Robinson+Cole

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Also admitted in Massachusetts

December 27, 2016

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

Re: **Notice of Exempt Modification – Facility Modification**
Town Farm Road, Enfield, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) wireless telecommunications antennas at the 127-foot level of the existing 150-foot tower off Town Farm Road in Enfield, Connecticut (the "Property"). The tower is owned by American Tower Corporation ("ATC"). The Council approved Cellco's use of this tower in 2007. Cellco now intends to modify its facility by replacing six (6) of its existing antennas with three (3) model SBNHH-1D65B, 1900 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same level on the tower. Cellco also intends to replace three (3) remote radio heads ("RRHs") and install six (6) new RRHs and one (1) HYBRIFLEX™ fiber optic antenna cable. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cable.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Bryan R. H. Chodkowski, Town Manager of the Town of Enfield. The Town of Enfield is the owner of the Property. A copy of this letter is also being sent to ATC, the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. The replacement antennas and RRHs will be located at the 127-foot level on the 150-foot tower.

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

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative General Power Density table for Cellco's modified facility is in Attachment 2.

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

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

A copy of the Town Assessor's Parcel Map and property owner information is included in Attachment 4.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Bryan R. H. Chodkowski, Enfield Town Manager
ATC
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®

SBNHH-1D65B

Multiband 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
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
	0 ° | 14.6	0 ° | 14.5	0 ° | 17.4	0 ° | 17.8	0 ° | 18.1	0 ° | 18.2
Gain by Beam Tilt, average, dBi	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

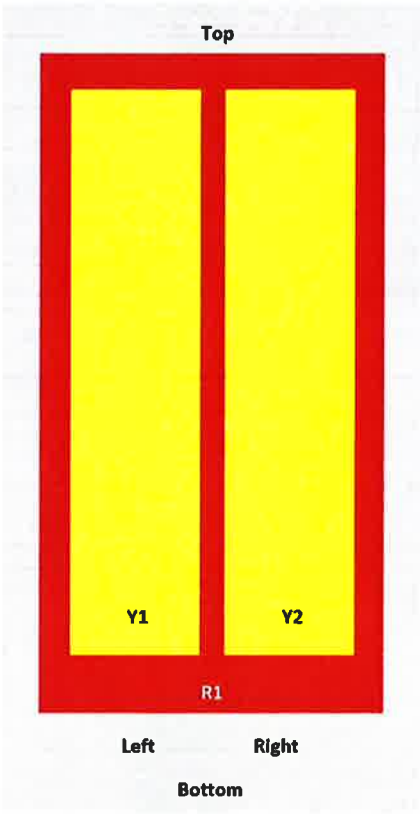
* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, download the whitepaper Time to Raise the Bar on BSAs.

Array Layout

Product Specifications

SBNHH-1D65B

SBNHH 65



Array	Freq (MHz)	Conns	RET (MRET)	AISG RET UID
R1	698-896	1-2	1	ARxxxxxxxxxxxxxxxx 1
Y1	1695-2360	3-4	2	ARxxxxxxxxxxxxxxxx 2
Y2	1695-2360	5-6		

View from the front of the antenna

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

General Specifications

Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Antenna Type	Sector
Band	Multiband
Performance Note	Outdoor usage

Mechanical Specifications

RF Connector Quantity, total	6
RF Connector Quantity, low band	2
RF Connector Quantity, high band	4
RF Connector Interface	7-16 DIN Female
Color	Light gray

Product Specifications

SBNHH-1D65B

Grounding Type	RF connector inner conductor and body grounded to reflector and mounting bracket
Radiator Material	Aluminum | Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Location	Bottom
Wind Loading, frontal	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

Length	1851.0 mm | 72.9 in
Width	301.0 mm | 11.9 in
Depth	180.0 mm | 7.1 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

Length	2025.0 mm | 79.7 in
Width	390.0 mm | 15.4 in
Depth	296.0 mm | 11.7 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

Included Products

Product Specifications

SBNHH-1D65B

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.

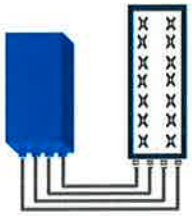
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the 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

Alcatel·Lucent

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.) Volume in L Weight in kg (lb) (w/o mounting HW)	550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield) 38 (with solar shield) 26 (57.2) (with solar shield)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 550W typical @100% RF load (in 2Tx or 4TX mode)
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) 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

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new 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 B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 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, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

The Alcatel-Lucent B25 RRH4x30 is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

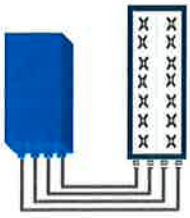
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

FEATURES

- Supporting LTE in 1.9 GHz band (PCS, 3GPP band 2 & 25)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- Ready for 3, 5, 10, 15 or 20MHz LTE carrier operation with 4Rx Diversity
- Ready to support up to 4 carriers anywhere in 65MHz instantaneous bandwidth
- Convection-cooled (fan-less)
- Supports AISG 2.0 devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in PCS band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Full flexibility for multiple carriers operation over entire PCS spectrum
- Improves downlink spectral efficiency and cell edge throughput through MIMO4
- Increases LTE coverage thanks to 4-way Rx 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

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) RX Diversity scheme	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) Volume (w/ solar shield) in L Weight (w/ solar shield) in kg (lb)	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range DC power consumption	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions Wind load (@150km/h or 93mph)	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. interfaces	1 external alarms connector (4 alarms) 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

ALCATEL-LUCENT B66A RRH4X45

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

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

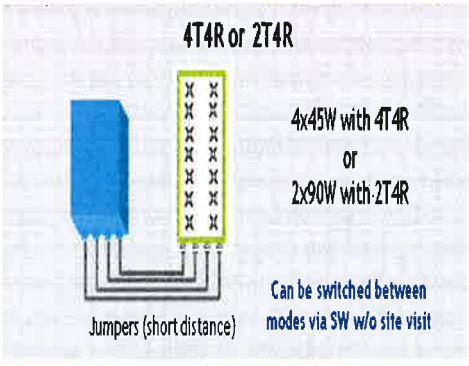
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

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

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

FEATURES

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



BENEFITS

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

TECHNICAL SPECIFICATIONS

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

Product Data Sheet HB158-1-08U8-S8J18

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

Product Description

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

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

Figure 1: HYBRIFLEX Series

Features/Benefits

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

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	[mm (in)]	46.5 (1.83)
Jacket	Polyethylene, PE	[mm (in)]	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight, Approximate		[kg/m (lb/ft)]	1.9 (1.30)
Minimum Bending Radius, Single Bending		[mm (in)]	200 (8)
Minimum Bending Radius, Repeated Bending		[mm (in)]	500 (20)
Recommended/Maximum Clamp Spacing		[m (ft)]	1.0 / 1.2 (3.25 / 4.0)
DC-Resistance Outer Conductor Armor		[Ω/km (Ω/1000ft)]	068 (0.205)
DC-Resistance Power Cable, 8.4mm²(8AWG)		[Ω/km (Ω/1000ft)]	2.1 (0.307)
Version			Single-mode OM3
Quantity, Fiber Count			16 (8 pairs)
Core/Clad		[µm]	50/125
Primary Coating (Acrylate)		[µm]	245
Buffer Diameter, Nominal		[µm]	900
Secondary Protection, Jacket, Nominal		[mm (in)]	2.0 (0.08)
Minimum Bending Radius		[mm (in)]	104 (4.1)
Insertion Loss @ wavelength 850nm		dB/km	3.0
Insertion Loss @ wavelength 1310nm		dB/km	1.0
Standards (Meets or exceeds)			UL94-V0, UL1666 RoHS Compliant
Size (Power)		[mm² (AWG)]	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		[mm² (AWG)]	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		[mm (in)]	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Installation Temperature		[°C (°F)]	-40 to +65 (-40 to149)
Operation Temperature		[°C (°F)]	-40 to +65 (-40 to149)

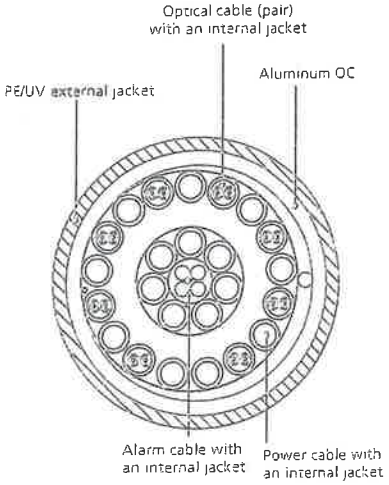


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Enfield 4								
Tower Height: 150'								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Enertrac	receive only		144					
*SNET Paging			161	930.9	0.0216	0.6206	0.35%	
*AT&T	4	397	154	850	0.0261	0.5667	0.46%	
*AT&T	8	397	154	850	0.0521	0.5667	0.92%	
*AT&T	4	853	154	700	0.0560	0.4667	1.20%	
*Clearwire	2	153	112	2496	0.0098	1.0000	0.10%	
*Clearwire	1	211	112	11 GHz	0.0068	1.0000	0.07%	
*Pocket (now MetroPCS)	3	631	122	2130	0.0506	1.0000	0.51%	
*T-Mobile	2	2334	139	2100	0.0949	1.0000	0.95%	
*T-Mobile	2	1167	139	1900	0.0475	1.0000	0.47%	
*T-Mobile	2	1167	139	2100	0.0475	1.0000	0.47%	
*T-Mobile	1	865	139	700	0.0176	0.4667	0.38%	
Verizon	**0**	**0**	**127**	**0.0000**	**1970**	**1.0000**	**0.00%**	
Verizon	**9**	**335**	**127**	**0.0672**	**869**	**0.5793**	**11.60%**	
Verizon	**1**	**6812**	**127**	**0.1519**	**2145**	**1.0000**	**15.19%**	
Verizon	**1**	**2052**	**127**	**0.0457**	**698**	**0.4973**	**9.20%**	
								41.9%
* Source: Siting Council								

ATTACHMENT 3

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Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Enfd - Enfield, CT**
ATC Site Number	:	**302489**
Engineering Number	:	**OAA683304_C3_01**
Proposed Carrier	:	**Verizon**
Carrier Site Name	:	**Enfield 4**
Carrier Site Number	:	**N/A**
Site Location	:	**Town Farm Road** **Enfield, CT 06082-5152** **41.965917,-72.552700**
County	:	**Hartford**
Date	:	**August 12, 2016**
Max Usage	:	**99%**
Result	:	**Pass**

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Jessica Abbott, E.I.
Structural Engineer I

Jessica Abbott

Aug 12 2016 4:36 PM

cosign

COA: PEC.0001553

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Introduction

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

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0025, dated May 14, 2001 ITT Meyer Specification #AT-8935, Type B, dated April 13, 1984
Foundation Drawing	Southern New England Telephone, dated June 6, 1985
Geotechnical Report	MB & A Project #011107, dated June 16, 2001
Modifications	ATC Job #40071639, dated December 6, 2007 ATC Job #48982632, dated April 25, 2012 ATC Job #613768312, dated February 2, 2016 [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:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 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.

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	154.0	3	ADC DD1900	Platform w/ Handrails	(13) 1 5/8" Coax (2) 0.78" 8 AWG 6 (2) 0.51" Hybrid	AT&T Mobility
		2	Raycap DC6-48-60-18-8F			
		3	Kaelus TMA2093FxxV1-1			
		3	Ericsson RRUS A2 B2			
		3	Ericsson RRUS 11 (Band 12) (55 lb)			
		3	Ericsson RRUS 32 B30			
		6	CCI HPA-65R-BUU-H8			
		3	Ericsson RRUS-11			
		3	Ericsson RRUS E2 B29			
		3	Ericsson RRUS-12 B2			
		3	Powerwave 7770.00			
	157.0	1	Decibel DB809KE-SY			Spok Holdings
144.0	144.0	2	Diamond X50A	Stand-Offs	(2) 1/2" Coax	Senet
140.0	140.0	3	Ericsson KRY 112 144/1	Low Profile Platform	(6) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson RRUS-11 (50 lbs.)			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			
		3	Andrew LNX-6515DS-VTM			
127.0	127.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
		3	Antel BXA-70063-4CF-EDIN-10			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Antel BXA-80080-6CF-EDIN- X			
104.0	111.0	2	DragonWave Horizon Compact	Side Arms	(6) 5/16" Coax (4) 1/2" Coax (2) 2" Conduit	Clearwire
		2	DragonWave A-ANT-11G-2-C			
	108.0	3	NextNet BTS-2500			
		3	Argus LLPX310R			
		1	24" x 24" Junction Box			
56.0	56.0	1	Channel Master Type 120	Leg	(1) 1/2" Coax	Spok Holdings
40.0	-	-	-	-	(1) 0.28" RG-6	

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
127.0	127.0	3	Antel BXA-171085-12BF-EDIN-X	-	-	Verizon
		3	Antel BXA-171085-8BF-EDIN-X			
		3	Alcatel-Lucent RRH2x40-AWS			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
127.0	127.0	3	Alcatel-Lucent B13 RRH4x30-4R 700U	Low Profile Platform	(1) 1 5/8" Hybriflex	Verizon
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	Alcatel-Lucent B66A RRH 4x45			
		1	RFS DB-T1-6Z-8AB-0Z			
		6	Commscope SBNHH-1D65B			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	93%	Pass
Shaft	99%	Pass
Base Plate	51%	Pass
Flanges	38%	Pass
Reinforcement	94%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,637.1	90%
Axial (Kips)	116.6	45%
Shear (Kips)	32.9	59%

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) (°)
150.0	CCI HPA-65R-BUU-H8	AT&T Mobility	2.572	2.171
127.0	Alcatel-Lucent B13 RRH4x30-4R 700U	Verizon	1.770	1.706
	Alcatel-Lucent 1900 MHz 4x45 RRH			
	Alcatel-Lucent B66A RRH 4x45			
	RFS DB-T1-6Z-8AB-0Z			
	Commscope SBNHH-1D65B			
104.0	DragonWave A-ANT-11G-2-C	Clearwire	1.149	1.397
56.0	Channel Master Type 120	Spok Holdings	0.319	0.640

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

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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:

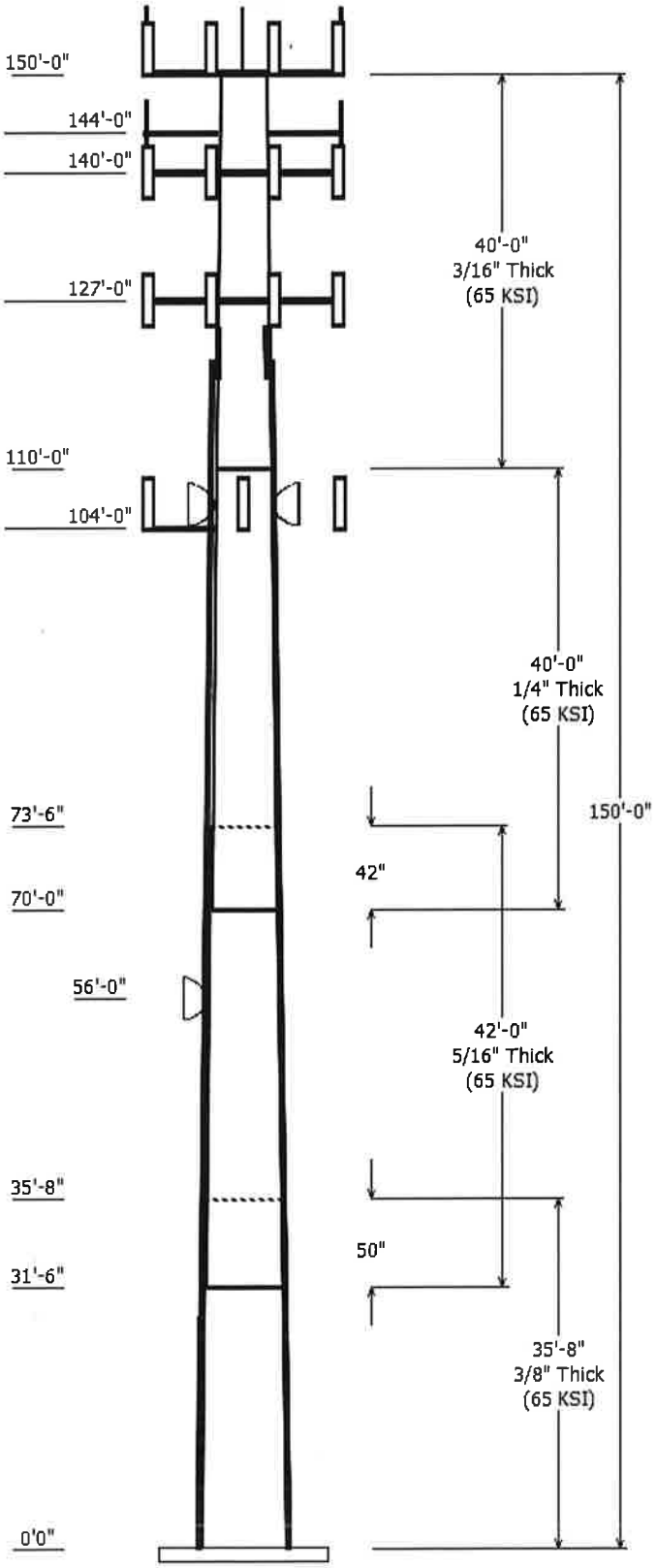
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- 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.



Job Information

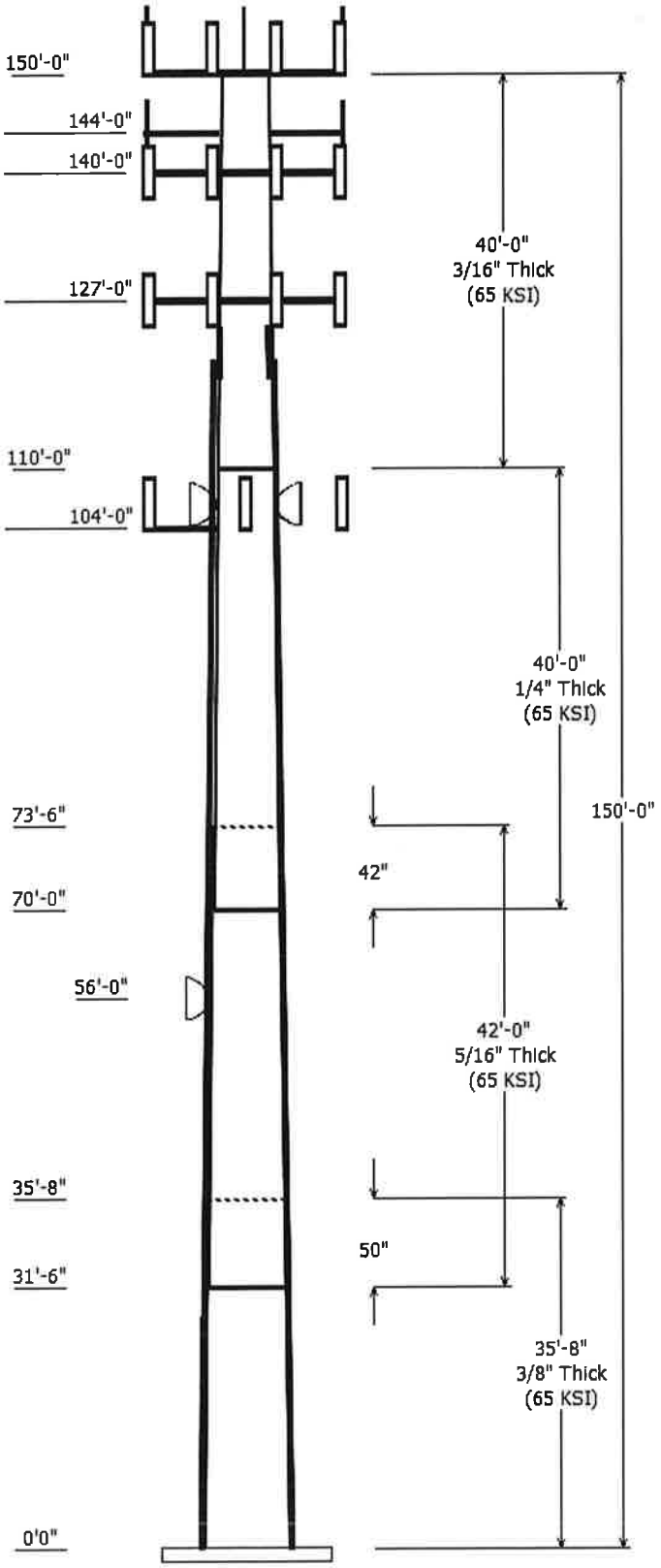
Pole :	302489
Code:	ANSI/TIA-222-G
Description :	150' ITT Meyer Type "B" Monopole
Client :	Verizon Wireless
Struct Class :	II
Location :	Enfd - Enfield, CT
Shape :	12 Sides
Exposure :	C
Height :	150.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.156700(in/ft)

Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
1	35.667	31.791	37.380	0.375		0.000	0.156700	65
2	42.000	26.488	33.069	0.313	Slip Joint	50.000	0.156700	65
3	40.000	21.268	27.536	0.250	Slip Joint	42.000	0.156700	65
4	40.000	15.000	21.268	0.188	Butt Joint	0.000	0.156700	65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	150.000	3	Round Side Arm
150.000	154.000	6	CCI HPA-65R-BUU-H8
150.000	154.000	3	Ericsson RRUS-12 B2
150.000	154.000	3	Ericsson RRUS E2 B29
150.000	154.000	3	Ericsson RRUS-11
150.000	154.000	3	Ericsson RRUS 32 B30
150.000	154.000	3	Ericsson RRUS A2 B2
150.000	154.000	3	Kaelus TMA2093FxxV1-1
150.000	154.000	3	Ericsson RRUS 11 (Band 12) (55
150.000	154.000	2	Raycap DC6-48-60-18-8F
150.000	154.000	3	ADC DD1900
150.000	154.000	3	Powerwave Allgon 7770.00
150.000	157.000	1	Decibel DB809KE-SY
150.000	150.000	1	Flat Platform w/ Handrails
144.000	144.000	2	Stand-Off
144.000	144.000	2	Diamond X50A
140.000	140.000	3	Ericsson RRUS-11 (50 lbs.)
140.000	140.000	3	Ericsson AIR 21, 1.3 M, B2A B4
140.000	140.000	3	Ericsson AIR 21, 1.3M, B4A B2P
140.000	140.000	3	Ericsson KRY 112 144/1
140.000	140.000	3	Andrew LNX-6515DS-VTM
140.000	140.000	1	Flat Low Profile Platform
127.000	127.000	6	Commscope SBNHH-1D65B
127.000	127.000	3	Alcatel-Lucent B66A RRH 4x45
127.000	127.000	3	Alcatel-Lucent 1900 MHz 4x45 R
127.000	127.000	3	Alcatel-Lucent B13 RRH4x30-4R
127.000	127.000	1	RFS DB-T1-6Z-8AB-0Z
127.000	127.000	1	RFS DB-T1-6Z-8AB-0Z
127.000	127.000	1	Round Low Profile Platform
127.000	127.000	3	Antel BXA-80080-6CF-EDIN- X
127.000	127.000	3	Antel BXA-70063-4CF-EDIN-10
127.000	127.000	6	RFS FD9R6004/2C-3L
104.000	104.000	1	Side Arms
104.000	108.000	1	24" x 24" Junction Box
104.000	108.000	3	Argus LLPX310R
104.000	108.000	3	NextNet BTS-2500
104.000	111.000	2	DragonWave Horizon Compact
104.000	111.000	2	DragonWave A-ANT-11G-2-C
56.000	56.000	1	Channel Master Type 120



Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
140.00	150.00	1 5/8" Coax	Yes
114.00	129.00	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
10.000	104.00	1/2" Coax	No
10.000	104.00	2" Conduit	Yes
10.000	104.00	5/16" Coax	No
10.000	40.000	0.28" RG-6	No
10.000	56.000	1/2" Coax	Yes
10.000	127.00	1 5/8" Coax	Yes
10.000	127.00	1 5/8" Hybriflex	Yes
10.000	127.00	1 5/8" Hybriflex	Yes
10.000	140.00	1 1/4" Hybriflex	No
10.000	140.00	1 5/8" Coax	No
10.000	140.00	1 5/8" Coax	Yes
10.000	144.00	1/2" Coax	Yes
10.000	150.00	0.51" Hybrid	No
10.000	150.00	0.78" 8 AWG 6	No
10.000	150.00	1 5/8" Coax	No
10.000	150.00	1 5/8" Coax	No
0.000	125.00	#20 Dywidag bars	Yes
0.000	31.000	#20 Dywidag bars	Yes

Load Cases

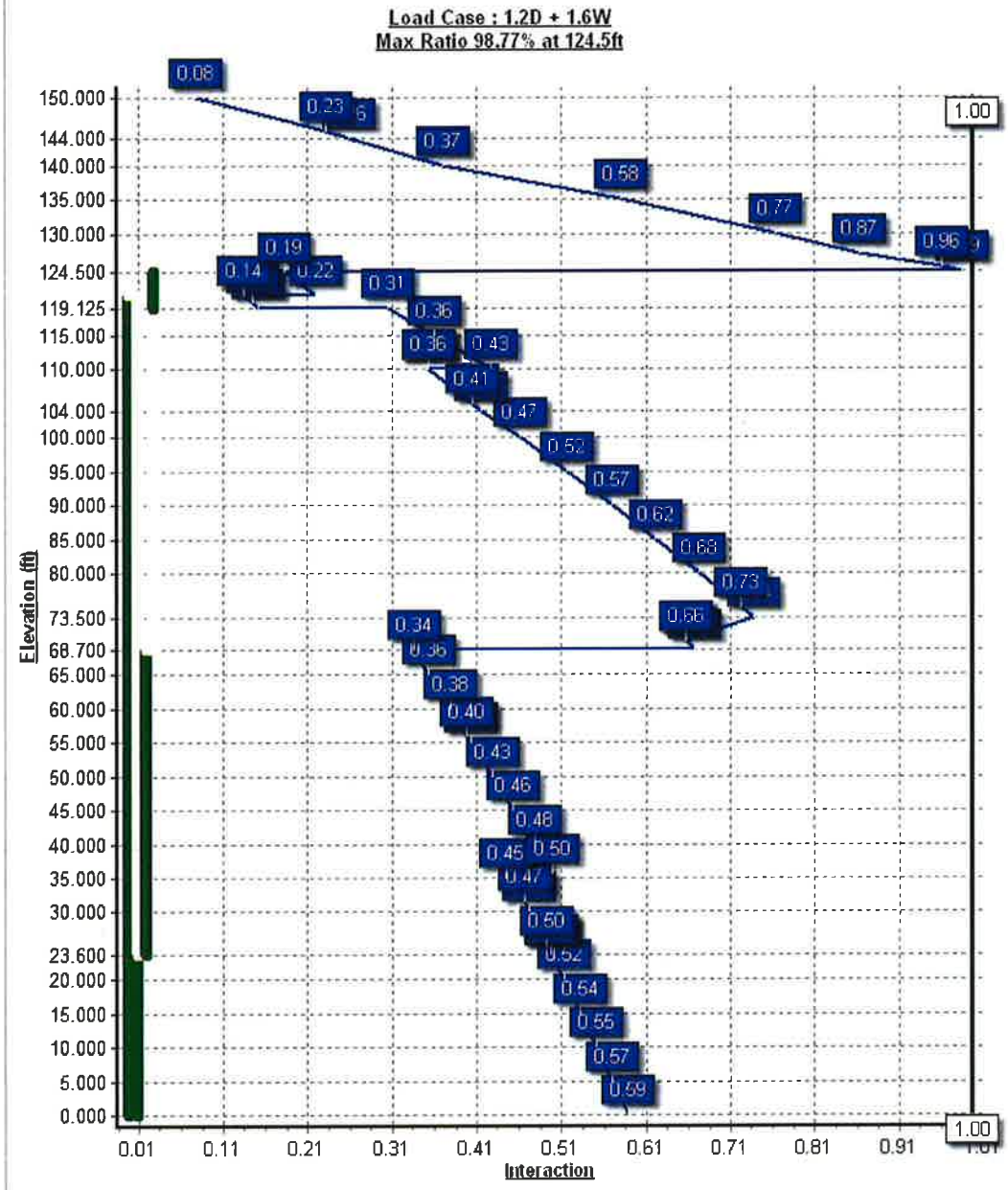
1.2D + 1.6W	95 mph with No Ice
0.9D + 1.6W	95 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced 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	3637.12	32.86	66.68
0.9D + 1.6W	3492.96	31.69	50.00
1.2D + 1.0Di + 1.0Wi	1007.96	8.12	116.58
(1.2 + 0.2Sds) * DL + E ELFM	266.46	2.18	66.26
(1.2 + 0.2Sds) * DL + E EMAM	346.33	3.03	66.26
(0.9 - 0.2Sds) * DL + E ELFM	261.38	2.18	46.18
(0.9 - 0.2Sds) * DL + E EMAM	339.20	3.02	46.18
1.0D + 1.0W	884.64	7.96	55.62

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	56.00	3.829	0.640
1.0D + 1.0W	104.00	13.789	1.397


Load Case : 1.2D + 1.6W
Max Ratio 98.77% at 124.5ft
Elevation (ft)
150.000
144.000
140.000
135.000
130.000
124.500
119.125
115.000
110.000
104.000
100.000
95.000
90.000
85.000
80.000
73.500
68.700
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
23.600
20.000
15.000
10.000
5.000
0.000
0.08
0.23
0.37
0.58
0.77
0.87
0.96
1.00
0.19
0.14
0.22
0.31
0.36
0.36
0.43
0.41
0.47
0.52
0.57
0.62
0.68
0.73
0.66
0.34
0.36
0.38
0.40
0.43
0.46
0.48
0.45
0.50
0.47
0.50
0.52
0.54
0.55
0.57
0.59
1.00
0.01
0.11
0.21
0.31
0.41
0.51
0.61
0.71
0.81
0.91
Interaction

Site Number:	**302489**	**Code: ANSI/TIA-222-G**	
Site Name:	**Enfd - Enfield, CT**	**Engineering Number: OAA683304_C3_01**	**8/12/2016 11:38:23 AM**
Customer:	**Verizon Wireless**		

Analysis Parameters

Location:	**Hartford County, CT**		
Code:	**ANSI/TIA-222-G**	**Height (ft):**	**150**
Shape:	**12 Sides**	**Base Diameter (in):**	**37.38**
Pole Type:	**Taper**	**Top Diameter (in):**	**15.00**
Pole Manfacturer:	**ITT Meyer**	**Taper (in/ft) :**	**0.157**

Ice & Wind Parameters

Structure Class:	**II**	**Design Wind Speed Without Ice:**	**95 mph**
Exposure Category:	**C**	**Design Wind Speed With Ice:**	**50 mph**
Topographic Category:	**1**	**Operational Wind Speed:**	**60 mph**
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):	**2.67**				
T_L (sec):	**6**	**p:**	**1.3**	**C_s:**	**0.030**
S_s:	**0.176**	**S_1:**	**0.064**	**C_s Max:**	**0.030**
F_a:	**1.600**	**F_v:**	**2.400**	**C_s Min:**	**0.030**
S_{ds}:	**0.188**	**S_{d1}:**	**0.102**		

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 ELFM	**Seismic Equivalent Lateral Forces Method**
(1.2 + 0.2Sds) * DL + E EMAM	**Seismic Equivalent Modal Analysis Method**
(0.9 - 0.2Sds) * DL + E ELFM	**Seismic (Reduced DL) Equivalent Lateral Forces Method**
(0.9 - 0.2Sds) * DL + E EMAM	**Seismic (Reduced DL) Equivalent Modal Analysis Method**
1.0D + 1.0W	**Serviceability 60 mph**

Shaft Section Properties

							Bottom						Top						
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip Joint Type	Slip Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in²)	Ix (in⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.57	99.68	31.791	35.67	37.93	4778.9	20.57	84.78	0.156700
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.2	26.21	105.82	26.487	73.50	26.34	2303.3	20.57	84.76	0.156700
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.97	2087.4	27.37	110.14	21.268	110.00	16.92	954.0	20.65	85.07	0.156700
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.9	28.25	113.43	15.000	150.00	8.94	250.5	19.29	80.00	0.156700
				Shaft Weight		13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
150.00	ADC DD1900	3	12.10	1.090	0.33	62.30	1.714	0.33	0.000	4.000
150.00	CCI HPA-65R-BUU-H8	6	68.00	12.980	0.67	476.77	15.173	0.67	0.000	4.000
150.00	Decibel DB809KE-SY	1	26.00	3.400	1.00	252.80	7.865	1.00	0.000	7.000
150.00	Ericsson RRUS 11 (Band 12)	3	55.00	2.520	0.50	170.75	3.406	0.50	0.000	4.000
150.00	Ericsson RRUS 32 B30	3	60.00	2.740	0.50	186.36	3.625	0.50	0.000	4.000
150.00	Ericsson RRUS A2 B2	3	22.00	2.060	0.50	119.94	3.030	0.50	0.000	4.000
150.00	Ericsson RRUS E2 B29	3	60.00	3.150	0.50	171.62	4.698	0.50	0.000	4.000
150.00	Ericsson RRUS-11	3	51.00	2.790	0.50	180.06	3.721	0.50	0.000	4.000
150.00	Ericsson RRUS-12 B2	3	58.00	3.150	0.50	165.90	4.698	0.50	0.000	4.000
150.00	Flat Platform w/ Handrails	1	2000.00	27.200	1.00	3,728.35	59.804	1.00	0.000	0.000
150.00	Kaelus TMA2093FxxV1-1	3	23.10	1.400	0.33	70.71	2.821	0.33	0.000	4.000
150.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.65	228.57	6.943	0.65	0.000	4.000
150.00	Raycap DC6-48-60-18-8F	2	31.80	1.280	1.00	164.95	2.179	1.00	0.000	4.000
150.00	Round Side Arm	3	150.00	5.200	0.67	247.57	8.824	0.67	0.000	0.000
144.00	Diamond X50A	2	2.30	1.120	1.00	95.86	2.927	1.00	0.000	0.000
144.00	Stand-Off	2	75.00	2.500	0.85	123.60	3.796	0.85	0.000	0.000
140.00	Andrew LNX-6515DS-VTM	3	51.30	11.430	0.70	420.22	13.647	0.70	0.000	0.000
140.00	Ericsson AIR 21, 1.3 M, B2A	3	83.00	6.050	0.71	320.56	7.532	0.71	0.000	0.000
140.00	Ericsson AIR 21, 1.3M, B4A	3	81.50	6.090	0.70	319.00	7.577	0.70	0.000	0.000
140.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.33	36.67	0.750	0.33	0.000	0.000
140.00	Ericsson RRUS-11 (50 lbs.)	3	50.00	2.570	0.50	166.19	3.457	0.50	0.000	0.000
140.00	Flat Low Profile Platform	1	1450.00	26.100	1.00	2,279.52	51.387	1.00	0.000	0.000
127.00	Alcatel-Lucent 1900 MHz	3	60.00	2.320	0.50	193.52	3.226	0.50	0.000	0.000
127.00	Alcatel-Lucent B13 RRH4x30-	3	57.20	2.170	0.50	172.87	3.023	0.50	0.000	0.000
127.00	Alcatel-Lucent B66A RRH	3	67.00	2.580	0.50	178.97	3.495	0.50	0.000	0.000
127.00	Antel BXA-70063-4CF-EDIN-10	3	9.90	4.710	0.65	179.16	5.994	0.65	0.000	0.000
127.00	Antel BXA-80080-6CF-EDIN- X	3	18.00	5.770	0.73	231.92	7.414	0.73	0.000	0.000
127.00	Commscope SBNHH-1D65B	6	50.70	8.170	0.69	333.28	9.918	0.69	0.000	0.000
127.00	RFS DB-T1-6Z-8AB-0Z	1	44.00	4.800	0.50	242.93	5.969	0.50	0.000	0.000
127.00	RFS DB-T1-6Z-8AB-0Z	1	44.00	4.800	0.50	242.93	5.969	0.50	0.000	0.000
127.00	RFS FD9R6004/2C-3L	6	2.60	0.370	0.33	23.38	0.689	0.33	0.000	0.000
127.00	Round Low Profile Platform	1	1350.00	21.700	1.00	2,115.60	46.908	1.00	0.000	0.000
104.00	24" x 24" Junction Box	1	20.00	4.800	0.50	198.61	5.942	0.50	0.000	4.000
104.00	Argus LLPX310R	3	28.60	4.290	0.62	176.44	5.467	0.62	0.000	4.000
104.00	DragonWave A-ANT-11G-2-C	2	27.00	4.690	0.90	152.28	6.328	0.90	0.000	7.000
104.00	DragonWave Horizon	2	10.60	0.430	0.33	53.88	0.766	0.33	0.000	7.000
104.00	NextNet BTS-2500	3	35.00	1.820	0.33	115.39	2.580	0.33	0.000	4.000
104.00	Side Arms	1	560.00	8.500	1.00	1,161.82	17.635	1.00	0.000	0.000
56.00	Channel Master Type 120	1	126.00	20.190	0.90	374.78	23.831	0.90	0.000	0.000
	Totals	103	9877.30			29,123.03			Number of Loadings :	39

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
10.00	150.00	2	0.51" Hybrid	0.51	0.14	N	0.00	N	AT&T Mobility
10.00	150.00	2	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
10.00	150.00	4	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
10.00	150.00	1	1 5/8" Coax	1.98	0.00	N	0.00	N	Spok Holdings
140.00	150.00	8	1 5/8" Coax	1.98	0.82	N	3.96	Y	AT&T Mobility
10.00	144.00	2	1/2" Coax	0.63	0.15	N	0.00	Y	Senet, INC
10.00	140.00	1	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	T-Mobile
10.00	140.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
10.00	140.00	8	1 5/8" Coax	1.98	0.82	N	0.00	Y	AT&T Mobility
114.00	129.00	4	#20 Dywidag bars	2.50	16.70	N	6.02	Y	--
10.00	127.00	12	1 5/8" Coax	1.98	0.82	N	3.96	Y	Verizon
10.00	127.00	1	1 5/8" Hybriflex	1.63	1.61	N	0.00	Y	Verizon
10.00	127.00	1	1 5/8" Hybriflex	1.63	1.61	N	0.00	Y	Verizon
0.00	125.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
10.00	104.00	4	1/2" Coax	0.63	0.15	N	0.00	N	Clearwire
10.00	104.00	2	2" Conduit	2.35	3.65	N	0.00	Y	Clearwire
10.00	104.00	6	5/16" Coax	0.31	0.05	N	0.00	N	Clearwire
31.00	76.70	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--
10.00	56.00	1	1/2" Coax	0.63	0.15	N	0.00	Y	Spok Holdings
10.00	40.00	1	0.28" RG-6	0.28	0.03	N	0.00	N	Spok Holdings
0.00	31.00	4	#20 Dywidag bars	2.50	16.70	N	0.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections — Description	Spacing (in)	Len (in)	Connectors	Continuation?
0.00	121.00	4	SOL #20 All Thread	75	2.19	6" Angle Bracket	27.00	3.31	5/8" A36 U-Bolt	Yes
0.00	23.60	4	SOL #20 All Thread	80	8.28	6" T Bracket	27.00	3.31	5/8" A36 U-Bolt	Yes
23.60	68.70	4	SOL #20 All Thread	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	Yes
119.13	124.50	3	SOL #20 (15 deg	80	8.28	6" T Bracket	30.00	3.31	5/8" A36 U-Bolt	No

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)	Additional Reinforcing Area (in^2)	Additional Reinforcing Ix (in^4)	Additional Reinforcing Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.57	99.68	77.9	403.6	0.0	0.0	39.28	12,96	0.0
5.00		0.3750	36.597	43.737	7,324.4	24.01	97.59	78.5	386.6	0.0	752.2	39.28	12,56	668.0
10.00		0.3750	35.813	42.791	6,859.3	23.45	95.50	79.1	370.0	0.0	736.1	39.28	12,16	668.0
15.00		0.3750	35.029	41.845	6,414.3	22.89	93.41	79.8	353.7	0.0	720.0	39.28	11,77	668.0
20.00		0.3750	34.246	40.899	5,989.0	22.33	91.32	80.4	337.8	0.0	703.9	39.28	11,39	668.0
23.60	Reinf. Top Reinf	0.3750	33.682	40.218	5,694.8	21.92	89.82	80.8	326.6	0.0	496.8	39.28	11,12	481.0
25.00		0.3750	33.462	39.953	5,583.0	21.77	89.23	81.0	322.3	0.0	191.0	39.28	11,01	187.0
30.00		0.3750	32.679	39.007	5,195.7	21.21	87.14	81.6	307.1	0.0	671.7	39.28	10,64	668.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.1	21.04	86.52	81.8	302.7	0.0	198.4	39.28	10,53	200.4
35.00		0.3750	31.895	38.061	4,826.7	20.65	85.05	81.9	292.3	0.0	846.4	39.28	10,57	467.6
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.6	25.65	103.73	76.7	253.3	0.0	159.7	39.28	10,52	89.1
40.00		0.3125	31.737	31.621	3,985.6	25.07	101.56	77.4	242.6	0.0	471.3	39.28	10,20	578.9
45.00		0.3125	30.953	30.833	3,694.9	24.40	99.05	78.1	230.6	0.0	531.3	39.28	9,853.	668.0
50.00		0.3125	30.170	30.044	3,418.6	23.73	96.54	78.8	218.9	0.0	517.9	39.28	9,503.	668.0
55.00		0.3125	29.386	29.256	3,156.5	23.05	94.04	79.6	207.5	0.0	504.5	39.28	9,159.	668.0
56.00		0.3125	29.230	29.098	3,105.7	22.92	93.54	79.7	205.3	0.0	99.3	39.28	9,091.	133.6
60.00		0.3125	28.603	28.467	2,908.1	22.38	91.53	80.3	196.4	0.0	391.8	39.28	8,822.	534.4
65.00		0.3125	27.819	27.679	2,673.1	21.71	89.02	81.0	185.6	0.0	477.6	39.28	8,491.	668.0
68.70	Reinf. Top	0.3125	27.240	27.096	2,507.6	21.21	87.17	81.6	177.8	0.0	344.8	39.28	8,251.	494.3
70.00		0.3125	27.036	26.891	2,451.2	21.04	86.52	81.8	175.1	0.0	119.4	19.64	2,879.	86.8
70.00	Bot - Section 3	0.3125	27.036	26.890	2,451.1	21.04	86.52	81.8	175.1	0.0	0.0	19.64	2,879.	0.0
73.50	Top - Section 2	0.2500	26.987	21.524	1,964.0	26.78	107.95	75.5	140.6	0.0	575.9	19.64	2,870.	233.8
75.00		0.2500	26.752	21.335	1,912.7	26.53	107.01	75.8	138.1	0.0	109.4	19.64	2,830.	100.2
80.00		0.2500	25.969	20.704	1,748.0	25.69	103.88	76.7	130.0	0.0	357.6	19.64	2,696.	334.0
85.00		0.2500	25.185	20.073	1,593.1	24.85	100.74	77.6	122.2	0.0	346.9	19.64	2,566.	334.0
90.00		0.2500	24.402	19.442	1,447.6	24.01	97.61	78.5	114.6	0.0	336.2	19.64	2,439.	334.0
95.00		0.2500	23.618	18.812	1,311.2	23.17	94.47	79.4	107.2	0.0	325.4	19.64	2,315.	334.0
100.00		0.2500	22.835	18.181	1,183.7	22.33	91.34	80.4	100.1	0.0	314.7	19.64	2,195.	334.0
104.00		0.2500	22.208	17.676	1,087.9	21.66	88.83	81.1	94.6	0.0	244.0	19.64	2,101.	267.2
105.00		0.2500	22.051	17.550	1,064.7	21.49	88.21	81.3	93.3	0.0	59.9	19.64	2,078.	66.8
110.00		0.2500	21.268	16.919	954.0	20.65	85.07	81.9	86.7	0.0	293.2	19.64	1,963.	334.0
110.00	Top - Section 3	0.2500	21.268	16.919	954.0	20.65	85.07	81.9	86.7	0.0	0.0	19.64	1,963.	0.0
110.00	Bot - Section 4	0.1875	21.268	12.727	721.9	28.25	113.43	73.9	65.6	0.0		19.64	1,963.	
115.00		0.1875	20.484	12.254	644.4	27.13	109.25	75.1	60.8	0.0	212.5	19.64	1,853.	334.0
119.13	Reinf Bottom	0.1875	19.838	11.864	584.8	26.21	105.80	76.1	56.9	0.0	169.3	19.64	1,764.	275.5
120.00		0.1875	19.701	11.781	572.6	26.01	105.07	76.3	56.1	0.0	35.2	32.45	4,143.	102.3
121.00	Reinf. Top	0.1875	19.544	11.687	558.9	25.79	104.24	76.6	55.2	0.0	39.9	32.45	4,231.	384.1
124.50	Reinf. Top	0.1875	18.996	11.356	512.7	25.00	101.31	77.4	52.1	0.0	137.2	12.81	2,308.	175.4
125.00		0.1875	18.917	11.308	506.4	24.89	100.89	77.6	51.7	0.0	19.3			
127.00		0.1875	18.604	11.119	481.4	24.44	99.22	78.1	50.0	0.0	76.3			
130.00		0.1875	18.134	10.835	445.4	23.77	96.71	78.8	47.5	0.0	112.1			
135.00		0.1875	17.350	10.362	389.6	22.65	92.54	80.0	43.4	0.0	180.3			
140.00		0.1875	16.567	9.889	338.6	21.53	88.36	81.2	39.5	0.0	172.3			
144.00		0.1875	15.940	9.511	301.2	20.64	85.01	81.9	36.5	0.0	132.0			
145.00		0.1875	15.783	9.416	292.3	20.41	84.18	81.9	35.8	0.0	32.2			
150.00		0.1875	15.000	8.943	250.5	19.29	80.00	81.9	32.3	0.0	156.2			
											13,372.1			13,208.

