

September 21, 2015

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

Re: **Notice of Exempt Modification – Facility Modification
178 New Haven Road, Prospect, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains twelve (12) wireless telecommunications antennas at the 132-foot level on the existing 157-foot tower at 178 New Haven Road in Prospect, Connecticut (the “Property”). The tower is owned by SBA. The Council approved Cellco’s use of this tower in 1999. Cellco now intends to replace six (6) of its existing antennas with three (3) model SBNHH-1D65B, 700 MHz antennas and three (3) model SBNHH-1D65B, 1900 MHz antennas, all at the same level on the tower. Cellco also intends to install six (6) remote radio heads (“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 Robert J. Chatfield, Mayor for the Town of Prospect. A copy of this letter is also being sent to Peter J. and Victor A. Visockis, the owners of the Property and SBA, the tower owner.

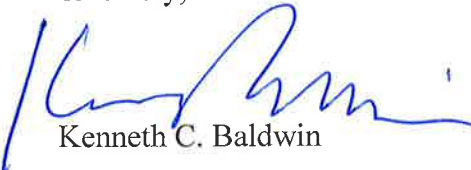
The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

Melanie A. Bachman
September 21, 2015
Page 2

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRH's will be located on its existing platform at the 132-foot level on the tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
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 replacement antennas 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 worst-case General Power Density table for Cellco's modified facility is included in Attachment 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support Cellco's proposed modifications. (*See Structural Analysis Report included in Attachment 3*).

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:

Robert J. Chatfield, Prospect Mayor
Peter J. and Victor A. Visockis
Victoria Barrios, SBA
Tim Parks

ATTACHMENT 1



SBNHH-1D65B

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

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

Electrical Specifications

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

Electrical Specifications, BASTA*

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

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

General Specifications

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

SBNHH-1D65B

POWERED BY



Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Aluminum Low loss circuit board
Radome Material	Fiberglass, UV resistant
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	6
Wind Loading, maximum	617.7 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Speed, maximum	241.4 km/h 150.0 mph

Dimensions

Depth	181.0 mm 7.1 in
Length	1851.0 mm 72.9 in
Width	301.0 mm 11.9 in
Net Weight	18.4 kg 40.6 lb

Remote Electrical Tilt (RET) Information

Input Voltage	10–30 Vdc
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
RET System	Teletilt®

Packed Dimensions

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

Regulatory Compliance/Certifications

Agency

RoHS 2011/65/EU
China RoHS SJ/T 11364-2006
ISO 9001:2008

Classification

Compliant by Exemption
Above Maximum Concentration Value (MCV)
Designed, manufactured and/or distributed under this quality management system



Included Products

Product Specifications

COMMSCOPE®

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.

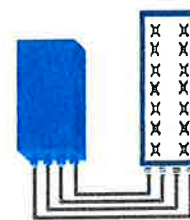


FEATURES

- 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

TECHNICAL SPECIFICATIONS

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

www.alcatel-lucent.com Alcatel, Lucent, Alcatel-Lucent and the Alcatel-Lucent logo are trademarks of Alcatel-Lucent. All other trademarks are the property of their respective owners. The information presented is subject to change without notice. Alcatel-Lucent assumes no responsibility for inaccuracies contained herein. Copyright © 2014 Alcatel-Lucent. All Rights Reserved

PCS RF MODULES

RRH1900 2X60 - HW CHARACTERISTICS

LA6.0.1/13.3

RRH2x60	
RF Output Power	2x60W
Instantaneous Bandwidth	20MHz
Transmitter	2 TX
Receiver	2 Branch RX – LA6.0.1 4 Branch RX – LR13.3
Features	AISG 2.0 for RET/TMA Internal Smart Bias-T
Power	-48VDC
CPRI Ports	2 CPRI Rate 3 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (top mounted)



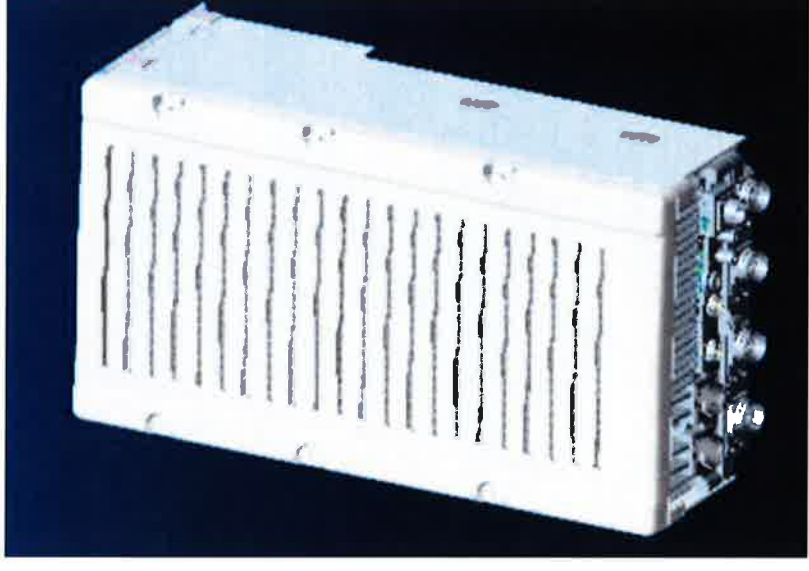
** Not a Verizon Wireless deployed product

NEW PCS RF MODULES FOR VZW

RRH2X60 - HW CHARACTERISTICS

LR14.3

RRH2x60	
RF Output Power	2x60W (4x30W HW Ready)
Instantaneous Bandwidth	60MHz
Target Reliability (Annual Return Rate)	<2%
Receiver	4 Branch Rx
Features	AISG 2.0 for RET/TMA
Power	-48VDC
	Internal Smart Bias-T
CPRI Ports	2 CPRI Rate 5 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX, RX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (downward facing)
Dimensions	22"(h) x 12"(w) x 9.4" (d)**
Weight	55lb**



** - Includes solar shield but not mounting brackets (8 lbs.)



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

Product Description

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

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

Features/Benefits

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



Figure 1: HYBRIFLEX Series

Technical Specifications

Outer Conductor Armor	Corrugated Aluminum	(mm (in))	46.5 (1.83)
Jacket	Polyethylene, PE	(mm (in))	50.3 (1.98)
UV-Protection	Individual and External Jacket		Yes
Weight			
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)
Electrical Properties			
DC-Resistance Outer Conductor Armor		(Ω/km (Ω/1000ft))	0.68 (0.205)
DC-Resistance Power Cable, 8.4mm ² (8AWG)		(Ω/km (Ω/1000ft))	2.1 (0.307)
Optical Properties			
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
Physical Properties			
Size (Power)		(mm (AWG))	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		(mm (AWG))	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		(mm (in))	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-L5 Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE1202/FT4 RoHS Compliant
Operating Limits			
Installation Temperature		(°C (°F))	-40 to +65 (-40 to 149)
Operation Temperature		(°C (°F))	-40 to +65 (-40 to 149)

* This data is provisional and subject to change

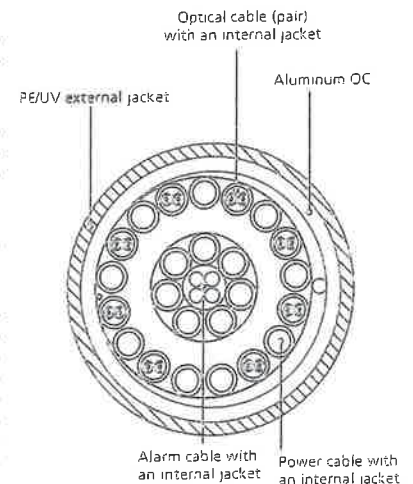


Figure 2: Construction Detail

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

ATTACHMENT 2

ATTACHMENT 3



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
8445 Freeport Parkway, Suite 375, Irving, Texas 75063

Structural Analysis Report

Existing 157 ft. Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT00252-S-03

Customer Site Name: Prospect

Carrier Name: Verizon

Carrier Site ID / Name: Prospect

Site Location: 178 New Haven Road

Prospect, Connecticut

New Haven County

Latitude: 41.472302

Longitude: -72.971597

Analysis Result:

Max Structural Usage: 93.3% [Pass]

Max Foundation Usage: 53.0% [Pass]

Report Prepared By : Delu Zhou



Introduction

The purpose of this report is to summarize the analysis results on the 157 ft. Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Fred A. Nudd Corporation, Project No. 6820, Original design drawing dated 05/20/1999
Foundation Drawing	Fred A. Nudd Corporation, Project No. 6820, Original design drawing dated 05/20/1999
Geotechnical Report	SAGE environmental, Inc. Geotechnical Report, dated 05/05/1998
Modification Drawings	Semaan Engineering, Inc. Project No. CT-00252S, Modification Package, dated 04/18/2002

Analysis Criteria

The analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-F. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Basic Wind Speed Used in the Analysis:	85.0 mph (fastest mile) (equivalent to 100.0 mph 3-second gust)
Basic Wind Speed with Ice:	74 mph (fastest mile) with 1/2" radial ice concurrent
Operational Wind Speed:	50 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-F / 2005 Connecticut State Building Code

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	158.5	6	Andrew - SBNH-1D6565C - Panel	(1) 16' LP Platform	(12) 1 1/4" (7) 1/2" (1) 10mm Fiber (2) DC Cables	AT&T
2		3	CCI – DTMABP 7819VG12A - TMA			
3		6	Kathrein - 800 10025 - RETs			
4		3	Kathrein - 800 10121 - Panel			
5		6	Powerwave - LGP 13519 - Diplexers			
6	155.5	6	Andrew - RRUS 11 - RRUs	(1) Valmont Ring Mount		
7		1	Raycap - DC6-48-60-18-8-F - Surge			
-	132.0	3	Antel - BXA-70063-6CF-2 - Panel	(1) 14' LP Platform	(12) 1 5/8"	Verizon
-		6	Decibel - DB844F65ZAXY - Panel			
-		6	RFS - FD9R6004-2C-3L - Diplexers			
-		3	Ryma - MGD3-800T0 - Panel			
13	100.0	3	Kathrein - 742 213 - Panel	(3) Pipe Mount	(6) 1 5/8"	T-Mobile

