

July 18, 2017

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
85 Miner Lane, Waterford, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) antennas at the 160-foot level of an existing 180-foot tower at 85 Miner Lane in Waterford, Connecticut (the “Property”). The tower is owned by American Tower Corporation (“ATC”). The Council approved Cellco’s use of this tower in 2013. Cellco now intends to replace three (3) of its existing antennas with three (3) model QUAD65C0000x, 700 MHz antennas and three (3) remote radio heads (“RRHs”), all at the same level on the tower. Included in Attachment 1 are specifications for Cellco’s replacement antennas and RRHs.

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 Daniel M. Steward, First Selectman of the Town of Waterford; Abby Piersall, Waterford Planning Director; and ATC, the tower owner. The Town of Waterford is the Property owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco’s replacement antennas and RRHs will be attached to Cellco’s existing antenna platform at the 160-foot level of the tower.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

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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 new 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 copy of the Certificate of Mailing verifying that this filing was sent to municipal officials and the owner of the Property is included in Attachment 5. A copy of the stamped Certificate of Mailing will be forwarded to the Council upon receipt.

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:

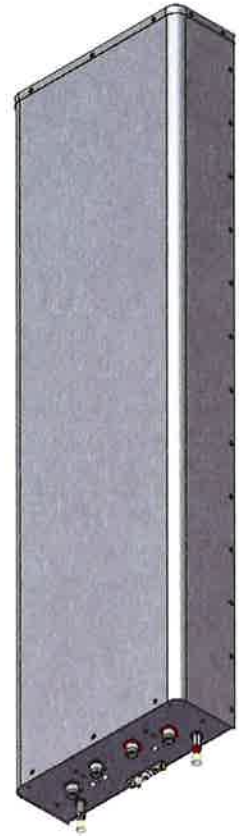
Daniel M. Steward, Waterford First Selectman
Abby Piersall, AICP, Waterford Planning Director
ATC
Tim Parks

ATTACHMENT 1

QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

- Twin band, quad-port panel antenna with variable electrical tilt
- 4x4 MIMO
- Patented internal RET actuator adds no additional length to the antenna



| Ordering Options | Model Number |
|--|---------------|
| When ordering, replace "x" in the model number with one of the options listed below. | |
| Manual Electrical Tilt | QUAD656C0000M |
| Remote Electrical Tilt AISG v2.0 / 3GPP with an MDCU RET Actuator | QUAD656C0000G |
| Remote Electrical Tilt AISG v2.0 / 3GPP with an MDDU RET Actuator | QUAD656C0000L |

Mounting bracket kits and other accessories are ordered separately.



| Electrical Characteristics | (2x) 696-900 MHz | |
|----------------------------|---|----------------------|
| Frequency Bands | 696-806 MHz | 806-900 MHz |
| Polarization | (2x) ±45° (Quad-Pol) | |
| Horizontal Beamwidth | 67° | 66° |
| Vertical Beamwidth | 13.6° | 12.4° |
| Gain | 14.5 dBi | 15.0 dBi |
| Electrical Downtilt | 0-12° | |
| Impedance | 50Ω | |
| VSWR | ≤ 1.5:1 | |
| Upper Sidelobe Suppression | 18 dB | 18 dB |
| Front-to-Back Ratio | > 25 dB | > 25 dB |
| Inband Isolation | 25 dB | |
| Isolation Between Bands | 28 dB | |
| IM3 (2x20W carrier) | < -153 dBc | |
| Input Power | (4x) 500 W | |
| Total Number of Connectors | Antennas has 4 connectors located at the bottom | |
| Connectors Per Band | 696-900 MHz | (2x) 7/16-DIN Female |
| | 696-900 MHz | (2x) 7/16-DIN Female |
| Diplexed | No | |
| Lightning Protection | Direct Ground | |
| Operating Temperature | -40° to +60° C (-40° to +140° F) | |

| Mechanical Characteristics | | |
|---------------------------------------|---------------------|--|
| Dimensions (Length x Width x Depth) | 1889 x 520 x 182 mm | 74.4 x 20.5 x 7.2 in |
| Depth with Z-Brackets | 227 mm | 8.9 in |
| Weight without Mounting Brackets: MET | 24.5 kg | 54.0 lbs |
| Weight without Mounting Brackets: RET | 24.8 kg | 54.7 lbs |
| Survival Wind Speed | > 241 km/hr | > 150 mph |
| Wind Area | Front | 0.98 m ² / 10.6 ft ² |
| | Side | 0.34 m ² / 3.7 ft ² |
| Wind Loads (160 km/hr or 100 mph) | Front | 1200 N / 270 lbf |
| | Side | 415 N / 93 lbf |

Quoted performance parameters are provided to offer typical, peak or range values only and may vary as a result of normal testing, manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to products may be made without notice.

QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

| Electrical Downtilt Control | | | | |
|--|--|--|----------------------|-----------------|
| Electrical downtilt for each band can be controlled separately. Tilt indicator(s) are covered by removable transparent cap(s). | | | | |
| Manual Electrical Tilt (MET) Control | A colored knob at the end of the tilt indicator allows change of the tilt without need of a tool. The knob color is identical to the corresponding connector ring color. To access the knob, remove the cap by turning it counter-clockwise. It is re-installed by opposite rotation. Do not remove the transparent cap(s) from the antenna. | | | |
| Remote Electrical Tilt (RET) Control | The remote control of the electrical tilt is managed by either a Multi-Device Control Unit (MDCU) or a Multi-Device Dual Unit (MDDU) inserted in the bottom of the antenna. A single actuator individually controls the tilt of each band (no need for daisy chain cables between the bands). This module does not add any additional length to the antenna. For RET control, the transparent caps must be in place and locked. The tilt angle indicators always remain visible and the antenna still has manual tilt control (manual override). | | | |
| RET Actuator | Select one of the following RET actuators when ordering this antenna. | | | |
| | Multi-Device Control Unit (MDCU) | The MDCU is an electronic module that allows the remote control of the electrical downtilt (RET) in Amphenol antennas with factory embedded motors. The MDCU is factory installed. Refer to ordering options. | | |
| | Multi-Device Dual Unit (MDDU) | The MDDU allows two separate RET Controllers to independently drive the RETs in Amphenol antennas with factory installed motors (for antenna sharing). The MDDU is factory installed. Refer to ordering options. | | |
| Important Installation Instructions |  | In order to operate RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked. Do not cut them from the antenna. | | |
| | | Do not install the antenna with the connectors facing upward. | | |
| Mounting Options | Part Number | Image | Fits Pipe Diameter | Weight |
| All mounting bracket kits are ordered separately unless otherwise indicated. Select from the options listed below. | | | | |
| 3-Point Mounting and Downtilt Bracket Kit | 36210008 |  | 40-115 mm 1.6-4.5 in | 6.9 kg 15.2 lbs |
| Configuration Options | | | | |
| This antenna model cannot be used with Amphenol's UNICELL 3-sector antenna enclosures. | | | | |

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QUAD656C0000x


Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

Bottom View of Antenna

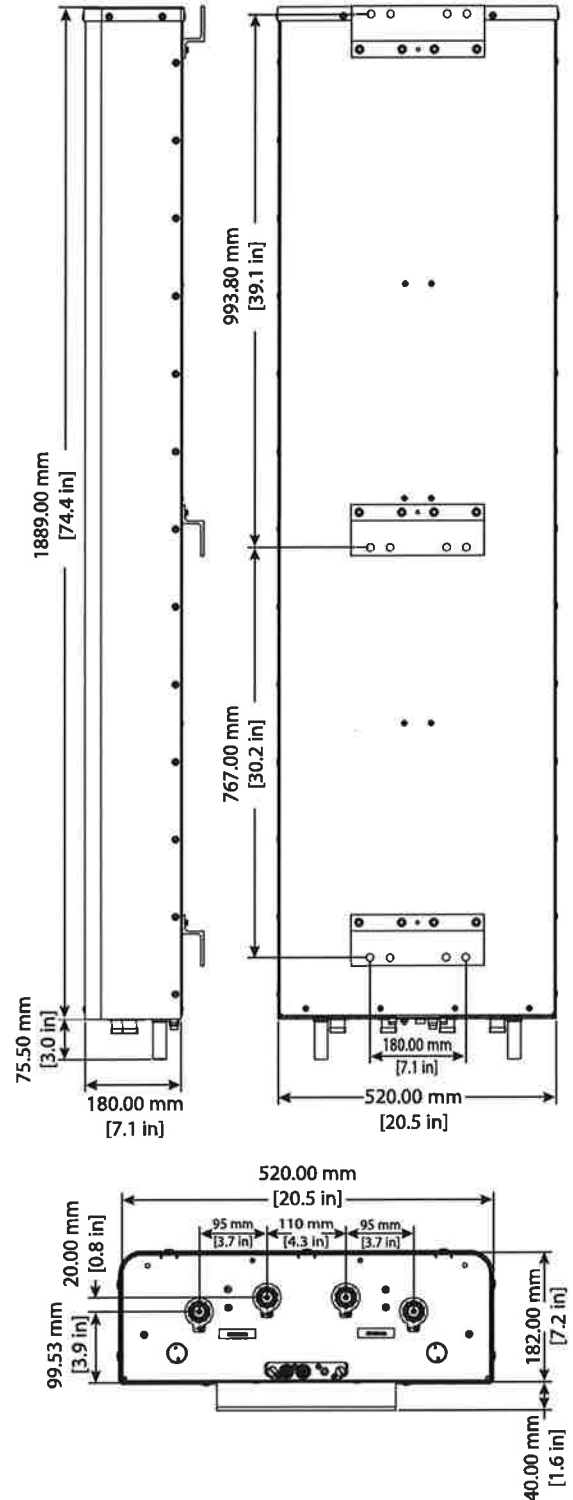


Location of the MDCU or MDDU for RET Control (MDCU shown)

Tilt indicators covered by transparent caps.
Manual adjustment is accessed by removing the caps.
Knob colors are the same as the connectors.

 In order to operate RET control, the transparent caps covering the tilt adjustment indicators must be engaged and locked. Do not cut them from the antenna.

Dimensions

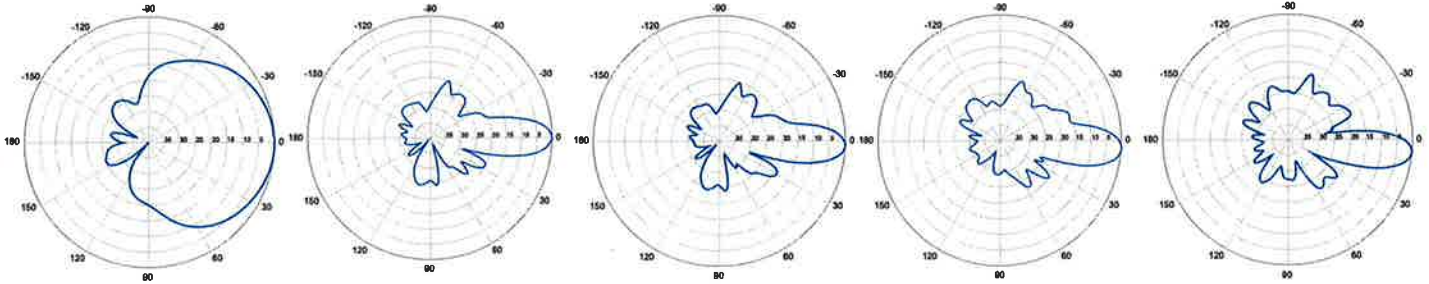


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QUAD656C0000x

Twin Band | Quad Port | Panel Antenna | (2x) X-Pol | 65° / 65° | 15.0 / 15.0 dBi | Variable Tilt

696-900 MHz



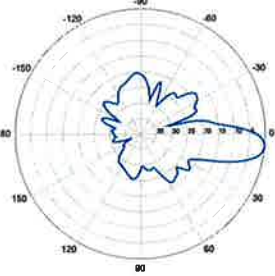
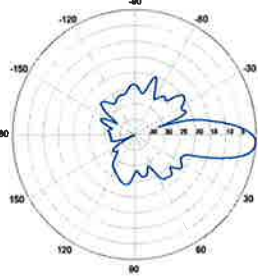
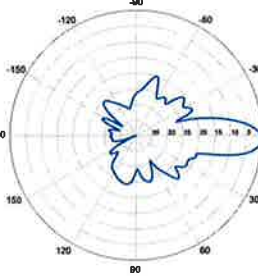
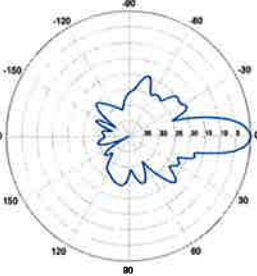
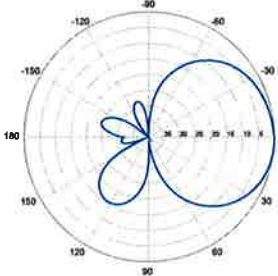
Horizontal | 750 MHz

0° | Vertical | 750 MHz

2° | Vertical | 750 MHz

4° | Vertical | 750 MHz

6° | Vertical | 750 MHz



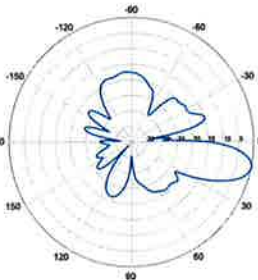
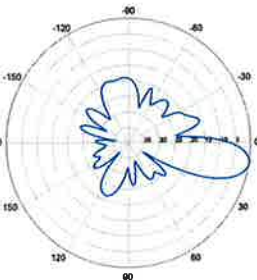
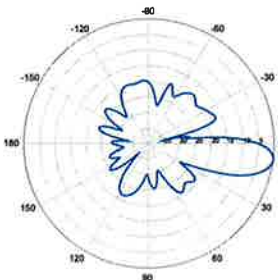
Horizontal | 850 MHz

0° | Vertical | 850 MHz

2° | Vertical | 850 MHz

4° | Vertical | 850 MHz

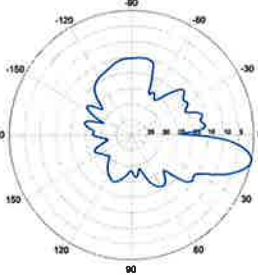
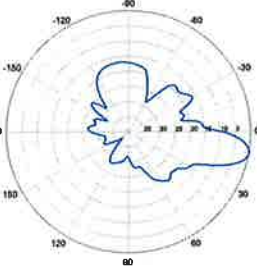
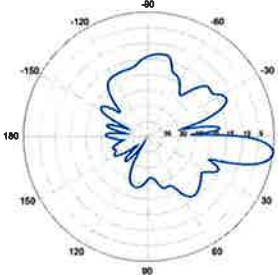
6° | Vertical | 850 MHz



8° | Vertical | 750 MHz

10° | Vertical | 750 MHz

12° | Vertical | 750 MHz



8° | Vertical | 850 MHz

10° | Vertical | 850 MHz

12° | Vertical | 850 MHz

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ALCATEL LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

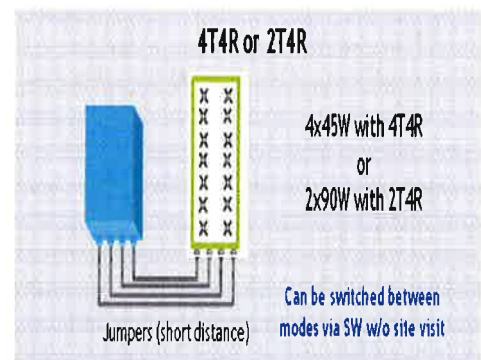
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



TECHNICAL SPECIFICATIONS

| Features & Performance | |
|--|--|
| Number of TX/RX paths | 4 duplexed (either 4T4R or 2T4R selectable by SW) |
| Frequency band | AWS 1-3, B4/B66a DL: 2110-2180 MHz / UL: 1710-1780 MHz |
| Instantaneous bandwidth - #carriers | 70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth) |
| LTE carrier bandwidth | 5, 10, 15, 20 MHz |
| RF output power | 2x90W or 4x45W (selectable by SW) |
| Noise figure – RX Diversity scheme | 2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity |
| Receiver Sensivity (FRC A1-3) | -104.5 dBm maximum |
| Sizes (HxWxD) in mm (in.) | 655x299x182 (25.8x11.8x7.2) (with solar shield) 640x290x160 (25.2x11.4x6.3) (without solar shield) |
| Volume in Liters | 35.5 (with solar shield) 29.7 (without solar shield) |
| Weight in kg (lb) (w/o mounting HW) | 25.8kg (56.8lb) (with solar shield) |
| DC voltage range | Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption |
| DC power consumption | 750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG |
| Environmental conditions | -40°C (-40°F) / +55°C (+131°F) UL50E Type 4 Enclosure |
| Wind load (@150km/h or 93mph) | 250N (56lb) Frontal/150N (34lb) Lateral |
| Antenna ports | 4 ports 4.3-10 female (50 ohms) VSWR < 1.5 |
| CPRI ports | 2 CPRI ports (HW ready for Rate 7, 9.8 Gbps) SFP: SMDF (HW supports also SMSF and MMDF) |
| AISG interfaces | 1 AISG 2.0 output (RS485) Integrated Smart Bias Tees (x2) |
| Misc. Interfaces | 4 external alarms (1 connector) 1 DC connector (2 pins) |
| Installation conditions | Pole and wall mounting |
| Regulatory compliance | 3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE |

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ATTACHMENT 2

| Site Name: Waterford SE Tower Height: 180ft | | General | Power | Density | CALC. POWER DENS | FREQ. | MAX. PERMISS. EXP. | FRACTION MPE | Total |
|--|------------|-------------|------------|---------------|------------------------|---------------|--------------------------|-----------------|-------|
| CARRIER | # OF CHAN. | WATTS ERP | HEIGHT | | | | | | |
| *AT&T | 1 | 793 | 153 | 700 | 0.0132 | 0.4667 | 0.28% | | |
| *AT&T | 2 | 311 | 153 | 1900 | 0.0104 | 1.0000 | 0.10% | | |
| *AT&T | 1 | 1096 | 153 | 2300 | 0.0182 | 1.0000 | 0.18% | | |
| *AT&T | 1 | 146 | 153 | 880 | 0.0024 | 0.5867 | 0.04% | | |
| *AT&T | 1 | 1734 | 153 | 1900 | 0.0289 | 1.0000 | 0.29% | | |
| *AT&T | 2 | 285 | 153 | 880 | 0.0095 | 0.5867 | 0.16% | | |
| *AT&T | 1 | 1991 | 153 | 2100 | 0.0331 | 1.0000 | 0.33% | | |
| *Clearwire | 6 | 153 | 170 | 2500 | 0.0123 | 1.0000 | 0.12% | | |
| *Town of Waterford | 1 | 100 | 180 | 851 | 0.0012 | 0.5673 | 0.02% | | |
| *Town of Waterford | 1 | 100 | 180 | 851 | 0.0012 | 0.5673 | 0.02% | | |
| *USA Mobility | 1 | 100 | 153 | 929.6 | 0.0017 | 0.6197 | 0.03% | | |
| *Springwich Paging | 1 | 1000 | 158.5 | 928 | 0.0155 | 0.6187 | 0.25% | | |
| *Cingular Yagi | 2 | 500 | 156 | 809 | 0.0160 | 0.5393 | 0.30% | | |
| *T-Mobile | 2 | 2334 | 130 | 2100 | 0.1092 | 1.0000 | 1.09% | | |
| *T-Mobile | 2 | 1167 | 129 | 1900 | 0.0555 | 1.0000 | 0.55% | | |
| *T-Mobile | 2 | 1167 | 129 | 2100 | 0.0555 | 1.0000 | 0.55% | | |
| *T-Mobile | 1 | 865 | 129 | 700 | 0.0206 | 0.4667 | 0.44% | | |
| Verizon PCS | 1 | 3279 | 160 | 0.0461 | 1970 | 1.0000 | 4.61% | | |
| Verizon Cellular | 0 | 403 | 160 | 0.0000 | 869 | 0.5793 | 0.00% | | |
| Verizon AWS | 1 | 8400 | 160 | 0.1180 | 2145 | 1.0000 | 11.80% | | |
| Verizon 700 | 1 | 1544 | 160 | 0.0217 | 746 | 0.4973 | 4.36% | 25.54% | |
| * Source: Siting Council | | | | | | | | | |

ATTACHMENT 3

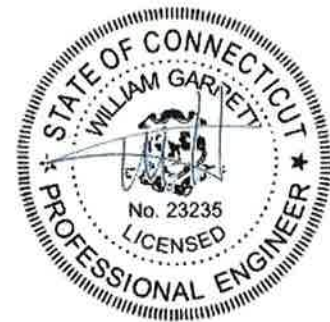


AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Monopole
ATC Site Name : Waterford Rebuild CT, CT
ATC Site Number : 310972
Engineering Number : OAA690068_C3_01
Proposed Carrier : Verizon
Carrier Site Name : Waterford SE CT
Carrier Site Number : 277488
Site Location : 15 Miner Lane
Waterford, CT 06385-3016
41.329069,-72.124592
County : New London
Date : November 21, 2016
Max Usage : 82%
Result : Pass

Reviewed by:
William Garrett, PE
Chief Engineer



Prepared By:
Christopher Clark Poe, E.I.
Structural Engineer II

Reviewed By:

Nov 21 2016 4:33 PM

cosign

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 monopole to reflect the change in loading by Verizon.

Supporting Documents

| | |
|----------------------------|--|
| Tower Drawings | FWT Job #23766000, dated July 18, 2001 |
| Foundation Drawing | ATC Job #42693971, dated December 8, 2008 |
| Geotechnical Report | Tower Engineering Professionals Project #082973.01, dated November 7, 2008 |
| Modifications | ATC Job #442108F2, dated November 9, 2009 |

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: | 120 mph (3-Second Gust, V_{asd}) / 155 mph (3-Second Gust, V_{ult}) |
| Basic Wind Speed w/ Ice: | 50 mph (3-Second Gust) w/ 3/4" radial ice concurrent |
| Code: | ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code |
| Structure Class: | II |
| Exposure Category: | B |
| Topographic Category: | 1 |
| Crest Height: | 0 ft |
| Spectral Response: | $S_s = 0.16$, $S_1 = 0.06$ |
| 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

| Elevation ¹ (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|-----------------------------|-------|-----|----------------------------------|----------------------|--|---------------|
| Mount | RAD | | | | | |
| 180.0 | 184.0 | 2 | Andrew DB806D-Y | Low Profile Platform | (1) 1 5/8" Coax | Spok Holdings |
| 170.0 | 176.0 | 3 | KMW HB-X-WM-17-65-00T-TTLNA | Side Arms | (6) 1 5/8" Coax | Clearwire |
| | | 3 | KMW HB-X-WM-17-65-00T | | | |
| 160.0 | 160.0 | 3 | Alcatel-Lucent RRH 2X60-1900 | Low Profile Platform | (12) 1 5/8" Coax (2) 1 5/8" Fiber | Verizon |
| | | 3 | Alcatel-Lucent RRH2x60 700 | | | |
| | | 2 | RFS DB-T1-6Z-8AB-0Z | | | |
| | | 3 | Antel BXA-70063/6CF_ | | | |
| | | 6 | Commscope HBXX-6517DS-A2M | | | |
| 162.0 | 162.0 | 1 | 6' Omni | Flush | (1) 1 5/8" Coax | Spok Holdings |
| 153.0 | 153.0 | 6 | Powerwave 7020.00 Dual Band RET | Low Profile Platform | (12) 1 1/4" Coax (2) 0.74" 8 AWG 7 (2) 0.39" Fiber Trunk | AT&T Mobility |
| | | 3 | Ericsson RRUS A2 B4 | | | |
| | | 3 | Ericsson RRUS 32 B30 | | | |
| | | 3 | Ericsson RRUS 11 B4 | | | |
| | | 3 | KMW AM-X-CD-14-65-00T-RET | | | |
| | | 3 | Powerwave 7770.00 | | | |
| | | 6 | Commscope SBNHH-1D65A | | | |
| 152.0 | 152.0 | 6 | CCI TPX-070821 | | | |
| | | 6 | Powerwave LGP17201 | | | |
| 150.0 | 150.0 | 1 | Raycap DC6-48-60-18-8F | | (2) 0.78" 8 AWG 6 | |
| | | 1 | Raycap DC6-48-60-18-8F ("Squid") | | | |
| | | 6 | Ericsson RRUS 11 (Band 12) | | | |
| 134.0 | 134.0 | 3 | Ericsson KRY 112 144/1 | T-Arms | (12) 1 5/8" Coax (1) 1 1/4" Hybriflex | T-Mobile |
| | | 3 | Ericsson RRUS 11 B12 | | | |
| | | 3 | Ericsson AIR 21, 1.3 M, B2A B4P | | | |
| | | 3 | Ericsson AIR 21, 1.3M, B4A B2P | | | |
| | | 3 | Andrew LNX-6515DS-VTM | | | |

Equipment to be Removed

| Elevation ¹ (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|-----------------------------|-------|-----|----------------------------|------------|-------|---------|
| Mount | RAD | | | | | |
| 160.0 | 160.0 | 3 | Commscope LNX-6514DS-A1M | - | - | Verizon |
| | | 3 | Alcatel-Lucent RRH2X60-AWS | | | |

Proposed Equipment

| Elevation ¹ (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|-----------------------------|-------|-----|-------------------------------------|----------------------|-------|---------|
| Mount | RAD | | | | | |
| 160.0 | 160.0 | 3 | Alcatel-Lucent B66a RRH4x45 (AWS-3) | Low Profile Platform | - | Verizon |
| | | 3 | Antel QUAD656C0000X | | | |

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



Structure Usages

| Structural Component | Controlling Usage | Pass/Fail |
|----------------------|-------------------|-----------|
| Anchor Bolts | 77% | Pass |
| Shaft | 78% | Pass |
| Base Plate | 33% | Pass |
| Flanges | 30% | Pass |

Foundations

| Reaction Component | Analysis Reactions | % of Usage |
|--------------------|--------------------|------------|
| Moment (Kips-Ft) | 5,667.2 | 76% |
| Shear (Kips) | 45.5 | 82% |

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) (°) |
|------------------------|-------------------------------------|---------|-----------------|---------------------|
| 160.0 | Alcatel-Lucent B66a RRH4x45 (AWS-3) | Verizon | 1.401 | 0.912 |
| | Amphenol Antel QUAD656C0000X | | | |

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



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

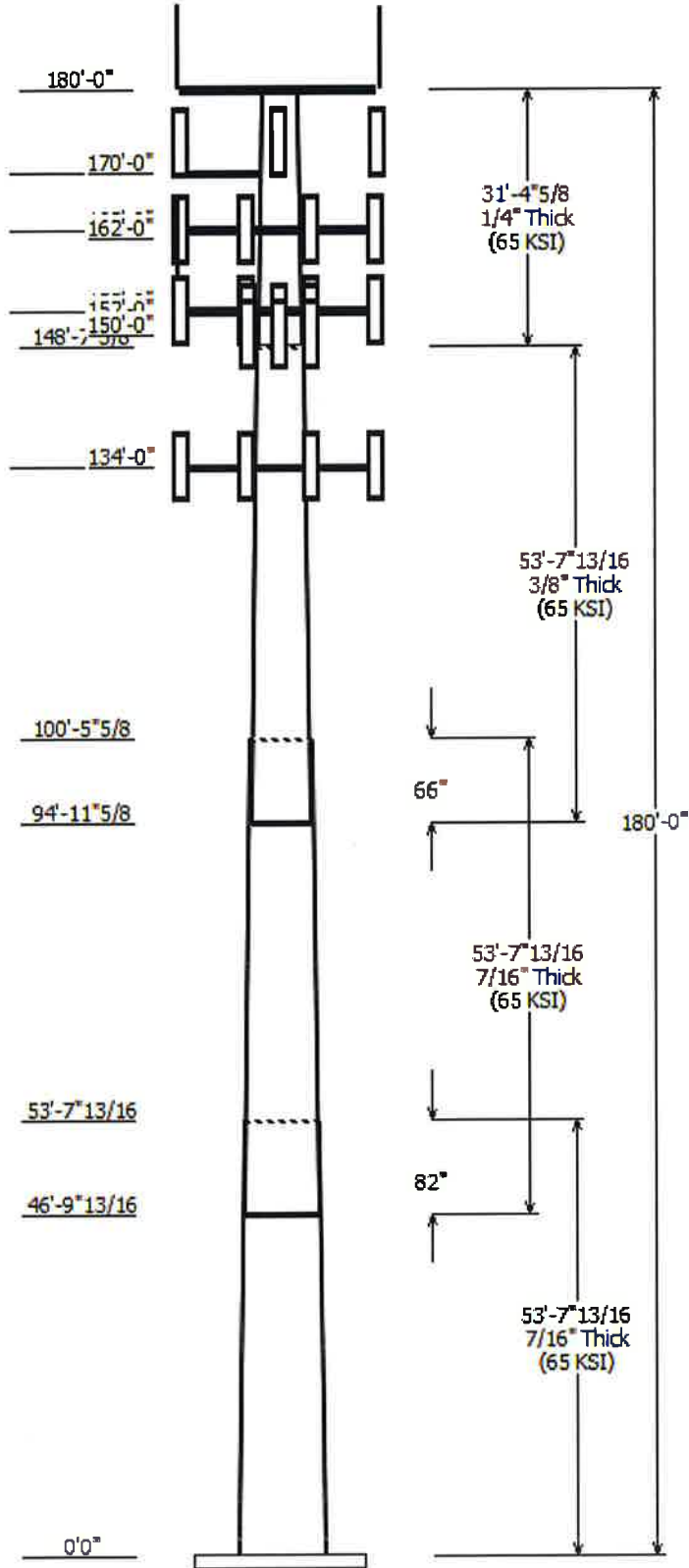
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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