Load Case: 1.2D + 1.6W — 95 mph with No Ice — 25 Iterations

Gust Response Factor 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Wind Importance Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		262.0	0.0					0.0	0.0	262.0	0.0	0.0	0.0
5.00		518.4	902.6					0.0	1,603.2	518.4	2,505.8	0.0	0.0
10.00		513.3	883.3					0.0	1,603.2	513.3	2,486.5	0.0	0.0
15.00		517.8	864.0					0.0	1,836.8	517.8	2,700.8	0.0	0.0
20.00		455.2	844.7					0.0	1,836.8	455.2	2,681.4	0.0	0.0
23.60	Reinf. Top Reinf Bot	270.9	596.2					0.0	1,322.5	270.9	1,918.7	0.0	0.0
25.00		354.9	229.2					0.0	514.3	354.9	743.4	0.0	0.0
30.00		362.8	806.1					0.0	1,836.8	362.8	2,642.8	0.0	0.0
31.50	Bot - Section 2	287.4	238.1					0.0	551.1	287.4	789.3	0.0	0.0
35.00		241.8	1,015.7					0.0	1,285.6	241.8	2,301.3	0.0	0.0
35.67	Top - Section 1	291.6	191.6					0.0	245.0	291.6	436.6	0.0	0.0
40.00		547.0	565.5					0.0	1,591.7	547.0	2,157.2	0.0	0.0
45.00		590.6	637.5					0.0	1,836.6	590.6	2,474.1	0.0	0.0
50.00		593.9	621.4					0.0	1,836.6	593.9	2,458.0	0.0	0.0
55.00		357.2	605.4					0.0	1,836.6	357.2	2,441.9	0.0	0.0
56.00	Appertunance(s)	298.2	119.1	786.3	0.0	0.0	151.2	0.0	367.3	1,084.5	637.7	0.0	0.0
60.00		536.8	470.1					0.0	1,468.5	536.8	1,938.7	0.0	0.0
65.00		518.6	573.2					0.0	1,835.7	518.6	2,408.8	0.0	0.0
68.70	Reinf. Top	297.8	413.8					0.0	1,358.4	297.8	1,772.2	0.0	0.0
70.00		77.4	143.3					0.0	373.1	77.4	516.4	0.0	0.0
70.00	Bot - Section 3	211.8	0.0					0.0	0.1	211.8	0.1	0.0	0.0
73.50	Top - Section 2	301.8	691.1					0.0	1,004.4	301.8	1,695.5	0.0	0.0
75.00		389.1	131.2					0.0	430.4	389.1	561.6	0.0	0.0
80.00		596.6	429.1					0.0	1,170.3	596.6	1,599.5	0.0	0.0
85.00		593.1	416.3					0.0	1,034.1	593.1	1,450.3	0.0	0.0
90.00		589.0	403.4					0.0	1,034.1	589.0	1,437.5	0.0	0.0
95.00		584.3	390.5					0.0	1,034.1	584.3	1,424.6	0.0	0.0
100.00		521.7	377.6					0.0	1,034.1	521.7	1,411.7	0.0	0.0
104.00	Appertunance(s)	288.2	292.8	1,252.1	0.0	4,379.0	1,015.2	0.0	827.3	1,540.3	2,135.3	0.0	0.0
105.00		342.6	71.9					0.0	197.0	342.6	268.9	0.0	0.0
110.00		285.2	351.9					0.0	985.1	285.2	1,336.9	0.0	0.0
110.00	Top - Section 3	270.8	0.0					0.0	0.1	270.8	0.1	0.0	0.0
115.00		488.3	255.0					106.7	1,065.2	595.1	1,320.2	0.0	0.0
119.13	Reinf Bottom	263.0	203.1					147.3	1,143.3	410.4	1,346.5	0.0	0.0
120.00		97.1	42.2					31.3	295.1	128.4	337.4	0.0	0.0
121.00	Reinf. Top	229.9	47.9					35.8	657.9	265.7	705.8	0.0	0.0
124.50	Reinf. Top	203.3	164.7					125.6	900.0	329.0	1,064.6	0.0	0.0
125.00		124.8	23.1					18.0	98.5	142.8	121.6	0.0	0.0
127.00	Appertunance(s)	246.7	91.6	4,068.2	0.0	0.0	2,872.9	72.0	233.7	4,386.9	3,198.2	0.0	0.0
130.00		345.5	134.5					36.1	223.4	381.6	357.9	0.0	0.0
135.00		389.7	216.4					0.0	105.1	389.7	321.5	0.0	0.0
140.00	Appertunance(s)	368.4	206.7	3,634.3	0.0	0.0	2,736.5	0.0	105.1	4,002.7	3,048.3	0.0	0.0
144.00	Appertunance(s)	220.5	158.4	308.4	0.0	0.0	185.5	72.9	55.7	601.8	399.6	0.0	0.0
145.00		254.7	38.6					18.3	13.6	273.0	52.2	0.0	0.0
150.00	Appertunance(s)	211.4	187.4	5,859.1	0.0	15,828.2	4,891.4	91.5	67.8	6,162.0	5,146.6	0.0	0.0
								Totals:		32,974.75	66,754.14	0.00	0.00

Site Number: 302489 | Code: ANSI/TIA-222-G |

Site Name: Enfd - Enfield, CT | Engineering Number: OAA683304_C3_01 | 8/12/2016 11:38:27 AM

Customer: Verizon Wireless

Load Case: 1.2D + 1.6W | 95 mph with No Ice | 25 Iterations

Gust Response Factor 1.10 | Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-66.68	-32.86	0.00	-3,637.12	0.00	3,637.12	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.591
5.00	-64.04	-32.61	0.00	-3,472.84	0.00	3,472.84	3,091.35	1,545.67	4,611.19	2,277.30	0.13	-0.24	0.573
10.00	-61.42	-32.34	0.00	-3,309.81	0.00	3,309.81	3,047.99	1,524.00	4,447.17	2,196.29	0.52	-0.49	0.554
15.00	-58.59	-32.04	0.00	-3,148.13	0.00	3,148.13	3,003.60	1,501.80	4,284.50	2,115.95	1.16	-0.73	0.535
20.00	-55.80	-31.74	0.00	-2,987.95	0.00	2,987.95	2,958.17	1,479.08	4,123.27	2,036.33	2.05	-0.97	0.516
23.60	-53.82	-31.55	0.00	-2,873.68	0.00	2,873.68	2,924.81	1,462.41	4,008.13	1,979.47	2.85	-1.14	0.501
23.60	-53.82	-31.55	0.00	-2,873.68	0.00	2,873.68	2,924.81	1,462.41	4,008.13	1,979.47	2.85	-1.14	0.501
25.00	-53.01	-31.32	0.00	-2,829.52	0.00	2,829.52	2,911.70	1,455.85	3,963.58	1,957.46	3.19	-1.21	0.496
30.00	-50.29	-31.03	0.00	-2,672.92	0.00	2,672.92	2,864.18	1,432.09	3,805.55	1,879.42	4.58	-1.44	0.476
31.50	-49.44	-30.82	0.00	-2,626.37	0.00	2,626.37	2,849.72	1,424.86	3,758.46	1,856.16	5.05	-1.51	0.470
35.00	-47.10	-30.60	0.00	-2,518.50	0.00	2,518.50	2,805.48	1,402.74	3,636.10	1,795.73	6.22	-1.68	0.448
35.67	-46.61	-30.39	0.00	-2,498.09	0.00	2,498.09	2,231.07	1,115.54	2,951.42	1,457.59	6.46	-1.71	0.503
40.00	-44.36	-29.94	0.00	-2,366.43	0.00	2,366.43	2,201.95	1,100.98	2,850.70	1,407.85	8.10	-1.91	0.482
45.00	-41.79	-29.43	0.00	-2,216.74	0.00	2,216.74	2,167.39	1,083.69	2,735.30	1,350.86	10.22	-2.14	0.457
50.00	-39.25	-28.89	0.00	-2,069.62	0.00	2,069.62	2,131.78	1,065.89	2,620.87	1,294.35	12.58	-2.36	0.432
55.00	-36.76	-28.51	0.00	-1,925.18	0.00	1,925.18	2,095.13	1,047.56	2,507.52	1,238.37	15.17	-2.58	0.407
56.00	-36.12	-27.47	0.00	-1,896.67	0.00	1,896.67	2,087.67	1,043.84	2,484.99	1,227.24	15.72	-2.62	0.402
60.00	-34.12	-26.95	0.00	-1,786.81	0.00	1,786.81	2,057.44	1,028.72	2,395.35	1,182.97	17.99	-2.80	0.382
65.00	-31.66	-26.41	0.00	-1,652.05	0.00	1,652.05	2,018.71	1,009.36	2,284.46	1,128.21	21.03	-3.00	0.358
68.70	-29.86	-26.07	0.00	-1,554.33	0.00	1,554.33	1,989.38	994.69	2,203.29	1,088.12	23.42	-3.16	0.340
68.70	-29.86	-26.07	0.00	-1,554.33	0.00	1,554.33	1,989.38	994.69	2,203.29	1,088.12	23.42	-3.16	0.670
70.00	-29.33	-25.98	0.00	-1,520.44	0.00	1,520.44	1,978.94	989.47	2,174.96	1,074.13	24.29	-3.21	0.660
70.00	-29.28	-25.84	0.00	-1,520.43	0.00	1,520.43	1,978.94	989.47	2,174.95	1,074.12	24.29	-3.21	0.660
73.50	-27.52	-25.53	0.00	-1,430.00	0.00	1,430.00	1,462.64	731.32	1,612.09	796.15	26.74	-3.48	0.741
75.00	-26.87	-25.23	0.00	-1,391.71	0.00	1,391.71	1,455.06	727.53	1,589.51	785.00	27.86	-3.60	0.726
80.00	-25.14	-24.70	0.00	-1,265.56	0.00	1,265.56	1,429.11	714.55	1,514.58	747.99	31.84	-4.00	0.676
85.00	-23.58	-24.16	0.00	-1,142.05	0.00	1,142.05	1,402.12	701.06	1,440.27	711.29	36.23	-4.38	0.625
90.00	-22.05	-23.60	0.00	-1,021.24	0.00	1,021.24	1,374.09	687.04	1,366.68	674.95	41.02	-4.75	0.573
95.00	-20.54	-23.02	0.00	-903.25	0.00	903.25	1,345.02	672.51	1,293.93	639.02	46.19	-5.11	0.520
100.00	-19.07	-22.46	0.00	-788.17	0.00	788.17	1,314.91	657.46	1,222.10	603.55	51.71	-5.44	0.466
104.00	-17.04	-20.77	0.00	-693.93	0.00	693.93	1,290.07	645.04	1,165.38	575.54	56.37	-5.69	0.419
105.00	-16.74	-20.45	0.00	-673.16	0.00	673.16	1,283.76	641.88	1,151.31	568.59	57.57	-5.75	0.408
110.00	-15.40	-20.07	0.00	-570.90	0.00	570.90	1,247.14	623.57	1,077.81	532.29	63.73	-6.03	0.357
110.00	-15.38	-19.84	0.00	-570.89	0.00	570.89	1,247.13	623.57	1,077.80	532.29	63.73	-6.03	0.357
110.00	-15.38	-19.84	0.00	-570.89	0.00	570.89	846.54	423.27	735.96	363.46	63.73	-6.03	0.432
115.00	-14.05	-19.16	0.00	-471.72	0.00	471.72	828.55	414.27	693.31	342.40	70.18	-6.28	0.364
119.13	-12.72	-18.63	0.00	-392.70	0.00	392.70	812.92	406.46	658.37	325.15	75.69	-6.49	0.309
120.00	-12.39	-18.47	0.00	-376.40	0.00	376.40	809.51	404.76	651.00	321.50	76.88	-6.53	0.148
121.00	-11.71	-18.13	0.00	-357.93	0.00	357.93	805.58	402.79	642.58	317.35	78.25	-6.55	0.137
121.00	-11.71	-18.13	0.00	-357.93	0.00	357.93	805.58	402.79	642.58	317.35	78.25	-6.55	0.224
124.50	-10.67	-17.69	0.00	-294.47	0.00	294.47	791.49	395.75	613.28	302.88	83.07	-6.62	0.185
124.50	-10.67	-17.69	0.00	-294.47	0.00	294.47	791.49	395.75	613.28	302.88	83.07	-6.62	0.988
125.00	-10.52	-17.57	0.00	-285.62	0.00	285.62	789.44	394.72	609.12	300.82	83.76	-6.63	0.965
127.00	-7.78	-12.88	0.00	-250.49	0.00	250.49	781.12	390.56	592.51	292.62	86.60	-6.93	0.867
130.00	-7.37	-12.52	0.00	-211.86	0.00	211.86	768.32	384.16	567.78	280.41	91.08	-7.34	0.766
135.00	-6.99	-12.15	0.00	-149.25	0.00	149.25	746.17	373.08	527.09	260.31	99.08	-7.92	0.584
140.00	-4.50	-7.79	0.00	-88.48	0.00	88.48	722.98	361.49	487.14	240.58	107.59	-8.36	0.374
144.00	-4.17	-7.14	0.00	-57.33	0.00	57.33	701.03	350.52	454.07	224.25	114.68	-8.60	0.262
145.00	-4.15	-6.87	0.00	-50.19	0.00	50.19	694.06	347.03	445.03	219.78	116.48	-8.65	0.235
150.00	0.00	-6.16	0.00	-15.83	0.00	15.83	659.19	329.60	401.19	198.13	125.60	-8.81	0.080

Load Case: 0.9D + 1.6W — 95 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.60
Wind Importance Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		262.0	0.0					0.0	0.0	262.0	0.0	0.0	0.0
5.00		518.4	677.0					0.0	1,202.4	518.4	1,879.4	0.0	0.0
10.00		507.3	662.5					0.0	1,202.4	507.3	1,864.9	0.0	0.0
15.00		503.9	648.0					0.0	1,377.6	503.9	2,025.6	0.0	0.0
20.00		440.2	633.5					0.0	1,377.6	440.2	2,011.1	0.0	0.0
23.60	Reinf. Top Reinf Bot	260.7	447.2					0.0	991.8	260.7	1,439.0	0.0	0.0
25.00		339.3	171.9					0.0	385.7	339.3	557.6	0.0	0.0
30.00		346.1	604.5					0.0	1,377.6	346.1	1,982.1	0.0	0.0
31.50	Bot - Section 2	272.3	178.6					0.0	413.4	272.3	591.9	0.0	0.0
35.00		228.7	761.8					0.0	964.2	228.7	1,726.0	0.0	0.0
35.67	Top - Section 1	275.6	143.7					0.0	183.8	275.6	327.5	0.0	0.0
40.00		514.9	424.1					0.0	1,193.8	514.9	1,617.9	0.0	0.0
45.00		551.6	478.2					0.0	1,377.4	551.6	1,855.6	0.0	0.0
50.00		549.7	466.1					0.0	1,377.4	549.7	1,843.5	0.0	0.0
55.00		328.8	454.0					0.0	1,377.4	328.8	1,831.4	0.0	0.0
56.00	Appertunance(s)	272.1	89.4	786.3	0.0	0.0	113.4	0.0	275.5	1,058.4	478.2	0.0	0.0
60.00		487.0	352.6					0.0	1,101.4	487.0	1,454.0	0.0	0.0
65.00		466.8	429.9					0.0	1,376.8	466.8	1,806.6	0.0	0.0
68.70	Reinf. Top	266.2	310.3					0.0	1,018.8	266.2	1,329.1	0.0	0.0
70.00		68.9	107.5					0.0	279.8	68.9	387.3	0.0	0.0
70.00	Bot - Section 3	187.7	0.0					0.0	0.1	187.7	0.1	0.0	0.0
73.50	Top - Section 2	267.5	518.3					0.0	753.3	267.5	1,271.7	0.0	0.0
75.00		343.3	98.4					0.0	322.8	343.3	421.2	0.0	0.0
80.00		522.5	321.9					0.0	877.8	522.5	1,199.6	0.0	0.0
85.00		513.2	312.2					0.0	775.6	513.2	1,087.8	0.0	0.0
90.00		503.3	302.5					0.0	775.6	503.3	1,078.1	0.0	0.0
95.00		492.7	292.9					0.0	775.6	492.7	1,068.4	0.0	0.0
100.00		434.4	283.2					0.0	775.6	434.4	1,058.8	0.0	0.0
104.00	Appertunance(s)	237.9	219.6	1,252.1	0.0	4,379.0	761.4	0.0	620.4	1,490.0	1,601.5	0.0	0.0
105.00		279.0	53.9					0.0	147.8	279.0	201.7	0.0	0.0
110.00		231.9	263.9					0.0	738.8	231.9	1,002.7	0.0	0.0
110.00	Top - Section 3	270.8	0.0					0.0	0.0	270.8	0.1	0.0	0.0
115.00		488.3	191.3					106.7	798.9	595.1	990.1	0.0	0.0
119.13	Reinf Bottom	263.0	152.3					147.3	857.5	410.4	1,009.8	0.0	0.0
120.00		97.1	31.7					31.3	221.3	128.4	253.0	0.0	0.0
121.00	Reinf. Top	229.9	35.9					35.8	493.4	265.7	529.4	0.0	0.0
124.50	Reinf. Top	203.3	123.5					125.6	675.0	329.0	798.5	0.0	0.0
125.00		124.8	17.4					18.0	73.9	142.8	91.2	0.0	0.0
127.00	Appertunance(s)	246.7	68.7	4,068.2	0.0	0.0	2,154.7	72.0	175.3	4,386.9	2,398.7	0.0	0.0
130.00		345.5	100.9					36.1	167.5	381.6	268.4	0.0	0.0
135.00		389.7	162.3					0.0	78.8	389.7	241.1	0.0	0.0
140.00	Appertunance(s)	368.4	155.0	3,634.3	0.0	0.0	2,052.4	0.0	78.8	4,002.7	2,286.2	0.0	0.0
144.00	Appertunance(s)	220.5	118.8	308.4	0.0	0.0	139.1	72.9	41.8	601.8	299.7	0.0	0.0
145.00		254.7	29.0					18.3	10.2	273.0	39.2	0.0	0.0
150.00	Appertunance(s)	211.4	140.6	5,859.1	0.0	15,828.2	3,668.6	91.5	50.8	6,162.0	3,860.0	0.0	0.0
								Totals:		31,851.79	50,065.60	0.00	0.00

Site Number: 302489 | Code: ANSI/TIA-222-G |

Site Name: Enfd - Enfield, CT | Engineering Number: OAA683304_C3_01 | 8/12/2016 11:38:31 AM