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
8	132.0	3	ALU - RRH2x60-700 – RRH	(1) 14' LP Platform	(12) 1 5/8" (1) 1 5/8" Fiber	Verizon
9		3	ALU - RRH2x60-PCS - RRH			
10		6	Commscope - SBNHH-1D65B - Panel			
11		6	Decibel - DB844G65ZAXY - Panel			
12		1	RFS - DB-T1-6Z-8AB-OZ - ODU			

All transmission lines are considered running inside of the pole shafts.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate	Reinforce Plate
Max. Usage:	93.3%	82.0%	75.0%	60.7%
Pass/Fail	Pass	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	3474.9	35.2	49.1

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-F for the installed antennas. Maximum twist/sway at the elevation of the proposed equipment is 0.000/1.1305 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-F Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.
4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.
5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.
6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed or/and ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Stress 93.3% at 109.9ft

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69

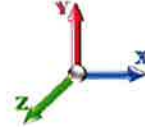
7/20/2015



Page: 1

Dead Load Factor: 1.00
Wind Load Factor: 1.00

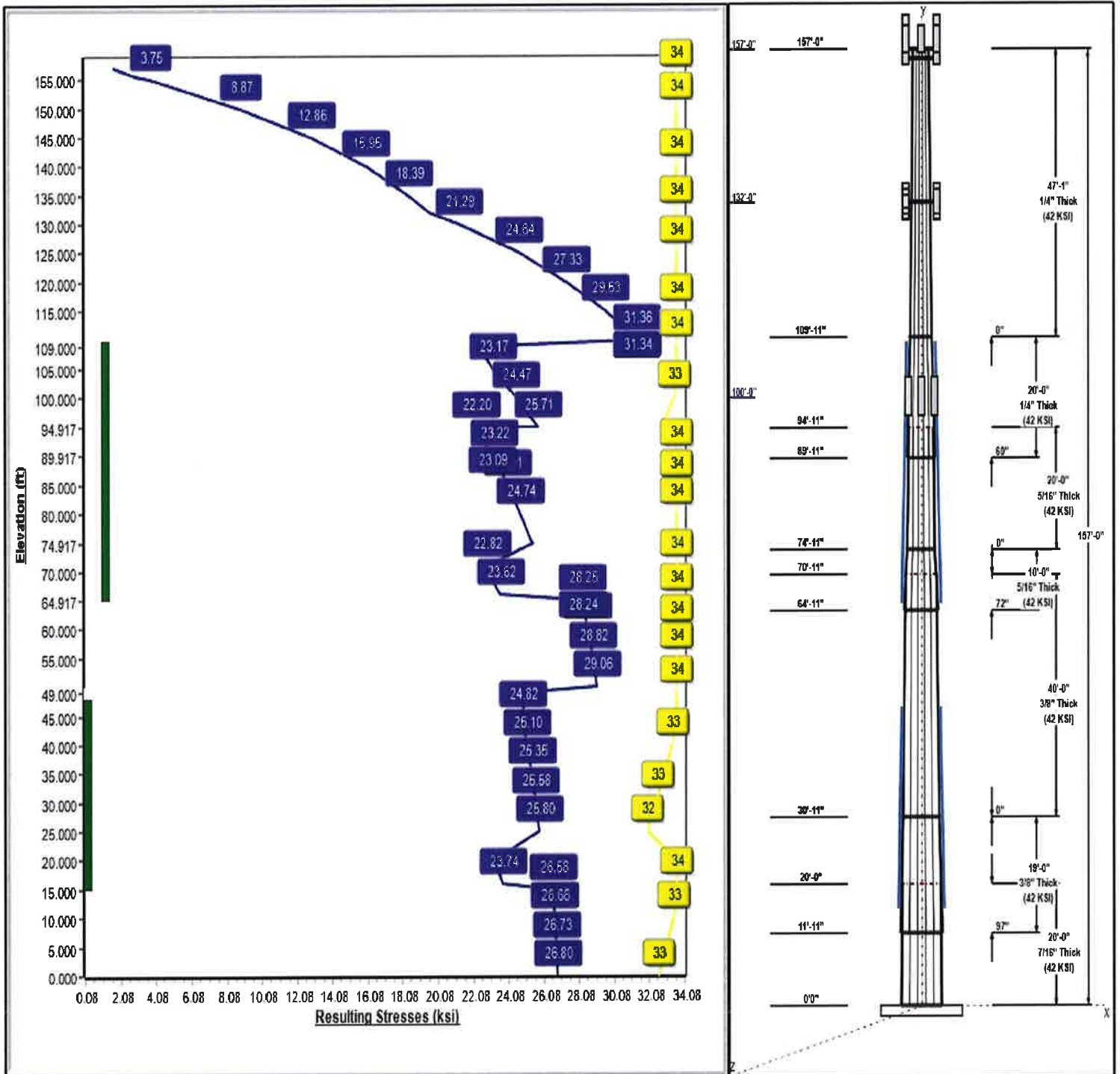
Load Case : 85 mph Wind with 0 in Ice



Iterations: 22

34 Allowable Stress
31 Resulting Stress

Copyright © 2015 by Tower Engineering Solutions, LLC. All rights reserved.



Structure: CT00252-S-SBA

Type: Tapered
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.33161

7/20/2015

Page: 2



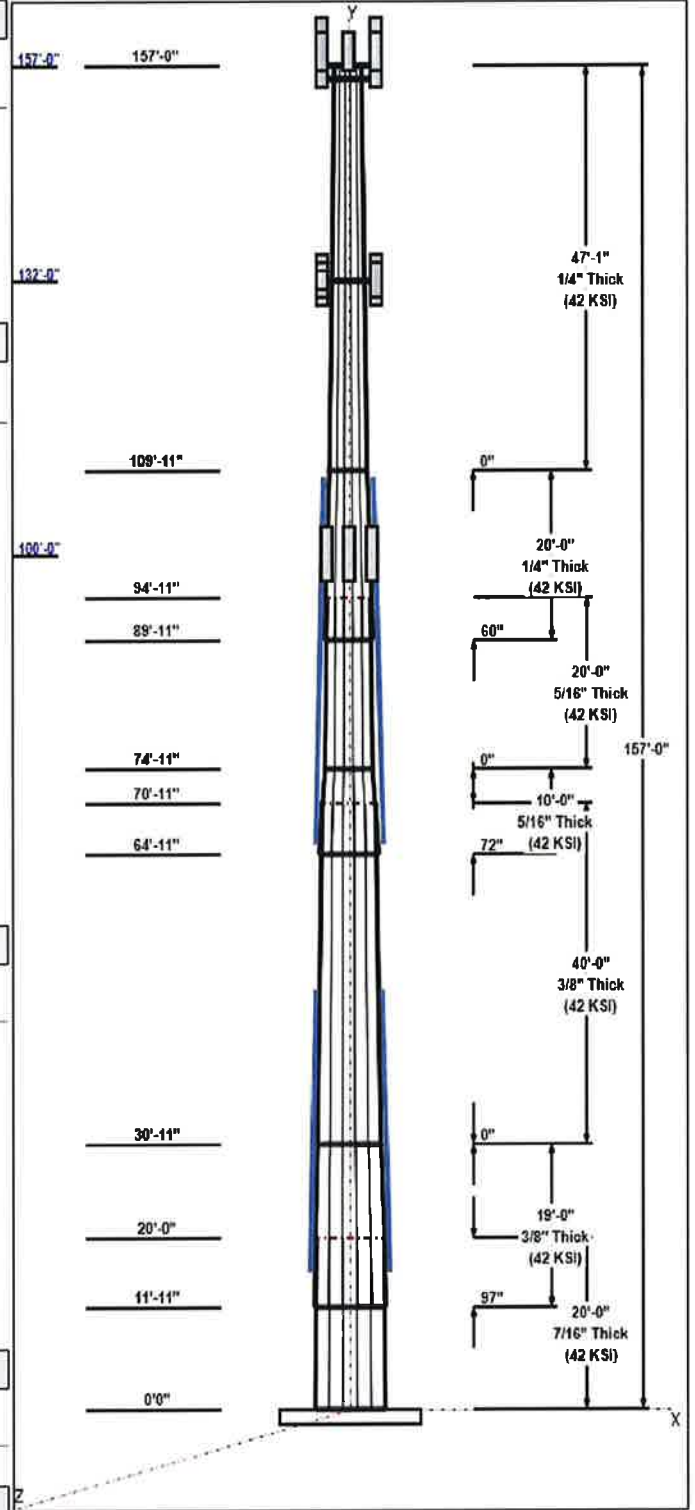
Shaft Properties							
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	20.00	61.56	68.19	0.438		0.33161	42
2	19.00	58.69	64.99	0.375	Slip	0.33161	42
3	40.00	45.42	58.69	0.375	Butt	0.33161	42
4	10.00	44.72	48.04	0.313	Slip	0.33161	42
5	20.00	38.09	44.72	0.313	Butt	0.33161	42
6	20.00	33.61	40.25	0.250	Slip	0.33161	42
7	47.08	18.00	33.61	0.250	Butt	0.33161	42

Discrete Appurtenances				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
157.00	157.00	1	16' LP Platform	AT&T
157.00	158.50	6	Andrew - SBNH-1D6565C	AT&T
157.00	158.50	3	CCI -	AT&T
157.00	158.50	6	Kathrein - 800 10025	AT&T
157.00	158.50	3	Kathrein - 800 10121	AT&T
157.00	160.50	1	Lightning Rod	
157.00	158.50	6	Powerwave - LGP 13519	AT&T
155.50	155.50	6	Andrew - RRUS 11	AT&T
155.50	155.50	1	Raycap -	AT&T
155.50	155.50	1	Valmont Ring Mount MINT	AT&T
132.00	132.00	1	14' LP Platform	Verizon
132.00	132.00	3	ALU - RRH2x60-700	Verizon
132.00	132.00	3	ALU - RRH2x60-PCS	Verizon
132.00	132.00	6	Commscope -	Verizon
132.00	132.00	6	Decibel - DB844G65ZAXY	Verizon
132.00	132.00	1	RFS - DB-T1-6Z-8AB-0Z	Verizon
100.00	100.00	3	Kathrein - 742 213	T-Mobile

Linear Appurtenances				
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	157.00	Inside	1 1/4" Coax	AT&T
0.00	157.00	Inside	1/2" Coax	AT&T
0.00	157.00	Inside	10mm Fiber	AT&T
0.00	157.00	Inside	3/4" DC	AT&T
0.00	157.00	Inside	Safety Cable	
0.00	157.00	Inside	Step bolts (ladder)	
0.00	132.00	Inside	1 5/8" Coax	Verizon
0.00	132.00	Inside	1 5/8" Fiber	Verizon
65.00	110.00	Outside	1" Reinforcing plate	
0.00	100.00	Inside	1 5/8" Coax	T-Mobile
15.00	50.00	Outside	1" Reinforcing plate	