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| Job Information | | | |
|-----------------|--------------------------|----------------|----------------|
| Pole : | 310972 | Code: | ANSI/TIA-222-G |
| Description : | 180' FWT monopole | | |
| Client : | Verizon Wireless | Struct Class : | II |
| Location : | Waterford Rebuild CT, CT | | |
| Shape : | 18 Sides | Exposure : | B |
| Height : | 180.00 (ft) | Topo : | 1 |
| Base Elev (ft): | 0.00 | | |
| Taper: | 0.228739(in/ft) | | |

| Sections Properties | | | | | | | | |
|---------------------|-------------|---------------|---------------|------------|------------|---------------------|---------------------|-------------------|
| Shaft Section | Length (ft) | Diameter (in) | | Thick (in) | Joint Type | Overlap Length (in) | Steel Taper (in/ft) | Steel Grade (ksi) |
| | | Across Top | Across Bottom | | | | | |
| 1 | 53.650 | 50.67 | 62.95 | 0.438 | | 0.000 | 0.228700 | 65 |
| 2 | 53.650 | 40.84 | 53.11 | 0.438 | Slip Joint | 82.000 | 0.228700 | 65 |
| 3 | 53.650 | 30.58 | 42.85 | 0.375 | Slip Joint | 66.000 | 0.228700 | 65 |
| 4 | 31.383 | 23.40 | 30.58 | 0.250 | Butt Joint | 0.000 | 0.228700 | 65 |

| Discrete Appurtenance | | | |
|-----------------------|-----------------|-----|--------------------------------|
| Attach Elev (ft) | Force Elev (ft) | Qty | Description |
| 180.000 | 184.000 | 2 | Andrew DB806D-Y |
| 180.000 | 180.000 | 1 | Round Low Profile Platform |
| 170.000 | 170.000 | 1 | Side Arms |
| 170.000 | 176.000 | 3 | KMW HB-X-WM-17-65-00T- |
| 170.000 | 176.000 | 3 | KMW HB-X-WM-17-65-00T |
| 163.000 | 163.000 | 3 | Amphenol Antel |
| 163.000 | 163.000 | 3 | Alcatel-Lucent B66a RRH4x45 |
| 163.000 | 163.000 | 1 | Round Low Profile Platform |
| 163.000 | 163.000 | 6 | Commscope HBXX-6517DS- |
| 163.000 | 163.000 | 3 | Antel BXA-70063/6CF_ |
| 163.000 | 163.000 | 3 | Alcatel-Lucent RRH2x60 700 |
| 163.000 | 163.000 | 3 | Alcatel-Lucent RRH 2X60-1900 |
| 163.000 | 163.000 | 2 | RFS DB-T1-6Z-8AB-0Z |
| 162.000 | 162.000 | 1 | 6' Omni |
| 153.000 | 153.000 | 3 | Ericsson RRUS 11 B4 |
| 153.000 | 153.000 | 3 | Ericsson RRUS 32 B30 |
| 153.000 | 153.000 | 3 | Commscope SBNHH-1D65A |
| 153.000 | 153.000 | 1 | Flat Low Profile Platform |
| 153.000 | 153.000 | 3 | Commscope SBNHH-1D65A |
| 153.000 | 153.000 | 3 | Powerwave Allgon 7770.00 |
| 153.000 | 153.000 | 3 | KMW AM-X-CD-14-65-00T-RET |
| 153.000 | 153.000 | 3 | Ericsson RRUS A2 B4 |
| 153.000 | 153.000 | 6 | Powerwave Allgon 7020.00 |
| 152.000 | 152.000 | 6 | CCI TPX-070821 |
| 152.000 | 152.000 | 6 | Powerwave Allgon LGP17201 |
| 150.000 | 150.000 | 1 | Raycap DC6-48-60-18-8F |
| 150.000 | 150.000 | 1 | Raycap DC6-48-60-18-8F |
| 150.000 | 150.000 | 6 | Ericsson RRUS 11 (Band 12) |
| 134.000 | 134.000 | 3 | Flat T-Arm |
| 134.000 | 134.000 | 3 | Andrew LNX-6515DS-VTM |
| 134.000 | 134.000 | 3 | Ericsson AIR 21, 1.3M, B4A B2P |
| 134.000 | 134.000 | 3 | Ericsson AIR 21, 1.3 M, B2A B4 |
| 134.000 | 134.000 | 3 | Ericsson RRUS 11 B12 |
| 134.000 | 134.000 | 3 | Ericsson KRY 112 144/1 |

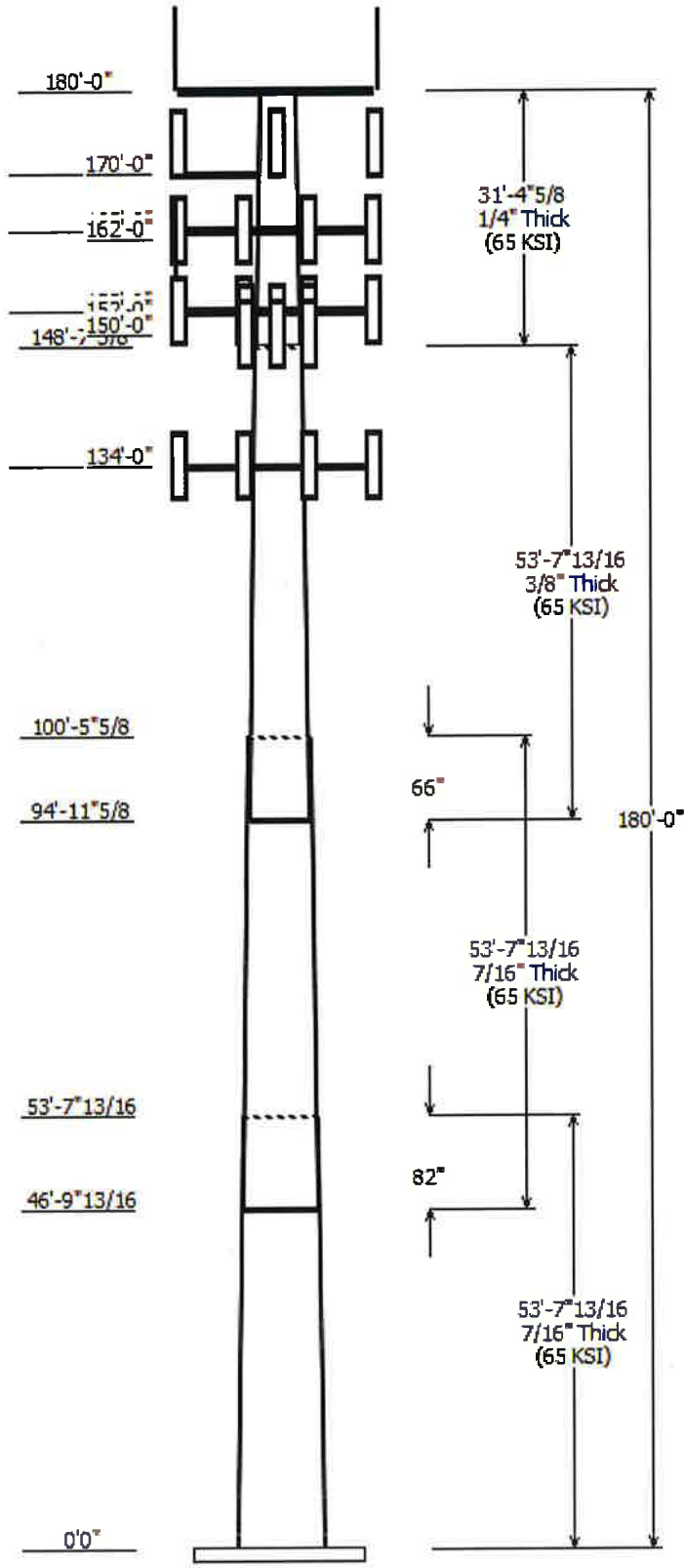
| Linear Appurtenance | | | | |
|---------------------|-------|----|------------------|-----------------|
| Elev (ft) | From | To | Description | Exposed To Wind |
| 0.000 | 134.0 | | 1 1/4" Hybriflex | No |
| 0.000 | 134.0 | | 1 5/8" Coax | No |
| 0.000 | 150.0 | | 0.78" 8 AWG 6 | No |

| | | | |
|-------|-------|-------------------|----|
| 0.000 | 153.0 | 0.39" Fiber Trunk | No |
| 0.000 | 153.0 | 0.74" 8 AWG 7 | No |
| 0.000 | 153.0 | 1 1/4" Coax | No |
| 0.000 | 162.0 | 1 5/8" Coax | No |
| 0.000 | 163.0 | 1 5/8" Coax | No |
| 0.000 | 163.0 | 1 5/8" Fiber | No |
| 0.000 | 170.0 | 1 5/8" Coax | No |
| 0.000 | 180.0 | 1 5/8" Coax | No |

| Load Cases | |
|-------------------------|--|
| 1.2D + 1.6W | 120 mph with No Ice |
| 0.9D + 1.6W | 120 mph with No Ice (Reduced DL) |
| 1.2D + 1.0Di + 1.0Wi | 50 mph with 0.75 in Radial Ice |
| (1.2 + 0.2Sds) * DL + E | Seismic Equivalent Lateral Forces Method |
| (1.2 + 0.2Sds) * DL + E | Seismic Equivalent Modal Analysis Method |
| (0.9 - 0.2Sds) * DL + E | Seismic (Reduced DL) Equivalent Lateral |
| (0.9 - 0.2Sds) * DL + E | Seismic (Reduced DL) Equivalent Modal |
| 1.0D + 1.0W | Serviceability 60 mph |

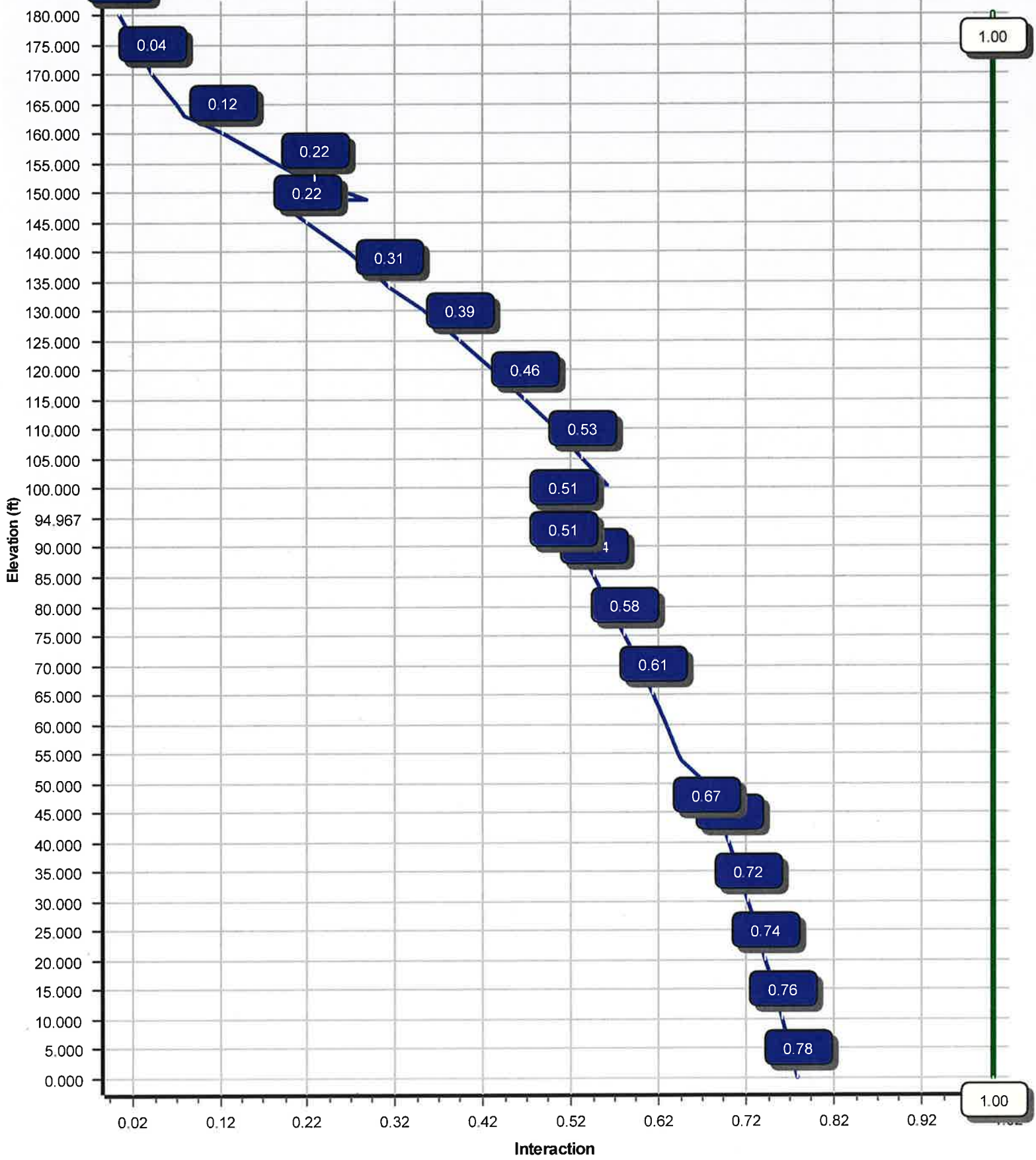
| Reactions | | | |
|------------------------------|-----------------|-------------|-------------|
| Load Case | Moment (kip-ft) | Shear (kip) | Axial (kip) |
| 1.2D + 1.6W | 5667.22 | 45.48 | 62.03 |
| 0.9D + 1.6W | 5608.81 | 45.45 | 46.51 |
| 1.2D + 1.0Di + 1.0Wi | 1060.50 | 8.55 | 90.59 |
| (1.2 + 0.2Sds) * DL + E ELFM | 282.46 | 2.02 | 61.82 |
| (1.2 + 0.2Sds) * DL + E EMAM | 272.70 | 2.15 | 61.82 |
| (0.9 - 0.2Sds) * DL + E ELFM | 279.00 | 2.02 | 43.37 |
| (0.9 - 0.2Sds) * DL + E EMAM | 269.19 | 2.15 | 43.37 |
| 1.0D + 1.0W | 880.62 | 7.10 | 51.75 |

| Dish Deflections | | | |
|------------------|------------------|-----------------|----------------|
| Load Case | Attach Elev (ft) | Deflection (in) | Rotation (deg) |
| | 0.00 | 0.000 | 0.000 |



Load Case : 1.2D + 1.6W

Max Ratio 77.63% at 0.0 ft



Analysis Parameters

| | | | |
|--------------------|-----------------------|---------------------|-------|
| Location: | New London County, CT | | |
| Code: | ANSI/TIA-222-G | Height (ft): | 180 |
| Shape: | 18 Sides | Base Diameter (in): | 62.95 |
| Pole Type: | Taper | Top Diameter (in): | 23.40 |
| Pole Manufacturer: | FWT Inc | Taper (in/ft) : | 0.229 |

Ice & Wind Parameters

| | | | |
|-----------------------|--------|--------------------------------|---------|
| Structure Class: | II | Design Wind Speed Without Ice: | 120 mph |
| Exposure Category: | B | Design Wind Speed With Ice: | 50 mph |
| Topographic Category: | 1 | Operational Wind Speed: | 60 mph |
| Crest Height: | 0.0 ft | Design Ice Thickness: | 0.75 in |

Seismic Parameters

| | | | |
|--|--|---------------------|-------|
| Analysis Method: | Equivalent Modal Analysis & Equivalent Lateral Force Methods | | |
| Site Class: | D - Stiff Soil | | |
| Period Based on Rayleigh Method (sec): | 2.37 | | |
| T _L (sec): | 6 | p: | 1.3 |
| S _s : | 0.160 | S ₁ : | 0.058 |
| F _a : | 1.600 | F _v : | 2.400 |
| S _{ds} : | 0.171 | S _{d1} : | 0.093 |
| | | C _s : | 0.030 |
| | | C _s Max: | 0.030 |
| | | C _s Min: | 0.030 |

Load Cases

| | |
|---|---|
| 1.2D + 1.6W | 120 mph with No Ice |
| 0.9D + 1.6W | 120 mph with No Ice (Reduced DL) |
| 1.2D + 1.0Di + 1.0Wi | 50 mph with 0.75 in Radial Ice |
| (1.2 + 0.2S _{ds}) * DL + E ELFM | Seismic Equivalent Lateral Forces Method |
| (1.2 + 0.2S _{ds}) * DL + E EMAM | Seismic Equivalent Modal Analysis Method |
| (0.9 - 0.2S _{ds}) * DL + E ELFM | Seismic (Reduced DL) Equivalent Lateral Forces Method |
| (0.9 - 0.2S _{ds}) * DL + E EMAM | Seismic (Reduced DL) Equivalent Modal Analysis Method |
| 1.0D + 1.0W | Serviceability 60 mph |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:27 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 ²) | Ix (in ⁴) | W/t Ratio | D/t Ratio | Dia (in) | Elev (ft) | Area (in ²) | Ix (in ⁴) | W/t Ratio | D/t Ratio | Taper (in/ft) |
| 1-18 | 53.650 | 0.4375 | 65 | | 0.00 | 14,291 | 62.95 | 0.00 | 86.80 | 42857.1 | 23.61 | 143.89 | 50.67 | 53.65 | 69.76 | 22247.9 | 18.66 | 115.84 | 0.228739 |
| 2-18 | 53.650 | 0.4375 | 65 | Slip | 82.00 | 11,798 | 53.11 | 46.82 | 73.15 | 25646.5 | 19.64 | 121.41 | 40.84 | 100.47 | 56.11 | 11574.1 | 14.70 | 93.36 | 0.228739 |
| 3-18 | 53.650 | 0.3750 | 65 | Slip | 66.00 | 7,896 | 42.85 | 94.97 | 50.56 | 11525.2 | 18.39 | 114.27 | 30.58 | 148.62 | 35.95 | 4144.2 | 12.62 | 81.55 | 0.228739 |
| 4-18 | 31.383 | 0.2500 | 65 | Butt | 0.00 | 2,266 | 30.58 | 148.62 | 24.07 | 2797.2 | 19.81 | 122.32 | 23.40 | 180.00 | 18.37 | 1244.1 | 14.74 | 93.61 | 0.228739 |
| Shaft Weight | | | | | | 36,252 | | | | | | | | | | | | | |

Discrete Appurtenance Properties

| Attach Elev (ft) | Description | Qty | No Ice | | | Ice | | | Distance From Face (ft) | Vert Ecc (ft) |
|------------------|---------------------------------|-----|-------------|-----------|--------------------|-------------|-----------|--------------------|-------------------------|---------------|
| | | | Weight (lb) | EPAA (sf) | Orientation Factor | Weight (lb) | EPAA (sf) | Orientation Factor | | |
| 180.00 | Andrew DB806D-Y | 2 | 27.00 | 3.380 | 1.00 | 180.24 | 7.023 | 1.00 | 0.000 | 4.000 |
| 180.00 | Round Low Profile Platform | 1 | 1500.00 | 21.700 | 1.00 | 2,160.24 | 41.265 | 1.00 | 0.000 | 0.000 |
| 170.00 | KMW HB-X-WM-17-65-00T | 3 | 30.00 | 1.920 | 1.00 | 142.94 | 4.246 | 1.00 | 0.000 | 6.000 |
| 170.00 | KMW HB-X-WM-17-65-00T-Side Arms | 3 | 15.90 | 0.970 | 0.50 | 51.27 | 1.426 | 0.50 | 0.000 | 6.000 |
| 170.00 | Alcatel-Lucent B66a | 3 | 67.00 | 2.660 | 0.50 | 153.05 | 3.385 | 0.50 | 0.000 | 0.000 |
| 163.00 | Alcatel-Lucent RRH 2X60- | 3 | 39.60 | 1.880 | 0.50 | 107.28 | 2.465 | 0.50 | 0.000 | 0.000 |
| 163.00 | Alcatel-Lucent RRH2x60 700 | 3 | 56.70 | 2.150 | 0.67 | 141.51 | 2.810 | 0.67 | 0.000 | 0.000 |
| 163.00 | Amphenol Antel | 3 | 54.00 | 13.240 | 0.71 | 362.98 | 15.061 | 0.71 | 0.000 | 0.000 |
| 163.00 | Antel BXA-70063/6CF_ | 3 | 17.00 | 7.570 | 0.75 | 185.87 | 8.830 | 0.75 | 0.000 | 0.000 |
| 163.00 | Commscope HBXX-6517DS- | 6 | 40.80 | 8.530 | 0.81 | 218.49 | 10.949 | 0.81 | 0.000 | 0.000 |
| 163.00 | RFS DB-T1-6Z-8AB-OZ | 2 | 44.00 | 4.800 | 0.67 | 183.22 | 5.681 | 0.67 | 0.000 | 0.000 |
| 163.00 | Round Low Profile Platform | 1 | 1500.00 | 21.700 | 1.00 | 2,154.44 | 41.093 | 1.00 | 0.000 | 0.000 |
| 162.00 | 6' Omni | 1 | 25.00 | 1.760 | 1.00 | 107.88 | 3.082 | 1.00 | 0.000 | 0.000 |
| 153.00 | Commscope SBNHH-1D65A | 3 | 33.50 | 5.880 | 0.83 | 297.64 | 8.622 | 0.83 | 0.000 | 0.000 |
| 153.00 | Commscope SBNHH-1D65A | 3 | 33.50 | 5.880 | 0.83 | 297.64 | 8.622 | 0.83 | 0.000 | 0.000 |
| 153.00 | Ericsson RRUS 11 B4 | 3 | 50.70 | 2.790 | 0.67 | 137.30 | 3.471 | 0.67 | 0.000 | 0.000 |
| 153.00 | Ericsson RRUS 32 B30 | 3 | 60.00 | 2.690 | 0.67 | 145.62 | 3.418 | 0.67 | 0.000 | 0.000 |
| 153.00 | Ericsson RRUS A2 B4 | 3 | 22.00 | 2.060 | 0.67 | 77.50 | 2.664 | 0.67 | 0.000 | 0.000 |
| 153.00 | Flat Low Profile Platform | 1 | 1500.00 | 26.100 | 1.00 | 2,150.29 | 45.263 | 1.00 | 0.000 | 0.000 |
| 153.00 | KMW AM-X-CD-14-65-00T- | 3 | 36.40 | 4.990 | 0.78 | 167.96 | 5.977 | 0.78 | 0.000 | 0.000 |
| 153.00 | Powerwave Allgon 7020.00 | 6 | 2.20 | 0.400 | 0.50 | 17.99 | 0.624 | 0.50 | 0.000 | 0.000 |
| 153.00 | Powerwave Allgon 7770.00 | 3 | 35.00 | 5.510 | 0.77 | 170.36 | 6.562 | 0.77 | 0.000 | 0.000 |
| 152.00 | CCI TPX-070821 | 6 | 7.50 | 0.550 | 0.50 | 30.40 | 0.906 | 0.50 | 0.000 | 0.000 |
| 152.00 | Powerwave Allgon LGP17201 | 6 | 31.00 | 1.670 | 0.50 | 79.59 | 2.211 | 0.50 | 0.000 | 0.000 |
| 150.00 | Ericsson RRUS 11 (Band 12) | 6 | 50.00 | 2.570 | 0.67 | 131.45 | 3.221 | 0.67 | 0.000 | 0.000 |
| 150.00 | Raycap DC6-48-60-18-8F | 1 | 20.00 | 1.110 | 1.00 | 100.47 | 2.521 | 1.00 | 0.000 | 0.000 |
| 150.00 | Raycap DC6-48-60-18-8F | 1 | 31.80 | 1.280 | 1.00 | 124.70 | 2.853 | 1.00 | 0.000 | 0.000 |
| 134.00 | Andrew LNX-6515DS-VTM | 3 | 51.30 | 11.430 | 0.84 | 310.77 | 13.072 | 0.84 | 0.000 | 0.000 |
| 134.00 | Ericsson AIR 21, 1.3 M, B2A | 3 | 83.00 | 6.050 | 0.86 | 249.48 | 7.133 | 0.86 | 0.000 | 0.000 |
| 134.00 | Ericsson AIR 21, 1.3M, B4A | 3 | 81.50 | 6.090 | 0.85 | 247.94 | 7.178 | 0.85 | 0.000 | 0.000 |
| 134.00 | Ericsson KRY 112 144/1 | 3 | 11.00 | 0.410 | 0.50 | 27.07 | 0.630 | 0.50 | 0.000 | 0.000 |
| 134.00 | Ericsson RRUS 11 B12 | 3 | 50.70 | 2.790 | 0.67 | 135.77 | 3.460 | 0.67 | 0.000 | 0.000 |
| 134.00 | Flat T-Arm | 3 | 250.00 | 12.900 | 0.67 | 456.77 | 20.991 | 0.67 | 0.000 | 0.000 |
| Totals | | 101 | 9304.20 | | | 23,026.93 | | | Number of Loadings : 34 | |

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 | 180.00 | 1 | 1 1/8" Coax | 1.98 | 0.82 | N | 0.00 | N | Spok Holdings |
| 0.00 | 170.00 | 6 | 1 1/8" Coax | 1.98 | 0.82 | N | 0.00 | N | Clearwire Corporation |
| 0.00 | 163.00 | 12 | 1 1/8" Coax | 1.98 | 0.82 | N | 0.00 | N | Verizon Wireless |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:27 PM

Customer: Verizon Wireless

| | | | | | | | | | |
|------|--------|----|-------------------|------|------|---|------|---|------------------|
| 0.00 | 163.00 | 2 | 1 5/8" Fiber | 1.63 | 1.61 | N | 0.00 | N | Verizon Wireless |
| 0.00 | 162.00 | 1 | 1 5/8" Coax | 1.98 | 0.82 | N | 0.00 | N | Spok Holdings |
| 0.00 | 153.00 | 2 | 0.39" Fiber Trunk | 0.39 | 0.06 | N | 0.00 | N | AT&T Mobility |
| 0.00 | 153.00 | 2 | 0.74" 8 AWG 7 | 0.74 | 0.49 | N | 0.00 | N | AT&T Mobility |
| 0.00 | 153.00 | 12 | 1 1/4" Coax | 1.55 | 0.63 | N | 0.00 | N | AT&T Mobility |
| 0.00 | 150.00 | 2 | 0.78" 8 AWG 6 | 0.78 | 0.59 | N | 0.00 | N | AT&T Mobility |
| 0.00 | 134.00 | 1 | 1 1/4" Hybriflex | 1.54 | 1.00 | N | 0.00 | N | T-Mobile |
| 0.00 | 134.00 | 12 | 1 5/8" Coax | 1.98 | 0.82 | N | 0.00 | N | T-Mobile |

