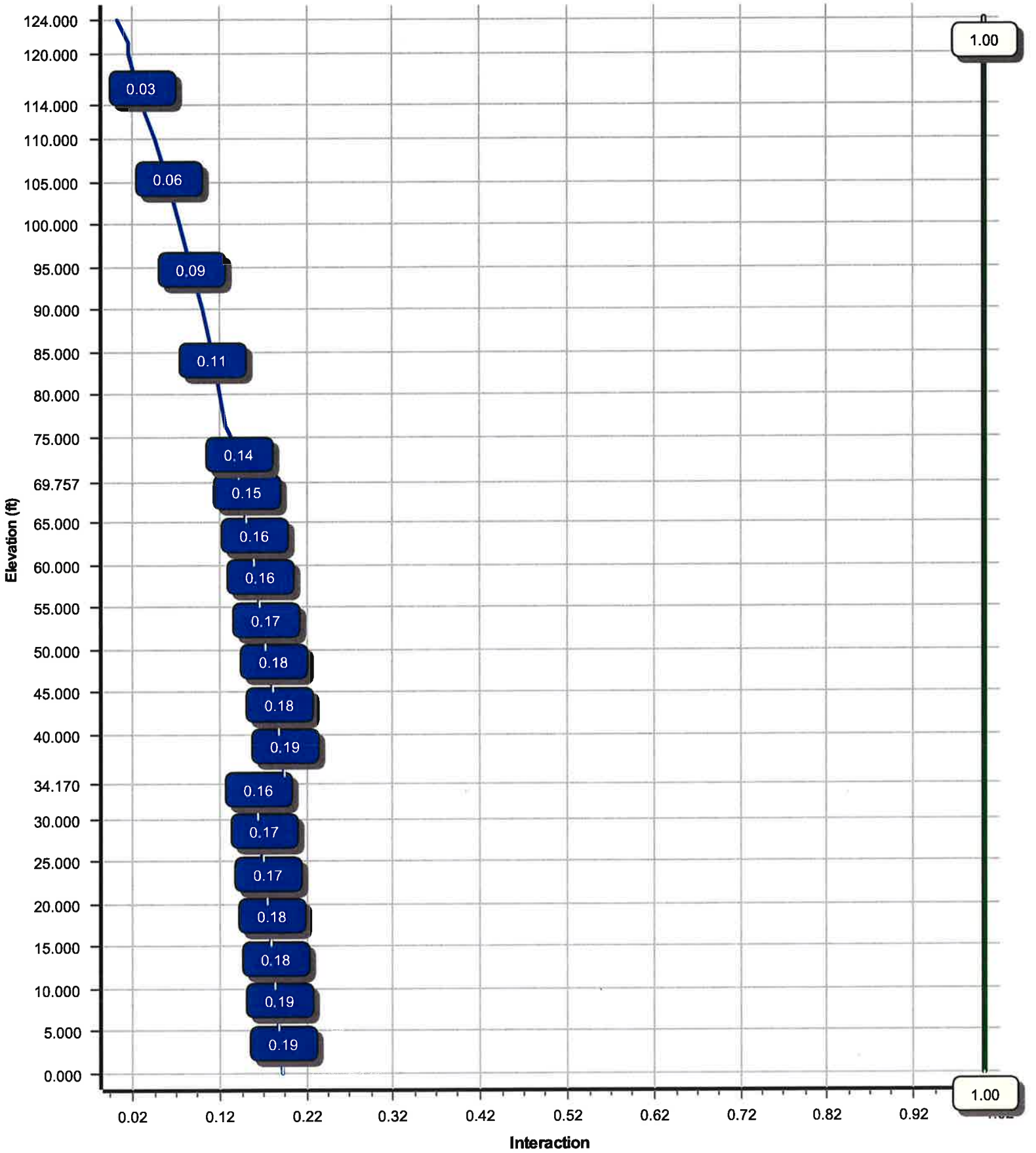
Load Cases	
1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
1.0D + 1.0W	Serviceability 60 mph

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	1587.26	18.64	43.90
0.9D + 1.6W	1583.06	18.64	32.93
1.2D + 1.0Di + 1.0Wi	416.56	5.22	61.15
1.0D + 1.0W	378.87	4.46	36.59

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



**Load Case : 1.2D + 1.6W**  
**Max Ratio 19.25% at 34.2 ft**



---

---

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:26:57 PM

---

---

### Analysis Parameters

Location :	New Haven County, CT	Height (ft) :	124
Code :	ANSI/TIA-222-G	Base Diameter (in) :	70.00
Shape :	18 Sides	Top Diameter (in) :	30.00
Pole Type :	Taper	Taper (in/ft) :	0.339
Pole Manufacturer :	EEl	Rotation (deg) :	0.00

---

---

### Ice & Wind Parameters

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

---

---

### Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
1.0D + 1.0W	Serviceability 60 mph

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number:12365545

3/1/2018 4:26:57 PM

Customer: Verizon Wireless

**Shaft Section Properties**

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom							Top						
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	34.170	0.4375	65		0.00	10,297	70.00	0.00	96.59	59053.8	26.80	160.00	58.42	34.17	80.52	34210.7	22.14	133.55	0.338701	
2-18	50.420	0.3750	65	Slip	100.00	10,840	61.99	25.84	73.35	35190.7	27.74	165.33	44.92	76.26	53.02	13293.1	19.71	119.79	0.338701	
3-18	51.540	0.3750	65	Slip	78.00	8,093	47.87	69.76	56.53	16114.3	21.10	127.66	30.41	121.30	35.76	4077.1	12.89	81.11	0.338701	
4-18	7.287	0.2500	65	Slip	55.00	610	32.46	116.71	25.56	3352.9	21.49	129.88	30.00	124.00	23.61	2640.0	19.75	120.00	0.338701	
Shaft Weight						29,839														

**Discrete Appurtenance Properties**

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
124.00	Alcatel-Lucent RRH4x30-B13-LT	3	0.000	0.000	53.00	2.400	0.67
124.00	Alcatel-Lucent RRH4x45W-AWS	3	0.000	0.000	56.00	2.190	0.67
124.00	Antel LPA-80080/4CF	6	0.000	0.000	12.00	6.060	0.72
124.00	Commscope JAHH-65B-R3B	6	0.000	0.000	63.30	9.660	0.70
124.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
124.00	Nokia 850 Airscale RRH 4T4R B5	3	0.000	0.000	35.30	1.760	0.67
124.00	RFS DB-T1-6Z-8AB-OZ	2	0.000	0.000	44.00	2.930	0.67
114.00	EMS RR90-17-02DP	3	0.000	0.000	13.50	4.360	0.73
114.00	Ericsson AIR 21, 1.3M, B2A B4P	6	0.000	0.000	83.00	6.530	0.83
114.00	Ericsson KRY 112 71	3	0.000	0.000	13.20	0.680	0.50
114.00	Flat Low Profile Platform	1	0.000	0.000	1500.00	26.100	1.00
Totals	Num Loadings:11	37			4550.80		

**Linear Appurtenance Properties**

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Projected Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	124.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon Wireless
0.00	124.00	2	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	T-Mobile
0.00	114.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	114.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	T-Mobile