Anchor Bolts			
Qty	Specifications	Grade (ksi)	Arrangement
18	2.00" F1554 105	81.0	Radial

Base Plate			
Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
1.7500	56.0	36.0	Round



Type: Tapered
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.33161

7/20/2015

Page: 3



Reactions

Load Case	Moment	Shear	Axial
85 mph Wind with 0" Ice	3474.9	35.2	42.3
73.61 mph Wind with 0.5" Ice	2802.6	27.9	49.1
50 mph Wind with 0" Ice	1202.8	12.2	42.4

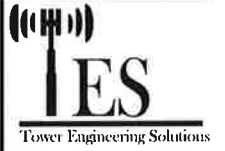
Shaft Properties

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 4



Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	20.000	0.4375	42		0.00	6,177
2	12	19.000	0.3750	42	Slip	97.00	4,798
3	12	40.000	0.3750	42	Flange	0.00	8,494
4	12	10.000	0.3125	42	Slip	72.00	1,577
5	12	20.000	0.3125	42	Flange	0.00	2,814
6	12	20.000	0.2500	42	Slip	60.00	2,009
7	12	47.083	0.2500	42	Flange	0.00	3,296
Total Shaft Weight:							29,166

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	68.19	0.00	95.44	55917.50	39.61	155.8	61.56	20.00	86.10	41051.0	35.55	140.6	0.331608
2	64.99	11.92	78.02	41570.87	44.29	173.2	58.69	30.92	70.41	30556.8	39.78	156.4	0.331608
3	58.69	30.92	70.41	30556.84	39.78	156.4	45.42	70.92	54.39	14087.7	30.31	121.1	0.331608
4	48.04	64.92	48.02	13959.75	39.04	153.7	44.72	74.92	44.68	11247.2	36.20	143.1	0.331608
5	44.72	74.92	44.68	11247.25	36.20	143.1	38.09	94.92	38.01	6923.09	30.51	121.8	0.331608
6	40.25	89.92	32.20	6573.73	40.99	160.9	33.61	109.9	26.86	3815.80	33.88	134.4	0.331608
7	33.61	109.9	26.86	3815.80	33.88	134.4	18.00	157.0	14.29	574.61	17.14	72.00	0.331608

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Fu (ksi)	Offset (in)	Intermediate Connectors		Termination Connectors			
							Spacing (in)	Description	Spacing (in)	Lower Qty	Upper Qty	
16.00	49.00	3	PLT C6x10.5(1.5" Hole)	65	80	0.86	5/8" Holo Bolt	24.00	5/8" Holo Bolt			
66.00	109.0	3	PLT C6x10.5(1.5" Hole)	65	80	0.86	5/8" Holo Bolt	24.00	5/8" Holo Bolt			

Loading Summary

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 5



Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	157.0	16' LP Platform	1	1800.00	28.79	1.00	2160.00	31.26	1.00	0.00	0.00
2	157.0	Andrew - SBNH-1D6565C	6	66.10	11.44	0.80	132.00	12.37	0.80	0.00	1.50
3	157.0	CCI - DTMABP7819VG12A	3	19.20	1.14	0.67	26.50	1.360	0.67	0.00	1.50
4	157.0	Kathrein - 800 10025	6	0.70	0.00	0.67	0.00	0.000	0.67	0.00	1.50
5	157.0	Kathrein - 800 10121	3	46.30	5.45	0.79	79.20	6.090	0.79	0.00	1.50
6	157.0	Lightning Rod	1	35.00	1.05	1.00	44.00	1.730	1.00	0.00	3.50
7	157.0	Powerwave - LGP 13519	6	5.30	0.34	0.92	8.00	0.470	0.92	0.00	1.50
8	155.5	Andrew - RRUS 11	6	50.70	2.94	0.76	66.00	3.140	0.76	0.00	0.00
9	155.5	Raycap - DC6-48-60-18-8-F	1	31.80	1.47	1.00	49.50	1.670	1.00	0.00	0.00
10	155.5	Valmont Ring Mount MINT	1	1400.00	24.00	1.00	2500.00	26.20	1.00	0.00	0.00
11	132.0	14' LP Platform	1	1500.00	25.00	1.00	1800.00	28.60	1.00	0.00	0.00
12	132.0	ALU - RRH2x60-700	3	60.00	3.96	0.76	80.10	4.230	0.76	0.00	0.00
13	132.0	ALU - RRH2x60-PCS	3	55.00	1.76	0.90	60.40	1.930	0.90	0.00	0.00
14	132.0	Commscope - SBNHH-1D65B	6	50.71	8.40	0.83	86.60	8.870	0.83	0.00	0.00
15	132.0	Decibel - DB844G65ZAXY	6	16.00	3.73	0.86	0.00	4.290	0.86	0.00	0.00
16	132.0	RFS - DB-T1-6Z-8AB-OZ ODU	1	44.00	4.29	0.62	62.10	4.710	0.62	0.00	0.00
17	100.0	Kathrein - 742 213	3	22.00	5.14	0.72	0.00	5.850	0.72	0.00	0.00
Totals:			57	6,555.36			9,109.80				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	No Ice		Ice		Exposed
			Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
0.00	157.0	(12) 1 1/4" Coax	7.92	0.00	0.00	0.00	Inside
0.00	157.0	(7) 1/2" Coax	1.12	0.00	0.00	0.00	Inside
0.00	157.0	(1) 10mm Fiber	0.06	0.00	0.00	0.00	Inside
0.00	157.0	(2) 3/4" DC	0.80	0.00	0.00	0.00	Inside
0.00	157.0	(1) Safety Cable	0.27	0.00	0.00	0.00	Inside
0.00	157.0	(1) Step bolts (ladder)	1.04	0.00	0.00	0.00	Inside
0.00	132.0	(12) 1 5/8" Coax	12.48	0.00	0.00	0.00	Inside
0.00	132.0	(1) 1 5/8" Fiber	1.10	0.00	0.00	0.00	Inside
65.00	110.0	(3) 1" Reinforcing plate	0.00	0.33	0.00	0.42	Outside
0.00	100.0	(6) 1 5/8" Coax	6.24	0.00	0.00	0.00	Inside
15.00	50.00	(3) 1" Reinforcing plate	0.00	0.33	0.00	0.42	Outside
Totals:			4,177.00		0.00		

Shaft Section Properties

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 6



Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)	Additional Reinforcing			
											Area (in ²)	Ixp (in ⁴)	Iyp (in ⁴)	Weight (lb)
0.00		0.4375	68.188	95.443	55917.5	39.62	155.86	42	33	0.0	0.00	0.0	0.0	0.0
5.00		0.4375	66.529	93.107	51911.8	38.60	152.07	42	33	1604.0				
10.00		0.4375	64.871	90.771	48102.0	37.59	148.28	42	33	1564.2				
11.92	Bot - Section 2	0.4375	64.236	89.876	46692.6	37.20	146.82	42	34	589.1				
15.00		0.4375	63.213	88.436	44483.4	36.57	144.49	42	34	1747.5				
16.00	RB1	0.4375	62.882	87.968	43782.2	36.37	143.73	42	34	560.7	9.24	5233.9	5233.9	31.5
20.00	Top - Section 1	0.3750	62.305	74.781	36608.6	42.38	166.15	42	34	2213.4	9.24	5029.7	5029.7	126.0
25.00		0.3750	60.647	72.779	33746.3	41.19	161.73	42	32	1255.3	9.24	4780.2	4780.2	157.5
30.00		0.3750	58.989	70.777	31037.2	40.01	157.30	42	32	1221.2	9.24	4537.1	4537.1	157.5
30.92	Top - Section 2	0.0000	0.000	0.000	0.0	NAN	NAN	0	0	220.2	9.24	4493.2	4493.2	28.9
30.92	Bot - Section 3	0.3750	58.685	70.410	30556.8	39.79	156.49	42	33					
35.00		0.3750	57.331	68.775	28477.1	38.82	152.88	42	33	967.0	9.24	4300.2	4300.2	128.6
40.00		0.3750	55.673	66.773	26061.9	37.64	148.46	42	33	1153.1	9.24	4069.8	4069.8	157.5
45.00		0.3750	54.015	64.770	23787.2	36.45	144.04	42	34	1119.0	9.24	3845.7	3845.7	157.5
49.00	RT1	0.3750	52.689	63.169	22065.8	35.50	140.50	42	34	870.7	9.24	3671.0	3671.0	126.0
50.00		0.3750	52.357	62.768	21648.8	35.27	139.62	42	34	214.3				
55.00		0.3750	50.699	60.766	19642.6	34.08	135.20	42	34	1050.9				
60.00		0.3750	49.041	58.764	17764.4	32.90	130.78	42	34	1016.8				
64.92	Bot - Section 4	0.3750	47.411	56.795	16038.1	31.73	126.43	42	34	966.7				
65.00		0.3750	47.383	56.762	16009.9	31.71	126.35	42	34	29.7				
66.00	RB2	0.3750	47.051	56.362	15673.4	31.48	125.47	42	34	355.2	9.24	3047.4	3047.4	31.5
70.00		0.3750	45.725	54.760	14374.8	30.53	121.93	42	34	1395.9	9.24	2892.1	2892.1	126.0
70.92	Top - Section 3	0.3125	46.046	46.019	12285.5	37.34	147.35	42	34	314.3	9.24	2857.1	2857.1	28.9
74.92	Top - Section 4	0.0000	0.000	0.000	0.0	NAN	NAN	0	0	617.3	9.24	2706.8	2706.8	126.0
74.92	Bot - Section 5	0.3125	44.720	44.685	11247.3	36.20	143.10	42	34					
75.00		0.3125	44.692	44.657	11226.3	36.18	143.01	42	34	12.7	9.24	2703.7	2703.7	2.6
80.00		0.3125	43.034	42.988	10014.4	34.76	137.71	42	34	745.6	9.24	2521.7	2521.7	157.5
85.00		0.3125	41.376	41.320	8893.1	33.33	132.40	42	34	717.2	9.24	2346.0	2346.0	157.5
89.92	Bot - Section 6	0.3125	39.745	39.679	7875.3	31.94	127.19	42	34	677.6	9.24	2179.4	2179.4	154.9
90.00		0.3125	39.718	39.652	7858.8	31.91	127.10	42	34	20.4	9.24	2227.0	2227.0	2.6
94.92	Top - Section 5	0.2500	38.587	30.862	5789.6	39.21	154.35	42	34	1177.0	9.24	2064.8	2064.8	154.9
95.00		0.2500	38.560	30.839	5777.1	39.18	154.24	42	33	8.7	9.24	2062.1	2062.1	2.6
100.00		0.2500	36.902	29.505	5059.0	37.41	147.61	42	33	513.3	9.24	1903.5	1903.5	157.5
105.00		0.2500	35.244	28.170	4403.0	35.63	140.97	42	34	490.6	9.24	1751.3	1751.3	157.5
109.00	RT2	0.2500	33.917	27.102	3921.1	34.21	135.67	42	34	376.2	9.24	1634.1	1634.1	126.0
109.92	Top - Section 6	0.0000	0.000	0.000	0.0	NAN	NAN	0	0	84.2				
109.92	Bot - Section 7	0.2500	33.613	26.857	3815.8	33.88	134.45	42	34					
110.00		0.2500	33.586	26.835	3806.3	33.85	134.34	42	34	7.6				
115.00		0.2500	31.928	25.500	3266.2	32.08	127.71	42	34	445.2				
120.00		0.2500	30.270	24.166	2779.7	30.30	121.08	42	34	422.5				
125.00		0.2500	28.611	22.831	2344.1	28.52	114.45	42	34	399.8				
130.00		0.2500	26.953	21.496	1956.5	26.74	107.81	42	34	377.1				
132.00		0.2500	26.290	20.962	1814.3	26.03	105.16	42	34	144.5				
135.00		0.2500	25.295	20.162	1614.2	24.97	101.18	42	34	209.9				
140.00		0.2500	23.637	18.827	1314.4	23.19	94.55	42	34	331.7				
145.00		0.2500	21.979	17.492	1054.2	21.41	87.92	42	34	309.0				
150.00		0.2500	20.321	16.157	830.8	19.64	81.29	42	34	286.3				
155.00		0.2500	18.663	14.823	641.5	17.86	74.65	42	34	263.5				
155.50		0.2500	18.497	14.689	624.3	17.68	73.99	42	34	25.1				
157.00		0.2500	18.000	14.289	574.6	17.15	72.00	42	34	74.0				
Total Weight										29165.9				
											2457.0			