Segment Properties (Max Len : 5. ft)

| Seg Top Elev (ft) | Description | Thick (in) | Flat Dia (in) | Area (in ²) | Ix (in ⁴) | W/t Ratio | D/t Ratio | F'y (ksi) | S (in ³) | Z (in ³) | Weight (lb) |
|-------------------|-----------------|------------|---------------|-------------------------|-----------------------|-----------|-----------|-----------|----------------------|----------------------|-------------|
| 0.00 | | 0.4375 | 62.950 | 86.803 | 42,857.1 | 23.61 | 143.89 | 73.6 | 1340. | 0.0 | 0.0 |
| 5.00 | | 0.4375 | 61.806 | 85.215 | 40,547.6 | 23.15 | 141.27 | 74.2 | 1292. | 0.0 | 1,463.4 |
| 10.00 | | 0.4375 | 60.663 | 83.627 | 38,322.6 | 22.69 | 138.66 | 74.7 | 1244. | 0.0 | 1,436.3 |
| 15.00 | | 0.4375 | 59.519 | 82.039 | 36,180.5 | 22.22 | 136.04 | 75.3 | 1197. | 0.0 | 1,409.3 |
| 20.00 | | 0.4375 | 58.375 | 80.451 | 34,119.8 | 21.76 | 133.43 | 75.8 | 1151. | 0.0 | 1,382.3 |
| 25.00 | | 0.4375 | 57.232 | 78.863 | 32,138.8 | 21.30 | 130.81 | 76.3 | 1106. | 0.0 | 1,355.3 |
| 30.00 | | 0.4375 | 56.088 | 77.275 | 30,236.1 | 20.84 | 128.20 | 76.9 | 1061. | 0.0 | 1,328.3 |
| 35.00 | | 0.4375 | 54.944 | 75.687 | 28,409.9 | 20.38 | 125.59 | 77.4 | 1018. | 0.0 | 1,301.2 |
| 40.00 | | 0.4375 | 53.800 | 74.098 | 26,658.9 | 19.92 | 122.97 | 78.0 | 976.0 | 0.0 | 1,274.2 |
| 45.00 | | 0.4375 | 52.657 | 72.510 | 24,981.2 | 19.46 | 120.36 | 78.5 | 934.4 | 0.0 | 1,247.2 |
| 46.82 | Bot - Section 2 | 0.4375 | 52.241 | 71.933 | 24,389.6 | 19.29 | 119.41 | 78.7 | 919.5 | 0.0 | 446.5 |
| 50.00 | | 0.4375 | 51.513 | 70.922 | 23,375.5 | 19.00 | 117.74 | 79.1 | 893.8 | 0.0 | 1,560.6 |
| 53.65 | Top - Section 1 | 0.4375 | 51.553 | 70.978 | 23,430.6 | 19.01 | 117.84 | 79.0 | 895.2 | 0.0 | 1,762.4 |
| 55.00 | | 0.4375 | 51.244 | 70.549 | 23,008.6 | 18.89 | 117.13 | 79.2 | 884.4 | 0.0 | 325.1 |
| 60.00 | | 0.4375 | 50.101 | 68.961 | 21,489.5 | 18.43 | 114.52 | 79.7 | 844.8 | 0.0 | 1,186.8 |
| 65.00 | | 0.4375 | 48.957 | 67.373 | 20,038.7 | 17.97 | 111.90 | 80.3 | 806.2 | 0.0 | 1,159.8 |
| 70.00 | | 0.4375 | 47.813 | 65.785 | 18,654.8 | 17.51 | 109.29 | 80.8 | 768.5 | 0.0 | 1,132.8 |
| 75.00 | | 0.4375 | 46.670 | 64.197 | 17,336.2 | 17.05 | 106.67 | 81.4 | 731.6 | 0.0 | 1,105.7 |
| 80.00 | | 0.4375 | 45.526 | 62.609 | 16,081.1 | 16.59 | 104.06 | 81.9 | 695.7 | 0.0 | 1,078.7 |
| 85.00 | | 0.4375 | 44.382 | 61.020 | 14,888.2 | 16.12 | 101.45 | 82.4 | 660.7 | 0.0 | 1,051.7 |
| 90.00 | | 0.4375 | 43.238 | 59.432 | 13,755.7 | 15.66 | 98.83 | 82.6 | 626.6 | 0.0 | 1,024.7 |
| 94.97 | Bot - Section 3 | 0.4375 | 42.102 | 57.855 | 12,689.2 | 15.21 | 96.23 | 82.6 | 593.6 | 0.0 | 991.1 |
| 95.00 | | 0.4375 | 42.095 | 57.844 | 12,682.2 | 15.20 | 96.22 | 82.6 | 593.4 | 0.0 | 12.3 |
| 100.0 | | 0.4375 | 40.951 | 56.256 | 11,666.1 | 14.74 | 93.60 | 82.6 | 561.1 | 0.0 | 1,819.1 |
| 100.4 | Top - Section 2 | 0.3750 | 41.594 | 49.060 | 10,531.2 | 17.79 | 110.92 | 80.5 | 498.7 | 0.0 | 167.2 |
| 105.0 | | 0.3750 | 40.557 | 47.825 | 9,756.3 | 17.31 | 108.15 | 81.0 | 473.8 | 0.0 | 747.3 |
| 110.0 | | 0.3750 | 39.414 | 46.464 | 8,946.7 | 16.77 | 105.10 | 81.7 | 447.1 | 0.0 | 802.1 |
| 115.0 | | 0.3750 | 38.270 | 45.103 | 8,183.2 | 16.23 | 102.05 | 82.3 | 421.2 | 0.0 | 779.0 |
| 120.0 | | 0.3750 | 37.126 | 43.742 | 7,464.4 | 15.69 | 99.00 | 82.6 | 396.0 | 0.0 | 755.8 |
| 125.0 | | 0.3750 | 35.983 | 42.380 | 6,789.0 | 15.16 | 95.95 | 82.6 | 371.6 | 0.0 | 732.6 |
| 130.0 | | 0.3750 | 34.839 | 41.019 | 6,155.6 | 14.62 | 92.90 | 82.6 | 348.0 | 0.0 | 709.5 |
| 134.0 | | 0.3750 | 33.924 | 39.930 | 5,678.2 | 14.19 | 90.46 | 82.6 | 329.7 | 0.0 | 550.9 |
| 135.0 | | 0.3750 | 33.695 | 39.658 | 5,562.9 | 14.08 | 89.85 | 82.6 | 325.2 | 0.0 | 135.4 |
| 140.0 | | 0.3750 | 32.552 | 38.297 | 5,009.5 | 13.54 | 86.80 | 82.6 | 303.1 | 0.0 | 663.2 |
| 145.0 | | 0.3750 | 31.408 | 36.936 | 4,494.1 | 13.00 | 83.75 | 82.6 | 281.8 | 0.0 | 640.0 |
| 148.6 | Top - Section 3 | 0.3750 | 30.581 | 35.951 | 4,144.2 | 12.62 | 81.55 | 82.6 | 266.9 | 0.0 | 448.5 |
| 148.6 | Bot - Section 4 | 0.2500 | 30.581 | 24.066 | 2,797.2 | 19.81 | 122.32 | 78.1 | 180.2 | 0.0 | |
| 150.0 | | 0.2500 | 30.264 | 23.815 | 2,710.6 | 19.58 | 121.06 | 78.4 | 176.4 | 0.0 | 112.7 |
| 152.0 | | 0.2500 | 29.807 | 23.452 | 2,588.5 | 19.26 | 119.23 | 78.7 | 171.0 | 0.0 | 160.8 |
| 153.0 | | 0.2500 | 29.578 | 23.271 | 2,528.9 | 19.10 | 118.31 | 78.9 | 168.4 | 0.0 | 79.5 |
| 155.0 | | 0.2500 | 29.120 | 22.908 | 2,412.4 | 18.78 | 116.48 | 79.3 | 163.2 | 0.0 | 157.1 |
| 160.0 | | 0.2500 | 27.977 | 22.000 | 2,136.9 | 17.97 | 111.91 | 80.3 | 150.4 | 0.0 | 382.0 |
| 162.0 | | 0.2500 | 27.519 | 21.637 | 2,032.9 | 17.65 | 110.08 | 80.6 | 145.5 | 0.0 | 148.5 |
| 163.0 | | 0.2500 | 27.291 | 21.456 | 1,982.1 | 17.48 | 109.16 | 80.8 | 143.1 | 0.0 | 73.3 |
| 165.0 | | 0.2500 | 26.833 | 21.093 | 1,883.2 | 17.16 | 107.33 | 81.2 | 138.2 | 0.0 | 144.8 |
| 170.0 | | 0.2500 | 25.689 | 20.185 | 1,650.5 | 16.36 | 102.76 | 82.2 | 126.5 | 0.0 | 351.2 |
| 175.0 | | 0.2500 | 24.546 | 19.278 | 1,437.7 | 15.55 | 98.18 | 82.6 | 115.4 | 0.0 | 335.7 |
| 180.0 | | 0.2500 | 23.402 | 18.370 | 1,244.1 | 14.74 | 93.61 | 82.6 | 104.7 | 0.0 | 320.3 |
| | | | | | | | | | | | 36,252.1 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:27 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W

120 mph with No Ice

25 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 | | 370.1 | 0.0 | | | | | 0.0 | 0.0 | 370.1 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 733.4 | 1,756.0 | | | | | 0.0 | 241.8 | 733.4 | 1,997.8 | 0.0 | 0.0 |
| 10.00 | | 719.8 | 1,723.6 | | | | | 0.0 | 241.8 | 719.8 | 1,965.4 | 0.0 | 0.0 |
| 15.00 | | 706.2 | 1,691.2 | | | | | 0.0 | 241.8 | 706.2 | 1,932.9 | 0.0 | 0.0 |
| 20.00 | | 692.7 | 1,658.8 | | | | | 0.0 | 241.8 | 692.7 | 1,900.5 | 0.0 | 0.0 |
| 25.00 | | 679.1 | 1,626.3 | | | | | 0.0 | 241.8 | 679.1 | 1,868.1 | 0.0 | 0.0 |
| 30.00 | | 673.4 | 1,593.9 | | | | | 0.0 | 241.8 | 673.4 | 1,835.7 | 0.0 | 0.0 |
| 35.00 | | 681.4 | 1,561.5 | | | | | 0.0 | 241.8 | 681.4 | 1,803.3 | 0.0 | 0.0 |
| 40.00 | | 693.2 | 1,529.1 | | | | | 0.0 | 241.8 | 693.2 | 1,770.8 | 0.0 | 0.0 |
| 45.00 | | 476.9 | 1,496.6 | | | | | 0.0 | 241.8 | 476.9 | 1,738.4 | 0.0 | 0.0 |
| 46.82 | Bot - Section 2 | 356.4 | 535.7 | | | | | 0.0 | 87.8 | 356.4 | 623.6 | 0.0 | 0.0 |
| 50.00 | | 492.0 | 1,872.7 | | | | | 0.0 | 153.9 | 492.0 | 2,026.6 | 0.0 | 0.0 |
| 53.65 | Top - Section 1 | 361.0 | 2,114.9 | | | | | 0.0 | 176.5 | 361.0 | 2,291.4 | 0.0 | 0.0 |
| 55.00 | | 460.0 | 390.1 | | | | | 0.0 | 65.3 | 460.0 | 455.4 | 0.0 | 0.0 |
| 60.00 | | 725.1 | 1,424.2 | | | | | 0.0 | 241.8 | 725.1 | 1,665.9 | 0.0 | 0.0 |
| 65.00 | | 724.9 | 1,391.7 | | | | | 0.0 | 241.8 | 724.9 | 1,633.5 | 0.0 | 0.0 |
| 70.00 | | 723.2 | 1,359.3 | | | | | 0.0 | 241.8 | 723.2 | 1,601.1 | 0.0 | 0.0 |
| 75.00 | | 719.9 | 1,326.9 | | | | | 0.0 | 241.8 | 719.9 | 1,568.7 | 0.0 | 0.0 |
| 80.00 | | 715.4 | 1,294.5 | | | | | 0.0 | 241.8 | 715.4 | 1,536.2 | 0.0 | 0.0 |
| 85.00 | | 709.6 | 1,262.0 | | | | | 0.0 | 241.8 | 709.6 | 1,503.8 | 0.0 | 0.0 |
| 90.00 | | 700.4 | 1,229.6 | | | | | 0.0 | 241.8 | 700.4 | 1,471.4 | 0.0 | 0.0 |
| 94.97 | Bot - Section 3 | 349.5 | 1,189.3 | | | | | 0.0 | 240.2 | 349.5 | 1,429.5 | 0.0 | 0.0 |
| 95.00 | | 353.9 | 14.8 | | | | | 0.0 | 1.6 | 353.9 | 16.4 | 0.0 | 0.0 |
| 100.00 | | 384.1 | 2,182.9 | | | | | 0.0 | 241.8 | 384.1 | 2,424.7 | 0.0 | 0.0 |
| 100.47 | Top - Section 2 | 346.9 | 200.7 | | | | | 0.0 | 22.6 | 346.9 | 223.2 | 0.0 | 0.0 |
| 105.00 | | 656.2 | 896.7 | | | | | 0.0 | 219.2 | 656.2 | 1,115.9 | 0.0 | 0.0 |
| 110.00 | | 678.4 | 962.5 | | | | | 0.0 | 241.8 | 678.4 | 1,204.3 | 0.0 | 0.0 |
| 115.00 | | 667.1 | 934.7 | | | | | 0.0 | 241.8 | 667.1 | 1,176.5 | 0.0 | 0.0 |
| 120.00 | | 655.1 | 907.0 | | | | | 0.0 | 241.8 | 655.1 | 1,148.7 | 0.0 | 0.0 |
| 125.00 | | 642.4 | 879.2 | | | | | 0.0 | 241.8 | 642.4 | 1,120.9 | 0.0 | 0.0 |
| 130.00 | | 567.3 | 851.4 | | | | | 0.0 | 241.8 | 567.3 | 1,093.1 | 0.0 | 0.0 |
| 134.00 | Appertunance(s) | 311.0 | 661.1 | 4,793.2 | 0.0 | 0.0 | 1,899.0 | 0.0 | 193.4 | 5,104.2 | 2,753.5 | 0.0 | 0.0 |
| 135.00 | | 365.5 | 162.5 | | | | | 0.0 | 35.3 | 365.5 | 197.8 | 0.0 | 0.0 |
| 140.00 | | 600.2 | 795.8 | | | | | 0.0 | 176.7 | 600.2 | 972.5 | 0.0 | 0.0 |
| 145.00 | | 505.9 | 768.0 | | | | | 0.0 | 176.7 | 505.9 | 944.7 | 0.0 | 0.0 |
| 148.62 | Top - Section 3 | 288.6 | 538.2 | | | | | 0.0 | 127.8 | 288.6 | 666.0 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 192.3 | 135.2 | 696.0 | 0.0 | 0.0 | 422.2 | 0.0 | 48.9 | 888.3 | 606.3 | 0.0 | 0.0 |
| 152.00 | Appertunance(s) | 169.3 | 193.0 | 365.8 | 0.0 | 0.0 | 277.2 | 0.0 | 67.9 | 535.1 | 538.1 | 0.0 | 0.0 |
| 153.00 | Appertunance(s) | 167.3 | 95.4 | 5,665.7 | 0.0 | 0.0 | 2,791.8 | 0.0 | 33.9 | 5,833.1 | 2,921.1 | 0.0 | 0.0 |
| 155.00 | | 383.5 | 188.6 | | | | | 0.0 | 47.1 | 383.5 | 235.6 | 0.0 | 0.0 |
| 160.00 | | 378.8 | 458.4 | | | | | 0.0 | 117.7 | 378.8 | 576.1 | 0.0 | 0.0 |
| 162.00 | Appertunance(s) | 159.3 | 178.2 | 123.0 | 0.0 | 0.0 | 30.0 | 0.0 | 47.1 | 282.3 | 255.3 | 0.0 | 0.0 |
| 163.00 | Appertunance(s) | 157.2 | 88.0 | 7,361.0 | 0.0 | 0.0 | 3,042.8 | 0.0 | 22.6 | 7,518.1 | 3,153.4 | 0.0 | 0.0 |
| 165.00 | | 359.3 | 173.7 | | | | | 0.0 | 13.8 | 359.3 | 187.5 | 0.0 | 0.0 |
| 170.00 | Appertunance(s) | 500.7 | 421.4 | 1,015.7 | 0.0 | 2,479.3 | 837.2 | 0.0 | 34.4 | 1,516.4 | 1,293.1 | 0.0 | 0.0 |
| 175.00 | | 482.4 | 402.9 | | | | | 0.0 | 4.9 | 482.4 | 407.8 | 0.0 | 0.0 |
| 180.00 | Appertunance(s) | 236.6 | 384.3 | 2,053.6 | 0.0 | 1,960.5 | 1,864.8 | 0.0 | 4.9 | 2,290.2 | 2,254.0 | 0.0 | 0.0 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:29 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W

120 mph with No Ice

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Totals: 45,746.6 62,106.9 0.00 0.00

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:29 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W

120 mph with No Ice

25 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 | -62.03 | -45.48 | 0.00 | -5,667.22 | 0.00 | 5,667.22 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.776 |
| 5.00 | -59.89 | -44.94 | 0.00 | -5,439.84 | 0.00 | 5,439.84 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.10 | -0.18 | 0.768 |
| 10.00 | -57.78 | -44.40 | 0.00 | -5,215.16 | 0.00 | 5,215.16 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.39 | -0.37 | 0.758 |
| 15.00 | -55.71 | -43.86 | 0.00 | -4,993.18 | 0.00 | 4,993.18 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.88 | -0.56 | 0.749 |
| 20.00 | -53.67 | -43.33 | 0.00 | -4,773.88 | 0.00 | 4,773.88 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 1.57 | -0.75 | 0.739 |
| 25.00 | -51.67 | -42.80 | 0.00 | -4,557.25 | 0.00 | 4,557.25 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 2.47 | -0.95 | 0.729 |
| 30.00 | -49.70 | -42.26 | 0.00 | -4,343.27 | 0.00 | 4,343.27 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 3.57 | -1.14 | 0.719 |
| 35.00 | -47.76 | -41.71 | 0.00 | -4,131.96 | 0.00 | 4,131.96 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 4.87 | -1.34 | 0.708 |
| 40.00 | -45.87 | -41.13 | 0.00 | -3,923.42 | 0.00 | 3,923.42 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 6.39 | -1.55 | 0.697 |
| 45.00 | -44.04 | -40.71 | 0.00 | -3,717.75 | 0.00 | 3,717.75 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 8.11 | -1.75 | 0.685 |
| 46.82 | -43.36 | -40.42 | 0.00 | -3,643.79 | 0.00 | 3,643.79 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 8.80 | -1.83 | 0.680 |
| 50.00 | -41.25 | -39.96 | 0.00 | -3,515.12 | 0.00 | 3,515.12 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 10.06 | -1.96 | 0.672 |
| 53.65 | -38.90 | -39.59 | 0.00 | -3,369.26 | 0.00 | 3,369.26 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 11.62 | -2.11 | 0.643 |
| 55.00 | -38.37 | -39.20 | 0.00 | -3,315.81 | 0.00 | 3,315.81 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 12.22 | -2.17 | 0.639 |
| 60.00 | -36.60 | -38.54 | 0.00 | -3,119.81 | 0.00 | 3,119.81 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 14.60 | -2.37 | 0.625 |
| 65.00 | -34.87 | -37.87 | 0.00 | -2,927.11 | 0.00 | 2,927.11 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 17.19 | -2.57 | 0.611 |
| 70.00 | -33.17 | -37.19 | 0.00 | -2,737.78 | 0.00 | 2,737.78 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 19.98 | -2.77 | 0.595 |
| 75.00 | -31.52 | -36.50 | 0.00 | -2,551.85 | 0.00 | 2,551.85 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 22.99 | -2.97 | 0.579 |
| 80.00 | -29.89 | -35.81 | 0.00 | -2,369.35 | 0.00 | 2,369.35 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 26.21 | -3.17 | 0.561 |
| 85.00 | -28.31 | -35.11 | 0.00 | -2,190.31 | 0.00 | 2,190.31 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 29.64 | -3.37 | 0.543 |
| 90.00 | -26.76 | -34.42 | 0.00 | -2,014.74 | 0.00 | 2,014.74 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 33.28 | -3.58 | 0.526 |
| 94.97 | -25.30 | -34.02 | 0.00 | -1,843.79 | 0.00 | 1,843.79 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 37.10 | -3.77 | 0.508 |
| 95.00 | -25.25 | -33.71 | 0.00 | -1,842.66 | 0.00 | 1,842.66 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 37.13 | -3.77 | 0.508 |
| 100.00 | -22.79 | -33.21 | 0.00 | -1,674.09 | 0.00 | 1,674.09 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 41.19 | -3.97 | 0.488 |
| 100.47 | -22.54 | -32.89 | 0.00 | -1,658.60 | 0.00 | 1,658.60 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 41.57 | -3.99 | 0.558 |
| 105.00 | -21.36 | -32.22 | 0.00 | -1,509.52 | 0.00 | 1,509.52 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 45.45 | -4.17 | 0.531 |
| 110.00 | -20.10 | -31.53 | 0.00 | -1,348.40 | 0.00 | 1,348.40 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 49.92 | -4.38 | 0.499 |
| 115.00 | -18.87 | -30.84 | 0.00 | -1,190.75 | 0.00 | 1,190.75 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 54.61 | -4.58 | 0.464 |
| 120.00 | -17.68 | -30.15 | 0.00 | -1,036.56 | 0.00 | 1,036.56 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 59.50 | -4.77 | 0.429 |
| 125.00 | -16.53 | -29.47 | 0.00 | -885.81 | 0.00 | 885.81 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 64.60 | -4.95 | 0.391 |
| 130.00 | -15.42 | -28.84 | 0.00 | -738.48 | 0.00 | 738.48 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 69.87 | -5.12 | 0.348 |
| 134.00 | -13.10 | -23.53 | 0.00 | -623.11 | 0.00 | 623.11 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 74.21 | -5.25 | 0.310 |
| 135.00 | -12.91 | -23.17 | 0.00 | -599.58 | 0.00 | 599.58 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 75.32 | -5.28 | 0.302 |
| 140.00 | -11.94 | -22.51 | 0.00 | -483.74 | 0.00 | 483.74 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 80.92 | -5.42 | 0.262 |
| 145.00 | -11.01 | -21.93 | 0.00 | -371.21 | 0.00 | 371.21 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 86.65 | -5.54 | 0.217 |
| 148.62 | -10.36 | -21.59 | 0.00 | -291.90 | 0.00 | 291.90 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 90.87 | -5.62 | 0.181 |
| 148.62 | -10.36 | -21.59 | 0.00 | -291.90 | 0.00 | 291.90 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 90.87 | -5.62 | 0.283 |
| 150.00 | -9.83 | -20.65 | 0.00 | -262.03 | 0.00 | 262.03 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 92.50 | -5.64 | 0.259 |
| 152.00 | -9.33 | -20.07 | 0.00 | -220.73 | 0.00 | 220.73 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 94.87 | -5.69 | 0.225 |
| 153.00 | -7.00 | -13.98 | 0.00 | -200.66 | 0.00 | 200.66 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 96.07 | -5.72 | 0.206 |
| 155.00 | -6.79 | -13.58 | 0.00 | -172.70 | 0.00 | 172.70 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 98.47 | -5.76 | 0.182 |
| 160.00 | -6.24 | -13.15 | 0.00 | -104.78 | 0.00 | 104.78 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 104.54 | -5.84 | 0.120 |
| 162.00 | -6.01 | -12.85 | 0.00 | -78.47 | 0.00 | 78.47 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 106.99 | -5.87 | 0.093 |
| 163.00 | -3.64 | -5.05 | 0.00 | -65.62 | 0.00 | 65.62 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 108.21 | -5.88 | 0.078 |
| 165.00 | -3.49 | -4.67 | 0.00 | -55.53 | 0.00 | 55.53 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 110.68 | -5.89 | 0.068 |
| 170.00 | -2.36 | -3.03 | 0.00 | -29.68 | 0.00 | 29.68 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 116.85 | -5.93 | 0.040 |
| 175.00 | -2.00 | -2.51 | 0.00 | -14.52 | 0.00 | 14.52 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 123.06 | -5.94 | 0.022 |
| 180.00 | 0.00 | -2.29 | 0.00 | -1.96 | 0.00 | 1.96 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 129.28 | -5.95 | 0.003 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:30 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W

120 mph with No Ice (Reduced DL)

25 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 | | 370.1 | 0.0 | | | | | 0.0 | 0.0 | 370.1 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 733.4 | 1,317.0 | | | | | 0.0 | 181.3 | 733.4 | 1,498.3 | 0.0 | 0.0 |
| 10.00 | | 719.8 | 1,292.7 | | | | | 0.0 | 181.3 | 719.8 | 1,474.0 | 0.0 | 0.0 |
| 15.00 | | 706.2 | 1,268.4 | | | | | 0.0 | 181.3 | 706.2 | 1,449.7 | 0.0 | 0.0 |
| 20.00 | | 692.7 | 1,244.1 | | | | | 0.0 | 181.3 | 692.7 | 1,425.4 | 0.0 | 0.0 |
| 25.00 | | 679.1 | 1,219.7 | | | | | 0.0 | 181.3 | 679.1 | 1,401.1 | 0.0 | 0.0 |
| 30.00 | | 673.4 | 1,195.4 | | | | | 0.0 | 181.3 | 673.4 | 1,376.8 | 0.0 | 0.0 |
| 35.00 | | 681.4 | 1,171.1 | | | | | 0.0 | 181.3 | 681.4 | 1,352.4 | 0.0 | 0.0 |
| 40.00 | | 693.2 | 1,146.8 | | | | | 0.0 | 181.3 | 693.2 | 1,328.1 | 0.0 | 0.0 |
| 45.00 | | 476.9 | 1,122.5 | | | | | 0.0 | 181.3 | 476.9 | 1,303.8 | 0.0 | 0.0 |
| 46.82 | Bot - Section 2 | 356.4 | 401.8 | | | | | 0.0 | 65.9 | 356.4 | 467.7 | 0.0 | 0.0 |
| 50.00 | | 492.0 | 1,404.5 | | | | | 0.0 | 115.4 | 492.0 | 1,520.0 | 0.0 | 0.0 |
| 53.65 | Top - Section 1 | 361.0 | 1,586.2 | | | | | 0.0 | 132.4 | 361.0 | 1,718.5 | 0.0 | 0.0 |
| 55.00 | | 460.0 | 292.6 | | | | | 0.0 | 49.0 | 460.0 | 341.5 | 0.0 | 0.0 |
| 60.00 | | 725.1 | 1,068.1 | | | | | 0.0 | 181.3 | 725.1 | 1,249.5 | 0.0 | 0.0 |
| 65.00 | | 724.9 | 1,043.8 | | | | | 0.0 | 181.3 | 724.9 | 1,225.1 | 0.0 | 0.0 |
| 70.00 | | 723.2 | 1,019.5 | | | | | 0.0 | 181.3 | 723.2 | 1,200.8 | 0.0 | 0.0 |
| 75.00 | | 719.9 | 995.2 | | | | | 0.0 | 181.3 | 719.9 | 1,176.5 | 0.0 | 0.0 |
| 80.00 | | 715.4 | 970.9 | | | | | 0.0 | 181.3 | 715.4 | 1,152.2 | 0.0 | 0.0 |
| 85.00 | | 709.6 | 946.5 | | | | | 0.0 | 181.3 | 709.6 | 1,127.9 | 0.0 | 0.0 |
| 90.00 | | 700.4 | 922.2 | | | | | 0.0 | 181.3 | 700.4 | 1,103.5 | 0.0 | 0.0 |
| 94.97 | Bot - Section 3 | 349.5 | 892.0 | | | | | 0.0 | 180.1 | 349.5 | 1,072.1 | 0.0 | 0.0 |
| 95.00 | | 353.9 | 11.1 | | | | | 0.0 | 1.2 | 353.9 | 12.3 | 0.0 | 0.0 |
| 100.00 | | 384.1 | 1,637.2 | | | | | 0.0 | 181.3 | 384.1 | 1,818.5 | 0.0 | 0.0 |
| 100.47 | Top - Section 2 | 346.9 | 150.5 | | | | | 0.0 | 16.9 | 346.9 | 167.4 | 0.0 | 0.0 |
| 105.00 | | 656.2 | 672.5 | | | | | 0.0 | 164.4 | 656.2 | 836.9 | 0.0 | 0.0 |
| 110.00 | | 678.4 | 721.9 | | | | | 0.0 | 181.3 | 678.4 | 903.2 | 0.0 | 0.0 |
| 115.00 | | 667.1 | 701.1 | | | | | 0.0 | 181.3 | 667.1 | 882.4 | 0.0 | 0.0 |
| 120.00 | | 655.1 | 680.2 | | | | | 0.0 | 181.3 | 655.1 | 861.5 | 0.0 | 0.0 |
| 125.00 | | 642.4 | 659.4 | | | | | 0.0 | 181.3 | 642.4 | 840.7 | 0.0 | 0.0 |
| 130.00 | | 567.3 | 638.5 | | | | | 0.0 | 181.3 | 567.3 | 819.9 | 0.0 | 0.0 |
| 134.00 | Appertunance(s) | 311.0 | 495.8 | 4,793.2 | 0.0 | 0.0 | 1,424.2 | 0.0 | 145.1 | 5,104.2 | 2,065.1 | 0.0 | 0.0 |
| 135.00 | | 365.5 | 121.9 | | | | | 0.0 | 26.5 | 365.5 | 148.4 | 0.0 | 0.0 |
| 140.00 | | 600.2 | 596.8 | | | | | 0.0 | 132.6 | 600.2 | 729.4 | 0.0 | 0.0 |
| 145.00 | | 505.9 | 576.0 | | | | | 0.0 | 132.6 | 505.9 | 708.6 | 0.0 | 0.0 |
| 148.62 | Top - Section 3 | 288.6 | 403.6 | | | | | 0.0 | 95.9 | 288.6 | 499.5 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 192.3 | 101.4 | 696.0 | 0.0 | 0.0 | 316.6 | 0.0 | 36.7 | 888.3 | 454.7 | 0.0 | 0.0 |
| 152.00 | Appertunance(s) | 169.3 | 144.8 | 365.8 | 0.0 | 0.0 | 207.9 | 0.0 | 50.9 | 535.1 | 403.6 | 0.0 | 0.0 |
| 153.00 | Appertunance(s) | 167.3 | 71.5 | 5,665.7 | 0.0 | 0.0 | 2,093.8 | 0.0 | 25.4 | 5,833.1 | 2,190.8 | 0.0 | 0.0 |
| 155.00 | | 383.5 | 141.4 | | | | | 0.0 | 35.3 | 383.5 | 176.7 | 0.0 | 0.0 |
| 160.00 | | 378.8 | 343.8 | | | | | 0.0 | 88.3 | 378.8 | 432.1 | 0.0 | 0.0 |
| 162.00 | Appertunance(s) | 159.3 | 133.6 | 123.0 | 0.0 | 0.0 | 22.5 | 0.0 | 35.3 | 282.3 | 191.5 | 0.0 | 0.0 |
| 163.00 | Appertunance(s) | 157.2 | 66.0 | 7,361.0 | 0.0 | 0.0 | 2,282.1 | 0.0 | 16.9 | 7,518.1 | 2,365.0 | 0.0 | 0.0 |
| 165.00 | | 359.3 | 130.3 | | | | | 0.0 | 10.3 | 359.3 | 140.6 | 0.0 | 0.0 |
| 170.00 | Appertunance(s) | 500.7 | 316.0 | 1,015.7 | 0.0 | 2,479.3 | 627.9 | 0.0 | 25.8 | 1,516.4 | 969.8 | 0.0 | 0.0 |
| 175.00 | | 482.4 | 302.1 | | | | | 0.0 | 3.7 | 482.4 | 305.8 | 0.0 | 0.0 |
| 180.00 | Appertunance(s) | 236.6 | 288.2 | 2,053.6 | 0.0 | 1,960.5 | 1,398.6 | 0.0 | 3.7 | 2,290.2 | 1,690.5 | 0.0 | 0.0 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:32 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W

