

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
 :
 :
 A SUB-PETITION OF CELLCO : SUB-PETITION NO. 1133
 PARTNERSHIP D/B/A VERIZON WIRELESS : 310 PRESTIGE PARK ROAD
 FOR THE SHARED USE OF AN EXISTING : EAST HARTFORD, CT
 WIRELESS TELECOMMUNICATIONS :
 FACILITY AT 310 PRESTIGE PARK ROAD, :
 EAST HARTFORD, CONNECTICUT : JULY 14, 2016

SUB-PETITION FOR DECLARATORY RULING:
ELIGIBLE FACILITIES REQUEST FOR MODIFICATIONS
THAT WILL NOT SUBSTANTIALLY CHANGE THE
PHYSICAL DIMENSIONS OF AN EXISTING BASE STATION

I. Introduction

Pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, codified at 47 U.S.C. § 1455(a) (“Section 6409(a)”) and the October 21, 2014 Report and Order (FCC-14-153) issued by the Federal Communications Commission (“FCC”) (the “FCC Order”), Cellco Partnership d/b/a Verizon Wireless (“Cellco”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Sub-Petition”) that the installation of antennas and related telecommunications equipment at the existing wireless telecommunications base station at 310 Prestige Park Road in East Hartford, Connecticut (the “Property”) constitutes an Eligible Facilities Request (“EFR”) under the FCC Order. Cellco has designated this site as its “East Hartford 7 Facility”.

II. Factual Background

The Property is a 3.99-acre parcel in East Hartford’s I-3 industrial zone. The Property is surrounded by commercial uses along Prestige Park Road and residential uses along Goodwin Street. See Attachment 1 – Site Vicinity Map and Site Schematic (Aerial Photograph). On May

15, 1984, the Council approved Docket No. 40, an application by AT&T¹ to construct a 150-foot tower at the Property. The tower currently supports AT&T antennas at the 153-foot level; Sprint at the 138-foot level; Metro PCS at the 128-foot level; and Clearwire at the 118-foot level of the tower. Equipment associated with the antennas is located within the building or on the ground and existing equipment adjacent to the tower within a fenced compound. The Prestige Park Road tower is now owned by American Tower Corporation (“ATC”).

Cellco is licensed to provide wireless telecommunications services in the 850 MHz, 1900 MHz, 700 MHz and 2100 MHz frequency ranges in East Hartford and throughout the State of Connecticut. The proposed East Hartford 7 Facility described in this filing is designed to provide coverage and capacity relief to Cellco’s existing wireless network in East Hartford.

III. Proposed East Hartford 7 Facility

Cellco intends to install twelve (12) antennas and nine (9) remote radio heads (“RRHs”) at the 98-foot level on the 150-foot tower. Cellco will also install equipment cabinets and a 15 kW natural gas back-up generator on a steel platform and canopy structure within the limits of the existing fenced compound. Power and telephone service will extend from the existing utility backboard at the Property. Project Plans for the East Hartford 7 Facility are included in Attachment 2. Specifications for Cellco’s antennas, RRHs, equipment and generator are included in Attachment 3. A Structural Modification Report confirming that the tower, with certain modifications, can support Cellco’s antenna and related equipment is included in Attachment 4.

¹ The Applicant in Docket No. 40 was then known as the Southern New England Telephone Company.

IV. Discussion

A. The Proposed Modification Will Not Cause a Substantial Change to the Physical Dimensions of the Existing Base Station

Section 6409(a) provides, in relevant part, that “a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.” Pursuant to the FCC Order, the proposed modification does not substantially change the physical dimensions of the base station if the following criteria are satisfied.

1. *The proposed modified facility will not increase the height of the tower by more than ten (10) percent of the height.* Cellco does not intend to increase the height of the existing tower. Cellco’s antennas will be located at the 98-foot level on the existing 150-foot tower.

2. *The proposed facility modification will not protrude from the edge of the structure more than six (6) feet.* Cellco’s antennas will not protrude more than six (6) feet from the face of the tower.

3. *The proposed facility does not involve installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets.* Cellco intends to install three equipment cabinets on a steel platform and a natural gas-fueled back-up generator within the fenced compound.

4. *The proposed facility does not entail any excavation or deployment outside the current site of the base station.* Cellco’s proposed modification will remain within the limits of the existing fenced compound at the Property.

5. *The proposed facility does not defeat the existing concealment elements of the base station.* There are no concealment elements incorporated into the existing base station design.

6. *The proposed facility complies with conditions associated with the prior approval of construction or modification of the base station.* The tower was approved by the Council in Docket No. 40 in 1994. Cellco's proposed modifications are not inconsistent with any of the Docket No. 40 conditions of approval.

B. FCC Compliance

Included in Attachment 5 is a cumulative worst case General Power Density table for Cellco's proposed antennas and all other existing antennas confirming that the facility will operate within the FCC safety standards for radio frequency emissions.

C. Notice to the Town, Property Owner and Abutting Landowners

On July 14, 2016, a copy of this Sub-Petition was sent to East Hartford's Mayor, Marcia A. Leclerc; Fremont Prestige II LLC, the Property owner; and ATC. Copies of the letters sent to Mayor Leclerc, Fremont Prestige II, LLC and ATC are included in Attachment 6. A copy of this Sub-Petition was also sent to the owners of land that abuts the Property. A sample abutter's cover letter and the list of those abutting landowners who were sent notice and a copy of this filing is included in Attachment 7.

V. Conclusion

Based on the information provided above, Cellco respectfully submits that the proposed modification of the existing base station at the Property constitutes an "eligible facilities request" under Section 6409(a) and the FCC Order.

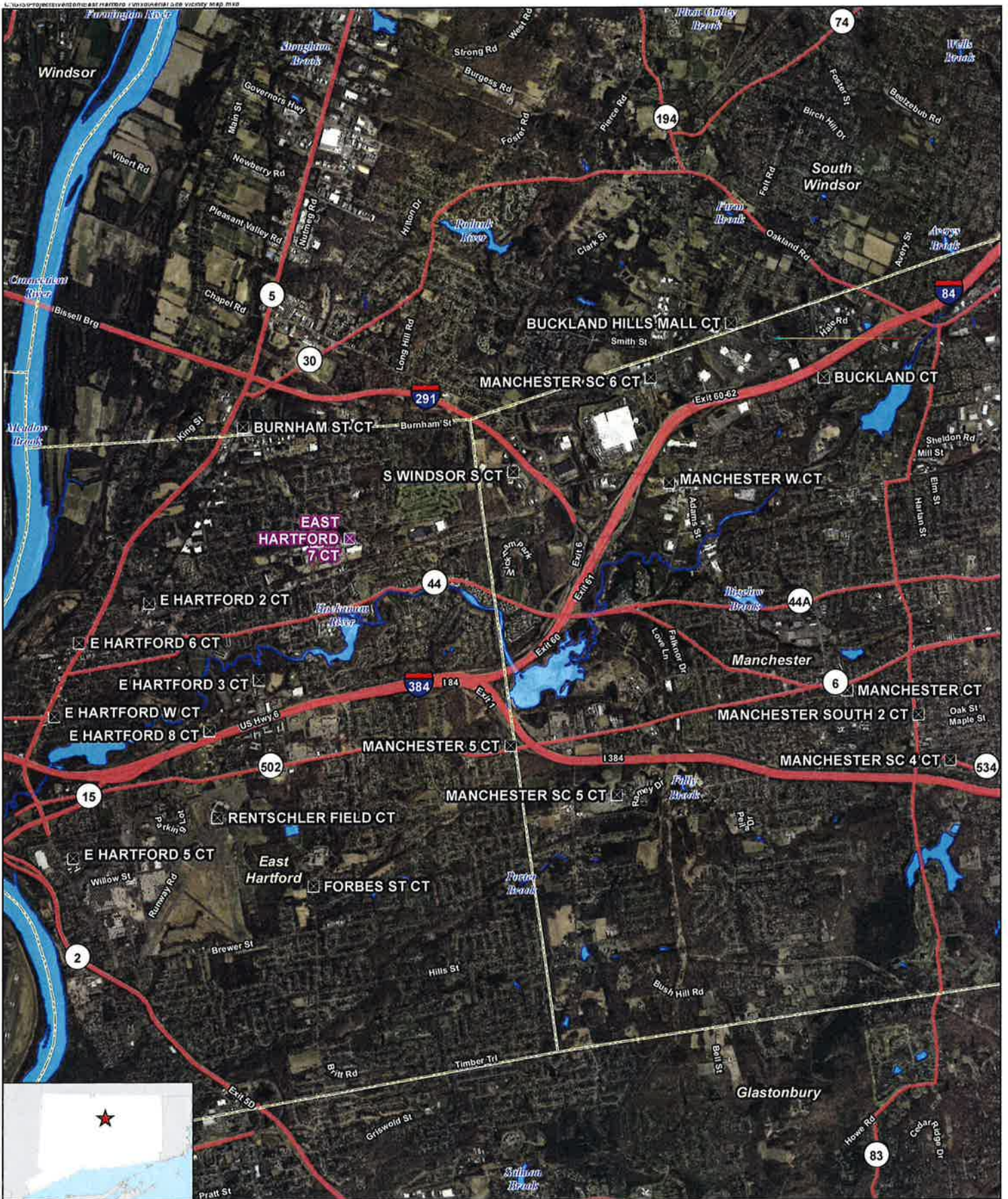
Respectfully submitted,

CELLCO PARTNERSHIP d/b/a VERIZON
WIRELESS

By  _____

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
Its Attorneys

ATTACHMENT 1



- Legend**
- Proposed Verizon Wireless Facility
 - Surrounding Verizon Wireless Facilities
 - Municipal Boundary
 - ~ Waterbody



Base Map Source: 2012 Aerial Photograph (CTECO)
 Map Scale: 1 inch = 5,000 feet
 Map Date: May 2016




Site Vicinity Map

Proposed Wireless Telecommunications Facility
 East Hartford 7
 310 Prestige Park Road
 East Hartford, Connecticut





Legend

-  Proposed Verizon Wireless +/-10'x20' Lease Equipment Area
-  Approximate Subject Property
-  Approximate Parcel Boundary

Site Schematic

Proposed Wireless
Telecommunications Facility
East Hartford 7
310 Prestige Park Road
East Hartford, Connecticut



ATTACHMENT 2



WIRELESS COMMUNICATIONS FACILITY

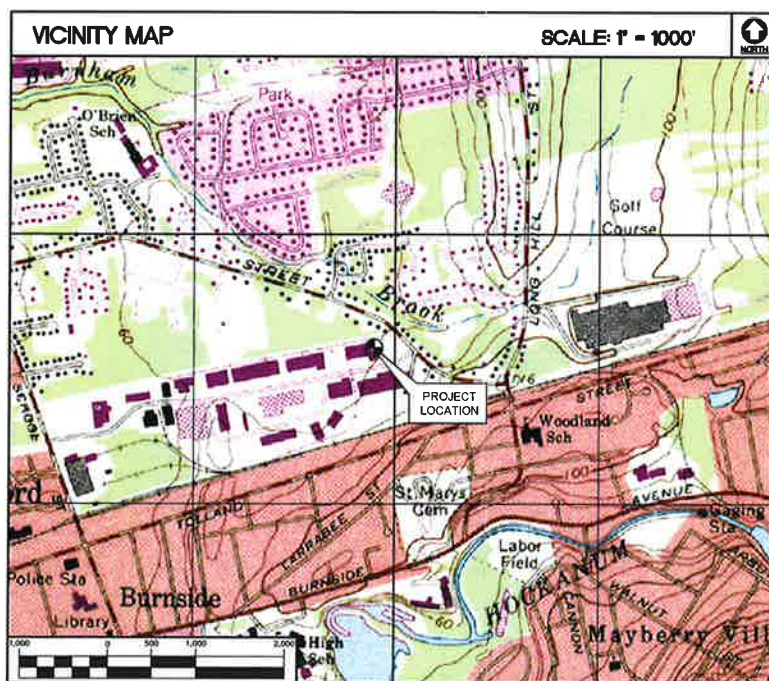
EAST HARTFORD 7

310 PRESTIGE PARK ROAD
EAST HARTFORD, CT 06108

| SITE DIRECTIONS | |
|--|---|
| FROM: 99 EAST RIVER DRIVE EAST HARTFORD, CONNECTICUT | TO: 310 PRESTIGE PARK ROAD EAST HARTFORD, CONNECTICUT |
| 1. HEAD NORTHEAST ON E RIVER DR TOWARD DARLIN ST | 0.32 MI |
| 2. STAY STRAIGHT TO GO ONTO ASH ST | 0.22 MI |
| 3. TAKE THE 1ST LEFT ONTO CONNECTICUT BLVD/US-44 E. | 0.51 MI |
| 4. TURN RIGHT ONTO BURNSIDE AVE/US-44 E | 0.39 MI |
| 5. TURN LEFT ONTO TOLLAND ST | 1.21 MI |
| 6. TURN LEFT ONTO SCHOOL ST | 0.23 MI |
| 7. TAKE THE FIRST RIGHT ONTO PRESTIGE PARK RD | 0.71 MI |
| 8. 310 PRESTIGE PARK RD IS ON THE LEFT | 0.00 MI |

| GENERAL NOTES |
|--|
| 1. PROPOSED ANTENNA LOCATIONS AND HEIGHTS PROVIDED BY CELCO PARTNERSHIP. |

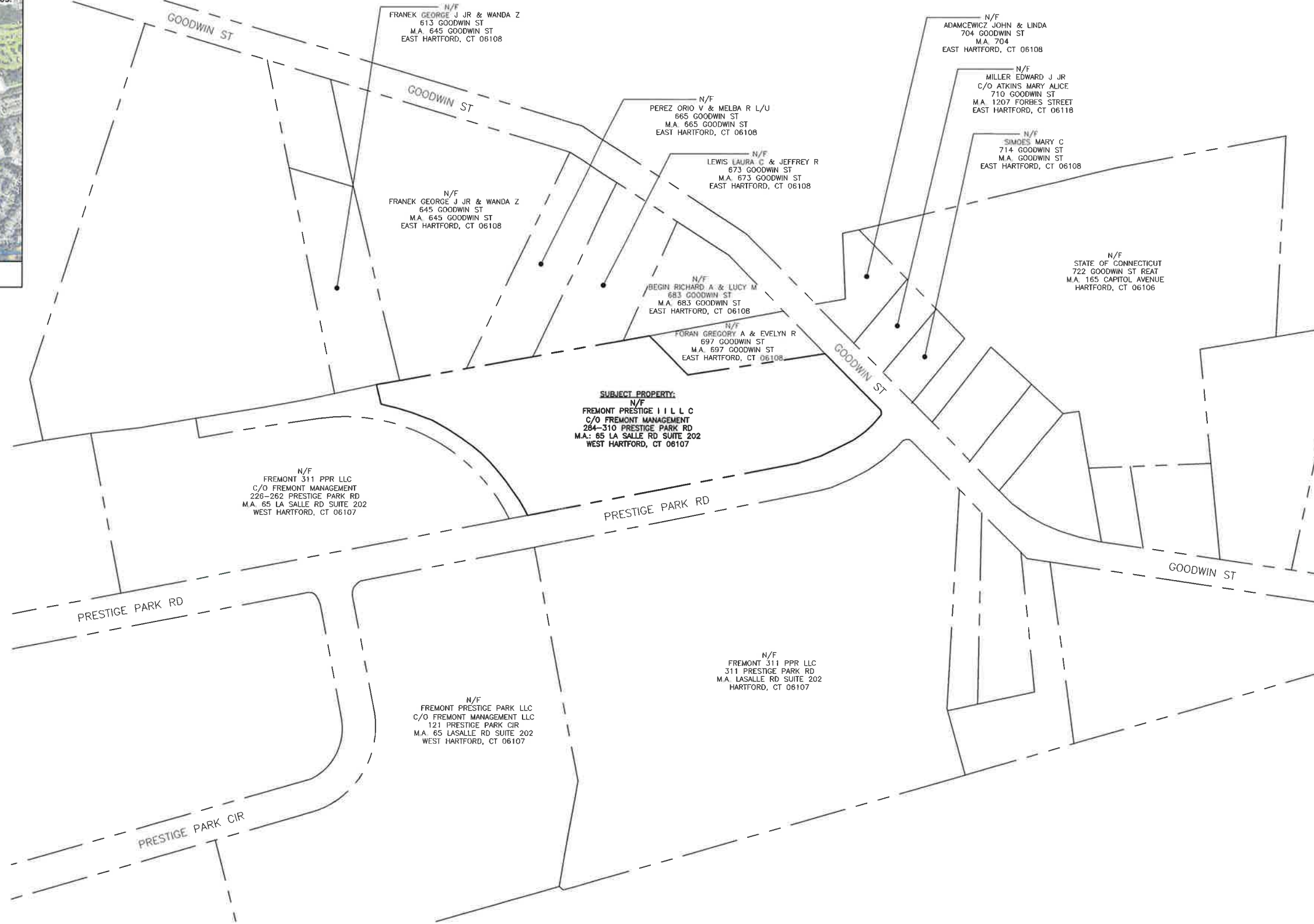
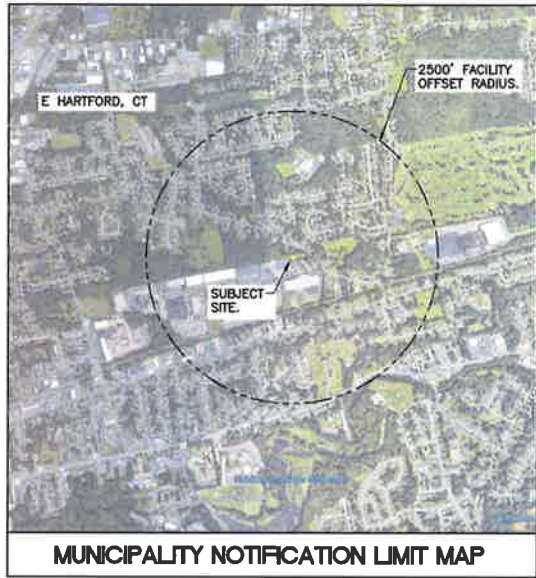
| PROJECT SCOPE |
|--|
| 1. THE PROPOSED CELCO PARTNERSHIP ANTENNA INSTALLATION TO CONSIST OF (3) SECTORS WITH (4) ANTENNAS EACH, FOR A TOTAL OF 12 ANTENNAS, ASSOCIATED CABLES AND APPURTENANCES. EQUIPMENT CABINETS WITH A NATURAL GAS FUELED GENERATOR TO BE INSTALLED ON A STEEL EQUIPMENT PLATFORM WITH STAND-ALONE ROOF. |
| 2. POWER, TELCO AND NATURAL GAS UTILITIES SHALL BE ROUTED FROM EXISTING DEMARCS LOCATED WITHIN OR ADJACENT TO THE EXISTING FACILITY. FINAL UTILITY DEMARC LOCATIONS AND ROUTINGS TO BE DETERMINED DURING CONSTRUCTION DOCUMENT PHASE OF THE PROJECT, AND WILL BE COORDINATED WITH FACILITY OWNER AND LOCAL UTILITY COMPANY REQUIREMENTS. |
| 3. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT. |



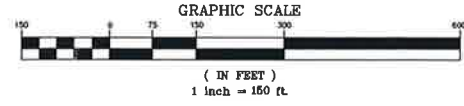
| PROJECT SUMMARY | |
|---|---|
| SITE NAME: | EAST HARTFORD 7 |
| PROPERTY OWNER: | FREMONT PRESTIGE II L L C C/O FREMONT MANAGEMENT WEST HARTFORD, CT 06107 |
| CELLCO PARTNERSHIP/TENANT: | CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 99 EAST RIVER DRIVE EAST HARTFORD, CT 06108 |
| VERIZON SITE ACQUISITION CONTACT: | STEVE SCHADLER CELLCO PARTNERSHIP (508) 887-0357 |
| LEGAL/REGULATORY COUNSEL: | KENNETH C. BALDWIN, ESQ. ROBINSON & COLE (860) 275-8345 |
| TOWER COORDINATES: | LATITUDE: 41°-47'-18.00"N LONGITUDE: 72°-36'-01.96"W GROUND ELEVATION: ±72' A.M.S.L. |
| SITE COORDINATES AND GROUND ELEVATION REFERENCED FROM FAA 1-A PREPARED FOR VERIZON WIRELESS BY THE BONGIOVANNI GROUP DATED MAY 14, 1999 (REV 1) | |

| SHEET INDEX | | |
|-------------|--------------------------------------|----------|
| SHT. NO. | DESCRIPTION | REV. NO. |
| T-1 | TITLE SHEET | 0 |
| C-1 | ABUTTERS MAP | 0 |
| C-2 | PLANS, ELEVATION AND ANTENNA CONFIG. | 0 |

| | | | | | | | | | |
|---|---|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
| | verizon | | | | | | | | |
| | CENTEK engineering 1203 698-0580 1203 698-8887 Fax 132 North Hartford Road Hartford, CT 06105 www.CentekEng.com | | | | | | | | |
| Cellco Partnership d/b/a Verizon Wireless WIRELESS COMMUNICATIONS FACILITY EAST HARTFORD 7 310 PRESTIGE PARK ROAD EAST HARTFORD, CT 06108 | | | | | | | | | |
| T-1 Sheet No. 1 of 3 | | | | | | | | | |
| DATE: 05/17/16 SCALE: AS NOTED JOB NO. 15225.000 TITLE SHEET | | | | | | | | | |
| REV. 0 05/30/16 KAWAR DMD ISSUED FOR CSC - CLIENT REVIEW DRAWN BY CHK'D BY DESCRIPTION | | | | | | | | | |



1 ABUTTERS MAP
C-1 SCALE: 1" = 150'



MAP REFERENCE NOTE:
PROPERTY LINES AND PROPERTY OWNER INFORMATION SHOWN HEREIN ARE REFERENCED FROM THE TOWN OF E HARTFORD ONLINE GIS SERVICES.

| | |
|----------------------------|--------------------------------|
| PROFESSIONAL ENGINEER SEAL | ISSUED FOR CSC - CLIENT REVIEW |
| DATE | REV. |
| 05/17/18 | 0 |
| AS NOTED | 06/30/18 |
| 15225.000 | 1 |
| ABUTTERS MAP | 2 |
| C-1 | 3 |

verizon

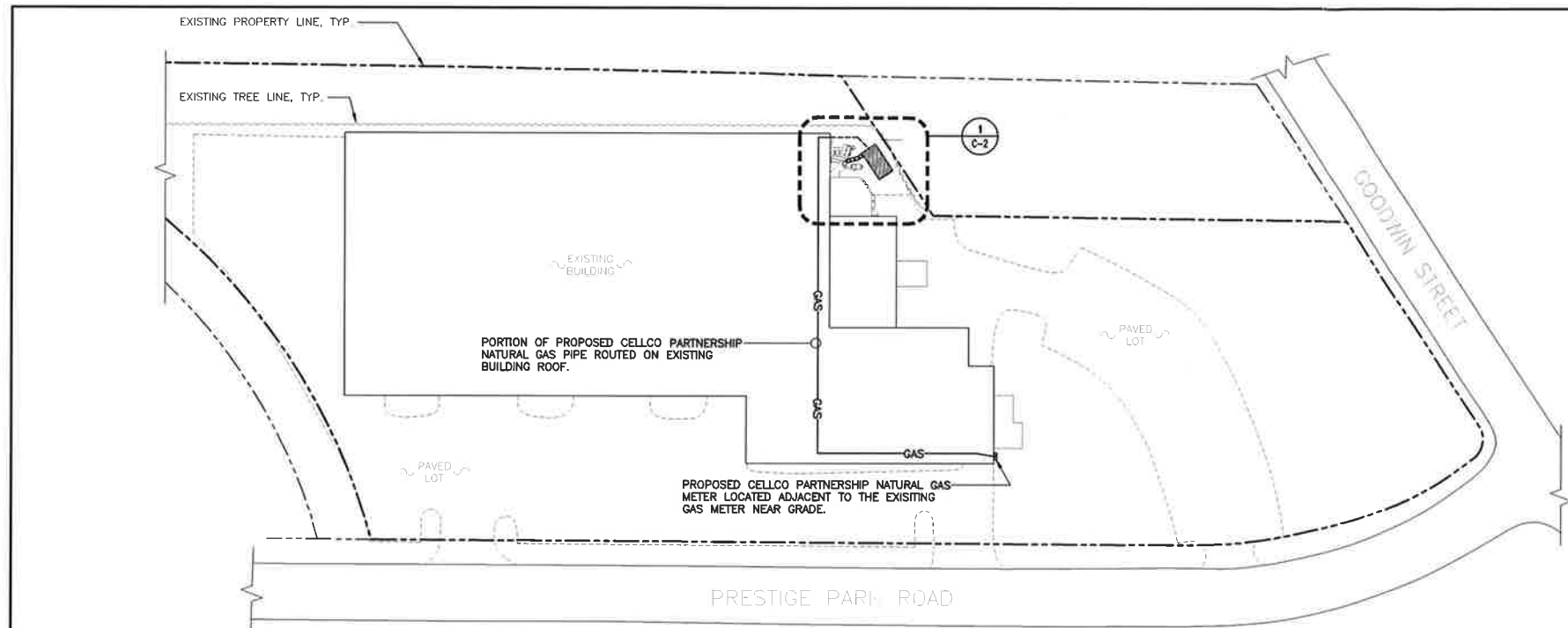
CENTEK-engineering
Centek on Solutions
(203) 488-0880
(203) 488-8887 Fax
632 North Branford Road
Branford, CT 06405
www.CentekEng.com

Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
EAST HARTFORD 7
310 PRESTIGE ROAD
EAST HARTFORD, CT 06108

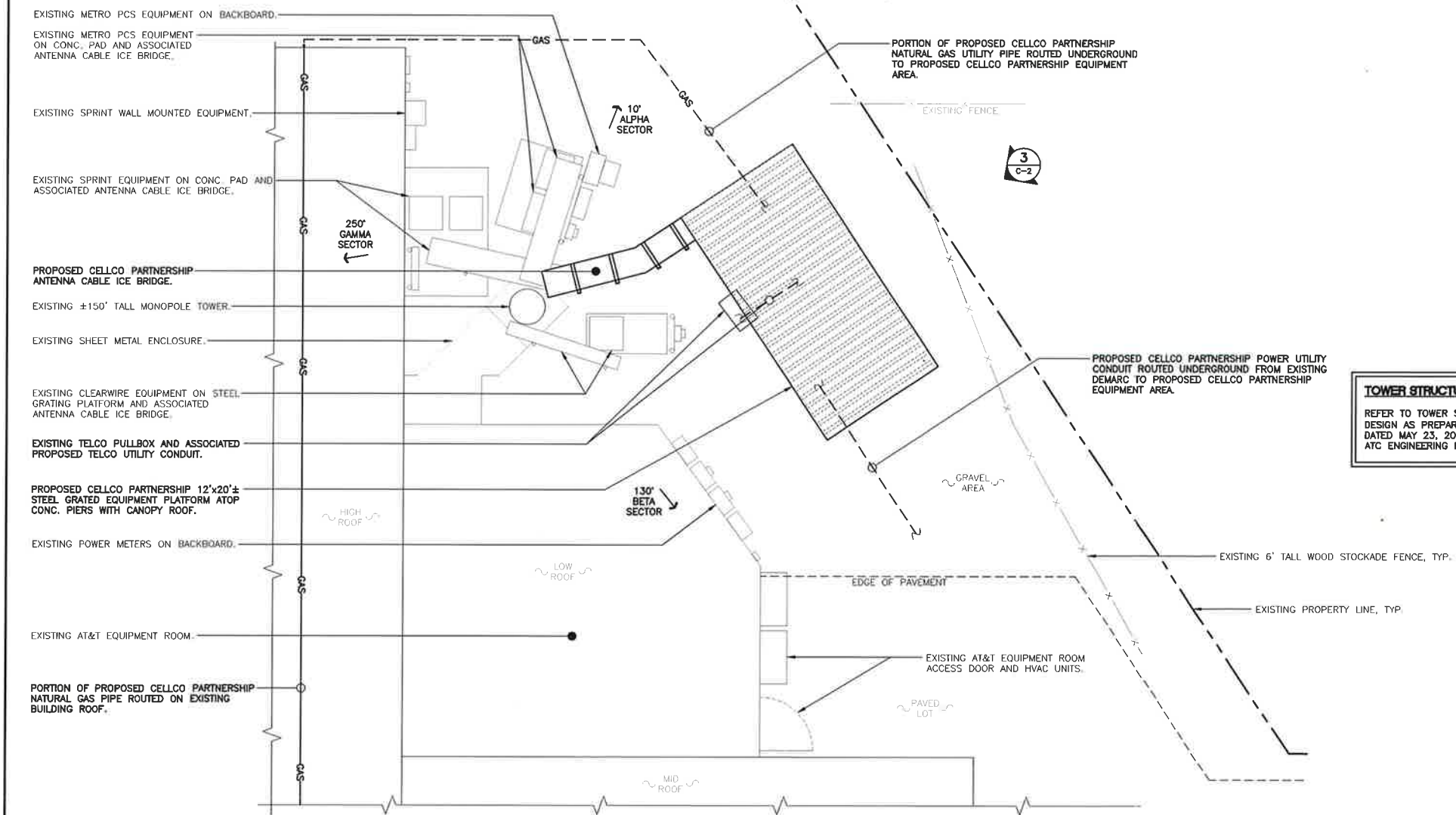
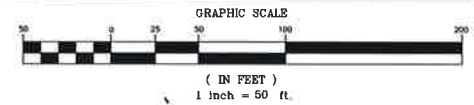
DATE: 05/17/18
SCALE: AS NOTED
JOB NO. 15225.000

ABUTTERS MAP

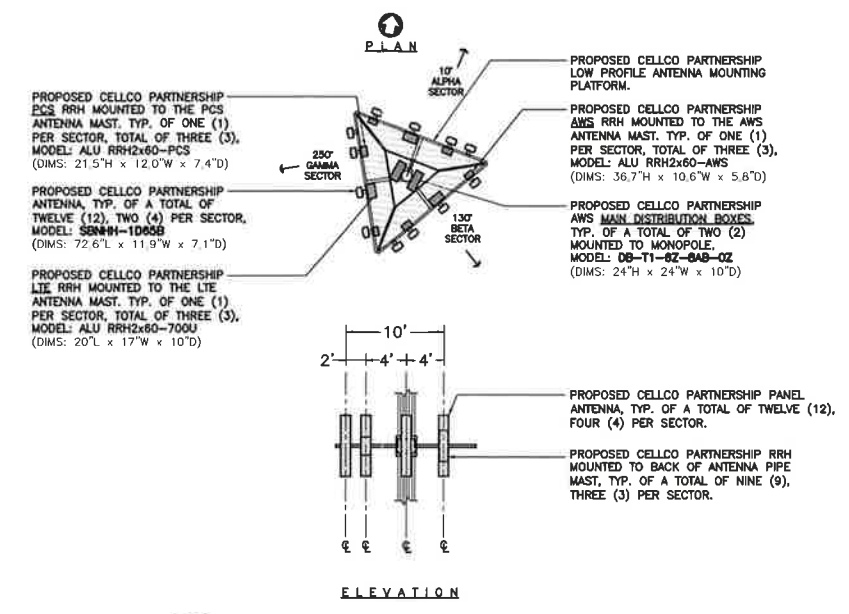
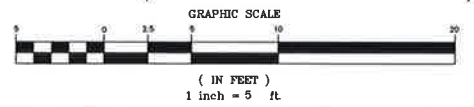
C-1
Sheet No. 2 of 3



1 SITE LOCATION PLAN
C-2
SCALE: 1" = 50'

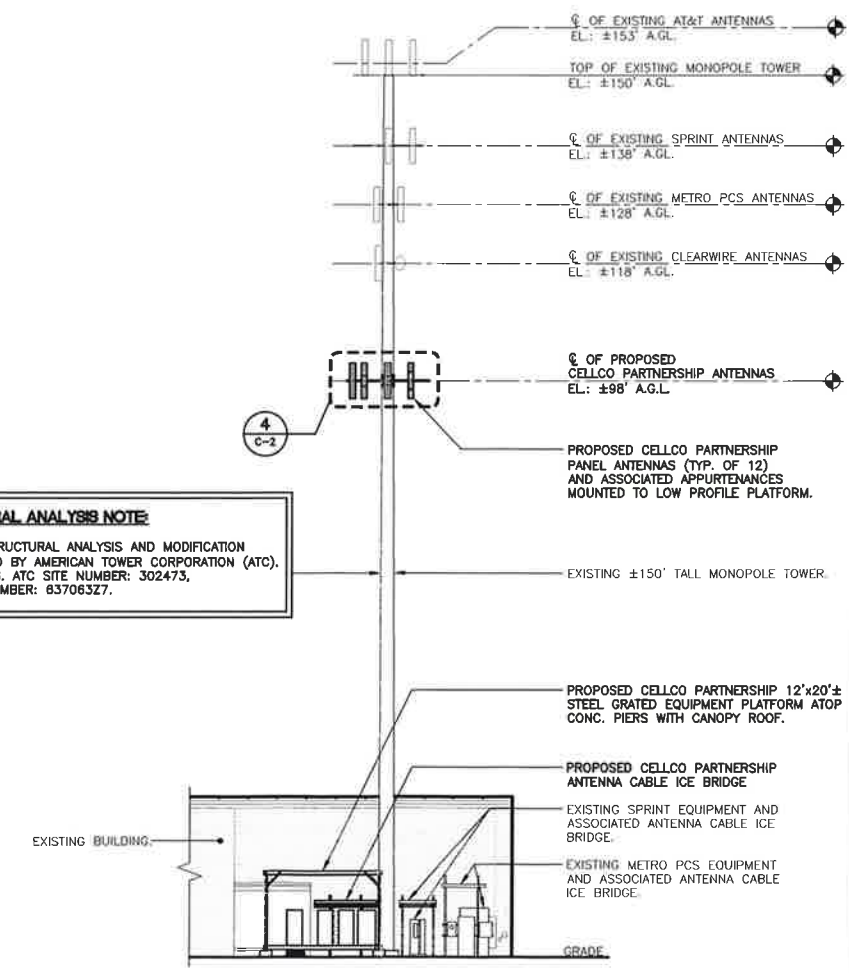


2 FACILITY PLAN
C-2
SCALE: 1" = 5'

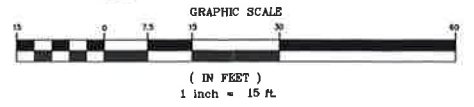


4 ANTENNA MOUNTING CONFIGURATION
C-2
NOT TO SCALE

TOWER STRUCTURAL ANALYSIS NOTE:
REFER TO TOWER STRUCTURAL ANALYSIS AND MODIFICATION DESIGN AS PREPARED BY AMERICAN TOWER CORPORATION (ATC), DATED MAY 23, 2018, ATC SITE NUMBER: 302473, ATC ENGINEERING NUMBER: 83706327.