Customer: Verizon Wireless

Load Case: 0.9D + 1.6W — 95 mph with No Ice (Reduced DL) — 25 Iterations

Gust Response Factor 1.10 | Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.00	-31.69	0.00	-3,492.96	0.00	3,492.96	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.565
5.00	-47.99	-31.37	0.00	-3,334.49	0.00	3,334.49	3,091.35	1,545.67	4,611.19	2,277.30	0.13	-0.23	0.548
10.00	-46.01	-31.04	0.00	-3,177.66	0.00	3,177.66	3,047.99	1,524.00	4,447.17	2,196.29	0.50	-0.47	0.530
15.00	-43.86	-30.69	0.00	-3,022.48	0.00	3,022.48	3,003.60	1,501.80	4,284.50	2,115.95	1.11	-0.70	0.512
20.00	-41.75	-30.36	0.00	-2,869.04	0.00	2,869.04	2,958.17	1,479.08	4,123.27	2,036.33	1.97	-0.93	0.493
23.60	-40.26	-30.16	0.00	-2,759.74	0.00	2,759.74	2,924.81	1,462.41	4,008.13	1,979.47	2.73	-1.09	0.479
23.60	-40.26	-30.16	0.00	-2,759.74	0.00	2,759.74	2,924.81	1,462.41	4,008.13	1,979.47	2.73	-1.09	0.479
25.00	-39.63	-29.91	0.00	-2,717.52	0.00	2,717.52	2,911.70	1,455.85	3,963.58	1,957.46	3.06	-1.16	0.474
30.00	-37.58	-29.62	0.00	-2,567.97	0.00	2,567.97	2,864.18	1,432.09	3,805.55	1,879.42	4.40	-1.39	0.455
31.50	-36.94	-29.40	0.00	-2,523.54	0.00	2,523.54	2,849.72	1,424.86	3,758.46	1,856.16	4.85	-1.45	0.449
35.00	-35.17	-29.18	0.00	-2,420.64	0.00	2,420.64	2,805.48	1,402.74	3,636.10	1,795.73	5.97	-1.61	0.429
35.67	-34.80	-28.97	0.00	-2,401.18	0.00	2,401.18	2,231.07	1,115.54	2,951.42	1,457.59	6.20	-1.64	0.482
40.00	-33.09	-28.52	0.00	-2,275.67	0.00	2,275.67	2,201.95	1,100.98	2,850.70	1,407.85	7.78	-1.83	0.461
45.00	-31.15	-28.03	0.00	-2,133.06	0.00	2,133.06	2,167.39	1,083.69	2,735.30	1,350.86	9.82	-2.05	0.438
50.00	-29.23	-27.52	0.00	-1,992.93	0.00	1,992.93	2,131.78	1,065.89	2,620.87	1,294.35	12.08	-2.27	0.414
55.00	-27.35	-27.17	0.00	-1,855.35	0.00	1,855.35	2,095.13	1,047.56	2,507.52	1,238.37	14.57	-2.48	0.390
56.00	-26.87	-26.14	0.00	-1,828.18	0.00	1,828.18	2,087.67	1,043.84	2,484.99	1,227.24	15.10	-2.52	0.385
60.00	-25.36	-25.67	0.00	-1,723.60	0.00	1,723.60	2,057.44	1,028.72	2,395.35	1,182.97	17.28	-2.69	0.367
65.00	-23.50	-25.19	0.00	-1,595.24	0.00	1,595.24	2,018.71	1,009.36	2,284.46	1,128.21	20.21	-2.89	0.344
68.70	-22.15	-24.89	0.00	-1,502.04	0.00	1,502.04	1,989.38	994.69	2,203.29	1,088.12	22.50	-3.03	0.327
68.70	-22.15	-24.89	0.00	-1,502.04	0.00	1,502.04	1,989.38	994.69	2,203.29	1,088.12	22.50	-3.03	0.645
70.00	-21.75	-24.81	0.00	-1,469.68	0.00	1,469.68	1,978.94	989.47	2,174.96	1,074.13	23.34	-3.09	0.636
70.00	-21.70	-24.68	0.00	-1,469.67	0.00	1,469.67	1,978.94	989.47	2,174.95	1,074.12	23.34	-3.09	0.636
73.50	-20.37	-24.41	0.00	-1,383.31	0.00	1,383.31	1,462.64	731.32	1,612.09	796.15	25.70	-3.35	0.714
75.00	-19.86	-24.13	0.00	-1,346.71	0.00	1,346.71	1,455.06	727.53	1,589.51	785.00	26.77	-3.47	0.700
80.00	-18.54	-23.65	0.00	-1,226.09	0.00	1,226.09	1,429.11	714.55	1,514.58	747.99	30.61	-3.85	0.652
85.00	-17.35	-23.17	0.00	-1,107.84	0.00	1,107.84	1,402.12	701.06	1,440.27	711.29	34.84	-4.22	0.604
90.00	-16.17	-22.69	0.00	-991.97	0.00	991.97	1,374.09	687.04	1,366.68	674.95	39.45	-4.58	0.554
95.00	-15.02	-22.20	0.00	-878.53	0.00	878.53	1,345.02	672.51	1,293.93	639.02	44.44	-4.93	0.504
100.00	-13.90	-21.74	0.00	-767.55	0.00	767.55	1,314.91	657.46	1,222.10	603.55	49.76	-5.25	0.452
104.00	-12.39	-20.14	0.00	-676.22	0.00	676.22	1,290.07	645.04	1,165.38	575.54	54.26	-5.49	0.406
105.00	-12.16	-19.88	0.00	-656.09	0.00	656.09	1,283.76	641.88	1,151.31	568.59	55.42	-5.55	0.396
110.00	-11.13	-19.57	0.00	-556.71	0.00	556.71	1,247.14	623.57	1,077.81	532.29	61.38	-5.83	0.347
110.00	-11.12	-19.33	0.00	-556.70	0.00	556.70	1,247.13	623.57	1,077.80	532.29	61.38	-5.83	0.347
110.00	-11.12	-19.33	0.00	-556.70	0.00	556.70	846.54	423.27	735.96	363.46	61.38	-5.83	0.419
115.00	-10.12	-18.67	0.00	-460.07	0.00	460.07	828.55	414.27	693.31	342.40	67.60	-6.07	0.353
119.13	-9.13	-18.17	0.00	-383.05	0.00	383.05	812.92	406.46	658.37	325.15	72.93	-6.27	0.300
120.00	-8.88	-18.02	0.00	-367.15	0.00	367.15	809.51	404.76	651.00	321.50	74.09	-6.31	0.144
121.00	-8.37	-17.71	0.00	-349.13	0.00	349.13	805.58	402.79	642.58	317.35	75.41	-6.33	0.133
121.00	-8.37	-17.71	0.00	-349.13	0.00	349.13	805.58	402.79	642.58	317.35	75.41	-6.33	0.216
124.50	-7.60	-17.30	0.00	-287.15	0.00	287.15	791.49	395.75	613.28	302.88	80.07	-6.40	0.179
124.50	-7.60	-17.30	0.00	-287.15	0.00	287.15	791.49	395.75	613.28	302.88	80.07	-6.40	0.960
125.00	-7.48	-17.17	0.00	-278.50	0.00	278.50	789.44	394.72	609.12	300.82	80.74	-6.41	0.937
127.00	-5.52	-12.57	0.00	-244.17	0.00	244.17	781.12	390.56	592.51	292.62	83.49	-6.71	0.843
130.00	-5.20	-12.20	0.00	-206.47	0.00	206.47	768.32	384.16	567.78	280.41	87.82	-7.11	0.744
135.00	-4.91	-11.83	0.00	-145.47	0.00	145.47	746.17	373.08	527.09	260.31	95.56	-7.67	0.566
140.00	-3.15	-7.56	0.00	-86.34	0.00	86.34	722.98	361.49	487.14	240.58	103.81	-8.09	0.364
144.00	-2.92	-6.93	0.00	-56.08	0.00	56.08	701.03	350.52	454.07	224.25	110.68	-8.33	0.255
145.00	-2.91	-6.66	0.00	-49.15	0.00	49.15	694.06	347.03	445.03	219.78	112.42	-8.38	0.228
150.00	0.00	-6.16	0.00	-15.83	0.00	15.83	659.19	329.60	401.19	198.13	121.26	-8.54	0.080

Load Case: 1.2D + 1.0Di + 1.0Wi — 50 mph with 1.00 in Radial Ice — 25 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

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	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		58.8	0.0					0.0	0.0	58.8	0.0	0.0	0.0
5.00		117.0	1,284.1					0.0	1,773.4	117.0	3,057.5	0.0	0.0
10.00		115.4	1,302.3					0.0	1,794.5	115.4	3,096.8	0.0	0.0
15.00		115.4	1,296.7					0.0	2,569.0	115.4	3,865.7	0.0	0.0
20.00		101.2	1,283.4					0.0	2,598.3	101.2	3,881.8	0.0	0.0
23.60	Reinf. Top Reinf Bot	60.1	914.4					0.0	1,885.2	60.1	2,799.6	0.0	0.0
25.00		78.5	353.6					0.0	736.0	78.5	1,089.5	0.0	0.0
30.00		80.2	1,246.2					0.0	2,640.1	80.2	3,886.3	0.0	0.0
31.50	Bot - Section 2	63.3	370.8					0.0	795.4	63.3	1,166.3	0.0	0.0
35.00		53.1	1,328.6					0.0	1,860.8	53.1	3,189.3	0.0	0.0
35.67	Top - Section 1	64.2	251.4					0.0	355.4	64.2	606.9	0.0	0.0
40.00		120.3	949.3					0.0	2,314.9	120.3	3,264.2	0.0	0.0
45.00		129.3	1,075.5					0.0	2,682.8	129.3	3,758.3	0.0	0.0
50.00		129.4	1,054.0					0.0	2,694.2	129.4	3,748.2	0.0	0.0
55.00		77.6	1,031.9					0.0	2,704.6	77.6	3,736.5	0.0	0.0
56.00	Appertunance(s)	64.5	204.5	160.7	0.0	0.0	341.0	0.0	542.1	225.2	1,087.6	0.0	0.0
60.00		115.7	806.4					0.0	2,145.2	115.7	2,951.6	0.0	0.0
65.00		111.3	986.1					0.0	2,689.1	111.3	3,675.1	0.0	0.0
68.70	Reinf. Top	63.7	715.6					0.0	1,995.0	63.7	2,710.6	0.0	0.0
70.00		16.5	249.0					0.0	597.7	16.5	846.7	0.0	0.0
70.00	Bot - Section 3	45.0	0.1					0.0	0.2	45.0	0.2	0.0	0.0
73.50	Top - Section 2	64.1	976.3					0.0	1,611.7	64.1	2,588.0	0.0	0.0
75.00		82.6	252.9					0.0	691.6	82.6	944.5	0.0	0.0
80.00		126.2	825.5					0.0	1,964.0	126.2	2,789.5	0.0	0.0
85.00		124.6	804.2					0.0	1,791.2	124.6	2,595.4	0.0	0.0
90.00		122.9	782.6					0.0	1,796.6	122.9	2,579.2	0.0	0.0
95.00		121.0	760.7					0.0	1,801.7	121.0	2,562.5	0.0	0.0
100.00		107.2	738.6					0.0	1,806.6	107.2	2,545.3	0.0	0.0
104.00	Appertunance(s)	59.0	575.8	340.9	0.0	1,008.5	3,431.5	0.0	1,448.7	399.8	5,455.9	0.0	0.0
105.00		69.6	142.4					0.0	337.5	69.6	479.9	0.0	0.0
110.00		57.9	693.9					0.0	1,690.1	57.9	2,384.0	0.0	0.0
110.00	Top - Section 3	56.7	0.0					0.0	0.1	56.7	0.2	0.0	0.0
115.00		102.5	587.2					45.9	1,799.9	148.5	2,387.1	0.0	0.0
119.13	Reinf Bottom	55.5	470.6					68.8	1,838.4	124.3	2,308.9	0.0	0.0
120.00		20.6	98.7					14.7	442.9	35.2	541.7	0.0	0.0
121.00	Reinf. Top	48.9	112.1					16.8	827.0	65.7	939.1	0.0	0.0
124.50	Reinf. Top	43.3	384.0					59.1	1,493.1	102.4	1,877.1	0.0	0.0
125.00		26.7	54.4					8.5	183.4	35.2	237.8	0.0	0.0
127.00	Appertunance(s)	52.9	215.0	1,065.1	0.0	0.0	7,739.5	34.0	521.2	1,152.0	8,475.6	0.0	0.0
130.00		83.1	315.8					18.9	414.0	102.1	729.8	0.0	0.0
135.00		101.7	507.9					0.0	335.9	101.7	843.8	0.0	0.0
140.00	Appertunance(s)	89.3	487.8	950.6	0.0	0.0	6,273.5	0.0	336.9	1,039.8	7,098.2	0.0	0.0
144.00	Appertunance(s)	48.7	376.6	101.2	0.0	0.0	159.8	31.3	241.9	181.3	778.3	0.0	0.0
145.00		56.9	92.8					7.9	51.3	64.8	144.1	0.0	0.0
150.00	Appertunance(s)	47.3	447.1	1,591.2	0.0	3,670.0	12,181.0	39.5	256.9	1,677.9	12,885.0	0.0	0.0
								Totals:		8,104.71	116,589.7	0.00	0.00

Site Number: 302489 Code: ANSI/TIA-222-G

Site Name: Enfd - Enfield, CT Engineering Number: OAA683304_C3_01 8/12/2016 11:38:34 AM

Customer: Verizon Wireless

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.00 in Radial Ice 25 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	-116.58	-8.12	0.00	-1,007.96	0.00	1,007.96	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.180
5.00	-113.52	-8.13	0.00	-967.38	0.00	967.38	3,091.35	1,545.67	4,611.19	2,277.30	0.04	-0.07	0.176
10.00	-110.41	-8.14	0.00	-926.73	0.00	926.73	3,047.99	1,524.00	4,447.17	2,196.29	0.14	-0.14	0.171
15.00	-106.54	-8.14	0.00	-886.02	0.00	886.02	3,003.60	1,501.80	4,284.50	2,115.95	0.32	-0.20	0.166
20.00	-102.65	-8.13	0.00	-845.32	0.00	845.32	2,958.17	1,479.08	4,123.27	2,036.33	0.57	-0.27	0.161
23.60	-99.84	-8.11	0.00	-816.07	0.00	816.07	2,924.81	1,462.41	4,008.13	1,979.47	0.79	-0.32	0.157
23.60	-99.84	-8.11	0.00	-816.07	0.00	816.07	2,924.81	1,462.41	4,008.13	1,979.47	0.79	-0.32	0.157
25.00	-98.75	-8.10	0.00	-804.71	0.00	804.71	2,911.70	1,455.85	3,963.58	1,957.46	0.89	-0.34	0.155
30.00	-94.86	-8.07	0.00	-764.20	0.00	764.20	2,864.18	1,432.09	3,805.55	1,879.42	1.28	-0.41	0.150
31.50	-93.69	-8.05	0.00	-752.10	0.00	752.10	2,849.72	1,424.86	3,758.46	1,856.16	1.41	-0.43	0.148
35.00	-90.49	-8.02	0.00	-723.92	0.00	723.92	2,805.48	1,402.74	3,636.10	1,795.73	1.74	-0.47	0.142
35.67	-89.88	-8.00	0.00	-718.57	0.00	718.57	2,231.07	1,115.54	2,951.42	1,457.59	1.81	-0.48	0.160
40.00	-86.61	-7.94	0.00	-683.91	0.00	683.91	2,201.95	1,100.98	2,850.70	1,407.85	2.28	-0.54	0.154
45.00	-82.84	-7.87	0.00	-644.19	0.00	644.19	2,167.39	1,083.69	2,735.30	1,350.86	2.88	-0.61	0.147
50.00	-79.09	-7.79	0.00	-604.83	0.00	604.83	2,131.78	1,065.89	2,620.87	1,294.35	3.55	-0.67	0.140
55.00	-75.35	-7.72	0.00	-565.87	0.00	565.87	2,095.13	1,047.56	2,507.52	1,238.37	4.28	-0.74	0.133
56.00	-74.26	-7.52	0.00	-558.15	0.00	558.15	2,087.67	1,043.84	2,484.99	1,227.24	4.44	-0.75	0.131
60.00	-71.30	-7.43	0.00	-528.07	0.00	528.07	2,057.44	1,028.72	2,395.35	1,182.97	5.09	-0.80	0.125
65.00	-67.62	-7.33	0.00	-490.90	0.00	490.90	2,018.71	1,009.36	2,284.46	1,128.21	5.96	-0.86	0.118
68.70	-64.91	-7.26	0.00	-463.77	0.00	463.77	1,989.38	994.69	2,203.29	1,088.12	6.65	-0.91	0.113
68.70	-64.91	-7.26	0.00	-463.77	0.00	463.77	1,989.38	994.69	2,203.29	1,088.12	6.65	-0.91	0.216
70.00	-64.06	-7.24	0.00	-454.33	0.00	454.33	1,978.94	989.47	2,174.96	1,074.13	6.89	-0.92	0.213
70.00	-64.06	-7.24	0.00	-454.33	0.00	454.33	1,978.94	989.47	2,174.95	1,074.12	6.89	-0.92	0.213
73.50	-61.46	-7.20	0.00	-428.98	0.00	428.98	1,462.64	731.32	1,612.09	796.15	7.60	-1.00	0.241
75.00	-60.51	-7.18	0.00	-418.19	0.00	418.19	1,455.06	727.53	1,589.51	785.00	7.92	-1.04	0.237
80.00	-57.71	-7.12	0.00	-382.28	0.00	382.28	1,429.11	714.55	1,514.58	747.99	9.08	-1.16	0.222
85.00	-55.10	-7.05	0.00	-346.68	0.00	346.68	1,402.12	701.06	1,440.27	711.29	10.35	-1.28	0.207
90.00	-52.52	-6.97	0.00	-311.43	0.00	311.43	1,374.09	687.04	1,366.68	674.95	11.75	-1.39	0.191
95.00	-49.94	-6.87	0.00	-276.59	0.00	276.59	1,345.02	672.51	1,293.93	639.02	13.26	-1.50	0.175
100.00	-47.39	-6.77	0.00	-242.22	0.00	242.22	1,314.91	657.46	1,222.10	603.55	14.89	-1.60	0.158
104.00	-41.94	-6.25	0.00	-214.12	0.00	214.12	1,290.07	645.04	1,165.38	575.54	16.26	-1.67	0.142
105.00	-41.46	-6.21	0.00	-207.87	0.00	207.87	1,283.76	641.88	1,151.31	568.59	16.61	-1.69	0.139
110.00	-39.08	-6.11	0.00	-176.84	0.00	176.84	1,247.14	623.57	1,077.81	532.29	18.43	-1.78	0.123
110.00	-39.07	-6.08	0.00	-176.84	0.00	176.84	1,247.13	623.57	1,077.80	532.29	18.43	-1.78	0.123
110.00	-39.07	-6.08	0.00	-176.84	0.00	176.84	846.54	423.27	735.96	363.46	18.43	-1.78	0.149
115.00	-36.68	-5.90	0.00	-146.46	0.00	146.46	828.55	414.27	693.31	342.40	20.34	-1.86	0.128
119.13	-34.38	-5.72	0.00	-122.13	0.00	122.13	812.92	406.46	658.37	325.15	21.98	-1.92	0.110
120.00	-33.84	-5.67	0.00	-117.13	0.00	117.13	809.51	404.76	651.00	321.50	22.33	-1.94	0.056
121.00	-32.90	-5.58	0.00	-111.46	0.00	111.46	805.58	402.79	642.58	317.35	22.74	-1.94	0.052
121.00	-32.90	-5.58	0.00	-111.46	0.00	111.46	805.58	402.79	642.58	317.35	22.74	-1.94	0.087
124.50	-31.02	-5.42	0.00	-91.92	0.00	91.92	791.49	395.75	613.28	302.88	24.17	-1.96	0.074
124.50	-31.02	-5.42	0.00	-91.92	0.00	91.92	791.49	395.75	613.28	302.88	24.17	-1.96	0.343
125.00	-30.78	-5.41	0.00	-89.21	0.00	89.21	789.44	394.72	609.12	300.82	24.38	-1.97	0.336
127.00	-22.35	-4.00	0.00	-78.39	0.00	78.39	781.12	390.56	592.51	292.62	25.22	-2.06	0.297
130.00	-21.61	-3.93	0.00	-66.39	0.00	66.39	768.32	384.16	567.78	280.41	26.56	-2.19	0.265
135.00	-20.76	-3.85	0.00	-46.74	0.00	46.74	746.17	373.08	527.09	260.31	28.95	-2.37	0.207
140.00	-13.71	-2.54	0.00	-27.47	0.00	27.47	722.98	361.49	487.14	240.58	31.51	-2.51	0.133
144.00	-12.94	-2.33	0.00	-17.33	0.00	17.33	701.03	350.52	454.07	224.25	33.65	-2.58	0.096
145.00	-12.79	-2.27	0.00	-15.00	0.00	15.00	694.06	347.03	445.03	219.78	34.19	-2.60	0.087
150.00	0.00	-1.68	0.00	-3.67	0.00	3.67	659.19	329.60	401.19	198.13	36.94	-2.64	0.019