120 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Totals: 45,746.6 46,580.1 0.00 0.00

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:32 PM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W

120 mph with No Ice (Reduced DL)

25 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 | -46.51 | -45.45 | 0.00 | -5,608.81 | 0.00 | 5,608.81 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.766 |
| 5.00 | -44.86 | -44.86 | 0.00 | -5,381.55 | 0.00 | 5,381.55 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.10 | -0.18 | 0.757 |
| 10.00 | -43.25 | -44.27 | 0.00 | -5,157.26 | 0.00 | 5,157.26 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.39 | -0.37 | 0.748 |
| 15.00 | -41.66 | -43.69 | 0.00 | -4,935.89 | 0.00 | 4,935.89 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.87 | -0.55 | 0.738 |
| 20.00 | -40.10 | -43.12 | 0.00 | -4,717.43 | 0.00 | 4,717.43 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 1.56 | -0.74 | 0.728 |
| 25.00 | -38.57 | -42.55 | 0.00 | -4,501.84 | 0.00 | 4,501.84 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 2.44 | -0.94 | 0.718 |
| 30.00 | -37.06 | -41.98 | 0.00 | -4,289.09 | 0.00 | 4,289.09 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 3.53 | -1.13 | 0.708 |
| 35.00 | -35.58 | -41.39 | 0.00 | -4,079.21 | 0.00 | 4,079.21 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 4.82 | -1.33 | 0.697 |
| 40.00 | -34.13 | -40.78 | 0.00 | -3,872.25 | 0.00 | 3,872.25 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 6.31 | -1.53 | 0.685 |
| 45.00 | -32.74 | -40.35 | 0.00 | -3,668.34 | 0.00 | 3,668.34 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 8.02 | -1.73 | 0.673 |
| 46.82 | -32.21 | -40.04 | 0.00 | -3,595.04 | 0.00 | 3,595.04 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 8.69 | -1.80 | 0.669 |
| 50.00 | -30.61 | -39.57 | 0.00 | -3,467.59 | 0.00 | 3,467.59 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 9.94 | -1.93 | 0.661 |
| 53.65 | -28.84 | -39.20 | 0.00 | -3,323.16 | 0.00 | 3,323.16 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 11.48 | -2.09 | 0.632 |
| 55.00 | -28.43 | -38.79 | 0.00 | -3,270.24 | 0.00 | 3,270.24 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 12.08 | -2.14 | 0.629 |
| 60.00 | -27.08 | -38.11 | 0.00 | -3,076.27 | 0.00 | 3,076.27 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 14.43 | -2.34 | 0.615 |
| 65.00 | -25.75 | -37.43 | 0.00 | -2,885.71 | 0.00 | 2,885.71 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 16.98 | -2.54 | 0.600 |
| 70.00 | -24.46 | -36.73 | 0.00 | -2,698.59 | 0.00 | 2,698.59 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 19.74 | -2.73 | 0.585 |
| 75.00 | -23.20 | -36.04 | 0.00 | -2,514.93 | 0.00 | 2,514.93 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 22.71 | -2.93 | 0.569 |
| 80.00 | -21.96 | -35.34 | 0.00 | -2,334.75 | 0.00 | 2,334.75 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 25.89 | -3.13 | 0.551 |
| 85.00 | -20.75 | -34.64 | 0.00 | -2,158.06 | 0.00 | 2,158.06 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 29.28 | -3.33 | 0.533 |
| 90.00 | -19.58 | -33.94 | 0.00 | -1,984.88 | 0.00 | 1,984.88 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 32.87 | -3.53 | 0.516 |
| 94.97 | -18.47 | -33.55 | 0.00 | -1,816.31 | 0.00 | 1,816.31 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 36.64 | -3.72 | 0.499 |
| 95.00 | -18.43 | -33.23 | 0.00 | -1,815.19 | 0.00 | 1,815.19 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 36.67 | -3.72 | 0.499 |
| 100.00 | -16.58 | -32.76 | 0.00 | -1,649.04 | 0.00 | 1,649.04 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 40.67 | -3.92 | 0.479 |
| 100.47 | -16.38 | -32.43 | 0.00 | -1,633.75 | 0.00 | 1,633.75 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 41.05 | -3.94 | 0.548 |
| 105.00 | -15.49 | -31.77 | 0.00 | -1,486.74 | 0.00 | 1,486.74 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 44.88 | -4.11 | 0.521 |
| 110.00 | -14.52 | -31.08 | 0.00 | -1,327.91 | 0.00 | 1,327.91 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 49.29 | -4.32 | 0.489 |
| 115.00 | -13.59 | -30.39 | 0.00 | -1,172.53 | 0.00 | 1,172.53 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 53.92 | -4.52 | 0.455 |
| 120.00 | -12.69 | -29.71 | 0.00 | -1,020.59 | 0.00 | 1,020.59 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 58.74 | -4.71 | 0.421 |
| 125.00 | -11.82 | -29.03 | 0.00 | -872.06 | 0.00 | 872.06 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 63.77 | -4.89 | 0.383 |
| 130.00 | -10.98 | -28.42 | 0.00 | -726.89 | 0.00 | 726.89 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 68.97 | -5.05 | 0.341 |
| 134.00 | -9.35 | -23.17 | 0.00 | -613.20 | 0.00 | 613.20 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 73.25 | -5.18 | 0.304 |
| 135.00 | -9.20 | -22.81 | 0.00 | -590.03 | 0.00 | 590.03 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 74.34 | -5.21 | 0.296 |
| 140.00 | -8.48 | -22.16 | 0.00 | -476.00 | 0.00 | 476.00 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 79.86 | -5.34 | 0.257 |
| 145.00 | -7.78 | -21.60 | 0.00 | -365.21 | 0.00 | 365.21 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 85.52 | -5.46 | 0.212 |
| 148.62 | -7.30 | -21.27 | 0.00 | -287.08 | 0.00 | 287.08 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 89.68 | -5.54 | 0.177 |
| 148.62 | -7.30 | -21.27 | 0.00 | -287.08 | 0.00 | 287.08 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 89.68 | -5.54 | 0.277 |
| 150.00 | -6.92 | -20.35 | 0.00 | -257.65 | 0.00 | 257.65 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 91.29 | -5.56 | 0.253 |
| 152.00 | -6.55 | -19.78 | 0.00 | -216.95 | 0.00 | 216.95 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 93.63 | -5.61 | 0.219 |
| 153.00 | -4.94 | -13.76 | 0.00 | -197.17 | 0.00 | 197.17 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 94.81 | -5.64 | 0.201 |
| 155.00 | -4.79 | -13.37 | 0.00 | -169.64 | 0.00 | 169.64 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 97.17 | -5.68 | 0.178 |
| 160.00 | -4.38 | -12.96 | 0.00 | -102.78 | 0.00 | 102.78 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 103.16 | -5.76 | 0.117 |
| 162.00 | -4.22 | -12.66 | 0.00 | -76.87 | 0.00 | 76.87 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 105.57 | -5.78 | 0.090 |
| 163.00 | -2.62 | -4.94 | 0.00 | -64.22 | 0.00 | 64.22 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 106.78 | -5.79 | 0.076 |
| 165.00 | -2.52 | -4.57 | 0.00 | -54.34 | 0.00 | 54.34 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 109.21 | -5.81 | 0.066 |
| 170.00 | -1.70 | -2.96 | 0.00 | -29.02 | 0.00 | 29.02 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 115.30 | -5.84 | 0.038 |
| 175.00 | -1.45 | -2.45 | 0.00 | -14.21 | 0.00 | 14.21 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 121.42 | -5.86 | 0.021 |
| 180.00 | 0.00 | -2.29 | 0.00 | -1.96 | 0.00 | 1.96 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 127.55 | -5.87 | 0.003 |

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 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 | | 76.8 | 0.0 | | | | | 0.0 | 0.0 | 76.8 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 152.6 | 2,213.2 | | | | | 0.0 | 241.8 | 152.6 | 2,454.9 | 0.0 | 0.0 |
| 10.00 | | 150.4 | 2,225.6 | | | | | 0.0 | 241.8 | 150.4 | 2,467.4 | 0.0 | 0.0 |
| 15.00 | | 148.0 | 2,210.3 | | | | | 0.0 | 241.8 | 148.0 | 2,452.1 | 0.0 | 0.0 |
| 20.00 | | 145.4 | 2,186.0 | | | | | 0.0 | 241.8 | 145.4 | 2,427.8 | 0.0 | 0.0 |
| 25.00 | | 142.9 | 2,156.9 | | | | | 0.0 | 241.8 | 142.9 | 2,398.7 | 0.0 | 0.0 |
| 30.00 | | 141.9 | 2,125.0 | | | | | 0.0 | 241.8 | 141.9 | 2,366.8 | 0.0 | 0.0 |
| 35.00 | | 143.9 | 2,091.0 | | | | | 0.0 | 241.8 | 143.9 | 2,332.8 | 0.0 | 0.0 |
| 40.00 | | 146.6 | 2,055.5 | | | | | 0.0 | 241.8 | 146.6 | 2,297.3 | 0.0 | 0.0 |
| 45.00 | | 101.0 | 2,018.9 | | | | | 0.0 | 241.8 | 101.0 | 2,260.7 | 0.0 | 0.0 |
| 46.82 | Bot - Section 2 | 75.6 | 725.5 | | | | | 0.0 | 87.8 | 75.6 | 813.4 | 0.0 | 0.0 |
| 50.00 | | 104.4 | 2,208.0 | | | | | 0.0 | 153.9 | 104.4 | 2,362.0 | 0.0 | 0.0 |
| 53.65 | Top - Section 1 | 76.6 | 2,496.1 | | | | | 0.0 | 176.5 | 76.6 | 2,672.6 | 0.0 | 0.0 |
| 55.00 | | 97.8 | 530.9 | | | | | 0.0 | 65.3 | 97.8 | 596.2 | 0.0 | 0.0 |
| 60.00 | | 154.3 | 1,937.5 | | | | | 0.0 | 241.8 | 154.3 | 2,179.3 | 0.0 | 0.0 |
| 65.00 | | 154.6 | 1,898.1 | | | | | 0.0 | 241.8 | 154.6 | 2,139.8 | 0.0 | 0.0 |
| 70.00 | | 154.5 | 1,858.1 | | | | | 0.0 | 241.8 | 154.5 | 2,099.9 | 0.0 | 0.0 |
| 75.00 | | 154.1 | 1,817.8 | | | | | 0.0 | 241.8 | 154.1 | 2,059.5 | 0.0 | 0.0 |
| 80.00 | | 153.5 | 1,777.0 | | | | | 0.0 | 241.8 | 153.5 | 2,018.8 | 0.0 | 0.0 |
| 85.00 | | 152.5 | 1,735.9 | | | | | 0.0 | 241.8 | 152.5 | 1,977.7 | 0.0 | 0.0 |
| 90.00 | | 150.9 | 1,694.6 | | | | | 0.0 | 241.8 | 150.9 | 1,936.3 | 0.0 | 0.0 |
| 94.97 | Bot - Section 3 | 75.4 | 1,642.1 | | | | | 0.0 | 240.2 | 75.4 | 1,882.2 | 0.0 | 0.0 |
| 95.00 | | 76.4 | 17.9 | | | | | 0.0 | 1.6 | 76.4 | 19.5 | 0.0 | 0.0 |
| 100.00 | | 82.9 | 2,637.0 | | | | | 0.0 | 241.8 | 82.9 | 2,878.8 | 0.0 | 0.0 |
| 100.47 | Top - Section 2 | 75.1 | 243.1 | | | | | 0.0 | 22.6 | 75.1 | 265.6 | 0.0 | 0.0 |
| 105.00 | | 142.2 | 1,299.8 | | | | | 0.0 | 219.2 | 142.2 | 1,519.0 | 0.0 | 0.0 |
| 110.00 | | 147.4 | 1,397.1 | | | | | 0.0 | 241.8 | 147.4 | 1,638.8 | 0.0 | 0.0 |
| 115.00 | | 145.3 | 1,359.2 | | | | | 0.0 | 241.8 | 145.3 | 1,600.9 | 0.0 | 0.0 |
| 120.00 | | 143.1 | 1,321.1 | | | | | 0.0 | 241.8 | 143.1 | 1,562.9 | 0.0 | 0.0 |
| 125.00 | | 140.7 | 1,282.9 | | | | | 0.0 | 241.8 | 140.7 | 1,524.6 | 0.0 | 0.0 |
| 130.00 | | 124.7 | 1,244.4 | | | | | 0.0 | 241.8 | 124.7 | 1,486.2 | 0.0 | 0.0 |
| 134.00 | Appertunance(s) | 68.5 | 968.8 | 673.2 | 0.0 | 0.0 | 4,407.9 | 0.0 | 193.4 | 741.7 | 5,570.1 | 0.0 | 0.0 |
| 135.00 | | 80.7 | 239.1 | | | | | 0.0 | 35.3 | 80.7 | 274.4 | 0.0 | 0.0 |
| 140.00 | | 132.8 | 1,167.2 | | | | | 0.0 | 176.7 | 132.8 | 1,343.9 | 0.0 | 0.0 |
| 145.00 | | 112.3 | 1,128.3 | | | | | 0.0 | 176.7 | 112.3 | 1,305.1 | 0.0 | 0.0 |
| 148.62 | Top - Section 3 | 64.2 | 793.1 | | | | | 0.0 | 127.8 | 64.2 | 921.0 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 42.9 | 232.0 | 108.8 | 0.0 | 0.0 | 1,084.2 | 0.0 | 48.9 | 151.7 | 1,365.1 | 0.0 | 0.0 |
| 152.00 | Appertunance(s) | 37.8 | 331.0 | 55.7 | 0.0 | 0.0 | 706.1 | 0.0 | 67.9 | 93.5 | 1,105.0 | 0.0 | 0.0 |
| 153.00 | Appertunance(s) | 37.4 | 164.0 | 896.8 | 0.0 | 0.0 | 6,488.1 | 0.0 | 33.9 | 934.2 | 6,686.0 | 0.0 | 0.0 |
| 155.00 | | 86.0 | 323.8 | | | | | 0.0 | 47.1 | 86.0 | 370.9 | 0.0 | 0.0 |
| 160.00 | | 85.1 | 784.9 | | | | | 0.0 | 117.7 | 85.1 | 902.6 | 0.0 | 0.0 |
| 162.00 | Appertunance(s) | 35.9 | 307.1 | 23.4 | 0.0 | 0.0 | 112.9 | 0.0 | 47.1 | 59.3 | 467.0 | 0.0 | 0.0 |
| 163.00 | Appertunance(s) | 35.5 | 152.0 | 1,085.6 | 0.0 | 0.0 | 6,703.0 | 0.0 | 22.6 | 1,121.1 | 6,877.5 | 0.0 | 0.0 |
| 165.00 | | 81.4 | 299.8 | | | | | 0.0 | 13.8 | 81.4 | 313.6 | 0.0 | 0.0 |
| 170.00 | Appertunance(s) | 113.9 | 724.7 | 213.2 | 0.0 | 554.7 | 1,636.5 | 0.0 | 34.4 | 327.1 | 2,395.6 | 0.0 | 0.0 |
| 175.00 | | 110.4 | 694.4 | | | | | 0.0 | 4.9 | 110.4 | 699.3 | 0.0 | 0.0 |
| 180.00 | Appertunance(s) | 54.3 | 664.1 | 433.1 | 0.0 | 442.0 | 2,631.5 | 0.0 | 4.9 | 487.4 | 3,300.5 | 0.0 | 0.0 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:35 PM

Customer: Verizon Wireless

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 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

Totals: 8,600.78 90,590.2 0.00 0.00

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:35 PM

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Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.75 in Radial Ice

24 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

| Seg | Pu | Vu | Tu | Mu | Mu | Resultant | phi | phi | phi | phi | Total | | |
|--------|--------|--------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|---------|----------|-------|
| Elev | FY (-) | FX (-) | MY | MZ | MX | Moment | Pn | Vn | Tn | Mn | Deflect | Rotation | Ratio |
| (ft) | (kips) | (kips) | (ft-kips) | (ft-kips) | (ft-kips) | (ft-kips) | (kips) | (kips) | (ft-kips) | (ft-kips) | (in) | (deg) | |
| 0.00 | -90.59 | -8.55 | 0.00 | -1,060.50 | 0.00 | 1,060.50 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.159 |
| 5.00 | -88.13 | -8.45 | 0.00 | -1,017.74 | 0.00 | 1,017.74 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.02 | -0.03 | 0.157 |
| 10.00 | -85.66 | -8.35 | 0.00 | -975.49 | 0.00 | 975.49 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.07 | -0.07 | 0.155 |
| 15.00 | -83.20 | -8.25 | 0.00 | -933.73 | 0.00 | 933.73 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.17 | -0.10 | 0.153 |
| 20.00 | -80.77 | -8.15 | 0.00 | -892.48 | 0.00 | 892.48 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.29 | -0.14 | 0.151 |
| 25.00 | -78.36 | -8.05 | 0.00 | -851.72 | 0.00 | 851.72 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.46 | -0.18 | 0.149 |
| 30.00 | -75.99 | -7.95 | 0.00 | -811.46 | 0.00 | 811.46 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.67 | -0.21 | 0.147 |
| 35.00 | -73.65 | -7.85 | 0.00 | -771.70 | 0.00 | 771.70 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.91 | -0.25 | 0.144 |
| 40.00 | -71.35 | -7.74 | 0.00 | -732.47 | 0.00 | 732.47 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 1.19 | -0.29 | 0.142 |
| 45.00 | -69.09 | -7.65 | 0.00 | -693.80 | 0.00 | 693.80 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 1.52 | -0.33 | 0.140 |
| 46.82 | -68.27 | -7.60 | 0.00 | -679.89 | 0.00 | 679.89 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 1.64 | -0.34 | 0.139 |
| 50.00 | -65.91 | -7.51 | 0.00 | -655.71 | 0.00 | 655.71 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 1.88 | -0.37 | 0.137 |
| 53.65 | -63.23 | -7.44 | 0.00 | -628.30 | 0.00 | 628.30 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 2.17 | -0.39 | 0.131 |
| 55.00 | -62.63 | -7.36 | 0.00 | -618.27 | 0.00 | 618.27 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 2.28 | -0.41 | 0.130 |
| 60.00 | -60.45 | -7.23 | 0.00 | -581.47 | 0.00 | 581.47 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 2.73 | -0.44 | 0.127 |
| 65.00 | -58.31 | -7.10 | 0.00 | -545.32 | 0.00 | 545.32 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 3.21 | -0.48 | 0.124 |
| 70.00 | -56.21 | -6.96 | 0.00 | -509.85 | 0.00 | 509.85 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 3.74 | -0.52 | 0.121 |
| 75.00 | -54.14 | -6.82 | 0.00 | -475.05 | 0.00 | 475.05 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 4.30 | -0.55 | 0.118 |
| 80.00 | -52.12 | -6.68 | 0.00 | -440.94 | 0.00 | 440.94 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 4.90 | -0.59 | 0.114 |
| 85.00 | -50.14 | -6.54 | 0.00 | -407.54 | 0.00 | 407.54 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 5.54 | -0.63 | 0.111 |
| 90.00 | -48.20 | -6.40 | 0.00 | -374.83 | 0.00 | 374.83 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 6.22 | -0.67 | 0.108 |
| 94.97 | -46.32 | -6.32 | 0.00 | -343.05 | 0.00 | 343.05 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 6.93 | -0.70 | 0.104 |
| 95.00 | -46.30 | -6.25 | 0.00 | -342.84 | 0.00 | 342.84 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 6.94 | -0.70 | 0.104 |
| 100.00 | -43.42 | -6.15 | 0.00 | -311.56 | 0.00 | 311.56 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 7.69 | -0.74 | 0.100 |
| 100.47 | -43.15 | -6.09 | 0.00 | -308.69 | 0.00 | 308.69 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 7.77 | -0.74 | 0.115 |
| 105.00 | -41.63 | -5.95 | 0.00 | -281.10 | 0.00 | 281.10 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 8.49 | -0.78 | 0.110 |
| 110.00 | -39.99 | -5.81 | 0.00 | -251.36 | 0.00 | 251.36 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 9.32 | -0.82 | 0.103 |
| 115.00 | -38.39 | -5.66 | 0.00 | -222.32 | 0.00 | 222.32 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 10.20 | -0.85 | 0.097 |
| 120.00 | -36.83 | -5.52 | 0.00 | -194.01 | 0.00 | 194.01 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 11.11 | -0.89 | 0.090 |
| 125.00 | -35.30 | -5.37 | 0.00 | -166.42 | 0.00 | 166.42 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 12.06 | -0.92 | 0.084 |
| 130.00 | -33.81 | -5.24 | 0.00 | -139.55 | 0.00 | 139.55 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 13.05 | -0.96 | 0.076 |
| 134.00 | -28.26 | -4.41 | 0.00 | -118.59 | 0.00 | 118.59 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 13.86 | -0.98 | 0.068 |
| 135.00 | -27.98 | -4.34 | 0.00 | -114.18 | 0.00 | 114.18 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 14.07 | -0.99 | 0.066 |
| 140.00 | -26.64 | -4.19 | 0.00 | -92.50 | 0.00 | 92.50 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 15.12 | -1.01 | 0.059 |
| 145.00 | -25.33 | -4.06 | 0.00 | -71.55 | 0.00 | 71.55 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 16.19 | -1.04 | 0.050 |
| 148.62 | -24.41 | -3.99 | 0.00 | -56.85 | 0.00 | 56.85 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 16.98 | -1.05 | 0.044 |
| 148.62 | -24.41 | -3.99 | 0.00 | -56.85 | 0.00 | 56.85 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 16.98 | -1.05 | 0.068 |
| 150.00 | -23.05 | -3.81 | 0.00 | -51.34 | 0.00 | 51.34 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 17.28 | -1.06 | 0.063 |
| 152.00 | -21.95 | -3.70 | 0.00 | -43.71 | 0.00 | 43.71 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 17.73 | -1.07 | 0.056 |
| 153.00 | -15.28 | -2.64 | 0.00 | -40.01 | 0.00 | 40.01 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 17.95 | -1.07 | 0.049 |
| 155.00 | -14.91 | -2.56 | 0.00 | -34.72 | 0.00 | 34.72 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 18.40 | -1.08 | 0.045 |
| 160.00 | -14.01 | -2.46 | 0.00 | -21.95 | 0.00 | 21.95 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 19.54 | -1.10 | 0.033 |
| 162.00 | -13.54 | -2.39 | 0.00 | -17.03 | 0.00 | 17.03 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 20.00 | -1.10 | 0.028 |
| 163.00 | -6.69 | -1.14 | 0.00 | -14.65 | 0.00 | 14.65 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 20.23 | -1.10 | 0.021 |
| 165.00 | -6.38 | -1.05 | 0.00 | -12.38 | 0.00 | 12.38 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 20.70 | -1.11 | 0.019 |
| 170.00 | -3.99 | -0.68 | 0.00 | -6.58 | 0.00 | 6.58 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 21.86 | -1.11 | 0.011 |
| 175.00 | -3.29 | -0.55 | 0.00 | -3.20 | 0.00 | 3.20 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 23.03 | -1.12 | 0.007 |
| 180.00 | 0.00 | -0.49 | 0.00 | -0.44 | 0.00 | 0.44 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 24.20 | -1.12 | 0.001 |