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:26:57 PM

Customer: Verizon Wireless

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in <sup>2</sup> )	Ix (in <sup>4</sup> )	W/t Ratio	D/t Ratio	F'y (ksi)	S (in <sup>3</sup> )	Z (in <sup>3</sup> )	Weight (lb)
0.00		0.4375	70.000	96.593	59,053.8	26.80	160.00	69.9	1661.	0.0	0.0
5.00		0.4375	68.306	94.241	54,845.0	26.12	156.13	70.7	1581.	0.0	1,623.4
10.00		0.4375	66.613	91.890	50,841.0	25.44	152.26	71.5	1503.	0.0	1,583.4
15.00		0.4375	64.919	89.538	47,036.8	24.75	148.39	72.3	1427.	0.0	1,543.4
20.00		0.4375	63.226	87.187	43,427.3	24.07	144.52	73.1	1352.	0.0	1,503.4
25.00		0.4375	61.532	84.835	40,007.3	23.39	140.65	73.9	1280.	0.0	1,463.4
25.84	Bot - Section 2	0.4375	61.249	84.441	39,453.2	23.27	140.00	74.0	1268.	0.0	241.0
30.00		0.4375	59.839	82.483	36,771.7	22.71	136.77	74.7	1210.	0.0	2,209.6
34.17	Top - Section 1	0.3750	59.177	69.986	30,573.4	26.41	157.80	70.3	1017.	0.0	2,161.5
35.00		0.3750	58.895	69.651	30,137.0	26.28	157.05	70.5	1007.	0.0	197.2
40.00		0.3750	57.202	67.636	27,595.6	25.49	152.54	71.4	950.2	0.0	1,167.9
45.00		0.3750	55.508	65.620	25,201.2	24.69	148.02	72.4	894.2	0.0	1,133.6
50.00		0.3750	53.815	63.605	22,949.6	23.89	143.51	73.3	839.9	0.0	1,099.3
55.00		0.3750	52.121	61.589	20,836.2	23.10	138.99	74.2	787.4	0.0	1,065.0
60.00		0.3750	50.428	59.573	18,856.7	22.30	134.47	75.2	736.5	0.0	1,030.7
65.00		0.3750	48.734	57.558	17,006.7	21.50	129.96	76.1	687.3	0.0	996.4
69.76	Bot - Section 3	0.3750	47.123	55.640	15,363.0	20.75	125.66	77.0	642.1	0.0	916.1
70.00		0.3750	47.041	55.542	15,281.9	20.71	125.44	77.0	639.9	0.0	92.8
75.00		0.3750	45.347	53.527	13,677.8	19.91	120.93	78.0	594.1	0.0	1,870.9
76.26	Top - Section 2	0.3750	45.672	53.913	13,975.9	20.06	121.79	77.8	602.7	0.0	459.4
80.00		0.3750	44.404	52.404	12,834.8	19.47	118.41	78.5	569.3	0.0	677.1
85.00		0.3750	42.710	50.388	11,410.1	18.67	113.89	79.4	526.2	0.0	874.4
90.00		0.3750	41.017	48.372	10,094.8	17.88	109.38	80.4	484.7	0.0	840.1
95.00		0.3750	39.323	46.357	8,884.8	17.08	104.86	81.3	445.0	0.0	805.9
100.0		0.3750	37.630	44.341	7,775.5	16.28	100.35	82.2	407.0	0.0	771.6
105.0		0.3750	35.936	42.325	6,762.6	15.49	95.83	82.6	370.6	0.0	737.3
110.0		0.3750	34.243	40.310	5,841.7	14.69	91.31	82.6	336.0	0.0	703.0
114.0		0.3750	32.888	38.697	5,168.4	14.05	87.70	82.6	309.5	0.0	537.7
115.0		0.3750	32.549	38.294	5,008.5	13.89	86.80	82.6	303.1	0.0	131.0
116.7	Bot - Section 4	0.3750	31.969	37.604	4,742.4	13.62	85.25	82.6	292.2	0.0	221.2
120.0		0.3750	30.856	36.279	4,258.5	13.10	82.28	82.6	271.8	0.0	694.1
121.3	Top - Section 3	0.2500	30.917	24.333	2,891.3	20.40	123.67	77.4	184.2	0.0	267.1
124.0		0.2500	30.001	23.607	2,639.9	19.75	120.00	78.2	173.3	0.0	220.5
29,839.3											



Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number:12365545

3/1/2018 4:26:57 PM

Customer: Verizon Wireless

**Load Case: 1.2D + 1.6W**

**97 mph with No Ice**

**17 Iterations**

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

**Applied Segment Forces Summary**

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		268.1	0.0					0.0	0.0	268.1	0.0	0.0	0.0
5.00		529.6	1,948.1					0.0	112.0	529.6	2,060.1	0.0	0.0
10.00		516.4	1,900.1					0.0	112.0	516.4	2,012.0	0.0	0.0
15.00		503.3	1,852.1					0.0	112.0	503.3	1,964.0	0.0	0.0
20.00		490.2	1,804.1					0.0	112.0	490.2	1,916.0	0.0	0.0
25.00		281.6	1,756.1					0.0	112.0	281.6	1,868.0	0.0	0.0
25.84	Bot - Section 2	237.7	289.2					0.0	18.7	237.7	307.9	0.0	0.0
30.00		397.1	2,651.5					0.0	93.2	397.1	2,744.7	0.0	0.0
34.17	Top - Section 1	239.2	2,593.8					0.0	93.4	239.2	2,687.2	0.0	0.0
35.00		281.8	236.6					0.0	18.6	281.8	255.2	0.0	0.0
40.00		485.0	1,401.5					0.0	112.0	485.0	1,513.4	0.0	0.0
45.00		486.4	1,360.3					0.0	112.0	486.4	1,472.3	0.0	0.0
50.00		485.7	1,319.2					0.0	112.0	485.7	1,431.1	0.0	0.0
55.00		483.2	1,278.0					0.0	112.0	483.2	1,390.0	0.0	0.0
60.00		479.1	1,236.9					0.0	112.0	479.1	1,348.8	0.0	0.0
65.00		462.2	1,195.7					0.0	112.0	462.2	1,307.7	0.0	0.0
69.76	Bot - Section 3	235.4	1,099.3					0.0	106.5	235.4	1,205.8	0.0	0.0
70.00		246.8	111.4					0.0	5.4	246.8	116.8	0.0	0.0
75.00		293.8	2,245.0					0.0	112.0	293.8	2,357.0	0.0	0.0
76.26	Top - Section 2	231.1	551.3					0.0	28.1	231.1	579.4	0.0	0.0
80.00		399.0	812.5					0.0	83.8	399.0	896.4	0.0	0.0
85.00		447.7	1,049.3					0.0	112.0	447.7	1,161.3	0.0	0.0
90.00		436.9	1,008.2					0.0	112.0	436.9	1,120.1	0.0	0.0
95.00		425.3	967.0					0.0	112.0	425.3	1,079.0	0.0	0.0
100.00		413.0	925.9					0.0	112.0	413.0	1,037.8	0.0	0.0
105.00		399.9	884.7					0.0	112.0	399.9	996.7	0.0	0.0
110.00		348.7	843.6					0.0	112.0	348.7	955.5	0.0	0.0
114.00	Appurtenance(s)	189.5	645.2	2,865.8	0.0	0.0	2,493.7	0.0	89.6	3,055.3	3,228.5	0.0	0.0
115.00		100.6	157.2					0.0	9.0	100.6	166.2	0.0	0.0
116.71	Bot - Section 4	184.0	265.5					0.0	15.5	184.0	281.0	0.0	0.0
120.00		167.5	832.9					0.0	29.7	167.5	862.6	0.0	0.0
121.30	Top - Section 3	142.5	320.5					0.0	11.7	142.5	332.2	0.0	0.0
124.00	Appurtenance(s)	95.8	264.6	4,646.7	0.0	0.0	2,967.2	0.0	24.4	4,742.4	3,256.2	0.0	0.0
<b>Totals:</b>										<b>18,896.3</b>	<b>43,911.1</b>	<b>0.00</b>	<b>0.00</b>