Wind Loading - Shaft

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

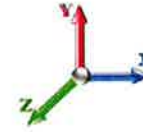
7/20/2015

Page: 7



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 22

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	18.496	31.26	482.99	1.030	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	18.496	31.26	471.25	1.030	0.000	5.00	28.066	28.91	903.6	0.0	1604.0
10.00		0.00	1.00	18.496	31.26	459.51	1.030	0.000	5.00	27.375	28.20	881.4	0.0	1564.2
11.92	Bot - Section 2	0.00	1.00	18.496	31.26	455.00	1.030	0.000	1.92	10.311	10.62	332.0	0.0	589.1
15.00		0.00	1.00	18.496	31.26	447.76	1.030	0.000	3.08	16.566	17.06	533.4	0.0	1747.5
16.00	RB1	0.00	1.00	18.496	31.26	445.41	1.030	0.000	1.00	5.316	5.48	171.2	0.0	623.7
20.00	Top - Section 1	0.00	1.00	18.496	31.26	436.02	1.030	0.000	4.00	20.990	21.62	675.8	0.0	2465.4
25.00		0.00	1.00	18.496	31.26	429.58	1.030	0.000	5.00	25.615	26.38	824.7	0.0	1570.3
30.00		0.00	1.00	18.496	31.26	417.84	1.030	0.000	5.00	24.924	25.67	802.5	0.0	1536.2
30.92	Top - Section 2	0.00	1.00	18.496	31.26	415.69	1.030	0.000	0.92	4.495	4.63	144.7	0.0	277.9
35.00		0.00	1.02	18.810	31.79	409.52	1.030	0.000	4.08	19.739	20.33	646.3	0.0	1224.2
40.00		0.00	1.06	19.541	33.02	405.34	1.030	0.000	5.00	23.543	24.25	800.8	0.0	1468.1
45.00		0.00	1.09	20.210	34.15	399.94	1.030	0.000	5.00	22.852	23.54	803.9	0.0	1434.0
49.00	RT1	0.00	1.12	20.708	35.00	394.89	1.030	0.000	4.00	17.784	18.32	641.0	0.0	1122.7
50.00		0.00	1.13	20.827	35.20	393.54	1.030	0.000	1.00	4.377	4.51	158.7	0.0	214.3
55.00		0.00	1.16	21.402	36.17	386.30	1.030	0.000	5.00	21.470	22.11	799.9	0.0	1050.9
60.00		0.00	1.19	21.941	37.08	378.35	1.030	0.000	5.00	20.779	21.40	793.6	0.0	1016.8
64.92	Bot - Section 4	0.00	1.21	22.441	37.92	369.91	1.030	0.000	4.92	19.759	20.35	771.8	0.0	966.7
65.00		0.00	1.21	22.449	37.94	369.76	1.030	0.000	0.08	0.333	0.34	13.0	0.0	29.7
66.00	RB2	0.00	1.22	22.547	38.10	367.97	1.030	0.000	1.00	3.987	4.11	156.5	0.0	418.2
70.00		0.00	1.24	22.929	38.75	360.62	1.030	0.000	4.00	15.671	16.14	625.5	0.0	1647.9
70.92	Top - Section 3	0.00	1.24	23.015	38.89	358.89	1.030	0.000	0.92	3.529	3.63	141.4	0.0	372.0
74.92	Top - Section 4	0.00	1.26	23.378	39.51	356.12	1.030	0.000	4.00	15.128	15.58	615.6	0.0	869.3
75.00		0.00	1.26	23.386	39.52	355.96	1.030	0.000	0.08	0.310	0.32	12.6	0.0	17.9
80.00		0.00	1.29	23.821	40.26	345.93	1.030	0.000	5.00	18.276	18.82	757.8	0.0	1060.6
85.00		0.00	1.31	24.237	40.96	335.49	1.030	0.000	5.00	17.585	18.11	741.9	0.0	1032.2
89.92	Bot - Section 6	0.00	1.33	24.630	41.62	324.87	1.030	0.000	4.92	16.619	17.12	712.5	0.0	987.3
90.00		0.00	1.33	24.636	41.63	324.69	1.030	0.000	0.08	0.279	0.29	12.0	0.0	25.6
94.92	Top - Section 5	0.00	1.35	25.013	42.27	313.74	1.030	0.000	4.92	16.144	16.63	702.9	0.0	1486.7
95.00		0.00	1.35	25.020	42.28	317.67	1.030	0.000	0.08	0.268	0.28	11.7	0.0	14.0
100.00	Appurtenance(s)	0.00	1.37	25.389	42.91	306.24	1.030	0.000	5.00	15.721	16.19	694.8	0.0	828.3
105.00		0.00	1.39	25.745	43.51	294.53	1.030	0.000	5.00	15.030	15.48	673.6	0.0	805.6
109.00	RT2	0.00	1.41	26.022	43.98	284.96	1.030	0.000	4.00	11.527	11.87	522.1	0.0	628.2
109.92	Top - Section 6	0.00	1.41	26.084	44.08	282.75	1.030	0.000	0.92	2.579	2.66	117.1	0.0	84.2
110.00		0.00	1.41	26.090	44.09	282.54	1.030	0.000	0.08	0.233	0.24	10.6	0.0	7.6
115.00		0.00	1.43	26.423	44.66	270.31	1.030	0.000	5.00	13.649	14.06	627.8	0.0	445.2
120.00		0.00	1.45	26.747	45.20	257.83	1.030	0.000	5.00	12.958	13.35	603.3	0.0	422.5
125.00		0.00	1.46	27.060	45.73	245.14	1.030	0.000	5.00	12.267	12.63	577.8	0.0	399.8
130.00		0.00	1.48	27.365	46.25	232.23	1.030	0.000	5.00	11.576	11.92	551.4	0.0	377.1
132.00	Appurtenance(s)	0.00	1.49	27.485	46.45	227.01	1.030	0.000	2.00	4.437	4.57	212.3	0.0	144.5
135.00		0.00	1.50	27.662	46.75	219.12	1.030	0.000	3.00	6.448	6.64	310.5	0.0	209.9
140.00		0.00	1.51	27.951	47.24	205.82	1.030	0.000	5.00	10.194	10.50	496.0	0.0	331.7
145.00		0.00	1.53	28.233	47.71	192.35	1.030	0.000	5.00	9.503	9.79	467.0	0.0	309.0
150.00		0.00	1.54	28.507	48.18	178.70	1.030	0.000	5.00	8.813	9.08	437.3	0.0	286.3
155.00		0.00	1.56	28.776	48.63	164.89	1.030	0.000	5.00	8.122	8.37	406.8	0.0	263.5
155.50	Appurtenance(s)	0.00	1.56	28.802	48.68	163.50	1.030	0.000	0.50	0.774	0.80	38.8	0.0	25.1
157.00	Appurtenance(s)	0.00	1.56	28.881	48.81	159.32	1.030	0.000	1.50	2.281	2.35	114.7	0.0	74.0
Totals:									157.00			22,050.5		34,079.9