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 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 | | 57.8 | 0.0 | | | | | 0.0 | 0.0 | 57.8 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 114.6 | 1,463.4 | | | | | 0.0 | 201.5 | 114.6 | 1,664.8 | 0.0 | 0.0 |
| 10.00 | | 112.5 | 1,436.3 | | | | | 0.0 | 201.5 | 112.5 | 1,637.8 | 0.0 | 0.0 |
| 15.00 | | 110.3 | 1,409.3 | | | | | 0.0 | 201.5 | 110.3 | 1,610.8 | 0.0 | 0.0 |
| 20.00 | | 108.2 | 1,382.3 | | | | | 0.0 | 201.5 | 108.2 | 1,583.8 | 0.0 | 0.0 |
| 25.00 | | 106.1 | 1,355.3 | | | | | 0.0 | 201.5 | 106.1 | 1,556.8 | 0.0 | 0.0 |
| 30.00 | | 105.2 | 1,328.3 | | | | | 0.0 | 201.5 | 105.2 | 1,529.7 | 0.0 | 0.0 |
| 35.00 | | 106.5 | 1,301.2 | | | | | 0.0 | 201.5 | 106.5 | 1,502.7 | 0.0 | 0.0 |
| 40.00 | | 108.3 | 1,274.2 | | | | | 0.0 | 201.5 | 108.3 | 1,475.7 | 0.0 | 0.0 |
| 45.00 | | 74.5 | 1,247.2 | | | | | 0.0 | 201.5 | 74.5 | 1,448.7 | 0.0 | 0.0 |
| 46.82 | Bot - Section 2 | 55.7 | 446.5 | | | | | 0.0 | 73.2 | 55.7 | 519.7 | 0.0 | 0.0 |
| 50.00 | | 76.9 | 1,560.6 | | | | | 0.0 | 128.3 | 76.9 | 1,688.9 | 0.0 | 0.0 |
| 53.65 | Top - Section 1 | 56.4 | 1,762.4 | | | | | 0.0 | 147.1 | 56.4 | 1,909.5 | 0.0 | 0.0 |
| 55.00 | | 71.9 | 325.1 | | | | | 0.0 | 54.4 | 71.9 | 379.5 | 0.0 | 0.0 |
| 60.00 | | 113.3 | 1,186.8 | | | | | 0.0 | 201.5 | 113.3 | 1,388.3 | 0.0 | 0.0 |
| 65.00 | | 113.3 | 1,159.8 | | | | | 0.0 | 201.5 | 113.3 | 1,361.3 | 0.0 | 0.0 |
| 70.00 | | 113.0 | 1,132.8 | | | | | 0.0 | 201.5 | 113.0 | 1,334.2 | 0.0 | 0.0 |
| 75.00 | | 112.5 | 1,105.7 | | | | | 0.0 | 201.5 | 112.5 | 1,307.2 | 0.0 | 0.0 |
| 80.00 | | 111.8 | 1,078.7 | | | | | 0.0 | 201.5 | 111.8 | 1,280.2 | 0.0 | 0.0 |
| 85.00 | | 110.9 | 1,051.7 | | | | | 0.0 | 201.5 | 110.9 | 1,253.2 | 0.0 | 0.0 |
| 90.00 | | 109.4 | 1,024.7 | | | | | 0.0 | 201.5 | 109.4 | 1,226.2 | 0.0 | 0.0 |
| 94.97 | Bot - Section 3 | 54.6 | 991.1 | | | | | 0.0 | 200.1 | 54.6 | 1,191.2 | 0.0 | 0.0 |
| 95.00 | | 55.3 | 12.3 | | | | | 0.0 | 1.3 | 55.3 | 13.6 | 0.0 | 0.0 |
| 100.00 | | 60.0 | 1,819.1 | | | | | 0.0 | 201.5 | 60.0 | 2,020.6 | 0.0 | 0.0 |
| 100.47 | Top - Section 2 | 54.2 | 167.2 | | | | | 0.0 | 18.8 | 54.2 | 186.0 | 0.0 | 0.0 |
| 105.00 | | 102.5 | 747.3 | | | | | 0.0 | 182.7 | 102.5 | 929.9 | 0.0 | 0.0 |
| 110.00 | | 106.0 | 802.1 | | | | | 0.0 | 201.5 | 106.0 | 1,003.6 | 0.0 | 0.0 |
| 115.00 | | 104.2 | 779.0 | | | | | 0.0 | 201.5 | 104.2 | 980.4 | 0.0 | 0.0 |
| 120.00 | | 102.4 | 755.8 | | | | | 0.0 | 201.5 | 102.4 | 957.3 | 0.0 | 0.0 |
| 125.00 | | 100.4 | 732.6 | | | | | 0.0 | 201.5 | 100.4 | 934.1 | 0.0 | 0.0 |
| 130.00 | | 88.6 | 709.5 | | | | | 0.0 | 201.5 | 88.6 | 911.0 | 0.0 | 0.0 |
| 134.00 | Appertunance(s) | 48.6 | 550.9 | 748.9 | 0.0 | 0.0 | 1,582.5 | 0.0 | 161.2 | 797.5 | 2,294.6 | 0.0 | 0.0 |
| 135.00 | | 57.1 | 135.4 | | | | | 0.0 | 29.5 | 57.1 | 164.9 | 0.0 | 0.0 |
| 140.00 | | 93.8 | 663.2 | | | | | 0.0 | 147.3 | 93.8 | 810.4 | 0.0 | 0.0 |
| 145.00 | | 79.1 | 640.0 | | | | | 0.0 | 147.3 | 79.1 | 787.3 | 0.0 | 0.0 |
| 148.62 | Top - Section 3 | 45.1 | 448.5 | | | | | 0.0 | 106.5 | 45.1 | 555.0 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 30.0 | 112.7 | 108.8 | 0.0 | 0.0 | 351.8 | 0.0 | 40.7 | 138.8 | 505.2 | 0.0 | 0.0 |
| 152.00 | Appertunance(s) | 26.5 | 160.8 | 57.2 | 0.0 | 0.0 | 231.0 | 0.0 | 56.6 | 83.6 | 448.4 | 0.0 | 0.0 |
| 153.00 | Appertunance(s) | 26.1 | 79.5 | 885.3 | 0.0 | 0.0 | 2,326.5 | 0.0 | 28.3 | 911.4 | 2,434.3 | 0.0 | 0.0 |
| 155.00 | | 59.9 | 157.1 | | | | | 0.0 | 39.2 | 59.9 | 196.4 | 0.0 | 0.0 |
| 160.00 | | 59.2 | 382.0 | | | | | 0.0 | 98.1 | 59.2 | 480.1 | 0.0 | 0.0 |
| 162.00 | Appertunance(s) | 24.9 | 148.5 | 19.2 | 0.0 | 0.0 | 25.0 | 0.0 | 39.2 | 44.1 | 212.7 | 0.0 | 0.0 |
| 163.00 | Appertunance(s) | 24.6 | 73.3 | 1,150.2 | 0.0 | 0.0 | 2,535.7 | 0.0 | 18.8 | 1,174.7 | 2,627.8 | 0.0 | 0.0 |
| 165.00 | | 56.1 | 144.8 | | | | | 0.0 | 11.5 | 56.1 | 156.3 | 0.0 | 0.0 |
| 170.00 | Appertunance(s) | 78.2 | 351.2 | 158.7 | 0.0 | 387.4 | 697.7 | 0.0 | 28.7 | 236.9 | 1,077.5 | 0.0 | 0.0 |
| 175.00 | | 75.4 | 335.7 | | | | | 0.0 | 4.1 | 75.4 | 339.8 | 0.0 | 0.0 |
| 180.00 | Appertunance(s) | 37.0 | 320.3 | 320.9 | 0.0 | 306.3 | 1,554.0 | 0.0 | 4.1 | 357.8 | 1,878.4 | 0.0 | 0.0 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:37 PM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Totals: 7,147.91 51,755.7 0.00 0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

23 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 | -51.75 | -7.10 | 0.00 | -880.62 | 0.00 | 880.62 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.128 |
| 5.00 | -50.09 | -7.01 | 0.00 | -845.11 | 0.00 | 845.11 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.02 | -0.03 | 0.126 |
| 10.00 | -48.44 | -6.92 | 0.00 | -810.05 | 0.00 | 810.05 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.06 | -0.06 | 0.125 |
| 15.00 | -46.83 | -6.84 | 0.00 | -775.44 | 0.00 | 775.44 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.14 | -0.09 | 0.123 |
| 20.00 | -45.24 | -6.75 | 0.00 | -741.26 | 0.00 | 741.26 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.24 | -0.12 | 0.122 |
| 25.00 | -43.68 | -6.66 | 0.00 | -707.53 | 0.00 | 707.53 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.38 | -0.15 | 0.120 |
| 30.00 | -42.15 | -6.57 | 0.00 | -674.22 | 0.00 | 674.22 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.55 | -0.18 | 0.118 |
| 35.00 | -40.64 | -6.48 | 0.00 | -641.35 | 0.00 | 641.35 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.76 | -0.21 | 0.116 |
| 40.00 | -39.17 | -6.39 | 0.00 | -608.93 | 0.00 | 608.93 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 0.99 | -0.24 | 0.114 |
| 45.00 | -37.71 | -6.33 | 0.00 | -576.97 | 0.00 | 576.97 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 1.26 | -0.27 | 0.112 |
| 46.82 | -37.19 | -6.28 | 0.00 | -565.48 | 0.00 | 565.48 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 1.37 | -0.28 | 0.111 |
| 50.00 | -35.50 | -6.21 | 0.00 | -545.49 | 0.00 | 545.49 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 1.56 | -0.30 | 0.110 |
| 53.65 | -33.59 | -6.15 | 0.00 | -522.84 | 0.00 | 522.84 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 1.80 | -0.33 | 0.105 |
| 55.00 | -33.21 | -6.09 | 0.00 | -514.54 | 0.00 | 514.54 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 1.90 | -0.34 | 0.105 |
| 60.00 | -31.82 | -5.98 | 0.00 | -484.11 | 0.00 | 484.11 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 2.27 | -0.37 | 0.102 |
| 65.00 | -30.46 | -5.88 | 0.00 | -454.20 | 0.00 | 454.20 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 2.67 | -0.40 | 0.100 |
| 70.00 | -29.12 | -5.77 | 0.00 | -424.83 | 0.00 | 424.83 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 3.10 | -0.43 | 0.097 |
| 75.00 | -27.81 | -5.66 | 0.00 | -395.98 | 0.00 | 395.98 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 3.57 | -0.46 | 0.095 |
| 80.00 | -26.53 | -5.55 | 0.00 | -367.67 | 0.00 | 367.67 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 4.07 | -0.49 | 0.092 |
| 85.00 | -25.27 | -5.45 | 0.00 | -339.91 | 0.00 | 339.91 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 4.60 | -0.52 | 0.089 |
| 90.00 | -24.04 | -5.34 | 0.00 | -312.68 | 0.00 | 312.68 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 5.17 | -0.55 | 0.086 |
| 94.97 | -22.85 | -5.28 | 0.00 | -286.17 | 0.00 | 286.17 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 5.76 | -0.59 | 0.083 |
| 95.00 | -22.84 | -5.23 | 0.00 | -285.99 | 0.00 | 285.99 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 5.77 | -0.59 | 0.083 |
| 100.00 | -20.82 | -5.15 | 0.00 | -259.86 | 0.00 | 259.86 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 6.40 | -0.62 | 0.080 |
| 100.47 | -20.63 | -5.10 | 0.00 | -257.45 | 0.00 | 257.45 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 6.46 | -0.62 | 0.091 |
| 105.00 | -19.70 | -5.00 | 0.00 | -234.32 | 0.00 | 234.32 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 7.06 | -0.65 | 0.087 |
| 110.00 | -18.69 | -4.89 | 0.00 | -209.32 | 0.00 | 209.32 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 7.75 | -0.68 | 0.082 |
| 115.00 | -17.71 | -4.79 | 0.00 | -184.86 | 0.00 | 184.86 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 8.48 | -0.71 | 0.076 |
| 120.00 | -16.75 | -4.68 | 0.00 | -160.93 | 0.00 | 160.93 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 9.24 | -0.74 | 0.071 |
| 125.00 | -15.82 | -4.57 | 0.00 | -137.53 | 0.00 | 137.53 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 10.03 | -0.77 | 0.065 |
| 130.00 | -14.91 | -4.48 | 0.00 | -114.66 | 0.00 | 114.66 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 10.85 | -0.80 | 0.058 |
| 134.00 | -12.62 | -3.65 | 0.00 | -96.74 | 0.00 | 96.74 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 11.53 | -0.82 | 0.052 |
| 135.00 | -12.46 | -3.60 | 0.00 | -93.09 | 0.00 | 93.09 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 11.70 | -0.82 | 0.050 |
| 140.00 | -11.65 | -3.49 | 0.00 | -75.11 | 0.00 | 75.11 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 12.57 | -0.84 | 0.044 |
| 145.00 | -10.86 | -3.41 | 0.00 | -57.63 | 0.00 | 57.63 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 13.46 | -0.86 | 0.037 |
| 148.62 | -10.31 | -3.36 | 0.00 | -45.31 | 0.00 | 45.31 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 14.12 | -0.87 | 0.031 |
| 148.62 | -10.31 | -3.36 | 0.00 | -45.31 | 0.00 | 45.31 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 14.12 | -0.87 | 0.049 |
| 150.00 | -9.80 | -3.21 | 0.00 | -40.67 | 0.00 | 40.67 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 14.37 | -0.88 | 0.045 |
| 152.00 | -9.36 | -3.12 | 0.00 | -34.25 | 0.00 | 34.25 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 14.74 | -0.88 | 0.040 |
| 153.00 | -6.94 | -2.17 | 0.00 | -31.13 | 0.00 | 31.13 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 14.93 | -0.89 | 0.035 |
| 155.00 | -6.74 | -2.11 | 0.00 | -26.79 | 0.00 | 26.79 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 15.30 | -0.89 | 0.032 |
| 160.00 | -6.26 | -2.04 | 0.00 | -16.24 | 0.00 | 16.24 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 16.24 | -0.91 | 0.022 |
| 162.00 | -6.05 | -2.00 | 0.00 | -12.15 | 0.00 | 12.15 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 16.62 | -0.91 | 0.018 |
| 163.00 | -3.44 | -0.78 | 0.00 | -10.15 | 0.00 | 10.15 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 16.82 | -0.91 | 0.014 |
| 165.00 | -3.28 | -0.72 | 0.00 | -8.59 | 0.00 | 8.59 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 17.20 | -0.91 | 0.012 |
| 170.00 | -2.21 | -0.47 | 0.00 | -4.59 | 0.00 | 4.59 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 18.16 | -0.92 | 0.007 |
| 175.00 | -1.87 | -0.39 | 0.00 | -2.25 | 0.00 | 2.25 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 19.12 | -0.92 | 0.004 |
| 180.00 | 0.00 | -0.36 | 0.00 | -0.31 | 0.00 | 0.31 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 20.09 | -0.92 | 0.000 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

Equivalent Lateral Forces Method Analysis

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

| | |
|--|---------|
| Spectral Response Acceleration for Short Period (S_g): | 0.16 |
| Spectral Response Acceleration at 1.0 Second Period (S_1): | 0.06 |
| Long-Period Transition Period (T_L): | 6 |
| Importance Factor (I_E): | 1.00 |
| Site Coefficient F_a : | 1.60 |
| Site Coefficient F_v : | 2.40 |
| Response Modification Coefficient (R): | 1.50 |
| Design Spectral Response Acceleration at Short Period (S_{ds}): | 0.17 |
| Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}): | 0.09 |
| Seismic Response Coefficient (C_s): | 0.03 |
| Upper Limit C_s | 0.03 |
| Lower Limit C_s | 0.03 |
| Period based on Rayleigh Method (sec): | 2.37 |
| Redundancy Factor (p): | 1.30 |
| Seismic Force Distribution Exponent (k): | 1.93 |
| Total Unfactored Dead Load: | 51.76 k |
| Seismic Base Shear (E): | 2.02 k |

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

| Segment | Height Above Base (ft) | Weight (lb) | W_z (lb-ft) | C_{vx} | Horizontal Force (lb) | Vertical Force (lb) |
|---------|------------------------|-------------|---------------|----------|-----------------------|---------------------|
| 46 | 177.50 | 324 | 7,205 | 0.019 | 37 | 400 |
| 45 | 172.50 | 340 | 7,142 | 0.018 | 37 | 419 |
| 44 | 167.50 | 380 | 7,543 | 0.019 | 39 | 469 |
| 43 | 164.00 | 156 | 2,979 | 0.008 | 15 | 193 |
| 42 | 162.50 | 92 | 1,725 | 0.004 | 9 | 114 |
| 41 | 161.00 | 188 | 3,453 | 0.009 | 18 | 232 |
| 40 | 157.50 | 480 | 8,465 | 0.022 | 44 | 593 |
| 39 | 154.00 | 196 | 3,315 | 0.009 | 17 | 242 |
| 38 | 152.50 | 108 | 1,785 | 0.005 | 9 | 133 |
| 37 | 151.00 | 217 | 3,533 | 0.009 | 18 | 268 |
| 36 | 149.31 | 153 | 2,440 | 0.006 | 13 | 189 |
| 35 | 146.81 | 555 | 8,542 | 0.022 | 44 | 685 |
| 34 | 142.50 | 787 | 11,439 | 0.029 | 59 | 972 |
| 33 | 137.50 | 810 | 10,990 | 0.028 | 57 | 1,000 |
| 32 | 134.50 | 165 | 2,142 | 0.006 | 11 | 203 |
| 31 | 132.00 | 712 | 8,924 | 0.023 | 46 | 879 |
| 30 | 127.50 | 911 | 10,676 | 0.027 | 55 | 1,124 |
| 29 | 122.50 | 934 | 10,133 | 0.026 | 53 | 1,153 |
| 28 | 117.50 | 957 | 9,581 | 0.025 | 50 | 1,181 |
| 27 | 112.50 | 980 | 9,022 | 0.023 | 47 | 1,210 |
| 26 | 107.50 | 1,004 | 8,458 | 0.022 | 44 | 1,239 |
| 25 | 102.73 | 930 | 7,180 | 0.018 | 37 | 1,148 |
| 24 | 100.23 | 186 | 1,369 | 0.004 | 7 | 230 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

| | | | | | | |
|----------------------|--------|--------|---------|-------|-------|--------|
| 23 | 97.50 | 2,021 | 14,100 | 0.036 | 73 | 2,494 |
| 22 | 94.98 | 14 | 90 | 0.000 | 0 | 17 |
| 21 | 92.48 | 1,191 | 7,506 | 0.019 | 39 | 1,470 |
| 20 | 87.50 | 1,226 | 6,942 | 0.018 | 36 | 1,513 |
| 19 | 82.50 | 1,253 | 6,332 | 0.016 | 33 | 1,547 |
| 18 | 77.50 | 1,280 | 5,733 | 0.015 | 30 | 1,580 |
| 17 | 72.50 | 1,307 | 5,146 | 0.013 | 27 | 1,613 |
| 16 | 67.50 | 1,334 | 4,575 | 0.012 | 24 | 1,647 |
| 15 | 62.50 | 1,361 | 4,022 | 0.010 | 21 | 1,680 |
| 14 | 57.50 | 1,388 | 3,492 | 0.009 | 18 | 1,713 |
| 13 | 54.32 | 379 | 855 | 0.002 | 4 | 468 |
| 12 | 51.82 | 1,909 | 3,929 | 0.010 | 20 | 2,357 |
| 11 | 48.41 | 1,689 | 3,046 | 0.008 | 16 | 2,084 |
| 10 | 45.91 | 520 | 846 | 0.002 | 4 | 641 |
| 9 | 42.50 | 1,449 | 2,032 | 0.005 | 11 | 1,788 |
| 8 | 37.50 | 1,476 | 1,625 | 0.004 | 8 | 1,821 |
| 7 | 32.50 | 1,503 | 1,255 | 0.003 | 7 | 1,855 |
| 6 | 27.50 | 1,530 | 925 | 0.002 | 5 | 1,888 |
| 5 | 22.50 | 1,557 | 639 | 0.002 | 3 | 1,921 |
| 4 | 17.50 | 1,584 | 400 | 0.001 | 2 | 1,955 |
| 3 | 12.50 | 1,611 | 212 | 0.001 | 1 | 1,988 |
| 2 | 7.50 | 1,638 | 80 | 0.000 | 0 | 2,021 |
| 1 | 2.50 | 1,665 | 10 | 0.000 | 0 | 2,055 |
| Andrew DB806D-Y | 180.00 | 54 | 1,232 | 0.003 | 6 | 67 |
| Round Low Profile PI | 180.00 | 1,500 | 34,231 | 0.088 | 178 | 1,851 |
| KMW HB-X-WM-17-65-00 | 170.00 | 48 | 975 | 0.003 | 5 | 59 |
| KMW HB-X-WM-17-65-00 | 170.00 | 90 | 1,839 | 0.005 | 10 | 111 |
| Side Arms | 170.00 | 560 | 11,443 | 0.029 | 59 | 691 |
| Alcatel-Lucent RRH 2 | 163.00 | 119 | 2,238 | 0.006 | 12 | 147 |
| Alcatel-Lucent RRH2x | 163.00 | 170 | 3,205 | 0.008 | 17 | 210 |
| Alcatel-Lucent B66a | 163.00 | 201 | 3,787 | 0.010 | 20 | 248 |
| RFS DB-T1-6Z-8AB-OZ | 163.00 | 88 | 1,658 | 0.004 | 9 | 109 |
| Antel BXA-70063/6CF_ | 163.00 | 51 | 961 | 0.002 | 5 | 63 |
| Commscope HBXX-6517D | 163.00 | 245 | 4,612 | 0.012 | 24 | 302 |
| Amphenol Antel QUAD6 | 163.00 | 162 | 3,052 | 0.008 | 16 | 200 |
| Round Low Profile PI | 163.00 | 1,500 | 28,259 | 0.073 | 147 | 1,851 |
| 6' Omni | 162.00 | 25 | 465 | 0.001 | 2 | 31 |
| Powerwave Allgon 702 | 153.00 | 13 | 220 | 0.001 | 1 | 16 |
| Ericsson RRUS A2 B4 | 153.00 | 66 | 1,100 | 0.003 | 6 | 81 |
| Ericsson RRUS 32 B30 | 153.00 | 180 | 3,001 | 0.008 | 16 | 222 |
| Ericsson RRUS 11 B4 | 153.00 | 152 | 2,535 | 0.007 | 13 | 188 |
| KMW AM-X-CD-14-65-00 | 153.00 | 109 | 1,820 | 0.005 | 9 | 135 |
| Powerwave Allgon 777 | 153.00 | 105 | 1,750 | 0.005 | 9 | 130 |
| Commscope SBNHH-1D65 | 153.00 | 101 | 1,675 | 0.004 | 9 | 124 |
| Commscope SBNHH-1D65 | 153.00 | 101 | 1,675 | 0.004 | 9 | 124 |
| Flat Low Profile Pla | 153.00 | 1,500 | 25,004 | 0.064 | 130 | 1,851 |
| CCI TPX-070821 | 152.00 | 45 | 741 | 0.002 | 4 | 56 |
| Powerwave Allgon LGP | 152.00 | 186 | 3,062 | 0.008 | 16 | 230 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 321 | 0.001 | 2 | 25 |
| Raycap DC6-48-60-18- | 150.00 | 32 | 510 | 0.001 | 3 | 39 |
| Ericsson RRUS 11 (Ba | 150.00 | 300 | 4,813 | 0.012 | 25 | 370 |
| Ericsson KRY 112 144 | 134.00 | 33 | 426 | 0.001 | 2 | 41 |
| Ericsson RRUS 11 B12 | 134.00 | 152 | 1,962 | 0.005 | 10 | 188 |
| Ericsson AIR 21, 1.3 | 134.00 | 249 | 3,212 | 0.008 | 17 | 307 |
| Ericsson AIR 21, 1.3 | 134.00 | 244 | 3,154 | 0.008 | 16 | 302 |
| Andrew LNX-6515DS-VT | 134.00 | 154 | 1,986 | 0.005 | 10 | 190 |
| Flat T-Arm | 134.00 | 750 | 9,676 | 0.025 | 50 | 926 |
| | | 51,756 | 388,434 | 1.000 | 2,018 | 63,874 |

Site Number: 310972

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

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Customer: Verizon Wireless

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

| Segment | Height Above Base (ft) | Weight (lb) | W _z (lb-ft) | C _{vx} | Horizontal Force (lb) | Vertical Force (lb) |
|----------------------|------------------------|-------------|------------------------|-----------------|-----------------------|---------------------|
| 46 | 177.50 | 324 | 7,205 | 0.019 | 37 | 281 |
| 45 | 172.50 | 340 | 7,142 | 0.018 | 37 | 294 |
| 44 | 167.50 | 380 | 7,543 | 0.019 | 39 | 329 |
| 43 | 164.00 | 156 | 2,979 | 0.008 | 15 | 135 |
| 42 | 162.50 | 92 | 1,725 | 0.004 | 9 | 80 |
| 41 | 161.00 | 188 | 3,453 | 0.009 | 18 | 163 |
| 40 | 157.50 | 480 | 8,465 | 0.022 | 44 | 416 |
| 39 | 154.00 | 196 | 3,315 | 0.009 | 17 | 170 |
| 38 | 152.50 | 108 | 1,785 | 0.005 | 9 | 93 |
| 37 | 151.00 | 217 | 3,533 | 0.009 | 18 | 188 |
| 36 | 149.31 | 153 | 2,440 | 0.006 | 13 | 133 |
| 35 | 146.81 | 555 | 8,542 | 0.022 | 44 | 481 |
| 34 | 142.50 | 787 | 11,439 | 0.029 | 59 | 682 |
| 33 | 137.50 | 810 | 10,990 | 0.028 | 57 | 702 |
| 32 | 134.50 | 165 | 2,142 | 0.006 | 11 | 143 |
| 31 | 132.00 | 712 | 8,924 | 0.023 | 46 | 617 |
| 30 | 127.50 | 911 | 10,676 | 0.027 | 55 | 789 |
| 29 | 122.50 | 934 | 10,133 | 0.026 | 53 | 809 |
| 28 | 117.50 | 957 | 9,581 | 0.025 | 50 | 829 |
| 27 | 112.50 | 980 | 9,022 | 0.023 | 47 | 849 |
| 26 | 107.50 | 1,004 | 8,458 | 0.022 | 44 | 869 |
| 25 | 102.73 | 930 | 7,180 | 0.018 | 37 | 805 |
| 24 | 100.23 | 186 | 1,369 | 0.004 | 7 | 161 |
| 23 | 97.50 | 2,021 | 14,100 | 0.036 | 73 | 1,750 |
| 22 | 94.98 | 14 | 90 | 0.000 | 0 | 12 |
| 21 | 92.48 | 1,191 | 7,506 | 0.019 | 39 | 1,031 |
| 20 | 87.50 | 1,226 | 6,942 | 0.018 | 36 | 1,062 |
| 19 | 82.50 | 1,253 | 6,332 | 0.016 | 33 | 1,085 |
| 18 | 77.50 | 1,280 | 5,733 | 0.015 | 30 | 1,108 |
| 17 | 72.50 | 1,307 | 5,146 | 0.013 | 27 | 1,132 |
| 16 | 67.50 | 1,334 | 4,575 | 0.012 | 24 | 1,155 |
| 15 | 62.50 | 1,361 | 4,022 | 0.010 | 21 | 1,179 |
| 14 | 57.50 | 1,388 | 3,492 | 0.009 | 18 | 1,202 |
| 13 | 54.32 | 379 | 855 | 0.002 | 4 | 329 |
| 12 | 51.82 | 1,909 | 3,929 | 0.010 | 20 | 1,653 |
| 11 | 48.41 | 1,689 | 3,046 | 0.008 | 16 | 1,462 |
| 10 | 45.91 | 520 | 846 | 0.002 | 4 | 450 |
| 9 | 42.50 | 1,449 | 2,032 | 0.005 | 11 | 1,254 |
| 8 | 37.50 | 1,476 | 1,625 | 0.004 | 8 | 1,278 |
| 7 | 32.50 | 1,503 | 1,255 | 0.003 | 7 | 1,301 |
| 6 | 27.50 | 1,530 | 925 | 0.002 | 5 | 1,325 |
| 5 | 22.50 | 1,557 | 639 | 0.002 | 3 | 1,348 |
| 4 | 17.50 | 1,584 | 400 | 0.001 | 2 | 1,371 |
| 3 | 12.50 | 1,611 | 212 | 0.001 | 1 | 1,395 |
| 2 | 7.50 | 1,638 | 80 | 0.000 | 0 | 1,418 |
| 1 | 2.50 | 1,665 | 10 | 0.000 | 0 | 1,442 |
| Andrew DB806D-Y | 180.00 | 54 | 1,232 | 0.003 | 6 | 47 |
| Round Low Profile PI | 180.00 | 1,500 | 34,231 | 0.088 | 178 | 1,299 |
| KMW HB-X-WM-17-65-00 | 170.00 | 48 | 975 | 0.003 | 5 | 41 |
| KMW HB-X-WM-17-65-00 | 170.00 | 90 | 1,839 | 0.005 | 10 | 78 |
| Side Arms | 170.00 | 560 | 11,443 | 0.029 | 59 | 485 |
| Alcatel-Lucent RRH 2 | 163.00 | 119 | 2,238 | 0.006 | 12 | 103 |
| Alcatel-Lucent RRH2x | 163.00 | 170 | 3,205 | 0.008 | 17 | 147 |
| Alcatel-Lucent B66a | 163.00 | 201 | 3,787 | 0.010 | 20 | 174 |
| RFS DB-T1-6Z-8AB-0Z | 163.00 | 88 | 1,658 | 0.004 | 9 | 76 |
| Antel BXA-70063/6CF_ | 163.00 | 51 | 961 | 0.002 | 5 | 44 |
| Commscope HBXX-6517D | 163.00 | 245 | 4,612 | 0.012 | 24 | 212 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

| | | | | | | |
|----------------------|--------|--------|---------|-------|-------|--------|
| Amphenol Antel QUAD6 | 163.00 | 162 | 3,052 | 0.008 | 16 | 140 |
| Round Low Profile PI | 163.00 | 1,500 | 28,259 | 0.073 | 147 | 1,299 |
| 6' Omni | 162.00 | 25 | 465 | 0.001 | 2 | 22 |
| Powerwave Allgon 702 | 153.00 | 13 | 220 | 0.001 | 1 | 11 |
| Ericsson RRUS A2 B4 | 153.00 | 66 | 1,100 | 0.003 | 6 | 57 |
| Ericsson RRUS 32 B30 | 153.00 | 180 | 3,001 | 0.008 | 16 | 156 |
| Ericsson RRUS 11 B4 | 153.00 | 152 | 2,535 | 0.007 | 13 | 132 |
| KMW AM-X-CD-14-65-00 | 153.00 | 109 | 1,820 | 0.005 | 9 | 95 |
| Powerwave Allgon 777 | 153.00 | 105 | 1,750 | 0.005 | 9 | 91 |
| Commscope SBNHH-1D65 | 153.00 | 101 | 1,675 | 0.004 | 9 | 87 |
| Commscope SBNHH-1D65 | 153.00 | 101 | 1,675 | 0.004 | 9 | 87 |
| Flat Low Profile Pla | 153.00 | 1,500 | 25,004 | 0.064 | 130 | 1,299 |
| CCI TPX-070821 | 152.00 | 45 | 741 | 0.002 | 4 | 39 |
| Powerwave Allgon LGP | 152.00 | 186 | 3,062 | 0.008 | 16 | 161 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 321 | 0.001 | 2 | 17 |
| Raycap DC6-48-60-18- | 150.00 | 32 | 510 | 0.001 | 3 | 28 |
| Ericsson RRUS 11 (Ba | 150.00 | 300 | 4,813 | 0.012 | 25 | 260 |
| Ericsson KRY 112 144 | 134.00 | 33 | 426 | 0.001 | 2 | 29 |
| Ericsson RRUS 11 B12 | 134.00 | 152 | 1,962 | 0.005 | 10 | 132 |
| Ericsson AIR 21, 1.3 | 134.00 | 249 | 3,212 | 0.008 | 17 | 216 |
| Ericsson AIR 21, 1.3 | 134.00 | 244 | 3,154 | 0.008 | 16 | 212 |
| Andrew LNX-6515DS-VT | 134.00 | 154 | 1,986 | 0.005 | 10 | 133 |
| Flat T-Arm | 134.00 | 750 | 9,676 | 0.025 | 50 | 649 |
| | | 51,756 | 388,434 | 1.000 | 2,018 | 44,814 |