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number:12365545

3/1/2018 4:26:58 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W

97 mph with No Ice

17 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-43.90	-18.64	0.00	-1,587.26	0.00	1,587.26	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.190
5.00	-41.83	-18.14	0.00	-1,494.05	0.00	1,494.05	5,994.87	2,997.44	16,741.6	8,383.28	0.02	-0.04	0.185
10.00	-39.81	-17.65	0.00	-1,403.35	0.00	1,403.35	5,911.67	2,955.84	16,094.7	8,059.33	0.08	-0.07	0.181
15.00	-37.84	-17.17	0.00	-1,315.11	0.00	1,315.11	5,825.08	2,912.54	15,450.4	7,736.72	0.18	-0.11	0.177
20.00	-35.91	-16.70	0.00	-1,229.28	0.00	1,229.28	5,735.08	2,867.54	14,809.5	7,415.79	0.32	-0.15	0.172
25.00	-34.04	-16.42	0.00	-1,145.80	0.00	1,145.80	5,641.69	2,820.85	14,172.7	7,096.91	0.50	-0.19	0.168
25.84	-33.72	-16.20	0.00	-1,132.06	0.00	1,132.06	5,625.73	2,812.87	14,066.6	7,043.78	0.53	-0.20	0.167
30.00	-30.97	-15.81	0.00	-1,064.64	0.00	1,064.64	5,544.90	2,772.45	13,540.7	6,780.44	0.72	-0.23	0.163
34.17	-28.28	-15.56	0.00	-998.73	0.00	998.73	4,430.07	2,215.04	10,719.5	5,367.75	0.93	-0.26	0.192
35.00	-28.02	-15.29	0.00	-985.81	0.00	985.81	4,418.64	2,209.32	10,640.4	5,328.14	0.98	-0.27	0.191
40.00	-26.50	-14.82	0.00	-909.34	0.00	909.34	4,347.78	2,173.89	10,164.9	5,090.01	1.29	-0.31	0.185
45.00	-25.01	-14.35	0.00	-835.22	0.00	835.22	4,273.52	2,136.76	9,691.61	4,853.01	1.64	-0.36	0.178
50.00	-23.58	-13.87	0.00	-763.49	0.00	763.49	4,195.87	2,097.93	9,221.24	4,617.48	2.04	-0.40	0.171
55.00	-22.18	-13.39	0.00	-694.14	0.00	694.14	4,114.82	2,057.41	8,754.54	4,383.78	2.49	-0.45	0.164
60.00	-20.82	-12.92	0.00	-627.16	0.00	627.16	4,030.37	2,015.18	8,292.22	4,152.27	2.99	-0.50	0.156
65.00	-19.51	-12.46	0.00	-562.56	0.00	562.56	3,942.52	1,971.26	7,834.99	3,923.32	3.53	-0.54	0.148
69.76	-18.30	-12.22	0.00	-503.29	0.00	503.29	3,855.79	1,927.90	7,405.40	3,708.20	4.09	-0.58	0.141
70.00	-18.18	-11.98	0.00	-500.31	0.00	500.31	3,851.27	1,925.64	7,383.57	3,697.27	4.12	-0.58	0.140
75.00	-15.82	-11.67	0.00	-440.41	0.00	440.41	3,756.63	1,878.31	6,938.67	3,474.49	4.76	-0.63	0.131
76.26	-15.24	-11.44	0.00	-425.74	0.00	425.74	3,775.02	1,887.51	7,023.35	3,516.89	4.93	-0.64	0.125
80.00	-14.34	-11.04	0.00	-382.93	0.00	382.93	3,702.42	1,851.21	6,693.90	3,351.93	5.44	-0.67	0.118
85.00	-13.18	-10.59	0.00	-327.74	0.00	327.74	3,602.49	1,801.24	6,260.58	3,134.95	6.17	-0.71	0.108
90.00	-12.06	-10.14	0.00	-274.82	0.00	274.82	3,499.15	1,749.58	5,835.62	2,922.15	6.93	-0.75	0.098
95.00	-10.98	-9.71	0.00	-224.11	0.00	224.11	3,392.42	1,696.21	5,419.72	2,713.89	7.74	-0.78	0.086
100.00	-9.95	-9.29	0.00	-175.57	0.00	175.57	3,282.29	1,641.15	5,013.60	2,510.53	8.58	-0.82	0.073
105.00	-8.95	-8.88	0.00	-129.14	0.00	129.14	3,144.57	1,572.29	4,582.72	2,294.77	9.45	-0.84	0.059
110.00	-8.00	-8.52	0.00	-84.76	0.00	84.76	2,994.82	1,497.41	4,154.47	2,080.32	10.35	-0.87	0.043
114.00	-4.82	-5.41	0.00	-50.70	0.00	50.70	2,875.02	1,437.51	3,826.99	1,916.34	11.08	-0.88	0.028
115.00	-4.65	-5.31	0.00	-45.29	0.00	45.29	2,845.07	1,422.54	3,747.22	1,876.40	11.26	-0.88	0.026
116.71	-4.37	-5.12	0.00	-36.19	0.00	36.19	2,793.76	1,396.88	3,612.51	1,808.94	11.58	-0.89	0.022
120.00	-3.51	-4.94	0.00	-19.36	0.00	19.36	2,695.32	1,347.66	3,360.98	1,682.99	12.19	-0.89	0.013
121.30	-3.18	-4.79	0.00	-12.96	0.00	12.96	1,695.32	847.66	2,135.65	1,069.41	12.44	-0.89	0.014
124.00	0.00	-4.74	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	12.94	-0.89	0.000

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:26:58 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

17 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

### Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces			Sum of Forces			
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		268.1	0.0					0.0	0.0	268.1	0.0	0.0	0.0
5.00		529.6	1,461.1					0.0	84.0	529.6	1,545.0	0.0	0.0
10.00		516.4	1,425.1					0.0	84.0	516.4	1,509.0	0.0	0.0
15.00		503.3	1,389.1					0.0	84.0	503.3	1,473.0	0.0	0.0
20.00		490.2	1,353.0					0.0	84.0	490.2	1,437.0	0.0	0.0
25.00		281.6	1,317.0					0.0	84.0	281.6	1,401.0	0.0	0.0
25.84	Bot - Section 2	237.7	216.9					0.0	14.1	237.7	230.9	0.0	0.0
30.00		397.1	1,988.6					0.0	69.9	397.1	2,058.6	0.0	0.0
34.17	Top - Section 1	239.2	1,945.3					0.0	70.0	239.2	2,015.4	0.0	0.0
35.00		281.8	177.5					0.0	13.9	281.8	191.4	0.0	0.0
40.00		485.0	1,051.1					0.0	84.0	485.0	1,135.1	0.0	0.0
45.00		486.4	1,020.2					0.0	84.0	486.4	1,104.2	0.0	0.0
50.00		485.7	989.4					0.0	84.0	485.7	1,073.3	0.0	0.0
55.00		483.2	958.5					0.0	84.0	483.2	1,042.5	0.0	0.0
60.00		479.1	927.6					0.0	84.0	479.1	1,011.6	0.0	0.0
65.00		462.2	896.8					0.0	84.0	462.2	980.8	0.0	0.0
69.76	Bot - Section 3	235.4	824.5					0.0	79.9	235.4	904.4	0.0	0.0
70.00		246.8	83.5					0.0	4.1	246.8	87.6	0.0	0.0
75.00		293.8	1,683.8					0.0	84.0	293.8	1,767.8	0.0	0.0
76.26	Top - Section 2	231.1	413.5					0.0	21.1	231.1	434.6	0.0	0.0
80.00		399.0	609.4					0.0	62.9	399.0	672.3	0.0	0.0
85.00		447.7	787.0					0.0	84.0	447.7	871.0	0.0	0.0
90.00		436.9	756.1					0.0	84.0	436.9	840.1	0.0	0.0
95.00		425.3	725.3					0.0	84.0	425.3	809.2	0.0	0.0
100.00		413.0	694.4					0.0	84.0	413.0	778.4	0.0	0.0
105.00		399.9	663.5					0.0	84.0	399.9	747.5	0.0	0.0
110.00		348.7	632.7					0.0	84.0	348.7	716.6	0.0	0.0
114.00	Appurtenance(s)	189.5	483.9	2,865.8	0.0	0.0	1,870.3	0.0	67.2	3,055.3	2,421.4	0.0	0.0
115.00		100.6	117.9					0.0	6.8	100.6	124.7	0.0	0.0
116.71	Bot - Section 4	184.0	199.1					0.0	11.6	184.0	210.7	0.0	0.0
120.00		167.5	624.7					0.0	22.2	167.5	646.9	0.0	0.0
121.30	Top - Section 3	142.5	240.3					0.0	8.8	142.5	249.1	0.0	0.0
124.00	Appurtenance(s)	95.8	198.4	4,646.7	0.0	0.0	2,225.4	0.0	18.3	4,742.4	2,442.2	0.0	0.0
Totals:										18,896.3	32,933.3	0.00	0.00