Discrete Appurtenance Forces

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

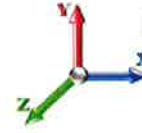


Page: 8

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations: 22

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	157.00	Powerwave - LGP 13519	6	28.960	48.942	0.92	1.88	31.80	0.000	1.500	91.85	0.00	137.78
2	157.00	Lightning Rod	1	29.064	49.118	1.00	1.05	35.00	0.000	3.500	51.57	0.00	180.51
3	157.00	Kathrein - 800 10121	3	28.960	48.942	0.79	12.92	138.90	0.000	1.500	632.16	0.00	948.24
4	157.00	Kathrein - 800 10025	6	28.960	48.942	0.67	0.00	4.20	0.000	1.500	0.00	0.00	0.00
5	157.00	CCI - DTMABP7819VG12A	3	28.960	48.942	0.67	2.29	57.60	0.000	1.500	112.15	0.00	168.22
6	157.00	Andrew - SBNH-1D6565C	6	28.960	48.942	0.80	54.91	396.60	0.000	1.500	2687.51	0.00	4031.27
7	157.00	16' LP Platform	1	28.881	48.809	1.00	28.79	1800.00	0.000	0.000	1405.22	0.00	0.00
8	155.50	Valmont Ring Mount MINT	1	28.802	48.676	1.00	24.00	1400.00	0.000	0.000	1168.22	0.00	0.00
9	155.50	Raycap - DC6-48-60-18-8-F	1	28.802	48.676	1.00	1.47	31.80	0.000	0.000	71.55	0.00	0.00
10	155.50	Andrew - RRUS 11	6	28.802	48.676	0.76	13.41	304.20	0.000	0.000	652.57	0.00	0.00
11	132.00	RFS - DB-T1-6Z-8AB-0Z	1	27.485	46.450	0.62	2.66	44.00	0.000	0.000	123.55	0.00	0.00
12	132.00	Decibel - DB844G65ZAXY	6	27.485	46.450	0.86	19.25	96.00	0.000	0.000	894.01	0.00	0.00
13	132.00	Commscope -	6	27.485	46.450	0.83	41.83	304.26	0.000	0.000	1943.08	0.00	0.00
14	132.00	ALU - RRH2x60-PCS	3	27.485	46.450	0.90	4.75	165.00	0.000	0.000	220.73	0.00	0.00
15	132.00	ALU - RRH2x60-700	3	27.485	46.450	0.76	9.03	180.00	0.000	0.000	419.38	0.00	0.00
16	132.00	14' LP Platform	1	27.485	46.450	1.00	25.00	1500.00	0.000	0.000	1161.24	0.00	0.00
17	100.00	Kathrein - 742 213	3	25.389	42.907	0.72	11.10	66.00	0.000	0.000	476.37	0.00	0.00
Totals:								6,555.36			12,111.16		

Total Applied Force Summary

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

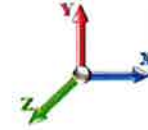
7/20/2015

Page: 9



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 22

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		903.61	1759.15	0.00	0.00
10.00		881.37	1719.41	0.00	0.00
11.92		331.96	648.57	0.00	0.00
15.00		533.37	1843.17	0.00	0.00
16.00		181.48	623.26	0.00	0.00
20.00		717.04	2463.51	0.00	0.00
25.00		876.28	1567.95	0.00	0.00
30.00		854.04	1533.88	0.00	0.00
30.92		154.16	277.52	0.00	0.00
35.00		689.12	1222.30	0.00	0.00
40.00		855.29	1465.76	0.00	0.00
45.00		860.26	1431.69	0.00	0.00
49.00		687.23	1120.83	0.00	0.00
50.00		170.30	245.30	0.00	0.00
55.00		799.87	1206.07	0.00	0.00
60.00		793.62	1172.00	0.00	0.00
64.92		771.84	1119.25	0.00	0.00
65.00		13.03	32.30	0.00	0.00
66.00		169.05	417.74	0.00	0.00
70.00		676.62	1646.00	0.00	0.00
70.92		153.14	371.58	0.00	0.00
74.92		667.76	867.42	0.00	0.00
75.00		13.72	17.88	0.00	0.00
80.00		824.24	1058.26	0.00	0.00
85.00		809.50	1029.87	0.00	0.00
89.92		780.02	985.03	0.00	0.00
90.00		13.13	25.59	0.00	0.00
94.92		771.51	1484.42	0.00	0.00
95.00		12.83	13.96	0.00	0.00
100.00	(3) appurtenances	1241.96	892.01	0.00	0.00
105.00		745.37	772.10	0.00	0.00
109.00		580.17	601.33	0.00	0.00
109.92		130.45	106.88	0.00	0.00
110.00		11.81	9.68	0.00	0.00
115.00		627.77	569.18	0.00	0.00
120.00		603.28	546.47	0.00	0.00
125.00		577.82	523.76	0.00	0.00
130.00		551.42	501.05	0.00	0.00
132.00	(20) appurtenances	4974.26	2483.32	0.00	0.00
135.00		310.49	243.54	0.00	0.00
140.00		496.00	387.74	0.00	0.00
145.00		467.04	365.03	0.00	0.00
150.00		437.31	342.32	0.00	0.00
155.00		406.82	319.61	0.00	0.00
155.50	(8) appurtenances	1931.15	1766.71	0.00	0.00
157.00	(26) appurtenances	<u>5095.15</u>	<u>2554.87</u>	<u>0.00</u>	<u>5466.02</u>
	Totals:	35,153.68	42,355.28	0.00	5,466.02

Resulting Forces and Deflections

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

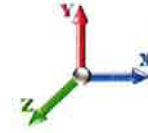
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015
 Page: 10



Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 22

Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-35.187	-42.328	0.000	0.000	0.000	-3474.8	0.000	0.000	0.000	0.000	0.000
5.00	-34.343	-40.517	0.000	0.000	0.000	-3298.9	-0.047	0.000	0.047	-0.086	0.000
10.00	-33.499	-38.764	0.000	0.000	0.000	-3127.2	-0.185	0.000	0.185	-0.174	0.000
11.92	-33.196	-38.090	0.000	0.000	0.000	-3063.0	-0.263	0.000	0.263	-0.209	0.000
15.00	-32.678	-36.228	0.000	0.000	0.000	-2960.6	-0.417	0.000	0.417	-0.266	0.000
16.00	-32.520	-35.581	0.000	0.000	0.000	-2927.9	-0.475	0.000	0.475	-0.285	0.000
20.00	-31.833	-33.080	0.000	0.000	0.000	-2797.9	-0.743	0.000	0.743	-0.351	0.000
25.00	-30.995	-31.469	0.000	0.000	0.000	-2638.7	-1.156	0.000	1.156	-0.435	0.000
30.00	-30.158	-29.913	0.000	0.000	0.000	-2483.7	-1.664	0.000	1.664	-0.530	0.000
30.92	-30.026	-29.612	0.000	0.000	0.000	-2456.1	-1.767	0.000	1.767	-0.548	0.000
35.00	-29.369	-28.351	0.000	0.000	0.000	-2333.5	-2.271	0.000	2.271	-0.627	0.000
40.00	-28.542	-26.846	0.000	0.000	0.000	-2186.6	-2.982	0.000	2.982	-0.725	0.000
45.00	-27.703	-25.382	0.000	0.000	0.000	-2043.9	-3.795	0.000	3.795	-0.825	0.000
49.00	-27.021	-24.248	0.000	0.000	0.000	-1933.1	-4.522	0.000	4.522	-0.907	0.000
50.00	-26.876	-23.972	0.000	0.000	0.000	-1906.1	-4.715	0.000	4.715	-0.928	0.000
55.00	-26.104	-22.724	0.000	0.000	0.000	-1771.7	-5.753	0.000	5.753	-1.049	0.000
60.00	-25.335	-21.513	0.000	0.000	0.000	-1641.2	-6.918	0.000	6.918	-1.173	0.000
64.92	-24.561	-20.384	0.000	0.000	0.000	-1516.6	-8.193	0.000	8.193	-1.297	0.000
65.00	-24.553	-20.346	0.000	0.000	0.000	-1514.6	-8.215	0.000	8.215	-1.299	0.000
66.00	-24.394	-19.907	0.000	0.000	0.000	-1490.0	-8.490	0.000	8.490	-1.326	0.000
70.00	-23.695	-18.256	0.000	0.000	0.000	-1392.5	-9.639	0.000	9.639	-1.414	0.000
70.92	-23.550	-17.865	0.000	0.000	0.000	-1370.7	-9.913	0.000	9.913	-1.434	0.000
74.92	-22.874	-16.997	0.000	0.000	0.000	-1276.5	-11.153	0.000	11.153	-1.523	0.000
75.00	-22.879	-16.954	0.000	0.000	0.000	-1274.6	-11.180	0.000	11.180	-1.525	0.000
80.00	-22.060	-15.871	0.000	0.000	0.000	-1160.2	-12.845	0.000	12.845	-1.650	0.000
85.00	-21.252	-14.820	0.000	0.000	0.000	-1049.9	-14.641	0.000	14.641	-1.775	0.000
89.92	-20.456	-13.838	0.000	0.000	0.000	-945.49	-16.535	0.000	16.535	-1.899	0.000
90.00	-20.458	-13.790	0.000	0.000	0.000	-943.79	-16.569	0.000	16.569	-1.902	0.000
94.92	-19.649	-12.312	0.000	0.000	0.000	-843.21	-18.593	0.000	18.593	-2.026	0.000
95.00	-19.652	-12.273	0.000	0.000	0.000	-841.57	-18.628	0.000	18.628	-2.028	0.000
100.00	-18.406	-11.381	0.000	0.000	0.000	-743.31	-20.830	0.000	20.830	-2.172	0.000
105.00	-17.655	-10.599	0.000	0.000	0.000	-651.28	-23.182	0.000	23.182	-2.314	0.000
109.00	-17.062	-10.002	0.000	0.000	0.000	-580.66	-25.170	0.000	25.170	-2.428	0.000
109.92	-16.930	-9.896	0.000	0.000	0.000	-565.02	-25.639	0.000	25.639	-2.455	0.000
110.00	-16.936	-9.857	0.000	0.000	0.000	-563.61	-25.682	0.000	25.682	-2.458	0.000
115.00	-16.314	-9.261	0.000	0.000	0.000	-478.93	-28.363	0.000	28.363	-2.653	0.000
120.00	-15.714	-8.693	0.000	0.000	0.000	-397.36	-31.245	0.000	31.245	-2.844	0.000
125.00	-15.135	-8.153	0.000	0.000	0.000	-318.79	-34.324	0.000	34.324	-3.027	0.000
130.00	-14.573	-7.653	0.000	0.000	0.000	-243.12	-37.589	0.000	37.589	-3.198	0.000
132.00	-9.474	-5.441	0.000	0.000	0.000	-213.97	-38.943	0.000	38.943	-3.264	0.000
135.00	-9.161	-5.197	0.000	0.000	0.000	-185.55	-41.024	0.000	41.024	-3.358	0.000
140.00	-8.654	-4.819	0.000	0.000	0.000	-139.74	-44.619	0.000	44.619	-3.501	0.000
145.00	-8.175	-4.467	0.000	0.000	0.000	-96.477	-48.356	0.000	48.356	-3.629	0.000
150.00	-7.722	-4.142	0.000	0.000	0.000	-55.605	-52.214	0.000	52.214	-3.732	0.000
155.00	-7.297	-3.847	0.000	0.000	0.000	-16.994	-56.160	0.000	56.160	-3.794	0.000
155.50	-5.253	-2.211	0.000	0.000	0.000	-13.346	-56.557	0.000	56.557	-3.797	0.000
157.00	-5.095	0.000	0.000	0.000	0.000	-5.466	0.000	0.000	57.751	-3.804	0.000