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

| Seg | Pu | Vu | Tu | Mu | Mu | Resultant | phi | phi | phi | phi | Total | | |
|--------|--------|--------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|---------|----------|-------|
| Elev | FY (-) | FX (-) | MY | MZ | MX | Moment | Pn | Vn | Tn | Mn | Deflect | Rotation | Ratio |
| (ft) | (kips) | (kips) | (ft-kips) | (ft-kips) | (ft-kips) | (ft-kips) | (kips) | (kips) | (ft-kips) | (ft-kips) | (in) | (deg) | |
| 0.00 | -61.82 | -2.02 | 0.00 | -282.46 | 0.00 | 282.46 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.049 |
| 5.00 | -59.80 | -2.03 | 0.00 | -272.35 | 0.00 | 272.35 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.00 | -0.01 | 0.048 |
| 10.00 | -57.81 | -2.04 | 0.00 | -262.19 | 0.00 | 262.19 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.02 | -0.02 | 0.048 |
| 15.00 | -55.85 | -2.05 | 0.00 | -251.99 | 0.00 | 251.99 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.04 | -0.03 | 0.047 |
| 20.00 | -53.93 | -2.05 | 0.00 | -241.77 | 0.00 | 241.77 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.08 | -0.04 | 0.047 |
| 25.00 | -52.04 | -2.05 | 0.00 | -231.51 | 0.00 | 231.51 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.12 | -0.05 | 0.046 |
| 30.00 | -50.19 | -2.05 | 0.00 | -221.25 | 0.00 | 221.25 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.18 | -0.06 | 0.046 |
| 35.00 | -48.37 | -2.05 | 0.00 | -210.98 | 0.00 | 210.98 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.25 | -0.07 | 0.045 |
| 40.00 | -46.58 | -2.05 | 0.00 | -200.72 | 0.00 | 200.72 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 0.32 | -0.08 | 0.044 |
| 45.00 | -45.94 | -2.05 | 0.00 | -190.48 | 0.00 | 190.48 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 0.41 | -0.09 | 0.044 |
| 46.82 | -43.85 | -2.03 | 0.00 | -186.76 | 0.00 | 186.76 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 0.44 | -0.09 | 0.043 |
| 50.00 | -41.50 | -2.01 | 0.00 | -180.29 | 0.00 | 180.29 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 0.51 | -0.10 | 0.042 |
| 53.65 | -41.03 | -2.01 | 0.00 | -172.94 | 0.00 | 172.94 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 0.59 | -0.11 | 0.041 |
| 55.00 | -39.31 | -2.00 | 0.00 | -170.22 | 0.00 | 170.22 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 0.62 | -0.11 | 0.040 |
| 60.00 | -37.63 | -1.98 | 0.00 | -160.24 | 0.00 | 160.24 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 0.74 | -0.12 | 0.039 |
| 65.00 | -35.99 | -1.96 | 0.00 | -150.35 | 0.00 | 150.35 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 0.87 | -0.13 | 0.038 |
| 70.00 | -34.37 | -1.93 | 0.00 | -140.57 | 0.00 | 140.57 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 1.01 | -0.14 | 0.037 |
| 75.00 | -32.79 | -1.91 | 0.00 | -130.90 | 0.00 | 130.90 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 1.17 | -0.15 | 0.036 |
| 80.00 | -31.25 | -1.87 | 0.00 | -121.38 | 0.00 | 121.38 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 1.33 | -0.16 | 0.035 |
| 85.00 | -29.73 | -1.84 | 0.00 | -112.01 | 0.00 | 112.01 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 1.50 | -0.17 | 0.034 |
| 90.00 | -28.26 | -1.80 | 0.00 | -102.82 | 0.00 | 102.82 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 1.69 | -0.18 | 0.033 |
| 94.97 | -28.25 | -1.80 | 0.00 | -93.88 | 0.00 | 93.88 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 1.89 | -0.19 | 0.032 |
| 95.00 | -25.75 | -1.72 | 0.00 | -93.82 | 0.00 | 93.82 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 1.89 | -0.19 | 0.032 |
| 100.00 | -25.52 | -1.72 | 0.00 | -85.20 | 0.00 | 85.20 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 2.09 | -0.20 | 0.031 |
| 100.47 | -24.37 | -1.68 | 0.00 | -84.40 | 0.00 | 84.40 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 2.11 | -0.20 | 0.035 |
| 105.00 | -23.14 | -1.63 | 0.00 | -76.80 | 0.00 | 76.80 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 2.31 | -0.21 | 0.033 |
| 110.00 | -21.93 | -1.59 | 0.00 | -68.63 | 0.00 | 68.63 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 2.54 | -0.22 | 0.031 |
| 115.00 | -20.74 | -1.54 | 0.00 | -60.70 | 0.00 | 60.70 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 2.78 | -0.23 | 0.030 |
| 120.00 | -19.59 | -1.48 | 0.00 | -53.02 | 0.00 | 53.02 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 3.03 | -0.24 | 0.028 |
| 125.00 | -18.47 | -1.42 | 0.00 | -45.62 | 0.00 | 45.62 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 3.29 | -0.25 | 0.026 |
| 130.00 | -17.59 | -1.38 | 0.00 | -38.50 | 0.00 | 38.50 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 3.56 | -0.26 | 0.024 |
| 134.00 | -15.43 | -1.25 | 0.00 | -33.00 | 0.00 | 33.00 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 3.78 | -0.27 | 0.021 |
| 135.00 | -14.43 | -1.19 | 0.00 | -31.75 | 0.00 | 31.75 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 3.84 | -0.27 | 0.021 |
| 140.00 | -13.46 | -1.13 | 0.00 | -25.80 | 0.00 | 25.80 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 4.12 | -0.28 | 0.018 |
| 145.00 | -12.78 | -1.08 | 0.00 | -20.17 | 0.00 | 20.17 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 4.42 | -0.28 | 0.016 |
| 148.62 | -12.59 | -1.07 | 0.00 | -16.26 | 0.00 | 16.26 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 4.63 | -0.29 | 0.015 |
| 148.62 | -12.59 | -1.07 | 0.00 | -16.26 | 0.00 | 16.26 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 4.63 | -0.29 | 0.023 |
| 150.00 | -11.88 | -1.02 | 0.00 | -14.78 | 0.00 | 14.78 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 4.72 | -0.29 | 0.021 |
| 152.00 | -11.47 | -0.99 | 0.00 | -12.75 | 0.00 | 12.75 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 4.84 | -0.29 | 0.020 |
| 153.00 | -8.35 | -0.75 | 0.00 | -11.76 | 0.00 | 11.76 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 4.90 | -0.29 | 0.017 |
| 155.00 | -7.76 | -0.71 | 0.00 | -10.26 | 0.00 | 10.26 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 5.02 | -0.30 | 0.015 |
| 160.00 | -7.53 | -0.69 | 0.00 | -6.74 | 0.00 | 6.74 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 5.34 | -0.30 | 0.012 |
| 162.00 | -7.39 | -0.67 | 0.00 | -5.36 | 0.00 | 5.36 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 5.46 | -0.30 | 0.011 |
| 163.00 | -4.07 | -0.39 | 0.00 | -4.69 | 0.00 | 4.69 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 5.53 | -0.30 | 0.008 |
| 165.00 | -3.60 | -0.35 | 0.00 | -3.90 | 0.00 | 3.90 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 5.65 | -0.30 | 0.007 |
| 170.00 | -2.32 | -0.23 | 0.00 | -2.14 | 0.00 | 2.14 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 5.97 | -0.31 | 0.004 |
| 175.00 | -1.92 | -0.19 | 0.00 | -0.97 | 0.00 | 0.97 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 6.29 | -0.31 | 0.003 |
| 180.00 | 0.00 | -0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 6.62 | -0.31 | 0.000 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

| Seg Elev (ft) | Pu FY (-) (kips) | Vu FX (-) (kips) | Tu MY (ft-kips) | Mu MZ (ft-kips) | Mu MX (ft-kips) | Resultant Moment (ft-kips) | phi Pn (kips) | phi Vn (kips) | phi Tn (ft-kips) | phi Mn (ft-kips) | Total Deflect (in) | Rotation (deg) | Ratio |
|---------------|------------------|------------------|-----------------|-----------------|-----------------|----------------------------|---------------|---------------|------------------|------------------|--------------------|----------------|-------|
| 0.00 | -43.37 | -2.02 | 0.00 | -279.00 | 0.00 | 279.00 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.045 |
| 5.00 | -41.95 | -2.03 | 0.00 | -268.89 | 0.00 | 268.89 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.00 | -0.01 | 0.045 |
| 10.00 | -40.56 | -2.03 | 0.00 | -258.76 | 0.00 | 258.76 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.02 | -0.02 | 0.044 |
| 15.00 | -39.19 | -2.04 | 0.00 | -248.60 | 0.00 | 248.60 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.04 | -0.03 | 0.044 |
| 20.00 | -37.84 | -2.04 | 0.00 | -238.42 | 0.00 | 238.42 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.08 | -0.04 | 0.043 |
| 25.00 | -36.51 | -2.04 | 0.00 | -228.23 | 0.00 | 228.23 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.12 | -0.05 | 0.043 |
| 30.00 | -35.21 | -2.04 | 0.00 | -218.04 | 0.00 | 218.04 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.18 | -0.06 | 0.042 |
| 35.00 | -33.93 | -2.03 | 0.00 | -207.85 | 0.00 | 207.85 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.24 | -0.07 | 0.042 |
| 40.00 | -32.68 | -2.03 | 0.00 | -197.69 | 0.00 | 197.69 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 0.32 | -0.08 | 0.041 |
| 45.00 | -32.23 | -2.03 | 0.00 | -187.55 | 0.00 | 187.55 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 0.40 | -0.09 | 0.040 |
| 46.82 | -30.77 | -2.01 | 0.00 | -183.87 | 0.00 | 183.87 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 0.44 | -0.09 | 0.040 |
| 50.00 | -29.11 | -1.99 | 0.00 | -177.47 | 0.00 | 177.47 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 0.50 | -0.10 | 0.039 |
| 53.65 | -28.78 | -1.99 | 0.00 | -170.21 | 0.00 | 170.21 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 0.58 | -0.11 | 0.038 |
| 55.00 | -27.58 | -1.97 | 0.00 | -167.52 | 0.00 | 167.52 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 0.61 | -0.11 | 0.037 |
| 60.00 | -26.40 | -1.95 | 0.00 | -157.66 | 0.00 | 157.66 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 0.73 | -0.12 | 0.037 |
| 65.00 | -25.25 | -1.93 | 0.00 | -147.90 | 0.00 | 147.90 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 0.86 | -0.13 | 0.036 |
| 70.00 | -24.12 | -1.91 | 0.00 | -138.24 | 0.00 | 138.24 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 1.00 | -0.14 | 0.035 |
| 75.00 | -23.01 | -1.88 | 0.00 | -128.75 | 0.00 | 128.75 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 1.15 | -0.15 | 0.034 |
| 80.00 | -21.92 | -1.85 | 0.00 | -119.33 | 0.00 | 119.33 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 1.31 | -0.16 | 0.033 |
| 85.00 | -20.86 | -1.81 | 0.00 | -110.10 | 0.00 | 110.10 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 1.48 | -0.17 | 0.032 |
| 90.00 | -19.83 | -1.77 | 0.00 | -101.05 | 0.00 | 101.05 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 1.67 | -0.18 | 0.031 |
| 94.97 | -19.82 | -1.77 | 0.00 | -92.25 | 0.00 | 92.25 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 1.86 | -0.19 | 0.030 |
| 95.00 | -18.07 | -1.70 | 0.00 | -92.19 | 0.00 | 92.19 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 1.86 | -0.19 | 0.029 |
| 100.00 | -17.91 | -1.69 | 0.00 | -83.72 | 0.00 | 83.72 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 2.06 | -0.20 | 0.028 |
| 100.47 | -17.10 | -1.65 | 0.00 | -82.93 | 0.00 | 82.93 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 2.08 | -0.20 | 0.032 |
| 105.00 | -16.23 | -1.61 | 0.00 | -75.45 | 0.00 | 75.45 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 2.28 | -0.21 | 0.031 |
| 110.00 | -15.38 | -1.56 | 0.00 | -67.41 | 0.00 | 67.41 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 2.50 | -0.22 | 0.029 |
| 115.00 | -14.55 | -1.51 | 0.00 | -59.62 | 0.00 | 59.62 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 2.74 | -0.23 | 0.027 |
| 120.00 | -13.74 | -1.45 | 0.00 | -52.08 | 0.00 | 52.08 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 2.98 | -0.24 | 0.025 |
| 125.00 | -12.96 | -1.40 | 0.00 | -44.80 | 0.00 | 44.80 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 3.24 | -0.25 | 0.024 |
| 130.00 | -12.34 | -1.35 | 0.00 | -37.81 | 0.00 | 37.81 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 3.50 | -0.26 | 0.022 |
| 134.00 | -10.83 | -1.23 | 0.00 | -32.41 | 0.00 | 32.41 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 3.72 | -0.26 | 0.020 |
| 135.00 | -10.12 | -1.17 | 0.00 | -31.18 | 0.00 | 31.18 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 3.78 | -0.27 | 0.019 |
| 140.00 | -9.44 | -1.11 | 0.00 | -25.34 | 0.00 | 25.34 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 4.06 | -0.27 | 0.017 |
| 145.00 | -8.96 | -1.06 | 0.00 | -19.81 | 0.00 | 19.81 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 4.35 | -0.28 | 0.015 |
| 148.62 | -8.83 | -1.05 | 0.00 | -15.97 | 0.00 | 15.97 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 4.56 | -0.28 | 0.013 |
| 148.62 | -8.83 | -1.05 | 0.00 | -15.97 | 0.00 | 15.97 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 4.56 | -0.28 | 0.020 |
| 150.00 | -8.34 | -1.00 | 0.00 | -14.52 | 0.00 | 14.52 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 4.64 | -0.28 | 0.019 |
| 152.00 | -8.04 | -0.97 | 0.00 | -12.53 | 0.00 | 12.53 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 4.76 | -0.29 | 0.017 |
| 153.00 | -5.86 | -0.74 | 0.00 | -11.56 | 0.00 | 11.56 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 4.82 | -0.29 | 0.015 |
| 155.00 | -5.45 | -0.69 | 0.00 | -10.08 | 0.00 | 10.08 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 4.95 | -0.29 | 0.014 |
| 160.00 | -5.28 | -0.67 | 0.00 | -6.62 | 0.00 | 6.62 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 5.25 | -0.30 | 0.011 |
| 162.00 | -5.18 | -0.66 | 0.00 | -5.27 | 0.00 | 5.27 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 5.38 | -0.30 | 0.009 |
| 163.00 | -2.85 | -0.39 | 0.00 | -4.61 | 0.00 | 4.61 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 5.44 | -0.30 | 0.007 |
| 165.00 | -2.52 | -0.35 | 0.00 | -3.84 | 0.00 | 3.84 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 5.57 | -0.30 | 0.006 |
| 170.00 | -1.63 | -0.23 | 0.00 | -2.11 | 0.00 | 2.11 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 5.88 | -0.30 | 0.004 |
| 175.00 | -1.34 | -0.19 | 0.00 | -0.96 | 0.00 | 0.96 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 6.20 | -0.30 | 0.002 |
| 180.00 | 0.00 | -0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 6.52 | -0.30 | 0.000 |

Site Number: 310972

Code: ANSI/TIA-222-G © 2007 - 2016 by ATC IP LLC. All rights reserved.

Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

Equivalent Modal Forces Analysis

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

| | |
|--|------|
| Spectral Response Acceleration for Short Period (S_s): | 0.16 |
| Spectral Response Acceleration at 1.0 Second Period (S_1): | 0.06 |
| Importance Factor (I_E): | 1.00 |
| Site Coefficient F_a : | 1.60 |
| Site Coefficient F_v : | 2.40 |
| Response Modification Coefficient (R): | 1.50 |
| Design Spectral Response Acceleration at Short Period (S_{ds}): | 0.17 |
| Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}): | 0.09 |
| Period Based on Rayleigh Method (sec): | 2.37 |
| Redundancy Factor (ρ): | 1.30 |

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

| Segment | Height Above Base (ft) | Weight (lb) | a | b | c | Saz | Horizontal Force (lb) | Vertical Force (lb) |
|---------|---------------------------------|----------------|-------|--------|-------|--------|-----------------------------|---------------------------|
| 46 | 177.50 | 324 | 1.838 | 1.716 | 1.044 | 0.296 | 83 | 400 |
| 45 | 172.50 | 340 | 1.736 | 1.263 | 0.871 | 0.241 | 71 | 419 |
| 44 | 167.50 | 380 | 1.637 | 0.896 | 0.721 | 0.191 | 63 | 469 |
| 43 | 164.00 | 156 | 1.569 | 0.685 | 0.629 | 0.159 | 22 | 193 |
| 42 | 162.50 | 92 | 1.540 | 0.605 | 0.592 | 0.146 | 12 | 114 |
| 41 | 161.00 | 188 | 1.512 | 0.531 | 0.557 | 0.134 | 22 | 232 |
| 40 | 157.50 | 480 | 1.447 | 0.379 | 0.482 | 0.106 | 44 | 593 |
| 39 | 154.00 | 196 | 1.383 | 0.253 | 0.415 | 0.081 | 14 | 242 |
| 38 | 152.50 | 108 | 1.357 | 0.207 | 0.388 | 0.072 | 7 | 133 |
| 37 | 151.00 | 217 | 1.330 | 0.164 | 0.363 | 0.062 | 12 | 268 |
| 36 | 149.31 | 153 | 1.300 | 0.121 | 0.336 | 0.052 | 7 | 189 |
| 35 | 146.81 | 555 | 1.257 | 0.066 | 0.300 | 0.038 | 18 | 685 |
| 34 | 142.50 | 787 | 1.185 | -0.009 | 0.243 | 0.017 | 11 | 972 |
| 33 | 137.50 | 810 | 1.103 | -0.068 | 0.189 | -0.003 | -2 | 1,000 |
| 32 | 134.50 | 165 | 1.055 | -0.092 | 0.161 | -0.013 | -2 | 203 |
| 31 | 132.00 | 712 | 1.016 | -0.105 | 0.140 | -0.020 | -12 | 879 |
| 30 | 127.50 | 911 | 0.948 | -0.119 | 0.107 | -0.029 | -23 | 1,124 |
| 29 | 122.50 | 934 | 0.875 | -0.121 | 0.078 | -0.035 | -29 | 1,153 |
| 28 | 117.50 | 957 | 0.805 | -0.113 | 0.055 | -0.036 | -30 | 1,181 |
| 27 | 112.50 | 980 | 0.738 | -0.098 | 0.038 | -0.033 | -28 | 1,210 |
| 26 | 107.50 | 1,004 | 0.674 | -0.079 | 0.025 | -0.026 | -23 | 1,239 |
| 25 | 102.73 | 930 | 0.616 | -0.059 | 0.016 | -0.017 | -14 | 1,148 |
| 24 | 100.23 | 186 | 0.586 | -0.048 | 0.013 | -0.011 | -2 | 230 |
| 23 | 97.50 | 2,021 | 0.555 | -0.036 | 0.010 | -0.005 | -8 | 2,494 |
| 22 | 94.98 | 14 | 0.526 | -0.026 | 0.008 | 0.001 | 0 | 17 |
| 21 | 92.48 | 1,191 | 0.499 | -0.016 | 0.007 | 0.007 | 8 | 1,470 |
| 20 | 87.50 | 1,226 | 0.447 | 0.003 | 0.006 | 0.019 | 20 | 1,513 |
| 19 | 82.50 | 1,253 | 0.397 | 0.019 | 0.007 | 0.028 | 30 | 1,547 |
| 18 | 77.50 | 1,280 | 0.350 | 0.033 | 0.009 | 0.035 | 39 | 1,580 |
| 17 | 72.50 | 1,307 | 0.307 | 0.044 | 0.012 | 0.040 | 46 | 1,613 |
| 16 | 67.50 | 1,334 | 0.266 | 0.052 | 0.015 | 0.043 | 50 | 1,647 |
| 15 | 62.50 | 1,361 | 0.228 | 0.059 | 0.020 | 0.045 | 53 | 1,680 |
| 14 | 57.50 | 1,388 | 0.193 | 0.064 | 0.024 | 0.045 | 55 | 1,713 |
| 13 | 54.32 | 379 | 0.172 | 0.066 | 0.027 | 0.045 | 15 | 468 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

| | | | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|-------|--------|
| 12 | 51.82 | 1,909 | 0.157 | 0.067 | 0.029 | 0.045 | 75 | 2,357 |
| 11 | 48.41 | 1,689 | 0.137 | 0.069 | 0.032 | 0.045 | 65 | 2,084 |
| 10 | 45.91 | 520 | 0.123 | 0.070 | 0.034 | 0.044 | 20 | 641 |
| 9 | 42.50 | 1,449 | 0.105 | 0.071 | 0.036 | 0.044 | 55 | 1,788 |
| 8 | 37.50 | 1,476 | 0.082 | 0.072 | 0.039 | 0.043 | 55 | 1,821 |
| 7 | 32.50 | 1,503 | 0.062 | 0.072 | 0.041 | 0.042 | 54 | 1,855 |
| 6 | 27.50 | 1,530 | 0.044 | 0.071 | 0.042 | 0.040 | 54 | 1,888 |
| 5 | 22.50 | 1,557 | 0.030 | 0.068 | 0.040 | 0.039 | 52 | 1,921 |
| 4 | 17.50 | 1,584 | 0.018 | 0.063 | 0.037 | 0.036 | 50 | 1,955 |
| 3 | 12.50 | 1,611 | 0.009 | 0.054 | 0.031 | 0.032 | 44 | 1,988 |
| 2 | 7.50 | 1,638 | 0.003 | 0.039 | 0.022 | 0.024 | 34 | 2,021 |
| 1 | 2.50 | 1,665 | 0.000 | 0.015 | 0.008 | 0.011 | 15 | 2,055 |
| Andrew DB806D-Y | 180.00 | 54 | 1.890 | 1.980 | 1.140 | 0.325 | 15 | 67 |
| Round Low Profile PI | 180.00 | 1,500 | 1.890 | 1.980 | 1.140 | 0.325 | 423 | 1,851 |
| KMW HB-X-WM-17-65-00 | 170.00 | 48 | 1.686 | 1.069 | 0.793 | 0.215 | 9 | 59 |
| KMW HB-X-WM-17-65-00 | 170.00 | 90 | 1.686 | 1.069 | 0.793 | 0.215 | 17 | 111 |
| Side Arms | 170.00 | 560 | 1.686 | 1.069 | 0.793 | 0.215 | 104 | 691 |
| Alcatel-Lucent RRH 2 | 163.00 | 119 | 1.550 | 0.631 | 0.604 | 0.150 | 15 | 147 |
| Alcatel-Lucent RRH2x | 163.00 | 170 | 1.550 | 0.631 | 0.604 | 0.150 | 22 | 210 |
| Alcatel-Lucent B66a | 163.00 | 201 | 1.550 | 0.631 | 0.604 | 0.150 | 26 | 248 |
| RFS DB-T1-6Z-8AB-OZ | 163.00 | 88 | 1.550 | 0.631 | 0.604 | 0.150 | 11 | 109 |
| Antel BXA-70063/6CF_ | 163.00 | 51 | 1.550 | 0.631 | 0.604 | 0.150 | 7 | 63 |
| Commscope HBXX- | 163.00 | 245 | 1.550 | 0.631 | 0.604 | 0.150 | 32 | 302 |
| Amphenol Antel QUAD6 | 163.00 | 162 | 1.550 | 0.631 | 0.604 | 0.150 | 21 | 200 |
| Round Low Profile PI | 163.00 | 1,500 | 1.550 | 0.631 | 0.604 | 0.150 | 195 | 1,851 |
| 6' Omni | 162.00 | 25 | 1.531 | 0.580 | 0.580 | 0.142 | 3 | 31 |
| Powerwave Allgon 702 | 153.00 | 13 | 1.366 | 0.222 | 0.397 | 0.075 | 1 | 16 |
| Ericsson RRUS A2 B4 | 153.00 | 66 | 1.366 | 0.222 | 0.397 | 0.075 | 4 | 81 |
| Ericsson RRUS 32 B30 | 153.00 | 180 | 1.366 | 0.222 | 0.397 | 0.075 | 12 | 222 |
| Ericsson RRUS 11 B4 | 153.00 | 152 | 1.366 | 0.222 | 0.397 | 0.075 | 10 | 188 |
| KMW AM-X-CD-14-65-00 | 153.00 | 109 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 135 |
| Powerwave Allgon 777 | 153.00 | 105 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 130 |
| Commscope SBNHH- | 153.00 | 101 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 124 |
| Commscope SBNHH- | 153.00 | 101 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 124 |
| Flat Low Profile Pla | 153.00 | 1,500 | 1.366 | 0.222 | 0.397 | 0.075 | 97 | 1,851 |
| CCI TPX-070821 | 152.00 | 45 | 1.348 | 0.192 | 0.380 | 0.068 | 3 | 56 |
| Powerwave Allgon LGP | 152.00 | 186 | 1.348 | 0.192 | 0.380 | 0.068 | 11 | 230 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 1.312 | 0.138 | 0.347 | 0.056 | 1 | 25 |
| Raycap DC6-48-60-18- | 150.00 | 32 | 1.312 | 0.138 | 0.347 | 0.056 | 2 | 39 |
| Ericsson RRUS 11 (Ba | 150.00 | 300 | 1.312 | 0.138 | 0.347 | 0.056 | 15 | 370 |
| Ericsson KRY 112 144 | 134.00 | 33 | 1.047 | -0.095 | 0.156 | -0.015 | 0 | 41 |
| Ericsson RRUS 11 B12 | 134.00 | 152 | 1.047 | -0.095 | 0.156 | -0.015 | -2 | 188 |
| Ericsson AIR 21, 1.3 | 134.00 | 249 | 1.047 | -0.095 | 0.156 | -0.015 | -3 | 307 |
| Ericsson AIR 21, 1.3 | 134.00 | 244 | 1.047 | -0.095 | 0.156 | -0.015 | -3 | 302 |
| Andrew LNX-6515DS-VT | 134.00 | 154 | 1.047 | -0.095 | 0.156 | -0.015 | -2 | 190 |
| Flat T-Arm | 134.00 | 750 | 1.047 | -0.095 | 0.156 | -0.015 | -10 | 926 |
| | | 51,756 | 80.192 | 21.992 | 24.685 | 5.644 | 2,162 | 63,874 |