Site Number: 302489 | Code: ANSI/TIA-222-G |

Site Name: Enfd - Enfield, CT | Engineering Number: OAA683304_C3_01 | 8/12/2016 11:38:34 AM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W | Serviceability 60 mph | 24 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 Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		65.3	0.0					0.0	0.0	65.3	0.0	0.0	0.0
5.00		129.2	752.2					0.0	1,336.0	129.2	2,088.2	0.0	0.0
10.00		126.5	736.1					0.0	1,336.0	126.5	2,072.1	0.0	0.0
15.00		125.6	720.0					0.0	1,530.6	125.6	2,250.6	0.0	0.0
20.00		109.7	703.9					0.0	1,530.6	109.7	2,234.5	0.0	0.0
23.60	Reinf. Top Reinf Bot	65.0	496.8					0.0	1,102.1	65.0	1,598.9	0.0	0.0
25.00		84.6	191.0					0.0	428.6	84.6	619.5	0.0	0.0
30.00		86.3	671.7					0.0	1,530.6	86.3	2,202.3	0.0	0.0
31.50	Bot - Section 2	67.9	198.4					0.0	459.3	67.9	657.7	0.0	0.0
35.00		57.0	846.4					0.0	1,071.3	57.0	1,917.8	0.0	0.0
35.67	Top - Section 1	68.7	159.7					0.0	204.2	68.7	363.9	0.0	0.0
40.00		128.4	471.3					0.0	1,326.4	128.4	1,797.7	0.0	0.0
45.00		137.5	531.3					0.0	1,530.5	137.5	2,061.8	0.0	0.0
50.00		137.0	517.9					0.0	1,530.5	137.0	2,048.4	0.0	0.0
55.00		82.0	504.5					0.0	1,530.5	82.0	2,034.9	0.0	0.0
56.00	Appertunance(s)	67.8	99.3	196.0	0.0	0.0	126.0	0.0	306.1	263.9	531.4	0.0	0.0
60.00		121.4	391.8					0.0	1,223.8	121.4	1,615.5	0.0	0.0
65.00		116.4	477.6					0.0	1,529.7	116.4	2,007.4	0.0	0.0
68.70	Reinf. Top	66.4	344.8					0.0	1,132.0	66.4	1,476.8	0.0	0.0
70.00		17.2	119.4					0.0	310.9	17.2	430.3	0.0	0.0
70.00	Bot - Section 3	46.8	0.0					0.0	0.1	46.8	0.1	0.0	0.0
73.50	Top - Section 2	66.7	575.9					0.0	837.0	66.7	1,413.0	0.0	0.0
75.00		85.6	109.4					0.0	358.6	85.6	468.0	0.0	0.0
80.00		130.3	357.6					0.0	975.3	130.3	1,332.9	0.0	0.0
85.00		127.9	346.9					0.0	861.7	127.9	1,208.6	0.0	0.0
90.00		125.5	336.2					0.0	861.7	125.5	1,197.9	0.0	0.0
95.00		122.8	325.4					0.0	861.7	122.8	1,187.2	0.0	0.0
100.00		108.3	314.7					0.0	861.7	108.3	1,176.4	0.0	0.0
104.00	Appertunance(s)	59.3	244.0	312.2	0.0	1,091.7	846.0	0.0	689.4	371.5	1,779.4	0.0	0.0
105.00		69.6	59.9					0.0	164.2	69.6	224.1	0.0	0.0
110.00		57.8	293.2					0.0	820.9	57.8	1,114.1	0.0	0.0
110.00	Top - Section 3	67.5	0.0					0.0	0.1	67.5	0.1	0.0	0.0
115.00		121.7	212.5					31.8	887.6	153.5	1,100.1	0.0	0.0
119.13	Reinf Bottom	65.6	169.3					49.7	952.8	115.2	1,122.0	0.0	0.0
120.00		24.2	35.2					10.6	245.9	34.8	281.1	0.0	0.0
121.00	Reinf. Top	57.3	39.9					12.1	548.3	69.4	588.2	0.0	0.0
124.50	Reinf. Top	50.7	137.2					42.4	750.0	93.1	887.2	0.0	0.0
125.00		31.1	19.3					6.1	82.1	37.2	101.4	0.0	0.0
127.00	Appertunance(s)	61.5	76.3	1,014.2	0.0	0.0	2,394.1	24.3	194.8	1,100.1	2,665.2	0.0	0.0
130.00		86.1	112.1					14.2	186.2	100.4	298.2	0.0	0.0
135.00		97.2	180.3					0.0	87.6	97.2	267.9	0.0	0.0
140.00	Appertunance(s)	91.8	172.3	906.1	0.0	0.0	2,280.4	0.0	87.6	997.9	2,540.3	0.0	0.0
144.00	Appertunance(s)	55.0	132.0	76.9	0.0	0.0	154.6	20.8	46.4	152.6	333.0	0.0	0.0
145.00		63.5	32.2					5.2	11.3	68.7	43.5	0.0	0.0
150.00	Appertunance(s)	52.7	156.2	1,460.7	0.0	3,946.1	4,076.2	26.2	56.5	1,539.6	4,288.9	0.0	0.0
								Totals:		7,995.89	55,628.45	0.00	0.00

Site Number: 302489 | Code: ANSI/TIA-222-G |

Site Name: Enfd - Enfield, CT | Engineering Number: OAA683304_C3_01 | 8/12/2016 11:38:38 AM

Customer: Verizon Wireless

Load Case: 1.0D + 1.0W | Serviceability 60 mph | 24 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	-55.62	-7.96	0.00	-884.64	0.00	884.64	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.150
5.00	-53.53	-7.88	0.00	-844.85	0.00	844.85	3,091.35	1,545.67	4,611.19	2,277.30	0.03	-0.06	0.146
10.00	-51.45	-7.81	0.00	-805.43	0.00	805.43	3,047.99	1,524.00	4,447.17	2,196.29	0.13	-0.12	0.141
15.00	-49.19	-7.73	0.00	-766.39	0.00	766.39	3,003.60	1,501.80	4,284.50	2,115.95	0.28	-0.18	0.136
20.00	-46.95	-7.65	0.00	-727.76	0.00	727.76	2,958.17	1,479.08	4,123.27	2,036.33	0.50	-0.24	0.131
23.60	-45.35	-7.60	0.00	-700.22	0.00	700.22	2,924.81	1,462.41	4,008.13	1,979.47	0.69	-0.28	0.128
23.60	-45.35	-7.60	0.00	-700.22	0.00	700.22	2,924.81	1,462.41	4,008.13	1,979.47	0.69	-0.28	0.128
25.00	-44.72	-7.54	0.00	-689.58	0.00	689.58	2,911.70	1,455.85	3,963.58	1,957.46	0.78	-0.29	0.126
30.00	-42.52	-7.47	0.00	-651.87	0.00	651.87	2,864.18	1,432.09	3,805.55	1,879.42	1.12	-0.35	0.121
31.50	-41.86	-7.42	0.00	-640.66	0.00	640.66	2,849.72	1,424.86	3,758.46	1,856.16	1.23	-0.37	0.120
35.00	-39.93	-7.37	0.00	-614.69	0.00	614.69	2,805.48	1,402.74	3,636.10	1,795.73	1.51	-0.41	0.114
35.67	-39.57	-7.31	0.00	-609.78	0.00	609.78	2,231.07	1,115.54	2,951.42	1,457.59	1.57	-0.42	0.128
40.00	-37.76	-7.21	0.00	-578.09	0.00	578.09	2,201.95	1,100.98	2,850.70	1,407.85	1.97	-0.46	0.123
45.00	-35.70	-7.09	0.00	-542.05	0.00	542.05	2,167.39	1,083.69	2,735.30	1,350.86	2.49	-0.52	0.117
50.00	-33.64	-6.96	0.00	-506.63	0.00	506.63	2,131.78	1,065.89	2,620.87	1,294.35	3.06	-0.58	0.110
55.00	-31.61	-6.88	0.00	-471.82	0.00	471.82	2,095.13	1,047.56	2,507.52	1,238.37	3.70	-0.63	0.104
56.00	-31.07	-6.62	0.00	-464.94	0.00	464.94	2,087.67	1,043.84	2,484.99	1,227.24	3.83	-0.64	0.103
60.00	-29.45	-6.50	0.00	-438.46	0.00	438.46	2,057.44	1,028.72	2,395.35	1,182.97	4.38	-0.68	0.098
65.00	-27.44	-6.38	0.00	-405.94	0.00	405.94	2,018.71	1,009.36	2,284.46	1,128.21	5.13	-0.73	0.092
68.70	-25.97	-6.31	0.00	-382.32	0.00	382.32	1,989.38	994.69	2,203.29	1,088.12	5.71	-0.77	0.087
68.70	-25.97	-6.31	0.00	-382.32	0.00	382.32	1,989.38	994.69	2,203.29	1,088.12	5.71	-0.77	0.170
70.00	-25.54	-6.29	0.00	-374.12	0.00	374.12	1,978.94	989.47	2,174.96	1,074.13	5.92	-0.78	0.168
70.00	-25.53	-6.26	0.00	-374.12	0.00	374.12	1,978.94	989.47	2,174.95	1,074.12	5.92	-0.78	0.168
73.50	-24.11	-6.19	0.00	-352.22	0.00	352.22	1,462.64	731.32	1,612.09	796.15	6.52	-0.85	0.188
75.00	-23.64	-6.13	0.00	-342.93	0.00	342.93	1,455.06	727.53	1,589.51	785.00	6.79	-0.88	0.185
80.00	-22.30	-6.01	0.00	-312.30	0.00	312.30	1,429.11	714.55	1,514.58	747.99	7.77	-0.98	0.172
85.00	-21.08	-5.90	0.00	-282.25	0.00	282.25	1,402.12	701.06	1,440.27	711.29	8.85	-1.07	0.160
90.00	-19.88	-5.78	0.00	-252.77	0.00	252.77	1,374.09	687.04	1,366.68	674.95	10.02	-1.16	0.147
95.00	-18.69	-5.66	0.00	-223.88	0.00	223.88	1,345.02	672.51	1,293.93	639.02	11.29	-1.25	0.134
100.00	-17.51	-5.54	0.00	-195.59	0.00	195.59	1,314.91	657.46	1,222.10	603.55	12.64	-1.33	0.120
104.00	-15.73	-5.14	0.00	-172.32	0.00	172.32	1,290.07	645.04	1,165.38	575.54	13.79	-1.40	0.108
105.00	-15.51	-5.08	0.00	-167.18	0.00	167.18	1,283.76	641.88	1,151.31	568.59	14.08	-1.41	0.105
110.00	-14.39	-5.00	0.00	-141.79	0.00	141.79	1,247.14	623.57	1,077.81	532.29	15.60	-1.48	0.092
110.00	-14.39	-4.94	0.00	-141.79	0.00	141.79	1,247.13	623.57	1,077.80	532.29	15.60	-1.48	0.092
110.00	-14.39	-4.94	0.00	-141.79	0.00	141.79	846.54	423.27	735.96	363.46	15.60	-1.48	0.112
115.00	-13.29	-4.77	0.00	-117.08	0.00	117.08	828.55	414.27	693.31	342.40	17.19	-1.54	0.095
119.13	-12.17	-4.63	0.00	-97.40	0.00	97.40	812.92	406.46	658.37	325.15	18.55	-1.60	0.080
120.00	-11.89	-4.59	0.00	-93.34	0.00	93.34	809.51	404.76	651.00	321.50	18.84	-1.61	0.039
121.00	-11.30	-4.51	0.00	-88.75	0.00	88.75	805.58	402.79	642.58	317.35	19.18	-1.61	0.036
121.00	-11.30	-4.51	0.00	-88.75	0.00	88.75	805.58	402.79	642.58	317.35	19.18	-1.61	0.060
124.50	-10.42	-4.39	0.00	-72.97	0.00	72.97	791.49	395.75	613.28	302.88	20.36	-1.63	0.050
124.50	-10.42	-4.39	0.00	-72.97	0.00	72.97	791.49	395.75	613.28	302.88	20.36	-1.63	0.254
125.00	-10.31	-4.36	0.00	-70.78	0.00	70.78	789.44	394.72	609.12	300.82	20.53	-1.63	0.248
127.00	-7.68	-3.19	0.00	-62.06	0.00	62.06	781.12	390.56	592.51	292.62	21.23	-1.71	0.222
130.00	-7.38	-3.10	0.00	-52.48	0.00	52.48	768.32	384.16	567.78	280.41	22.34	-1.81	0.197
135.00	-7.10	-3.01	0.00	-36.98	0.00	36.98	746.17	373.08	527.09	260.31	24.31	-1.95	0.152
140.00	-4.60	-1.93	0.00	-21.93	0.00	21.93	722.98	361.49	487.14	240.58	26.42	-2.06	0.098
144.00	-4.27	-1.77	0.00	-14.21	0.00	14.21	701.03	350.52	454.07	224.25	28.17	-2.12	0.069
145.00	-4.23	-1.70	0.00	-12.44	0.00	12.44	694.06	347.03	445.03	219.78	28.61	-2.13	0.063
150.00	0.00	-1.54	0.00	-3.95	0.00	3.95	659.19	329.60	401.19	198.13	30.87	-2.17	0.020

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	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 Coeffiecient 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):	2.67
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	55.63 k
Seismic Base Shear (E):	2.17 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)
44	147.50	213	4,627	0.012	25	263
43	144.50	44	908	0.002	5	54
42	142.00	178	3,598	0.009	19	221
41	137.50	260	4,913	0.012	27	322
40	132.50	268	4,704	0.012	25	332
39	128.50	298	4,924	0.012	27	369
38	126.00	271	4,303	0.011	23	335
37	124.75	101	1,578	0.004	9	125
36	122.75	887	13,368	0.033	72	1,098
35	120.50	588	8,541	0.021	46	728
34	119.56	281	4,019	0.010	22	348
33	117.06	1,122	15,376	0.038	83	1,389
32	112.50	1,100	13,924	0.035	75	1,361
31	110.00	0	1	0.000	0	0
30	107.50	1,114	12,875	0.032	70	1,379
29	104.50	224	2,447	0.006	13	277
28	102.00	933	9,711	0.024	53	1,155
27	97.50	1,176	11,183	0.028	60	1,456
26	92.50	1,187	10,158	0.025	55	1,469
25	87.50	1,198	9,171	0.023	50	1,482
24	82.50	1,209	8,226	0.021	44	1,496
23	77.50	1,333	8,006	0.020	43	1,650
22	74.25	468	2,580	0.006	14	579

21	71.75	1,413	7,274	0.018	39	1,749
20	70.00	0	1	0.000	0	0
19	69.35	430	2,069	0.005	11	533
18	66.85	1,477	6,600	0.016	36	1,828
17	62.50	2,007	7,841	0.020	42	2,484
16	58.00	1,616	5,435	0.014	29	1,999
15	55.50	405	1,249	0.003	7	502
14	52.50	2,035	5,609	0.014	30	2,518
13	47.50	2,048	4,622	0.012	25	2,535
12	42.50	2,062	3,724	0.009	20	2,552
11	37.83	1,798	2,573	0.006	14	2,225
10	35.33	364	454	0.001	2	450
9	33.25	1,918	2,120	0.005	11	2,373
8	30.75	658	622	0.002	3	814
7	27.50	2,202	1,666	0.004	9	2,725
6	24.30	620	366	0.001	2	767
5	21.80	1,599	760	0.002	4	1,979
4	17.50	2,235	684	0.002	4	2,765
3	12.50	2,251	352	0.001	2	2,785
2	7.50	2,072	117	0.000	1	2,564
1	2.50	2,088	13	0.000	0	2,584
ADC DD1900	150.00	36	817	0.002	4	45
Raycap DC6-48-60-18-	150.00	64	1,431	0.004	8	79
Kaelus TMA2093FxxV1-	150.00	69	1,559	0.004	8	86
Ericsson RRUS A2 B2	150.00	66	1,485	0.004	8	82
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.009	20	204
Ericsson RRUS 32 B30	150.00	180	4,050	0.010	22	223
Ericsson RRUS-11	150.00	153	3,443	0.009	19	189
Ericsson RRUS E2 B29	150.00	180	4,050	0.010	22	223
Ericsson RRUS-12 B2	150.00	174	3,915	0.010	21	215
Decibel DB809KE-SY	150.00	26	585	0.001	3	32
Round Side Arm	150.00	450	10,125	0.025	55	557
Powerwave Allgon 777	150.00	105	2,363	0.006	13	130
CCI HPA-65R-BUU-H8	150.00	408	9,180	0.023	50	505
Flat Platform w/ Han	150.00	2,000	45,000	0.112	243	2,475
Diamond X50A	144.00	5	95	0.000	1	6
Stand-Off	144.00	150	3,110	0.008	17	186
Ericsson KRY 112 144	140.00	33	647	0.002	3	41
Ericsson RRUS-11 (50	140.00	150	2,940	0.007	16	186
Ericsson AIR 21, 1.3	140.00	249	4,880	0.012	26	308
Ericsson AIR 21, 1.3	140.00	244	4,792	0.012	26	303
Andrew LNX-6515DS-VT	140.00	154	3,016	0.008	16	190
Flat Low Profile Pla	140.00	1,450	28,420	0.071	154	1,794
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	19
Alcatel-Lucent B13 R	127.00	172	2,768	0.007	15	212
Alcatel-Lucent 1900	127.00	180	2,903	0.007	16	223
Alcatel-Lucent B66A	127.00	201	3,242	0.008	18	249
Antel BXA-70063-4CF-	127.00	30	479	0.001	3	37
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	54
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	54
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	67
Commscope SBNHH-1D65	127.00	304	4,906	0.012	27	376
Round Low Profile Pl	127.00	1,350	21,774	0.054	118	1,671
DragonWave Horizon C	104.00	21	229	0.001	1	26
NextNet BTS-2500	104.00	105	1,136	0.003	6	130
Argus LLPX310R	104.00	86	928	0.002	5	106
DragonWave A-ANT-11G	104.00	54	584	0.001	3	67
24" x 24" Junction	104.00	20	216	0.001	1	25
Side Arms	104.00	560	6,057	0.015	33	693
Channel Master Type	56.00	126	395	0.001	2	156
		55,628	401,066	1.000	2,170	68,843

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

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
44	147.50	213	4,627	0.012	25	183
43	144.50	44	908	0.002	5	38
42	142.00	178	3,598	0.009	19	154
41	137.50	260	4,913	0.012	27	224
40	132.50	268	4,704	0.012	25	231
39	128.50	298	4,924	0.012	27	257
38	126.00	271	4,303	0.011	23	234
37	124.75	101	1,578	0.004	9	87
36	122.75	887	13,368	0.033	72	765
35	120.50	588	8,541	0.021	46	507
34	119.56	281	4,019	0.010	22	242
33	117.06	1,122	15,376	0.038	83	968
32	112.50	1,100	13,924	0.035	75	949
31	110.00	0	1	0.000	0	0
30	107.50	1,114	12,875	0.032	70	961
29	104.50	224	2,447	0.006	13	193
28	102.00	933	9,711	0.024	53	805
27	97.50	1,176	11,183	0.028	60	1,015
26	92.50	1,187	10,158	0.025	55	1,024
25	87.50	1,198	9,171	0.023	50	1,033
24	82.50	1,209	8,226	0.021	44	1,042
23	77.50	1,333	8,006	0.020	43	1,150
22	74.25	468	2,580	0.006	14	404
21	71.75	1,413	7,274	0.018	39	1,219
20	70.00	0	1	0.000	0	0
19	69.35	430	2,069	0.005	11	371
18	66.85	1,477	6,600	0.016	36	1,274
17	62.50	2,007	7,841	0.020	42	1,731
16	58.00	1,616	5,435	0.014	29	1,393
15	55.50	405	1,249	0.003	7	350
14	52.50	2,035	5,609	0.014	30	1,755
13	47.50	2,048	4,622	0.012	25	1,767
12	42.50	2,062	3,724	0.009	20	1,778
11	37.83	1,798	2,573	0.006	14	1,550
10	35.33	364	454	0.001	2	314
9	33.25	1,918	2,120	0.005	11	1,654
8	30.75	658	622	0.002	3	567
7	27.50	2,202	1,666	0.004	9	1,899
6	24.30	620	366	0.001	2	534
5	21.80	1,599	760	0.002	4	1,379
4	17.50	2,235	684	0.002	4	1,927
3	12.50	2,251	352	0.001	2	1,941
2	7.50	2,072	117	0.000	1	1,787
1	2.50	2,088	13	0.000	0	1,801
ADC DD1900	150.00	36	817	0.002	4	31
Raycap DC6-48-60-18-	150.00	64	1,431	0.004	8	55
Kaelus TMA2093FxxV1-	150.00	69	1,559	0.004	8	60
Ericsson RRUS A2 B2	150.00	66	1,485	0.004	8	57
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.009	20	142
Ericsson RRUS 32 B30	150.00	180	4,050	0.010	22	155
Ericsson RRUS-11	150.00	153	3,443	0.009	19	132
Ericsson RRUS E2 B29	150.00	180	4,050	0.010	22	155
Ericsson RRUS-12 B2	150.00	174	3,915	0.010	21	150
Decibel DB809KE-SY	150.00	26	585	0.001	3	22
Round Side Arm	150.00	450	10,125	0.025	55	388
Powerwave Allgon 777	150.00	105	2,363	0.006	13	91
CCI HPA-65R-BUU-H8	150.00	408	9,180	0.023	50	352

Flat Platform w/ Han	150.00	2,000	45,000	0.112	243	1,725
Diamond X50A	144.00	5	95	0.000	1	4
Stand-Off	144.00	150	3,110	0.008	17	129
Ericsson KRY 112 144	140.00	33	647	0.002	3	28
Ericsson RRUS-11 (50	140.00	150	2,940	0.007	16	129
Ericsson AIR 21, 1.3	140.00	249	4,880	0.012	26	215
Ericsson AIR 21, 1.3	140.00	244	4,792	0.012	26	211
Andrew LNX-6515DS-VT	140.00	154	3,016	0.008	16	133
Flat Low Profile Pla	140.00	1,450	28,420	0.071	154	1,251
RFS FD9R6004/2C-3L	127.00	16	252	0.001	1	13
Alcatel-Lucent B13 R	127.00	172	2,768	0.007	15	148
Alcatel-Lucent 1900	127.00	180	2,903	0.007	16	155
Alcatel-Lucent B66A	127.00	201	3,242	0.008	18	173
Antel BXA-70063-4CF-	127.00	30	479	0.001	3	26
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	38
RFS DB-T1-6Z-8AB-0Z	127.00	44	710	0.002	4	38
Antel BXA-80080-6CF-	127.00	54	871	0.002	5	47
Commscope SBNHH-1D65	127.00	304	4,906	0.012	27	262
Round Low Profile Pl	127.00	1,350	21,774	0.054	118	1,164
DragonWave Horizon C	104.00	21	229	0.001	1	18
NextNet BTS-2500	104.00	105	1,136	0.003	6	91
Argus LLPX310R	104.00	86	928	0.002	5	74
DragonWave A-ANT-11G	104.00	54	584	0.001	3	47
24" x 24" Junction	104.00	20	216	0.001	1	17
Side Arms	104.00	560	6,057	0.015	33	483
Channel Master Type	56.00	126	395	0.001	2	109
		55,628	401,066	1.000	2,170	47,977