<b>Load Case:</b> 0.9D + 1.6W	97 mph with No Ice (Reduced DL)	17 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 0.90		
Wind Load Factor : 1.60		

**Calculated Forces**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.93	-18.64	0.00	-1,583.06	0.00	1,583.06	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.187
5.00	-31.37	-18.13	0.00	-1,489.86	0.00	1,489.86	5,994.87	2,997.44	16,741.6	8,383.28	0.02	-0.04	0.183
10.00	-29.85	-17.63	0.00	-1,399.22	0.00	1,399.22	5,911.67	2,955.84	16,094.7	8,059.33	0.08	-0.07	0.179
15.00	-28.37	-17.14	0.00	-1,311.06	0.00	1,311.06	5,825.08	2,912.54	15,450.4	7,736.72	0.18	-0.11	0.174
20.00	-26.92	-16.67	0.00	-1,225.34	0.00	1,225.34	5,735.08	2,867.54	14,809.5	7,415.79	0.32	-0.15	0.170
25.00	-25.51	-16.39	0.00	-1,142.00	0.00	1,142.00	5,641.69	2,820.85	14,172.7	7,096.91	0.50	-0.19	0.165
25.84	-25.28	-16.16	0.00	-1,128.28	0.00	1,128.28	5,625.73	2,812.87	14,066.6	7,043.78	0.53	-0.20	0.165
30.00	-23.21	-15.77	0.00	-1,060.99	0.00	1,060.99	5,544.90	2,772.45	13,540.7	6,780.44	0.72	-0.23	0.161
34.17	-21.19	-15.53	0.00	-995.22	0.00	995.22	4,430.07	2,215.04	10,719.5	5,367.75	0.93	-0.26	0.190
35.00	-20.99	-15.26	0.00	-982.33	0.00	982.33	4,418.64	2,209.32	10,640.4	5,328.14	0.98	-0.27	0.189
40.00	-19.85	-14.78	0.00	-906.04	0.00	906.04	4,347.78	2,173.89	10,164.9	5,090.01	1.28	-0.31	0.183
45.00	-18.74	-14.30	0.00	-832.13	0.00	832.13	4,273.52	2,136.76	9,691.61	4,853.01	1.64	-0.36	0.176
50.00	-17.66	-13.83	0.00	-760.60	0.00	760.60	4,195.87	2,097.93	9,221.24	4,617.48	2.04	-0.40	0.169
55.00	-16.61	-13.35	0.00	-691.47	0.00	691.47	4,114.82	2,057.41	8,754.54	4,383.78	2.49	-0.45	0.162
60.00	-15.59	-12.87	0.00	-624.73	0.00	624.73	4,030.37	2,015.18	8,292.22	4,152.27	2.98	-0.49	0.154
65.00	-14.60	-12.41	0.00	-560.37	0.00	560.37	3,942.52	1,971.26	7,834.99	3,923.32	3.52	-0.54	0.147
69.76	-13.70	-12.17	0.00	-501.33	0.00	501.33	3,855.79	1,927.90	7,405.40	3,708.20	4.08	-0.58	0.139
70.00	-13.61	-11.93	0.00	-498.36	0.00	498.36	3,851.27	1,925.64	7,383.57	3,697.27	4.11	-0.58	0.138
75.00	-11.84	-11.62	0.00	-438.71	0.00	438.71	3,756.63	1,878.31	6,938.67	3,474.49	4.74	-0.63	0.129
76.26	-11.40	-11.39	0.00	-424.10	0.00	424.10	3,775.02	1,887.51	7,023.35	3,516.89	4.91	-0.64	0.124
80.00	-10.73	-10.99	0.00	-381.45	0.00	381.45	3,702.42	1,851.21	6,693.90	3,351.93	5.42	-0.67	0.117
85.00	-9.85	-10.54	0.00	-326.48	0.00	326.48	3,602.49	1,801.24	6,260.58	3,134.95	6.15	-0.71	0.107
90.00	-9.01	-10.10	0.00	-273.77	0.00	273.77	3,499.15	1,749.58	5,835.62	2,922.15	6.91	-0.75	0.096
95.00	-8.20	-9.67	0.00	-223.27	0.00	223.27	3,392.42	1,696.21	5,419.72	2,713.89	7.71	-0.78	0.085
100.00	-7.43	-9.25	0.00	-174.93	0.00	174.93	3,282.29	1,641.15	5,013.60	2,510.53	8.55	-0.81	0.072
105.00	-6.68	-8.84	0.00	-128.68	0.00	128.68	3,144.57	1,572.29	4,582.72	2,294.77	9.42	-0.84	0.058
110.00	-5.97	-8.48	0.00	-84.47	0.00	84.47	2,994.82	1,497.41	4,154.47	2,080.32	10.31	-0.86	0.043
114.00	-3.59	-5.39	0.00	-50.54	0.00	50.54	2,875.02	1,437.51	3,826.99	1,916.34	11.04	-0.88	0.028
115.00	-3.47	-5.29	0.00	-45.15	0.00	45.15	2,845.07	1,422.54	3,747.22	1,876.40	11.22	-0.88	0.025
116.71	-3.26	-5.10	0.00	-36.08	0.00	36.08	2,793.76	1,396.88	3,612.51	1,808.94	11.54	-0.88	0.021
120.00	-2.62	-4.93	0.00	-19.31	0.00	19.31	2,695.32	1,347.66	3,360.98	1,682.99	12.15	-0.89	0.012
121.30	-2.37	-4.78	0.00	-12.92	0.00	12.92	1,695.32	847.66	2,135.65	1,069.41	12.39	-0.89	0.014
124.00	0.00	-4.74	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	12.90	-0.89	0.000