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

| Segment | Height Above Base (ft) | Weight (lb) | a | b | c | Saz | Horizontal Force (lb) | Vertical Force (lb) |
|---------|------------------------|-------------|-------|-------|-------|-------|-----------------------|---------------------|
| 46 | 177.50 | 324 | 1.838 | 1.716 | 1.044 | 0.296 | 83 | 281 |
| 45 | 172.50 | 340 | 1.736 | 1.263 | 0.871 | 0.241 | 71 | 294 |
| 44 | 167.50 | 380 | 1.637 | 0.896 | 0.721 | 0.191 | 63 | 329 |
| 43 | 164.00 | 156 | 1.569 | 0.685 | 0.629 | 0.159 | 22 | 135 |
| 42 | 162.50 | 92 | 1.540 | 0.605 | 0.592 | 0.146 | 12 | 80 |
| 41 | 161.00 | 188 | 1.512 | 0.531 | 0.557 | 0.134 | 22 | 163 |
| 40 | 157.50 | 480 | 1.447 | 0.379 | 0.482 | 0.106 | 44 | 416 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

| | | | | | | | | |
|----------------------|--------|-------|-------|--------|-------|--------|-----|-------|
| 39 | 154.00 | 196 | 1.383 | 0.253 | 0.415 | 0.081 | 14 | 170 |
| 38 | 152.50 | 108 | 1.357 | 0.207 | 0.388 | 0.072 | 7 | 93 |
| 37 | 151.00 | 217 | 1.330 | 0.164 | 0.363 | 0.062 | 12 | 188 |
| 36 | 149.31 | 153 | 1.300 | 0.121 | 0.336 | 0.052 | 7 | 133 |
| 35 | 146.81 | 555 | 1.257 | 0.066 | 0.300 | 0.038 | 18 | 481 |
| 34 | 142.50 | 787 | 1.185 | -0.009 | 0.243 | 0.017 | 11 | 682 |
| 33 | 137.50 | 810 | 1.103 | -0.068 | 0.189 | -0.003 | -2 | 702 |
| 32 | 134.50 | 165 | 1.055 | -0.092 | 0.161 | -0.013 | -2 | 143 |
| 31 | 132.00 | 712 | 1.016 | -0.105 | 0.140 | -0.020 | -12 | 617 |
| 30 | 127.50 | 911 | 0.948 | -0.119 | 0.107 | -0.029 | -23 | 789 |
| 29 | 122.50 | 934 | 0.875 | -0.121 | 0.078 | -0.035 | -29 | 809 |
| 28 | 117.50 | 957 | 0.805 | -0.113 | 0.055 | -0.036 | -30 | 829 |
| 27 | 112.50 | 980 | 0.738 | -0.098 | 0.038 | -0.033 | -28 | 849 |
| 26 | 107.50 | 1,004 | 0.674 | -0.079 | 0.025 | -0.026 | -23 | 869 |
| 25 | 102.73 | 930 | 0.616 | -0.059 | 0.016 | -0.017 | -14 | 805 |
| 24 | 100.23 | 186 | 0.586 | -0.048 | 0.013 | -0.011 | -2 | 161 |
| 23 | 97.50 | 2,021 | 0.555 | -0.036 | 0.010 | -0.005 | -8 | 1,750 |
| 22 | 94.98 | 14 | 0.526 | -0.026 | 0.008 | 0.001 | 0 | 12 |
| 21 | 92.48 | 1,191 | 0.499 | -0.016 | 0.007 | 0.007 | 8 | 1,031 |
| 20 | 87.50 | 1,226 | 0.447 | 0.003 | 0.006 | 0.019 | 20 | 1,062 |
| 19 | 82.50 | 1,253 | 0.397 | 0.019 | 0.007 | 0.028 | 30 | 1,085 |
| 18 | 77.50 | 1,280 | 0.350 | 0.033 | 0.009 | 0.035 | 39 | 1,108 |
| 17 | 72.50 | 1,307 | 0.307 | 0.044 | 0.012 | 0.040 | 46 | 1,132 |
| 16 | 67.50 | 1,334 | 0.266 | 0.052 | 0.015 | 0.043 | 50 | 1,155 |
| 15 | 62.50 | 1,361 | 0.228 | 0.059 | 0.020 | 0.045 | 53 | 1,179 |
| 14 | 57.50 | 1,388 | 0.193 | 0.064 | 0.024 | 0.045 | 55 | 1,202 |
| 13 | 54.32 | 379 | 0.172 | 0.066 | 0.027 | 0.045 | 15 | 329 |
| 12 | 51.82 | 1,909 | 0.157 | 0.067 | 0.029 | 0.045 | 75 | 1,653 |
| 11 | 48.41 | 1,689 | 0.137 | 0.069 | 0.032 | 0.045 | 65 | 1,462 |
| 10 | 45.91 | 520 | 0.123 | 0.070 | 0.034 | 0.044 | 20 | 450 |
| 9 | 42.50 | 1,449 | 0.105 | 0.071 | 0.036 | 0.044 | 55 | 1,254 |
| 8 | 37.50 | 1,476 | 0.082 | 0.072 | 0.039 | 0.043 | 55 | 1,278 |
| 7 | 32.50 | 1,503 | 0.062 | 0.072 | 0.041 | 0.042 | 54 | 1,301 |
| 6 | 27.50 | 1,530 | 0.044 | 0.071 | 0.042 | 0.040 | 54 | 1,325 |
| 5 | 22.50 | 1,557 | 0.030 | 0.068 | 0.040 | 0.039 | 52 | 1,348 |
| 4 | 17.50 | 1,584 | 0.018 | 0.063 | 0.037 | 0.036 | 50 | 1,371 |
| 3 | 12.50 | 1,611 | 0.009 | 0.054 | 0.031 | 0.032 | 44 | 1,395 |
| 2 | 7.50 | 1,638 | 0.003 | 0.039 | 0.022 | 0.024 | 34 | 1,418 |
| 1 | 2.50 | 1,665 | 0.000 | 0.015 | 0.008 | 0.011 | 15 | 1,442 |
| Andrew DB806D-Y | 180.00 | 54 | 1.890 | 1.980 | 1.140 | 0.325 | 15 | 47 |
| Round Low Profile PI | 180.00 | 1,500 | 1.890 | 1.980 | 1.140 | 0.325 | 423 | 1,299 |
| KMW HB-X-WM-17-65-00 | 170.00 | 48 | 1.686 | 1.069 | 0.793 | 0.215 | 9 | 41 |
| KMW HB-X-WM-17-65-00 | 170.00 | 90 | 1.686 | 1.069 | 0.793 | 0.215 | 17 | 78 |
| Side Arms | 170.00 | 560 | 1.686 | 1.069 | 0.793 | 0.215 | 104 | 485 |
| Alcatel-Lucent RRH 2 | 163.00 | 119 | 1.550 | 0.631 | 0.604 | 0.150 | 15 | 103 |
| Alcatel-Lucent RRH2x | 163.00 | 170 | 1.550 | 0.631 | 0.604 | 0.150 | 22 | 147 |
| Alcatel-Lucent B66a | 163.00 | 201 | 1.550 | 0.631 | 0.604 | 0.150 | 26 | 174 |
| RFS DB-T1-6Z-8AB-OZ | 163.00 | 88 | 1.550 | 0.631 | 0.604 | 0.150 | 11 | 76 |
| Antel BXA-70063/6CF_ | 163.00 | 51 | 1.550 | 0.631 | 0.604 | 0.150 | 7 | 44 |
| Commscope HBXX- | 163.00 | 245 | 1.550 | 0.631 | 0.604 | 0.150 | 32 | 212 |
| Amphenol Antel QUAD6 | 163.00 | 162 | 1.550 | 0.631 | 0.604 | 0.150 | 21 | 140 |
| Round Low Profile PI | 163.00 | 1,500 | 1.550 | 0.631 | 0.604 | 0.150 | 195 | 1,299 |
| 6' Omni | 162.00 | 25 | 1.531 | 0.580 | 0.580 | 0.142 | 3 | 22 |
| Powerwave Allgon 702 | 153.00 | 13 | 1.366 | 0.222 | 0.397 | 0.075 | 1 | 11 |
| Ericsson RRUS A2 B4 | 153.00 | 66 | 1.366 | 0.222 | 0.397 | 0.075 | 4 | 57 |
| Ericsson RRUS 32 B30 | 153.00 | 180 | 1.366 | 0.222 | 0.397 | 0.075 | 12 | 156 |
| Ericsson RRUS 11 B4 | 153.00 | 152 | 1.366 | 0.222 | 0.397 | 0.075 | 10 | 132 |
| KMW AM-X-CD-14-65-00 | 153.00 | 109 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 95 |
| Powerwave Allgon 777 | 153.00 | 105 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 91 |
| Commscope SBNHH- | 153.00 | 101 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 87 |
| Commscope SBNHH- | 153.00 | 101 | 1.366 | 0.222 | 0.397 | 0.075 | 7 | 87 |
| Flat Low Profile Pla | 153.00 | 1,500 | 1.366 | 0.222 | 0.397 | 0.075 | 97 | 1,299 |
| CCI TPX-070821 | 152.00 | 45 | 1.348 | 0.192 | 0.380 | 0.068 | 3 | 39 |
| Powerwave Allgon LGP | 152.00 | 186 | 1.348 | 0.192 | 0.380 | 0.068 | 11 | 161 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 PM

Customer: Verizon Wireless

| | | | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|-------|--------|
| Raycap DC6-48-60-18- | 150.00 | 20 | 1.312 | 0.138 | 0.347 | 0.056 | 1 | 17 |
| Raycap DC6-48-60-18- | 150.00 | 32 | 1.312 | 0.138 | 0.347 | 0.056 | 2 | 28 |
| Ericsson RRUS 11 (Ba | 150.00 | 300 | 1.312 | 0.138 | 0.347 | 0.056 | 15 | 260 |
| Ericsson KRY 112 144 | 134.00 | 33 | 1.047 | -0.095 | 0.156 | -0.015 | 0 | 29 |
| Ericsson RRUS 11 B12 | 134.00 | 152 | 1.047 | -0.095 | 0.156 | -0.015 | -2 | 132 |
| Ericsson AIR 21, 1.3 | 134.00 | 249 | 1.047 | -0.095 | 0.156 | -0.015 | -3 | 216 |
| Ericsson AIR 21, 1.3 | 134.00 | 244 | 1.047 | -0.095 | 0.156 | -0.015 | -3 | 212 |
| Andrew LNX-6515DS-VT | 134.00 | 154 | 1.047 | -0.095 | 0.156 | -0.015 | -2 | 133 |
| Flat T-Arm | 134.00 | 750 | 1.047 | -0.095 | 0.156 | -0.015 | -10 | 649 |
| | | 51,756 | 80.192 | 21.992 | 24.685 | 5.644 | 2,162 | 44,814 |

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Calculated Forces

| Seg | Pu | Vu | Tu | Mu | Mu | Resultant | phi | phi | phi | phi | Total | | |
|--------|--------|--------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|---------|----------|-------|
| Elev | FY (-) | FX (-) | MY | MZ | MX | Moment | Pn | Vn | Tn | Mn | Deflect | Rotation | Ratio |
| (ft) | (kips) | (kips) | (ft-kips) | (ft-kips) | (ft-kips) | (ft-kips) | (kips) | (kips) | (ft-kips) | (ft-kips) | (in) | (deg) | |
| 0.00 | -61.82 | -2.15 | 0.00 | -272.70 | 0.00 | 272.70 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.048 |
| 5.00 | -59.80 | -2.12 | 0.00 | -261.95 | 0.00 | 261.95 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.00 | -0.01 | 0.047 |
| 10.00 | -57.81 | -2.09 | 0.00 | -251.33 | 0.00 | 251.33 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.02 | -0.02 | 0.046 |
| 15.00 | -55.85 | -2.05 | 0.00 | -240.88 | 0.00 | 240.88 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.04 | -0.03 | 0.046 |
| 20.00 | -53.93 | -2.00 | 0.00 | -230.65 | 0.00 | 230.65 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.08 | -0.04 | 0.045 |
| 25.00 | -52.04 | -1.96 | 0.00 | -220.63 | 0.00 | 220.63 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.12 | -0.05 | 0.044 |
| 30.00 | -50.19 | -1.91 | 0.00 | -210.85 | 0.00 | 210.85 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.17 | -0.06 | 0.044 |
| 35.00 | -48.37 | -1.86 | 0.00 | -201.31 | 0.00 | 201.31 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.23 | -0.06 | 0.043 |
| 40.00 | -46.58 | -1.81 | 0.00 | -192.01 | 0.00 | 192.01 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 0.31 | -0.07 | 0.043 |
| 45.00 | -45.94 | -1.80 | 0.00 | -182.95 | 0.00 | 182.95 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 0.39 | -0.08 | 0.042 |
| 46.82 | -43.85 | -1.73 | 0.00 | -179.69 | 0.00 | 179.69 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 0.42 | -0.09 | 0.042 |
| 50.00 | -41.50 | -1.66 | 0.00 | -174.17 | 0.00 | 174.17 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 0.49 | -0.10 | 0.041 |
| 53.65 | -41.03 | -1.65 | 0.00 | -168.12 | 0.00 | 168.12 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 0.56 | -0.10 | 0.040 |
| 55.00 | -39.32 | -1.59 | 0.00 | -165.90 | 0.00 | 165.90 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 0.59 | -0.11 | 0.039 |
| 60.00 | -37.64 | -1.54 | 0.00 | -157.93 | 0.00 | 157.93 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 0.71 | -0.12 | 0.039 |
| 65.00 | -35.99 | -1.50 | 0.00 | -150.21 | 0.00 | 150.21 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 0.83 | -0.13 | 0.038 |
| 70.00 | -34.38 | -1.45 | 0.00 | -142.73 | 0.00 | 142.73 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 0.97 | -0.14 | 0.038 |
| 75.00 | -32.79 | -1.42 | 0.00 | -135.46 | 0.00 | 135.46 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 1.12 | -0.15 | 0.037 |
| 80.00 | -31.25 | -1.39 | 0.00 | -128.37 | 0.00 | 128.37 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 1.28 | -0.16 | 0.037 |
| 85.00 | -29.73 | -1.37 | 0.00 | -121.43 | 0.00 | 121.43 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 1.45 | -0.17 | 0.036 |
| 90.00 | -28.26 | -1.36 | 0.00 | -114.58 | 0.00 | 114.58 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 1.63 | -0.18 | 0.036 |
| 94.97 | -28.25 | -1.37 | 0.00 | -107.81 | 0.00 | 107.81 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 1.83 | -0.19 | 0.036 |
| 95.00 | -25.75 | -1.37 | 0.00 | -107.77 | 0.00 | 107.77 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 1.83 | -0.19 | 0.035 |
| 100.00 | -25.52 | -1.37 | 0.00 | -100.92 | 0.00 | 100.92 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 2.03 | -0.20 | 0.035 |
| 100.47 | -24.38 | -1.38 | 0.00 | -100.28 | 0.00 | 100.28 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 2.05 | -0.20 | 0.040 |
| 105.00 | -23.14 | -1.41 | 0.00 | -94.00 | 0.00 | 94.00 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 2.25 | -0.22 | 0.039 |
| 110.00 | -21.93 | -1.44 | 0.00 | -86.96 | 0.00 | 86.96 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 2.49 | -0.23 | 0.038 |
| 115.00 | -20.74 | -1.47 | 0.00 | -79.78 | 0.00 | 79.78 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 2.73 | -0.24 | 0.037 |
| 120.00 | -19.59 | -1.50 | 0.00 | -72.44 | 0.00 | 72.44 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 2.99 | -0.25 | 0.036 |
| 125.00 | -18.47 | -1.52 | 0.00 | -64.97 | 0.00 | 64.97 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 3.27 | -0.27 | 0.034 |
| 130.00 | -17.59 | -1.53 | 0.00 | -57.38 | 0.00 | 57.38 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 3.55 | -0.28 | 0.032 |
| 134.00 | -15.43 | -1.54 | 0.00 | -51.26 | 0.00 | 51.26 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 3.79 | -0.29 | 0.030 |
| 135.00 | -14.43 | -1.54 | 0.00 | -49.72 | 0.00 | 49.72 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 3.85 | -0.29 | 0.030 |
| 140.00 | -13.46 | -1.53 | 0.00 | -42.01 | 0.00 | 42.01 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 4.17 | -0.31 | 0.027 |
| 145.00 | -12.77 | -1.51 | 0.00 | -34.38 | 0.00 | 34.38 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 4.49 | -0.32 | 0.024 |
| 148.62 | -12.58 | -1.50 | 0.00 | -28.92 | 0.00 | 28.92 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 4.74 | -0.32 | 0.022 |
| 148.62 | -12.58 | -1.50 | 0.00 | -28.92 | 0.00 | 28.92 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 4.74 | -0.32 | 0.035 |
| 150.00 | -11.88 | -1.47 | 0.00 | -26.85 | 0.00 | 26.85 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 4.83 | -0.33 | 0.033 |
| 152.00 | -11.46 | -1.45 | 0.00 | -23.91 | 0.00 | 23.91 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 4.97 | -0.33 | 0.031 |
| 153.00 | -8.35 | -1.27 | 0.00 | -22.46 | 0.00 | 22.46 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 5.04 | -0.33 | 0.028 |
| 155.00 | -7.76 | -1.22 | 0.00 | -19.93 | 0.00 | 19.93 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 5.18 | -0.34 | 0.025 |
| 160.00 | -7.53 | -1.20 | 0.00 | -13.84 | 0.00 | 13.84 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 5.54 | -0.35 | 0.020 |
| 162.00 | -7.38 | -1.18 | 0.00 | -11.44 | 0.00 | 11.44 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 5.68 | -0.35 | 0.018 |
| 163.00 | -4.06 | -0.81 | 0.00 | -10.26 | 0.00 | 10.26 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 5.76 | -0.35 | 0.014 |
| 165.00 | -3.59 | -0.74 | 0.00 | -8.65 | 0.00 | 8.65 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 5.91 | -0.36 | 0.013 |
| 170.00 | -2.31 | -0.54 | 0.00 | -4.93 | 0.00 | 4.93 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 6.28 | -0.36 | 0.008 |
| 175.00 | -1.91 | -0.45 | 0.00 | -2.25 | 0.00 | 2.25 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 6.66 | -0.36 | 0.004 |
| 180.00 | 0.00 | -0.44 | 0.00 | 0.00 | 0.00 | 0.00 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 7.05 | -0.37 | 0.000 |

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

Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

| Seg Elev (ft) | Pu FY (-) (kips) | Vu FX (-) (kips) | Tu MY (ft-kips) | Mu MZ (ft-kips) | Mu MX (ft-kips) | Resultant Moment (ft-kips) | phi Pn (kips) | phi Vn (kips) | phi Tn (ft-kips) | phi Mn (ft-kips) | Total Deflect (in) | Rotation (deg) | Ratio |
|---------------|------------------|------------------|-----------------|-----------------|-----------------|----------------------------|---------------|---------------|------------------|------------------|--------------------|----------------|-------|
| 0.00 | -43.37 | -2.15 | 0.00 | -269.19 | 0.00 | 269.19 | 5,752.50 | 2,876.25 | 14,788.7 | 7,405.39 | 0.00 | 0.00 | 0.044 |
| 5.00 | -41.95 | -2.12 | 0.00 | -258.45 | 0.00 | 258.45 | 5,688.83 | 2,844.42 | 14,355.6 | 7,188.51 | 0.00 | -0.01 | 0.043 |
| 10.00 | -40.56 | -2.08 | 0.00 | -247.84 | 0.00 | 247.84 | 5,623.62 | 2,811.81 | 13,924.7 | 6,972.73 | 0.02 | -0.02 | 0.043 |
| 15.00 | -39.19 | -2.04 | 0.00 | -237.43 | 0.00 | 237.43 | 5,556.85 | 2,778.43 | 13,496.2 | 6,758.17 | 0.04 | -0.03 | 0.042 |
| 20.00 | -37.84 | -1.99 | 0.00 | -227.24 | 0.00 | 227.24 | 5,488.54 | 2,744.27 | 13,070.4 | 6,544.92 | 0.07 | -0.04 | 0.042 |
| 25.00 | -36.51 | -1.94 | 0.00 | -217.29 | 0.00 | 217.29 | 5,418.67 | 2,709.34 | 12,647.3 | 6,333.10 | 0.12 | -0.05 | 0.041 |
| 30.00 | -35.21 | -1.89 | 0.00 | -207.58 | 0.00 | 207.58 | 5,347.26 | 2,673.63 | 12,227.4 | 6,122.82 | 0.17 | -0.05 | 0.040 |
| 35.00 | -33.93 | -1.84 | 0.00 | -198.12 | 0.00 | 198.12 | 5,274.29 | 2,637.15 | 11,810.8 | 5,914.19 | 0.23 | -0.06 | 0.040 |
| 40.00 | -32.68 | -1.79 | 0.00 | -188.91 | 0.00 | 188.91 | 5,199.78 | 2,599.89 | 11,397.6 | 5,707.32 | 0.30 | -0.07 | 0.039 |
| 45.00 | -32.23 | -1.78 | 0.00 | -179.95 | 0.00 | 179.95 | 5,123.72 | 2,561.86 | 10,988.3 | 5,502.31 | 0.39 | -0.08 | 0.039 |
| 46.82 | -30.77 | -1.71 | 0.00 | -176.72 | 0.00 | 176.72 | 5,095.69 | 2,547.85 | 10,840.5 | 5,428.32 | 0.42 | -0.09 | 0.039 |
| 50.00 | -29.11 | -1.64 | 0.00 | -171.28 | 0.00 | 171.28 | 5,046.10 | 2,523.05 | 10,582.8 | 5,299.30 | 0.48 | -0.09 | 0.038 |
| 53.65 | -28.79 | -1.62 | 0.00 | -165.30 | 0.00 | 165.30 | 5,048.85 | 2,524.43 | 10,597.0 | 5,306.38 | 0.55 | -0.10 | 0.037 |
| 55.00 | -27.58 | -1.57 | 0.00 | -163.11 | 0.00 | 163.11 | 5,027.64 | 2,513.82 | 10,488.2 | 5,251.90 | 0.58 | -0.10 | 0.037 |
| 60.00 | -26.40 | -1.52 | 0.00 | -155.26 | 0.00 | 155.26 | 4,948.12 | 2,474.06 | 10,087.9 | 5,051.48 | 0.70 | -0.11 | 0.036 |
| 65.00 | -25.25 | -1.47 | 0.00 | -147.66 | 0.00 | 147.66 | 4,867.04 | 2,433.52 | 9,692.16 | 4,853.28 | 0.82 | -0.12 | 0.036 |
| 70.00 | -24.12 | -1.43 | 0.00 | -140.31 | 0.00 | 140.31 | 4,784.41 | 2,392.21 | 9,301.03 | 4,657.43 | 0.96 | -0.13 | 0.035 |
| 75.00 | -23.01 | -1.39 | 0.00 | -133.17 | 0.00 | 133.17 | 4,700.23 | 2,350.12 | 8,914.78 | 4,464.02 | 1.10 | -0.14 | 0.035 |
| 80.00 | -21.92 | -1.36 | 0.00 | -126.22 | 0.00 | 126.22 | 4,614.51 | 2,307.25 | 8,533.65 | 4,273.17 | 1.26 | -0.16 | 0.034 |
| 85.00 | -20.86 | -1.34 | 0.00 | -119.42 | 0.00 | 119.42 | 4,527.23 | 2,263.62 | 8,157.84 | 4,084.98 | 1.43 | -0.17 | 0.034 |
| 90.00 | -19.83 | -1.34 | 0.00 | -112.71 | 0.00 | 112.71 | 4,415.53 | 2,207.76 | 7,747.44 | 3,879.48 | 1.61 | -0.18 | 0.034 |
| 94.97 | -19.82 | -1.34 | 0.00 | -106.08 | 0.00 | 106.08 | 4,298.33 | 2,149.16 | 7,339.59 | 3,675.25 | 1.80 | -0.19 | 0.033 |
| 95.00 | -18.07 | -1.34 | 0.00 | -106.03 | 0.00 | 106.03 | 4,297.54 | 2,148.77 | 7,336.89 | 3,673.90 | 1.80 | -0.19 | 0.033 |
| 100.00 | -17.91 | -1.34 | 0.00 | -99.32 | 0.00 | 99.32 | 4,179.55 | 2,089.78 | 6,937.52 | 3,473.92 | 2.00 | -0.20 | 0.033 |
| 100.47 | -17.10 | -1.36 | 0.00 | -98.70 | 0.00 | 98.70 | 3,553.08 | 1,776.54 | 6,010.51 | 3,009.72 | 2.02 | -0.20 | 0.038 |
| 105.00 | -16.23 | -1.38 | 0.00 | -92.54 | 0.00 | 92.54 | 3,488.38 | 1,744.19 | 5,751.27 | 2,879.91 | 2.22 | -0.21 | 0.037 |
| 110.00 | -15.38 | -1.41 | 0.00 | -85.64 | 0.00 | 85.64 | 3,415.54 | 1,707.77 | 5,469.42 | 2,738.78 | 2.45 | -0.22 | 0.036 |
| 115.00 | -14.55 | -1.44 | 0.00 | -78.60 | 0.00 | 78.60 | 3,341.15 | 1,670.58 | 5,192.07 | 2,599.89 | 2.69 | -0.24 | 0.035 |
| 120.00 | -13.74 | -1.47 | 0.00 | -71.40 | 0.00 | 71.40 | 3,249.79 | 1,624.89 | 4,896.18 | 2,451.73 | 2.95 | -0.25 | 0.033 |
| 125.00 | -12.95 | -1.49 | 0.00 | -64.06 | 0.00 | 64.06 | 3,148.66 | 1,574.33 | 4,594.70 | 2,300.76 | 3.22 | -0.26 | 0.032 |
| 130.00 | -12.34 | -1.50 | 0.00 | -56.61 | 0.00 | 56.61 | 3,047.52 | 1,523.76 | 4,302.79 | 2,154.59 | 3.50 | -0.28 | 0.030 |
| 134.00 | -10.82 | -1.52 | 0.00 | -50.60 | 0.00 | 50.60 | 2,966.62 | 1,483.31 | 4,076.16 | 2,041.11 | 3.73 | -0.29 | 0.028 |
| 135.00 | -10.12 | -1.52 | 0.00 | -49.08 | 0.00 | 49.08 | 2,946.39 | 1,473.20 | 4,020.47 | 2,013.22 | 3.79 | -0.29 | 0.028 |
| 140.00 | -9.44 | -1.51 | 0.00 | -41.49 | 0.00 | 41.49 | 2,845.26 | 1,422.63 | 3,747.72 | 1,876.65 | 4.10 | -0.30 | 0.025 |
| 145.00 | -8.96 | -1.49 | 0.00 | -33.97 | 0.00 | 33.97 | 2,744.13 | 1,372.06 | 3,484.56 | 1,744.87 | 4.42 | -0.31 | 0.023 |
| 148.62 | -8.83 | -1.48 | 0.00 | -28.59 | 0.00 | 28.59 | 2,670.97 | 1,335.49 | 3,300.17 | 1,652.54 | 4.66 | -0.32 | 0.021 |
| 148.62 | -8.83 | -1.48 | 0.00 | -28.59 | 0.00 | 28.59 | 1,691.76 | 845.88 | 2,107.62 | 1,055.38 | 4.66 | -0.32 | 0.032 |
| 150.00 | -8.33 | -1.45 | 0.00 | -26.55 | 0.00 | 26.55 | 1,679.73 | 839.87 | 2,070.63 | 1,036.85 | 4.75 | -0.32 | 0.031 |
| 152.00 | -8.04 | -1.43 | 0.00 | -23.65 | 0.00 | 23.65 | 1,662.14 | 831.07 | 2,017.46 | 1,010.23 | 4.89 | -0.33 | 0.028 |
| 153.00 | -5.86 | -1.25 | 0.00 | -22.22 | 0.00 | 22.22 | 1,653.25 | 826.63 | 1,991.01 | 996.98 | 4.96 | -0.33 | 0.026 |
| 155.00 | -5.44 | -1.20 | 0.00 | -19.72 | 0.00 | 19.72 | 1,635.29 | 817.64 | 1,938.39 | 970.64 | 5.10 | -0.33 | 0.024 |
| 160.00 | -5.28 | -1.18 | 0.00 | -13.70 | 0.00 | 13.70 | 1,589.29 | 794.65 | 1,808.60 | 905.65 | 5.45 | -0.34 | 0.018 |
| 162.00 | -5.18 | -1.17 | 0.00 | -11.34 | 0.00 | 11.34 | 1,570.46 | 785.23 | 1,757.42 | 880.02 | 5.60 | -0.35 | 0.016 |
| 163.00 | -2.85 | -0.80 | 0.00 | -10.17 | 0.00 | 10.17 | 1,560.95 | 780.48 | 1,731.99 | 867.28 | 5.67 | -0.35 | 0.014 |
| 165.00 | -2.52 | -0.74 | 0.00 | -8.57 | 0.00 | 8.57 | 1,541.75 | 770.87 | 1,681.48 | 841.99 | 5.82 | -0.35 | 0.012 |
| 170.00 | -1.62 | -0.53 | 0.00 | -4.88 | 0.00 | 4.88 | 1,492.65 | 746.33 | 1,557.24 | 779.78 | 6.19 | -0.36 | 0.007 |
| 175.00 | -1.34 | -0.45 | 0.00 | -2.23 | 0.00 | 2.23 | 1,432.25 | 716.13 | 1,426.40 | 714.26 | 6.56 | -0.36 | 0.004 |
| 180.00 | 0.00 | -0.44 | 0.00 | 0.00 | 0.00 | 0.00 | 1,364.83 | 682.42 | 1,294.62 | 648.27 | 6.94 | -0.36 | 0.000 |