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	-66.26	-2.18	0.00	-266.46	0.00	266.46	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.054
5.00	-63.69	-2.20	0.00	-255.56	0.00	255.56	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.052
10.00	-60.91	-2.21	0.00	-244.57	0.00	244.57	3,047.99	1,524.00	4,447.17	2,196.29	0.04	-0.04	0.051
15.00	-58.14	-2.23	0.00	-233.50	0.00	233.50	3,003.60	1,501.80	4,284.50	2,115.95	0.09	-0.05	0.049
20.00	-56.16	-2.24	0.00	-222.37	0.00	222.37	2,958.17	1,479.08	4,123.27	2,036.33	0.15	-0.07	0.047
23.60	-55.39	-2.24	0.00	-214.32	0.00	214.32	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.046
23.60	-55.39	-2.24	0.00	-214.32	0.00	214.32	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.046
25.00	-52.67	-2.24	0.00	-211.18	0.00	211.18	2,911.70	1,455.85	3,963.58	1,957.46	0.24	-0.09	0.045
30.00	-51.85	-2.24	0.00	-200.00	0.00	200.00	2,864.18	1,432.09	3,805.55	1,879.42	0.34	-0.11	0.044
31.50	-49.48	-2.24	0.00	-196.63	0.00	196.63	2,849.72	1,424.86	3,758.46	1,856.16	0.37	-0.11	0.043
35.00	-49.03	-2.24	0.00	-188.81	0.00	188.81	2,805.48	1,402.74	3,636.10	1,795.73	0.46	-0.12	0.042
35.67	-46.81	-2.23	0.00	-187.31	0.00	187.31	2,231.07	1,115.54	2,951.42	1,457.59	0.48	-0.13	0.046
40.00	-44.25	-2.21	0.00	-177.67	0.00	177.67	2,201.95	1,100.98	2,850.70	1,407.85	0.60	-0.14	0.044
45.00	-41.72	-2.19	0.00	-166.61	0.00	166.61	2,167.39	1,083.69	2,735.30	1,350.86	0.76	-0.16	0.042
50.00	-39.20	-2.17	0.00	-155.64	0.00	155.64	2,131.78	1,065.89	2,620.87	1,294.35	0.93	-0.18	0.040
55.00	-38.70	-2.17	0.00	-144.81	0.00	144.81	2,095.13	1,047.56	2,507.52	1,238.37	1.13	-0.19	0.038
56.00	-36.54	-2.13	0.00	-142.64	0.00	142.64	2,087.67	1,043.84	2,484.99	1,227.24	1.17	-0.20	0.037
60.00	-34.06	-2.09	0.00	-134.12	0.00	134.12	2,057.44	1,028.72	2,395.35	1,182.97	1.34	-0.21	0.035
65.00	-32.23	-2.05	0.00	-123.67	0.00	123.67	2,018.71	1,009.36	2,284.46	1,128.21	1.56	-0.22	0.033
68.70	-31.70	-2.04	0.00	-116.07	0.00	116.07	1,989.38	994.69	2,203.29	1,088.12	1.74	-0.24	0.031
68.70	-31.70	-2.04	0.00	-116.07	0.00	116.07	1,989.38	994.69	2,203.29	1,088.12	1.74	-0.24	0.059
70.00	-31.70	-2.05	0.00	-113.41	0.00	113.41	1,978.94	989.47	2,174.96	1,074.13	1.81	-0.24	0.058
70.00	-29.95	-2.00	0.00	-113.41	0.00	113.41	1,978.94	989.47	2,174.95	1,074.12	1.81	-0.24	0.057
73.50	-29.37	-2.00	0.00	-106.40	0.00	106.40	1,462.64	731.32	1,612.09	796.15	1.99	-0.26	0.065
75.00	-27.72	-1.95	0.00	-103.40	0.00	103.40	1,455.06	727.53	1,589.51	785.00	2.07	-0.27	0.063
80.00	-26.22	-1.92	0.00	-93.63	0.00	93.63	1,429.11	714.55	1,514.58	747.99	2.37	-0.30	0.059
85.00	-24.74	-1.87	0.00	-84.06	0.00	84.06	1,402.12	701.06	1,440.27	711.29	2.70	-0.33	0.054
90.00	-23.27	-1.82	0.00	-74.71	0.00	74.71	1,374.09	687.04	1,366.68	674.95	3.05	-0.35	0.050
95.00	-21.81	-1.76	0.00	-65.63	0.00	65.63	1,345.02	672.51	1,293.93	639.02	3.44	-0.38	0.045
100.00	-20.66	-1.70	0.00	-56.84	0.00	56.84	1,314.91	657.46	1,222.10	603.55	3.85	-0.40	0.041
104.00	-19.33	-1.64	0.00	-50.03	0.00	50.03	1,290.07	645.04	1,165.38	575.54	4.20	-0.42	0.037
105.00	-17.95	-1.56	0.00	-48.40	0.00	48.40	1,283.76	641.88	1,151.31	568.59	4.28	-0.43	0.035
110.00	-17.95	-1.56	0.00	-40.60	0.00	40.60	1,247.14	623.57	1,077.81	532.29	4.74	-0.45	0.032
110.00	-16.59	-1.48	0.00	-40.60	0.00	40.60	1,247.13	623.57	1,077.80	532.29	4.74	-0.45	0.031
110.00	-16.59	-1.48	0.00	-40.60	0.00	40.60	846.54	423.27	735.96	363.46	4.74	-0.45	0.038
115.00	-15.20	-1.39	0.00	-33.21	0.00	33.21	828.55	414.27	693.31	342.40	5.22	-0.46	0.032
119.13	-14.86	-1.37	0.00	-27.48	0.00	27.48	812.92	406.46	658.37	325.15	5.63	-0.48	0.028
120.00	-14.13	-1.31	0.00	-26.28	0.00	26.28	809.51	404.76	651.00	321.50	5.71	-0.48	0.015
121.00	-13.03	-1.23	0.00	-24.96	0.00	24.96	805.58	402.79	642.58	317.35	5.82	-0.48	0.013
121.00	-13.03	-1.23	0.00	-24.96	0.00	24.96	805.58	402.79	642.58	317.35	5.82	-0.48	0.023
124.50	-12.91	-1.23	0.00	-20.65	0.00	20.65	791.49	395.75	613.28	302.88	6.17	-0.49	0.020
124.50	-12.91	-1.23	0.00	-20.65	0.00	20.65	791.49	395.75	613.28	302.88	6.17	-0.49	0.084
125.00	-12.57	-1.20	0.00	-20.03	0.00	20.03	789.44	394.72	609.12	300.82	6.22	-0.49	0.083
127.00	-9.24	-0.94	0.00	-17.63	0.00	17.63	781.12	390.56	592.51	292.62	6.43	-0.51	0.072
130.00	-8.91	-0.92	0.00	-14.81	0.00	14.81	768.32	384.16	567.78	280.41	6.76	-0.54	0.064
135.00	-8.59	-0.89	0.00	-10.22	0.00	10.22	746.17	373.08	527.09	260.31	7.35	-0.58	0.051
140.00	-5.55	-0.60	0.00	-5.75	0.00	5.75	722.98	361.49	487.14	240.58	7.97	-0.61	0.032
144.00	-5.30	-0.58	0.00	-3.34	0.00	3.34	701.03	350.52	454.07	224.25	8.49	-0.62	0.022
145.00	-5.04	-0.55	0.00	-2.76	0.00	2.76	694.06	347.03	445.03	219.78	8.62	-0.63	0.020
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	9.28	-0.63	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM **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	-46.18	-2.18	0.00	-261.38	0.00	261.38	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.049
5.00	-44.39	-2.19	0.00	-250.50	0.00	250.50	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.048
10.00	-42.45	-2.20	0.00	-239.55	0.00	239.55	3,047.99	1,524.00	4,447.17	2,196.29	0.04	-0.04	0.047
15.00	-40.52	-2.21	0.00	-228.56	0.00	228.56	3,003.60	1,501.80	4,284.50	2,115.95	0.08	-0.05	0.045
20.00	-39.14	-2.21	0.00	-217.53	0.00	217.53	2,958.17	1,479.08	4,123.27	2,036.33	0.15	-0.07	0.044
23.60	-38.60	-2.21	0.00	-209.57	0.00	209.57	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.043
23.60	-38.60	-2.21	0.00	-209.57	0.00	209.57	2,924.81	1,462.41	4,008.13	1,979.47	0.21	-0.08	0.043
25.00	-36.70	-2.21	0.00	-206.47	0.00	206.47	2,911.70	1,455.85	3,963.58	1,957.46	0.23	-0.09	0.042
30.00	-36.14	-2.21	0.00	-195.42	0.00	195.42	2,864.18	1,432.09	3,805.55	1,879.42	0.33	-0.10	0.040
31.50	-34.48	-2.20	0.00	-192.11	0.00	192.11	2,849.72	1,424.86	3,758.46	1,856.16	0.37	-0.11	0.040
35.00	-34.17	-2.20	0.00	-184.40	0.00	184.40	2,805.48	1,402.74	3,636.10	1,795.73	0.45	-0.12	0.038
35.67	-32.62	-2.19	0.00	-182.93	0.00	182.93	2,231.07	1,115.54	2,951.42	1,457.59	0.47	-0.12	0.043
40.00	-30.84	-2.18	0.00	-173.43	0.00	173.43	2,201.95	1,100.98	2,850.70	1,407.85	0.59	-0.14	0.041
45.00	-29.07	-2.15	0.00	-162.56	0.00	162.56	2,167.39	1,083.69	2,735.30	1,350.86	0.74	-0.16	0.039
50.00	-27.32	-2.13	0.00	-151.78	0.00	151.78	2,131.78	1,065.89	2,620.87	1,294.35	0.91	-0.17	0.037
55.00	-26.97	-2.12	0.00	-141.15	0.00	141.15	2,095.13	1,047.56	2,507.52	1,238.37	1.10	-0.19	0.035
56.00	-25.46	-2.09	0.00	-139.03	0.00	139.03	2,087.67	1,043.84	2,484.99	1,227.24	1.14	-0.19	0.034
60.00	-23.73	-2.05	0.00	-130.66	0.00	130.66	2,057.44	1,028.72	2,395.35	1,182.97	1.31	-0.20	0.032
65.00	-22.46	-2.01	0.00	-120.42	0.00	120.42	2,018.71	1,009.36	2,284.46	1,128.21	1.53	-0.22	0.030
68.70	-22.09	-2.00	0.00	-112.98	0.00	112.98	1,989.38	994.69	2,203.29	1,088.12	1.70	-0.23	0.029
68.70	-22.09	-2.00	0.00	-112.98	0.00	112.98	1,989.38	994.69	2,203.29	1,088.12	1.70	-0.23	0.054
70.00	-22.09	-2.00	0.00	-110.37	0.00	110.37	1,978.94	989.47	2,174.96	1,074.13	1.77	-0.23	0.054
70.00	-20.87	-1.96	0.00	-110.37	0.00	110.37	1,978.94	989.47	2,174.95	1,074.12	1.77	-0.23	0.053
73.50	-20.46	-1.95	0.00	-103.50	0.00	103.50	1,462.64	731.32	1,612.09	796.15	1.95	-0.25	0.060
75.00	-19.31	-1.91	0.00	-100.58	0.00	100.58	1,455.06	727.53	1,589.51	785.00	2.03	-0.26	0.059
80.00	-18.27	-1.87	0.00	-91.03	0.00	91.03	1,429.11	714.55	1,514.58	747.99	2.32	-0.29	0.054
85.00	-17.24	-1.82	0.00	-81.68	0.00	81.68	1,402.12	701.06	1,440.27	711.29	2.64	-0.32	0.050
90.00	-16.21	-1.77	0.00	-72.56	0.00	72.56	1,374.09	687.04	1,366.68	674.95	2.99	-0.35	0.046
95.00	-15.20	-1.71	0.00	-63.72	0.00	63.72	1,345.02	672.51	1,293.93	639.02	3.36	-0.37	0.042
100.00	-14.39	-1.66	0.00	-55.18	0.00	55.18	1,314.91	657.46	1,222.10	603.55	3.76	-0.39	0.037
104.00	-13.47	-1.59	0.00	-48.55	0.00	48.55	1,290.07	645.04	1,165.38	575.54	4.10	-0.41	0.034
105.00	-12.51	-1.52	0.00	-46.96	0.00	46.96	1,283.76	641.88	1,151.31	568.59	4.18	-0.42	0.033
110.00	-12.51	-1.52	0.00	-39.39	0.00	39.39	1,247.14	623.57	1,077.81	532.29	4.63	-0.43	0.029
110.00	-11.56	-1.44	0.00	-39.39	0.00	39.39	1,247.13	623.57	1,077.80	532.29	4.63	-0.43	0.028
110.00	-11.56	-1.44	0.00	-39.39	0.00	39.39	846.54	423.27	735.96	363.46	4.63	-0.43	0.035
115.00	-10.59	-1.35	0.00	-32.20	0.00	32.20	828.55	414.27	693.31	342.40	5.09	-0.45	0.029
119.13	-10.35	-1.33	0.00	-26.64	0.00	26.64	812.92	406.46	658.37	325.15	5.49	-0.47	0.025
120.00	-9.84	-1.28	0.00	-25.48	0.00	25.48	809.51	404.76	651.00	321.50	5.58	-0.47	0.013
121.00	-9.08	-1.20	0.00	-24.20	0.00	24.20	805.58	402.79	642.58	317.35	5.68	-0.47	0.012
121.00	-9.08	-1.20	0.00	-24.20	0.00	24.20	805.58	402.79	642.58	317.35	5.68	-0.47	0.020
124.50	-8.99	-1.19	0.00	-20.01	0.00	20.01	791.49	395.75	613.28	302.88	6.02	-0.47	0.017
124.50	-8.99	-1.19	0.00	-20.01	0.00	20.01	791.49	395.75	613.28	302.88	6.02	-0.47	0.077
125.00	-8.76	-1.17	0.00	-19.41	0.00	19.41	789.44	394.72	609.12	300.82	6.07	-0.48	0.076
127.00	-6.44	-0.91	0.00	-17.08	0.00	17.08	781.12	390.56	592.51	292.62	6.28	-0.50	0.067
130.00	-6.21	-0.89	0.00	-14.34	0.00	14.34	768.32	384.16	567.78	280.41	6.60	-0.52	0.059
135.00	-5.98	-0.86	0.00	-9.89	0.00	9.89	746.17	373.08	527.09	260.31	7.17	-0.56	0.046
140.00	-3.86	-0.58	0.00	-5.56	0.00	5.56	722.98	361.49	487.14	240.58	7.77	-0.59	0.028
144.00	-3.69	-0.56	0.00	-3.23	0.00	3.23	701.03	350.52	454.07	224.25	8.28	-0.61	0.020
145.00	-3.51	-0.53	0.00	-2.67	0.00	2.67	694.06	347.03	445.03	219.78	8.40	-0.61	0.017
150.00	0.00	-0.50	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	9.04	-0.61	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.18
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
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	2.67
Redundancy Factor (p):	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)
44	147.50	213	1.828	1.667	1.025	0.317	58	263
43	144.50	44	1.754	1.337	0.900	0.273	10	54
42	142.00	178	1.694	1.099	0.805	0.239	37	221
41	137.50	260	1.588	0.742	0.654	0.182	41	322
40	132.50	268	1.475	0.441	0.513	0.127	29	332
39	128.50	298	1.387	0.260	0.419	0.088	23	369
38	126.00	271	1.334	0.170	0.367	0.066	16	335
37	124.75	101	1.307	0.131	0.343	0.056	5	125
36	122.75	887	1.266	0.076	0.307	0.041	31	1,098
35	120.50	588	1.220	0.024	0.270	0.025	13	728
34	119.56	281	1.201	0.005	0.255	0.019	5	348
33	117.06	1,122	1.151	-0.037	0.220	0.004	4	1,389
32	112.50	1,100	1.063	-0.088	0.165	-0.018	-17	1,361
31	110.00	0	1.016	-0.105	0.140	-0.028	0	0
30	107.50	1,114	0.971	-0.116	0.117	-0.035	-34	1,379
29	104.50	224	0.917	-0.121	0.094	-0.042	-8	277
28	102.00	933	0.874	-0.121	0.078	-0.046	-37	1,155
27	97.50	1,176	0.799	-0.112	0.053	-0.048	-48	1,456
26	92.50	1,187	0.719	-0.092	0.034	-0.043	-44	1,469
25	87.50	1,198	0.643	-0.068	0.020	-0.031	-32	1,482
24	82.50	1,209	0.572	-0.043	0.012	-0.015	-16	1,496
23	77.50	1,333	0.505	-0.018	0.007	0.003	3	1,650
22	74.25	468	0.463	-0.003	0.006	0.014	6	579
21	71.75	1,413	0.432	0.008	0.006	0.022	27	1,749
20	70.00	0	0.412	0.014	0.006	0.027	0	0
19	69.35	430	0.404	0.017	0.006	0.029	11	533
18	66.85	1,477	0.375	0.026	0.007	0.035	45	1,828
17	62.50	2,007	0.328	0.039	0.010	0.043	75	2,484
16	58.00	1,616	0.283	0.049	0.014	0.048	68	1,999
15	55.50	405	0.259	0.054	0.016	0.050	18	502
14	52.50	2,035	0.232	0.058	0.019	0.052	91	2,518
13	47.50	2,048	0.190	0.064	0.025	0.052	93	2,535
12	42.50	2,062	0.152	0.068	0.030	0.052	93	2,552
11	37.83	1,798	0.120	0.070	0.034	0.051	79	2,225

10	35.33	364	0.105	0.071	0.037	0.050	16	450
9	33.25	1,918	0.093	0.071	0.038	0.050	83	2,373
8	30.75	658	0.079	0.072	0.040	0.049	28	814
7	27.50	2,202	0.064	0.072	0.041	0.048	92	2,725
6	24.30	620	0.050	0.071	0.042	0.048	26	767
5	21.80	1,599	0.040	0.070	0.042	0.047	65	1,979
4	17.50	2,235	0.026	0.067	0.040	0.045	86	2,765
3	12.50	2,251	0.013	0.059	0.034	0.040	79	2,785
2	7.50	2,072	0.005	0.044	0.025	0.032	57	2,564
1	2.50	2,088	0.001	0.018	0.010	0.015	27	2,584
ADC DD1900	150.00	36	1.890	1.980	1.140	0.356	11	45
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.356	20	79
Kaelus TMA2093FxxV1-	150.00	69	1.890	1.980	1.140	0.356	21	86
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.356	20	82
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.356	51	204
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.356	55	223
Ericsson RRUS-11	150.00	153	1.890	1.980	1.140	0.356	47	189
Ericsson RRUS E2 B29	150.00	180	1.890	1.980	1.140	0.356	55	223
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.356	54	215
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.356	8	32
Round Side Arm	150.00	450	1.890	1.980	1.140	0.356	139	557
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.356	32	130
CCI HPA-65R-BUU-H8	150.00	408	1.890	1.980	1.140	0.356	126	505
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.356	616	2,475
Diamond X50A	144.00	5	1.742	1.287	0.880	0.266	1	6
Stand-Off	144.00	150	1.742	1.287	0.880	0.266	35	186
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.213	6	41
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.213	28	186
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.213	46	308
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.213	45	303
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.213	28	190
Flat Low Profile Pla	140.00	1,450	1.646	0.929	0.735	0.213	267	1,794
RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.075	1	19
Alcatel-Lucent B13 R	127.00	172	1.355	0.204	0.387	0.075	11	212
Alcatel-Lucent 1900	127.00	180	1.355	0.204	0.387	0.075	12	223
Alcatel-Lucent B66A	127.00	201	1.355	0.204	0.387	0.075	13	249
Antel BXA-70063-4CF-	127.00	30	1.355	0.204	0.387	0.075	2	37
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	54
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	54
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.075	3	67
Commscope SBNHH-1D65	127.00	304	1.355	0.204	0.387	0.075	20	376
Round Low Profile Pl	127.00	1,350	1.355	0.204	0.387	0.075	87	1,671
DragonWave Horizon C	104.00	21	0.909	-0.122	0.091	-0.043	-1	26
NextNet BTS-2500	104.00	105	0.909	-0.122	0.091	-0.043	-4	130
Argus LLPX310R	104.00	86	0.909	-0.122	0.091	-0.043	-3	106
DragonWave A-ANT-11G	104.00	54	0.909	-0.122	0.091	-0.043	-2	67
24" x 24" Junction	104.00	20	0.909	-0.122	0.091	-0.043	-1	25
Side Arms	104.00	560	0.909	-0.122	0.091	-0.043	-21	693
Channel Master Type	56.00	126	0.263	0.053	0.016	0.050	5	156
		55,628	88.490	43.338	33.881	9.358	3,044	68,843