3 TOWER ELEVATION
C-2
SCALE: 1" = 15'



| REV. | DATE | DRAWN BY | CHECKED BY | DESCRIPTION |
|------|----------|----------|------------|--------------------------------|
| 0 | 06/30/16 | KAMAR | DMD | ISSUED FOR CSC - CLIENT REVIEW |

PROFESSIONAL ENGINEER SEAL

Centek Engineering
Centers of Solution™
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Cellco Partnership d/b/a Verizon Wireless
WIRELESS COMMUNICATIONS FACILITY
EAST HARTFORD 7
310 PRESTIGE ROAD
EAST HARTFORD, CT 06108

DATE: 05/17/16
SCALE: AS NOTED
JOB NO. 15225.000

PLANS, ELEVATION AND ANTENNA CONFIG.

ATTACHMENT 3



SBNHH-1D65B

Andrew® Tri-band Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package

Electrical Specifications

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|--------------------------------------|------------|------------|------------|------------|------------|------------|
| Gain, dBi | 14.9 | 14.7 | 17.7 | 18.2 | 18.6 | 18.6 |
| Beamwidth, Horizontal, degrees | 68 | 66 | 69 | 66 | 63 | 58 |
| Beamwidth, Vertical, degrees | 12.1 | 10.7 | 5.6 | 5.2 | 5.0 | 4.5 |
| Beam Tilt, degrees | 0–14 | 0–14 | 0–7 | 0–7 | 0–7 | 0–7 |
| USLS (First Lobe), dB | 14 | 13 | 15 | 15 | 15 | 13 |
| Front-to-Back Ratio at 180°, dB | 27 | 29 | 28 | 28 | 28 | 27 |
| CPR at Boresight, dB | 20 | 23 | 20 | 20 | 17 | 21 |
| CPR at Sector, dB | 14 | 10 | 12 | 10 | 9 | 1 |
| Isolation, dB | 25 | 25 | 25 | 25 | 25 | 25 |
| Isolation, Intersystem, dB | 30 | 30 | 30 | 30 | 30 | 30 |
| VSWR Return Loss, dB | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 | 1.5 14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc | -153 | -153 | -153 | -153 | -153 | -153 |
| Input Power per Port, maximum, watts | 350 | 350 | 350 | 350 | 350 | 300 |
| Polarization | ±45° | ±45° | ±45° | ±45° | ±45° | ±45° |
| Impedance | 50 ohm | 50 ohm | 50 ohm | 50 ohm | 50 ohm | 50 ohm |

Electrical Specifications, BASTA*

| Frequency Band, MHz | 698–806 | 806–896 | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---|------------|------------|-----------|-----------|-----------|-----------|
| Gain by all Beam Tilts, average, dBi | 14.5 | 14.3 | 17.4 | 17.9 | 18.2 | 18.3 |
| Gain by all Beam Tilts Tolerance, dB | ±0.5 | ±0.8 | ±0.4 | ±0.3 | ±0.5 | ±0.3 |
| Gain by Beam Tilt, average, dBi | 0° 14.6 | 0° 14.5 | 0° 17.4 | 0° 17.8 | 0° 18.1 | 0° 18.2 |
| | 7° 14.6 | 7° 14.4 | 3° 17.5 | 3° 17.9 | 3° 18.3 | 3° 18.4 |
| | 14° 14.2 | 14° 13.6 | 7° 17.4 | 7° 17.9 | 7° 18.2 | 7° 18.4 |
| Beamwidth, Horizontal Tolerance, degrees | ±2.2 | ±3.4 | ±2 | ±4.6 | ±5.7 | ±4.3 |
| Beamwidth, Vertical Tolerance, degrees | ±0.8 | ±1 | ±0.3 | ±0.2 | ±0.3 | ±0.2 |
| USLS, beampeak to 20° above beampeak, dB | 16 | 14 | 16 | 16 | 16 | 15 |
| Front-to-Back Total Power at 180° ± 30°, dB | 25 | 26 | 27 | 26 | 26 | 26 |
| CPR at Boresight, dB | 22 | 23 | 21 | 20 | 20 | 22 |
| CPR at Sector, dB | 13 | 11 | 16 | 12 | 11 | 4 |

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

General Specifications

| | |
|--------------------------|--------------------------------------|
| Antenna Brand | Andrew® |
| Antenna Type | DualPol® multiband with internal RET |
| Band | Multiband |
| Brand | DualPol® |
| Operating Frequency Band | 1695 – 2360 MHz 698 – 896 MHz |
| Performance Note | Outdoor usage |

SBNHH-1D65B

Mechanical Specifications

| | |
|------------------------------|--|
| Color | Light gray |
| Lightning Protection | dc Ground |
| Radiator Material | Aluminum Low loss circuit board |
| Radome Material | Fiberglass, UV resistant |
| Reflector Material | Aluminum |
| RF Connector Interface | 7-16 DIN Female |
| RF Connector Location | Bottom |
| RF Connector Quantity, total | 6 |
| Wind Loading, frontal | 618.0 N @ 150 km/h 138.9 lbf @ 150 km/h |
| Wind Loading, lateral | 197.0 N @ 150 km/h 44.3 lbf @ 150 km/h |
| Wind Loading, rear | 728.0 N @ 150 km/h 163.7 lbf @ 150 km/h |
| Wind Speed, maximum | 241 km/h 150 mph |

Dimensions

| | |
|----------------------------------|---------------------|
| Depth | 180.0 mm 7.1 in |
| Length | 1851.0 mm 72.9 in |
| Width | 301.0 mm 11.9 in |
| Net Weight, without mounting kit | 18.4 kg 40.6 lb |

Remote Electrical Tilt (RET) Information

| | |
|---|-----------------------------------|
| Input Voltage | 10–30 Vdc |
| Internal RET | High band (1) Low band (1) |
| Power Consumption, idle state, maximum | 2.0 W |
| Power Consumption, normal conditions, maximum | 13.0 W |
| Protocol | 3GPP/AISG 2.0 (Multi-RET) |
| RET Interface | 8-pin DIN Female 8-pin DIN Male |
| RET Interface, quantity | 1 female 1 male |

Packed Dimensions

| | |
|-----------------|---------------------|
| Depth | 299.0 mm 11.8 in |
| Length | 1970.0 mm 77.6 in |
| Width | 409.0 mm 16.1 in |
| Shipping Weight | 31.0 kg 68.3 lb |

Regulatory Compliance/Certifications

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

SBNHH-1D65B



Included Products

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

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R 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.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a 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 B13 RRH4x30-4R 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.

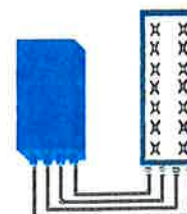


FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz 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 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R
Can be switched between
modes via SW w/o site
visit

TECHNICAL SPECIFICATIONS

| Features & performance | |
|-------------------------------------|---|
| Number of TX/RX paths | 4 duplexed (either 4T4R or 2T4R by SW) |
| Frequency band | U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz |
| Instantaneous bandwidth - #carriers | 10MHz – 1 LTE carrier (In 10MHz occupied bandwidth) |
| LTE carrier bandwidth | 10 MHz |
| RF output power | 2x60W or 4x30W (by SW) |
| Noise figure – RX Diversity scheme | 2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity |
| Sizes (HxWxD) in mm (in.) | 550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) |
| Volume in L | 38 (with solar shield) |
| Weight in kg (lb) (w/o mounting HW) | 26 (57.2) (with solar shield) |
| DC voltage range | -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption |
| DC power consumption | 550W typical @100% RF load (In 2Tx or 4TX mode) |
| Environmental conditions | -40°C (-40°F) / +55°C (+131°F) |
| Wind load (@150km/h or 93mph) | IP65 Frontal: <200N / Lateral : <150N |
| Antenna ports | 4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 |
| CPRI ports | 2 CPRI ports (HW ready for Rate7, 9.8 Gbps) SFP single mode dual fiber |
| AISG interfaces | 1 AISG2.0 output (RS485) Integrated Smart Bias Tees (x2) |
| Misc. Interfaces | 4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins) |
| Installation conditions | Pole and wall mounting |
| Regulatory compliance | 3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 |

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ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET RRH2X60-1900A-4R FOR BAND 2/25 APPLICATIONS

The Alcatel-Lucent RRH2x60-1900A-4R is a high power, small form factor Remote Radio Head operating in the PCS 1900MHz frequency band for WCDMA and LTE technologies. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent RRH2x60-1900A-4R is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations,

administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent RRH2x60-1900A-4R integrates all the latest technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent RRH2x60-1900A-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

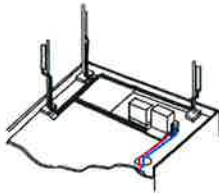
The Alcatel-Lucent RRH2x60-1900A-4R is a very cost-effective solution to deploy LTE MIMO.

EASY INSTALLATION

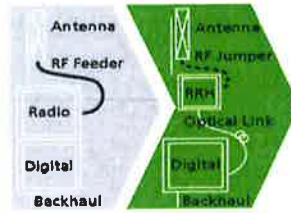
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-1900A-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent RRH2x60-1900A-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

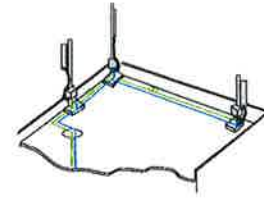
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-190A-4R is compact and weighs about 21 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- RRH2x60-1900A-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- RRH2x60-1900A-4R can operate WCDMA only, LTE only or a mix of WCDMA and LTE
- RRH2x60-1900A-4R offers the possibility for WCDMA (non MIMO) to operate the two radio chains independently (2 blocks of 20 MHz anywhere in the band)

- RRH2x60-1900A-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO deployment and/or WCDMA and LTE simultaneous operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses

in RF cables and thus reducing power consumption by 50% compared to conventional solutions

- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 500x285x208 mm (30l with solar shield)
- Weight : 21 kg (46 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption: 460W typ. @2x60W (100%RF)

RF Characteristics

- Supported spectrum: DL 1930-1990 / UL 1850-1910
- Frequency band: 3GPP band 2/25
- Output power: 2x60W at antenna connectors
- Technology supported: W-CDMA and LTE
- Instantaneous bandwidth: 20 MHz (MIMO) or 2x20 MHz (non MIMO)
- Rx diversity: 2-way and 4-way uplink reception

- Typical sensitivity without Rx diversity: -124.8dBm for WCDMA and -105 dBm for LTE

Connectivity

- Two CPRI optical ports for daisy chaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 500m using MM fiber, up to 15km using SM fiber
- TMA/RETA: AISG 2.0 (RS485 connector and internal Bias-Tee)
- Six external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%

- Environmental Conditions: ETS300-019-1-4 class4.1E
- Ingress Protection: IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089
- Safety : IEC60950-1, EN 60825-1
- Regulatory: CE Mark-European Directive 2002/95/EC (RoHS), 2002/96/EC (WEEE), 1999/5/EC (R&TTE)
- Health : EN 50385

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ALCATEL-LUCENT WIRELESS PRODUCT DATASHEET B4 RRH2X60-4R FOR AWS BAND APPLICATIONS

The Alcatel-Lucent B4 RRH2x60-4R is a high power, small form factor Remote Radio Head operating in the AWS frequency band (3GPP Band 4) for LTE technology. It is designed with an eco-efficient approach, providing operators with the means to achieve high quality and high capacity coverage with minimum site requirements and efficient operation.



A distributed Node B expands the deployment options by using two components, a Base Band Unit (BBU) containing the digital assets and a separate RRH containing the radio-frequency (RF) elements. This modular design optimizes available space and allows the main components of a Node B to be installed separately, within the same site or several kilometers apart.

The Alcatel-Lucent B4 RRH2x60-4R is linked to the BBU by an optical-fiber connection carrying downlink and uplink digital radio signals along with operations, administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

The Alcatel-Lucent B4 RRH2x60-4R integrates all the latest

technologies. This allows operators to offer best-in-class characteristics.

It delivers an outstanding 120 watts of total RF power thanks to its two transmit RF paths of 60 W each.

It is ideally suited to support multiple-input multiple-output (MIMO) 2x2 operation.

It includes four RF receivers to natively support 4-way uplink reception diversity. This improves the radio uplink coverage and this can be used to extend the cell radius commensurate with 2x2MIMO 2x60 W for the downlink.

It supports multiple discontinuous LTE carriers within an instantaneous bandwidth of 45 MHz corresponding to the entire AWS B4 spectrum.

The latest generation power amplifiers (PA) used in this product achieve high efficiency (>40%), resulting in improved power consumption figures.

OPTIMIZED TCO

The Alcatel-Lucent B4 RRH2x60-4R is designed to make available all the benefits of a distributed Node B, with excellent RF characteristics, with low capital expenditures (CAPEX) and low operating expenditures (OPEX).

The Alcatel-Lucent B4 RRH2x60-4R is a very cost-effective solution to deploy LTE MIMO.

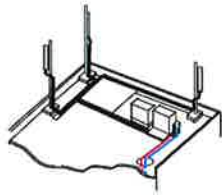
EASY INSTALLATION

The B4 RRH2x60-4R includes a reversible mounting bracket which allows for ease of installation behind an antenna, or on a rooftop knee wall while providing easy access to the mid body RF connectors.

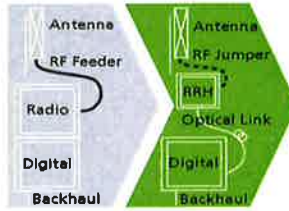
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent B4 RRH2x60-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation time and costs.

The Alcatel-Lucent B4 RRH2x60-4R is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

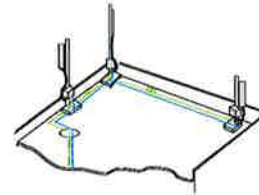
Installation can easily be done by a single person as the Alcatel-Lucent B4 RRH2x60-4R is compact and weighs about 25 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

- B4 RRH2x60-4R integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- B4 RRH2x60-4R is optimized for LTE operation
- B4 RRH2x60-4R is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control

BENEFITS

- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and

silent solutions, with minimum impact on the neighborhood, which ease the deployment

- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

Specifications listed are hardware capabilities. Some capabilities depend on support in a specific software release or future release.

Dimensions and weights

- HxWxD : 930x270x146 mm (with solar shield)
- Weight : 25 kg (55 lbs) (with solar shield)

Electrical Data

- Power Supply : -48V DC (-38 to -57V)
- Power Consumption: 346W typ. @2x30W (100%RF), 560W typ. @2x60W (100%RF)

RF Characteristics

- Frequency band: 1710-1755, UL / 2110-2155 MHz, DL (3GPP band 4)
- Output power: 2x60W at antenna connectors
- Technology supported: LTE
- Instantaneous bandwidth: 45 MHz
- Rx diversity: 2-way and 4-way uplink reception
- Typical sensitivity without Rx diversity: -105 dBm for LTE

Connectivity

- Two CPRI (3-6) optical ports for daisy chaining and up to six RRHs per fiber
- Type of optical fiber: Single-Mode (SM) and Multi-Mode (MM) SFPs
- Optical fiber length: up to 300m using MM fiber, up to 15km using SM fiber
- TMA/RETA : AISG 2.0 (RS485 connector and internal Bias-Tee)
- Four external alarms
- Surge protection for all external ports (DC and RF)

Environmental specifications

- Operating temperature: -40°C to 55°C including solar load
- Operating relative humidity: 8% to 100%
- Environmental Conditions : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65

- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data

- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B
- Health : EN 50385

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8220-603 series

Reliability through Simplicity



Founded in 1979 Polar Power specialized in solar photovoltaic systems, solar air conditioning and refrigeration. We developed and provided photovoltaic charging controls for telecommunications in the 1980s along with DC generators for the military. In 1994 we were first to provide DC generators with remote control and monitoring to the telecommunications industry.

Polar's success is based on engineering generators to meet the very specific needs of each application. Telecom site optimization is best met with the DC generator technology as the loads and batteries are DC. It makes no sense to install an AC generator and convert the output to DC. The AC generators are designed for a wide range of applications and they are not specifically produced for telecom applications so there are issues with reliability, space, and fuel efficiency.

Polar can save you considerable time and cost in permitting, installing, purchasing, and maintaining a backup generator. We reduce CAPEX and OPEX costs while improving backup reliability.

Intertek 4003706

Conforms to UL STD 2200

Certified to CSA STD C22.2 No. 100

Meets EPA Emission Regulations

CA/MA Emissions Compliant

2 year standard warranty, extended 5-10 year warranty available

Available Models:

- **8220-603-NG-12** Natural Gas 12 kW -48 VDC
- **8340-603-NG-15** Natural Gas 15 kW -48 VDC
- **8220-603-LP-12** LPG 12 kW -48 VDC
- **8340-603-LP-15** LPG 15 kW -48 VDC



The concepts and features behind Polar's backup generator for telecommunications include:

SMALL FOOTPRINT. Polar's DC generator is considerably smaller in size than an AC generator. You can now backup sites that could not accommodate an AC generator. Smaller also means less cost for space leasing.

LOW ACOUSTIC NOISE. <59 dBA @ 7 meters, and low vibration so as not to disturb the local residents or building landlords. Quieter than other generators with lower noise ratings.

LIGHTWEIGHT. Up to 1/3 the weight of a comparable AC generator. Facilitates roof top installations.

RODENT RESISTANT. Small animals can quickly destroy a generator set by gnawing on wires, fuel lines, radiator hoses, etc. Cooling air inlets and outlets have perforated aluminum screens to keep small rodents and large insects out. Stainless steel wire braid is placed over fuel and radiator lines for increased reliability and safety.

CORROSION RESISTANT. All-aluminum enclosure with stainless hardware for low maintenance, and long service life.

SUPERCAPACITOR STARTER. Failure to start is the number one problem plaguing generator reliability. Polar's unique design has replaced the starting battery with a Super Capacitor. Capacitors are more reliable and last longer than batteries (10-15 year life).

LONG LIFE. Controls and wire harnesses are designed to exceed a 20 year life. Higher grade, longer life electrical wire (UL 3173), weather tight connectors, gold plated connector pins on signal circuits. Controls and wire harness are easily replaceable.

ADVANCED MONITORING. Remote diagnostics, control, and monitoring. Ethernet and RS232 standard, with optional SNMP.

SIMPLICITY. Transfer switch, rectifier, and starting battery are not required.

COMPARING THE COST OF AC vs DC

| | AC | DC |
|--|--------|----------|
| Transfer switch required | Yes | No |
| Permitting costs | \$\$ | \$ |
| Shipping to site and installation cost | \$\$ | \$ |
| Site preparation/reinforcing structures | \$\$\$ | \$ |
| Ethernet/RS232 remote control and monitoring | Extra | Standard |

8220 ALTERNATOR FEATURES

- No mechanical adjustments
- Very lightweight
- High quality electrical output
- Voltage and current regulation
- Up to 94% efficiency
- Class 220° C insulation
- Anodized type III process for aluminum parts
- Nickel plating for steel parts
- Stator is varnished

8220 ALTERNATOR SPECIFICATIONS

| | |
|-----------------------------------|--|
| Type | Permanent Magnets, NdFeB |
| Weight (lb/kg) | 46.5/21 |
| Regulation Type | Variable engine speed |
| Stator | 3 phase/32 poles |
| Overcurrent Protection (A) | 12 kW - 250 15 kW - 350 |
| Disconnect Means | Pull fuse block, sized for each generator kW |
| Voltage Range (VDC) | 44 to 62 |
| Alternator Exhaust Flow (cfm/cmm) | 130 to 180 / 3.68 to 5.1 |
| MTBF (hr) | 100,000+ |

ENCLOSURE

| | |
|---------------|--|
| Model | 88-25-0603 |
| Type | Weather Protective |
| Materials | Marine Grade Aluminum |
| Door Hardware | Three Point with Padlock Hasp, and Removable Side Panels |
| Mounting | Secure Mounting Tabs |

WEIGHTS AND DIMENSIONS

| | Natural Gas | LPG |
|----------------------------|---------------------------------|---------|
| Dry Weight (lb/kg) | 765/347 | 770/350 |
| Dimensions (LxWxH) (in/cm) | 32 x 50 x 72 / 81.3 x 127 x 183 | |

PERMITTING IS FACILITATED

- Small engine horsepower
- DC generator is fully isolated from the utility grid
- No transfer switch
- Low acoustic noise
- Incorporates all requirements made by local Fire Marshals

STARTER SUPERCAPACITOR SPECIFICATIONS

| | |
|-------------------------------|------------------------|
| Model | 20-16-0001 |
| Storage Rating (Farads) | 500 |
| Voltage (VDC) | 13-14.4 |
| Weight (lb/kg) | 12.1/5.5 |
| Operating Temperature (°C/°F) | -40 to 65 / -40 to 149 |
| Service Life (year) | 10 to 15 |

CHARGER SPECIFICATIONS

| | |
|--------------------------------|------------|
| Model | 00-10-0015 |
| Input Voltage (VDC) | 28.8 to 60 |
| Output Voltage (VDC) | 14 to 14.4 |
| Recharge time from 0 VDC (min) | 10 |
| Recharge time from 8 VDC (min) | 2 |
| Weight (lb/kg) | 2.2/1 |

SOUND EMISSIONS

Contact us for current sound data.

ENGINE SPECIFICATIONS: 12 - 15 KW NATURAL GAS and LPG

| | |
|----------------------|--|
| Engine Model | Natural Gas - Kubota DG972 LPG - Kubota WG972 |
| Cylinders | 3 In-line |
| Displacement (L) | 0.962 |
| Bore (in./mm) | 2.93/74.5 |
| Stroke (in./mm) | 2.9/73.6 |
| Intake Air System | Naturally Aspirated |
| Engine HP | 18 |
| Emissions Compliance | EPA and CARB Certified |
| Variable RPM | 2300 to 3150 |

ENVIRONMENTAL

| | |
|-------------------------------|-------------------------|
| Operating Temperature (°C/°F) | -40 to 72 or -40 to 162 |
| Operating Humidity % | 100 |
| Cold Start Aids | Glow Plugs |

PROPANE ENGINE FUEL CONSUMPTION

| | Output (kW) | gal/hr | L/hr |
|------------|-------------|--------|-------|
| Kubota 972 | 4 | 0.97 | 3.67 |
| | 5 | 1.1 | 4.16 |
| | 6 | 1.26 | 4.77 |
| | 7 | 1.475 | 5.58 |
| | 8 | 1.69 | 6.4 |
| | 9 | 1.945 | 7.36 |
| | 10 | 2.2 | 8.33 |
| | 12 | 2.52 | 9.54 |
| | 15 | 3.55 | 13.44 |

POWER ADJUSTMENT FOR AMBIENT CONDITIONS

| | |
|----------------------|---|
| Temperature Deration | 1% derate for every 5.6 °C (10 °F) above 25 °C (77 °F) |
| Altitude Deration | 3% derate for every 300 m (1000 ft) above 91 m (300 ft) |

ENGINE LUBRICATION SYSTEM

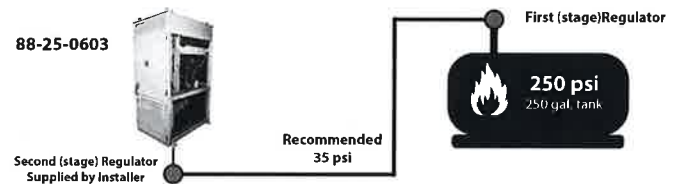
| | |
|-------------------------|----------------------------|
| Oil Filter Type | Full flow spin-on canister |
| Oil Capacity | 3.7 L - DG972/WG972 |
| Oil Pressure Switch | Yes |
| Oil Pressure Transducer | Optional |

ENGINE COOLING SYSTEM

| | |
|----------------------|--------------------------------------|
| Type | Pressurized Aluminum Radiator |
| Water Pump | Belt-driven, Pre-lubed, self-sealing |
| Fan Type | Electric Fans |
| Airflow CFM or M³/hr | 1300 or 2200 |
| Fan Mode | Pusher |
| Temperature Switch | Yes |

FUEL SYSTEM

| | |
|-----------------------------|------------------------------------|
| Type | Natural Gas or Propane |
| Fuel Tank/Line | Supplied By Customer |
| Max Fuel Flow Rate (BTU/hr) | 12 kW - 241,000 15 kW - 340,000 |



Pressure Chart

| Minimum | Recommended | Maximum |
|----------|-------------|-------------|
| 0.14 psi | 0.39 psi | 0.5 psi |
| 4 in H2O | 11 in H2O | 13.9 in H2O |
| 10 mbar | 27.4 mbar | 34.5 mbar |

ENGINE COOLING

| | Natural Gas | LPG |
|---|-------------|-----|
| System coolant capacity (gal/L) | 2.2/8.3 | |
| Maximum operation air temperature on radiator (°C/°F) | 54/129 | |
| Maximum ambient temperature (°C/°F) | 49/120 | |

COMBUSTION REQUIREMENTS

| | Natural Gas | LPG |
|-------------------------------|-------------|-----|
| Flow at rated power (cfm/cmm) | 47/1.34 | |

EXHAUST

| | Natural Gas | LPG |
|---|-------------|-----|
| Exhaust flow at rated output (cfm/cmm) | 90/2.55 | |
| Exhaust temperature at rated output (°C/°F) | 480/900 | |

CONTROLLER FEATURES

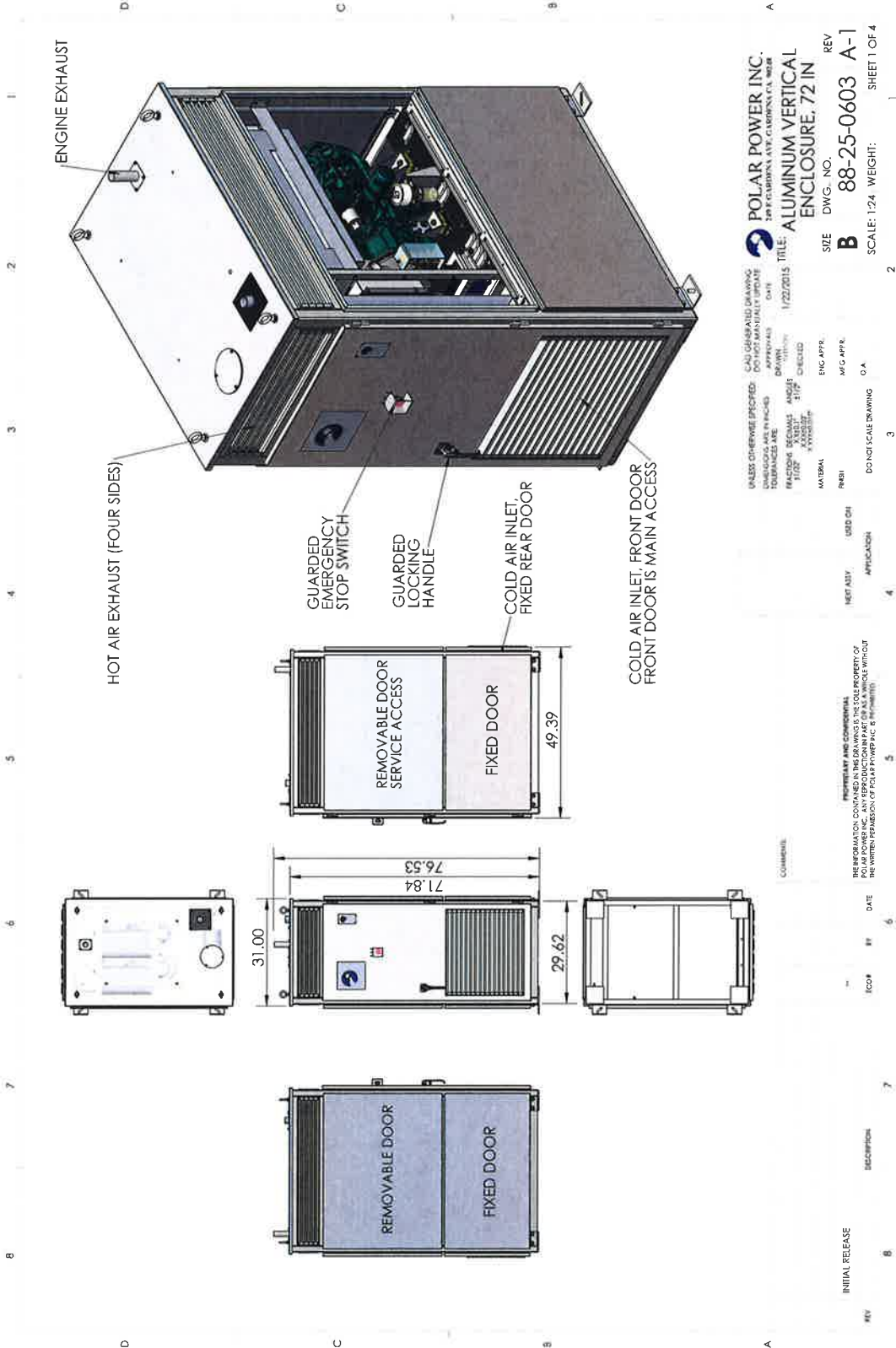
| | |
|--|---|
| Controller Type..... | Supra Model 250 |
| 4-Line Plain Text LCD Display..... | Simple user interface for ease of operation |
| Engine Run Hours Indication..... | Standard |
| Programmable Start Delay..... | Standard |
| Run/Alarm/Maintenance Logs..... | Standard |
| Engine Start Sequence..... | Cyclic cranking: 5 sec on, 45 sec rest (3 attempts maximum) |
| Starter Supercapacitor Charger..... | Standard |
| Automatic Voltage Regulation with Over and Under Voltage Protection..... | Standard |
| Automatic Low Oil Pressure/High Oil Temperature Shutdown..... | Standard |
| Overcrank/Overspeed..... | Standard |
| Automatic High Engine Temperature Shutdown..... | Standard |
| Field Upgradeable Firmware..... | Standard |
| Glow Plug Delay | Automatic With Temperature |
| Engine Start Delay..... | Adjustable, Set at 60 sec |
| Return to Utility Delay..... | Adjustable, Set at 60 sec |
| Engine Cooldown..... | Adjustable, Set at 60 sec |
| Exerciser..... | Programmable, weekly/bi-weekly |

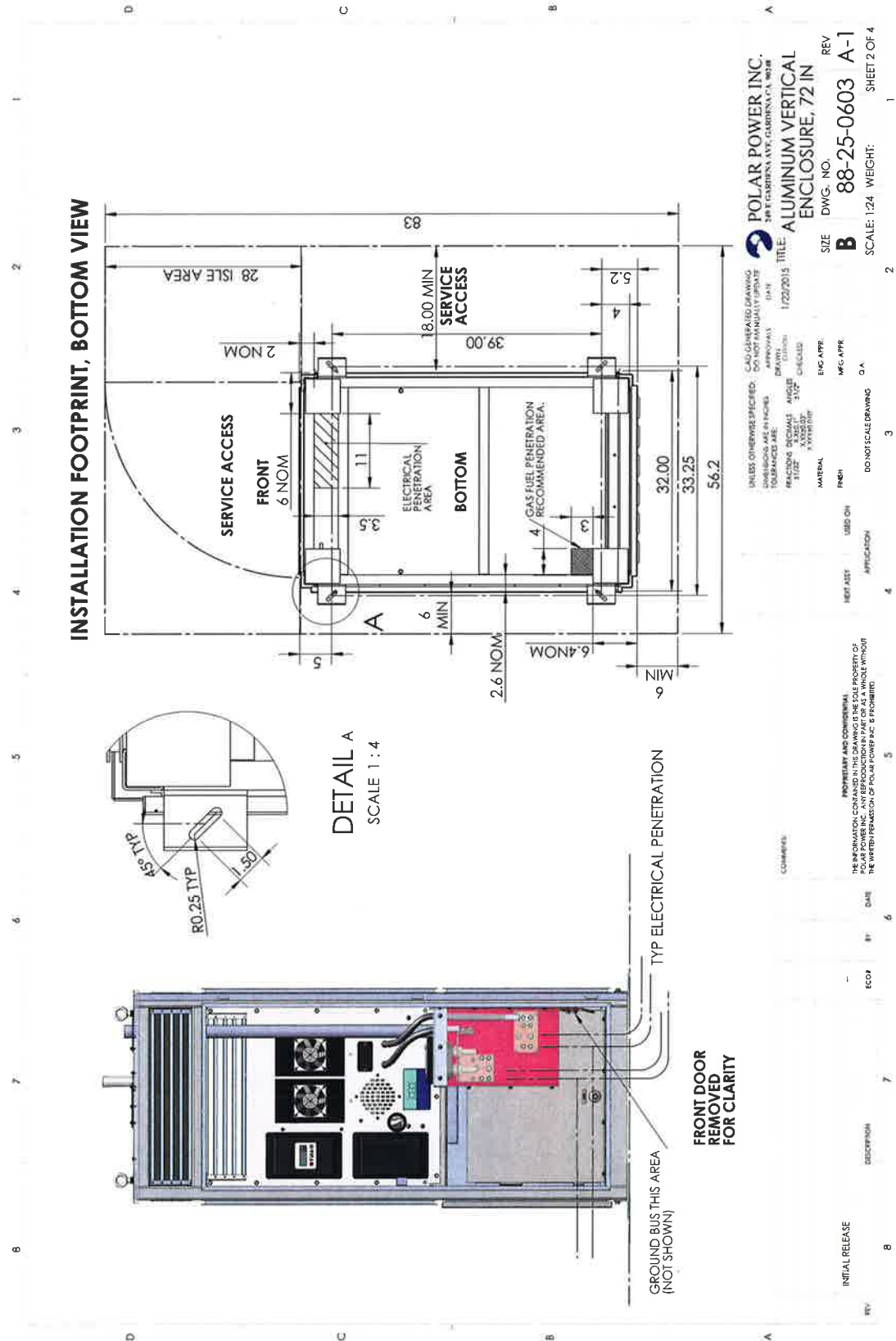
WARNING ALARMS

| | |
|--------------------------------------|----------|
| Low Diesel Fuel Level..... | Standard |
| Diesel Fuel Tank Rapture Basin..... | Standard |
| Low/High Supercapacitor Voltage..... | Standard |
| High Water Temperature..... | Standard |
| Low Oil Pressure..... | Standard |

CONTACT CLOSURE FOR REMOTE INDICATION (PN 84-12-0640)

| | |
|----------------------------|----------|
| Shutdown Alarm..... | Optional |
| Warning Alarm..... | Optional |
| Engine Run..... | Optional |
| Low Diesel Fuel Level..... | Optional |
| Diesel Fuel Leak..... | Optional |
| E-Stop Depressed..... | Optional |
| Fuel Level Over 90%..... | Optional |





ATTACHMENT 4



AMERICAN TOWER®
CORPORATION

Post Modification Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : E H F R - Prestige Park, CT
ATC Site Number : 302473.
Engineering Number : 637063Z7
Proposed Carrier : Verizon Wireless
Carrier Site Name : N/A
Carrier Site Number : N/A
Site Location : 310 Prestige Park Rd.
East Hartford, CT 06108-1206
41.788333,-72.600556
County : Hartford
Date : May 23, 2016
Max Usage : 94%
Result : Pass - Pending Modifications

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Nupur Khadilkar

Nupur S. Khadilkar



May 24 2016 1:09 PM

COA: PEC.0001553



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| Structure Usages | 3 |
| Foundations | 3 |
| Deflection, Twist, and Sway..... | 4 |
| Standard Conditions | 5 |
| Calculations | Attached |



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by Verizon Wireless.