Site Number: 310972

Code: ANSI/TIA-222-G

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Site Name: Waterford Rebuild CT, CT

Engineering Number: OAA690068_C3_01

11/21/2016 3:45:38 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 | 45.48 | 0.00 | 62.03 | 0.00 | 0.00 | 5667.22 | 0.00 | 0.78 |
| 0.9D + 1.6W | 45.45 | 0.00 | 46.51 | 0.00 | 0.00 | 5608.81 | 0.00 | 0.77 |
| 1.2D + 1.0Di + 1.0Wi | 8.55 | 0.00 | 90.59 | 0.00 | 0.00 | 1060.50 | 0.00 | 0.16 |
| (1.2 + 0.2Sds) * DL + E ELFM | 2.02 | 0.00 | 61.82 | 0.00 | 0.00 | 282.46 | 0.00 | 0.05 |
| (1.2 + 0.2Sds) * DL + E EMAM | 2.15 | 0.00 | 61.82 | 0.00 | 0.00 | 272.70 | 0.00 | 0.05 |
| (0.9 - 0.2Sds) * DL + E ELFM | 2.02 | 0.00 | 43.37 | 0.00 | 0.00 | 279.00 | 0.00 | 0.05 |
| (0.9 - 0.2Sds) * DL + E EMAM | 2.15 | 0.00 | 43.37 | 0.00 | 0.00 | 269.19 | 0.00 | 0.04 |
| 1.0D + 1.0W | 7.10 | 0.00 | 51.75 | 0.00 | 0.00 | 880.62 | 0.00 | 0.13 |

| | | |
|--------------------------|---------------------|------------------|
| Base/Flange Plate | Plate Type | Baseplate |
| | Pole Diameter | 62.45 in |
| | Pole Thickness | 0.4375 in |
| | Plate Diameter | 75 in |
| | Plate Thickness | 2.75 in |
| | Plate Fy | 60 ksi |
| | Weld Length | 0.3125 in |
| | ϕ_s Resistance | 1001.50 k-in |
| | Applied | 330.23 k-in |
| | Stiffeners | # |

Code Rev. **G**
1.00
 Date **11/21/2016**
 Engineer **CCP**
 Site # **310972**
 Carrier **Verizon**

Moment **5667.2 k-ft**
 Axial **62.0 k**

| | | |
|----------------------|---------------------------------|------------|
| Bolts | # | 20 |
| | Bolt Circle (R)adial / (S)quare | 69 in R |
| | Diameter | 2.25 in |
| | Hole Diameter | 2.625 in |
| | Type | A615-75 |
| | Fy | 75 ksi |
| | Fu | 100 ksi |
| | ϕ_s Resistance | 259.82 k |
| | Applied | 200.14 k |
| | Reinforcement | # |
| Extra Bolts O | # | 0 |

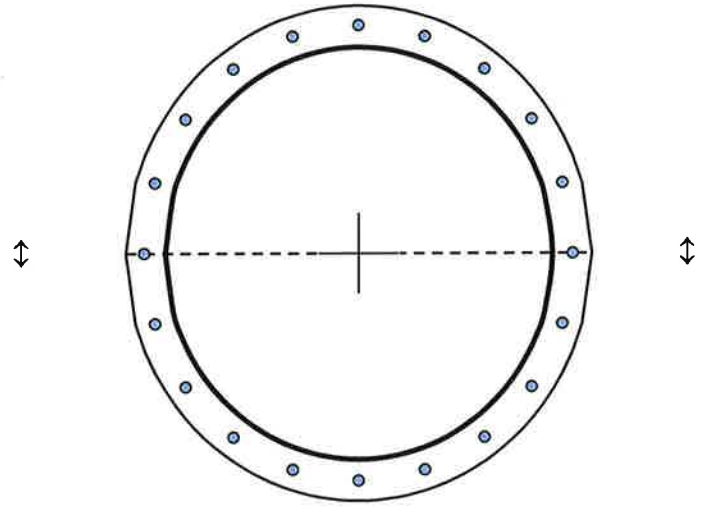


Plate Stress Ratio:
0.33 (Pass)

Bolt Stress Ratio:
0.77 (Pass)

| | | |
|-------------------|-----------------|--------------------------|
| Base/Flange Plate | Plate Type | Flange @ 148.6 ft |
| | Pole Diameter | 30.08 in |
| | Pole Thickness | 0.25 in |
| | Plate Diameter | 37.5 in |
| | Plate Thickness | 2 in |
| | Plate Fy | 50 ksi |
| | Weld Length | 0.3125 in |
| | Allowable | 177.19 k-in |
| | Applied | 22.52 k-in |
| | Stiffeners | # |

Code Rev. **G**

Date **11/21/2016**
 Engineer **CCP**
 Site # **310972**
 Carrier **Verizon**

Moment **291.9 k-ft**
 Axial **10.4 k**

Required Flange Thickness:

0.71 in OK

| | | |
|---------------|---------------------|-----------|
| Bolts | # | 24 |
| | Bolt Circle | 34.5 in |
| | (R)adial / (S)quare | R |
| | Diameter | 1 in |
| | Hole Diameter | 1.0625 in |
| | Type | A325 |
| | Fy | 92 ksi |
| | Fu | 120 ksi |
| | Allowable | 54.52 k |
| | Applied | 16.48 k |
| Reinforcement | # | 0 |
| Extra Bolts | # | 0 |

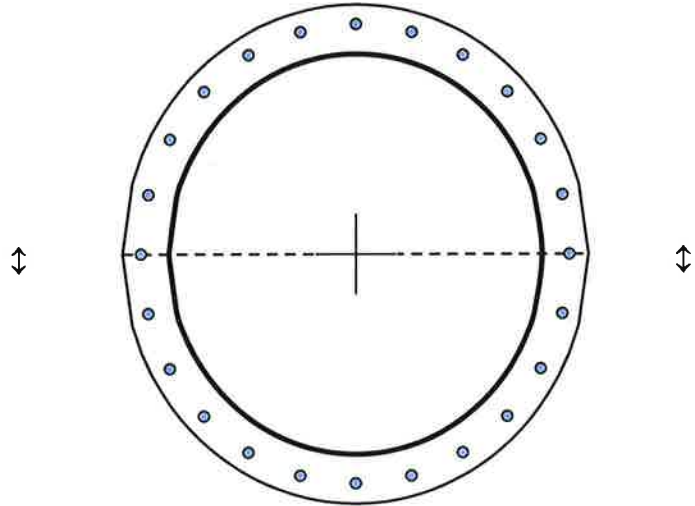
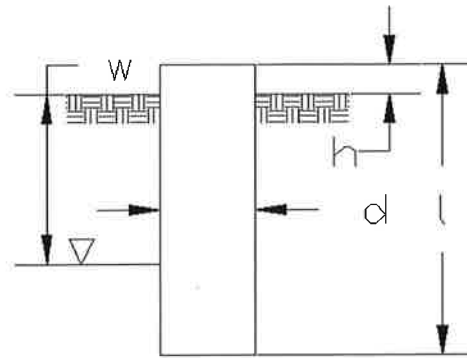


Plate Stress Ratio:
0.13 (Pass)

Bolt Stress Ratio:
0.30 (Pass)

Site Name: Waterford CT, CT
 Site Number: 310972
 Engineer: C. Poe
 Engineering Number: OAA690068_C3_01
 Date: 11/21/16

Program Last Updated: 5/13/2014
 American Tower Corporation



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

Analyze or Design a Foundation? Analyze
 Foundation Mapped: N
 Moment (M): 5667.2 k-ft
 Shear/Leg (V): 45.5 k
 Axial Load (P): 62.0 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP

Diameter of Caisson (d): 8.0 ft
 Caisson Embedment (L-h): 26.0 ft
 Caisson Height Above Ground (h): 0.5 ft
 Depth Below Ground Surface to Water Table (w): 99.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 1.00
 Pullout Angle: 30.0 degrees

Engineer Notes

Soil Mechanical Properties

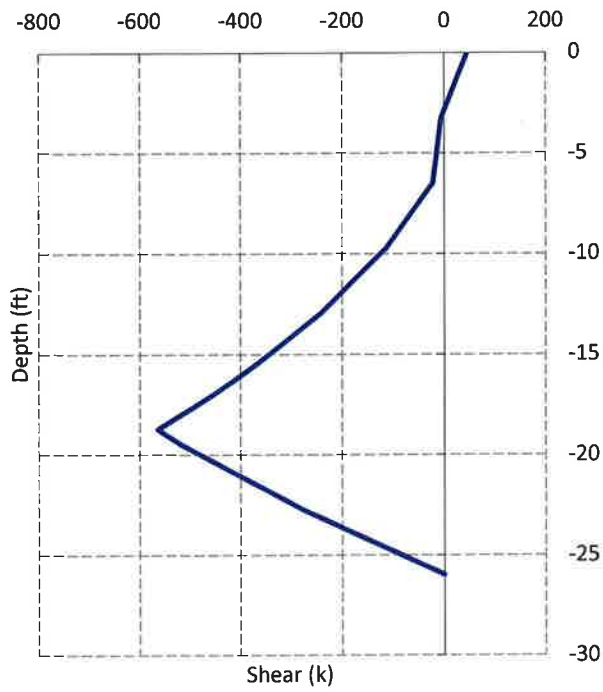
| Depth (ft) | | γ_{Soil} | Cohesion | ϕ | Ultimate Skin | Ultimate Bearing |
|------------|--------|------------------------|----------|----------|----------------|------------------|
| Top | Bottom | (pcf) | (psf) | (degree) | Friction (psf) | Pressure (psf) |
| 0.0 | 4.0 | 110 | 0 | 0 | 0 | 0 |
| 4.0 | 20.0 | 110 | 0 | 33 | 1000 | 0 |
| 20.0 | 27.0 | 110 | 0 | 33 | 1400 | 12000 |

Required Embedment: 23.9 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 1332.0 ft³ = 49.3 yd³
 Weight of Concrete (Buoyancy Effect Considered): 199.8 k
 Average Soil Unit Weight: 110.0 pcf
 Skin Friction Resistance: 613.2 k
 Compressive Bearing Resistance: 603.2 k
 Pullout Weight (Minus Concrete Weight): 1214.4 k
 Nominal Uplift Capacity per Leg ($\phi_s T_n$): 609.8 k
 Nominal Compressive Capacity per Leg ($\phi_s P_n$): 912.3 k
 P_u : 124.8 k
 $T_u / \phi_s T_n$: 0.00 Result: OK
 $P_u / \phi_s P_n$: 0.14 Result: OK
 Total Lateral Resistance: 2469.0 k
 Inflection Point (Below Ground Surface): 18.7 ft
 Design Overturning Moment At Inflection Point (M_D): 6542.0 k-ft
 Nominal Moment Capacity ($\phi_s M_n$): 8656.0 k-ft
 $M_D / \phi_s M_n$: 0.76 Result: OK
 ϕ_s : 0.75

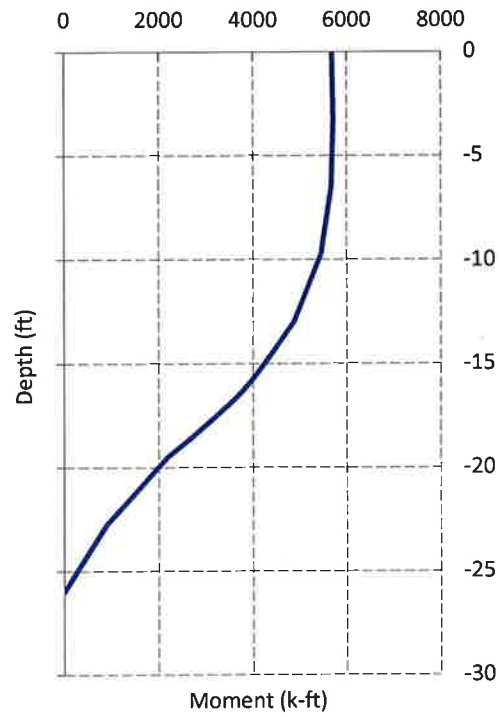
Caisson Strength Capacity

| | |
|--|--|
| Concrete Compressive Strength (f'_c): | 4000 psi |
| Vertical Steel Rebar Size #: | 10 |
| Vertical Steel Rebar Area: | 1.27 in ² |
| # of Vertical Steel Rebars: | 40 |
| Vertical Steel Rebar Yield Strength (F_y): | 60 ksi |
| Horizontal Tie / Stirrup Size #: | 5 |
| Horizontal Tie / Stirrup Area: | 0.31 in ² |
| Design Horizontal Tie / Stirrup Spacing: | 6.0 in |
| Horizontal Tie / Stirrup Steel Yield Strength (F_y): | 60 ksi |
| Rebar Cage Diameter: | 88.0 in |
| Strength Bending/Tension Reduction Factor (ϕ_B): | 0.90 ACI318-05 - 9.3.2.1 |
| Strength Shear Reduction Factor (ϕ_V): | 0.75 ACI318-05 - 9.3.2.3 |
| Strength Compression Reduction Factor (ϕ_C): | 0.65 ACI318-05 - 9.3.2.2 |
| Steel Elastic Modulus: | 29000 ksi |
| Design Moment (M_u): | 5714.9 k-ft |
| Nominal Moment Capacity ($\phi_B M_n$): | 9838.8 k-ft - ACI318-005 - 10.2 |
| $M_u/\phi_B M_n$: | 0.58 Result: OK |
| Design Shear (V_u): | 564.2 k |
| Nominal Shear Capacity ($\phi_V V_n$): | 689.6 k - ACI318-05 - 11.3.1.1 or 11.5.7.2 |
| $V_u/\phi_V V_n$: | 0.82 Result: OK |
| Design Tension (T_u): | 0.0 k |
| Nominal Tension Capacity ($\phi_T T_n$): | 2743.2 k - ACI318-05 - 10.2 |
| $T_u/\phi_T T_n$: | 0.00 Result: OK |
| Design Compression (P_u): | 124.8 k |
| Nominal Compression Capacity ($\phi_P P_n$): | 12707.4 k - ACI318-05 - 10.3.6.2 |
| $P_u/\phi_P P_n$: | 0.01 Result: OK |
| Bending Reinforcement Ratio: | 0.007 ACI318-05 - 10.8.4 & 10.9.1 |
| $M_u/\phi_B M_n + T_u/\phi_T T_n$: | 0.58 Result: OK |

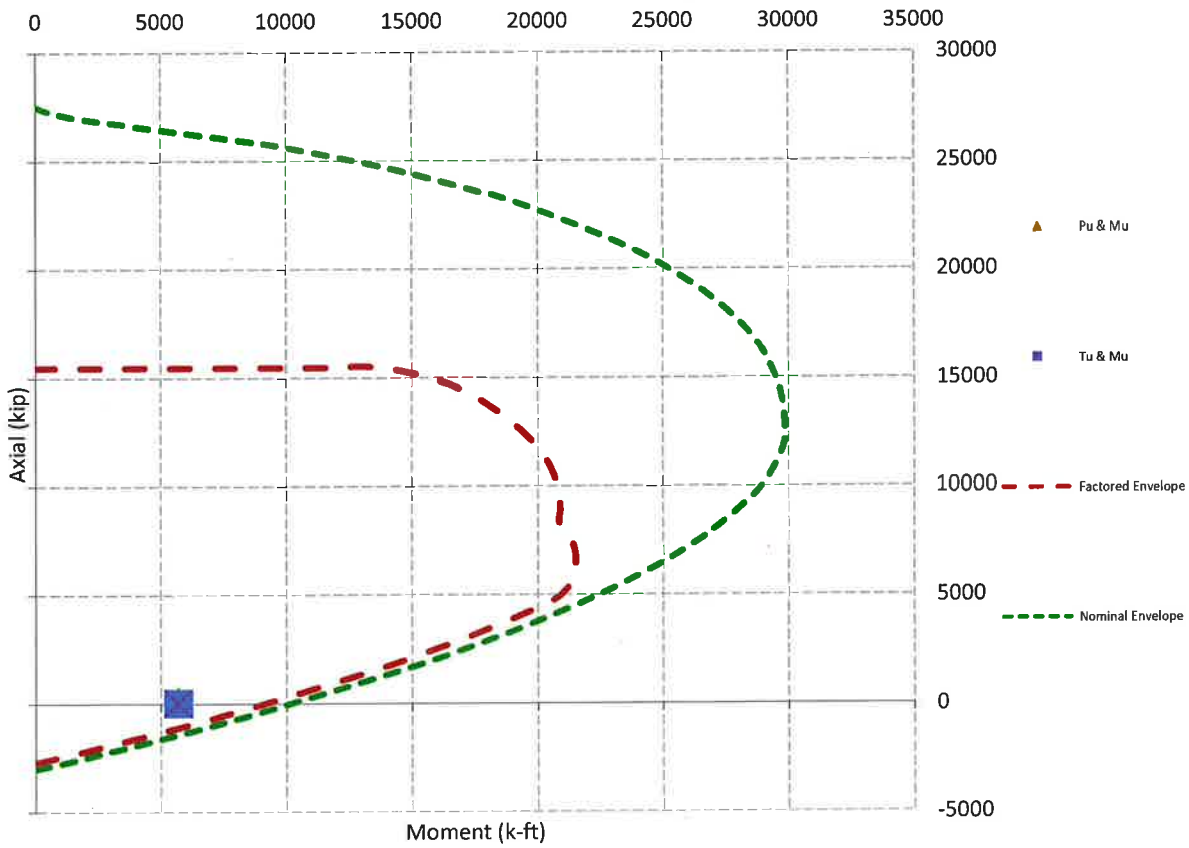
Design Factored Shear / Depth



Design Factored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads



ATTACHMENT 4



72 130 41 332 Degrees

200ft

Town of Waterforc

101 ft

80 ft

27.8

MINER LANE

| CURRENT OWNER | TOPO. | UTILITIES | STRT./ROAD | LOCATION | DESCRIPTION | CURRENT ASSESSMENT | ASSESSED VALUE | 6152 |
|---------------------|---------|-----------|------------|----------|-------------|--------------------|-------------------------|---------------|
| WATERFORD TOWN OF | 0/Clear | 3 Sewer | | | EX VC R L | Code 51 | Appraised Value 375,840 | 263,090 |
| 15 ROPE FERRY RD | | 2 Water | | | EX VC OTB | Code 55 | Appraised Value 224,800 | 157,370 |
| WATERFORD, CT 06385 | | | | | | | | WATERFORD, CT |

| SUPPLEMENTAL DATA | Other ID: | Call back | 490 Size | 0.00 | SFLA | 0 | Lot Size | 50.42 |
|-------------------|--------------|-----------|----------|------|------|---|----------|-------|
| | 153 | | | | | | | |
| | Old Map/Lot | 046 0005 | | | | | | |
| | Asking date | | | | | | | |
| | Asking price | | | | | | | |
| | Census Tract | 6935101 | | | | | | |
| | G/S ID: | 0433700 | | | | | | |
| | ASSOC PID# | | | | | | | |

| RECORD OF OWNERSHIP | BK-VOL/PAGE | SALE DATE | Yr | Code | ASSESSED VALUE | Yr | Code | ASSESSED VALUE |
|---------------------|-------------|------------|--------|------|----------------|--------|------|----------------|
| WATERFORD TOWN OF | 259/774 | 05/14/1981 | Q | 1 | 0 | 00 | | |
| | | | 2016 | 51 | 263,090 | 2013 | 51 | 263,090 |
| | | | 2016 | 55 | 157,370 | 2013 | 55 | 151,850 |
| | | | Total: | | 420,460 | Total: | | 414,940 |

| EXEMPTIONS | Year | Type | Description | Amount | Code | Description | Number | Amount | Comm. Int. |
|------------------------|------|------|-------------|--------|------|-------------|--------|--------|------------|
| OTHER ASSESSMENTS | | | | | | | | | |
| ASSESSING NEIGHBORHOOD | | | | | | | | | |
| NBHD/SUB | | | | | | | | | |
| 0001/A | | | | | | | | | |
| NOTES | | | | | | | | | |

| APPRaised VALUE SUMMARY | Appraised Bldg. Value (Card) | 0 |
|-------------------------|----------------------------------|---------|
| | Appraised XF (B) Value (Bldg) | 0 |
| | Appraised OB (L) Value (Bldg) | 224,800 |
| | Appraised Land Value (Bldg) | 375,840 |
| | Special Land Value | 0 |
| | Total Appraised Parcel Value | 600,640 |
| | Valuation Method: | |
| | Adjustment: | |
| | Net Total Appraised Parcel Value | 600,640 |

| BUILDING PERMIT RECORD | Permit ID | Issue Date | Type | Description | Amount | Insp. Date | % Comp. | Date Comp. | Comments | Date | Type | IS | ID | CD | Purpose/Result |
|------------------------|-----------|------------|------|---------------|--------|------------|---------|------------|---------------------|------------|------|----|-----|----|--------------------------|
| | B13-540 | | NC | New Construct | 43,000 | | 100 | | 12 X 20 EQUIPMENT B | 09/06/2014 | 2 | | RJM | 01 | Exterior Inspection Only |
| | B9-367 | | RP | Replacement | 0 | | 100 | | REPLACE TOWER | 10/24/2011 | 3 | | TMM | 94 | Outbuilding - Measured |

| LAND LINE VALUATION SECTION | B Use | Code | Zone | D From | Depth | Units | Unit Price | I Factor | S.A | C Factor | ST. Itr | Adi. | Notes-Adi | S Adj | Fact | Adi. | Unit Price | Land Value |
|--|-------|------------|------|--------|-------|----------|------------|----------|-----|----------|---------|------|-----------|-------|------|------|------------|------------|
| | 900 | Exempt Vac | R-40 | | | 0.92 AC | 110,000.00 | 1.0553 | 5 | 1.00 | 1100 | 1.20 | | 1.00 | | | | 128,160 |
| | 900 | Exempt Vac | R-40 | | | 24.75 AC | 12,264.00 | 0.8500 | 0 | 0.80 | 1100 | 1.20 | | 1.00 | | | | 247,680 |
| Total Card Land Units: 25.67 AC Parcel Total Land Area: 25.67 AC Total Land Value: 375,840 | | | | | | | | | | | | | | | | | | |



| CONSTRUCTION DETAIL | | CONSTRUCTION DETAIL (CONTINUED) | |
|---------------------|-------------------|---------------------------------|-------------------|
| Element | Cd Ch Description | Element | Cd Ch Description |

| | | | |
|-------|----|--------|--|
| Model | 00 | Vacant | |
|-------|----|--------|--|

| MIXED USE | | PERCENTAGE | |
|-----------|-------------|------------|------------|
| Code | Description | Code | Percentage |
| 900 | Exempt Vac | | 100 |

| COST/MARKET VALUATION | |
|-----------------------|------|
| Adj. Base Rate: | 0.00 |

| | |
|--------------------------|---|
| Replace Cost | 0 |
| AYB | 0 |
| EYB | 0 |
| Dep Code | |
| Remodel Rating | |
| Year Remodeled | |
| Dep % | |
| Functional Obslnc | |
| External Obslnc | |
| Cost Trend Factor | 1 |
| Status | |
| % Complete | |
| Overall % Cond | |
| Apprais Val | |
| Dep % Ovr | 0 |
| Dep Ovr Comment | |
| Misc Imp Ovr | 0 |
| Misc Imp Ovr Comment | |
| Cost to Cure Ovr | 0 |
| Cost to Cure Ovr Comment | |

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

| Code | Description | Sub | Sub Descript | V/B | Units | Unit Price | Yr | Gde | Dp Rl | Cnd | %Cnd | Apr Value |
|------|--------------|-----|--------------|-----|-------|------------|------|-----|-------|-----|------|-----------|
| SHD1 | Shed | MIS | Masonry | L | 400 | 18.00 | 1987 | C | | | 80 | 5,760 |
| SHD1 | Shed | FR | Frame | L | 480 | 15.00 | 2010 | A | | | 98 | 10,580 |
| FN3 | RADIO TOWER | | | L | 200 | 1,000.00 | 2013 | | | | 100 | 200,000 |
| FN3 | FENCE-6' CH/ | | | L | 96 | 12.00 | 2009 | C | | | 50 | 580 |
| SHP | Work Shop | MIS | Masonry | L | 240 | 35.00 | 2014 | B | | | 75 | 7,880 |

BUILDING SUB-AREA SUMMARY SECTION

| Code | Description | Living Area | Gross Area | Eff. Area | Unit Cost | Underrec. Value |
|-----------------------------------|-------------|-------------|------------|-----------|-----------|-----------------|
| | | 0 | 0 | 0 | 0 | 0 |
| Ttl. Gross Liv/Lease Area: | | | | | | |
| | | 0 | 0 | 0 | 0 | 0 |



ATTACHMENT 5



Certificate of Mailing — Firm

| Name and Address of Sender Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103 | | TOTAL NO. of Pieces Listed by Sender | TOTAL NO. of Pieces Received at Post Office™ | Affix Stamp Here Postmark with Date of Receipt. | | | |
|--|--|--|---|--|-----|------------------|---------------|
| USPS® Tracking Number Firm-specific Identifier | | Address (Name, Street, City, State, and ZIP Code™) | | Postage | Fee | Special Handling | Parcel Airift |
| 1. | | Daniel M. Steward, First Selectman Town of Waterford 15 Rope Ferry Road Waterford, CT 06385 | | | | | |
| 2. | | Abby Piersall, AICP, Planting Director Town of Waterford 15 Rope Ferry Road Waterford, CT 06385 | | | | | |
| 3. | | | | | | | |
| 4. | | | | | | | |
| 5. | | | | | | | |
| 6. | | | | | | | |

Postmaster, per (name of receiving employee)