Resulting Stresses

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015



Page: 11

Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 22

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.44	0.75	0.00	0.00	0.00	26.32	26.80	32.6	0.822
5.00	0.44	0.75	0.00	0.00	0.00	26.26	26.73	33.0	0.810
10.00	0.43	0.75	0.00	0.00	0.00	26.20	26.66	33.4	0.798
11.92	0.42	0.75	0.00	0.00	0.00	26.18	26.63	33.6	0.793
15.00	0.41	0.75	0.00	0.00	0.00	26.13	26.58	33.6	0.791
16.00	0.40	0.75	0.00	0.00	0.00	23.33	23.74	33.6	0.706
20.00	0.44	0.86	0.00	0.00	0.00	23.22	23.22	33.6	0.691
25.00	0.43	0.87	0.00	0.00	0.00	25.80	25.80	31.9	0.808
30.00	0.42	0.87	0.00	0.00	0.00	25.58	25.58	32.4	0.789
30.92	0.42	0.87	0.00	0.00	0.00	25.54	25.54	32.5	0.786
35.00	0.41	0.87	0.00	0.00	0.00	25.35	25.35	32.9	0.770
40.00	0.40	0.87	0.00	0.00	0.00	25.10	25.10	33.4	0.752
45.00	0.39	0.87	0.00	0.00	0.00	24.82	24.82	33.6	0.739
49.00	0.38	0.87	0.00	0.00	0.00	24.58	24.97	33.6	0.743
50.00	0.38	0.87	0.00	0.00	0.00	28.64	29.06	33.6	0.865
55.00	0.37	0.87	0.00	0.00	0.00	28.41	28.82	33.6	0.858
60.00	0.37	0.88	0.00	0.00	0.00	28.14	28.55	33.6	0.850
64.92	0.36	0.88	0.00	0.00	0.00	27.85	28.25	33.6	0.841
65.00	0.36	0.88	0.00	0.00	0.00	27.85	28.24	33.6	0.841
66.00	0.35	0.88	0.00	0.00	0.00	23.26	23.62	33.6	0.703
70.00	0.33	0.88	0.00	0.00	0.00	22.91	22.91	33.6	0.682
70.92	0.39	1.04	0.00	0.00	0.00	22.82	22.82	33.6	0.679
74.92	0.38	1.04	0.00	0.00	0.00	25.41	25.41	33.6	0.756
75.00	0.38	1.04	0.00	0.00	0.00	25.40	25.40	33.6	0.756
80.00	0.37	1.04	0.00	0.00	0.00	24.74	24.74	33.6	0.736
85.00	0.36	1.05	0.00	0.00	0.00	24.01	24.01	33.6	0.715
89.92	0.35	1.05	0.00	0.00	0.00	23.22	23.22	33.6	0.691
90.00	0.35	1.05	0.00	0.00	0.00	23.09	23.09	33.6	0.687
94.92	0.40	1.29	0.00	0.00	0.00	22.20	22.20	33.6	0.661
95.00	0.40	1.29	0.00	0.00	0.00	25.71	25.71	32.8	0.785
100.00	0.39	1.27	0.00	0.00	0.00	24.47	24.47	33.5	0.731
105.00	0.38	1.27	0.00	0.00	0.00	23.17	23.17	33.6	0.690
109.00	0.37	1.28	0.00	0.00	0.00	22.02	22.39	33.6	0.666
109.92	0.37	1.28	0.00	0.00	0.00	30.92	31.36	33.6	0.933
109.92	0.37	1.28	0.00	0.00	0.00	30.92	31.36	33.6	0.933
110.00	0.37	1.28	0.00	0.00	0.00	30.89	31.34	33.6	0.933
115.00	0.36	1.30	0.00	0.00	0.00	29.08	29.53	33.6	0.879
120.00	0.36	1.32	0.00	0.00	0.00	26.88	27.33	33.6	0.814
125.00	0.36	1.35	0.00	0.00	0.00	24.17	24.64	33.6	0.733
130.00	0.36	1.38	0.00	0.00	0.00	20.80	21.29	33.6	0.634
132.00	0.26	0.92	0.00	0.00	0.00	19.26	19.58	33.6	0.583
135.00	0.26	0.92	0.00	0.00	0.00	18.06	18.39	33.6	0.547
140.00	0.26	0.93	0.00	0.00	0.00	15.61	15.95	33.6	0.475
145.00	0.26	0.95	0.00	0.00	0.00	12.49	12.86	33.6	0.383
150.00	0.26	0.97	0.00	0.00	0.00	8.45	8.87	33.6	0.264
155.00	0.26	1.00	0.00	0.00	0.00	3.07	3.75	33.6	0.112
155.50	0.15	0.73	0.00	0.00	0.00	2.46	2.89	33.6	0.086

Resulting Stresses

Structure: CT00252-S-SBA

Code: EIA/TIA-222-F

7/20/2015

Site Name: Prospect

Exposure: C

Height: 157.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 12



157.00	0.00	0.72	0.00	0.00	0.00	1.06	1.64	33.6	0.049
--------	------	------	------	------	------	------	------	------	-------

Wind Loading - Shaft

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

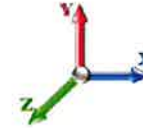
Page: 13



Load Case: 73.61 mph Wind with 0.5" Ice

Iterations: 21

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	13.871	23.44	418.27	1.030	0.500	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	13.871	23.44	408.10	1.030	0.500	5.00	28.483	29.34	687.7	209.8	1813.8
10.00		0.00	1.00	13.871	23.44	397.93	1.030	0.500	5.00	27.792	28.63	671.1	204.6	1768.9
11.92	Bot - Section 2	0.00	1.00	13.871	23.44	394.03	1.030	0.500	1.92	10.470	10.78	252.8	77.7	666.8
15.00		0.00	1.00	13.871	23.44	387.76	1.030	0.500	3.08	16.823	17.33	406.2	124.4	1871.9
16.00	RB1	0.00	1.00	13.871	23.44	385.73	1.030	0.500	1.00	5.400	5.56	130.4	40.2	663.9
20.00	Top - Section 1	0.00	1.00	13.871	23.44	377.59	1.030	0.500	4.00	21.323	21.96	514.9	157.3	2622.7
25.00		0.00	1.00	13.871	23.44	372.02	1.030	0.500	5.00	26.032	26.81	628.6	191.4	1761.7
30.00		0.00	1.00	13.871	23.44	361.85	1.030	0.500	5.00	25.341	26.10	611.9	186.2	1722.5
30.92	Top - Section 2	0.00	1.00	13.871	23.44	359.99	1.030	0.500	0.92	4.571	4.71	110.4	34.0	311.9
35.00		0.00	1.02	14.106	23.84	354.65	1.030	0.500	4.08	20.079	20.68	493.0	147.9	1372.1
40.00		0.00	1.06	14.655	24.77	351.02	1.030	0.500	5.00	23.959	24.68	611.2	175.9	1643.9
45.00		0.00	1.09	15.156	25.61	346.35	1.030	0.500	5.00	23.268	23.97	613.9	170.7	1604.7
49.00	RT1	0.00	1.12	15.530	26.25	341.98	1.030	0.500	4.00	18.117	18.66	489.8	133.2	1255.9
50.00		0.00	1.13	15.620	26.40	340.81	1.030	0.500	1.00	4.460	4.59	121.3	33.1	247.4
55.00		0.00	1.16	16.051	27.13	334.54	1.030	0.500	5.00	21.887	22.54	611.5	160.3	1211.2
60.00		0.00	1.19	16.455	27.81	327.65	1.030	0.500	5.00	21.196	21.83	607.1	155.1	1171.9
64.92	Bot - Section 4	0.00	1.21	16.829	28.44	320.34	1.030	0.500	4.92	20.169	20.77	590.8	147.5	1114.2
65.00		0.00	1.21	16.836	28.45	320.21	1.030	0.500	0.08	0.340	0.35	10.0	2.5	32.2
66.00	RB2	0.00	1.22	16.909	28.58	318.66	1.030	0.500	1.00	4.070	4.19	119.8	30.2	448.4
70.00		0.00	1.24	17.196	29.06	312.29	1.030	0.500	4.00	16.004	16.48	479.1	117.3	1765.2
70.92	Top - Section 3	0.00	1.24	17.260	29.17	310.79	1.030	0.500	0.92	3.605	3.71	108.3	26.7	398.7
74.92	Top - Section 4	0.00	1.26	17.533	29.63	308.40	1.030	0.500	4.00	15.461	15.92	471.9	113.2	982.5
75.00		0.00	1.26	17.538	29.64	308.26	1.030	0.500	0.08	0.317	0.33	9.7	2.4	20.3
80.00		0.00	1.29	17.865	30.19	299.57	1.030	0.500	5.00	18.693	19.25	581.3	136.3	1196.9
85.00		0.00	1.31	18.177	30.72	290.54	1.030	0.500	5.00	18.002	18.54	569.6	131.1	1163.3
89.92	Bot - Section 6	0.00	1.33	18.471	31.22	281.34	1.030	0.500	4.92	17.028	17.54	547.5	123.9	1111.2
90.00		0.00	1.33	18.476	31.22	281.18	1.030	0.500	0.08	0.286	0.29	9.2	2.1	27.7
94.92	Top - Section 5	0.00	1.35	18.759	31.70	271.70	1.030	0.500	4.92	16.554	17.05	540.5	120.3	1607.0
95.00		0.00	1.35	18.764	31.71	275.10	1.030	0.500	0.08	0.275	0.28	9.0	2.0	16.0
100.00	Appurtenance(s)	0.00	1.37	19.041	32.18	265.21	1.030	0.500	5.00	16.138	16.62	534.9	117.1	945.4
105.00		0.00	1.39	19.308	32.63	255.06	1.030	0.500	5.00	15.447	15.91	519.2	111.9	917.5
109.00	RT2	0.00	1.41	19.515	32.98	246.78	1.030	0.500	4.00	11.860	12.22	402.9	86.2	714.4
109.92	Top - Section 6	0.00	1.41	19.562	33.06	244.86	1.030	0.500	0.92	2.656	2.74	90.4	19.6	103.7
110.00		0.00	1.41	19.566	33.07	244.68	1.030	0.500	0.08	0.240	0.25	8.2	1.8	9.4
115.00		0.00	1.43	19.816	33.49	234.09	1.030	0.500	5.00	14.065	14.49	485.2	101.5	546.7
120.00		0.00	1.45	20.059	33.90	223.28	1.030	0.500	5.00	13.374	13.78	467.0	96.3	518.8
125.00		0.00	1.46	20.294	34.30	212.29	1.030	0.500	5.00	12.684	13.06	448.1	91.1	490.9
130.00		0.00	1.48	20.523	34.68	201.11	1.030	0.500	5.00	11.993	12.35	428.4	85.9	463.0
132.00	Appurtenance(s)	0.00	1.49	20.613	34.84	196.59	1.030	0.500	2.00	4.604	4.74	165.2	33.5	178.0
135.00		0.00	1.50	20.745	35.06	189.76	1.030	0.500	3.00	6.698	6.90	241.9	48.5	258.4
140.00		0.00	1.51	20.962	35.43	178.24	1.030	0.500	5.00	10.611	10.93	387.2	75.6	407.2
145.00		0.00	1.53	21.173	35.78	166.57	1.030	0.500	5.00	9.920	10.22	365.6	70.4	379.3
150.00		0.00	1.54	21.379	36.13	154.76	1.030	0.500	5.00	9.229	9.51	343.5	65.2	351.4
155.00		0.00	1.56	21.581	36.47	142.80	1.030	0.500	5.00	8.538	8.79	320.7	60.0	323.5
155.50	Appurtenance(s)	0.00	1.56	21.600	36.50	141.59	1.030	0.500	0.50	0.816	0.84	30.7	5.9	31.1
157.00	Appurtenance(s)	0.00	1.56	21.660	36.60	137.97	1.030	0.500	1.50	2.406	2.48	90.7	17.4	91.3
Totals:									157.00			16,937.9		38,325.1