Supporting Documents

| | |
|----------------------------|--|
| Tower Drawings | SpectraSite Drawing #D1, dated June 12, 2002 |
| Foundation Drawing | Southern New England Telephone Job #38904, dated April 20, 1983 |
| Geotechnical Report | GeoTechnologies Project #1-02-1122-EA, dated September 6, 2002 |
| Modifications | ATC Project #51574133, dated January 17, 2013 ATC Project #63706335, dated October 22, 2015 [Pending] |

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: | 95 mph (3-Second Gust) |
| Basic Wind Speed w/ Ice: | 50 mph (3-Second Gust) w/ 1" radial ice concurrent |
| Code: | ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment |
| Structure Class: | II |
| Exposure Category: | B |
| Topographic Category: | 1 |
| Crest Height: | 0 ft |
| Spectral Response: | $S_s = 0.18$, $S_1 = 0.06$ |
| 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 once the pending modifications have been installed. Failure to install the modifications listed will void the results of this analysis.

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 | | | | | |
| 150.0 | 153.0 | 6 | Kathrein 860 10025 | Platform w/ Handrails | (12) 7/8" Coax (2) 0.78" 8 AWG 6 (1) 3" Conduit (1) 3/8" Coax (1) 0.39" Cable | AT&T Mobility |
| | | 12 | Powerwave LGP21401 | | | |
| | | 1 | Raycap DC6-48-60-18-8F | | | |
| | | 6 | Ericsson RRUS 11 (Band 12) (55 lb) | | | |
| | | 3 | Ericsson RRUS 12 w/ RRUS A2 | | | |
| | | 6 | Powerwave 7770.00 (27 lbs) | | | |
| | | 3 | CCI OPA-65R-LCUU-H6 | | | |
| | 155.0 | 1 | 10' Omni | | (1) 1 5/8" Coax | USA Mobility |
| 138.0 | 138.0 | 3 | RFS IBC1900BB-1 | T-Arms | (3) 1 1/4" Hybriflex Cable (1) 0.64" Fiber | Sprint Nextel |
| | | 3 | RFS IBC1900HG-2A | | | |
| | | 3 | Alcatel-Lucent 4X40W RRH | | | |
| | | 3 | Alcatel-Lucent 800MHz RRH w/ Notch Filter | | | |
| | | 3 | Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield | | | |
| | | 3 | RFS APXVTM14-C-I20 | | | |
| | | 2 | RFS APXV9ERR18-C-A20 | | | |
| | | 1 | RFS APXVSP18-C-A20 | | | |
| 128.0 | 128.0 | 3 | Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs) | Stand-Offs | (6) 1 5/8" Coax (1) 1 5/8" Hybriflex Cable | Metro PCS |
| | | 3 | Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs) | | | |
| 118.0 | 118.0 | 3 | DragonWave Horizon Compact | Collar Mount | (6) 5/16" Coax (3) 1/2" Coax | Clearwire |
| | | 1 | DragonWave A-ANT-23G-1-C | | | |
| | | 3 | NextNet BTS-2500 | | | |
| | | 3 | Argus LLPX310R | | | |
| | | 2 | DragonWave A-ANT-23G-2-C | | | |
| 112.0 | 112.0 | 1 | 12" x 12" Junction Box | Flush | (1) 2" Conduit | |
| 35.0 | 35.0 | 1 | GPS | Stand-off | (1) 1/2" Coax | AT&T Mobility |
| 34.0 | 34.0 | 1 | GPS | Stand-off | (1) 1/2" Coax | Sprint Nextel |

Equipment to be Removed

| Elevation ¹ (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|--|-----|-----|---------|------------|-------|---------|
| Mount | RAD | | | | | |
| No loading considered as to be removed | | | | | | |

Proposed Equipment

| Elevation ¹ (ft) | | Qty | Antenna | Mount Type | Lines | Carrier |
|-----------------------------|------|-----|-----------------------------------|----------------------|------------------|------------------|
| Mount | RAD | | | | | |
| 98.0 | 98.0 | 3 | Alcatel-Lucent RRH2X60-1900A-4R | Low Profile Platform | (2) 1.58" Hybrid | Verizon Wireless |
| | | 3 | Alcatel-Lucent RRH2x60 700 | | | |
| | | 3 | Alcatel-Lucent RRH2X60-AWS Band 4 | | | |
| | | 2 | RFS DB-T1-6Z-8AB-0Z | | | |
| | | 12 | Andrew SBNHH-1D65B | | | |

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

Install proposed coax inside the pole shaft.

Structure Usages*

| Structural Component | Controlling Usage | Pass/Fail |
|----------------------|-------------------|-----------|
| Anchor Bolts | 86% | Pass |
| Shaft | 93% | Pass |
| Base Plate | 54% | Pass |
| Flanges | 94% | Pass |
| Reinforcement | 84% | Pass |

*Anchorages include a factor of safety of 2 or greater

Foundations*

| Reaction Component | Analysis Reactions | % of Usage |
|--------------------|--------------------|------------|
| Moment (Kips-Ft) | 2,652.2 | 88% |
| Axial (Kips) | 39.7 | 82% |
| Shear (Kips) | 26.6 | 35% |

*Includes a factor of safety of two or greater

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) (°) |
|------------------------|-----------------------------------|----------------------|-----------------|---------------------|
| 118.0 | DragonWave A-ANT-23G-1-C | Clearwire Corporatio | 1.707 | 1.725 |
| | DragonWave A-ANT-23G-2-C | | | |
| 98.0 | Alcatel-Lucent RRH2X60-1900A-4R | Verizon Wireless | 1.190 | 1.322 |
| | Alcatel-Lucent RRH2x60 700 | | | |
| | Alcatel-Lucent RRH2X60-AWS Band 4 | | | |
| | RFS DB-T1-6Z-8AB-0Z | | | |
| | Andrew SBNHH-1D65B | | | |

*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:

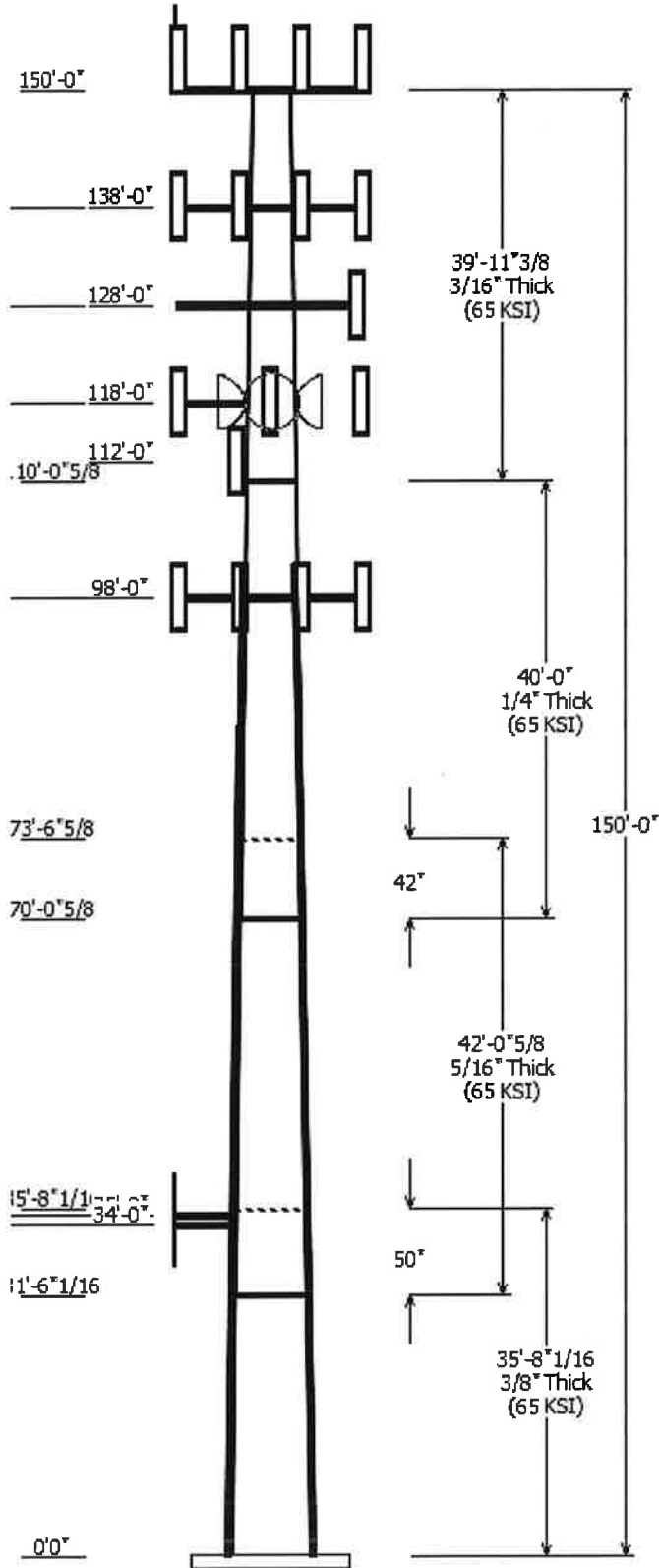
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements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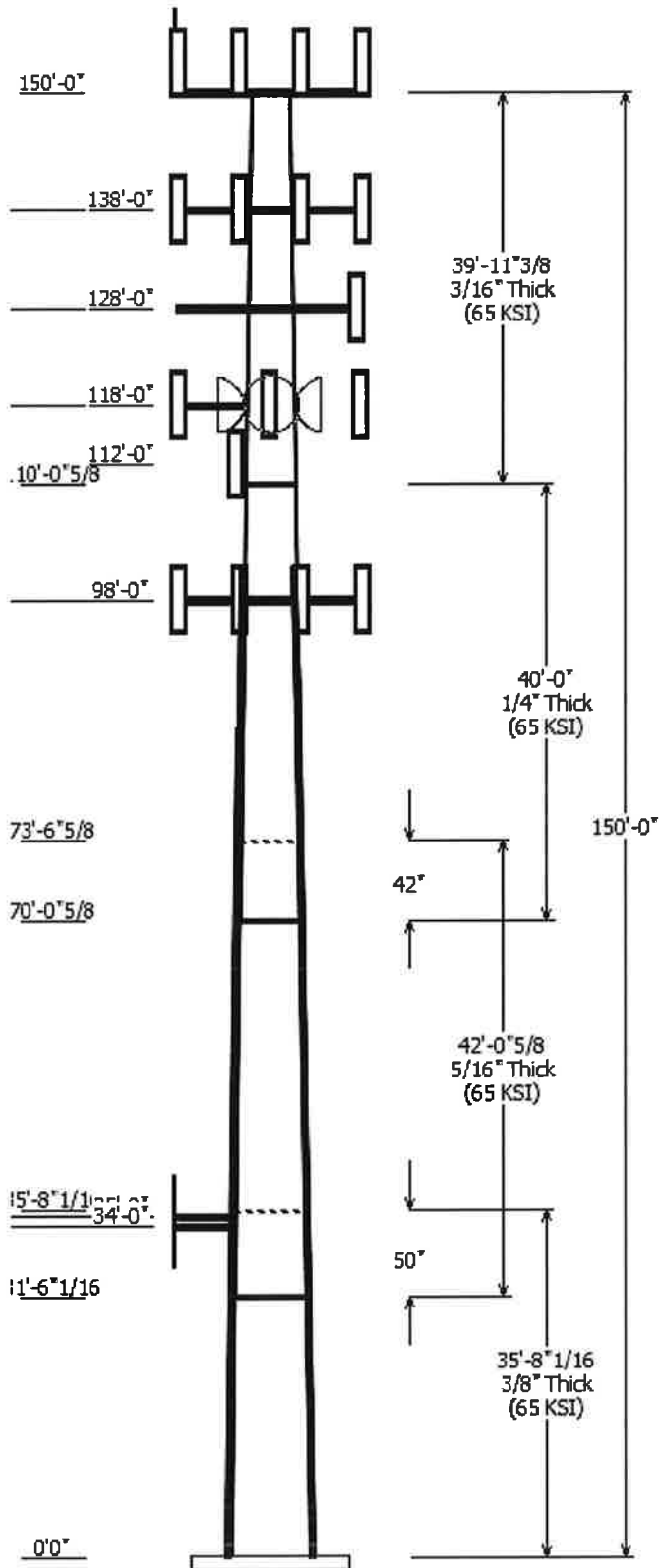


| Job Information | |
|-----------------|----------------------------------|
| Pole : | 302473. |
| Code : | ANSI/TIA-222-G |
| Description : | 150' ITT Meyer Type "B" Monopole |
| Client : | VERIZON WIRELESS |
| Struct Class : | II |
| Location : | EHFR - Prestige Park, CT |
| Shape : | 12 Sides |
| Exposure : | B |
| Height : | 150.00 (ft) |
| Topo : | 1 |
| Base Elev (ft): | 0.00 |
| Taper: | 0.15656'(in/ft) |

| Sections Properties | | | | | | | | |
|---------------------|-------------|---------------|--------|------------------|------------|-------------|---------------|-------------------|
| Shaft Section | Length (ft) | Diameter (in) | | Thick Joint (in) | Type | Overlap | | Steel Grade (ksi) |
| | | Top | Bottom | | | Length (in) | Taper (in/ft) | |
| 1 | 35.670 | 31.77 | 37.36 | 0.375 | | 0.000 | 0.156600 | 65 |
| 2 | 42.050 | 26.46 | 33.05 | 0.313 | Slip Joint | 50.000 | 0.156600 | 65 |
| 3 | 40.000 | 21.25 | 27.51 | 0.250 | Slip Joint | 42.000 | 0.156600 | 65 |
| 4 | 39.947 | 15.00 | 21.25 | 0.188 | Butt Joint | 0.000 | 0.156600 | 65 |

| Discrete Appurtenance | | | |
|-----------------------|-----------------|-----|--------------------------------|
| Attach Elev (ft) | Force Elev (ft) | Qty | Description |
| 150.000 | 150.000 | 1 | Flat Platform w/ Handrails |
| 150.000 | 153.000 | 3 | CCI OPA-65R-LCUU-H6 |
| 150.000 | 153.000 | 6 | Powerwave Allgon 7770.00 (27 |
| 150.000 | 153.000 | 3 | Ericsson RRUS 12 w/ RRUS A2 |
| 150.000 | 155.000 | 1 | 10' Omni |
| 150.000 | 153.000 | 6 | Ericsson RRUS 11 (Band 12) (55 |
| 150.000 | 153.000 | 1 | Raycap DC6-48-60-18-8F |
| 150.000 | 153.000 | 12 | Powerwave LGP21401 |
| 150.000 | 153.000 | 6 | Kathrein 860 10025 |
| 138.000 | 138.000 | 3 | Round T-Arm |
| 138.000 | 138.000 | 2 | RFS APXV9ERR18-C-A20 |
| 138.000 | 138.000 | 1 | RFS APXSPP18-C-A20 |
| 138.000 | 138.000 | 3 | RFS APXVTM14-C-I20 |
| 138.000 | 138.000 | 3 | Alcatel-Lucent TD-RRH8x20-25 |
| 138.000 | 138.000 | 3 | Alcatel-Lucent 800 MHz RRH |
| 138.000 | 138.000 | 3 | Alcatel-Lucent 4X40W RRH |
| 138.000 | 138.000 | 3 | RFS IBC1900BB-1 |
| 138.000 | 138.000 | 3 | RFS IBC1900HG-2A |
| 128.000 | 128.000 | 3 | Ericsson AIR 21, 1.3M, B4A B2P |
| 128.000 | 128.000 | 3 | Ericsson AIR 21, 1.3M, B2A B4P |
| 128.000 | 128.000 | 3 | Stand-Off |
| 118.000 | 118.000 | 1 | Collar Mount |
| 118.000 | 118.000 | 2 | DragonWave A-ANT-23G-2-C |
| 118.000 | 118.000 | 3 | Argus LLPX310R |
| 118.000 | 118.000 | 3 | NextNet BTS-2500 |
| 118.000 | 118.000 | 1 | DragonWave A-ANT-23G-1-C |
| 118.000 | 118.000 | 3 | DragonWave Horizon Compact |
| 112.000 | 112.000 | 1 | 12" x 12" Junction Box |
| 98.000 | 98.000 | 1 | Flat Low Profile Platform |
| 98.000 | 98.000 | 12 | Andrew SBNHH-1D65B |
| 98.000 | 98.000 | 2 | RFS DB-T1-6Z-8AB-0Z |
| 98.000 | 98.000 | 3 | Alcatel-Lucent RRH2X60-AWS |
| 98.000 | 98.000 | 3 | Alcatel-Lucent RRH2x60 700 |
| 98.000 | 98.000 | 3 | Alcatel-Lucent RRH2X60-1900A- |
| 35.000 | 35.000 | 1 | Stand-off |
| 35.000 | 35.000 | 1 | GPS |
| 34.000 | 34.000 | 1 | Stand-off |
| 34.000 | 34.000 | 1 | GPS |

| Linear Appurtenance | | | |
|---------------------|-----------------|-------------|--|
| Elev (ft) | Exposed To Wind | Description | |
| From | To | | |
| | | | |

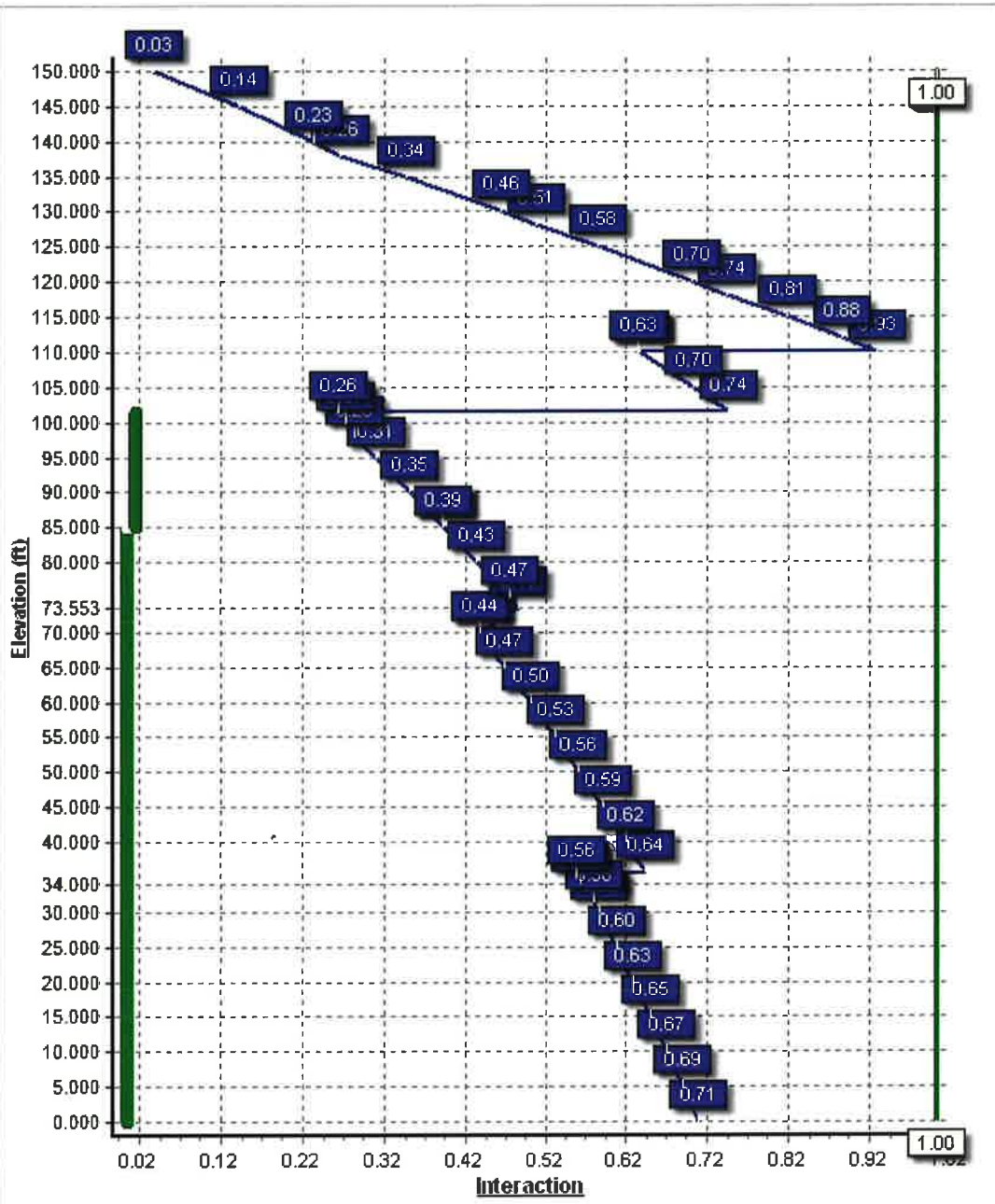


| | | | |
|-------|--------|------------------|-----|
| 4.000 | 112.0 | 2" Conduit | No |
| 4.000 | 118.0 | 1/2" Coax | No |
| 4.000 | 118.0 | 5/16" Coax | No |
| 4.000 | 128.0 | 1 5/8" Coax | Yes |
| 4.000 | 128.0 | 1 5/8" Hybriflex | Yes |
| 4.000 | 138.0 | 0.64" Fiber | No |
| 4.000 | 138.0 | 1 1/4" Hybriflex | No |
| 4.000 | 150.0 | 0.39" Cable | No |
| 4.000 | 150.0 | 0.78" 8 AWG 6 | No |
| 4.000 | 150.0 | 1 5/8" Coax | No |
| 4.000 | 150.0 | 3" Conduit | No |
| 4.000 | 150.0 | 3/8" Coax | No |
| 4.000 | 150.0 | 7/8" Coax | No |
| 4.000 | 34.000 | 1/2" Coax | Yes |
| 4.000 | 35.000 | 1/2" Coax | Yes |
| 4.000 | 98.000 | 1.58" Hybrid | No |
| 0.000 | 101.5 | #20 Dywidag Bars | Yes |

| Load Cases | |
|-------------------------|--|
| 1.2D + 1.6W | 95 mph with No Ice |
| 0.9D + 1.6W | 95 mph with No Ice (Reduced DL) |
| 1.2D + 1.0Di + 1.0Wi | 50 mph with 1.00 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 | 2652.21 | 26.61 | 40.10 |
| 0.9D + 1.6W | 2608.75 | 26.54 | 30.06 |
| 1.2D + 1.0Di + 1.0Wi | 747.33 | 6.67 | 76.33 |
| (1.2 + 0.2Sds) * DL + E E LFM | 164.18 | 1.31 | 40.07 |
| (1.2 + 0.2Sds) * DL + E E MAM | 238.56 | 1.91 | 40.07 |
| (0.9 - 0.2Sds) * DL + E E LFM | 160.57 | 1.31 | 27.89 |
| (0.9 - 0.2Sds) * DL + E E MAM | 232.92 | 1.91 | 27.89 |
| 1.0D + 1.0W | 663.33 | 6.74 | 33.47 |

| Dish Deflections | | | |
|------------------|------------------|-----------------|----------------|
| Load Case | Attach Elev (ft) | Deflection (in) | Rotation (deg) |
| 1.0D + 1.0W | 118.00 | 20.489 | 1.725 |
| 1.0D + 1.0W | 118.00 | 20.489 | 1.725 |



Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:07 AM

Customer: VERIZON WIRELESS

Analysis Parameters

| | | | |
|--------------------|---------------------|---------------------|-------|
| Location: | Hartford County, CT | Height (ft): | 150 |
| Code: | ANSI/TIA-222-G | Base Diameter (in): | 37.36 |
| Shape: | 12 Sides | Top Diameter (in): | 15.00 |
| Pole Type: | Taper | Taper (in/ft) : | 0.157 |
| Pole Manufacturer: | ITT Meyer | | |

Ice & Wind Parameters

| | | | |
|-----------------------|--------|--------------------------------|---------|
| Structure Class: | II | Design Wind Speed Without Ice: | 95 m ph |
| Exposure Category: | B | Design Wind Speed With Ice: | 50 m ph |
| Topographic Category: | 1 | Operational Wind Speed: | 60 m ph |
| Crest Height: | 0.0 ft | Design Ice Thickness: | 1.00 in |

Seismic Parameters

| | | | |
|--|--|---------------------|-------|
| Analysis Method: | Equivalent Modal Analysis & Equivalent Lateral Force Methods | | |
| Site Class: | D - Stiff Soil | | |
| Period Based on Rayleigh Method (sec): | 2.80 | | |
| T _L (sec): | 6 | p: | 1.3 |
| S _s : | 0.179 | S ₁ : | 0.064 |
| F _a : | 1.600 | F _v : | 2.400 |
| S _{ds} : | 0.191 | S _{d1} : | 0.102 |
| | | C _s : | 0.030 |
| | | C _s Max: | 0.030 |
| | | C _s Min: | 0.030 |

Load Cases

| | |
|--|---|
| 1.2D + 1.6W | 95 m ph with No Ice |
| 0.9D + 1.6W | 95 m ph with No Ice (Reduced DL) |
| 1.2D + 1.0Di + 1.0Wi | 50 m ph with 1.00 in Radial Ice |
| (1.2 + 0.2S _{ds}) * DL + EELFM | Seismic Equivalent Lateral Forces Method |
| (1.2 + 0.2S _{ds}) * DL + EEMAM | Seismic Equivalent Modal Analysis Method |
| (0.9 - 0.2S _{ds}) * DL + EELFM | Seismic (Reduced DL) Equivalent Lateral Forces Method |
| (0.9 - 0.2S _{ds}) * DL + EEMAM | Seismic (Reduced DL) Equivalent Modal Analysis Method |
| 1.0D + 1.0W | Serviceability 60 m ph |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:07 AM

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) |
| 1-12 | 35.670 | 0.3750 | 65 | | 0.00 | 5,011 | 37.36 | 0.00 | 44.66 | 7797.4 | 24.55 | 99.63 | 31.77 | 35.67 | 37.92 | 4771.7 | 20.56 | 84.73 | 0.156567 |
| 2-12 | 42.050 | 0.3125 | 65 | Slip | 50.00 | 4,240 | 33.05 | 31.50 | 32.94 | 4507.5 | 26.20 | 105.77 | 26.46 | 73.55 | 26.32 | 2298.4 | 20.55 | 84.70 | 0.156567 |
| 3-12 | 40.000 | 0.2500 | 65 | Slip | 42.00 | 2,645 | 27.51 | 70.05 | 21.95 | 2083.0 | 27.35 | 110.07 | 21.25 | 110.05 | 16.91 | 952.2 | 20.64 | 85.02 | 0.156567 |
| 4-12 | 39.947 | 0.1875 | 65 | Butt | 0.00 | 1,472 | 21.25 | 110.05 | 12.72 | 720.5 | 28.23 | 113.36 | 15.00 | 150.00 | 8.94 | 250.5 | 19.29 | 80.00 | 0.156567 |
| Shaft Weight | | | | | | 13,368 | | | | | | | | | | | | | |

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 | | |
| 150.00 | 10' Omni | 1 | 25.00 | 3.000 | 1.00 | 226.16 | 6.663 | 1.00 | 0.000 | 5.000 |
| 150.00 | CCI OPA-65R-LCUU-H6 | 3 | 73.00 | 9.660 | 0.66 | 481.77 | 15.173 | 0.66 | 0.000 | 3.000 |
| 150.00 | Ericsson RRUS 11 (Band 12) | 6 | 55.00 | 2.520 | 0.67 | 170.75 | 3.406 | 0.67 | 0.000 | 3.000 |
| 150.00 | Ericsson RRUS 12 w/ RRUS | 3 | 71.40 | 3.150 | 0.67 | 187.15 | 3.406 | 0.67 | 0.000 | 3.000 |
| 150.00 | Flat Platform w/ Handrails | 1 | 2000.00 | 38.000 | 1.00 | 3,895.59 | 63.070 | 1.00 | 0.000 | 0.000 |
| 150.00 | Kathrein 860 10025 | 6 | 1.20 | 0.180 | 0.50 | 18.60 | 0.483 | 0.50 | 0.000 | 3.000 |
| 150.00 | Powerwave Allgon 7770.00 | 6 | 27.00 | 5.510 | 0.65 | 220.57 | 6.943 | 0.65 | 0.000 | 3.000 |
| 150.00 | Powerwave LGP21401 | 12 | 14.10 | 1.100 | 0.50 | 64.86 | 1.742 | 0.50 | 0.000 | 3.000 |
| 150.00 | Raycap DC6-48-60-18-8F | 1 | 20.00 | 1.110 | 1.00 | 71.76 | 1.813 | 1.00 | 0.000 | 3.000 |
| 138.00 | Alcatel-Lucent 4X40W RRH | 3 | 59.50 | 2.320 | 0.50 | 194.40 | 3.234 | 0.50 | 0.000 | 0.000 |
| 138.00 | Alcatel-Lucent 800 MHz RRH | 3 | 61.80 | 2.500 | 0.50 | 210.49 | 3.381 | 0.50 | 0.000 | 0.000 |
| 138.00 | Alcatel-Lucent TD-RRH8x20- | 3 | 70.00 | 4.050 | 0.50 | 174.62 | 2.613 | 0.50 | 0.000 | 0.000 |
| 138.00 | RFS APXV9ERR18-C-A20 | 2 | 62.00 | 8.020 | 0.78 | 354.18 | 9.766 | 0.78 | 0.000 | 0.000 |
| 138.00 | RFS APXVSP18-C-A20 | 1 | 57.00 | 8.020 | 0.54 | 337.29 | 9.766 | 0.54 | 0.000 | 0.000 |
| 138.00 | RFS APXVTM14-C-I20 | 3 | 52.90 | 6.340 | 0.66 | 278.64 | 7.838 | 0.66 | 0.000 | 0.000 |
| 138.00 | RFS IBC1900BB-1 | 3 | 22.00 | 0.970 | 0.50 | 74.87 | 1.558 | 0.50 | 0.000 | 0.000 |
| 138.00 | RFS IBC1900HG-2A | 3 | 22.00 | 0.970 | 0.50 | 74.87 | 1.558 | 0.50 | 0.000 | 0.000 |
| 138.00 | Round T-Arm | 3 | 250.00 | 9.700 | 0.67 | 526.61 | 20.611 | 0.67 | 0.000 | 0.000 |
| 128.00 | Ericsson AIR 21, 1.3M, B2A | 3 | 91.50 | 6.040 | 0.70 | 326.55 | 7.564 | 0.70 | 0.000 | 0.000 |
| 128.00 | Ericsson AIR 21, 1.3M, B4A | 3 | 90.40 | 6.080 | 0.70 | 325.51 | 7.518 | 0.70 | 0.000 | 0.000 |
| 128.00 | Stand-Off | 3 | 75.00 | 2.500 | 0.67 | 246.57 | 5.931 | 0.67 | 0.000 | 0.000 |
| 118.00 | Argus LLPX310R | 3 | 28.60 | 4.290 | 0.63 | 179.02 | 5.484 | 0.63 | 0.000 | 0.000 |
| 118.00 | Collar Mount | 1 | 560.00 | 8.500 | 1.00 | 1,169.87 | 17.757 | 1.00 | 0.000 | 0.000 |
| 118.00 | DragonWave A-ANT-23G-1-C | 1 | 15.00 | 1.610 | 1.00 | 61.03 | 2.596 | 1.00 | 0.000 | 0.000 |
| 118.00 | DragonWave A-ANT-23G-2-C | 2 | 12.30 | 4.690 | 1.00 | 70.13 | 6.350 | 1.00 | 0.000 | 0.000 |
| 118.00 | DragonWave Horizon | 3 | 10.60 | 0.430 | 0.50 | 39.89 | 1.095 | 0.50 | 0.000 | 0.000 |
| 118.00 | NextNet BTS-2500 | 3 | 35.00 | 1.820 | 0.50 | 115.95 | 2.558 | 0.50 | 0.000 | 0.000 |
| 112.00 | 12" x 12" Junction Box | 1 | 10.00 | 1.200 | 1.00 | 64.00 | 2.141 | 1.00 | 0.000 | 0.000 |
| 98.00 | Alcatel-Lucent RRH2x60 700 | 3 | 56.70 | 2.150 | 0.50 | 171.05 | 3.005 | 0.50 | 0.000 | 0.000 |
| 98.00 | Alcatel-Lucent RRH2X60- | 3 | 46.00 | 1.870 | 0.50 | 137.90 | 2.643 | 0.50 | 0.000 | 0.000 |
| 98.00 | Alcatel-Lucent RRH2X60- | 3 | 55.00 | 3.350 | 0.50 | 189.46 | 4.952 | 0.50 | 0.000 | 0.000 |
| 98.00 | Andrew SBNHH-1D65B | 12 | 50.70 | 8.170 | 0.69 | 324.09 | 9.868 | 0.69 | 0.000 | 0.000 |
| 98.00 | Flat Low Profile Platform | 1 | 1500.00 | 26.100 | 1.00 | 2,328.27 | 50.507 | 1.00 | 0.000 | 0.000 |
| 98.00 | RFS DB-T1-6Z-8AB-0Z | 2 | 44.00 | 4.800 | 0.50 | 228.96 | 5.936 | 0.50 | 0.000 | 0.000 |
| 35.00 | GPS | 1 | 10.00 | 1.000 | 1.00 | 56.70 | 1.014 | 1.00 | 0.000 | 0.000 |
| 35.00 | Stand-off | 1 | 50.00 | 2.000 | 1.00 | 90.18 | 3.607 | 1.00 | 0.000 | 0.000 |
| 34.00 | GPS | 1 | 10.00 | 1.000 | 1.00 | 43.57 | 1.815 | 1.00 | 0.000 | 0.000 |
| 34.00 | Stand-off | 1 | 50.00 | 2.000 | 1.00 | 89.97 | 3.599 | 1.00 | 0.000 | 0.000 |
| Totals | | 114 | 9334.60 | | | 28,673.88 | | | Number of Loadings : | 38 |

Linear Appurtenance Properties

| Elev From (ft) | Elev To (ft) | Qty | Description | Coax Diameter (in) | Coax Weight (lb/ft) | Projected Width (in) | Exposed To Wind | Carrier |
|----------------|--------------|-----|-------------|--------------------|---------------------|----------------------|-----------------|---------|
| | | | | | | | | |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:07 AM