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)
44	147.50	213	1.828	1.667	1.025	0.317	58	183
43	144.50	44	1.754	1.337	0.900	0.273	10	38
42	142.00	178	1.694	1.099	0.805	0.239	37	154
41	137.50	260	1.588	0.742	0.654	0.182	41	224

40	132.50	268	1.475	0.441	0.513	0.127	29	231
39	128.50	298	1.387	0.260	0.419	0.088	23	257
38	126.00	271	1.334	0.170	0.367	0.066	16	234
37	124.75	101	1.307	0.131	0.343	0.056	5	87
36	122.75	887	1.266	0.076	0.307	0.041	31	765
35	120.50	588	1.220	0.024	0.270	0.025	13	507
34	119.56	281	1.201	0.005	0.255	0.019	5	242
33	117.06	1,122	1.151	-0.037	0.220	0.004	4	968
32	112.50	1,100	1.063	-0.088	0.165	-0.018	-17	949
31	110.00	0	1.016	-0.105	0.140	-0.028	0	0
30	107.50	1,114	0.971	-0.116	0.117	-0.035	-34	961
29	104.50	224	0.917	-0.121	0.094	-0.042	-8	193
28	102.00	933	0.874	-0.121	0.078	-0.046	-37	805
27	97.50	1,176	0.799	-0.112	0.053	-0.048	-48	1,015
26	92.50	1,187	0.719	-0.092	0.034	-0.043	-44	1,024
25	87.50	1,198	0.643	-0.068	0.020	-0.031	-32	1,033
24	82.50	1,209	0.572	-0.043	0.012	-0.015	-16	1,042
23	77.50	1,333	0.505	-0.018	0.007	0.003	3	1,150
22	74.25	468	0.463	-0.003	0.006	0.014	6	404
21	71.75	1,413	0.432	0.008	0.006	0.022	27	1,219
20	70.00	0	0.412	0.014	0.006	0.027	0	0
19	69.35	430	0.404	0.017	0.006	0.029	11	371
18	66.85	1,477	0.375	0.026	0.007	0.035	45	1,274
17	62.50	2,007	0.328	0.039	0.010	0.043	75	1,731
16	58.00	1,616	0.283	0.049	0.014	0.048	68	1,393
15	55.50	405	0.259	0.054	0.016	0.050	18	350
14	52.50	2,035	0.232	0.058	0.019	0.052	91	1,755
13	47.50	2,048	0.190	0.064	0.025	0.052	93	1,767
12	42.50	2,062	0.152	0.068	0.030	0.052	93	1,778
11	37.83	1,798	0.120	0.070	0.034	0.051	79	1,550
10	35.33	364	0.105	0.071	0.037	0.050	16	314
9	33.25	1,918	0.093	0.071	0.038	0.050	83	1,654
8	30.75	658	0.079	0.072	0.040	0.049	28	567
7	27.50	2,202	0.064	0.072	0.041	0.048	92	1,899
6	24.30	620	0.050	0.071	0.042	0.048	26	534
5	21.80	1,599	0.040	0.070	0.042	0.047	65	1,379
4	17.50	2,235	0.026	0.067	0.040	0.045	86	1,927
3	12.50	2,251	0.013	0.059	0.034	0.040	79	1,941
2	7.50	2,072	0.005	0.044	0.025	0.032	57	1,787
1	2.50	2,088	0.001	0.018	0.010	0.015	27	1,801
ADC DD1900	150.00	36	1.890	1.980	1.140	0.356	11	31
Raycap DC6-48-60-18-	150.00	64	1.890	1.980	1.140	0.356	20	55
Kaelus TMA2093FxxV1-	150.00	69	1.890	1.980	1.140	0.356	21	60
Ericsson RRUS A2 B2	150.00	66	1.890	1.980	1.140	0.356	20	57
Ericsson RRUS 11 (Ba	150.00	165	1.890	1.980	1.140	0.356	51	142
Ericsson RRUS 32 B30	150.00	180	1.890	1.980	1.140	0.356	55	155
Ericsson RRUS-11	150.00	153	1.890	1.980	1.140	0.356	47	132
Ericsson RRUS E2 B29	150.00	180	1.890	1.980	1.140	0.356	55	155
Ericsson RRUS-12 B2	150.00	174	1.890	1.980	1.140	0.356	54	150
Decibel DB809KE-SY	150.00	26	1.890	1.980	1.140	0.356	8	22
Round Side Arm	150.00	450	1.890	1.980	1.140	0.356	139	388
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.356	32	91
CCI HPA-65R-BUU-H8	150.00	408	1.890	1.980	1.140	0.356	126	352
Flat Platform w/ Han	150.00	2,000	1.890	1.980	1.140	0.356	616	1,725
Diamond X50A	144.00	5	1.742	1.287	0.880	0.266	1	4
Stand-Off	144.00	150	1.742	1.287	0.880	0.266	35	129
Ericsson KRY 112 144	140.00	33	1.646	0.929	0.735	0.213	6	28
Ericsson RRUS-11 (50	140.00	150	1.646	0.929	0.735	0.213	28	129
Ericsson AIR 21, 1.3	140.00	249	1.646	0.929	0.735	0.213	46	215
Ericsson AIR 21, 1.3	140.00	244	1.646	0.929	0.735	0.213	45	211
Andrew LNX-6515DS-VT	140.00	154	1.646	0.929	0.735	0.213	28	133
Flat Low Profile Pla	140.00	1,450	1.646	0.929	0.735	0.213	267	1,251
RFS FD9R6004/2C-3L	127.00	16	1.355	0.204	0.387	0.075	1	13
Alcatel-Lucent B13 R	127.00	172	1.355	0.204	0.387	0.075	11	148

Alcatel-Lucent 1900	127.00	180	1.355	0.204	0.387	0.075	12	155
Alcatel-Lucent B66A	127.00	201	1.355	0.204	0.387	0.075	13	173
Antel BXA-70063-4CF-	127.00	30	1.355	0.204	0.387	0.075	2	26
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	38
RFS DB-T1-6Z-8AB-0Z	127.00	44	1.355	0.204	0.387	0.075	3	38
Antel BXA-80080-6CF-	127.00	54	1.355	0.204	0.387	0.075	3	47
Commscope SBNHH-1D65	127.00	304	1.355	0.204	0.387	0.075	20	262
Round Low Profile PI	127.00	1,350	1.355	0.204	0.387	0.075	87	1,164
DragonWave Horizon C	104.00	21	0.909	-0.122	0.091	-0.043	-1	18
NextNet BTS-2500	104.00	105	0.909	-0.122	0.091	-0.043	-4	91
Argus LLPX310R	104.00	86	0.909	-0.122	0.091	-0.043	-3	74
DragonWave A-ANT-11G	104.00	54	0.909	-0.122	0.091	-0.043	-2	47
24" x 24" Junction	104.00	20	0.909	-0.122	0.091	-0.043	-1	17
Side Arms	104.00	560	0.909	-0.122	0.091	-0.043	-21	483
Channel Master Type	56.00	126	0.263	0.053	0.016	0.050	5	109
		55,628	88.490	43.338	33.881	9.358	3,044	47,977

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	-66.26	-3.03	0.00	-346.33	0.00	346.33	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.066
5.00	-63.69	-3.00	0.00	-331.18	0.00	331.18	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.064
10.00	-60.91	-2.94	0.00	-316.20	0.00	316.20	3,047.99	1,524.00	4,447.17	2,196.29	0.05	-0.05	0.062
15.00	-58.14	-2.88	0.00	-301.49	0.00	301.49	3,003.60	1,501.80	4,284.50	2,115.95	0.11	-0.07	0.060
20.00	-56.16	-2.83	0.00	-287.12	0.00	287.12	2,958.17	1,479.08	4,123.27	2,036.33	0.20	-0.09	0.058
23.60	-55.39	-2.81	0.00	-276.94	0.00	276.94	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.057
23.60	-55.39	-2.81	0.00	-276.94	0.00	276.94	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.057
25.00	-52.67	-2.73	0.00	-273.00	0.00	273.00	2,911.70	1,455.85	3,963.58	1,957.46	0.30	-0.12	0.056
30.00	-51.85	-2.71	0.00	-259.37	0.00	259.37	2,864.18	1,432.09	3,805.55	1,879.42	0.44	-0.14	0.054
31.50	-49.48	-2.63	0.00	-255.30	0.00	255.30	2,849.72	1,424.86	3,758.46	1,856.16	0.48	-0.15	0.053
35.00	-49.03	-2.62	0.00	-246.09	0.00	246.09	2,805.48	1,402.74	3,636.10	1,795.73	0.60	-0.16	0.052
35.67	-46.80	-2.55	0.00	-244.34	0.00	244.34	2,231.07	1,115.54	2,951.42	1,457.59	0.62	-0.16	0.058
40.00	-44.25	-2.46	0.00	-233.31	0.00	233.31	2,201.95	1,100.98	2,850.70	1,407.85	0.78	-0.18	0.055
45.00	-41.72	-2.38	0.00	-221.00	0.00	221.00	2,167.39	1,083.69	2,735.30	1,350.86	0.98	-0.21	0.053
50.00	-39.20	-2.29	0.00	-209.11	0.00	209.11	2,131.78	1,065.89	2,620.87	1,294.35	1.21	-0.23	0.051
55.00	-38.69	-2.28	0.00	-197.65	0.00	197.65	2,095.13	1,047.56	2,507.52	1,238.37	1.46	-0.25	0.049
56.00	-36.54	-2.21	0.00	-195.37	0.00	195.37	2,087.67	1,043.84	2,484.99	1,227.24	1.51	-0.26	0.048
60.00	-34.05	-2.13	0.00	-186.55	0.00	186.55	2,057.44	1,028.72	2,395.35	1,182.97	1.74	-0.27	0.046
65.00	-32.23	-2.09	0.00	-175.90	0.00	175.90	2,018.71	1,009.36	2,284.46	1,128.21	2.03	-0.30	0.044
68.70	-31.69	-2.08	0.00	-168.17	0.00	168.17	1,989.38	994.69	2,203.29	1,088.12	2.27	-0.31	0.043
68.70	-31.69	-2.08	0.00	-168.17	0.00	168.17	1,989.38	994.69	2,203.29	1,088.12	2.27	-0.31	0.081
70.00	-31.69	-2.08	0.00	-165.47	0.00	165.47	1,978.94	989.47	2,174.96	1,074.13	2.36	-0.32	0.080
70.00	-29.94	-2.05	0.00	-165.47	0.00	165.47	1,978.94	989.47	2,174.95	1,074.12	2.36	-0.32	0.080
73.50	-29.36	-2.05	0.00	-158.28	0.00	158.28	1,462.64	731.32	1,612.09	796.15	2.60	-0.35	0.091
75.00	-27.71	-2.06	0.00	-155.20	0.00	155.20	1,455.06	727.53	1,589.51	785.00	2.71	-0.36	0.090
80.00	-26.22	-2.08	0.00	-144.93	0.00	144.93	1,429.11	714.55	1,514.58	747.99	3.11	-0.41	0.086
85.00	-24.73	-2.12	0.00	-134.52	0.00	134.52	1,402.12	701.06	1,440.27	711.29	3.56	-0.45	0.081
90.00	-23.26	-2.17	0.00	-123.90	0.00	123.90	1,374.09	687.04	1,366.68	674.95	4.06	-0.49	0.077
95.00	-21.80	-2.22	0.00	-113.04	0.00	113.04	1,345.02	672.51	1,293.93	639.02	4.60	-0.54	0.072
100.00	-20.65	-2.26	0.00	-101.93	0.00	101.93	1,314.91	657.46	1,222.10	603.55	5.19	-0.58	0.067
104.00	-19.32	-2.30	0.00	-92.88	0.00	92.88	1,290.07	645.04	1,165.38	575.54	5.69	-0.61	0.062
105.00	-17.94	-2.32	0.00	-90.58	0.00	90.58	1,283.76	641.88	1,151.31	568.59	5.82	-0.62	0.061
110.00	-17.94	-2.33	0.00	-78.97	0.00	78.97	1,247.14	623.57	1,077.81	532.29	6.49	-0.66	0.055
110.00	-16.58	-2.34	0.00	-78.97	0.00	78.97	1,247.13	623.57	1,077.80	532.29	6.49	-0.66	0.055
110.00	-16.58	-2.34	0.00	-78.97	0.00	78.97	846.54	423.27	735.96	363.46	6.49	-0.66	0.066
115.00	-15.19	-2.32	0.00	-67.29	0.00	67.29	828.55	414.27	693.31	342.40	7.20	-0.70	0.058
119.13	-14.84	-2.32	0.00	-57.71	0.00	57.71	812.92	406.46	658.37	325.15	7.81	-0.72	0.051
120.00	-14.11	-2.30	0.00	-55.68	0.00	55.68	809.51	404.76	651.00	321.50	7.95	-0.73	0.026
121.00	-13.01	-2.25	0.00	-53.38	0.00	53.38	805.58	402.79	642.58	317.35	8.10	-0.73	0.024
121.00	-13.01	-2.25	0.00	-53.38	0.00	53.38	805.58	402.79	642.58	317.35	8.10	-0.73	0.040
124.50	-12.89	-2.25	0.00	-45.49	0.00	45.49	791.49	395.75	613.28	302.88	8.64	-0.74	0.035
124.50	-12.89	-2.25	0.00	-45.49	0.00	45.49	791.49	395.75	613.28	302.88	8.64	-0.74	0.167
125.00	-12.55	-2.23	0.00	-44.37	0.00	44.37	789.44	394.72	609.12	300.82	8.72	-0.75	0.163
127.00	-9.22	-2.02	0.00	-39.90	0.00	39.90	781.12	390.56	592.51	292.62	9.04	-0.79	0.148
130.00	-8.89	-2.00	0.00	-33.83	0.00	33.83	768.32	384.16	567.78	280.41	9.56	-0.86	0.132
135.00	-8.56	-1.97	0.00	-23.84	0.00	23.84	746.17	373.08	527.09	260.31	10.51	-0.95	0.103
140.00	-5.53	-1.46	0.00	-14.01	0.00	14.01	722.98	361.49	487.14	240.58	11.55	-1.02	0.066
144.00	-5.28	-1.41	0.00	-8.17	0.00	8.17	701.03	350.52	454.07	224.25	12.42	-1.06	0.044
145.00	-5.02	-1.35	0.00	-6.75	0.00	6.75	694.06	347.03	445.03	219.78	12.64	-1.06	0.038
150.00	0.00	-1.26	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	13.77	-1.08	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	-46.18	-3.02	0.00	-339.20	0.00	339.20	3,133.66	1,566.83	4,776.46	2,358.91	0.00	0.00	0.062
5.00	-44.39	-2.98	0.00	-324.07	0.00	324.07	3,091.35	1,545.67	4,611.19	2,277.30	0.01	-0.02	0.060
10.00	-42.44	-2.92	0.00	-309.15	0.00	309.15	3,047.99	1,524.00	4,447.17	2,196.29	0.05	-0.05	0.058
15.00	-40.52	-2.85	0.00	-294.54	0.00	294.54	3,003.60	1,501.80	4,284.50	2,115.95	0.11	-0.07	0.056
20.00	-39.14	-2.80	0.00	-280.30	0.00	280.30	2,958.17	1,479.08	4,123.27	2,036.33	0.19	-0.09	0.054
23.60	-38.60	-2.78	0.00	-270.23	0.00	270.23	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.053
23.60	-38.60	-2.78	0.00	-270.23	0.00	270.23	2,924.81	1,462.41	4,008.13	1,979.47	0.27	-0.11	0.053
25.00	-36.70	-2.69	0.00	-266.34	0.00	266.34	2,911.70	1,455.85	3,963.58	1,957.46	0.30	-0.11	0.052
30.00	-36.13	-2.67	0.00	-252.89	0.00	252.89	2,864.18	1,432.09	3,805.55	1,879.42	0.43	-0.14	0.050
31.50	-34.48	-2.59	0.00	-248.89	0.00	248.89	2,849.72	1,424.86	3,758.46	1,856.16	0.47	-0.14	0.050
35.00	-34.17	-2.58	0.00	-239.82	0.00	239.82	2,805.48	1,402.74	3,636.10	1,795.73	0.58	-0.16	0.048
35.67	-32.62	-2.50	0.00	-238.10	0.00	238.10	2,231.07	1,115.54	2,951.42	1,457.59	0.60	-0.16	0.054
40.00	-30.84	-2.41	0.00	-227.27	0.00	227.27	2,201.95	1,100.98	2,850.70	1,407.85	0.76	-0.18	0.052
45.00	-29.07	-2.33	0.00	-215.20	0.00	215.20	2,167.39	1,083.69	2,735.30	1,350.86	0.96	-0.20	0.049
50.00	-27.31	-2.24	0.00	-203.57	0.00	203.57	2,131.78	1,065.89	2,620.87	1,294.35	1.18	-0.22	0.047
55.00	-26.96	-2.23	0.00	-192.37	0.00	192.37	2,095.13	1,047.56	2,507.52	1,238.37	1.43	-0.25	0.045
56.00	-25.46	-2.15	0.00	-190.14	0.00	190.14	2,087.67	1,043.84	2,484.99	1,227.24	1.48	-0.25	0.045
60.00	-23.73	-2.08	0.00	-181.54	0.00	181.54	2,057.44	1,028.72	2,395.35	1,182.97	1.70	-0.27	0.043
65.00	-22.46	-2.03	0.00	-171.16	0.00	171.16	2,018.71	1,009.36	2,284.46	1,128.21	1.99	-0.29	0.041
68.70	-22.08	-2.02	0.00	-163.63	0.00	163.63	1,989.38	994.69	2,203.29	1,088.12	2.22	-0.30	0.040
68.70	-22.08	-2.02	0.00	-163.63	0.00	163.63	1,989.38	994.69	2,203.29	1,088.12	2.22	-0.30	0.076
70.00	-22.08	-2.03	0.00	-161.00	0.00	161.00	1,978.94	989.47	2,174.96	1,074.13	2.30	-0.31	0.075
70.00	-20.87	-2.00	0.00	-161.00	0.00	161.00	1,978.94	989.47	2,174.95	1,074.12	2.30	-0.31	0.075
73.50	-20.46	-2.00	0.00	-154.01	0.00	154.01	1,462.64	731.32	1,612.09	796.15	2.54	-0.34	0.086
75.00	-19.31	-2.00	0.00	-151.02	0.00	151.02	1,455.06	727.53	1,589.51	785.00	2.65	-0.35	0.085
80.00	-18.27	-2.02	0.00	-141.04	0.00	141.04	1,429.11	714.55	1,514.58	747.99	3.04	-0.40	0.081
85.00	-17.23	-2.06	0.00	-130.94	0.00	130.94	1,402.12	701.06	1,440.27	711.29	3.48	-0.44	0.077
90.00	-16.21	-2.10	0.00	-120.66	0.00	120.66	1,374.09	687.04	1,366.68	674.95	3.96	-0.48	0.072
95.00	-15.19	-2.16	0.00	-110.13	0.00	110.13	1,345.02	672.51	1,293.93	639.02	4.49	-0.52	0.068
100.00	-14.38	-2.19	0.00	-99.36	0.00	99.36	1,314.91	657.46	1,222.10	603.55	5.06	-0.57	0.063
104.00	-13.46	-2.23	0.00	-90.58	0.00	90.58	1,290.07	645.04	1,165.38	575.54	5.55	-0.60	0.059
105.00	-12.50	-2.26	0.00	-88.35	0.00	88.35	1,283.76	641.88	1,151.31	568.59	5.67	-0.61	0.057
110.00	-12.50	-2.26	0.00	-77.06	0.00	77.06	1,247.14	623.57	1,077.81	532.29	6.33	-0.64	0.052
110.00	-11.55	-2.27	0.00	-77.06	0.00	77.06	1,247.13	623.57	1,077.80	532.29	6.33	-0.64	0.052
110.00	-11.55	-2.27	0.00	-77.06	0.00	77.06	846.54	423.27	735.96	363.46	6.33	-0.64	0.062
115.00	-10.58	-2.26	0.00	-65.70	0.00	65.70	828.55	414.27	693.31	342.40	7.02	-0.68	0.054
119.13	-10.33	-2.26	0.00	-56.37	0.00	56.37	812.92	406.46	658.37	325.15	7.62	-0.71	0.048
120.00	-9.83	-2.24	0.00	-54.39	0.00	54.39	809.51	404.76	651.00	321.50	7.75	-0.71	0.024
121.00	-9.06	-2.20	0.00	-52.15	0.00	52.15	805.58	402.79	642.58	317.35	7.90	-0.72	0.022
121.00	-9.06	-2.20	0.00	-52.15	0.00	52.15	805.58	402.79	642.58	317.35	7.90	-0.72	0.037
124.50	-8.97	-2.20	0.00	-44.45	0.00	44.45	791.49	395.75	613.28	302.88	8.43	-0.73	0.032
124.50	-8.97	-2.20	0.00	-44.45	0.00	44.45	791.49	395.75	613.28	302.88	8.43	-0.73	0.158
125.00	-8.74	-2.18	0.00	-43.35	0.00	43.35	789.44	394.72	609.12	300.82	8.50	-0.73	0.155
127.00	-6.42	-1.98	0.00	-38.99	0.00	38.99	781.12	390.56	592.51	292.62	8.82	-0.77	0.141
130.00	-6.19	-1.95	0.00	-33.06	0.00	33.06	768.32	384.16	567.78	280.41	9.32	-0.84	0.126
135.00	-5.96	-1.92	0.00	-23.29	0.00	23.29	746.17	373.08	527.09	260.31	10.25	-0.93	0.097
140.00	-3.85	-1.43	0.00	-13.70	0.00	13.70	722.98	361.49	487.14	240.58	11.26	-1.00	0.062
144.00	-3.67	-1.38	0.00	-7.98	0.00	7.98	701.03	350.52	454.07	224.25	12.11	-1.03	0.041
145.00	-3.49	-1.32	0.00	-6.60	0.00	6.60	694.06	347.03	445.03	219.78	12.33	-1.04	0.035
150.00	0.00	-1.26	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	13.43	-1.05	0.000