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:00 PM

Customer: Verizon Wireless

**Load Case:** 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

16 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

### Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		85.0	0.0					0.0	0.0	85.0	0.0	0.0	0.0
5.00		168.2	2,470.0					0.0	112.0	168.2	2,582.0	0.0	0.0
10.00		164.6	2,457.4					0.0	112.0	164.6	2,569.4	0.0	0.0
15.00		160.8	2,421.8					0.0	112.0	160.8	2,533.7	0.0	0.0
20.00		157.0	2,377.3					0.0	112.0	157.0	2,489.3	0.0	0.0
25.00		90.3	2,328.1					0.0	112.0	90.3	2,440.1	0.0	0.0
25.84	Bot - Section 2	76.3	385.6					0.0	18.7	76.3	404.3	0.0	0.0
30.00		127.6	3,130.8					0.0	93.2	127.6	3,224.0	0.0	0.0
34.17	Top - Section 1	77.0	3,069.4					0.0	93.4	77.0	3,162.8	0.0	0.0
35.00		90.8	331.6					0.0	18.6	90.8	350.1	0.0	0.0
40.00		156.5	1,961.8					0.0	112.0	156.5	2,073.8	0.0	0.0
45.00		157.3	1,911.4					0.0	112.0	157.3	2,023.4	0.0	0.0
50.00		157.4	1,859.9					0.0	112.0	157.4	1,971.8	0.0	0.0
55.00		157.0	1,807.5					0.0	112.0	157.0	1,919.5	0.0	0.0
60.00		156.0	1,754.4					0.0	112.0	156.0	1,866.3	0.0	0.0
65.00		150.9	1,700.6					0.0	112.0	150.9	1,812.6	0.0	0.0
69.76	Bot - Section 3	77.0	1,567.9					0.0	106.5	77.0	1,674.4	0.0	0.0
70.00		80.8	135.7					0.0	5.4	80.8	141.2	0.0	0.0
75.00		96.2	2,730.8					0.0	112.0	96.2	2,842.7	0.0	0.0
76.26	Top - Section 2	75.9	672.8					0.0	28.1	75.9	701.0	0.0	0.0
80.00		131.3	1,166.0					0.0	83.8	131.3	1,249.8	0.0	0.0
85.00		147.7	1,506.6					0.0	112.0	147.7	1,618.5	0.0	0.0
90.00		144.6	1,450.6					0.0	112.0	144.6	1,562.6	0.0	0.0
95.00		141.3	1,394.3					0.0	112.0	141.3	1,506.3	0.0	0.0
100.00		137.7	1,337.7					0.0	112.0	137.7	1,449.7	0.0	0.0
105.00		133.9	1,280.9					0.0	112.0	133.9	1,392.8	0.0	0.0
110.00		117.3	1,223.8					0.0	112.0	117.3	1,335.7	0.0	0.0
114.00	Appurtenance(s)	63.9	939.1	641.0	0.0	0.0	4,264.3	0.0	89.6	704.9	5,293.0	0.0	0.0
115.00		34.0	230.1					0.0	9.0	34.0	239.1	0.0	0.0
116.71	Bot - Section 4	62.3	388.5					0.0	15.5	62.3	403.9	0.0	0.0
120.00		56.8	1,065.1					0.0	29.7	56.8	1,094.7	0.0	0.0
121.30	Top - Section 3	48.5	411.0					0.0	11.7	48.5	422.7	0.0	0.0
124.00	Appurtenance(s)	32.6	448.4	940.3	0.0	0.0	6,321.3	0.0	24.4	972.9	6,794.1	0.0	0.0
<b>Totals:</b>										<b>5,296.12</b>	<b>61,145.4</b>	<b>0.00</b>	<b>0.00</b>

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:01 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

16 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

**Calculated Forces**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-61.15	-5.22	0.00	-416.56	0.00	416.56	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.058
5.00	-58.56	-5.06	0.00	-390.48	0.00	390.48	5,994.87	2,997.44	16,741.6	8,383.28	0.01	-0.01	0.056
10.00	-55.99	-4.90	0.00	-365.20	0.00	365.20	5,911.67	2,955.84	16,094.7	8,059.33	0.02	-0.02	0.055
15.00	-53.46	-4.75	0.00	-340.69	0.00	340.69	5,825.08	2,912.54	15,450.4	7,736.72	0.05	-0.03	0.053
20.00	-50.97	-4.60	0.00	-316.94	0.00	316.94	5,735.08	2,867.54	14,809.5	7,415.79	0.08	-0.04	0.052
25.00	-48.53	-4.51	0.00	-293.95	0.00	293.95	5,641.69	2,820.85	14,172.7	7,096.91	0.13	-0.05	0.050
25.84	-48.12	-4.44	0.00	-290.17	0.00	290.17	5,625.73	2,812.87	14,066.6	7,043.78	0.14	-0.05	0.050
30.00	-44.90	-4.32	0.00	-271.69	0.00	271.69	5,544.90	2,772.45	13,540.7	6,780.44	0.19	-0.06	0.048
34.17	-41.73	-4.24	0.00	-253.69	0.00	253.69	4,430.07	2,215.04	10,719.5	5,367.75	0.24	-0.07	0.057
35.00	-41.38	-4.15	0.00	-250.17	0.00	250.17	4,418.64	2,209.32	10,640.4	5,328.14	0.26	-0.07	0.056
40.00	-39.31	-4.00	0.00	-229.41	0.00	229.41	4,347.78	2,173.89	10,164.9	5,090.01	0.33	-0.08	0.054
45.00	-37.29	-3.85	0.00	-209.40	0.00	209.40	4,273.52	2,136.76	9,691.61	4,853.01	0.43	-0.09	0.052
50.00	-35.31	-3.69	0.00	-190.16	0.00	190.16	4,195.87	2,097.93	9,221.24	4,617.48	0.53	-0.10	0.050
55.00	-33.39	-3.54	0.00	-171.69	0.00	171.69	4,114.82	2,057.41	8,754.54	4,383.78	0.64	-0.11	0.047
60.00	-31.53	-3.39	0.00	-153.99	0.00	153.99	4,030.37	2,015.18	8,292.22	4,152.27	0.77	-0.13	0.045
65.00	-29.71	-3.24	0.00	-137.06	0.00	137.06	3,942.52	1,971.26	7,834.99	3,923.32	0.91	-0.14	0.042
69.76	-28.04	-3.16	0.00	-121.67	0.00	121.67	3,855.79	1,927.90	7,405.40	3,708.20	1.05	-0.15	0.040
70.00	-27.90	-3.08	0.00	-120.90	0.00	120.90	3,851.27	1,925.64	7,383.57	3,697.27	1.06	-0.15	0.040
75.00	-25.06	-2.98	0.00	-105.50	0.00	105.50	3,756.63	1,878.31	6,938.67	3,474.49	1.22	-0.16	0.037
76.26	-24.35	-2.90	0.00	-101.76	0.00	101.76	3,775.02	1,887.51	7,023.35	3,516.89	1.26	-0.16	0.035
80.00	-23.11	-2.77	0.00	-90.89	0.00	90.89	3,702.42	1,851.21	6,693.90	3,351.93	1.39	-0.17	0.033
85.00	-21.49	-2.62	0.00	-77.03	0.00	77.03	3,602.49	1,801.24	6,260.58	3,134.95	1.57	-0.18	0.031
90.00	-19.92	-2.48	0.00	-63.92	0.00	63.92	3,499.15	1,749.58	5,835.62	2,922.15	1.76	-0.19	0.028
95.00	-18.42	-2.33	0.00	-51.54	0.00	51.54	3,392.42	1,696.21	5,419.72	2,713.89	1.96	-0.19	0.024
100.00	-16.97	-2.19	0.00	-39.88	0.00	39.88	3,282.29	1,641.15	5,013.60	2,510.53	2.17	-0.20	0.021
105.00	-15.58	-2.05	0.00	-28.93	0.00	28.93	3,144.57	1,572.29	4,582.72	2,294.77	2.39	-0.21	0.018
110.00	-14.24	-1.93	0.00	-18.66	0.00	18.66	2,994.82	1,497.41	4,154.47	2,080.32	2.61	-0.21	0.014
114.00	-8.95	-1.21	0.00	-10.93	0.00	10.93	2,875.02	1,437.51	3,826.99	1,916.34	2.79	-0.22	0.009
115.00	-8.71	-1.17	0.00	-9.72	0.00	9.72	2,845.07	1,422.54	3,747.22	1,876.40	2.83	-0.22	0.008
116.71	-8.31	-1.11	0.00	-7.71	0.00	7.71	2,793.76	1,396.88	3,612.51	1,808.94	2.91	-0.22	0.007
120.00	-7.21	-1.05	0.00	-4.06	0.00	4.06	2,695.32	1,347.66	3,360.98	1,682.99	3.06	-0.22	0.005
121.30	-6.79	-1.00	0.00	-2.70	0.00	2.70	1,695.32	847.66	2,135.65	1,069.41	3.12	-0.22	0.007
124.00	0.00	-0.97	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	3.25	-0.22	0.000