Customer: VERIZON WIRELESS

| | | | | | | | | | |
|------|--------|----|------------------------|------|------|---|------|---|-----------------------|
| 4.00 | 150.00 | 1 | 0.39" Cable | 0.39 | 0.07 | N | 0.00 | N | AT&T Mobility |
| 4.00 | 150.00 | 2 | 0.78" 8 AWG 6 | 0.78 | 0.59 | N | 0.00 | N | AT&T Mobility |
| 4.00 | 150.00 | 1 | 1 5/8" Coax | 1.98 | 0.82 | N | 0.00 | N | USA Mobility |
| 4.00 | 150.00 | 1 | 3" Conduit | 3.50 | 7.58 | N | 0.00 | N | AT&T Mobility |
| 4.00 | 150.00 | 1 | 3/8" Coax | 0.44 | 0.08 | N | 0.00 | N | AT&T Mobility |
| 4.00 | 150.00 | 12 | 7/8" Coax | 1.09 | 0.33 | N | 0.00 | N | AT&T Mobility |
| 4.00 | 138.00 | 1 | 0.64" Fiber | 0.64 | 0.25 | N | 0.00 | N | Sprint Nextel |
| 4.00 | 138.00 | 3 | 1 1/4" Hybriflex Cable | 1.54 | 1.00 | N | 0.00 | N | Sprint Nextel |
| 4.00 | 128.00 | 6 | 1 5/8" Coax | 1.98 | 0.82 | N | 0.00 | Y | Metro PCS |
| 4.00 | 128.00 | 1 | 1 5/8" Hybriflex | 1.98 | 1.30 | N | 1.98 | Y | Metro PCS |
| 4.00 | 118.00 | 3 | 1/2" Coax | 0.63 | 0.15 | N | 0.00 | N | Clearwire Corporation |
| 4.00 | 118.00 | 6 | 5/16" Coax | 0.31 | 0.05 | N | 0.00 | N | Clearwire Corporation |
| 4.00 | 112.00 | 1 | 2" Conduit | 2.38 | 3.65 | N | 0.00 | N | Clearwire Corporation |
| 0.00 | 101.50 | 4 | #20 Dywidag Bars | 2.72 | 0.00 | N | 6.02 | Y | |
| 4.00 | 98.00 | 2 | 1.58" Hybrid | 1.58 | 1.61 | N | 0.00 | N | Verizon |
| 4.00 | 35.00 | 1 | 1/2" Coax | 0.63 | 0.15 | N | 0.00 | Y | AT&T Mobility |
| 4.00 | 34.00 | 1 | 1/2" Coax | 0.63 | 0.15 | N | 0.00 | Y | Sprint Nextel |

Additional Steel

| Elev From (ft) | Elev To (ft) | Qty | Description | Fy (ksi) | Offset (in) | — Intermediate Connections — | | | Connectors | Continuation? |
|----------------|--------------|-----|--------------------|----------|-------------|------------------------------|--------------|----------|-----------------|---------------|
| | | | | | | Description | Spacing (in) | Len (in) | | |
| 0.00 | 85.00 | 4 | SOL #20 All Thread | 80 | 2.19 | 6" Angle Bracket | 30.0 | 3.31 | 5/8" A36 U-Bolt | No |
| 85.00 | 101.5 | 4 | SOL #20 All Thread | 80 | 2.19 | 6" Angle Bracket | 30.0 | 3.31 | 5/8" A36 U-Bolt | No |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:07 AM

Customer: VERIZON WIRELESS

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 | Fy (ksi) | S (in ³) | Z (in ³) | Weight (lb) | Additional Reinforcing | | |
|-------------------|------------------|------------|---------------|-------------------------|-----------------------|-----------|-----------|----------|----------------------|----------------------|-------------|-------------------------|-----------------------|-------------|
| | | | | | | | | | | | | Area (in ²) | Ix (in ⁴) | Weight (lb) |
| 0.00 | | 0.3750 | 37.360 | 44.659 | 7,797.4 | 24.55 | 99.63 | 77.9 | 403.2 | 0.0 | 0.0 | 19.64 | 4,811 | 0.0 |
| 5.00 | | 0.3750 | 36.577 | 43.714 | 7,312.7 | 23.99 | 97.54 | 78.5 | 386.2 | 0.0 | 751.8 | 19.64 | 4,642 | 334.0 |
| 10.00 | | 0.3750 | 35.794 | 42.769 | 6,848.5 | 23.43 | 95.45 | 79.2 | 369.6 | 0.0 | 735.7 | 19.64 | 4,477 | 334.0 |
| 15.00 | | 0.3750 | 35.012 | 41.824 | 6,404.4 | 22.87 | 93.36 | 79.8 | 353.4 | 0.0 | 719.6 | 19.64 | 4,314 | 334.0 |
| 20.00 | | 0.3750 | 34.229 | 40.878 | 5,979.9 | 22.31 | 91.28 | 80.4 | 337.5 | 0.0 | 703.5 | 19.64 | 4,155 | 334.0 |
| 25.00 | | 0.3750 | 33.446 | 39.933 | 5,574.5 | 21.75 | 89.19 | 81.0 | 322.0 | 0.0 | 687.5 | 19.64 | 3,998 | 334.0 |
| 30.00 | | 0.3750 | 32.663 | 38.988 | 5,188.0 | 21.20 | 87.10 | 81.6 | 306.8 | 0.0 | 671.4 | 19.64 | 3,845 | 334.0 |
| 31.50 | Bot - Section 2 | 0.3750 | 32.428 | 38.704 | 5,075.3 | 21.03 | 86.47 | 81.8 | 302.4 | 0.0 | 198.7 | 19.64 | 3,799 | 100.4 |
| 34.00 | | 0.3750 | 32.037 | 38.232 | 4,891.9 | 20.75 | 85.43 | 81.9 | 295.0 | 0.0 | 605.0 | 19.64 | 3,845 | 166.8 |
| 35.00 | | 0.3750 | 31.880 | 38.042 | 4,819.7 | 20.64 | 85.01 | 81.9 | 292.1 | 0.0 | 240.3 | 19.64 | 3,814 | 66.8 |
| 35.67 | Top - Section 1 | 0.3125 | 32.400 | 32.288 | 4,243.4 | 25.64 | 103.68 | 76.8 | 253.0 | 0.0 | 160.3 | 19.64 | 3,794 | 44.8 |
| 40.00 | | 0.3125 | 31.722 | 31.606 | 3,980.1 | 25.06 | 101.51 | 77.4 | 242.4 | 0.0 | 470.7 | 19.64 | 3,664 | 289.2 |
| 45.00 | | 0.3125 | 30.940 | 30.818 | 3,689.8 | 24.39 | 99.01 | 78.1 | 230.4 | 0.0 | 531.0 | 19.64 | 3,518 | 334.0 |
| 50.00 | | 0.3125 | 30.157 | 30.031 | 3,414.1 | 23.71 | 96.50 | 78.9 | 218.7 | 0.0 | 517.6 | 19.64 | 3,374 | 334.0 |
| 55.00 | | 0.3125 | 29.374 | 29.243 | 3,152.4 | 23.04 | 94.00 | 79.6 | 207.3 | 0.0 | 504.2 | 19.64 | 3,233 | 334.0 |
| 60.00 | | 0.3125 | 28.591 | 28.455 | 2,904.4 | 22.37 | 91.49 | 80.3 | 196.2 | 0.0 | 490.8 | 19.64 | 3,095 | 334.0 |
| 65.00 | | 0.3125 | 27.808 | 27.668 | 2,669.8 | 21.70 | 88.99 | 81.0 | 185.5 | 0.0 | 477.4 | 19.64 | 2,960 | 334.0 |
| 70.00 | | 0.3125 | 27.025 | 26.880 | 2,448.2 | 21.03 | 86.48 | 81.8 | 175.0 | 0.0 | 464.0 | 19.64 | 2,828 | 334.0 |
| 70.05 | Bot - Section 3 | 0.3125 | 27.017 | 26.871 | 2,445.9 | 21.02 | 86.45 | 81.8 | 174.9 | 0.0 | 4.9 | 19.64 | 2,827 | 3.6 |
| 73.55 | Top - Section 2 | 0.2500 | 26.969 | 21.509 | 1,959.9 | 26.76 | 107.88 | 75.5 | 140.4 | 0.0 | 575.5 | 19.64 | 2,819 | 233.8 |
| 75.00 | | 0.2500 | 26.743 | 21.326 | 1,910.5 | 26.52 | 106.97 | 75.8 | 138.0 | 0.0 | 105.4 | 19.64 | 2,782 | 96.6 |
| 80.00 | | 0.2500 | 25.960 | 20.696 | 1,746.1 | 25.68 | 103.84 | 76.7 | 129.9 | 0.0 | 357.5 | 19.64 | 2,654 | 334.0 |
| 85.00 | Reinf. Top Reinf | 0.2500 | 25.177 | 20.066 | 1,591.4 | 24.84 | 100.71 | 77.6 | 122.1 | 0.0 | 346.8 | 19.64 | 2,529 | 334.0 |
| 90.00 | | 0.2500 | 24.394 | 19.436 | 1,446.1 | 24.00 | 97.58 | 78.5 | 114.5 | 0.0 | 336.0 | 19.64 | 2,407 | 334.0 |
| 95.00 | | 0.2500 | 23.611 | 18.806 | 1,310.0 | 23.16 | 94.44 | 79.5 | 107.2 | 0.0 | 325.3 | 19.64 | 2,289 | 334.0 |
| 98.00 | | 0.2500 | 23.141 | 18.428 | 1,232.5 | 22.66 | 92.57 | 80.0 | 102.9 | 0.0 | 190.0 | 19.64 | 2,219 | 200.4 |
| 100.0 | | 0.2500 | 22.828 | 18.176 | 1,182.7 | 22.32 | 91.31 | 80.4 | 100.1 | 0.0 | 124.6 | 19.64 | 2,173 | 133.6 |
| 101.5 | Reinf. Top | 0.2500 | 22.593 | 17.987 | 1,146.1 | 22.07 | 90.37 | 80.6 | 98.0 | 0.0 | 92.3 | 19.64 | 2,139 | 100.2 |
| 105.0 | | 0.2500 | 22.046 | 17.545 | 1,063.9 | 21.48 | 88.18 | 81.3 | 93.2 | 0.0 | 211.6 | | | |
| 110.0 | | 0.2500 | 21.263 | 16.915 | 953.3 | 20.65 | 85.05 | 81.9 | 86.6 | 0.0 | 293.2 | | | |
| 110.0 | Top - Section 3 | 0.2500 | 21.254 | 16.908 | 952.2 | 20.64 | 85.02 | 81.9 | 86.5 | 0.0 | 3.1 | | | |
| 110.0 | Bot - Section 4 | 0.1875 | 21.254 | 12.719 | 720.5 | 28.23 | 113.36 | 73.9 | 65.5 | 0.0 | | | | |
| 112.0 | | 0.1875 | 20.950 | 12.535 | 689.7 | 27.79 | 111.73 | 74.4 | 63.6 | 0.0 | 83.6 | | | |
| 115.0 | | 0.1875 | 20.480 | 12.251 | 643.9 | 27.12 | 109.23 | 75.1 | 60.7 | 0.0 | 126.5 | | | |
| 118.0 | | 0.1875 | 20.010 | 11.968 | 600.2 | 26.45 | 106.72 | 75.9 | 57.9 | 0.0 | 123.6 | | | |
| 120.0 | | 0.1875 | 19.697 | 11.779 | 572.2 | 26.00 | 105.05 | 76.4 | 56.1 | 0.0 | 80.8 | | | |
| 125.0 | | 0.1875 | 18.914 | 11.306 | 506.1 | 24.89 | 100.88 | 77.6 | 51.7 | 0.0 | 196.4 | | | |
| 128.0 | | 0.1875 | 18.444 | 11.023 | 469.0 | 24.21 | 98.37 | 78.3 | 49.1 | 0.0 | 114.0 | | | |
| 130.0 | | 0.1875 | 18.131 | 10.834 | 445.2 | 23.77 | 96.70 | 78.8 | 47.4 | 0.0 | 74.4 | | | |
| 135.0 | | 0.1875 | 17.349 | 10.361 | 389.5 | 22.65 | 92.53 | 80.0 | 43.4 | 0.0 | 180.3 | | | |
| 138.0 | | 0.1875 | 16.879 | 10.077 | 358.4 | 21.98 | 90.02 | 80.7 | 41.0 | 0.0 | 104.3 | | | |
| 140.0 | | 0.1875 | 16.566 | 9.888 | 338.6 | 21.53 | 88.35 | 81.2 | 39.5 | 0.0 | 67.9 | | | |
| 145.0 | | 0.1875 | 15.783 | 9.416 | 292.3 | 20.41 | 84.18 | 81.9 | 35.8 | 0.0 | 164.2 | | | |
| 150.0 | | 0.1875 | 15.000 | 8.943 | 250.5 | 19.29 | 80.00 | 81.9 | 32.3 | 0.0 | 156.2 | | | |
| | | | | | | | | | | | 13,368.2 | 6,780.2 | | |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:07 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

95 mph with No Ice

27 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 Moment MY (lb-ft) | MZ (lb-ft) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Torsion Moment MY (lb-ft) | Moment MZ (lb) |
| 0.00 | | 259.4 | 0.0 | | | | | 0.0 | 0.0 | 259.4 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 512.6 | 902.1 | | | | | 0.0 | 438.1 | 512.6 | 1,340.2 | 0.0 | 0.0 |
| 10.00 | | 501.0 | 882.8 | | | | | 92.1 | 587.1 | 593.1 | 1,469.9 | 0.0 | 0.0 |
| 15.00 | | 490.1 | 863.5 | | | | | 92.1 | 587.1 | 582.2 | 1,450.6 | 0.0 | 0.0 |
| 20.00 | | 479.1 | 844.2 | | | | | 92.1 | 587.1 | 571.2 | 1,431.3 | 0.0 | 0.0 |
| 25.00 | | 468.2 | 824.9 | | | | | 92.1 | 587.1 | 560.2 | 1,412.0 | 0.0 | 0.0 |
| 30.00 | | 300.4 | 805.6 | | | | | 92.1 | 587.1 | 392.5 | 1,392.7 | 0.0 | 0.0 |
| 31.50 | Bot - Section 2 | 186.9 | 238.5 | | | | | 27.8 | 176.5 | 214.7 | 415.0 | 0.0 | 0.0 |
| 34.00 | Appertunance(s) | 165.3 | 726.0 | 81.3 | 0.0 | 0.0 | 72.0 | 46.8 | 293.2 | 293.5 | 1,091.2 | 0.0 | 0.0 |
| 35.00 | Appertunance(s) | 79.4 | 288.3 | 82.0 | 0.0 | 0.0 | 72.0 | 18.9 | 117.2 | 180.4 | 477.6 | 0.0 | 0.0 |
| 35.67 | Top - Section 1 | 239.7 | 192.4 | | | | | 12.7 | 78.4 | 252.5 | 270.8 | 0.0 | 0.0 |
| 40.00 | | 450.2 | 564.9 | | | | | 83.3 | 506.9 | 533.5 | 1,071.7 | 0.0 | 0.0 |
| 45.00 | | 486.4 | 637.3 | | | | | 98.3 | 585.3 | 584.7 | 1,222.5 | 0.0 | 0.0 |
| 50.00 | | 488.6 | 621.2 | | | | | 100.3 | 585.3 | 589.0 | 1,206.5 | 0.0 | 0.0 |
| 55.00 | | 489.1 | 605.1 | | | | | 102.2 | 585.3 | 591.4 | 1,190.4 | 0.0 | 0.0 |
| 60.00 | | 488.1 | 589.0 | | | | | 104.0 | 585.3 | 592.1 | 1,174.3 | 0.0 | 0.0 |
| 65.00 | | 485.7 | 572.9 | | | | | 105.6 | 585.3 | 591.3 | 1,158.2 | 0.0 | 0.0 |
| 70.00 | | 244.7 | 556.8 | | | | | 107.2 | 585.3 | 351.8 | 1,142.1 | 0.0 | 0.0 |
| 70.05 | Bot - Section 3 | 174.0 | 5.9 | | | | | 1.2 | 6.2 | 175.1 | 12.1 | 0.0 | 0.0 |
| 73.55 | Top - Section 2 | 241.9 | 690.6 | | | | | 75.9 | 409.7 | 317.8 | 1,100.4 | 0.0 | 0.0 |
| 75.00 | | 312.6 | 126.5 | | | | | 31.6 | 169.3 | 344.2 | 295.9 | 0.0 | 0.0 |
| 80.00 | | 481.2 | 429.0 | | | | | 110.0 | 585.3 | 591.2 | 1,014.3 | 0.0 | 0.0 |
| 85.00 | Reinf. Top Reinf | 474.8 | 416.1 | | | | | 111.3 | 585.3 | 586.1 | 1,001.4 | 0.0 | 0.0 |
| 90.00 | | 467.7 | 403.2 | | | | | 112.5 | 585.3 | 580.2 | 988.5 | 0.0 | 0.0 |
| 95.00 | | 369.1 | 390.4 | | | | | 113.7 | 585.3 | 482.8 | 975.7 | 0.0 | 0.0 |
| 98.00 | Appertunance(s) | 227.8 | 228.1 | 3,526.1 | 0.0 | 0.0 | 3,203.4 | 68.8 | 351.2 | 3,822.7 | 3,782.6 | 0.0 | 0.0 |
| 100.00 | | 158.0 | 149.5 | | | | | 46.1 | 226.4 | 204.1 | 375.9 | 0.0 | 0.0 |
| 101.50 | Reinf. Top | 197.3 | 110.7 | | | | | 34.7 | 169.8 | 232.0 | 280.5 | 0.0 | 0.0 |
| 105.00 | | 311.8 | 253.9 | | | | | 0.0 | 115.6 | 311.8 | 369.5 | 0.0 | 0.0 |
| 110.00 | | 183.9 | 351.8 | | | | | 0.0 | 165.2 | 183.9 | 517.0 | 0.0 | 0.0 |
| 110.05 | Top - Section 3 | 71.6 | 3.7 | | | | | 0.0 | 1.8 | 71.6 | 5.4 | 0.0 | 0.0 |
| 112.00 | Appertunance(s) | 175.8 | 100.4 | 47.3 | 0.0 | 0.0 | 12.0 | 0.0 | 64.3 | 223.1 | 176.7 | 0.0 | 0.0 |
| 115.00 | | 210.6 | 151.8 | | | | | 0.0 | 86.0 | 210.6 | 237.8 | 0.0 | 0.0 |
| 118.00 | Appertunance(s) | 173.2 | 148.3 | 1,059.8 | 0.0 | 0.0 | 986.6 | 0.0 | 86.0 | 1,233.0 | 1,220.9 | 0.0 | 0.0 |
| 120.00 | | 237.2 | 97.0 | | | | | 0.0 | 55.6 | 237.2 | 152.5 | 0.0 | 0.0 |
| 125.00 | | 267.8 | 235.7 | | | | | 0.0 | 139.0 | 267.8 | 374.6 | 0.0 | 0.0 |
| 128.00 | Appertunance(s) | 164.2 | 136.8 | 1,040.0 | 0.0 | 0.0 | 924.8 | 0.0 | 83.4 | 1,204.1 | 1,145.0 | 0.0 | 0.0 |
| 130.00 | | 223.1 | 89.2 | | | | | 0.0 | 40.7 | 223.1 | 129.9 | 0.0 | 0.0 |
| 135.00 | | 250.7 | 216.4 | | | | | 0.0 | 101.6 | 250.7 | 318.0 | 0.0 | 0.0 |
| 138.00 | Appertunance(s) | 152.9 | 125.2 | 2,139.2 | 0.0 | 0.0 | 2,154.7 | 0.0 | 61.0 | 2,292.2 | 2,340.9 | 0.0 | 0.0 |
| 140.00 | | 207.9 | 81.5 | | | | | 0.0 | 32.9 | 207.9 | 114.4 | 0.0 | 0.0 |
| 145.00 | | 289.0 | 197.1 | | | | | 0.0 | 82.1 | 289.0 | 279.2 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 141.6 | 187.4 | 3,838.3 | 0.0 | 6,823.0 | 3,775.9 | 0.0 | 82.1 | 3,979.9 | 4,045.5 | 0.0 | 0.0 |
| Totals: | | | | | | | | | | 26,767.9 | 40,171.7 | 0.00 | 0.00 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:10 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.6W

95 mph with No Ice

27 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 | -40.10 | -26.61 | 0.00 | -2,652.21 | 0.00 | 2,652.21 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.705 |
| 5.00 | -38.63 | -26.29 | 0.00 | -2,519.15 | 0.00 | 2,519.15 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.16 | -0.29 | 0.686 |
| 10.00 | -37.03 | -25.88 | 0.00 | -2,387.69 | 0.00 | 2,387.69 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.62 | -0.58 | 0.667 |
| 15.00 | -35.46 | -25.46 | 0.00 | -2,258.30 | 0.00 | 2,258.30 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 1.39 | -0.88 | 0.647 |
| 20.00 | -33.91 | -25.03 | 0.00 | -2,131.01 | 0.00 | 2,131.01 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 2.46 | -1.17 | 0.626 |
| 25.00 | -32.39 | -24.61 | 0.00 | -2,005.85 | 0.00 | 2,005.85 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 3.84 | -1.46 | 0.605 |
| 30.00 | -30.93 | -24.28 | 0.00 | -1,882.83 | 0.00 | 1,882.83 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 5.52 | -1.75 | 0.583 |
| 31.50 | -30.47 | -24.11 | 0.00 | -1,846.33 | 0.00 | 1,846.33 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 6.08 | -1.83 | 0.577 |
| 34.00 | -29.35 | -23.83 | 0.00 | -1,786.14 | 0.00 | 1,786.14 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 7.08 | -1.98 | 0.559 |
| 35.00 | -28.86 | -23.66 | 0.00 | -1,762.31 | 0.00 | 1,762.31 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 7.50 | -2.04 | 0.555 |
| 35.67 | -28.54 | -23.47 | 0.00 | -1,746.46 | 0.00 | 1,746.46 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 7.79 | -2.08 | 0.641 |
| 40.00 | -27.38 | -23.02 | 0.00 | -1,644.84 | 0.00 | 1,644.84 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 9.79 | -2.32 | 0.617 |
| 45.00 | -26.07 | -22.52 | 0.00 | -1,529.72 | 0.00 | 1,529.72 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 12.38 | -2.62 | 0.588 |
| 50.00 | -24.78 | -22.00 | 0.00 | -1,417.12 | 0.00 | 1,417.12 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 15.27 | -2.91 | 0.559 |
| 55.00 | -23.52 | -21.46 | 0.00 | -1,307.13 | 0.00 | 1,307.13 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 18.47 | -3.19 | 0.529 |
| 60.00 | -22.28 | -20.91 | 0.00 | -1,199.83 | 0.00 | 1,199.83 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 21.96 | -3.47 | 0.498 |
| 65.00 | -21.07 | -20.34 | 0.00 | -1,095.28 | 0.00 | 1,095.28 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 25.74 | -3.74 | 0.467 |
| 70.00 | -19.91 | -19.96 | 0.00 | -993.56 | 0.00 | 993.56 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 29.80 | -4.01 | 0.436 |
| 70.05 | -19.88 | -19.82 | 0.00 | -992.50 | 0.00 | 992.50 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 29.84 | -4.01 | 0.435 |
| 73.55 | -18.76 | -19.46 | 0.00 | -923.13 | 0.00 | 923.13 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 32.85 | -4.19 | 0.483 |
| 75.00 | -18.43 | -19.15 | 0.00 | -894.97 | 0.00 | 894.97 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 34.13 | -4.26 | 0.472 |
| 80.00 | -17.39 | -18.56 | 0.00 | -799.21 | 0.00 | 799.21 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 38.73 | -4.52 | 0.431 |
| 85.00 | -16.36 | -17.96 | 0.00 | -706.39 | 0.00 | 706.39 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 43.59 | -4.76 | 0.390 |
| 85.00 | -16.36 | -17.96 | 0.00 | -706.39 | 0.00 | 706.39 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 43.59 | -4.76 | 0.390 |
| 90.00 | -15.36 | -17.36 | 0.00 | -616.57 | 0.00 | 616.57 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 48.70 | -4.99 | 0.349 |
| 95.00 | -14.38 | -16.84 | 0.00 | -529.77 | 0.00 | 529.77 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 54.04 | -5.20 | 0.308 |
| 98.00 | -10.94 | -12.70 | 0.00 | -479.26 | 0.00 | 479.26 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 57.34 | -5.32 | 0.282 |
| 100.00 | -10.57 | -12.47 | 0.00 | -453.86 | 0.00 | 453.86 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 59.59 | -5.40 | 0.269 |
| 101.50 | -10.30 | -12.23 | 0.00 | -435.15 | 0.00 | 435.15 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 61.29 | -5.46 | 0.260 |
| 101.50 | -10.30 | -12.23 | 0.00 | -435.15 | 0.00 | 435.15 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 61.29 | -5.46 | 0.742 |
| 105.00 | -9.90 | -11.94 | 0.00 | -392.34 | 0.00 | 392.34 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 65.33 | -5.58 | 0.698 |
| 110.00 | -9.35 | -11.74 | 0.00 | -332.63 | 0.00 | 332.63 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 71.43 | -6.07 | 0.633 |
| 110.05 | -9.33 | -11.69 | 0.00 | -332.01 | 0.00 | 332.01 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 71.50 | -6.07 | 0.632 |
| 110.05 | -9.33 | -11.69 | 0.00 | -332.01 | 0.00 | 332.01 | 846.24 | 423.12 | 735.22 | 363.10 | 71.50 | -6.07 | 0.926 |
| 112.00 | -9.13 | -11.49 | 0.00 | -309.25 | 0.00 | 309.25 | 839.36 | 419.68 | 718.59 | 354.89 | 74.01 | -6.26 | 0.883 |
| 115.00 | -8.84 | -11.31 | 0.00 | -274.78 | 0.00 | 274.78 | 828.44 | 414.22 | 693.06 | 342.28 | 78.05 | -6.62 | 0.814 |
| 118.00 | -7.73 | -9.98 | 0.00 | -240.85 | 0.00 | 240.85 | 817.15 | 408.57 | 667.65 | 329.73 | 82.31 | -6.96 | 0.741 |
| 120.00 | -7.55 | -9.77 | 0.00 | -220.89 | 0.00 | 220.89 | 809.41 | 404.71 | 650.78 | 321.40 | 85.27 | -7.18 | 0.697 |
| 125.00 | -7.15 | -9.51 | 0.00 | -172.02 | 0.00 | 172.02 | 789.35 | 394.68 | 608.94 | 300.73 | 93.03 | -7.67 | 0.582 |
| 128.00 | -6.15 | -8.18 | 0.00 | -143.51 | 0.00 | 143.51 | 776.82 | 388.41 | 584.09 | 288.46 | 97.93 | -7.93 | 0.506 |
| 130.00 | -6.01 | -7.97 | 0.00 | -127.15 | 0.00 | 127.15 | 768.25 | 384.13 | 567.64 | 280.34 | 101.27 | -8.10 | 0.462 |
| 135.00 | -5.70 | -7.70 | 0.00 | -87.31 | 0.00 | 87.31 | 746.11 | 373.06 | 526.99 | 260.26 | 109.92 | -8.44 | 0.344 |
| 138.00 | -3.71 | -5.09 | 0.00 | -64.21 | 0.00 | 64.21 | 732.33 | 366.17 | 502.94 | 248.38 | 115.26 | -8.61 | 0.264 |
| 140.00 | -3.62 | -4.88 | 0.00 | -54.02 | 0.00 | 54.02 | 722.94 | 361.47 | 487.07 | 240.55 | 118.87 | -8.70 | 0.230 |
| 145.00 | -3.38 | -4.56 | 0.00 | -29.62 | 0.00 | 29.62 | 694.03 | 347.02 | 445.00 | 219.77 | 128.05 | -8.88 | 0.140 |
| 150.00 | 0.00 | -3.98 | 0.00 | -6.82 | 0.00 | 6.82 | 659.19 | 329.60 | 401.19 | 198.13 | 137.37 | -8.97 | 0.035 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:10 AM

Customer: VERIZON WIRELESS

| | | |
|-------------------------------|---------------------------------|-------------------------------|
| Load Case: 0.9D + 1.6W | 95 mph with No Ice (Reduced DL) | 27 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 Moment MY (lb-ft) | MZ (lb-ft) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Torsion Moment MY (lb-ft) | MZ (lb) |
| 0.00 | | 215.6 | 0.0 | | | | | 0.0 | 0.0 | 215.6 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 468.9 | 676.6 | | | | | 0.0 | 328.5 | 468.9 | 1,005.2 | 0.0 | 0.0 |
| 10.00 | | 501.0 | 662.1 | | | | | 92.1 | 440.3 | 593.1 | 1,102.5 | 0.0 | 0.0 |
| 15.00 | | 490.1 | 647.7 | | | | | 92.1 | 440.3 | 582.2 | 1,088.0 | 0.0 | 0.0 |
| 20.00 | | 479.1 | 633.2 | | | | | 92.1 | 440.3 | 571.2 | 1,073.5 | 0.0 | 0.0 |
| 25.00 | | 468.2 | 618.7 | | | | | 92.1 | 440.3 | 560.2 | 1,059.0 | 0.0 | 0.0 |
| 30.00 | | 300.4 | 604.2 | | | | | 92.1 | 440.3 | 392.5 | 1,044.6 | 0.0 | 0.0 |
| 31.50 | Bot - Section 2 | 186.9 | 178.8 | | | | | 27.8 | 132.4 | 214.7 | 311.2 | 0.0 | 0.0 |
| 34.00 | Appertunance(s) | 165.3 | 544.5 | 81.3 | 0.0 | 0.0 | 54.0 | 46.8 | 219.9 | 293.5 | 818.4 | 0.0 | 0.0 |
| 35.00 | Appertunance(s) | 79.4 | 216.2 | 82.0 | 0.0 | 0.0 | 54.0 | 18.9 | 87.9 | 180.4 | 358.2 | 0.0 | 0.0 |
| 35.67 | Top - Section 1 | 239.7 | 144.3 | | | | | 12.7 | 58.8 | 252.5 | 203.1 | 0.0 | 0.0 |
| 40.00 | | 450.2 | 423.6 | | | | | 83.3 | 380.1 | 533.5 | 803.8 | 0.0 | 0.0 |
| 45.00 | | 486.4 | 477.9 | | | | | 98.3 | 439.0 | 584.7 | 916.9 | 0.0 | 0.0 |
| 50.00 | | 488.6 | 465.9 | | | | | 100.3 | 439.0 | 589.0 | 904.8 | 0.0 | 0.0 |
| 55.00 | | 489.1 | 453.8 | | | | | 102.2 | 439.0 | 591.4 | 892.8 | 0.0 | 0.0 |
| 60.00 | | 488.1 | 441.8 | | | | | 104.0 | 439.0 | 592.1 | 880.7 | 0.0 | 0.0 |
| 65.00 | | 485.7 | 429.7 | | | | | 105.6 | 439.0 | 591.3 | 868.7 | 0.0 | 0.0 |
| 70.00 | | 244.7 | 417.6 | | | | | 107.2 | 439.0 | 351.8 | 856.6 | 0.0 | 0.0 |
| 70.05 | Bot - Section 3 | 174.0 | 4.4 | | | | | 1.2 | 4.7 | 175.1 | 9.1 | 0.0 | 0.0 |
| 73.55 | Top - Section 2 | 241.9 | 518.0 | | | | | 75.9 | 307.3 | 317.8 | 825.3 | 0.0 | 0.0 |
| 75.00 | | 312.6 | 94.9 | | | | | 31.6 | 127.0 | 344.2 | 221.9 | 0.0 | 0.0 |
| 80.00 | | 481.2 | 321.7 | | | | | 110.0 | 439.0 | 591.2 | 760.7 | 0.0 | 0.0 |
| 85.00 | Reinf. Top Reinf | 474.8 | 312.1 | | | | | 111.3 | 439.0 | 586.1 | 751.1 | 0.0 | 0.0 |
| 90.00 | | 467.7 | 302.4 | | | | | 112.5 | 439.0 | 580.2 | 741.4 | 0.0 | 0.0 |
| 95.00 | | 369.1 | 292.8 | | | | | 113.7 | 439.0 | 482.8 | 731.8 | 0.0 | 0.0 |
| 98.00 | Appertunance(s) | 227.8 | 171.0 | 3,526.1 | 0.0 | 0.0 | 2,402.5 | 68.8 | 263.4 | 3,822.7 | 2,837.0 | 0.0 | 0.0 |
| 100.00 | | 158.0 | 112.1 | | | | | 46.1 | 169.8 | 204.1 | 281.9 | 0.0 | 0.0 |
| 101.50 | Reinf. Top | 197.3 | 83.1 | | | | | 34.7 | 127.3 | 232.0 | 210.4 | 0.0 | 0.0 |
| 105.00 | | 311.8 | 190.4 | | | | | 0.0 | 86.7 | 311.8 | 277.1 | 0.0 | 0.0 |
| 110.00 | | 183.9 | 263.8 | | | | | 0.0 | 123.9 | 183.9 | 387.7 | 0.0 | 0.0 |
| 110.05 | Top - Section 3 | 71.6 | 2.8 | | | | | 0.0 | 1.3 | 71.6 | 4.1 | 0.0 | 0.0 |
| 112.00 | Appertunance(s) | 175.8 | 75.3 | 47.3 | 0.0 | 0.0 | 9.0 | 0.0 | 48.2 | 223.1 | 132.5 | 0.0 | 0.0 |
| 115.00 | | 210.6 | 113.9 | | | | | 0.0 | 64.5 | 210.6 | 178.3 | 0.0 | 0.0 |
| 118.00 | Appertunance(s) | 173.2 | 111.3 | 1,059.8 | 0.0 | 0.0 | 740.0 | 0.0 | 64.5 | 1,233.0 | 915.7 | 0.0 | 0.0 |
| 120.00 | | 237.2 | 72.7 | | | | | 0.0 | 41.7 | 237.2 | 114.4 | 0.0 | 0.0 |
| 125.00 | | 267.1 | 176.7 | | | | | 0.0 | 104.2 | 267.1 | 281.0 | 0.0 | 0.0 |
| 128.00 | Appertunance(s) | 163.5 | 102.6 | 1,040.0 | 0.0 | 0.0 | 693.6 | 0.0 | 62.5 | 1,203.4 | 858.7 | 0.0 | 0.0 |
| 130.00 | | 223.1 | 66.9 | | | | | 0.0 | 30.5 | 223.1 | 97.4 | 0.0 | 0.0 |
| 135.00 | | 250.7 | 162.3 | | | | | 0.0 | 76.2 | 250.7 | 238.5 | 0.0 | 0.0 |
| 138.00 | Appertunance(s) | 152.9 | 93.9 | 2,139.2 | 0.0 | 0.0 | 1,616.0 | 0.0 | 45.7 | 2,292.2 | 1,755.7 | 0.0 | 0.0 |
| 140.00 | | 207.9 | 61.1 | | | | | 0.0 | 24.6 | 207.9 | 85.8 | 0.0 | 0.0 |
| 145.00 | | 289.0 | 147.8 | | | | | 0.0 | 61.6 | 289.0 | 209.4 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 141.6 | 140.6 | 3,838.3 | 0.0 | 6,823.0 | 2,831.9 | 0.0 | 61.6 | 3,979.9 | 3,034.1 | 0.0 | 0.0 |
| Totals: | | | | | | | | | | 26,679.0 | 30,128.8 | 0.00 | 0.00 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:13 AM