Discrete Appurtenance Forces

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

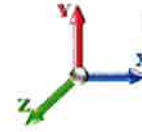
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015
 Page: 14



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	157.00	Powerwave - LGP 13519	6	21.719	36.704	0.92	2.59	48.00	0.000	1.500	95.23	0.00	142.84
2	157.00	Lightning Rod	1	21.797	36.836	1.00	1.73	44.00	0.000	3.500	63.73	0.00	223.04
3	157.00	Kathrein - 800 10121	3	21.719	36.704	0.79	14.43	237.60	0.000	1.500	529.77	0.00	794.65
4	157.00	Kathrein - 800 10025	6	21.719	36.704	0.67	0.00	0.00	0.000	1.500	0.00	0.00	0.00
5	157.00	CCI - DTMABP7819VG12A	3	21.719	36.704	0.67	2.73	79.50	0.000	1.500	100.34	0.00	150.50
6	157.00	Andrew - SBNH-1D6565C	6	21.719	36.704	0.80	59.38	792.00	0.000	1.500	2179.36	0.00	3269.05
7	157.00	16' LP Platform	1	21.660	36.605	1.00	31.26	2160.00	0.000	0.000	1144.27	0.00	0.00
8	155.50	Valmont Ring Mount MINT	1	21.600	36.505	1.00	26.20	2500.00	0.000	0.000	956.42	0.00	0.00
9	155.50	Raycap - DC6-48-60-18-8-F	1	21.600	36.505	1.00	1.67	49.50	0.000	0.000	60.96	0.00	0.00
10	155.50	Andrew - RRUS 11	6	21.600	36.505	0.76	14.32	396.00	0.000	0.000	522.69	0.00	0.00
11	132.00	RFS - DB-T1-6Z-8AB-0Z	1	20.613	34.835	0.62	2.92	62.10	0.000	0.000	101.73	0.00	0.00
12	132.00	Decibel - DB844G65ZAXY	6	20.613	34.835	0.86	22.14	0.00	0.000	0.000	771.12	0.00	0.00
13	132.00	Commscope -	6	20.613	34.835	0.83	44.17	519.60	0.000	0.000	1538.76	0.00	0.00
14	132.00	ALU - RRH2x60-PCS	3	20.613	34.835	0.90	5.21	181.20	0.000	0.000	181.53	0.00	0.00
15	132.00	ALU - RRH2x60-700	3	20.613	34.835	0.76	9.64	240.30	0.000	0.000	335.96	0.00	0.00
16	132.00	14' LP Platform	1	20.613	34.835	1.00	28.60	1800.00	0.000	0.000	996.28	0.00	0.00
17	100.00	Kathrein - 742 213	3	19.041	32.179	0.72	12.64	0.00	0.000	0.000	406.61	0.00	0.00
Totals:								9,109.80			9,984.75		

Total Applied Force Summary

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

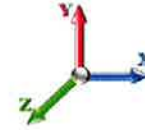
7/20/2015



Page: 15

Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		687.73	1968.99	0.00	0.00
10.00		671.05	1924.06	0.00	0.00
11.92		252.81	726.26	0.00	0.00
15.00		406.21	1967.62	0.00	0.00
16.00		140.23	663.41	0.00	0.00
20.00		554.24	2620.81	0.00	0.00
25.00		677.78	1759.37	0.00	0.00
30.00		661.10	1720.12	0.00	0.00
30.92		119.39	311.49	0.00	0.00
35.00		533.93	1370.16	0.00	0.00
40.00		663.21	1641.61	0.00	0.00
45.00		667.68	1602.36	0.00	0.00
49.00		533.85	1254.04	0.00	0.00
50.00		132.36	278.40	0.00	0.00
55.00		611.51	1366.35	0.00	0.00
60.00		607.11	1327.10	0.00	0.00
64.92		590.85	1266.74	0.00	0.00
65.00		9.98	34.83	0.00	0.00
66.00		131.80	447.91	0.00	0.00
70.00		527.88	1763.33	0.00	0.00
70.92		119.55	398.29	0.00	0.00
74.92		521.63	980.67	0.00	0.00
75.00		10.73	20.24	0.00	0.00
80.00		644.69	1194.54	0.00	0.00
85.00		634.10	1160.97	0.00	0.00
89.92		611.97	1108.92	0.00	0.00
90.00		10.30	27.71	0.00	0.00
94.92		606.01	1604.74	0.00	0.00
95.00		10.09	16.00	0.00	0.00
100.00	(3) appurtenances	1009.06	943.10	0.00	0.00
105.00		587.68	884.00	0.00	0.00
109.00		458.30	687.52	0.00	0.00
109.92		103.16	126.46	0.00	0.00
110.00		9.34	11.46	0.00	0.00
115.00		485.17	670.70	0.00	0.00
120.00		466.98	642.80	0.00	0.00
125.00		448.06	614.90	0.00	0.00
130.00		428.43	587.00	0.00	0.00
132.00	(20) appurtenances	4090.56	3030.81	0.00	0.00
135.00		241.88	291.99	0.00	0.00
140.00		387.18	463.30	0.00	0.00
145.00		365.62	435.40	0.00	0.00
150.00		343.47	407.50	0.00	0.00
155.00		320.75	379.60	0.00	0.00
155.50	(8) appurtenances	1570.74	2982.16	0.00	0.00
157.00	(26) appurtenances	4203.41	3469.25	0.00	4580.08
	Totals:	27,869.53	49,154.94	0.00	4,580.08