Analysis Summary

Load Case	Reactions Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Max Usage Elev (ft)	Interaction Ratio
1.2D + 1.6W	32.86	0.00	66.68	0.00	0.00	3637.12	124.50	0.99
0.9D + 1.6W	31.69	0.00	50.00	0.00	0.00	3492.96	124.50	0.96
1.2D + 1.0Di + 1.0Wi	8.12	0.00	116.58	0.00	0.00	1007.96	124.50	0.34
(1.2 + 0.2Sds) * DL + E ELFM	2.18	0.00	66.26	0.00	0.00	266.46	124.50	0.08
(1.2 + 0.2Sds) * DL + E EMAM	3.03	0.00	66.26	0.00	0.00	346.33	124.50	0.17
(0.9 - 0.2Sds) * DL + E ELFM	2.18	0.00	46.18	0.00	0.00	261.38	124.50	0.08
(0.9 - 0.2Sds) * DL + E EMAM	3.02	0.00	46.18	0.00	0.00	339.20	124.50	0.16
1.0D + 1.0W	7.96	0.00	55.62	0.00	0.00	884.64	124.50	0.25

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Upper Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Lower Termination Connectors MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Max Member Pu (kip)	phiPn (kip)	Ratio
0.00	121.0	(4) SOL-#20 All Thre	520.7	14.1	16.8	60.4	12.0	6	10	0.0	12.0	0	0	296.3	314.9	0.941
0.00	23.60	(4) SOL-#20 All Thre	245.3	6.6	16.8	0.0	12.0	0	24	0.0	12.0	0	0	298.3	334.7	0.891
23.60	68.70	(4) SOL-#20 All Thre	277.4	8.3	16.8	198.3	12.0	17	24	0.0	12.0	0	0	271.4	330.5	0.821
119.1	124.5	(3) SOL-#20 (15 deg	507.9	15.2	16.8	101.4	12.0	9	12	81.9	12.0	7	12	122.3	284.5	0.430

Base/Flange Plate	Plate Type	***Baseplate***	
	Pole Diameter	37.38	in
	Pole Thickness		in
	Plate Length	44	in
	Plate Thickness	2.5	in
	Plate Fy	60	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	1382.37	k-in
	Applied	711.01	k-in
Stiffeners	#	***0***	

Bolts	#	***8***	
	Bolt Circle	44	in
	(R)adial / (S)quare	S	
	Bolt Gap	6	in
●	Diameter	2.25	in
	Hole Diameter	2.375	in
	Type	A615-75	
	Fy	75	ksi
	Fu	100	ksi
	ϕ_s Resistance	259.82	k
	Applied	196.41	k
Reinforcement ●	#	***4***	
	DYW. Circle	46	in
	Offset Angle	0	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
Extra Bolts O	#	***4***	
	Bolt Circle	52.4	in
	(R)adial / (S)quare	R	
	Offset Angle	0	°
	Diameter	2.5	in
	Type	DYWIDAG	
	Fy	80	ksi
	Fu	100	ksi
	ϕ_s Resistance	319.91	k
	Applied	298.28	k

Code Rev. ***G***

Moment 3637.1 k-ft

Axial 116.6 k

Date	8/12/2016
Engineer	JAA
Site #	302489
Carrier	Verizon

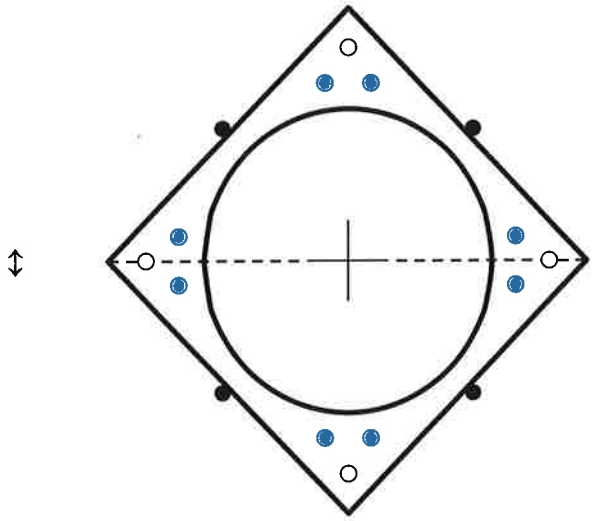


Plate Stress Ratio:

0.51 (Pass)

Bolt Stress Ratio:

0.76 (Pass)

Extra Bolt Stress Ratio:

0.93 (Pass)

Base/Flange Plate	Plate Type	*Flange @ 110.0 ft*	
	Pole Diameter	21.25	in
	Pole Thickness		in
	Plate Diameter	28.5	in
	Plate Thickness	1	in
	Plate Fy	60	ksi
	Weld Length	0.1875	in
	ϕ_s Resistance	96.45	k-in
	Applied	31.46	k-in
Stiffeners	#	*0*	

Bolts	#	*8*	
	Bolt Circle	25.75	in
	(R)adial / (S)quare	R	
●	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	20.97	k
Reinforcement ●	#	*4*	
	DYW. Circle	28	in
	Offset Angle	24	°
	Type	#20	
	Diameter	2.5	in
	Fu	100	ksi
Extra Bolts O	#	*0*	

Code Rev. **G**

Moment 570.9 k-ft

Axial 15.4 k

Date	8/12/2016
Engineer	JAA
Site #	302489
Carrier	Verizon

Required Flange Thickness:

0.57 in OK

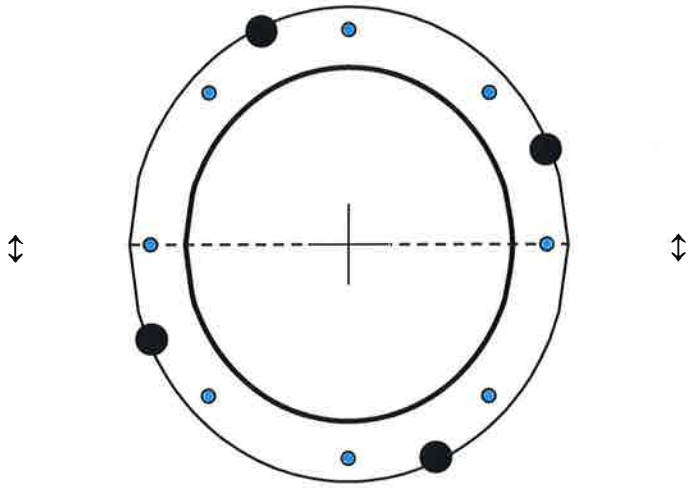


Plate Stress Ratio:

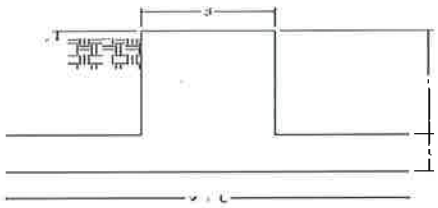
0.33 (Pass)

Bolt Stress Ratio:

0.38 (Pass)

Site Name:	Enfd - Enfield, CT
Site Number:	302489
Engineering Number:	OAA683304_C3_01
Engineer:	JAA
Date:	08/12/16
Tower Type:	MP

Program Last Updated: *5/13/2014*



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

Design / Analysis / Mapping:	Analysis				
Compression/Leg:	116.6	k	Concrete Strength (f'_c):	3000	psi
Uplift/Leg:	0.0	k	Pad Tension Steel Depth:	32.00	in
Total Shear:	32.9	k	ϕ_{Shear}:	0.75	
Moment:	3637.1	k-ft	$\phi_{Flexure\ /\ Tension}$:	0.90	
Tower + Appurtenance Weight:	194.9	k	$\phi_{Compression}$:	0.65	
Depth to Base of Foundation (l + t - h):	8.00	ft	β:	0.85	
Diameter of Pier (d):	5.64	ft	Bottom Pad Rebar Size #:	10	
Height of Pier above Ground (h):	0.50		# of Bottom Pad Rebar:	34	
Width of Pad (W):	18.00	ft	Pad Bottom Steel Area:	43.18	in^2
Length of Pad (L):	18.00	ft	Pad Steel F_y:	60000	psi
Thickness of Pad (t):	3.00	ft	Top Pad Rebar Size #:	10	
Tower Leg Center to Center:	0.00	ft	# of Top Pad Rebar:	34	
Number of Tower Legs:	1.0	(1 if MP or GT)	Pad Top Steel Area:	43.18	in^2
Tower Center from Mat Center:	0.00	ft	Pier Rebar Size #:	11	
Depth Below Ground Surface to Water Table:	50.00	ft	Pier Steel Area (Single Bar):	1.56	in^2
Unit Weight of Concrete:	150.0	pcf	# of Pier Rebar:	52	
Unit Weight of Soil Above Water Table:	115.0	pcf	Pier Steel F_y:	60000	psi
Unit Weight of Water:	62.4	pcf	Pier Cage Diameter:	59.7	in
Unit Weight of Soil Below Water Table:	60.0	pcf	Rebar Strain Limit:	0.008	
Friction Angle of Uplift:	15.0	Degrees	Steel Elastic Modulus:	29000	ksi
Ultimate Coefficient of Shear Friction:	0.30		Tie Rebar Size #:	4	
Ultimate Compressive Bearing Pressure:	24000.0	psf	Tie Steel Area (Single Bar):	0.20	in^2
Ultimate Passive Pressure on Pad Face:	0.0	psf	Tie Spacing:	12	in
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9		Tie Steel F_y:	60000	psi
ϕ_{Soil}:	0.75				

Overturning Moment Usage

Design OTM:	3916.4	k-ft
OTM Resistance:	4355.1	k-ft
Design OTM / OTM Resistance:	0.90	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	8049	psf
Factored Nominal Bearing Pressure:	18000	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.45	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

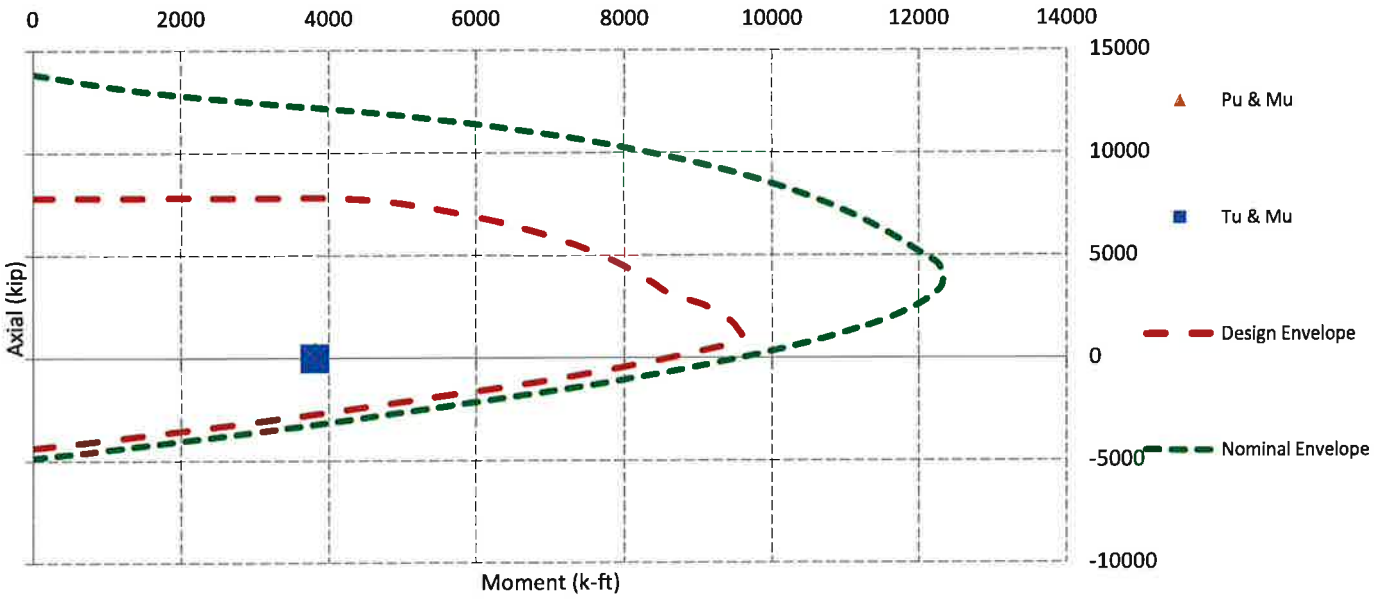
Sliding Factor of Safety

Total Factored Sliding Resistance:	112.7	k
Sliding Design / Sliding Resistance:	0.29	Result: OK

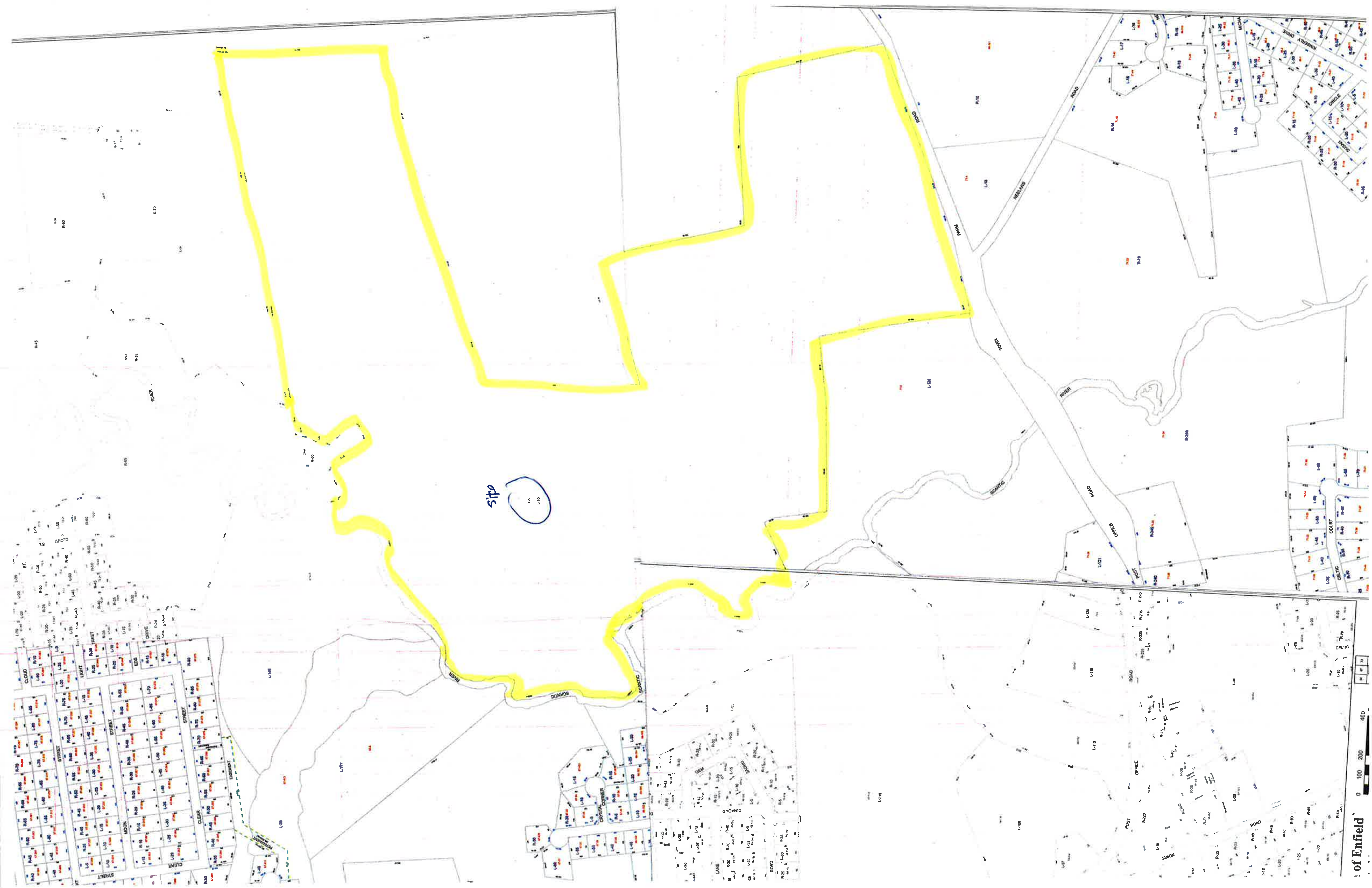
One Way Shear, Flexual Capacity, and Punching Shear

Factored One Way Shear (V_u):	271.3	k
One Way Shear Capacity (ϕV_c):	456.9	k - ACI11.3.1.1
$V_u / \phi V_c$:	0.59	Result: OK
Load Direction Controling Shear Capacity:	Diagonal to Pad Edge	
Lower Steel Pad Factored Moment (M_u):	1551.7	k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	5829.5	k-ft - ACI10.3
$M_u / \phi M_n$:	0.27	Result: OK
Load Direction Controling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	563.4	k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	5829.5	k-ft
$M_u / \phi M_n$:	0.10	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0062	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0062	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):	0.0	k
Nominal Punching Shear Capacity ($\phi_c V_n$):	1646.6	k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00	Result: OK
Factored Moment in Pier (M_u):	3817.8	k-ft
Pier Moment Capacity (ϕM_n):	10652.2	k-ft
$M_u / \phi M_n$:	0.36	Result: OK
Factored Shear in Pier (V_u):	32.9	k
Pier Shear Capacity (ϕV_n):	300.4	k
$V_u / \phi V_c$:	0.11	Result: OK
Pier Shear Reinforcement Ratio:	0.0006	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k
Pier Tension Capacity (ϕT_n):	4380.5	k
$T_u / \phi T_n$:	0.00	Result: OK
Factored Compression in Pier (P_u):	116.6	k
Pier Compression Capacity (ϕP_n):	4662.8	k - ACI10.3.6.2
$P_u / \phi P_n$:	0.03	Result: OK
Pier Compression Reinforcement Ratio:	0.023	OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u/\phi_B M_n + T_u/\phi_T T_n$:	0.36	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



ATTACHMENT 4



Site
SCANTIC
RIVER
TOWN
FARM
ROAD
POST
OFFICE
ROAD
of Enfield

77 TOWN FARM RD

Location	77 TOWN FARM RD	**Mblu**	071/ / 0003/ /
Acct#	002800010010	**Owner**	ENFIELD TOWN OF
Assessment	$1,329,970	**Appraisal**	$1,899,950
PID	4350	**Building Count**	1
Fire District	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$802,530	$1,097,420	$1,899,950

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$561,770	$768,200	$1,329,970

Owner of Record

Owner	ENFIELD TOWN OF
Co-Owner	REFUSE AREA (DUMP)
Address	820 ENFIELD ST ENFIELD, CT 06082

Sale Price	$0
Certificate	1
Book & Page	0/ 0
Sale Date	

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ENFIELD TOWN OF	$0	1	0/ 0	

Building Information

Building 1 : Section 1

Year Built:	1970
Living Area:	160
Replacement Cost:	$7,069
Building Percent Good:	56
Replacement Cost Less Depreciation:	$3,960

Building Attributes

Field	Description
STYLE	Job Shop
MODEL	Ind/Comm
Grade	Minimum
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Bldg Use	Exempt Comm
Total Rooms	
Total Bedrms	
Total Baths	
Total H Bths	
Extra Fixtures	
1st Floor Use:	
Heat/AC	
Frame Type	Steel
Baths/Plumbing	None
Ceiling/Wall	Cell Walls
Rooms/Prtns	Average
Wall Height	7
% Comn Wall	

Building 1 : Section 1

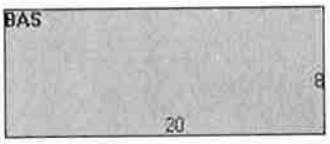
Year Built: 1970
Living Area: 0
Replacement Cost: $7,069
Building Percent Good: 56
Replacement Cost Less Depreciation: $3,960

Building Attributes	
Field	**Description**

Building Photo

(http://images.vgsi.com/photos2/EnfieldCTPhotos//\00\01\68/9

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	160	160
		160	160

Style	Outbuildings
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Bthrms:	
Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Extra Kitchens	
Fireplace(s)	
Extra Opening(s)	
Gas Fireplace(s)	
Blocked FPL(s)	
Bsmt Garage(s)	
Fin Bsmt	
FBM Quality	
Whirlpool(s)	
Walk Out	
Solar	

Building Photo

(http://images.vgsi.com/photos2/EnfieldCTPhotos//default.jpg)

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	930
Description	Exempt Ind
Zone	R88
Neighborhood	C500
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	173.6
Frontage	1513
Depth	
Assessed Value	$768,200
Appraised Value	$1,097,420

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD1	Shed	MS	Masonry	100 S.F.	$820	1
SCL2	SCALES-ELECT			60 TONS	$23,100	1
TWR2	Cell Twr 2 Carriers			1 UNITS	$206,250	1
SHD1	Shed	MS	Masonry	140 S.F.	$1,760	1
TWR4	Cell Twr4 Carriers			1 UNITS	$562,500	1
FN3	FENCE-8' CHAIN			256 L.F.	$4,140	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$803,870	$1,097,420	$1,901,290
2014	$803,870	$1,097,420	$1,901,290
2013	$625,750	$1,097,420	$1,723,170

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$562,710	$768,200	$1,330,910
2014	$562,710	$768,200	$1,330,910
2013	$438,030	$768,200	$1,206,230