Customer: VERIZON WIRELESS

Load Case: 0.9D + 1.6W

95 mph with No Ice (Reduced DL)

27 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 | -30.06 | -26.54 | 0.00 | -2,608.75 | 0.00 | 2,608.75 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.691 |
| 5.00 | -28.93 | -26.21 | 0.00 | -2,476.05 | 0.00 | 2,476.05 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.15 | -0.29 | 0.672 |
| 10.00 | -27.70 | -25.75 | 0.00 | -2,344.99 | 0.00 | 2,344.99 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.61 | -0.57 | 0.653 |
| 15.00 | -26.49 | -25.29 | 0.00 | -2,216.24 | 0.00 | 2,216.24 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 1.36 | -0.86 | 0.633 |
| 20.00 | -25.31 | -24.82 | 0.00 | -2,089.80 | 0.00 | 2,089.80 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 2.42 | -1.15 | 0.612 |
| 25.00 | -24.14 | -24.36 | 0.00 | -1,965.68 | 0.00 | 1,965.68 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 3.77 | -1.43 | 0.591 |
| 30.00 | -23.03 | -24.01 | 0.00 | -1,843.89 | 0.00 | 1,843.89 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 5.42 | -1.71 | 0.570 |
| 31.50 | -22.68 | -23.83 | 0.00 | -1,807.79 | 0.00 | 1,807.79 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 5.97 | -1.80 | 0.563 |
| 34.00 | -21.83 | -23.55 | 0.00 | -1,748.28 | 0.00 | 1,748.28 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 6.95 | -1.94 | 0.546 |
| 35.00 | -21.46 | -23.38 | 0.00 | -1,724.73 | 0.00 | 1,724.73 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 7.37 | -2.00 | 0.542 |
| 35.67 | -21.21 | -23.17 | 0.00 | -1,709.07 | 0.00 | 1,709.07 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 7.65 | -2.04 | 0.626 |
| 40.00 | -20.32 | -22.70 | 0.00 | -1,608.75 | 0.00 | 1,608.75 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 9.61 | -2.28 | 0.601 |
| 45.00 | -19.32 | -22.17 | 0.00 | -1,495.25 | 0.00 | 1,495.25 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 12.15 | -2.56 | 0.573 |
| 50.00 | -18.34 | -21.63 | 0.00 | -1,384.39 | 0.00 | 1,384.39 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 14.98 | -2.85 | 0.544 |
| 55.00 | -17.37 | -21.08 | 0.00 | -1,276.22 | 0.00 | 1,276.22 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 18.12 | -3.13 | 0.514 |
| 60.00 | -16.43 | -20.52 | 0.00 | -1,170.83 | 0.00 | 1,170.83 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 21.54 | -3.40 | 0.485 |
| 65.00 | -15.51 | -19.94 | 0.00 | -1,068.25 | 0.00 | 1,068.25 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 25.24 | -3.66 | 0.454 |
| 70.00 | -14.64 | -19.57 | 0.00 | -968.54 | 0.00 | 968.54 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 29.21 | -3.92 | 0.423 |
| 70.05 | -14.61 | -19.42 | 0.00 | -967.49 | 0.00 | 967.49 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 29.26 | -3.93 | 0.423 |
| 73.55 | -13.77 | -19.07 | 0.00 | -899.54 | 0.00 | 899.54 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 32.20 | -4.10 | 0.469 |
| 75.00 | -13.52 | -18.75 | 0.00 | -871.95 | 0.00 | 871.95 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 33.45 | -4.17 | 0.458 |
| 80.00 | -12.72 | -18.16 | 0.00 | -778.20 | 0.00 | 778.20 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 37.95 | -4.42 | 0.418 |
| 85.00 | -11.95 | -17.56 | 0.00 | -687.42 | 0.00 | 687.42 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 42.71 | -4.66 | 0.378 |
| 85.00 | -11.95 | -17.56 | 0.00 | -687.42 | 0.00 | 687.42 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 42.71 | -4.66 | 0.378 |
| 90.00 | -11.20 | -16.96 | 0.00 | -599.61 | 0.00 | 599.61 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 47.71 | -4.88 | 0.338 |
| 95.00 | -10.47 | -16.45 | 0.00 | -514.79 | 0.00 | 514.79 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 52.93 | -5.09 | 0.298 |
| 98.00 | -7.96 | -12.40 | 0.00 | -465.45 | 0.00 | 465.45 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 56.16 | -5.20 | 0.272 |
| 100.00 | -7.69 | -12.18 | 0.00 | -440.65 | 0.00 | 440.65 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 58.35 | -5.28 | 0.261 |
| 101.50 | -7.48 | -11.94 | 0.00 | -422.38 | 0.00 | 422.38 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 60.02 | -5.33 | 0.252 |
| 101.50 | -7.48 | -11.94 | 0.00 | -422.38 | 0.00 | 422.38 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 60.02 | -5.33 | 0.252 |
| 105.00 | -7.17 | -11.64 | 0.00 | -380.59 | 0.00 | 380.59 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 63.97 | -5.45 | 0.219 |
| 110.00 | -6.76 | -11.45 | 0.00 | -322.38 | 0.00 | 322.38 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 69.93 | -5.92 | 0.612 |
| 110.05 | -6.74 | -11.39 | 0.00 | -321.77 | 0.00 | 321.77 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 69.99 | -5.93 | 0.611 |
| 110.05 | -6.74 | -11.39 | 0.00 | -321.77 | 0.00 | 321.77 | 846.24 | 423.12 | 735.22 | 363.10 | 69.99 | -5.93 | 0.895 |
| 112.00 | -6.58 | -11.18 | 0.00 | -299.61 | 0.00 | 299.61 | 839.36 | 419.68 | 718.59 | 354.89 | 72.44 | -6.11 | 0.853 |
| 115.00 | -6.36 | -10.99 | 0.00 | -266.06 | 0.00 | 266.06 | 828.44 | 414.22 | 693.06 | 342.28 | 76.39 | -6.46 | 0.786 |
| 118.00 | -5.55 | -9.69 | 0.00 | -233.09 | 0.00 | 233.09 | 817.15 | 408.57 | 667.65 | 329.73 | 80.55 | -6.79 | 0.714 |
| 120.00 | -5.41 | -9.47 | 0.00 | -213.71 | 0.00 | 213.71 | 809.41 | 404.71 | 650.78 | 321.40 | 83.43 | -7.00 | 0.672 |
| 125.00 | -5.11 | -9.20 | 0.00 | -166.36 | 0.00 | 166.36 | 789.35 | 394.68 | 608.94 | 300.73 | 91.01 | -7.48 | 0.560 |
| 128.00 | -4.39 | -7.91 | 0.00 | -138.75 | 0.00 | 138.75 | 776.82 | 388.41 | 584.09 | 288.46 | 95.77 | -7.73 | 0.487 |
| 130.00 | -4.29 | -7.70 | 0.00 | -122.92 | 0.00 | 122.92 | 768.25 | 384.13 | 567.64 | 280.34 | 99.04 | -7.89 | 0.444 |
| 135.00 | -4.05 | -7.43 | 0.00 | -84.44 | 0.00 | 84.44 | 746.11 | 373.06 | 526.99 | 260.26 | 107.46 | -8.22 | 0.330 |
| 138.00 | -2.64 | -4.92 | 0.00 | -62.14 | 0.00 | 62.14 | 732.33 | 366.17 | 502.94 | 248.38 | 112.66 | -8.38 | 0.254 |
| 140.00 | -2.57 | -4.70 | 0.00 | -52.31 | 0.00 | 52.31 | 722.94 | 361.47 | 487.07 | 240.55 | 116.18 | -8.47 | 0.221 |
| 145.00 | -2.40 | -4.39 | 0.00 | -28.79 | 0.00 | 28.79 | 694.03 | 347.02 | 445.00 | 219.77 | 125.12 | -8.64 | 0.135 |
| 150.00 | 0.00 | -3.98 | 0.00 | -6.82 | 0.00 | 6.82 | 659.19 | 329.60 | 401.19 | 198.13 | 134.20 | -8.73 | 0.035 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:13 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 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 | | 48.4 | 0.0 | | | | | 0.0 | 0.0 | 48.4 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 96.3 | 1,283.4 | | | | | 0.0 | 562.6 | 96.3 | 1,846.0 | 0.0 | 0.0 |
| 10.00 | | 95.0 | 1,301.6 | | | | | 34.9 | 876.4 | 129.9 | 2,178.0 | 0.0 | 0.0 |
| 15.00 | | 93.5 | 1,296.1 | | | | | 35.7 | 895.4 | 129.2 | 2,191.4 | 0.0 | 0.0 |
| 20.00 | | 91.8 | 1,282.8 | | | | | 36.3 | 908.6 | 128.2 | 2,191.4 | 0.0 | 0.0 |
| 25.00 | | 90.2 | 1,265.4 | | | | | 36.7 | 919.0 | 126.9 | 2,184.5 | 0.0 | 0.0 |
| 30.00 | | 58.0 | 1,245.6 | | | | | 37.1 | 927.6 | 95.1 | 2,173.2 | 0.0 | 0.0 |
| 31.50 | Bot - Section 2 | 36.2 | 371.4 | | | | | 11.3 | 280.4 | 47.5 | 651.8 | 0.0 | 0.0 |
| 34.00 | Appertunance(s) | 32.0 | 949.8 | 25.4 | 0.0 | 0.0 | 112.3 | 19.2 | 467.0 | 76.6 | 1,529.1 | 0.0 | 0.0 |
| 35.00 | Appertunance(s) | 15.4 | 378.0 | 22.1 | 0.0 | 0.0 | 208.9 | 7.8 | 181.4 | 45.3 | 768.3 | 0.0 | 0.0 |
| 35.67 | Top - Section 1 | 46.6 | 252.5 | | | | | 5.3 | 117.5 | 51.8 | 370.0 | 0.0 | 0.0 |
| 40.00 | | 87.7 | 948.2 | | | | | 34.9 | 761.6 | 122.6 | 1,709.8 | 0.0 | 0.0 |
| 45.00 | | 95.1 | 1,075.0 | | | | | 41.9 | 883.6 | 137.0 | 1,958.5 | 0.0 | 0.0 |
| 50.00 | | 95.9 | 1,053.6 | | | | | 43.5 | 887.5 | 139.4 | 1,941.1 | 0.0 | 0.0 |
| 55.00 | | 96.4 | 1,031.5 | | | | | 45.0 | 891.1 | 141.4 | 1,922.6 | 0.0 | 0.0 |
| 60.00 | | 96.6 | 1,008.8 | | | | | 46.4 | 894.4 | 143.1 | 1,903.2 | 0.0 | 0.0 |
| 65.00 | | 96.6 | 985.7 | | | | | 47.8 | 897.5 | 144.4 | 1,883.2 | 0.0 | 0.0 |
| 70.00 | | 48.8 | 962.1 | | | | | 49.0 | 900.4 | 97.8 | 1,862.5 | 0.0 | 0.0 |
| 70.05 | Bot - Section 3 | 34.7 | 10.2 | | | | | 0.5 | 9.6 | 35.3 | 19.8 | 0.0 | 0.0 |
| 73.55 | Top - Section 2 | 48.3 | 975.6 | | | | | 35.0 | 631.9 | 83.4 | 1,607.5 | 0.0 | 0.0 |
| 75.00 | | 62.7 | 243.8 | | | | | 14.6 | 261.6 | 77.4 | 505.4 | 0.0 | 0.0 |
| 80.00 | | 96.9 | 825.2 | | | | | 51.4 | 905.6 | 148.2 | 1,730.8 | 0.0 | 0.0 |
| 85.00 | Reinf. Top Reinf | 96.1 | 803.9 | | | | | 52.4 | 908.0 | 148.5 | 1,711.9 | 0.0 | 0.0 |
| 90.00 | | 95.1 | 782.3 | | | | | 53.5 | 910.3 | 148.6 | 1,692.6 | 0.0 | 0.0 |
| 95.00 | | 75.4 | 760.5 | | | | | 54.5 | 912.5 | 130.0 | 1,673.0 | 0.0 | 0.0 |
| 98.00 | Appertunance(s) | 46.7 | 447.1 | 876.2 | 0.0 | 0.0 | 8,448.3 | 33.2 | 548.5 | 956.2 | 9,443.9 | 0.0 | 0.0 |
| 100.00 | | 32.5 | 294.1 | | | | | 22.3 | 358.3 | 54.8 | 652.4 | 0.0 | 0.0 |
| 101.50 | Reinf. Top | 46.1 | 218.4 | | | | | 16.8 | 269.0 | 62.9 | 487.4 | 0.0 | 0.0 |
| 105.00 | | 77.6 | 500.2 | | | | | 0.0 | 251.2 | 77.6 | 751.3 | 0.0 | 0.0 |
| 110.00 | | 45.9 | 693.7 | | | | | 0.0 | 359.8 | 45.9 | 1,053.5 | 0.0 | 0.0 |
| 110.05 | Top - Section 3 | 18.0 | 7.3 | | | | | 0.0 | 3.8 | 18.0 | 11.2 | 0.0 | 0.0 |
| 112.00 | Appertunance(s) | 44.2 | 232.2 | 14.6 | 0.0 | 0.0 | 76.0 | 0.0 | 140.4 | 58.8 | 448.6 | 0.0 | 0.0 |
| 115.00 | | 53.1 | 351.3 | | | | | 0.0 | 203.6 | 53.1 | 554.9 | 0.0 | 0.0 |
| 118.00 | Appertunance(s) | 43.8 | 344.3 | 295.7 | 0.0 | 0.0 | 2,305.3 | 0.0 | 203.9 | 339.5 | 2,853.5 | 0.0 | 0.0 |
| 120.00 | | 60.4 | 226.0 | | | | | 0.0 | 134.4 | 60.4 | 360.5 | 0.0 | 0.0 |
| 125.00 | | 68.3 | 547.8 | | | | | 0.0 | 336.8 | 68.3 | 884.6 | 0.0 | 0.0 |
| 128.00 | Appertunance(s) | 42.1 | 320.5 | 264.3 | 0.0 | 0.0 | 2,175.0 | 0.0 | 202.6 | 306.3 | 2,698.1 | 0.0 | 0.0 |
| 130.00 | | 57.8 | 210.2 | | | | | 0.0 | 40.7 | 57.8 | 250.8 | 0.0 | 0.0 |
| 135.00 | | 65.3 | 507.9 | | | | | 0.0 | 101.6 | 65.3 | 609.5 | 0.0 | 0.0 |
| 138.00 | Appertunance(s) | 40.1 | 296.5 | 541.4 | 0.0 | 0.0 | 5,816.3 | 0.0 | 61.0 | 581.5 | 6,173.7 | 0.0 | 0.0 |
| 140.00 | | 55.0 | 194.1 | | | | | 0.0 | 32.9 | 55.0 | 226.9 | 0.0 | 0.0 |
| 145.00 | | 77.1 | 467.5 | | | | | 0.0 | 82.1 | 77.1 | 549.6 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 38.0 | 447.1 | 1,016.9 | 0.0 | 1,721.5 | 9,588.0 | 0.0 | 82.1 | 1,054.9 | 10,117.2 | 0.0 | 0.0 |
| Totals: | | | | | | | | | | 6,665.73 | 76,333.2 | 0.00 | 0.00 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:17 AM

Customer: VERIZON WIRELESS

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

27 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

| Seg Elev (ft) | Pu FY (-) (kips) | Vu FX (-) (kips) | Tu MY (ft-kips) | Mu MZ (ft-kips) | Mu MX (ft-kips) | Resultant Moment (ft-kips) | phi Pn (kips) | phi Vn (kips) | phi Tn (ft-kips) | phi Mn (ft-kips) | Total Deflect (in) | Rotation (deg) | Ratio |
|---------------|------------------|------------------|-----------------|-----------------|-----------------|----------------------------|---------------|---------------|------------------|------------------|--------------------|----------------|-------|
| 0.00 | -76.33 | -6.67 | 0.00 | -747.33 | 0.00 | 747.33 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.213 |
| 5.00 | -74.47 | -6.68 | 0.00 | -713.97 | 0.00 | 713.97 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.04 | -0.08 | 0.209 |
| 10.00 | -72.29 | -6.65 | 0.00 | -680.55 | 0.00 | 680.55 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.17 | -0.17 | 0.204 |
| 15.00 | -70.08 | -6.62 | 0.00 | -647.29 | 0.00 | 647.29 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.39 | -0.25 | 0.199 |
| 20.00 | -67.88 | -6.58 | 0.00 | -614.20 | 0.00 | 614.20 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.70 | -0.33 | 0.194 |
| 25.00 | -65.69 | -6.53 | 0.00 | -581.31 | 0.00 | 581.31 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 1.09 | -0.42 | 0.188 |
| 30.00 | -63.51 | -6.48 | 0.00 | -548.65 | 0.00 | 548.65 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 1.57 | -0.50 | 0.183 |
| 31.50 | -62.86 | -6.47 | 0.00 | -538.91 | 0.00 | 538.91 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 1.73 | -0.53 | 0.181 |
| 34.00 | -61.33 | -6.41 | 0.00 | -522.76 | 0.00 | 522.76 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 2.02 | -0.57 | 0.176 |
| 35.00 | -60.56 | -6.37 | 0.00 | -516.36 | 0.00 | 516.36 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 2.14 | -0.59 | 0.175 |
| 35.67 | -60.18 | -6.36 | 0.00 | -512.09 | 0.00 | 512.09 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 2.22 | -0.60 | 0.202 |
| 40.00 | -58.47 | -6.30 | 0.00 | -484.57 | 0.00 | 484.57 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 2.80 | -0.67 | 0.196 |
| 45.00 | -56.50 | -6.22 | 0.00 | -453.10 | 0.00 | 453.10 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 3.55 | -0.76 | 0.188 |
| 50.00 | -54.55 | -6.14 | 0.00 | -422.00 | 0.00 | 422.00 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 4.38 | -0.84 | 0.180 |
| 55.00 | -52.62 | -6.04 | 0.00 | -391.32 | 0.00 | 391.32 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 5.31 | -0.93 | 0.171 |
| 60.00 | -50.71 | -5.94 | 0.00 | -361.12 | 0.00 | 361.12 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 6.33 | -1.01 | 0.162 |
| 65.00 | -48.83 | -5.83 | 0.00 | -331.42 | 0.00 | 331.42 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 7.43 | -1.09 | 0.154 |
| 70.00 | -46.96 | -5.73 | 0.00 | -302.27 | 0.00 | 302.27 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 8.62 | -1.17 | 0.144 |
| 70.05 | -46.94 | -5.72 | 0.00 | -301.96 | 0.00 | 301.96 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 8.63 | -1.17 | 0.144 |
| 73.55 | -45.33 | -5.63 | 0.00 | -281.96 | 0.00 | 281.96 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 9.51 | -1.23 | 0.162 |
| 75.00 | -44.82 | -5.58 | 0.00 | -273.82 | 0.00 | 273.82 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 9.89 | -1.25 | 0.158 |
| 80.00 | -43.09 | -5.45 | 0.00 | -245.91 | 0.00 | 245.91 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 11.24 | -1.33 | 0.146 |
| 85.00 | -41.37 | -5.31 | 0.00 | -218.66 | 0.00 | 218.66 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 12.68 | -1.41 | 0.134 |
| 85.00 | -41.37 | -5.31 | 0.00 | -218.66 | 0.00 | 218.66 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 12.68 | -1.41 | 0.134 |
| 90.00 | -39.68 | -5.17 | 0.00 | -192.08 | 0.00 | 192.08 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 14.19 | -1.48 | 0.121 |
| 95.00 | -38.00 | -5.03 | 0.00 | -166.23 | 0.00 | 166.23 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 15.77 | -1.54 | 0.109 |
| 98.00 | -28.59 | -3.83 | 0.00 | -151.14 | 0.00 | 151.14 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 16.75 | -1.58 | 0.098 |
| 100.00 | -27.94 | -3.77 | 0.00 | -143.47 | 0.00 | 143.47 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 17.42 | -1.60 | 0.094 |
| 101.50 | -27.45 | -3.71 | 0.00 | -137.81 | 0.00 | 137.81 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 17.93 | -1.62 | 0.091 |
| 101.50 | -27.45 | -3.71 | 0.00 | -137.81 | 0.00 | 137.81 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 17.93 | -1.62 | 0.254 |
| 105.00 | -26.69 | -3.65 | 0.00 | -124.84 | 0.00 | 124.84 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 19.13 | -1.66 | 0.240 |
| 110.00 | -25.64 | -3.61 | 0.00 | -106.56 | 0.00 | 106.56 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 20.96 | -1.82 | 0.221 |
| 110.05 | -25.62 | -3.61 | 0.00 | -106.37 | 0.00 | 106.37 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 20.98 | -1.82 | 0.221 |
| 110.05 | -25.62 | -3.61 | 0.00 | -106.37 | 0.00 | 106.37 | 846.24 | 423.12 | 735.22 | 363.10 | 20.98 | -1.82 | 0.323 |
| 112.00 | -25.17 | -3.57 | 0.00 | -99.35 | 0.00 | 99.35 | 839.36 | 419.68 | 718.59 | 354.89 | 21.73 | -1.88 | 0.310 |
| 115.00 | -24.61 | -3.55 | 0.00 | -88.63 | 0.00 | 88.63 | 828.44 | 414.22 | 693.06 | 342.28 | 22.95 | -1.99 | 0.289 |
| 118.00 | -21.77 | -3.14 | 0.00 | -77.99 | 0.00 | 77.99 | 817.15 | 408.57 | 667.65 | 329.73 | 24.24 | -2.11 | 0.263 |
| 120.00 | -21.40 | -3.11 | 0.00 | -71.70 | 0.00 | 71.70 | 809.41 | 404.71 | 650.78 | 321.40 | 25.13 | -2.18 | 0.250 |
| 125.00 | -20.52 | -3.05 | 0.00 | -56.14 | 0.00 | 56.14 | 789.35 | 394.68 | 608.94 | 300.73 | 27.50 | -2.33 | 0.213 |
| 128.00 | -17.83 | -2.66 | 0.00 | -46.98 | 0.00 | 46.98 | 776.82 | 388.41 | 584.09 | 288.46 | 29.00 | -2.42 | 0.186 |
| 130.00 | -17.58 | -2.61 | 0.00 | -41.67 | 0.00 | 41.67 | 768.25 | 384.13 | 567.64 | 280.34 | 30.02 | -2.48 | 0.172 |
| 135.00 | -16.97 | -2.55 | 0.00 | -28.60 | 0.00 | 28.60 | 746.11 | 373.06 | 526.99 | 260.26 | 32.68 | -2.59 | 0.133 |
| 138.00 | -10.83 | -1.69 | 0.00 | -20.97 | 0.00 | 20.97 | 732.33 | 366.17 | 502.94 | 248.38 | 34.32 | -2.64 | 0.099 |
| 140.00 | -10.60 | -1.63 | 0.00 | -17.58 | 0.00 | 17.58 | 722.94 | 361.47 | 487.07 | 240.55 | 35.43 | -2.67 | 0.088 |
| 145.00 | -10.05 | -1.54 | 0.00 | -9.41 | 0.00 | 9.41 | 694.03 | 347.02 | 445.00 | 219.77 | 38.26 | -2.73 | 0.057 |
| 150.00 | 0.00 | -1.05 | 0.00 | -1.72 | 0.00 | 1.72 | 659.19 | 329.60 | 401.19 | 198.13 | 41.14 | -2.76 | 0.009 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:17 AM

Customer: VERIZON WIRELESS

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

Applied Segment Forces Summary

| Seg Elev (ft) | Description | Shaft Forces | | Discrete Forces | | | Linear Forces | | Sum of Forces | | | | |
|---------------------|------------------|-----------------|----------------------|-----------------|---------------------------------|---------------|----------------------|-----------------|----------------------|-----------------|----------------------|------------------------------------|-------------|
| | | Wind FX (lb) | Dead Load (lb) | Wind FX (lb) | Torsion Moment MY (lb-ft) | MZ (lb-ft) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Wind FX (lb) | Dead Load (lb) | Torsion Moment MY (lb-ft) | MZ (lb) |
| 0.00 | | 53.8 | 0.0 | | | | | 0.0 | 0.0 | 53.8 | 0.0 | 0.0 | 0.0 |
| 5.00 | | 116.9 | 751.8 | | | | | 0.0 | 365.0 | 116.9 | 1,116.8 | 0.0 | 0.0 |
| 10.00 | | 124.9 | 735.7 | | | | | 27.0 | 489.2 | 151.9 | 1,225.0 | 0.0 | 0.0 |
| 15.00 | | 122.2 | 719.6 | | | | | 27.0 | 489.2 | 149.1 | 1,208.9 | 0.0 | 0.0 |
| 20.00 | | 119.4 | 703.5 | | | | | 27.0 | 489.2 | 146.4 | 1,192.8 | 0.0 | 0.0 |
| 25.00 | | 116.7 | 687.5 | | | | | 27.0 | 489.2 | 143.7 | 1,176.7 | 0.0 | 0.0 |
| 30.00 | | 74.9 | 671.4 | | | | | 27.0 | 489.2 | 101.8 | 1,160.6 | 0.0 | 0.0 |
| 31.50 | Bot - Section 2 | 46.6 | 198.7 | | | | | 8.2 | 147.1 | 54.8 | 345.8 | 0.0 | 0.0 |
| 34.00 | Appertunance(s) | 41.2 | 605.0 | 20.3 | 0.0 | 0.0 | 60.0 | 13.8 | 244.3 | 75.3 | 909.3 | 0.0 | 0.0 |
| 35.00 | Appertunance(s) | 19.8 | 240.3 | 20.4 | 0.0 | 0.0 | 60.0 | 5.6 | 97.7 | 45.9 | 398.0 | 0.0 | 0.0 |
| 35.67 | Top - Section 1 | 59.8 | 160.3 | | | | | 3.8 | 65.4 | 63.6 | 225.7 | 0.0 | 0.0 |
| 40.00 | | 112.2 | 470.7 | | | | | 25.0 | 422.4 | 137.2 | 893.1 | 0.0 | 0.0 |
| 45.00 | | 121.3 | 531.0 | | | | | 29.8 | 487.7 | 151.1 | 1,018.8 | 0.0 | 0.0 |
| 50.00 | | 121.8 | 517.6 | | | | | 30.8 | 487.7 | 152.6 | 1,005.4 | 0.0 | 0.0 |
| 55.00 | | 121.9 | 504.2 | | | | | 31.7 | 487.7 | 153.6 | 992.0 | 0.0 | 0.0 |
| 60.00 | | 121.7 | 490.8 | | | | | 32.5 | 487.7 | 154.2 | 978.6 | 0.0 | 0.0 |
| 65.00 | | 121.1 | 477.4 | | | | | 33.3 | 487.7 | 154.4 | 965.2 | 0.0 | 0.0 |
| 70.00 | | 61.0 | 464.0 | | | | | 34.0 | 487.7 | 95.0 | 951.8 | 0.0 | 0.0 |
| 70.05 | Bot - Section 3 | 43.4 | 4.9 | | | | | 0.4 | 5.2 | 43.7 | 10.1 | 0.0 | 0.0 |
| 73.55 | Top - Section 2 | 60.3 | 575.5 | | | | | 24.2 | 341.4 | 84.6 | 917.0 | 0.0 | 0.0 |
| 75.00 | | 77.9 | 105.4 | | | | | 10.1 | 141.1 | 88.0 | 246.6 | 0.0 | 0.0 |
| 80.00 | | 120.0 | 357.5 | | | | | 35.4 | 487.7 | 155.4 | 845.2 | 0.0 | 0.0 |
| 85.00 | Reinf. Top Reinf | 118.4 | 346.8 | | | | | 36.0 | 487.7 | 154.4 | 834.5 | 0.0 | 0.0 |
| 90.00 | | 116.6 | 336.0 | | | | | 36.6 | 487.7 | 153.2 | 823.8 | 0.0 | 0.0 |
| 95.00 | | 92.0 | 325.3 | | | | | 37.2 | 487.7 | 129.3 | 813.1 | 0.0 | 0.0 |
| 98.00 | Appertunance(s) | 56.8 | 190.0 | 879.1 | 0.0 | 0.0 | 2,669.5 | 22.6 | 292.6 | 958.5 | 3,152.2 | 0.0 | 0.0 |
| 100.00 | | 39.4 | 124.6 | | | | | 15.2 | 188.7 | 54.6 | 313.2 | 0.0 | 0.0 |
| 101.50 | Reinf. Top | 49.2 | 92.3 | | | | | 11.4 | 141.5 | 60.6 | 233.8 | 0.0 | 0.0 |
| 105.00 | | 77.7 | 211.6 | | | | | 0.0 | 96.4 | 77.7 | 307.9 | 0.0 | 0.0 |
| 110.00 | | 45.9 | 293.2 | | | | | 0.0 | 137.6 | 45.9 | 430.8 | 0.0 | 0.0 |
| 110.05 | Top - Section 3 | 17.9 | 3.1 | | | | | 0.0 | 1.5 | 17.9 | 4.5 | 0.0 | 0.0 |
| 112.00 | Appertunance(s) | 43.8 | 83.6 | 11.8 | 0.0 | 0.0 | 10.0 | 0.0 | 53.6 | 55.6 | 147.2 | 0.0 | 0.0 |
| 115.00 | | 52.5 | 126.5 | | | | | 0.0 | 71.6 | 52.5 | 198.2 | 0.0 | 0.0 |
| 118.00 | Appertunance(s) | 43.2 | 123.6 | 264.2 | 0.0 | 0.0 | 822.2 | 0.0 | 71.6 | 307.4 | 1,017.5 | 0.0 | 0.0 |
| 120.00 | | 59.1 | 80.8 | | | | | 0.0 | 46.3 | 59.1 | 127.1 | 0.0 | 0.0 |
| 125.00 | | 66.6 | 196.4 | | | | | 0.0 | 115.8 | 66.6 | 312.2 | 0.0 | 0.0 |
| 128.00 | Appertunance(s) | 40.8 | 114.0 | 259.3 | 0.0 | 0.0 | 770.7 | 0.0 | 69.5 | 300.0 | 954.1 | 0.0 | 0.0 |
| 130.00 | | 55.6 | 74.4 | | | | | 0.0 | 33.9 | 55.6 | 108.3 | 0.0 | 0.0 |
| 135.00 | | 62.5 | 180.3 | | | | | 0.0 | 84.7 | 62.5 | 265.0 | 0.0 | 0.0 |
| 138.00 | Appertunance(s) | 38.1 | 104.3 | 533.3 | 0.0 | 0.0 | 1,795.6 | 0.0 | 50.8 | 571.5 | 1,950.7 | 0.0 | 0.0 |
| 140.00 | | 51.8 | 67.9 | | | | | 0.0 | 27.4 | 51.8 | 95.3 | 0.0 | 0.0 |
| 145.00 | | 72.0 | 164.2 | | | | | 0.0 | 68.4 | 72.0 | 232.7 | 0.0 | 0.0 |
| 150.00 | Appertunance(s) | 35.3 | 156.2 | 956.9 | 0.0 | 1,701.0 | 3,146.6 | 0.0 | 68.4 | 992.2 | 3,371.2 | 0.0 | 0.0 |
| Totals: | | | | | | | | | | 6,771.90 | 33,476.4 | 0.00 | 0.00 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