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:01 PM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W

Serviceability 60 mph

16 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		64.1	0.0					0.0	0.0	64.1	0.0	0.0	0.0
5.00		126.6	1,623.4					0.0	93.3	126.6	1,716.7	0.0	0.0
10.00		123.5	1,583.4					0.0	93.3	123.5	1,676.7	0.0	0.0
15.00		120.4	1,543.4					0.0	93.3	120.4	1,636.7	0.0	0.0
20.00		117.2	1,503.4					0.0	93.3	117.2	1,596.7	0.0	0.0
25.00		67.3	1,463.4					0.0	93.3	67.3	1,556.7	0.0	0.0
25.84	Bot - Section 2	56.8	241.0					0.0	15.6	56.8	256.6	0.0	0.0
30.00		95.0	2,209.6					0.0	77.7	95.0	2,287.3	0.0	0.0
34.17	Top - Section 1	57.2	2,161.5					0.0	77.8	57.2	2,239.3	0.0	0.0
35.00		67.4	197.2					0.0	15.5	67.4	212.7	0.0	0.0
40.00		116.0	1,167.9					0.0	93.3	116.0	1,261.2	0.0	0.0
45.00		116.3	1,133.6					0.0	93.3	116.3	1,226.9	0.0	0.0
50.00		116.1	1,099.3					0.0	93.3	116.1	1,192.6	0.0	0.0
55.00		115.5	1,065.0					0.0	93.3	115.5	1,158.3	0.0	0.0
60.00		114.6	1,030.7					0.0	93.3	114.6	1,124.0	0.0	0.0
65.00		110.5	996.4					0.0	93.3	110.5	1,089.7	0.0	0.0
69.76	Bot - Section 3	56.3	916.1					0.0	88.8	56.3	1,004.9	0.0	0.0
70.00		59.0	92.8					0.0	4.5	59.0	97.3	0.0	0.0
75.00		70.2	1,870.9					0.0	93.3	70.2	1,964.2	0.0	0.0
76.26	Top - Section 2	55.3	459.4					0.0	23.4	55.3	482.9	0.0	0.0
80.00		95.4	677.1					0.0	69.9	95.4	747.0	0.0	0.0
85.00		107.0	874.4					0.0	93.3	107.0	967.7	0.0	0.0
90.00		104.5	840.1					0.0	93.3	104.5	933.4	0.0	0.0
95.00		101.7	805.9					0.0	93.3	101.7	899.2	0.0	0.0
100.00		98.8	771.6					0.0	93.3	98.8	864.9	0.0	0.0
105.00		95.6	737.3					0.0	93.3	95.6	830.6	0.0	0.0
110.00		83.4	703.0					0.0	93.3	83.4	796.3	0.0	0.0
114.00	Appurtenance(s)	45.3	537.7	685.3	0.0	0.0	2,078.1	0.0	74.6	730.6	2,690.4	0.0	0.0
115.00		24.0	131.0					0.0	7.5	24.0	138.5	0.0	0.0
116.71	Bot - Section 4	44.0	221.2					0.0	12.9	44.0	234.1	0.0	0.0
120.00		40.1	694.1					0.0	24.7	40.1	718.8	0.0	0.0
121.30	Top - Section 3	34.1	267.1					0.0	9.8	34.1	276.8	0.0	0.0
124.00	Appurtenance(s)	22.9	220.5	1,111.2	0.0	0.0	2,472.7	0.0	20.3	1,134.1	2,713.5	0.0	0.0
Totals:										4,518.73	36,592.5	0.00	0.00

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:02 PM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W

Serviceability 60 mph

16 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

**Calculated Forces**

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-36.59	-4.46	0.00	-378.87	0.00	378.87	6,074.67	3,037.34	17,390.5	8,708.20	0.00	0.00	0.050
5.00	-34.87	-4.34	0.00	-356.58	0.00	356.58	5,994.87	2,997.44	16,741.6	8,383.28	0.00	-0.01	0.048
10.00	-33.20	-4.22	0.00	-334.91	0.00	334.91	5,911.67	2,955.84	16,094.7	8,059.33	0.02	-0.02	0.047
15.00	-31.56	-4.10	0.00	-313.82	0.00	313.82	5,825.08	2,912.54	15,450.4	7,736.72	0.04	-0.03	0.046
20.00	-29.96	-3.99	0.00	-293.31	0.00	293.31	5,735.08	2,867.54	14,809.5	7,415.79	0.08	-0.04	0.045
25.00	-28.41	-3.92	0.00	-273.38	0.00	273.38	5,641.69	2,820.85	14,172.7	7,096.91	0.12	-0.05	0.044
25.84	-28.15	-3.87	0.00	-270.09	0.00	270.09	5,625.73	2,812.87	14,066.6	7,043.78	0.13	-0.05	0.043
30.00	-25.86	-3.77	0.00	-253.99	0.00	253.99	5,544.90	2,772.45	13,540.7	6,780.44	0.17	-0.05	0.042
34.17	-23.62	-3.72	0.00	-238.26	0.00	238.26	4,430.07	2,215.04	10,719.5	5,367.75	0.22	-0.06	0.050
35.00	-23.41	-3.65	0.00	-235.17	0.00	235.17	4,418.64	2,209.32	10,640.4	5,328.14	0.23	-0.06	0.049
40.00	-22.15	-3.54	0.00	-216.92	0.00	216.92	4,347.78	2,173.89	10,164.9	5,090.01	0.31	-0.08	0.048
45.00	-20.92	-3.42	0.00	-199.23	0.00	199.23	4,273.52	2,136.76	9,691.61	4,853.01	0.39	-0.09	0.046
50.00	-19.73	-3.31	0.00	-182.11	0.00	182.11	4,195.87	2,097.93	9,221.24	4,617.48	0.49	-0.10	0.044
55.00	-18.57	-3.20	0.00	-165.56	0.00	165.56	4,114.82	2,057.41	8,754.54	4,383.78	0.59	-0.11	0.042
60.00	-17.44	-3.08	0.00	-149.58	0.00	149.58	4,030.37	2,015.18	8,292.22	4,152.27	0.71	-0.12	0.040
65.00	-16.35	-2.97	0.00	-134.17	0.00	134.17	3,942.52	1,971.26	7,834.99	3,923.32	0.84	-0.13	0.038
69.76	-15.35	-2.91	0.00	-120.04	0.00	120.04	3,855.79	1,927.90	7,405.40	3,708.20	0.98	-0.14	0.036
70.00	-15.25	-2.86	0.00	-119.33	0.00	119.33	3,851.27	1,925.64	7,383.57	3,697.27	0.98	-0.14	0.036
75.00	-13.29	-2.78	0.00	-105.04	0.00	105.04	3,756.63	1,878.31	6,938.67	3,474.49	1.14	-0.15	0.034
76.26	-12.80	-2.73	0.00	-101.55	0.00	101.55	3,775.02	1,887.51	7,023.35	3,516.89	1.18	-0.15	0.032
80.00	-12.06	-2.63	0.00	-91.33	0.00	91.33	3,702.42	1,851.21	6,693.90	3,351.93	1.30	-0.16	0.031
85.00	-11.09	-2.52	0.00	-78.17	0.00	78.17	3,602.49	1,801.24	6,260.58	3,134.95	1.47	-0.17	0.028
90.00	-10.16	-2.42	0.00	-65.55	0.00	65.55	3,499.15	1,749.58	5,835.62	2,922.15	1.65	-0.18	0.025
95.00	-9.26	-2.32	0.00	-53.46	0.00	53.46	3,392.42	1,696.21	5,419.72	2,713.89	1.85	-0.19	0.022
100.00	-8.39	-2.21	0.00	-41.88	0.00	41.88	3,282.29	1,641.15	5,013.60	2,510.53	2.05	-0.19	0.019
105.00	-7.56	-2.12	0.00	-30.81	0.00	30.81	3,144.57	1,572.29	4,582.72	2,294.77	2.25	-0.20	0.016
110.00	-6.76	-2.03	0.00	-20.22	0.00	20.22	2,994.82	1,497.41	4,154.47	2,080.32	2.47	-0.21	0.012
114.00	-4.08	-1.29	0.00	-12.10	0.00	12.10	2,875.02	1,437.51	3,826.99	1,916.34	2.64	-0.21	0.008
115.00	-3.94	-1.27	0.00	-10.81	0.00	10.81	2,845.07	1,422.54	3,747.22	1,876.40	2.69	-0.21	0.007
116.71	-3.70	-1.22	0.00	-8.64	0.00	8.64	2,793.76	1,396.88	3,612.51	1,808.94	2.76	-0.21	0.006
120.00	-2.99	-1.18	0.00	-4.62	0.00	4.62	2,695.32	1,347.66	3,360.98	1,682.99	2.91	-0.21	0.004
121.30	-2.71	-1.14	0.00	-3.09	0.00	3.09	1,695.32	847.66	2,135.65	1,069.41	2.97	-0.21	0.004
124.00	0.00	-1.13	0.00	0.00	0.00	0.00	1,660.84	830.42	2,029.25	1,016.13	3.09	-0.21	0.000



Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:03 PM

Customer: Verizon Wireless

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	18.64	0.00	43.90	0.00	0.00	1587.26	34.17	0.19
0.9D + 1.6W	18.64	0.00	32.93	0.00	0.00	1583.06	34.17	0.19
1.2D + 1.0Di + 1.0Wi	5.22	0.00	61.15	0.00	0.00	416.56	0.00	0.06
1.0D + 1.0W	4.46	0.00	36.59	0.00	0.00	378.87	34.17	0.05

Site Number: 383657

Code: ANSI/TIA-222-G

© 2007 - 2018 by ATC IP LLC. All rights reserved.

Site Name: Atlas Container, CT

Engineering Number: 12365545

3/1/2018 4:27:03 PM

Customer: Verizon Wireless

Base Summary

Reactions

Original Design			Analysis			
Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment (kip-ft)	Axial (kip)	Shear (kip)	Moment Design %
			1,587.26	61.15	18.64	

Base Plate

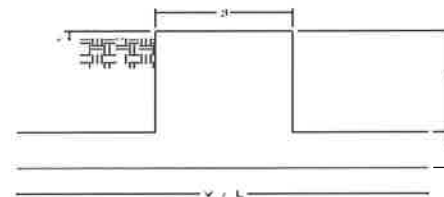
Yield (ksi)	Thick (in)	Width (in)	Style	Poly Sides	Clip Len (in)	Effective Len (in)	Mu (kip-in)	Phi Mn (kip-in)	Ratio
60.0	2.250	76.500	Square	0	0.00	18.514	300.88	1265.34	0.24

Anchor Bolts

Bolt Circle	Num Bolts	Bolt Type	Bolt Dia (in)	Yield (ksi)	Ultimate (ksi)	Arrange	Cluster Dist (in)	Start Angle (deg)	Compression			Tension		
									Force (kip)	Allow (kip)	Ratio	Force (kip)	Allow (kip)	Ratio
80.00	12	2.25" 18J	2.25	75.00	100.00	Clustered	6.00	45.0	84.46	260.00	0.34	74.27	260.00	0.30

Site Name: Atlas Container, CT  
 Site Number: 383657  
 Engineering Number: 12365545  
 Engineer: isaac.dodson  
 Date: 03/01/18  
 Tower Type: SST w/4 Legs

Program Last Updated: #REF!



**Design Loads (Factored) - Analysis per TIA-222-G Standards**

Design / Analysis / Mapping:	Mapping
Compression/Leg:	97.1 k
Uplift/Leg:	44.7 k
Total Shear:	52.6 k
Moment:	4014.3 k-ft
Tower + Appurtenance Weight:	128.4 k
Depth to Base of Foundation (l + t - h):	9.50 ft
Diameter of Pier (d):	3.67 ft
Height of Pier above Ground (h):	0.50
Width of Pad (W):	50.67 ft
Length of Pad (L):	50.42 ft
Thickness of Pad (t):	2.50 ft
Tower Leg Center to Center:	27.00 ft
Number of Tower Legs:	4.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	10.00 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	120.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	50.0 pcf
Friction Angle of Uplift:	0.0 Degrees
Ultimate Coefficient of Shear Friction:	0.35
Ultimate Compressive Bearing Pressure:	8000.0 psf
Ultimate Passive Pressure on Pad Face:	4000.0 psf
$\phi_{\text{Soil and Concrete Weight}}$ :	0.9
$\phi_{\text{Soil}}$ :	0.75

**Overturning Moment Usage**

Design OTM:	4540.1 k-ft
OTM Resistance:	73628.2 k-ft
Design OTM / OTM Resistance:	0.06 Result: OK

**Soil Bearing Pressure Usage**

Net Bearing Pressure:	437 psf
Factored Nominal Bearing Pressure:	6000 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.07 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

**Sliding Factor of Safety**

Total Factored Sliding Resistance:	1188.0 k
Sliding Design / Sliding Resistance:	0.04 Result: OK

# **ATTACHMENT 4**





# CITY OF MERIDEN

## GIS Services

**Property Information:** Address: 119 EMPIRE AVE Map/Lot: 0417-0154-0007-0000

**Owner Information:** 119 EMPIRE AVENUE LLC Owner Address: 1150 OLD COLONY RD  
MERIDEN, CT 06451

**Building Information:**

Card	Units	Rooms	Bed rooms	Year Built	Full Bath	Half Bath	Other Fixtures	Fire Places	Heat Type	Heat Fuel	Roof Mat	Grade	Type	Ext Wall	Finished Area
1	1			1976					Steam w/Boil	Oil		C	Ind Mfg (L)		160,720

**Sub Area Summary:**

SubArea	Description	SketchedArea	Perimeter	AdjArea	Rate	AreaValue
CPY	CANOPY	10,266	734	10,266	4.57000	\$46,947.00
FFL	1st FLOOR	38,400	880	38,400	44.45000	\$1,707,006.00
FFL	1st FLOOR	12,000	520	12,000	44.45000	\$533,439.38
FFL	1st FLOOR	63,200	1,120	63,200	44.45000	\$2,809,447.25
FFL	1st FLOOR	40,560	972	40,560	44.45000	\$1,803,025.00
FFL	1st FLOOR	1,120	136	1,120	44.45000	\$49,787.68
FFL	1st FLOOR	400	80	400	44.45000	\$17,781.31
FFL	1st FLOOR	480	88	480	44.45000	\$21,337.57
FFL	1st FLOOR	4,560	272	4,560	44.45000	\$202,706.95
LDK	LOAD DOCK	10,266	734	10,266	22.57000	\$231,735.00

**Special Features:**

Description	Condition	Year	Assessed Value
FENCE-10 CHAIN	AV	1976	\$40,000
PAVING ASPHALT	AV	1976	\$87,500
SHED	AV	1976	\$2,300

**Appraisal Information:** Tax District: 1 District Name: OUTER DISTRICT District Mill Rate: 39.92

Current Values by Card Number					
Card	Building Value	Yard Items	Land Value	Total	Assessed
1	\$1,856,400	\$129,800	\$713,800	\$2,700,000	\$1,890,000
<b>TOTAL PARCEL:</b>					
	<b>\$1,856,400</b>	<b>\$129,800</b>	<b>\$713,800</b>	<b>\$2,700,000</b>	<b>\$1,890,000</b>

**Previous Year Totals**

--	--	--	--	--	--

Year	Building Value	Yard Items	Land Value
2016	\$2,083,500	\$129,800	\$713,800

Special Land Value: \$0

**Land Information:**

Type	Lot Size	Lot Unit	Zoning*
Commercial Building	541,015.00	SF	M-2

Total Acreage:12.42

\*Confirm zoning with Planning Office.