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

Calculated Forces

| Seg 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 | -33.47 | -6.74 | 0.00 | -663.33 | 0.00 | 663.33 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.181 |
| 5.00 | -32.35 | -6.66 | 0.00 | -629.64 | 0.00 | 629.64 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.04 | -0.07 | 0.177 |
| 10.00 | -31.11 | -6.55 | 0.00 | -596.32 | 0.00 | 596.32 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.15 | -0.15 | 0.171 |
| 15.00 | -29.90 | -6.43 | 0.00 | -563.58 | 0.00 | 563.58 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.35 | -0.22 | 0.166 |
| 20.00 | -28.70 | -6.32 | 0.00 | -531.42 | 0.00 | 531.42 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.61 | -0.29 | 0.161 |
| 25.00 | -27.51 | -6.20 | 0.00 | -499.83 | 0.00 | 499.83 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 0.96 | -0.36 | 0.155 |
| 30.00 | -26.35 | -6.11 | 0.00 | -468.82 | 0.00 | 468.82 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 1.38 | -0.44 | 0.150 |
| 31.50 | -26.00 | -6.07 | 0.00 | -459.63 | 0.00 | 459.63 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 1.52 | -0.46 | 0.148 |
| 34.00 | -25.09 | -6.00 | 0.00 | -444.48 | 0.00 | 444.48 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 1.77 | -0.49 | 0.143 |
| 35.00 | -24.69 | -5.95 | 0.00 | -438.48 | 0.00 | 438.48 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 1.87 | -0.51 | 0.142 |
| 35.67 | -24.46 | -5.90 | 0.00 | -434.49 | 0.00 | 434.49 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 1.95 | -0.52 | 0.164 |
| 40.00 | -23.56 | -5.78 | 0.00 | -408.94 | 0.00 | 408.94 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 2.44 | -0.58 | 0.158 |
| 45.00 | -22.54 | -5.65 | 0.00 | -380.01 | 0.00 | 380.01 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 3.09 | -0.65 | 0.150 |
| 50.00 | -21.53 | -5.51 | 0.00 | -351.76 | 0.00 | 351.76 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 3.81 | -0.72 | 0.143 |
| 55.00 | -20.53 | -5.37 | 0.00 | -324.19 | 0.00 | 324.19 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 4.61 | -0.79 | 0.135 |
| 60.00 | -19.55 | -5.23 | 0.00 | -297.33 | 0.00 | 297.33 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 5.48 | -0.86 | 0.127 |
| 65.00 | -18.58 | -5.08 | 0.00 | -271.20 | 0.00 | 271.20 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 6.42 | -0.93 | 0.119 |
| 70.00 | -17.63 | -4.98 | 0.00 | -245.80 | 0.00 | 245.80 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 7.43 | -1.00 | 0.111 |
| 70.05 | -17.62 | -4.94 | 0.00 | -245.54 | 0.00 | 245.54 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 7.44 | -1.00 | 0.111 |
| 73.55 | -16.70 | -4.85 | 0.00 | -228.25 | 0.00 | 228.25 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 8.19 | -1.04 | 0.124 |
| 75.00 | -16.45 | -4.77 | 0.00 | -221.23 | 0.00 | 221.23 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 8.51 | -1.06 | 0.121 |
| 80.00 | -15.60 | -4.61 | 0.00 | -197.39 | 0.00 | 197.39 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 9.65 | -1.12 | 0.110 |
| 85.00 | -14.77 | -4.46 | 0.00 | -174.32 | 0.00 | 174.32 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 10.86 | -1.18 | 0.100 |
| 85.00 | -14.77 | -4.46 | 0.00 | -174.32 | 0.00 | 174.32 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 10.86 | -1.18 | 0.100 |
| 90.00 | -13.94 | -4.30 | 0.00 | -152.03 | 0.00 | 152.03 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 12.13 | -1.24 | 0.090 |
| 95.00 | -13.13 | -4.16 | 0.00 | -130.53 | 0.00 | 130.53 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 13.46 | -1.29 | 0.079 |
| 98.00 | -10.00 | -3.14 | 0.00 | -118.04 | 0.00 | 118.04 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 14.28 | -1.32 | 0.072 |
| 100.00 | -9.69 | -3.08 | 0.00 | -111.77 | 0.00 | 111.77 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 14.84 | -1.34 | 0.069 |
| 101.50 | -9.45 | -3.01 | 0.00 | -107.15 | 0.00 | 107.15 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 15.26 | -1.35 | 0.067 |
| 101.50 | -9.45 | -3.01 | 0.00 | -107.15 | 0.00 | 107.15 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 15.26 | -1.35 | 0.188 |
| 105.00 | -9.14 | -2.94 | 0.00 | -96.60 | 0.00 | 96.60 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 16.27 | -1.39 | 0.177 |
| 110.00 | -8.71 | -2.89 | 0.00 | -81.89 | 0.00 | 81.89 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 17.79 | -1.50 | 0.161 |
| 110.05 | -8.71 | -2.88 | 0.00 | -81.74 | 0.00 | 81.74 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 17.80 | -1.51 | 0.161 |
| 110.05 | -8.71 | -2.88 | 0.00 | -81.74 | 0.00 | 81.74 | 846.24 | 423.12 | 735.22 | 363.10 | 17.80 | -1.51 | 0.235 |
| 112.00 | -8.56 | -2.83 | 0.00 | -76.13 | 0.00 | 76.13 | 839.36 | 419.68 | 718.59 | 354.89 | 18.43 | -1.55 | 0.225 |
| 115.00 | -8.36 | -2.79 | 0.00 | -67.64 | 0.00 | 67.64 | 828.44 | 414.22 | 693.06 | 342.28 | 19.43 | -1.64 | 0.208 |
| 118.00 | -7.34 | -2.46 | 0.00 | -59.29 | 0.00 | 59.29 | 817.15 | 408.57 | 667.65 | 329.73 | 20.49 | -1.73 | 0.189 |
| 120.00 | -7.22 | -2.41 | 0.00 | -54.37 | 0.00 | 54.37 | 809.41 | 404.71 | 650.78 | 321.40 | 21.22 | -1.78 | 0.178 |
| 125.00 | -6.90 | -2.34 | 0.00 | -42.35 | 0.00 | 42.35 | 789.35 | 394.68 | 608.94 | 300.73 | 23.15 | -1.90 | 0.150 |
| 128.00 | -5.96 | -2.01 | 0.00 | -35.33 | 0.00 | 35.33 | 776.82 | 388.41 | 584.09 | 288.46 | 24.37 | -1.96 | 0.130 |
| 130.00 | -5.85 | -1.96 | 0.00 | -31.30 | 0.00 | 31.30 | 768.25 | 384.13 | 567.64 | 280.34 | 25.20 | -2.01 | 0.119 |
| 135.00 | -5.58 | -1.89 | 0.00 | -21.50 | 0.00 | 21.50 | 746.11 | 373.06 | 526.99 | 260.26 | 27.35 | -2.09 | 0.090 |
| 138.00 | -3.65 | -1.25 | 0.00 | -15.82 | 0.00 | 15.82 | 732.33 | 366.17 | 502.94 | 248.38 | 28.67 | -2.13 | 0.069 |
| 140.00 | -3.56 | -1.20 | 0.00 | -13.31 | 0.00 | 13.31 | 722.94 | 361.47 | 487.07 | 240.55 | 29.57 | -2.15 | 0.060 |
| 145.00 | -3.33 | -1.12 | 0.00 | -7.31 | 0.00 | 7.31 | 694.03 | 347.02 | 445.00 | 219.77 | 31.85 | -2.20 | 0.038 |
| 150.00 | 0.00 | -0.99 | 0.00 | -1.70 | 0.00 | 1.70 | 659.19 | 329.60 | 401.19 | 198.13 | 34.16 | -2.22 | 0.009 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

Equivalent Lateral Forces Method Analysis

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

| | |
|--|---------|
| Spectral Response Acceleration for Short Period (S_g): | 0.18 |
| 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}): | 0.19 |
| Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}): | 0.10 |
| Seismic Response Coefficient (C_s): | 0.03 |
| Upper Limit C_s | 0.03 |
| Lower Limit C_s | 0.03 |
| Period based on Rayleigh Method (sec): | 2.80 |
| Redundancy Factor (ρ): | 1.30 |
| Seismic Force Distribution Exponent (k): | 2.00 |
| Total Unfactored Dead Load: | 33.48 k |
| Seismic Base Shear (E): | 1.31 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) |
|---------|---------------------------------|----------------|------------------|----------|-----------------------------|---------------------------|
| 42 | 147.50 | 225 | 4,887 | 0.019 | 24 | 278 |
| 41 | 142.50 | 233 | 4,725 | 0.018 | 23 | 288 |
| 40 | 139.00 | 95 | 1,842 | 0.007 | 9 | 118 |
| 39 | 136.50 | 155 | 2,891 | 0.011 | 14 | 192 |
| 38 | 132.50 | 265 | 4,652 | 0.018 | 23 | 328 |
| 37 | 129.00 | 108 | 1,801 | 0.007 | 9 | 134 |
| 36 | 126.50 | 183 | 2,936 | 0.011 | 15 | 227 |
| 35 | 122.50 | 312 | 4,685 | 0.018 | 23 | 387 |
| 34 | 119.00 | 127 | 1,800 | 0.007 | 9 | 157 |
| 33 | 116.50 | 195 | 2,650 | 0.010 | 13 | 242 |
| 32 | 113.50 | 198 | 2,553 | 0.010 | 13 | 245 |
| 31 | 111.03 | 137 | 1,692 | 0.006 | 8 | 170 |
| 30 | 110.03 | 5 | 55 | 0.000 | 0 | 6 |
| 29 | 107.50 | 431 | 4,978 | 0.019 | 25 | 533 |
| 28 | 103.25 | 308 | 3,283 | 0.012 | 16 | 381 |
| 27 | 100.75 | 234 | 2,373 | 0.009 | 12 | 289 |
| 26 | 99.00 | 313 | 3,070 | 0.012 | 15 | 388 |
| 25 | 96.50 | 483 | 4,495 | 0.017 | 22 | 598 |
| 24 | 92.50 | 813 | 6,957 | 0.026 | 34 | 1,007 |
| 23 | 87.50 | 824 | 6,307 | 0.024 | 31 | 1,020 |
| 22 | 82.50 | 835 | 5,680 | 0.022 | 28 | 1,033 |
| 21 | 77.50 | 845 | 5,077 | 0.019 | 25 | 1,047 |
| 20 | 74.28 | 247 | 1,360 | 0.005 | 7 | 305 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

| | | | | | | |
|----------------------|--------|--------|---------|-------|-------|--------|
| 19 | 71.80 | 917 | 4,728 | 0.018 | 23 | 1,135 |
| 18 | 70.03 | 10 | 49 | 0.000 | 0 | 12 |
| 17 | 67.50 | 952 | 4,337 | 0.016 | 21 | 1,178 |
| 16 | 62.50 | 965 | 3,770 | 0.014 | 19 | 1,195 |
| 15 | 57.50 | 979 | 3,235 | 0.012 | 16 | 1,212 |
| 14 | 52.50 | 992 | 2,734 | 0.010 | 14 | 1,228 |
| 13 | 47.50 | 1,005 | 2,268 | 0.009 | 11 | 1,245 |
| 12 | 42.50 | 1,019 | 1,840 | 0.007 | 9 | 1,261 |
| 11 | 37.83 | 893 | 1,278 | 0.005 | 6 | 1,106 |
| 10 | 35.33 | 226 | 282 | 0.001 | 1 | 279 |
| 9 | 34.50 | 338 | 402 | 0.002 | 2 | 418 |
| 8 | 32.75 | 849 | 911 | 0.003 | 5 | 1,052 |
| 7 | 30.75 | 346 | 327 | 0.001 | 2 | 428 |
| 6 | 27.50 | 1,161 | 878 | 0.003 | 4 | 1,437 |
| 5 | 22.50 | 1,177 | 596 | 0.002 | 3 | 1,457 |
| 4 | 17.50 | 1,193 | 365 | 0.001 | 2 | 1,477 |
| 3 | 12.50 | 1,209 | 189 | 0.001 | 1 | 1,497 |
| 2 | 7.50 | 1,225 | 69 | 0.000 | 0 | 1,517 |
| 1 | 2.50 | 1,117 | 7 | 0.000 | 0 | 1,383 |
| Kathrein 860 10025 | 150.00 | 7 | 162 | 0.001 | 1 | 9 |
| Powerwave LGP21401 | 150.00 | 169 | 3,807 | 0.014 | 19 | 210 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 450 | 0.002 | 2 | 25 |
| Ericsson RRUS 11 (Ba | 150.00 | 330 | 7,425 | 0.028 | 37 | 409 |
| 10' Omni | 150.00 | 25 | 563 | 0.002 | 3 | 31 |
| Ericsson RRUS 12 w/ | 150.00 | 214 | 4,820 | 0.018 | 24 | 265 |
| Powerwave Allgon 777 | 150.00 | 162 | 3,645 | 0.014 | 18 | 201 |
| CCI OPA-65R-LCUU-H6 | 150.00 | 219 | 4,928 | 0.019 | 24 | 271 |
| Flat Platform w/ Han | 150.00 | 2,000 | 45,000 | 0.170 | 223 | 2,476 |
| RFS IBC1900HG-2A | 138.00 | 66 | 1,257 | 0.005 | 6 | 82 |
| RFS IBC1900BB-1 | 138.00 | 66 | 1,257 | 0.005 | 6 | 82 |
| Alcatel-Lucent 4X40W | 138.00 | 178 | 3,399 | 0.013 | 17 | 221 |
| Alcatel-Lucent 800 M | 138.00 | 185 | 3,531 | 0.013 | 17 | 230 |
| Alcatel-Lucent TD-RR | 138.00 | 210 | 3,999 | 0.015 | 20 | 260 |
| RFS APXVTM14-C-I20 | 138.00 | 159 | 3,022 | 0.011 | 15 | 197 |
| RFS APXVSP18-C-A20 | 138.00 | 57 | 1,086 | 0.004 | 5 | 71 |
| RFS APXV9ERR18-C-A20 | 138.00 | 124 | 2,361 | 0.009 | 12 | 154 |
| Round T-Arm | 138.00 | 750 | 14,283 | 0.054 | 71 | 929 |
| Stand-Off | 128.00 | 225 | 3,686 | 0.014 | 18 | 279 |
| Ericsson AIR 21, 1.3 | 128.00 | 275 | 4,497 | 0.017 | 22 | 340 |
| Ericsson AIR 21, 1.3 | 128.00 | 271 | 4,443 | 0.017 | 22 | 336 |
| DragonWave Horizon C | 118.00 | 32 | 443 | 0.002 | 2 | 39 |
| DragonWave A-ANT-23G | 118.00 | 15 | 209 | 0.001 | 1 | 19 |
| NextNet BTS-2500 | 118.00 | 105 | 1,462 | 0.006 | 7 | 130 |
| Argus LLPX310R | 118.00 | 86 | 1,195 | 0.005 | 6 | 106 |
| DragonWave A-ANT-23G | 118.00 | 25 | 343 | 0.001 | 2 | 30 |
| Collar Mount | 118.00 | 560 | 7,797 | 0.030 | 39 | 693 |
| 12" x 12" Junction B | 112.00 | 10 | 125 | 0.000 | 1 | 12 |
| Alcatel-Lucent RRH2X | 98.00 | 138 | 1,325 | 0.005 | 7 | 171 |
| Alcatel-Lucent RRH2x | 98.00 | 170 | 1,634 | 0.006 | 8 | 211 |
| Alcatel-Lucent RRH2X | 98.00 | 165 | 1,585 | 0.006 | 8 | 204 |
| RFS DB-T1-6Z-8AB-0Z | 98.00 | 88 | 845 | 0.003 | 4 | 109 |
| Andrew SBNHH-1D65B | 98.00 | 608 | 5,843 | 0.022 | 29 | 753 |
| Flat Low Profile Pla | 98.00 | 1,500 | 14,406 | 0.055 | 71 | 1,857 |
| GPS | 35.00 | 10 | 12 | 0.000 | 0 | 12 |
| Stand-off | 35.00 | 50 | 61 | 0.000 | 0 | 62 |
| GPS | 34.00 | 10 | 12 | 0.000 | 0 | 12 |
| Stand-off | 34.00 | 50 | 58 | 0.000 | 0 | 62 |
| | | 33,476 | 263,989 | 1.000 | 1,306 | 41,450 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

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

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) |
|----------------------|------------------------|-------------|------------------------|-----------------|-----------------------|---------------------|
| 42 | 147.50 | 225 | 4,887 | 0.019 | 24 | 194 |
| 41 | 142.50 | 233 | 4,725 | 0.018 | 23 | 201 |
| 40 | 139.00 | 95 | 1,842 | 0.007 | 9 | 82 |
| 39 | 136.50 | 155 | 2,891 | 0.011 | 14 | 134 |
| 38 | 132.50 | 265 | 4,652 | 0.018 | 23 | 228 |
| 37 | 129.00 | 108 | 1,801 | 0.007 | 9 | 93 |
| 36 | 126.50 | 183 | 2,936 | 0.011 | 15 | 158 |
| 35 | 122.50 | 312 | 4,685 | 0.018 | 23 | 269 |
| 34 | 119.00 | 127 | 1,800 | 0.007 | 9 | 110 |
| 33 | 116.50 | 195 | 2,650 | 0.010 | 13 | 168 |
| 32 | 113.50 | 198 | 2,553 | 0.010 | 13 | 171 |
| 31 | 111.03 | 137 | 1,692 | 0.006 | 8 | 118 |
| 30 | 110.03 | 5 | 55 | 0.000 | 0 | 4 |
| 29 | 107.50 | 431 | 4,978 | 0.019 | 25 | 371 |
| 28 | 103.25 | 308 | 3,283 | 0.012 | 16 | 265 |
| 27 | 100.75 | 234 | 2,373 | 0.009 | 12 | 201 |
| 26 | 99.00 | 313 | 3,070 | 0.012 | 15 | 270 |
| 25 | 96.50 | 483 | 4,495 | 0.017 | 22 | 416 |
| 24 | 92.50 | 813 | 6,957 | 0.026 | 34 | 701 |
| 23 | 87.50 | 824 | 6,307 | 0.024 | 31 | 710 |
| 22 | 82.50 | 835 | 5,680 | 0.022 | 28 | 719 |
| 21 | 77.50 | 845 | 5,077 | 0.019 | 25 | 728 |
| 20 | 74.28 | 247 | 1,360 | 0.005 | 7 | 212 |
| 19 | 71.80 | 917 | 4,728 | 0.018 | 23 | 790 |
| 18 | 70.03 | 10 | 49 | 0.000 | 0 | 9 |
| 17 | 67.50 | 952 | 4,337 | 0.016 | 21 | 820 |
| 16 | 62.50 | 965 | 3,770 | 0.014 | 19 | 832 |
| 15 | 57.50 | 979 | 3,235 | 0.012 | 16 | 843 |
| 14 | 52.50 | 992 | 2,734 | 0.010 | 14 | 855 |
| 13 | 47.50 | 1,005 | 2,268 | 0.009 | 11 | 866 |
| 12 | 42.50 | 1,019 | 1,840 | 0.007 | 9 | 878 |
| 11 | 37.83 | 893 | 1,278 | 0.005 | 6 | 770 |
| 10 | 35.33 | 226 | 282 | 0.001 | 1 | 194 |
| 9 | 34.50 | 338 | 402 | 0.002 | 2 | 291 |
| 8 | 32.75 | 849 | 911 | 0.003 | 5 | 732 |
| 7 | 30.75 | 346 | 327 | 0.001 | 2 | 298 |
| 6 | 27.50 | 1,161 | 878 | 0.003 | 4 | 1,000 |
| 5 | 22.50 | 1,177 | 596 | 0.002 | 3 | 1,014 |
| 4 | 17.50 | 1,193 | 365 | 0.001 | 2 | 1,028 |
| 3 | 12.50 | 1,209 | 189 | 0.001 | 1 | 1,042 |
| 2 | 7.50 | 1,225 | 69 | 0.000 | 0 | 1,056 |
| 1 | 2.50 | 1,117 | 7 | 0.000 | 0 | 963 |
| Kathrein 860 10025 | 150.00 | 7 | 162 | 0.001 | 1 | 6 |
| Powerwave LGP21401 | 150.00 | 169 | 3,807 | 0.014 | 19 | 146 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 450 | 0.002 | 2 | 17 |
| Ericsson RRUS 11 (Ba | 150.00 | 330 | 7,425 | 0.028 | 37 | 284 |
| 10' Omni | 150.00 | 25 | 563 | 0.002 | 3 | 22 |
| Ericsson RRUS 12 w/ | 150.00 | 214 | 4,820 | 0.018 | 24 | 185 |
| Powerwave Allgon 777 | 150.00 | 162 | 3,645 | 0.014 | 18 | 140 |
| CCI OPA-65R-LCUU-H6 | 150.00 | 219 | 4,928 | 0.019 | 24 | 189 |
| Flat Platform w/ Han | 150.00 | 2,000 | 45,000 | 0.170 | 223 | 1,724 |
| RFS IBC1900HG-2A | 138.00 | 66 | 1,257 | 0.005 | 6 | 57 |
| RFS IBC1900BB-1 | 138.00 | 66 | 1,257 | 0.005 | 6 | 57 |
| Alcatel-Lucent 4X40W | 138.00 | 178 | 3,399 | 0.013 | 17 | 154 |
| Alcatel-Lucent 800 M | 138.00 | 185 | 3,531 | 0.013 | 17 | 160 |
| Alcatel-Lucent TD-RR | 138.00 | 210 | 3,999 | 0.015 | 20 | 181 |
| RFS APXVTM14-C-I20 | 138.00 | 159 | 3,022 | 0.011 | 15 | 137 |

Site Number: 302473.

Code: ANS/ITIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

| | | | | | | |
|----------------------|--------|--------|---------|-------|-------|--------|
| RFS APXVSPP18-C-A20 | 138.00 | 57 | 1,086 | 0.004 | 5 | 49 |
| RFS APXV9ERR18-C-A20 | 138.00 | 124 | 2,361 | 0.009 | 12 | 107 |
| Round T-Arm | 138.00 | 750 | 14,283 | 0.054 | 71 | 646 |
| Stand-Off | 128.00 | 225 | 3,686 | 0.014 | 18 | 194 |
| Ericsson AIR 21, 1.3 | 128.00 | 275 | 4,497 | 0.017 | 22 | 237 |
| Ericsson AIR 21, 1.3 | 128.00 | 271 | 4,443 | 0.017 | 22 | 234 |
| DragonWave Horizon C | 118.00 | 32 | 443 | 0.002 | 2 | 27 |
| DragonWave A-ANT-23G | 118.00 | 15 | 209 | 0.001 | 1 | 13 |
| NextNet BTS-2500 | 118.00 | 105 | 1,462 | 0.006 | 7 | 90 |
| Argus LLPX310R | 118.00 | 86 | 1,195 | 0.005 | 6 | 74 |
| DragonWave A-ANT-23G | 118.00 | 25 | 343 | 0.001 | 2 | 21 |
| Collar Mount | 118.00 | 560 | 7,797 | 0.030 | 39 | 483 |
| 12" x 12" Junction B | 112.00 | 10 | 125 | 0.000 | 1 | 9 |
| Alcatel-Lucent RRH2X | 98.00 | 138 | 1,325 | 0.005 | 7 | 119 |
| Alcatel-Lucent RRH2x | 98.00 | 170 | 1,634 | 0.006 | 8 | 147 |
| Alcatel-Lucent RRH2X | 98.00 | 165 | 1,585 | 0.006 | 8 | 142 |
| RFS DB-T1-6Z-8AB-0Z | 98.00 | 88 | 845 | 0.003 | 4 | 76 |
| Andrew SBNHH-1D65B | 98.00 | 608 | 5,843 | 0.022 | 29 | 524 |
| Flat Low Profile Pla | 98.00 | 1,500 | 14,406 | 0.055 | 71 | 1,293 |
| GPS | 35.00 | 10 | 12 | 0.000 | 0 | 9 |
| Stand-off | 35.00 | 50 | 61 | 0.000 | 0 | 43 |
| GPS | 34.00 | 10 | 12 | 0.000 | 0 | 9 |
| Stand-off | 34.00 | 50 | 58 | 0.000 | 0 | 43 |
| | | 33,476 | 263,989 | 1.000 | 1,306 | 28,850 |

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

Seismic Equivalent Lateral Forces Method

Calculated Forces

| Seg Elev (ft) | Pu FY (-) (kips) | Vu FX (-) (kips) | Tu MY (ft-kips) | Mu MZ (ft-kips) | Mu MX (ft-kips) | Resultant Moment (ft-kips) | phi Pn (kips) | phi Vn (kips) | phi Tn (ft-kips) | phi Mn (ft-kips) | Total Deflect (in) | Rotation (deg) | Ratio |
|---------------|------------------|------------------|-----------------|-----------------|-----------------|----------------------------|---------------|---------------|------------------|------------------|--------------------|----------------|-------|
| 0.00 | -40.07 | -1.31 | 0.00 | -164.18 | 0.00 | 164.18 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.052 |
| 5.00 | -38.55 | -1.32 | 0.00 | -157.62 | 0.00 | 157.62 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.01 | -0.02 | 0.051 |
| 10.00 | -37.05 | -1.33 | 0.00 | -151.00 | 0.00 | 151.00 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.04 | -0.04 | 0.050 |
| 15.00 | -35.58 | -1.34 | 0.00 | -144.34 | 0.00 | 144.34 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.09 | -0.06 | 0.049 |
| 20.00 | -34.12 | -1.35 | 0.00 | -137.63 | 0.00 | 137.63 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.15 | -0.07 | 0.048 |
| 25.00 | -32.68 | -1.35 | 0.00 | -130.88 | 0.00 | 130.88 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 0.24 | -0.09 | 0.046 |
| 30.00 | -32.25 | -1.36 | 0.00 | -124.12 | 0.00 | 124.12 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 0.35 | -0.11 | 0.045 |
| 31.50 | -31.20 | -1.36 | 0.00 | -122.08 | 0.00 | 122.08 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 0.38 | -0.12 | 0.045 |
| 34.00 | -30.71 | -1.36 | 0.00 | -118.70 | 0.00 | 118.70 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 0.45 | -0.13 | 0.044 |
| 35.00 | -30.35 | -1.35 | 0.00 | -117.34 | 0.00 | 117.34 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 0.48 | -0.13 | 0.044 |
| 35.67 | -29.25 | -1.35 | 0.00 | -116.43 | 0.00 | 116.43 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 0.49 | -0.13 | 0.050 |
| 40.00 | -27.99 | -1.35 | 0.00 | -110.59 | 0.00 | 110.59 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 0.62 | -0.15 | 0.049 |
| 45.00 | -26.74 | -1.34 | 0.00 | -103.85 | 0.00 | 103.85 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 0.79 | -0.17 | 0.047 |
| 50.00 | -25.51 | -1.33 | 0.00 | -97.14 | 0.00 | 97.14 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 0.98 | -0.19 | 0.045 |
| 55.00 | -24.30 | -1.32 | 0.00 | -90.48 | 0.00 | 90.48 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 1.19 | -0.21 | 0.043 |
| 60.00 | -23.10 | -1.31 | 0.00 | -83.87 | 0.00 | 83.87 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 1.42 | -0.23 | 0.041 |
| 65.00 | -21.93 | -1.29 | 0.00 | -77.34 | 0.00 | 77.34 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 1.67 | -0.25 | 0.039 |
| 70.00 | -21.91 | -1.29 | 0.00 | -70.91 | 0.00 | 70.91 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 1.94 | -0.27 | 0.037 |
| 70.05 | -20.78 | -1.26 | 0.00 | -70.84 | 0.00 | 70.84 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 1.94 | -0.27 | 0.037 |
| 73.55 | -20.47 | -1.26 | 0.00 | -66.42 | 0.00 | 66.42 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 2.14 | -0.28 | 0.042 |
| 75.00 | -19.43 | -1.23 | 0.00 | -64.60 | 0.00 | 64.60 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 2.23 | -0.28 | 0.040 |
| 80.00 | -18.39 | -1.21 | 0.00 | -58.43 | 0.00 | 58.43 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 2.53 | -0.30 | 0.038 |
| 85.00 | -17.37 | -1.17 | 0.00 | -52.41 | 0.00 | 52.41 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 2.86 | -0.32 | 0.035 |
| 85.00 | -17.37 | -1.17 | 0.00 | -52.41 | 0.00 | 52.41 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 2.86 | -0.32 | 0.035 |
| 90.00 | -16.36 | -1.14 | 0.00 | -46.54 | 0.00 | 46.54 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 3.21 | -0.34 | 0.032 |
| 95.00 | -15.77 | -1.12 | 0.00 | -40.85 | 0.00 | 40.85 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 3.57 | -0.35 | 0.029 |
| 98.00 | -12.07 | -0.95 | 0.00 | -37.50 | 0.00 | 37.50 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 3.80 | -0.36 | 0.026 |
| 100.00 | -11.79 | -0.94 | 0.00 | -35.60 | 0.00 | 35.60 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 3.95 | -0.37 | 0.025 |
| 101.50 | -11.40 | -0.92 | 0.00 | -34.19 | 0.00 | 34.19 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 4.07 | -0.37 | 0.024 |
| 101.50 | -11.40 | -0.92 | 0.00 | -34.19 | 0.00 | 34.19 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 4.07 | -0.37 | 0.066 |
| 105.00 | -10.87 | -0.90 | 0.00 | -30.96 | 0.00 | 30.96 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 4.35 | -0.38 | 0.063 |
| 110.00 | -10.86 | -0.90 | 0.00 | -26.46 | 0.00 | 26.46 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 4.77 | -0.42 | 0.058 |
| 110.05 | -10.69 | -0.89 | 0.00 | -26.42 | 0.00 | 26.42 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 4.77 | -0.42 | 0.058 |
| 110.05 | -10.69 | -0.89 | 0.00 | -26.42 | 0.00 | 26.42 | 846.24 | 423.12 | 735.22 | 363.10 | 4.77 | -0.42 | 0.085 |
| 112.00 | -10.44 | -0.88 | 0.00 | -24.67 | 0.00 | 24.67 | 839.36 | 419.68 | 718.59 | 354.89 | 4.95 | -0.44 | 0.082 |
| 115.00 | -10.19 | -0.87 | 0.00 | -22.03 | 0.00 | 22.03 | 828.44 | 414.22 | 693.06 | 342.28 | 5.23 | -0.47 | 0.077 |
| 118.00 | -9.02 | -0.80 | 0.00 | -19.41 | 0.00 | 19.41 | 817.15 | 408.57 | 667.65 | 329.73 | 5.54 | -0.49 | 0.070 |
| 120.00 | -8.63 | -0.78 | 0.00 | -17.80 | 0.00 | 17.80 | 809.41 | 404.71 | 650.78 | 321.40 | 5.75 | -0.51 | 0.066 |
| 125.00 | -8.40 | -0.77 | 0.00 | -13.91 | 0.00 | 13.91 | 789.35 | 394.68 | 608.94 | 300.73 | 6.31 | -0.55 | 0.057 |
| 128.00 | -7.32 | -0.69 | 0.00 | -11.61 | 0.00 | 11.61 | 776.82 | 388.41 | 584.09 | 288.46 | 6.66 | -0.57 | 0.050 |
| 130.00 | -6.99 | -0.66 | 0.00 | -10.23 | 0.00 | 10.23 | 768.25 | 384.13 | 567.64 | 280.34 | 6.90 | -0.59 | 0.046 |
| 135.00 | -6.80 | -0.65 | 0.00 | -6.92 | 0.00 | 6.92 | 746.11 | 373.06 | 526.99 | 260.26 | 7.53 | -0.61 | 0.036 |
| 138.00 | -4.46 | -0.45 | 0.00 | -4.97 | 0.00 | 4.97 | 732.33 | 366.17 | 502.94 | 248.38 | 7.92 | -0.63 | 0.026 |
| 140.00 | -4.17 | -0.42 | 0.00 | -4.08 | 0.00 | 4.08 | 722.94 | 361.47 | 487.07 | 240.55 | 8.19 | -0.63 | 0.023 |
| 145.00 | -3.89 | -0.39 | 0.00 | -1.97 | 0.00 | 1.97 | 694.03 | 347.02 | 445.00 | 219.77 | 8.86 | -0.65 | 0.015 |
| 150.00 | 0.00 | -0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 659.19 | 329.60 | 401.19 | 198.13 | 9.54 | -0.65 | 0.000 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

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

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 | -27.89 | -1.31 | 0.00 | -160.57 | 0.00 | 160.57 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.048 |
| 5.00 | -26.83 | -1.32 | 0.00 | -154.03 | 0.00 | 154.03 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.01 | -0.02 | 0.047 |
| 10.00 | -25.79 | -1.32 | 0.00 | -147.44 | 0.00 | 147.44 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.04 | -0.04 | 0.046 |
| 15.00 | -24.76 | -1.33 | 0.00 | -140.83 | 0.00 | 140.83 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.08 | -0.05 | 0.045 |
| 20.00 | -23.75 | -1.33 | 0.00 | -134.19 | 0.00 | 134.19 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.15 | -0.07 | 0.044 |
| 25.00 | -22.75 | -1.33 | 0.00 | -127.53 | 0.00 | 127.53 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 0.24 | -0.09 | 0.043 |
| 30.00 | -22.45 | -1.34 | 0.00 | -120.86 | 0.00 | 120.86 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 0.34 | -0.11 | 0.042 |
| 31.50 | -21.72 | -1.33 | 0.00 | -118.85 | 0.00 | 118.85 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 0.38 | -0.11 | 0.042 |
| 34.00 | -21.37 | -1.33 | 0.00 | -115.53 | 0.00 | 115.53 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 0.44 | -0.12 | 0.041 |
| 35.00 | -21.13 | -1.33 | 0.00 | -114.19 | 0.00 | 114.19 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 0.46 | -0.13 | 0.041 |
| 35.67 | -20.36 | -1.33 | 0.00 | -113.30 | 0.00 | 113.30 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 0.48 | -0.13 | 0.047 |
| 40.00 | -19.48 | -1.32 | 0.00 | -107.56 | 0.00 | 107.56 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 0.61 | -0.15 | 0.045 |
| 45.00 | -18.61 | -1.31 | 0.00 | -100.95 | 0.00 | 100.95 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 0.77 | -0.17 | 0.044 |
| 50.00 | -17.76 | -1.30 | 0.00 | -94.38 | 0.00 | 94.38 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 0.96 | -0.18 | 0.042 |
| 55.00 | -16.91 | -1.29 | 0.00 | -87.87 | 0.00 | 87.87 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 1.16 | -0.20 | 0.040 |
| 60.00 | -16.08 | -1.27 | 0.00 | -81.41 | 0.00 | 81.41 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 1.38 | -0.22 | 0.038 |
| 65.00 | -15.26 | -1.25 | 0.00 | -75.04 | 0.00 | 75.04 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 1.63 | -0.24 | 0.036 |
| 70.00 | -15.25 | -1.26 | 0.00 | -68.77 | 0.00 | 68.77 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 1.89 | -0.26 | 0.034 |
| 70.05 | -14.46 | -1.23 | 0.00 | -68.71 | 0.00 | 68.71 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 1.89 | -0.26 | 0.034 |
| 73.55 | -14.25 | -1.23 | 0.00 | -64.40 | 0.00 | 64.40 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 2.09 | -0.27 | 0.038 |
| 75.00 | -13.52 | -1.20 | 0.00 | -62.63 | 0.00 | 62.63 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 2.17 | -0.28 | 0.037 |
| 80.00 | -12.80 | -1.17 | 0.00 | -56.63 | 0.00 | 56.63 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 2.47 | -0.30 | 0.035 |
| 85.00 | -12.09 | -1.14 | 0.00 | -50.77 | 0.00 | 50.77 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 2.79 | -0.31 | 0.032 |
| 85.00 | -12.09 | -1.14 | 0.00 | -50.77 | 0.00 | 50.77 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 2.79 | -0.31 | 0.032 |
| 90.00 | -11.39 | -1.11 | 0.00 | -45.07 | 0.00 | 45.07 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 3.12 | -0.33 | 0.029 |
| 95.00 | -10.97 | -1.08 | 0.00 | -39.54 | 0.00 | 39.54 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 3.48 | -0.34 | 0.027 |
| 98.00 | -8.40 | -0.93 | 0.00 | -36.29 | 0.00 | 36.29 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 3.70 | -0.35 | 0.024 |
| 100.00 | -8.20 | -0.91 | 0.00 | -34.44 | 0.00 | 34.44 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 3.85 | -0.36 | 0.023 |
| 101.50 | -7.94 | -0.90 | 0.00 | -33.06 | 0.00 | 33.06 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 3.96 | -0.36 | 0.022 |
| 101.50 | -7.94 | -0.90 | 0.00 | -33.06 | 0.00 | 33.06 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 3.96 | -0.36 | 0.062 |
| 105.00 | -7.56 | -0.87 | 0.00 | -29.92 | 0.00 | 29.92 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 4.23 | -0.37 | 0.059 |
| 110.00 | -7.56 | -0.88 | 0.00 | -25.55 | 0.00 | 25.55 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 4.64 | -0.41 | 0.054 |
| 110.05 | -7.44 | -0.87 | 0.00 | -25.51 | 0.00 | 25.51 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 4.65 | -0.41 | 0.054 |
| 110.05 | -7.44 | -0.87 | 0.00 | -25.51 | 0.00 | 25.51 | 846.24 | 423.12 | 735.22 | 363.10 | 4.65 | -0.41 | 0.079 |
| 112.00 | -7.26 | -0.86 | 0.00 | -23.82 | 0.00 | 23.82 | 839.36 | 419.68 | 718.59 | 354.89 | 4.82 | -0.43 | 0.076 |
| 115.00 | -7.09 | -0.84 | 0.00 | -21.25 | 0.00 | 21.25 | 828.44 | 414.22 | 693.06 | 342.28 | 5.09 | -0.45 | 0.071 |
| 118.00 | -6.28 | -0.78 | 0.00 | -18.72 | 0.00 | 18.72 | 817.15 | 408.57 | 667.65 | 329.73 | 5.39 | -0.48 | 0.064 |
| 120.00 | -6.01 | -0.75 | 0.00 | -17.17 | 0.00 | 17.17 | 809.41 | 404.71 | 650.78 | 321.40 | 5.59 | -0.50 | 0.061 |
| 125.00 | -5.85 | -0.74 | 0.00 | -13.40 | 0.00 | 13.40 | 789.35 | 394.68 | 608.94 | 300.73 | 6.13 | -0.53 | 0.052 |
| 128.00 | -5.09 | -0.66 | 0.00 | -11.19 | 0.00 | 11.19 | 776.82 | 388.41 | 584.09 | 288.46 | 6.48 | -0.56 | 0.045 |
| 130.00 | -4.86 | -0.64 | 0.00 | -9.86 | 0.00 | 9.86 | 768.25 | 384.13 | 567.64 | 280.34 | 6.71 | -0.57 | 0.042 |
| 135.00 | -4.73 | -0.63 | 0.00 | -6.66 | 0.00 | 6.66 | 746.11 | 373.06 | 526.99 | 260.26 | 7.32 | -0.59 | 0.032 |
| 138.00 | -3.10 | -0.43 | 0.00 | -4.79 | 0.00 | 4.79 | 732.33 | 366.17 | 502.94 | 248.38 | 7.70 | -0.61 | 0.024 |
| 140.00 | -2.90 | -0.41 | 0.00 | -3.93 | 0.00 | 3.93 | 722.94 | 361.47 | 487.07 | 240.55 | 7.96 | -0.61 | 0.020 |
| 145.00 | -2.71 | -0.38 | 0.00 | -1.90 | 0.00 | 1.90 | 694.03 | 347.02 | 445.00 | 219.77 | 8.61 | -0.63 | 0.013 |
| 150.00 | 0.00 | -0.35 | 0.00 | 0.00 | 0.00 | 0.00 | 659.19 | 329.60 | 401.19 | 198.13 | 9.27 | -0.63 | 0.000 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E HFR - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

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_g): | 0.18 |
| 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}): | 0.19 |
| Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}): | 0.10 |
| Period Based on Rayleigh Method (sec): | 2.80 |
| 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) |
|---------|---------------------------------|----------------|-------|--------|-------|--------|-----------------------------|---------------------------|
| 42 | 147.50 | 225 | 1.828 | 1.667 | 1.025 | 0.321 | 63 | 278 |
| 41 | 142.50 | 233 | 1.706 | 1.144 | 0.823 | 0.248 | 50 | 288 |
| 40 | 139.00 | 95 | 1.623 | 0.851 | 0.702 | 0.202 | 17 | 118 |
| 39 | 136.50 | 155 | 1.565 | 0.674 | 0.624 | 0.172 | 23 | 192 |
| 38 | 132.50 | 265 | 1.475 | 0.441 | 0.513 | 0.127 | 29 | 328 |
| 37 | 129.00 | 108 | 1.398 | 0.280 | 0.430 | 0.093 | 9 | 134 |
| 36 | 126.50 | 183 | 1.344 | 0.186 | 0.377 | 0.070 | 11 | 227 |
| 35 | 122.50 | 312 | 1.261 | 0.069 | 0.302 | 0.038 | 10 | 387 |
| 34 | 119.00 | 127 | 1.190 | -0.005 | 0.247 | 0.014 | 2 | 157 |
| 33 | 116.50 | 195 | 1.140 | -0.045 | 0.213 | -0.001 | 0 | 242 |
| 32 | 113.50 | 198 | 1.082 | -0.079 | 0.176 | -0.016 | -3 | 245 |
| 31 | 111.03 | 137 | 1.035 | -0.099 | 0.150 | -0.027 | -3 | 170 |
| 30 | 110.03 | 5 | 1.017 | -0.105 | 0.140 | -0.031 | 0 | 6 |
| 29 | 107.50 | 431 | 0.971 | -0.116 | 0.117 | -0.039 | -15 | 533 |
| 28 | 103.25 | 308 | 0.895 | -0.122 | 0.086 | -0.049 | -13 | 381 |
| 27 | 100.75 | 234 | 0.853 | -0.119 | 0.070 | -0.051 | -10 | 289 |
| 26 | 99.00 | 313 | 0.823 | -0.116 | 0.061 | -0.052 | -14 | 388 |
| 25 | 96.50 | 483 | 0.782 | -0.108 | 0.049 | -0.052 | -22 | 598 |
| 24 | 92.50 | 813 | 0.719 | -0.092 | 0.034 | -0.048 | -34 | 1,007 |
| 23 | 87.50 | 824 | 0.643 | -0.068 | 0.020 | -0.036 | -26 | 1,020 |
| 22 | 82.50 | 835 | 0.572 | -0.043 | 0.012 | -0.019 | -14 | 1,033 |
| 21 | 77.50 | 845 | 0.505 | -0.018 | 0.007 | 0.001 | 0 | 1,047 |
| 20 | 74.28 | 247 | 0.463 | -0.003 | 0.006 | 0.013 | 3 | 305 |
| 19 | 71.80 | 917 | 0.433 | 0.007 | 0.006 | 0.021 | 17 | 1,135 |
| 18 | 70.03 | 10 | 0.412 | 0.014 | 0.006 | 0.027 | 0 | 12 |
| 17 | 67.50 | 952 | 0.383 | 0.023 | 0.007 | 0.034 | 28 | 1,178 |
| 16 | 62.50 | 965 | 0.328 | 0.039 | 0.010 | 0.045 | 37 | 1,195 |
| 15 | 57.50 | 979 | 0.278 | 0.050 | 0.014 | 0.051 | 43 | 1,212 |
| 14 | 52.50 | 992 | 0.232 | 0.058 | 0.019 | 0.054 | 46 | 1,228 |
| 13 | 47.50 | 1,005 | 0.190 | 0.064 | 0.025 | 0.055 | 48 | 1,245 |
| 12 | 42.50 | 1,019 | 0.152 | 0.068 | 0.030 | 0.054 | 48 | 1,261 |
| 11 | 37.83 | 893 | 0.120 | 0.070 | 0.034 | 0.053 | 41 | 1,106 |
| 10 | 35.33 | 226 | 0.105 | 0.071 | 0.037 | 0.053 | 10 | 279 |
| 9 | 34.50 | 338 | 0.100 | 0.071 | 0.037 | 0.052 | 15 | 418 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

| | | | | | | | | |
|----------------------|--------|--------|--------|--------|--------|--------|-------|--------|
| 8 | 32.75 | 849 | 0.090 | 0.071 | 0.038 | 0.052 | 38 | 1,052 |
| 7 | 30.75 | 346 | 0.079 | 0.072 | 0.040 | 0.051 | 15 | 428 |
| 6 | 27.50 | 1,161 | 0.064 | 0.072 | 0.041 | 0.051 | 51 | 1,437 |
| 5 | 22.50 | 1,177 | 0.043 | 0.070 | 0.042 | 0.049 | 50 | 1,457 |
| 4 | 17.50 | 1,193 | 0.026 | 0.067 | 0.040 | 0.047 | 48 | 1,477 |
| 3 | 12.50 | 1,209 | 0.013 | 0.059 | 0.034 | 0.042 | 44 | 1,497 |
| 2 | 7.50 | 1,225 | 0.005 | 0.044 | 0.025 | 0.034 | 36 | 1,517 |
| 1 | 2.50 | 1,117 | 0.001 | 0.018 | 0.010 | 0.016 | 16 | 1,383 |
| Kathrein 860 10025 | 150.00 | 7 | 1.890 | 1.980 | 1.140 | 0.361 | 2 | 9 |
| Powerwave LGP21401 | 150.00 | 169 | 1.890 | 1.980 | 1.140 | 0.361 | 53 | 210 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 1.890 | 1.980 | 1.140 | 0.361 | 6 | 25 |
| Ericsson RRUS 11 (Ba | 150.00 | 330 | 1.890 | 1.980 | 1.140 | 0.361 | 103 | 409 |
| 10' Omni | 150.00 | 25 | 1.890 | 1.980 | 1.140 | 0.361 | 8 | 31 |
| Ericsson RRUS 12 w/ | 150.00 | 214 | 1.890 | 1.980 | 1.140 | 0.361 | 67 | 265 |
| Powerwave Allgon 777 | 150.00 | 162 | 1.890 | 1.980 | 1.140 | 0.361 | 51 | 201 |
| CCI OPA-65R-LCUU-H6 | 150.00 | 219 | 1.890 | 1.980 | 1.140 | 0.361 | 68 | 271 |
| Flat Platform w/ Han | 150.00 | 2,000 | 1.890 | 1.980 | 1.140 | 0.361 | 625 | 2,476 |
| RFS IBC1900HG-2A | 138.00 | 66 | 1.600 | 0.778 | 0.670 | 0.190 | 11 | 82 |
| RFS IBC1900BB-1 | 138.00 | 66 | 1.600 | 0.778 | 0.670 | 0.190 | 11 | 82 |
| Alcatel-Lucent 4X40W | 138.00 | 178 | 1.600 | 0.778 | 0.670 | 0.190 | 29 | 221 |
| Alcatel-Lucent 800 M | 138.00 | 185 | 1.600 | 0.778 | 0.670 | 0.190 | 31 | 230 |
| Alcatel-Lucent TD-RR | 138.00 | 210 | 1.600 | 0.778 | 0.670 | 0.190 | 35 | 260 |
| RFS APXVTM14-C-I20 | 138.00 | 159 | 1.600 | 0.778 | 0.670 | 0.190 | 26 | 197 |
| RFS APXVSP18-C-A20 | 138.00 | 57 | 1.600 | 0.778 | 0.670 | 0.190 | 9 | 71 |
| RFS APXV9ERR18-C-A20 | 138.00 | 124 | 1.600 | 0.778 | 0.670 | 0.190 | 20 | 154 |
| Round T-Arm | 138.00 | 750 | 1.600 | 0.778 | 0.670 | 0.190 | 123 | 929 |
| Stand-Off | 128.00 | 225 | 1.376 | 0.240 | 0.408 | 0.083 | 16 | 279 |
| Ericsson AIR 21, 1.3 | 128.00 | 275 | 1.376 | 0.240 | 0.408 | 0.083 | 20 | 340 |
| Ericsson AIR 21, 1.3 | 128.00 | 271 | 1.376 | 0.240 | 0.408 | 0.083 | 20 | 336 |
| DragonWave Horizon C | 118.00 | 32 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 39 |
| DragonWave A-ANT-23G | 118.00 | 15 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 19 |
| NextNet BTS-2500 | 118.00 | 105 | 1.170 | -0.022 | 0.233 | 0.008 | 1 | 130 |
| Argus LLPX310R | 118.00 | 86 | 1.170 | -0.022 | 0.233 | 0.008 | 1 | 106 |
| DragonWave A-ANT-23G | 118.00 | 25 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 30 |
| Collar Mount | 118.00 | 560 | 1.170 | -0.022 | 0.233 | 0.008 | 4 | 693 |
| 12" x 12" Junction B | 112.00 | 10 | 1.054 | -0.092 | 0.160 | -0.023 | 0 | 12 |
| Alcatel-Lucent RRH2X | 98.00 | 138 | 0.807 | -0.113 | 0.056 | -0.052 | -6 | 171 |
| Alcatel-Lucent RRH2x | 98.00 | 170 | 0.807 | -0.113 | 0.056 | -0.052 | -8 | 211 |
| Alcatel-Lucent RRH2X | 98.00 | 165 | 0.807 | -0.113 | 0.056 | -0.052 | -8 | 204 |
| RFS DB-T1-6Z-8AB-0Z | 98.00 | 88 | 0.807 | -0.113 | 0.056 | -0.052 | -4 | 109 |
| Andrew SBNHH-1D65B | 98.00 | 608 | 0.807 | -0.113 | 0.056 | -0.052 | -28 | 753 |
| Flat Low Profile Pla | 98.00 | 1,500 | 0.807 | -0.113 | 0.056 | -0.052 | -68 | 1,857 |
| GPS | 35.00 | 10 | 0.103 | 0.071 | 0.037 | 0.053 | 0 | 12 |
| Stand-off | 35.00 | 50 | 0.103 | 0.071 | 0.037 | 0.053 | 2 | 62 |
| GPS | 34.00 | 10 | 0.097 | 0.071 | 0.038 | 0.052 | 0 | 12 |
| Stand-off | 34.00 | 50 | 0.097 | 0.071 | 0.038 | 0.052 | 2 | 62 |
| | | 33,476 | 76.788 | 30.102 | 26.226 | 6.844 | 1,922 | 41,450 |

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) |
|---------|------------------------|-------------|-------|-------|-------|-------|-----------------------|---------------------|
| 42 | 147.50 | 225 | 1.828 | 1.667 | 1.025 | 0.321 | 63 | 194 |
| 41 | 142.50 | 233 | 1.706 | 1.144 | 0.823 | 0.248 | 50 | 201 |
| 40 | 139.00 | 95 | 1.623 | 0.851 | 0.702 | 0.202 | 17 | 82 |
| 39 | 136.50 | 155 | 1.565 | 0.674 | 0.624 | 0.172 | 23 | 134 |
| 38 | 132.50 | 265 | 1.475 | 0.441 | 0.513 | 0.127 | 29 | 228 |
| 37 | 129.00 | 108 | 1.398 | 0.280 | 0.430 | 0.093 | 9 | 93 |
| 36 | 126.50 | 183 | 1.344 | 0.186 | 0.377 | 0.070 | 11 | 158 |

| | | | | | | | | |
|----------------------|--------|-------|-------|--------|-------|--------|-----|-------|
| 35 | 122.50 | 312 | 1.261 | 0.069 | 0.302 | 0.038 | 10 | 269 |
| 34 | 119.00 | 127 | 1.190 | -0.005 | 0.247 | 0.014 | 2 | 110 |
| 33 | 116.50 | 195 | 1.140 | -0.045 | 0.213 | -0.001 | 0 | 168 |
| 32 | 113.50 | 198 | 1.082 | -0.079 | 0.176 | -0.016 | -3 | 171 |
| 31 | 111.03 | 137 | 1.035 | -0.099 | 0.150 | -0.027 | -3 | 118 |
| 30 | 110.03 | 5 | 1.017 | -0.105 | 0.140 | -0.031 | 0 | 4 |
| 29 | 107.50 | 431 | 0.971 | -0.116 | 0.117 | -0.039 | -15 | 371 |
| 28 | 103.25 | 308 | 0.895 | -0.122 | 0.086 | -0.049 | -13 | 265 |
| 27 | 100.75 | 234 | 0.853 | -0.119 | 0.070 | -0.051 | -10 | 201 |
| 26 | 99.00 | 313 | 0.823 | -0.116 | 0.061 | -0.052 | -14 | 270 |
| 25 | 96.50 | 483 | 0.782 | -0.108 | 0.049 | -0.052 | -22 | 416 |
| 24 | 92.50 | 813 | 0.719 | -0.092 | 0.034 | -0.048 | -34 | 701 |
| 23 | 87.50 | 824 | 0.643 | -0.068 | 0.020 | -0.036 | -26 | 710 |
| 22 | 82.50 | 835 | 0.572 | -0.043 | 0.012 | -0.019 | -14 | 719 |
| 21 | 77.50 | 845 | 0.505 | -0.018 | 0.007 | 0.001 | 0 | 728 |
| 20 | 74.28 | 247 | 0.463 | -0.003 | 0.006 | 0.013 | 3 | 212 |
| 19 | 71.80 | 917 | 0.433 | 0.007 | 0.006 | 0.021 | 17 | 790 |
| 18 | 70.03 | 10 | 0.412 | 0.014 | 0.006 | 0.027 | 0 | 9 |
| 17 | 67.50 | 952 | 0.383 | 0.023 | 0.007 | 0.034 | 28 | 820 |
| 16 | 62.50 | 965 | 0.328 | 0.039 | 0.010 | 0.045 | 37 | 832 |
| 15 | 57.50 | 979 | 0.278 | 0.050 | 0.014 | 0.051 | 43 | 843 |
| 14 | 52.50 | 992 | 0.232 | 0.058 | 0.019 | 0.054 | 46 | 855 |
| 13 | 47.50 | 1,005 | 0.190 | 0.064 | 0.025 | 0.055 | 48 | 866 |
| 12 | 42.50 | 1,019 | 0.152 | 0.068 | 0.030 | 0.054 | 48 | 878 |
| 11 | 37.83 | 893 | 0.120 | 0.070 | 0.034 | 0.053 | 41 | 770 |
| 10 | 35.33 | 226 | 0.105 | 0.071 | 0.037 | 0.053 | 10 | 194 |
| 9 | 34.50 | 338 | 0.100 | 0.071 | 0.037 | 0.052 | 15 | 291 |
| 8 | 32.75 | 849 | 0.090 | 0.071 | 0.038 | 0.052 | 38 | 732 |
| 7 | 30.75 | 346 | 0.079 | 0.072 | 0.040 | 0.051 | 15 | 298 |
| 6 | 27.50 | 1,161 | 0.064 | 0.072 | 0.041 | 0.051 | 51 | 1,000 |
| 5 | 22.50 | 1,177 | 0.043 | 0.070 | 0.042 | 0.049 | 50 | 1,014 |
| 4 | 17.50 | 1,193 | 0.026 | 0.067 | 0.040 | 0.047 | 48 | 1,028 |
| 3 | 12.50 | 1,209 | 0.013 | 0.059 | 0.034 | 0.042 | 44 | 1,042 |
| 2 | 7.50 | 1,225 | 0.005 | 0.044 | 0.025 | 0.034 | 36 | 1,056 |
| 1 | 2.50 | 1,117 | 0.001 | 0.018 | 0.010 | 0.016 | 16 | 963 |
| Kathrein 860 10025 | 150.00 | 7 | 1.890 | 1.980 | 1.140 | 0.361 | 2 | 6 |
| Powerwave LGP21401 | 150.00 | 169 | 1.890 | 1.980 | 1.140 | 0.361 | 53 | 146 |
| Raycap DC6-48-60-18- | 150.00 | 20 | 1.890 | 1.980 | 1.140 | 0.361 | 6 | 17 |
| Ericsson RRUS 11 (Ba | 150.00 | 330 | 1.890 | 1.980 | 1.140 | 0.361 | 103 | 284 |
| 10' Omni | 150.00 | 25 | 1.890 | 1.980 | 1.140 | 0.361 | 8 | 22 |
| Ericsson RRUS 12 w/ | 150.00 | 214 | 1.890 | 1.980 | 1.140 | 0.361 | 67 | 185 |
| Powerwave Allgon 777 | 150.00 | 162 | 1.890 | 1.980 | 1.140 | 0.361 | 51 | 140 |
| CCI OPA-65R-LCUU-H6 | 150.00 | 219 | 1.890 | 1.980 | 1.140 | 0.361 | 68 | 189 |
| Flat Platform w/ Han | 150.00 | 2,000 | 1.890 | 1.980 | 1.140 | 0.361 | 625 | 1,724 |
| RFS IBC1900HG-2A | 138.00 | 66 | 1.600 | 0.778 | 0.670 | 0.190 | 11 | 57 |
| RFS IBC1900BB-1 | 138.00 | 66 | 1.600 | 0.778 | 0.670 | 0.190 | 11 | 57 |
| Alcatel-Lucent 4X40W | 138.00 | 178 | 1.600 | 0.778 | 0.670 | 0.190 | 29 | 154 |
| Alcatel-Lucent 800 M | 138.00 | 185 | 1.600 | 0.778 | 0.670 | 0.190 | 31 | 160 |
| Alcatel-Lucent TD-RR | 138.00 | 210 | 1.600 | 0.778 | 0.670 | 0.190 | 35 | 181 |
| RFS APXVTM14-C-I20 | 138.00 | 159 | 1.600 | 0.778 | 0.670 | 0.190 | 26 | 137 |
| RFS APXVSP18-C-A20 | 138.00 | 57 | 1.600 | 0.778 | 0.670 | 0.190 | 9 | 49 |
| RFS APXV9ERR18-C-A20 | 138.00 | 124 | 1.600 | 0.778 | 0.670 | 0.190 | 20 | 107 |
| Round T-Arm | 138.00 | 750 | 1.600 | 0.778 | 0.670 | 0.190 | 123 | 646 |
| Stand-Off | 128.00 | 225 | 1.376 | 0.240 | 0.408 | 0.083 | 16 | 194 |
| Ericsson AIR 21, 1.3 | 128.00 | 275 | 1.376 | 0.240 | 0.408 | 0.083 | 20 | 237 |
| Ericsson AIR 21, 1.3 | 128.00 | 271 | 1.376 | 0.240 | 0.408 | 0.083 | 20 | 234 |
| DragonWave Horizon C | 118.00 | 32 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 27 |
| DragonWave A-ANT-23G | 118.00 | 15 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 13 |
| NextNet BTS-2500 | 118.00 | 105 | 1.170 | -0.022 | 0.233 | 0.008 | 1 | 90 |
| Argus LLPX310R | 118.00 | 86 | 1.170 | -0.022 | 0.233 | 0.008 | 1 | 74 |
| DragonWave A-ANT-23G | 118.00 | 25 | 1.170 | -0.022 | 0.233 | 0.008 | 0 | 21 |
| Collar Mount | 118.00 | 560 | 1.170 | -0.022 | 0.233 | 0.008 | 4 | 483 |
| 12" x 12" Junction B | 112.00 | 10 | 1.054 | -0.092 | 0.160 | -0.023 | 0 | 9 |
| Alcatel-Lucent RRH2X | 98.00 | 138 | 0.807 | -0.113 | 0.056 | -0.052 | -6 | 119 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

| | | | | | | | | |
|----------------------|-------|--------|--------|--------|--------|--------|-------|--------|
| AlcateI-Lucent RRH2x | 98.00 | 170 | 0.807 | -0.113 | 0.056 | -0.052 | -8 | 147 |
| AlcateI-Lucent RRH2X | 98.00 | 165 | 0.807 | -0.113 | 0.056 | -0.052 | -8 | 142 |
| RFS DB-T1-6Z-8AB-0Z | 98.00 | 88 | 0.807 | -0.113 | 0.056 | -0.052 | -4 | 76 |
| Andrew SBNHH-1D65B | 98.00 | 608 | 0.807 | -0.113 | 0.056 | -0.052 | -28 | 524 |
| Flat Low Profile Pla | 98.00 | 1,500 | 0.807 | -0.113 | 0.056 | -0.052 | -68 | 1,293 |
| GPS | 35.00 | 10 | 0.103 | 0.071 | 0.037 | 0.053 | 0 | 9 |
| Stand-off | 35.00 | 50 | 0.103 | 0.071 | 0.037 | 0.053 | 2 | 43 |
| GPS | 34.00 | 10 | 0.097 | 0.071 | 0.038 | 0.052 | 0 | 9 |
| Stand-off | 34.00 | 50 | 0.097 | 0.071 | 0.038 | 0.052 | 2 | 43 |
| | | 33,476 | 76.788 | 30.102 | 26.226 | 6.844 | 1,922 | 28,850 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

Customer: VERIZON WIRELESS

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

Seismic 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 | -40.07 | -1.91 | 0.00 | -238.56 | 0.00 | 238.56 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.071 |
| 5.00 | -38.55 | -1.90 | 0.00 | -228.98 | 0.00 | 228.98 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.01 | -0.03 | 0.070 |
| 10.00 | -37.05 | -1.87 | 0.00 | -219.50 | 0.00 | 219.50 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.06 | -0.05 | 0.069 |
| 15.00 | -35.57 | -1.83 | 0.00 | -210.16 | 0.00 | 210.16 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.13 | -0.08 | 0.067 |
| 20.00 | -34.12 | -1.80 | 0.00 | -200.99 | 0.00 | 200.99 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.22 | -0.11 | 0.066 |
| 25.00 | -32.68 | -1.76 | 0.00 | -192.00 | 0.00 | 192.00 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 0.35 | -0.13 | 0.065 |
| 30.00 | -32.25 | -1.75 | 0.00 | -183.19 | 0.00 | 183.19 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 0.51 | -0.16 | 0.064 |
| 31.50 | -31.20 | -1.72 | 0.00 | -180.56 | 0.00 | 180.56 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 0.56 | -0.17 | 0.063 |
| 34.00 | -30.70 | -1.70 | 0.00 | -176.26 | 0.00 | 176.26 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 0.65 | -0.19 | 0.062 |
| 35.00 | -30.35 | -1.69 | 0.00 | -174.56 | 0.00 | 174.56 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 0.69 | -0.19 | 0.061 |
| 35.67 | -29.24 | -1.66 | 0.00 | -173.43 | 0.00 | 173.43 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 0.72 | -0.20 | 0.071 |
| 40.00 | -27.98 | -1.62 | 0.00 | -166.26 | 0.00 | 166.26 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 0.91 | -0.22 | 0.069 |
| 45.00 | -26.74 | -1.58 | 0.00 | -158.18 | 0.00 | 158.18 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 1.15 | -0.25 | 0.068 |
| 50.00 | -25.51 | -1.54 | 0.00 | -150.29 | 0.00 | 150.29 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 1.43 | -0.28 | 0.066 |
| 55.00 | -24.30 | -1.50 | 0.00 | -142.59 | 0.00 | 142.59 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 1.74 | -0.31 | 0.064 |
| 60.00 | -23.10 | -1.47 | 0.00 | -135.08 | 0.00 | 135.08 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 2.08 | -0.34 | 0.062 |
| 65.00 | -21.92 | -1.45 | 0.00 | -127.72 | 0.00 | 127.72 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 2.46 | -0.37 | 0.060 |
| 70.00 | -21.91 | -1.45 | 0.00 | -120.49 | 0.00 | 120.49 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 2.87 | -0.40 | 0.058 |
| 70.05 | -20.77 | -1.43 | 0.00 | -120.41 | 0.00 | 120.41 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 2.87 | -0.40 | 0.058 |
| 73.55 | -20.47 | -1.43 | 0.00 | -115.40 | 0.00 | 115.40 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 3.18 | -0.43 | 0.067 |
| 75.00 | -19.42 | -1.43 | 0.00 | -113.32 | 0.00 | 113.32 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 3.31 | -0.44 | 0.066 |
| 80.00 | -18.39 | -1.45 | 0.00 | -106.17 | 0.00 | 106.17 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 3.78 | -0.47 | 0.063 |
| 85.00 | -17.37 | -1.47 | 0.00 | -98.93 | 0.00 | 98.93 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 4.29 | -0.50 | 0.060 |
| 85.00 | -17.37 | -1.47 | 0.00 | -98.93 | 0.00 | 98.93 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 4.29 | -0.50 | 0.060 |
| 90.00 | -16.36 | -1.51 | 0.00 | -91.55 | 0.00 | 91.55 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 4.84 | -0.54 | 0.057 |
| 95.00 | -15.76 | -1.53 | 0.00 | -84.01 | 0.00 | 84.01 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 5.41 | -0.57 | 0.054 |
| 98.00 | -12.06 | -1.63 | 0.00 | -79.41 | 0.00 | 79.41 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 5.78 | -0.59 | 0.050 |
| 100.00 | -11.77 | -1.64 | 0.00 | -76.15 | 0.00 | 76.15 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 6.03 | -0.60 | 0.049 |
| 101.50 | -11.39 | -1.66 | 0.00 | -73.68 | 0.00 | 73.68 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 6.22 | -0.61 | 0.048 |
| 101.50 | -11.39 | -1.66 | 0.00 | -73.68 | 0.00 | 73.68 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 6.22 | -0.61 | 0.133 |
| 105.00 | -10.86 | -1.67 | 0.00 | -67.89 | 0.00 | 67.89 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 6.67 | -0.63 | 0.128 |
| 110.00 | -10.85 | -1.68 | 0.00 | -59.52 | 0.00 | 59.52 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 7.38 | -0.72 | 0.121 |
| 110.05 | -10.68 | -1.69 | 0.00 | -59.43 | 0.00 | 59.43 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 7.39 | -0.72 | 0.120 |
| 110.05 | -10.68 | -1.69 | 0.00 | -59.43 | 0.00 | 59.43 | 846.24 | 423.12 | 735.22 | 363.10 | 7.39 | -0.72 | 0.176 |
| 112.00 | -10.42 | -1.70 | 0.00 | -56.14 | 0.00 | 56.14 | 839.36 | 419.68 | 718.59 | 354.89 | 7.69 | -0.75 | 0.171 |
| 115.00 | -10.18 | -1.70 | 0.00 | -51.05 | 0.00 | 51.05 | 828.44 | 414.22 | 693.06 | 342.28 | 8.18 | -0.82 | 0.161 |
| 118.00 | -9.00 | -1.69 | 0.00 | -45.94 | 0.00 | 45.94 | 817.15 | 408.57 | 667.65 | 329.73 | 8.71 | -0.88 | 0.150 |
| 120.00 | -8.61 | -1.68 | 0.00 | -42.57 | 0.00 | 42.57 | 809.41 | 404.71 | 650.78 | 321.40 | 9.09 | -0.92 | 0.143 |
| 125.00 | -8.38 | -1.68 | 0.00 | -34.15 | 0.00 | 34.15 | 789.35 | 394.68 | 608.94 | 300.73 | 10.11 | -1.02 | 0.124 |
| 128.00 | -7.29 | -1.60 | 0.00 | -29.12 | 0.00 | 29.12 | 776.82 | 388.41 | 584.09 | 288.46 | 10.77 | -1.07 | 0.110 |
| 130.00 | -6.97 | -1.57 | 0.00 | -25.92 | 0.00 | 25.92 | 768.25 | 384.13 | 567.64 | 280.34 | 11.22 | -1.11 | 0.102 |
| 135.00 | -6.77 | -1.55 | 0.00 | -18.06 | 0.00 | 18.06 | 746.11 | 373.06 | 526.99 | 260.26 | 12.42 | -1.18 | 0.079 |
| 138.00 | -4.44 | -1.19 | 0.00 | -13.42 | 0.00 | 13.42 | 732.33 | 366.17 | 502.94 | 248.38 | 13.17 | -1.21 | 0.060 |
| 140.00 | -4.15 | -1.14 | 0.00 | -11.03 | 0.00 | 11.03 | 722.94 | 361.47 | 487.07 | 240.55 | 13.68 | -1.23 | 0.052 |
| 145.00 | -3.87 | -1.07 | 0.00 | -5.35 | 0.00 | 5.35 | 694.03 | 347.02 | 445.00 | 219.77 | 14.99 | -1.26 | 0.030 |
| 150.00 | 0.00 | -0.98 | 0.00 | 0.00 | 0.00 | 0.00 | 659.19 | 329.60 | 401.19 | 198.13 | 16.32 | -1.28 | 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 | -27.89 | -1.91 | 0.00 | -232.92 | 0.00 | 232.92 | 3,132.59 | 1,566.30 | 4,772.22 | 2,356.82 | 0.00 | 0.00 | 0.067 |
| 5.00 | -26.83 | -1.89 | 0.00 | -223.36 | 0.00 | 223.36 | 3,090.29 | 1,545.14 | 4,607.13 | 2,275.29 | 0.01 | -0.03 | 0.066 |
| 10.00 | -25.79 | -1.85 | 0.00 | -213.92 | 0.00 | 213.92 | 3,046.95 | 1,523.47 | 4,443.28 | 2,194.37 | 0.05 | -0.05 | 0.065 |
| 15.00 | -24.76 | -1.82 | 0.00 | -204.65 | 0.00 | 204.65 | 3,002.57 | 1,501.28 | 4,280.78 | 2,114.12 | 0.12 | -0.08 | 0.063 |
| 20.00 | -23.74 | -1.78 | 0.00 | -195.57 | 0.00 | 195.57 | 2,957.15 | 1,478.58 | 4,119.72 | 2,034.57 | 0.22 | -0.10 | 0.062 |
| 25.00 | -22.74 | -1.73 | 0.00 | -186.69 | 0.00 | 186.69 | 2,910.70 | 1,455.35 | 3,960.20 | 1,955.80 | 0.34 | -0.13 | 0.061 |
| 30.00 | -22.45 | -1.72 | 0.00 | -178.03 | 0.00 | 178.03 | 2,863.20 | 1,431.60 | 3,802.34 | 1,877.83 | 0.49 | -0.16 | 0.060 |
| 31.50 | -21.71 | -1.69 | 0.00 | -175.44 | 0.00 | 175.44 | 2,848.72 | 1,424.36 | 3,755.21 | 1,854.56 | 0.55 | -0.17 | 0.059 |
| 34.00 | -21.37 | -1.67 | 0.00 | -171.22 | 0.00 | 171.22 | 2,818.05 | 1,409.02 | 3,668.95 | 1,811.96 | 0.64 | -0.18 | 0.058 |
| 35.00 | -21.12 | -1.66 | 0.00 | -169.55 | 0.00 | 169.55 | 2,804.11 | 1,402.06 | 3,632.54 | 1,793.98 | 0.68 | -0.19 | 0.058 |
| 35.67 | -20.35 | -1.62 | 0.00 | -168.44 | 0.00 | 168.44 | 2,230.41 | 1,115.20 | 2,949.08 | 1,456.44 | 0.70 | -0.19 | 0.067 |
| 40.00 | -19.48 | -1.58 | 0.00 | -161.42 | 0.00 | 161.42 | 2,201.32 | 1,100.66 | 2,848.53 | 1,406.78 | 0.89 | -0.21 | 0.065 |
| 45.00 | -18.61 | -1.54 | 0.00 | -153.52 | 0.00 | 153.52 | 2,166.76 | 1,083.38 | 2,733.25 | 1,349.85 | 1.12 | -0.24 | 0.063 |
| 50.00 | -17.75 | -1.50 | 0.00 | -145.83 | 0.00 | 145.83 | 2,131.16 | 1,065.58 | 2,618.93 | 1,293.39 | 1.40 | -0.27 | 0.062 |
| 55.00 | -16.91 | -1.46 | 0.00 | -138.35 | 0.00 | 138.35 | 2,094.53 | 1,047.26 | 2,505.70 | 1,237.47 | 1.70 | -0.30 | 0.060 |
| 60.00 | -16.08 | -1.42 | 0.00 | -131.06 | 0.00 | 131.06 | 2,056.86 | 1,028.43 | 2,393.64 | 1,182.13 | 2.03 | -0.33 | 0.058 |
| 65.00 | -15.26 | -1.40 | 0.00 | -123.94 | 0.00 | 123.94 | 2,018.14 | 1,009.07 | 2,282.87 | 1,127.42 | 2.39 | -0.36 | 0.057 |
| 70.00 | -15.25 | -1.40 | 0.00 | -116.94 | 0.00 | 116.94 | 1,978.40 | 989.20 | 2,173.48 | 1,073.40 | 2.79 | -0.39 | 0.055 |
| 70.05 | -14.46 | -1.38 | 0.00 | -116.87 | 0.00 | 116.87 | 1,977.97 | 988.98 | 2,172.32 | 1,072.83 | 2.79 | -0.39 | 0.055 |
| 73.55 | -14.24 | -1.38 | 0.00 | -112.02 | 0.00 | 112.02 | 1,462.05 | 731.02 | 1,610.31 | 795.27 | 3.09 | -0.41 | 0.063 |
| 75.00 | -13.51 | -1.38 | 0.00 | -110.02 | 0.00 | 110.02 | 1,454.74 | 727.37 | 1,588.55 | 784.52 | 3.22 | -0.42 | 0.062 |
| 80.00 | -12.79 | -1.40 | 0.00 | -103.11 | 0.00 | 103.11 | 1,428.79 | 714.40 | 1,513.69 | 747.55 | 3.68 | -0.46 | 0.059 |
| 85.00 | -12.08 | -1.42 | 0.00 | -96.12 | 0.00 | 96.12 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 4.17 | -0.49 | 0.057 |
| 85.00 | -12.08 | -1.42 | 0.00 | -96.12 | 0.00 | 96.12 | 1,401.82 | 700.91 | 1,439.45 | 710.89 | 4.17 | -0.49 | 0.057 |
| 90.00 | -11.38 | -1.46 | 0.00 | -89.00 | 0.00 | 89.00 | 1,373.80 | 686.90 | 1,365.94 | 674.59 | 4.70 | -0.52 | 0.054 |
| 95.00 | -10.96 | -1.48 | 0.00 | -81.72 | 0.00 | 81.72 | 1,344.74 | 672.37 | 1,293.25 | 638.69 | 5.26 | -0.55 | 0.051 |
| 98.00 | -8.39 | -1.59 | 0.00 | -77.27 | 0.00 | 77.27 | 1,326.81 | 663.41 | 1,250.08 | 617.37 | 5.62 | -0.57 | 0.048 |
| 100.00 | -8.19 | -1.60 | 0.00 | -74.09 | 0.00 | 74.09 | 1,314.65 | 657.33 | 1,221.50 | 603.25 | 5.86 | -0.58 | 0.046 |
| 101.50 | -7.92 | -1.62 | 0.00 | -71.68 | 0.00 | 71.68 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 6.04 | -0.59 | 0.045 |
| 101.50 | -7.92 | -1.62 | 0.00 | -71.68 | 0.00 | 71.68 | 1,305.42 | 652.71 | 1,200.17 | 592.72 | 6.04 | -0.59 | 0.127 |
| 105.00 | -7.55 | -1.63 | 0.00 | -66.03 | 0.00 | 66.03 | 1,283.52 | 641.76 | 1,150.77 | 568.32 | 6.49 | -0.61 | 0.122 |
| 110.00 | -7.55 | -1.64 | 0.00 | -57.86 | 0.00 | 57.86 | 1,246.82 | 623.41 | 1,077.26 | 532.02 | 7.17 | -0.70 | 0.115 |
| 110.05 | -7.43 | -1.64 | 0.00 | -57.78 | 0.00 | 57.78 | 1,246.32 | 623.16 | 1,076.40 | 531.59 | 7.18 | -0.70 | 0.115 |
| 110.05 | -7.43 | -1.64 | 0.00 | -57.78 | 0.00 | 57.78 | 846.24 | 423.12 | 735.22 | 363.10 | 7.18 | -0.70 | 0.168 |
| 112.00 | -7.25 | -1.65 | 0.00 | -54.58 | 0.00 | 54.58 | 839.36 | 419.68 | 718.59 | 354.89 | 7.47 | -0.73 | 0.162 |
| 115.00 | -7.08 | -1.66 | 0.00 | -49.63 | 0.00 | 49.63 | 828.44 | 414.22 | 693.06 | 342.28 | 7.95 | -0.79 | 0.154 |
| 118.00 | -6.26 | -1.64 | 0.00 | -44.66 | 0.00 | 44.66 | 817.15 | 408.57 | 667.65 | 329.73 | 8.47 | -0.86 | 0.143 |
| 120.00 | -5.99 | -1.64 | 0.00 | -41.38 | 0.00 | 41.38 | 809.41 | 404.71 | 650.78 | 321.40 | 8.84 | -0.90 | 0.136 |
| 125.00 | -5.83 | -1.63 | 0.00 | -33.20 | 0.00 | 33.20 | 789.35 | 394.68 | 608.94 | 300.73 | 9.83 | -0.99 | 0.118 |
| 128.00 | -5.07 | -1.55 | 0.00 | -28.32 | 0.00 | 28.32 | 776.82 | 388.41 | 584.09 | 288.46 | 10.47 | -1.04 | 0.105 |
| 130.00 | -4.84 | -1.53 | 0.00 | -25.21 | 0.00 | 25.21 | 768.25 | 384.13 | 567.64 | 280.34 | 10.91 | -1.07 | 0.096 |
| 135.00 | -4.71 | -1.50 | 0.00 | -17.58 | 0.00 | 17.58 | 746.11 | 373.06 | 526.99 | 260.26 | 12.08 | -1.14 | 0.074 |
| 138.00 | -3.08 | -1.16 | 0.00 | -13.07 | 0.00 | 13.07 | 732.33 | 366.17 | 502.94 | 248.38 | 12.81 | -1.18 | 0.057 |
| 140.00 | -2.88 | -1.11 | 0.00 | -10.75 | 0.00 | 10.75 | 722.94 | 361.47 | 487.07 | 240.55 | 13.30 | -1.20 | 0.049 |
| 145.00 | -2.69 | -1.04 | 0.00 | -5.21 | 0.00 | 5.21 | 694.03 | 347.02 | 445.00 | 219.77 | 14.57 | -1.23 | 0.028 |
| 150.00 | 0.00 | -0.98 | 0.00 | 0.00 | 0.00 | 0.00 | 659.19 | 329.60 | 401.19 | 198.13 | 15.87 | -1.24 | 0.000 |