[Zoning map](#) is the official document to determine zone.

**Sales Information:**

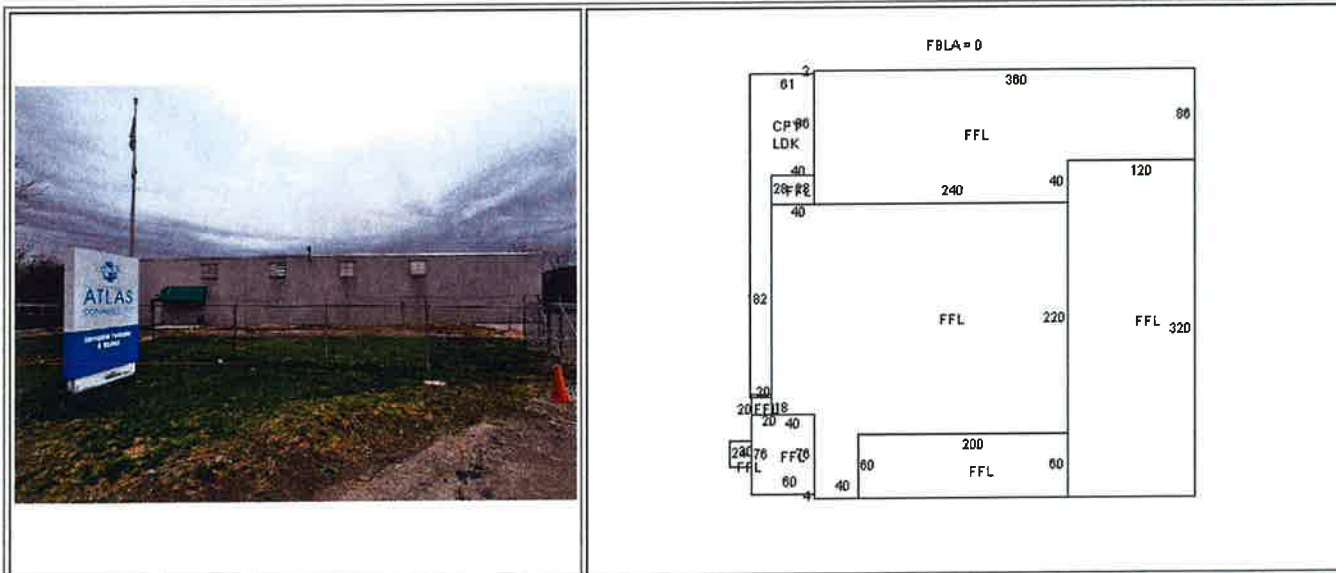
Book	Page	Grantor	Sale Date	Sale Price	Deed Type
4985	258	ATLAS CONTAINER LLC,	4/2/2015	\$1,200,000	Warranty Deed
2756	182	WEYERHAEUSER COMPANY	10/19/2001	\$2,450,000	
2142	136		12/2/1995	\$0	

**Assessor's Permit History:**

Date	Permit Number	Notes	Type
12/21/2016	B-16-1235	REPLACING ANTENNAE PANELS/ADDING REMOTE RADIO HEADS TO CELL TOWER.	
1/20/2016	P-16-16	GAS PIPING TO CONNECT OWNER SUPPLIED RADIANT HEAT PANELS.Approved by Bldg Dept.	
11/23/2015	B-15-965	NEW ANTENNAE ON NEW PIPE MOUNTS.Approved by Bldg Dept.	
7/23/2015	E-15-322	FIT-OUT LOGAN STEEL.INSTALL NEW LIGHTING AT WAREHOUSE AND OFFICE/WIRE NEW MACHINE TO EXISTING BUSDUCT.	
3/24/2015	B-15-71	NEW ANTENNA W/NEW MASTS/RELOCATE EXISTING TMA.Est complete.	
1/26/2015	E-14-154	CELL TOWER/RUN DC CIRCUITS TO INVERTERS/RADIO HEADS ON CABINETS.Est complete.	
7/26/2013	2377	CELL TOWER.Est complete.	
3/8/2013	611	SPRINT - MODIF. OF TELECOMM. INST. ON WATER TANK, REPL. 3 ANTS. & CABLES AND ADD RRH'S AND NOTCH FILTERS BEHIND ANTS. ON WATER TANK, ADD CIENA EQUIP. ENCL. & FIBER JUNC. BOX & EITHER RETROFIT OR REPL. BTS CABINET WITHIN SPRINT'S EXISTING EQUIP. SHELTER	
6/12/2012	1847	AT&T REMOVE AND REPLACE 9 EXISTING ANTENNAS INSTALL 6 REMOTE RED HEADS AND INSTALL 1 3" CONDUIT TO HOUSE FIBER AND DC POWER ALL TO CODE	C
3/3/2010	503	VERIZON REMOVAL OF EXISTING ANTENNAE ON MONOPOLE& REPLACE WITH 6 LTE ANTENNAE PER PLAN (WILL BE PAINTED TO MATCH EXISTING )	R
3/3/2010	504	SPRINT- MODIFICATIONS TO EXISTING TELECOMMUNICATIONS SITE PER PLANS AND TO CODE(REQUIRES SEPARATE ELECTRICAL PERMIT)	
9/23/2009	2822	REROOF BLDG W/ RUBBER ROOF	
5/29/2009	1586	SWAP EXISTING ANTENNAS ON EXISTING TOWER, ADD ONE TELE CABINET	
7/18/2006	2672	GAS PIPE FOR GENERATOR	CA
3/9/2006	734	NEW AMP SERV ,1PH WIRE	CA
3/9/2006	734	1VERIZON, 1TMOBILE SERV	CA

3/9/2006	734	1VERIZON,1T MOBILE SERV	CA
3/9/2006	734	REVAMP EX SERV	CA
3/9/2006	741	400 AMPS 1PH 3WIRE SERV	CA
11/30/2005	4507	INSTALL VERIZON 12X30 PRE	CA
11/30/2005	4507	T-MOBILE MOUNTED EQUIP	CA
11/30/2005	4507	128' MONOPOLE FOR WIRELES	CA
5/24/2005	1786	INSTALL POWER & GROUNDING	CA
5/24/2005	1786	PREWIRED NEXTEL COMM SHEL	CA
5/13/2005	1626	INSTALL PRE FAB SHELTER,A	CA
5/13/2005	1626	ANTENNAS ON EX WATER TANK	CA
9/9/2003	3154	WIRE CELLULAR EQUIP	CA
7/25/2003	2591	AT&T COMMUN TOWER	CA
4/16/2003	1140	INSTALL 400 AMP SERV	CA
4/16/2003	1140	ALSO INSTALL 200 AMP SERV	CA
11/15/2002	3802	INSTALL PC ANTENNAS ON WA	CA
11/15/2002	3802	SPRINT RADIO EQUIP ON GRO	CA
11/28/2001	3843	3000 AMP SERV UPGRADE	CA
11/28/2001	3843	2000AMP SERV BACKFEED	CA

Property Images





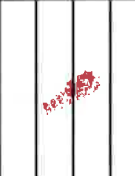
74310417-0154-0007-00001



# **ATTACHMENT 5**



# Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here Postmark with Date of Receipt.
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	 
USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee
1.	Kevin Seapati, Mayor City of Meriden 142 East Main Street Meriden, CT 06450		Parcel Airlift
2.	Robert Seale, Director of Development & Enforcement City of Meriden 142 East Main Street Meriden, CT 06450		
3.	119 Empire Avenue LLC 1150 Old Colony Road Meriden, CT 06451		
4.			
5.			
6.			