Site Number: 302473.

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 637063Z7

5/24/2016 10:47:20 AM

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 | 26.61 | 0.00 | 40.10 | 0.00 | 0.00 | 2652.21 | 110.05 | 0.93 |
| 0.9D + 1.6W | 26.54 | 0.00 | 30.06 | 0.00 | 0.00 | 2608.75 | 110.05 | 0.89 |
| 1.2D + 1.0Di + 1.0Wi | 6.67 | 0.00 | 76.33 | 0.00 | 0.00 | 747.33 | 110.05 | 0.32 |
| (1.2 + 0.2Sds) * DL + E ELFM | 1.31 | 0.00 | 40.07 | 0.00 | 0.00 | 164.18 | 110.05 | 0.09 |
| (1.2 + 0.2Sds) * DL + E EMAM | 1.91 | 0.00 | 40.07 | 0.00 | 0.00 | 238.56 | 110.05 | 0.18 |
| (0.9 - 0.2Sds) * DL + E ELFM | 1.31 | 0.00 | 27.89 | 0.00 | 0.00 | 160.57 | 110.05 | 0.08 |
| (0.9 - 0.2Sds) * DL + E EMAM | 1.91 | 0.00 | 27.89 | 0.00 | 0.00 | 232.92 | 110.05 | 0.17 |
| 1.0D + 1.0W | 6.74 | 0.00 | 33.47 | 0.00 | 0.00 | 663.33 | 110.05 | 0.24 |

Additional Steel Summary

| Elev From (ft) | Elev To (ft) | Member | Intermediate Connectors | | | Upper Termination Connectors | | | | Lower Termination Connectors | | | | Max Member | | |
|----------------|--------------|----------------------|-------------------------|----------------------|--------------|------------------------------|--------------|-----------|------------|------------------------------|--------------|-----------|------------|------------|-------------|-------|
| | | | VQ/I (lb/in) | Shear Applied (kips) | phiVn (kips) | MQ/I (kips) | phiVn (kips) | Num Req'd | Num Actual | MQ/I (kips) | phiVn (kips) | Num Req'd | Num Actual | Pu (kip) | phiPn (kip) | Ratio |
| 0.00 | 85.0 | (4) SOL-#20 All Thre | 343.0 | 10.3 | 16.8 | 161.9 | 12.0 | 14 | 14 | 0.0 | 12.0 | 0 | 0 | 277.2 | 330.5 | 0.839 |
| 85.0 | 101. | (4) SOL-#20 All Thre | 350.1 | 10.5 | 16.8 | 115.0 | 12.0 | 10 | 12 | 161.9 | 12.0 | 14 | 0 | 163.9 | 330.5 | 0.496 |

| | | |
|-------------------|---------------------|------------------|
| Base/Flange Plate | Plate Type | Baseplate |
| | Pole Diameter | 37.36 in |
| | Pole Thickness | 0.375 in |
| | Plate Length | 44 in |
| | Plate Thickness | 2.5 in |
| | Plate Fy | 60 ksi |
| | Weld Length | 0.3125 in |
| | ϕ_s Resistance | 1385.29 k-in |
| | Applied | 754.34 k-in |
| | Stiffeners | # |

Code Rev. **G**

Date **5/16/2016**
 Engineer **NSK**
 Site # **302473**
 Carrier **Verizon**

Moment **2652.2 k-ft**
 Axial **40.1 k**

| | | |
|---------------------|---------------------|-----------|
| Bolts | # | 8 |
| | Bolt Circle | 44 in |
| | (R)adial / (S)quare | S |
| | Bolt Gap | 6 in |
| | 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 | 222.52 k | |
| Reinforcement | # | 4 |
| | DYW. Circle | 44.235 in |
| | Offset Angle | 22.5° |
| | Type | #20 |
| | Diameter | 2.5 in |
| | Fu | 100 ksi |
| ϕ_s Resistance | 392.70 k | |
| Applied | 260.36 k | |
| Extra Bolts | # | 0 |

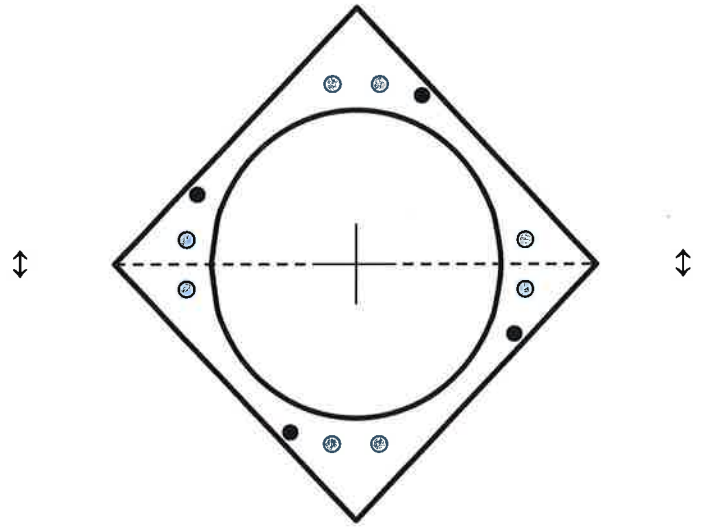


Plate Stress Ratio:
0.54 (Pass)

Bolt Stress Ratio:
0.86 (Pass)

Reinforcement Stress Ratio:
0.66 (Pass)

| | | | |
|-------------------|---------------------|--------------------------|-----------|
| Base/Flange Plate | Plate Type | Flange @ 110.0 ft | |
| | Pole Diameter | 21.25 | in |
| | Pole Thickness | 0.1875 | in |
| | Plate Diameter | 28.6 | in |
| | Plate Thickness | 1 | in |
| | Plate Fy | 60 | ksi |
| | Weld Length | 0.3125 | in |
| | ϕ_s Resistance | 238.53 | k-in |
| | Applied | 68.68 | k-in |
| | Stiffeners | # | 24 |
| Thickness | | 0.5 | in |
| Length | | 3 | in |
| Height | | 3.5 | in |
| Chamfer | | 0 | in |
| Offset Angle | | 22 | ° |
| Fy | | 36 | ksi |

Code Rev. **G**

Date **5/16/2016**
 Engineer **NSK**
 Site # **302473**
 Carrier **Verizon**

Moment **332.6 k-ft**
 Axial **6.3 k**

| | | |
|---------|---------------------|-----------|
| Bolts | # | 12 |
| | Bolt Circle | 25.75 in |
| | (R)adial / (S)quare | R |
| | Diameter | 1 in |
| | Hole Diameter | 1.1875 in |
| | Type | A325 |
| | Fy | 92 ksi |
| | Fu | 120 ksi |
| | ϕ_s Resistance | 54.52 k |
| Applied | 51.11 k | |

| | | |
|---------------|---|----------|
| Reinforcement | # | 0 |
|---------------|---|----------|

| | | |
|-------------|---|----------|
| Extra Bolts | # | 0 |
|-------------|---|----------|

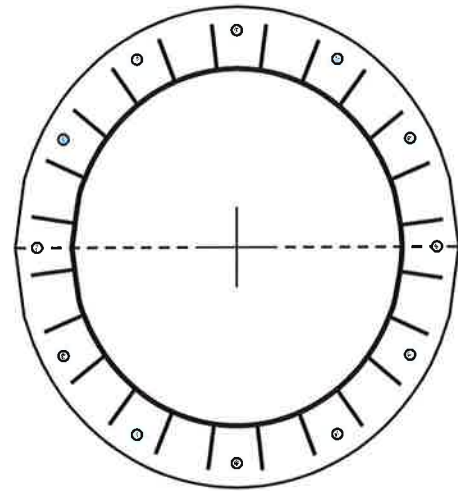
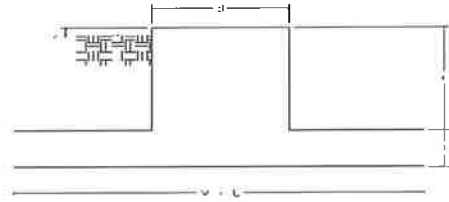


Plate Stress Ratio:
0.29 (Pass)

Bolt Stress Ratio:
0.94 (Pass)

Site Name: E H F R - Prestige Park
 Site Number: 302473
 Engineering Number: 637063Z7
 Engineer: NSK
 Date: 05/16/16
 Tower Type: MP

Program Last Updated: 5/13/2014



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

Design / Analysis / Mapping:

Analysis

| | |
|--|---------------------|
| Total Shear: | 26.6 k |
| Moment: | 2652.2 k-ft |
| Tower + Appurtenance Weight: | 40.1 k |
| Depth to Base of Foundation (l + t - h): | 8.00 ft |
| Diameter of Pier (d): | 4.33 ft |
| Height of Pier above Ground (h): | 0.50 |
| Width of Pad (W): | 18.00 ft |
| Length of Pad (L): | 18.00 ft |
| Thickness of Pad (t): | 3.00 ft |
| Tower Leg Center to Center: | 0.00 ft |
| Number of Tower Legs: | 1.0 (1 if MP or GT) |
| Tower Center from Mat Center: | 0.00 ft |
| Depth Below Ground Surface to Water Table: | 12.00 ft |
| Unit Weight of Concrete: | 150.0 pcf |
| Unit Weight of Soil Above Water Table: | 115.0 pcf |
| Unit Weight of Water: | 62.4 pcf |
| Unit Weight of Soil Below Water Table: | 60.0 pcf |
| Friction Angle of Uplift: | 15.0 Degrees |
| Ultimate Coefficient of Shear Friction: | 0.40 |
| Ultimate Compressive Bearing Pressure: | 9000.0 psf |
| Ultimate Passive Pressure on Pad Face: | 0.0 psf |
| $\phi_{\text{Soil and Concrete Weight}}$: | 0.9 |
| ϕ_{Soil} : | 0.75 |

| | |
|-------------------------------------|-----------------------|
| Concrete Strength (f_c): | 4000 psi |
| Pad Tension Steel Depth: | 32.00 in |
| ϕ_{Shear} : | 0.75 |
| $\phi_{\text{Flexure / Tension}}$: | 0.90 |
| $\phi_{\text{Compression}}$: | 0.65 |
| β : | 0.85 |
| Bottom Pad Rebar Size #: | 10 |
| # of Bottom Pad Rebar: | 36 |
| Pad Bottom Steel Area: | 45.72 in ² |
| Pad Steel F_y : | 60000 psi |
| Top Pad Rebar Size #: | 6 |
| # of Top Pad Rebar: | 36 |
| Pad Top Steel Area: | 15.84 in ² |
| Pier Rebar Size #: | 11 |
| Pier Steel Area (Single Bar): | 1.56 in ² |
| # of Pier Rebar: | 14 |
| Pier Steel F_y : | 60000 psi |
| Pier Cage Diameter: | 44.0 in |
| Rebar Strain Limit: | 0.008 |
| Steel Elastic Modulus: | 29000 ksi |
| Tie Rebar Size #: | 4 |
| Tie Steel Area (Single Bar): | 0.20 in ² |
| Tie Spacing: | 12 in |
| Tie Steel F_y : | 60000 psi |

Overturning Moment Usage

| | |
|------------------------------|------------------------|
| Design OTM: | 2878.4 k-ft |
| OTM Resistance: | 3289.5 k-ft |
| Design OTM / OTM Resistance: | 0.88 Result: OK |

Soil Bearing Pressure Usage

| | |
|---|------------------------|
| Net Bearing Pressure: | 5547 psf |
| Factored Nominal Bearing Pressure: | 6750 psf |
| Net Bearing Pressure/Factored Nominal Bearing Pressure: | 0.82 Result: OK |
| Load Direction Controlling Design Bearing Pressure: | Diagonal to Pad Edge |

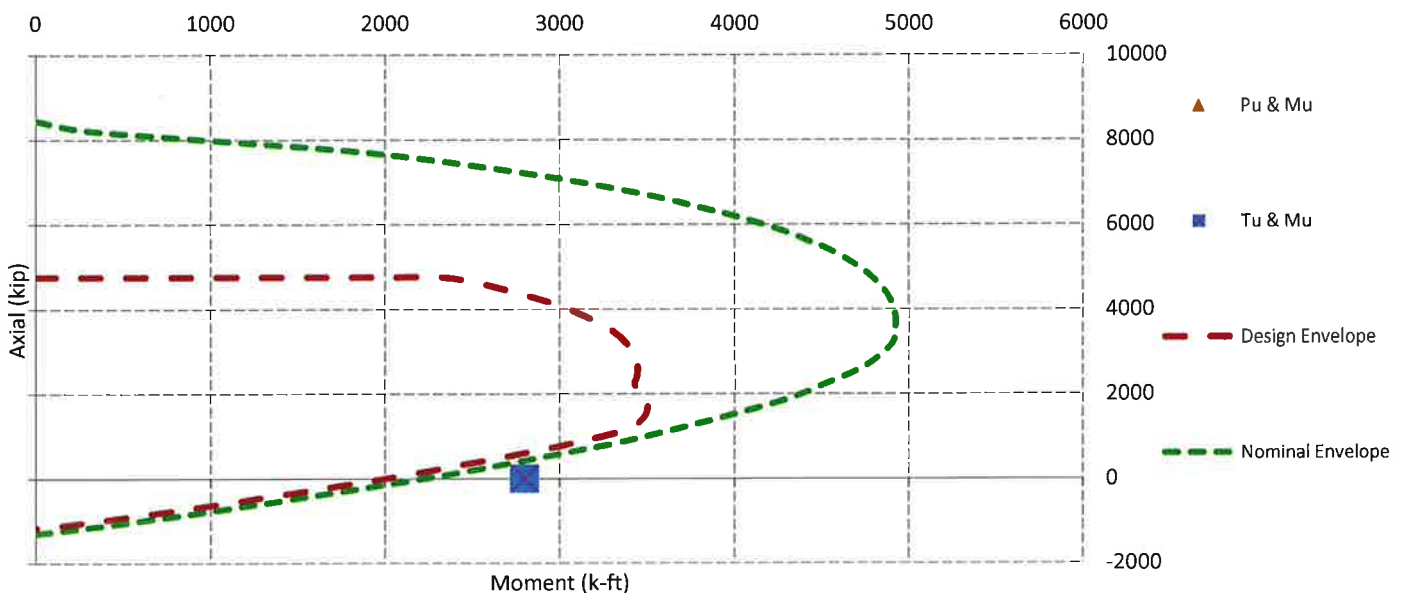
Sliding Factor of Safety

| | |
|--------------------------------------|------------------------|
| Total Factored Sliding Resistance: | 110.8 k |
| Sliding Design / Sliding Resistance: | 0.24 Result: OK |

One Way Shear, Flexural Capacity, and Punching Shear

| | |
|---|--|
| Factored One Way Shear (V_u): | 201.8 k |
| One Way Shear Capacity (ϕV_c): | 575.3 k - ACI11.3.1.1 |
| $V_u / \phi V_c$: | 0.35 Result: OK |
| Load Direction Controlling Shear Capacity: | Diagonal to Pad Edge |
| Lower Steel Pad Factored Moment (M_u): | 1197.6 k-ft |
| Lower Steel Pad Moment Capacity (ϕM_n): | 6257.1 k-ft - ACI10.3 |
| $M_u / \phi M_n$: | 0.19 Result: OK |
| Load Direction Controlling Flexural Capacity: | Parallel to Pad Edge |
| Upper Steel Pad Factored Moment (M_u): | 687.1 k-ft |
| Upper Steel Pad Moment Capacity (ϕM_n): | 2241.8 k-ft |
| $M_u / \phi M_n$: | 0.31 Result: OK |
| Lower Pad Flexural Reinforcement Ratio: | 0.0066 OK - Minimum Reinforcement Ratio Met - ACI10.5.1 |
| Upper Pad Flexural Reinforcement Ratio: | 0.0023 OK - Minimum Reinforcement Ratio Met - ACI10.5.1 |
| Lower Pad Reinforcement Spacing: | 6 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4 |
| Upper Pad Reinforcement Spacing: | 6 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4 |
| Factored Punching Shear (V_u): | -78.5 k |
| Nominal Punching Shear Capacity ($\phi_c V_n$): | 1601.5 k - ACI11.12.2.1 |
| $V_u / \phi V_c$: | -0.05 Result: OK |
| Factored Moment in Pier (M_u): | 2798.6 k-ft |
| Pier Moment Capacity (ϕM_n): | 2995.7 k-ft |
| $M_u / \phi M_n$: | 0.80 Result: OK |
| Factored Shear in Pier (V_u): | 26.6 k |
| Pier Shear Capacity (ϕV_n): | 201.2 k |
| $V_u / \phi V_c$: | 0.13 Result: OK |
| Pier Shear Reinforcement Ratio: | 0.0009 No Ties Necessary for Shear - ACI11.5.6.1 |
| Factored Tension in Pier (T_u): | 0.0 k |
| Pier Tension Capacity (ϕT_n): | 1179.4 k |
| $T_u / \phi T_n$: | 0.00 Result: OK |
| Factored Compression in Pier (P_u): | 0.0 k |
| Pier Compression Capacity (ϕP_n): | 3710.3 k - ACI10.3.6.2 |
| $P_u / \phi P_n$: | 0.00 Result: OK |
| Pier Compression Reinforcement Ratio: | 0.010 OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4 |
| $M_u / \phi_B M_n + T_u / \phi_T T_n$: | 0.80 Result: OK |

Nominal and Design Moment Capacity and Factored Design Loads



ATTACHMENT 5

| Site Name: East Hartford 7 Tower Height: 150ft | | General | | Power | | Density | | | | | | | |
|---|------------|-------------|-----------|------------------|-------------|--------------------|---------------|-------|--|--|--|--|---------------|
| CARRIER | # OF CHAN. | WATTS ERP | HEIGHT | CALC. POWER DENS | FREQ. | MAX. PERMISS. EXP. | FRACTION MPE | Total | | | | | |
| *Clearwire antennas | 2 | 153 | 118 | 2496 | 0.0088 | 1.0000 | 0.09% | | | | | | |
| *Clearwire microwave dist | 1 | 211 | 118 | 11 GHz | 0.0060 | 1.0000 | 0.06% | | | | | | |
| *Clearwire microwave dist | 1 | 211 | 118 | 11 GHz | 0.0060 | 1.0000 | 0.06% | | | | | | |
| *AT&T | 2 | 365 | 152 | 850 | 0.0123 | 0.5667 | 0.22% | | | | | | |
| *AT&T | 4 | 365 | 152 | 1900 | 0.0246 | 1.0000 | 0.25% | | | | | | |
| *AT&T | 2 | 349 | 152 | 850 | 0.0118 | 0.5667 | 0.21% | | | | | | |
| *AT&T | 2 | 349 | 152 | 1900 | 0.0118 | 1.0000 | 0.12% | | | | | | |
| *AT&T | 2 | 793 | 152 | 700 | 0.0268 | 0.4667 | 0.57% | | | | | | |
| *AT&T | 2 | 793 | 152 | 1900 | 0.0268 | 1.0000 | 0.27% | | | | | | |
| *MetroPCS | 2 | 953 | 128 | 1900 | 0.0461 | 1.0000 | 0.46% | | | | | | |
| *MetroPCS | 4 | 477 | 128 | 2100 | 0.0461 | 1.0000 | 0.46% | | | | | | |
| *Sprint | 5 | 693 | 138 | 1900 | 0.0715 | 1.0000 | 0.72% | | | | | | |
| *Sprint | 1 | 390 | 138 | 850 | 0.0080 | 0.5667 | 0.14% | | | | | | |
| *Sprint | 2 | 390 | 138 | 2500 | 0.0161 | 1.0000 | 0.16% | | | | | | |
| Verizon PCS | 1 | 5025 | 98 | 0.1881 | 1970 | 1.0000 | 18.81% | | | | | | |
| Verizon Cellular | 9 | 422 | 98 | 0.1422 | 869 | 0.5793 | 24.55% | | | | | | |
| Verizon AWS | 1 | 4950 | 98 | 0.1853 | 2145 | 1.0000 | 18.53% | | | | | | |
| Verizon 700 | 1 | 2200 | 98 | 0.0824 | 746 | 0.4973 | 16.56% | | | | | | 82.23% |
| * Source: Siting Council | | | | | | | | | | | | | |

ATTACHMENT 6

July 14, 2016

Via Certificate of Mailing

Marcia A. Leclerc, Mayor
Town of East Hartford
740 Main Street
East Hartford, CT 06108

Re: Proposed Telecommunications Facility at 310 Prestige Park Road in East Hartford, Connecticut

Dear Mayor Leclerc:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Sub-Petition for Declaratory Ruling (“Sub-Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install antennas and related equipment on an existing tower at 310 Prestige Park Road in East Hartford (the “Property”). Cellco intends to install twelve (12) antennas and nine (9) remote radio heads at the 98-foot level of the 150-foot tower. Equipment associated with Cellco’s antennas, and a back-up generator, will be located on a steel platform with canopy structure located on the ground near the base of the tower.

As presented in the Sub-Petition, the proposed facility modifications constitute an eligible facility request pursuant to Section 6409(a) of the Federal Middle Class Tax Relief and Job Creation act of 2012 (47 U.S.C. § 1455(a)) and the October 21, 2014 Order of the Federal Communications Commission (FCC-14-533). A copy of the full Sub-Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing along with a copy of the Sub-Petition.

14790468-v1

Marcia A. Leclerc
July 14, 2016
Page 2

Pursuant to its decision in Petition No. 1133, comments or concerns regarding this proposal should be submitted to the Council within thirty (30) days of the date of the attached Sub-Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

July 14, 2016

Via Certificate of Mailing

Fremont Prestige II LLC
c/o Fremont Management LLC
65 LaSalle Road, Suite 202
West Hartford, CT 06107

Re: **Proposed Telecommunications Facility at 310 Prestige Park Road, East Hartford, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Sub-Petition for Declaratory Ruling (“Sub-Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install antennas and related equipment on an existing tower at 310 Prestige Park Road in East Hartford (the “Property”). Cellco intends to install twelve (12) antennas and nine (9) remote radio heads at the 98-foot level of the 150-foot tower. Equipment associated with Cellco’s antennas, and a back-up generator, will be located on a steel platform with canopy structure located on the ground near the base of the tower.

As presented in the Sub-Petition, the proposed facility modifications constitute an eligible facility request pursuant to Section 6409(a) of the Federal Middle Class Tax Relief and Job Creation act of 2012 (47 U.S.C. § 1455(a)) and the October 21, 2014 Order of the Federal Communications Commission (FCC-14-533). A copy of the full Sub-Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing along with a copy of the Sub-Petition.

14790519-v1

Fremont Prestige II LLC
July 14, 2016
Page 2

Pursuant to its decision in Petition No. 1133, comments or concerns regarding this proposal should be submitted to the Council within thirty (30) days of the date of the attached Sub-Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,



Kenneth C. Baldwin

Attachment

July 14, 2016

Via Certificate of Mailing

American Tower Asset Sub II, LLC
10 Presidential Way
Woburn, MA 01801

Re: **Proposed Telecommunications Facility at 310 Prestige Park Road in East Hartford, Connecticut**

Dear Sir or Madam:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Sub-Petition for Declaratory Ruling (“Sub-Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install antennas and related equipment on an existing tower at 310 Prestige Park Road in East Hartford (the “Property”). Cellco intends to install twelve (12) antennas and nine (9) remote radio heads at the 98-foot level of the 150-foot tower. Equipment associated with Cellco’s antennas, and a back-up generator, will be located on a steel platform with canopy structure located on the ground near the base of the tower.

As presented in the Sub-Petition, the proposed facility modifications constitute an eligible facility request pursuant to Section 6409(a) of the Federal Middle Class Tax Relief and Job Creation act of 2012 (47 U.S.C. § 1455(a)) and the October 21, 2014 Order of the Federal Communications Commission (FCC-14-533). A copy of the full Sub-Petition is attached for your review. Landowners whose property abuts the Property were also sent notice of this filing along with a copy of the Sub-Petition.

Robinson + Cole

American Tower Asset Sub II, LLC
July 14, 2016
Page 2

Pursuant to its decision in Petition No. 1133, comments or concerns regarding this proposal should be submitted to the Council within thirty (30) days of the date of the attached Sub-Petition.

Please contact me if you have any questions regarding this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ken Baldwin', written over a light blue horizontal line.

Kenneth C. Baldwin

Attachment

ATTACHMENT 7

KENNETH C. BALDWIN

280 Trumbull Street
Hartford, CT 06103-3597
Main (860) 275-8200
Fax (860) 275-8299
kbaldwin@rc.com
Direct (860) 275-8345

Also admitted in Massachusetts

July 14, 2016

Via Certificate of Mailing

«Name_and_Address»

Re: **Proposed Telecommunications Facility at 310 Prestige Park Road in East Hartford, Connecticut**

Dear «Salutation»:

This firm represents Cellco Partnership d/b/a Verizon Wireless (“Cellco”). Today, Cellco filed a Sub-Petition for Declaratory Ruling (“Sub-Petition”) with the Connecticut Siting Council (“Council”) seeking approval to install antennas and related equipment on an existing tower at 310 Prestige Park Road in East Hartford (the “Property”). Cellco intends to install twelve (12) antennas and nine (9) remote radio heads at the 98-foot level of the 150-foot tower. Equipment associated with Cellco’s antennas, and a back-up generator, will be located on a steel platform with canopy structure located on the ground near the base of the tower.

As presented in the Sub-Petition, the proposed facility improvements at the Property constitute an eligible facility request pursuant to Section 6409(a) of the Federal Middle Class Tax Relief and Job Creation act of 2012 (47 U.S.C. § 1455(a)) and the October 21, 2014 Order of the Federal Communications Commission (FCC-14-533). A copy of the full Sub-Petition is attached for your review.

Pursuant to its decision in Petition No. 1133, comments or concerns regarding this proposal should be submitted to the Council within thirty (30) days of the date of the Sub-Petition.

July 14, 2016
Page 2

This notice is being sent to you because you are listed as an owner of land that abuts the Property. If you have any questions regarding the Sub-Petition, the Council's process for reviewing the Sub-Petition or the details of the filing itself, please feel free to contact me at the number listed above. You may also contact the Council directly at 860-827-2935.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin". The signature is fluid and cursive, with a long horizontal stroke at the end.

Kenneth C. Baldwin

Attachment

CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS

ABUTTING PROPERTY OWNERS

**310 PRESTIGE PARK ROAD
EAST HARTFORD, CONNECTICUT**

| | Property Address | Owner's and Mailing Address |
|----|----------------------------|---|
| 1. | 697 Goodwin Street | Evelyn R. and Gregor A. Foran 697 Goodwin Street East Hartford, CT 06108 |
| 2. | 683 Goodwin Street | Richard A. and Lucy M. Begin 683 Goodwin Street East Hartford, CT 06108 |
| 3. | 673 Goodwin Street | Laura C. and Jeffrey R. Lewis 673 Goodwin Street East Hartford, CT 06108 |
| 4. | 665 Goodwin Street | Melbar R. and Orio Perez 665 Goodwin Street East Hartford, CT 06108 |
| 5. | 645 Goodwin Street | Wanda Z. and George J. Franek, Jr. 645 Goodwin Street East Hartford, CT 06108 |
| 6. | 613 Goodwin Street | Wanda Z. and George J. Franek, Jr. 645 Goodwin Street East Hartford, CT 06108 |
| 7. | 226-262 Prestige Park Road | Fremont Prestige Park II LLC c/o Fremont Management LLC 65 LaSalle Road, Suite 202 West Hartford, CT 06107 |
| 8. | 121 Prestige Park Circle | Fremont Prestige Park II LLC c/o Fremont Management LLC 65 LaSalle Road, Suite 202 West Hartford, CT 06107 |

| | Property Address | Owner's and Mailing Address |
|-----|----------------------------|--|
| 9. | 311 Prestige Park Road | Fremont 311 PPR LLC 65 LaSalle Road, Suite 202 West Hartford, CT 06107 |
| 10. | 732 Goodwin Street | Lisa M. and Thomas Martin 732 Goodwin Street East Hartford, CT 06108 |
| 11. | 722 Goodwin Street Rear | State of Connecticut 165 Capital Avenue Hartford, CT 06106 |
| 12. | 714 Goodwin Street | Mary C. Simoes 714 Goodwin Street East Hartford, CT 06108 |
| 13. | 710 Goodwin Street | Mary Alice Atkins and Edward J. Miller, Jr. 1207 Forbes Street East Hartford, CT 06108 |
| 14. | 704 Goodwin Street | Linda A. and John Adamcewicz 704 Goodwin Street East Hartford, CT 06108 |
| 15. | 694 Goodwin Street | Mary Ellen Foran 694 Goodwin Street East Hartford, CT 06108 |