Resulting Forces and Deflections

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

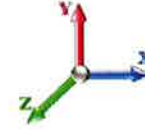
Page: 16



Load Case: 73.61 mph Wind with 0.5" Ice

Iterations: 21

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-27.899	-49.137	0.000	0.000	0.000	-2802.6	0.000	0.000	0.000	0.000	0.000
5.00	-27.268	-47.135	0.000	0.000	0.000	-2663.1	-0.038	0.000	0.038	-0.070	0.000
10.00	-26.633	-45.190	0.000	0.000	0.000	-2526.7	-0.149	0.000	0.149	-0.141	0.000
11.92	-26.407	-44.447	0.000	0.000	0.000	-2475.7	-0.212	0.000	0.212	-0.169	0.000
15.00	-26.016	-42.467	0.000	0.000	0.000	-2394.3	-0.337	0.000	0.337	-0.215	0.000
16.00	-25.899	-41.788	0.000	0.000	0.000	-2368.2	-0.384	0.000	0.384	-0.230	0.000
20.00	-25.375	-39.143	0.000	0.000	0.000	-2264.6	-0.600	0.000	0.600	-0.284	0.000
25.00	-24.734	-37.356	0.000	0.000	0.000	-2137.8	-0.934	0.000	0.934	-0.352	0.000
30.00	-24.090	-35.622	0.000	0.000	0.000	-2014.1	-1.344	0.000	1.344	-0.428	0.000
30.92	-23.992	-35.294	0.000	0.000	0.000	-1992.0	-1.428	0.000	1.428	-0.443	0.000
35.00	-23.490	-33.899	0.000	0.000	0.000	-1894.1	-1.836	0.000	1.836	-0.507	0.000
40.00	-22.856	-32.232	0.000	0.000	0.000	-1776.6	-2.410	0.000	2.410	-0.587	0.000
45.00	-22.210	-30.608	0.000	0.000	0.000	-1662.3	-3.069	0.000	3.069	-0.668	0.000
49.00	-21.682	-29.345	0.000	0.000	0.000	-1573.5	-3.658	0.000	3.658	-0.735	0.000
50.00	-21.576	-29.047	0.000	0.000	0.000	-1551.8	-3.814	0.000	3.814	-0.752	0.000
55.00	-20.994	-27.653	0.000	0.000	0.000	-1443.9	-4.656	0.000	4.656	-0.851	0.000
60.00	-20.412	-26.299	0.000	0.000	0.000	-1339.0	-5.601	0.000	5.601	-0.951	0.000
64.92	-19.822	-25.025	0.000	0.000	0.000	-1238.6	-6.635	0.000	6.635	-1.053	0.000
65.00	-19.816	-24.987	0.000	0.000	0.000	-1237.0	-6.654	0.000	6.654	-1.055	0.000
66.00	-19.696	-24.525	0.000	0.000	0.000	-1217.1	-6.877	0.000	6.877	-1.076	0.000
70.00	-19.152	-22.758	0.000	0.000	0.000	-1138.4	-7.810	0.000	7.810	-1.148	0.000
70.92	-19.042	-22.347	0.000	0.000	0.000	-1120.8	-8.032	0.000	8.032	-1.165	0.000
74.92	-18.513	-21.365	0.000	0.000	0.000	-1044.6	-9.040	0.000	9.040	-1.238	0.000
75.00	-18.522	-21.328	0.000	0.000	0.000	-1043.1	-9.062	0.000	9.062	-1.240	0.000
80.00	-17.886	-20.117	0.000	0.000	0.000	-950.53	-10.415	0.000	10.415	-1.341	0.000
85.00	-17.258	-18.941	0.000	0.000	0.000	-861.10	-11.876	0.000	11.876	-1.444	0.000
89.92	-16.633	-17.833	0.000	0.000	0.000	-776.25	-13.418	0.000	13.418	-1.546	0.000
90.00	-16.639	-17.791	0.000	0.000	0.000	-774.86	-13.445	0.000	13.445	-1.548	0.000
94.92	-16.002	-16.189	0.000	0.000	0.000	-693.06	-15.093	0.000	15.093	-1.650	0.000
95.00	-16.009	-16.157	0.000	0.000	0.000	-691.72	-15.122	0.000	15.122	-1.652	0.000
100.00	-15.004	-15.213	0.000	0.000	0.000	-611.68	-16.916	0.000	16.916	-1.770	0.000
105.00	-14.414	-14.322	0.000	0.000	0.000	-536.66	-18.834	0.000	18.834	-1.887	0.000
109.00	-13.947	-13.636	0.000	0.000	0.000	-479.00	-20.456	0.000	20.456	-1.981	0.000
109.92	-13.842	-13.510	0.000	0.000	0.000	-466.22	-20.838	0.000	20.838	-2.003	0.000
110.00	-13.852	-13.479	0.000	0.000	0.000	-465.07	-20.873	0.000	20.873	-2.006	0.000
115.00	-13.379	-12.789	0.000	0.000	0.000	-395.80	-23.062	0.000	23.062	-2.167	0.000
120.00	-12.920	-12.130	0.000	0.000	0.000	-328.91	-25.418	0.000	25.418	-2.325	0.000
125.00	-12.476	-11.503	0.000	0.000	0.000	-264.31	-27.937	0.000	27.937	-2.477	0.000
130.00	-12.040	-10.915	0.000	0.000	0.000	-201.93	-30.609	0.000	30.609	-2.618	0.000
132.00	-7.823	-8.068	0.000	0.000	0.000	-177.85	-31.718	0.000	31.718	-2.673	0.000
135.00	-7.582	-7.774	0.000	0.000	0.000	-154.38	-33.423	0.000	33.423	-2.751	0.000
140.00	-7.187	-7.316	0.000	0.000	0.000	-116.47	-36.370	0.000	36.370	-2.871	0.000
145.00	-6.811	-6.889	0.000	0.000	0.000	-80.545	-39.436	0.000	39.436	-2.977	0.000
150.00	-6.455	-6.492	0.000	0.000	0.000	-46.490	-42.603	0.000	42.603	-3.063	0.000
155.00	-6.116	-6.128	0.000	0.000	0.000	-14.217	-45.842	0.000	45.842	-3.115	0.000
155.50	-4.386	-3.235	0.000	0.000	0.000	-11.159	-46.169	0.000	46.169	-3.118	0.000
157.00	-4.203	0.000	0.000	0.000	0.000	-4.580	0.000	0.000	47.149	-3.123	0.000

Resulting Stresses

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

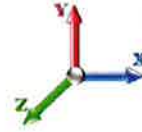
7/20/2015

Page: 17



Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

Applied Stresses

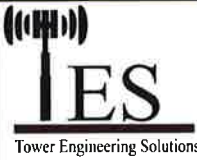
Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.51	0.59	0.00	0.00	0.00	21.23	21.77	32.6	0.668
5.00	0.51	0.60	0.00	0.00	0.00	21.20	21.73	33.0	0.659
10.00	0.50	0.60	0.00	0.00	0.00	21.17	21.69	33.4	0.649
11.92	0.49	0.60	0.00	0.00	0.00	21.16	21.68	33.6	0.646
15.00	0.48	0.60	0.00	0.00	0.00	21.13	21.64	33.6	0.644
16.00	0.48	0.60	0.00	0.00	0.00	18.87	19.35	33.6	0.576
20.00	0.52	0.69	0.00	0.00	0.00	18.79	18.79	33.6	0.559
25.00	0.51	0.69	0.00	0.00	0.00	20.90	20.90	31.9	0.654
30.00	0.50	0.69	0.00	0.00	0.00	20.75	20.75	32.4	0.640
30.92	0.50	0.69	0.00	0.00	0.00	20.72	20.72	32.5	0.637
35.00	0.49	0.69	0.00	0.00	0.00	20.58	20.58	32.9	0.625
40.00	0.48	0.70	0.00	0.00	0.00	20.39	20.39	33.4	0.611
45.00	0.47	0.70	0.00	0.00	0.00	20.18	20.18	33.6	0.601
49.00	0.46	0.70	0.00	0.00	0.00	20.01	20.47	33.6	0.609
50.00	0.46	0.70	0.00	0.00	0.00	23.31	23.81	33.6	0.709
55.00	0.46	0.70	0.00	0.00	0.00	23.15	23.64	33.6	0.704
60.00	0.45	0.71	0.00	0.00	0.00	22.96	23.44	33.6	0.698
64.92	0.44	0.71	0.00	0.00	0.00	22.74	23.22	33.6	0.691
65.00	0.44	0.71	0.00	0.00	0.00	22.74	23.21	33.6	0.691
66.00	0.44	0.71	0.00	0.00	0.00	19.00	19.44	33.6	0.579
70.00	0.42	0.71	0.00	0.00	0.00	18.73	18.73	33.6	0.557
70.92	0.49	0.84	0.00	0.00	0.00	18.66	18.66	33.6	0.555
74.92	0.48	0.84	0.00	0.00	0.00	20.80	20.80	33.6	0.619
75.00	0.48	0.84	0.00	0.00	0.00	20.79	20.79	33.6	0.619
80.00	0.47	0.85	0.00	0.00	0.00	20.27	20.27	33.6	0.603
85.00	0.46	0.85	0.00	0.00	0.00	19.69	19.69	33.6	0.586
89.92	0.45	0.85	0.00	0.00	0.00	19.06	19.06	33.6	0.567
90.00	0.45	0.85	0.00	0.00	0.00	18.95	18.95	33.6	0.564
94.92	0.52	1.05	0.00	0.00	0.00	18.24	18.24	33.6	0.543
95.00	0.52	1.05	0.00	0.00	0.00	21.14	21.14	32.8	0.645
100.00	0.52	1.03	0.00	0.00	0.00	20.14	20.14	33.5	0.601
105.00	0.51	1.04	0.00	0.00	0.00	19.09	19.09	33.6	0.568
109.00	0.50	1.05	0.00	0.00	0.00	18.17	18.67	33.6	0.556
109.92	0.50	1.05	0.00	0.00	0.00	25.51	26.08	33.6	0.776
109.92	0.50	1.05	0.00	0.00	0.00	25.51	26.08	33.6	0.776
110.00	0.50	1.05	0.00	0.00	0.00	25.49	26.06	33.6	0.775
115.00	0.50	1.07	0.00	0.00	0.00	24.03	24.60	33.6	0.732
120.00	0.50	1.09	0.00	0.00	0.00	22.25	22.83	33.6	0.679
125.00	0.50	1.11	0.00	0.00	0.00	20.04	20.63	33.6	0.614
130.00	0.51	1.14	0.00	0.00	0.00	17.28	17.90	33.6	0.533
132.00	0.38	0.76	0.00	0.00	0.00	16.01	16.45	33.6	0.489
135.00	0.39	0.76	0.00	0.00	0.00	15.03	15.47	33.6	0.460
140.00	0.39	0.78	0.00	0.00	0.00	13.01	13.47	33.6	0.401
145.00	0.39	0.79	0.00	0.00	0.00	10.43	10.91	33.6	0.325
150.00	0.40	0.81	0.00	0.00	0.00	7.06	7.60	33.6	0.226
155.00	0.41	0.84	0.00	0.00	0.00	2.57	3.32	33.6	0.099
155.50	0.22	0.61	0.00	0.00	0.00	2.05	2.51	33.6	0.075

Resulting Stresses

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015
Page: 18



157.00	0.00	0.60	0.00	0.00	0.00	0.89	1.37	33.6	0.041
--------	------	------	------	------	------	------	------	------	-------

Wind Loading - Shaft

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

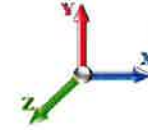
7/20/2015

Page: 19



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)
0.00		0.00	1.00	6.400	10.82	284.11	1.030	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		0.00	1.00	6.400	10.82	277.21	1.030	0.000	5.00	28.066	28.91	312.7	0.0	1604.0
10.00		0.00	1.00	6.400	10.82	270.30	1.030	0.000	5.00	27.375	28.20	305.0	0.0	1564.2
11.92	Bot - Section 2	0.00	1.00	6.400	10.82	267.65	1.030	0.000	1.92	10.311	10.62	114.9	0.0	589.1
15.00		0.00	1.00	6.400	10.82	263.39	1.030	0.000	3.08	16.566	17.06	184.6	0.0	1747.5
16.00	RB1	0.00	1.00	6.400	10.82	262.01	1.030	0.000	1.00	5.316	5.48	59.2	0.0	623.7
20.00	Top - Section 1	0.00	1.00	6.400	10.82	256.48	1.030	0.000	4.00	20.990	21.62	233.8	0.0	2465.4
25.00		0.00	1.00	6.400	10.82	252.70	1.030	0.000	5.00	25.615	26.38	285.4	0.0	1570.3
30.00		0.00	1.00	6.400	10.82	245.79	1.030	0.000	5.00	24.924	25.67	277.7	0.0	1536.2
30.92	Top - Section 2	0.00	1.00	6.400	10.82	244.52	1.030	0.000	0.92	4.495	4.63	50.1	0.0	277.9
35.00		0.00	1.02	6.509	11.00	240.90	1.030	0.000	4.08	19.739	20.33	223.6	0.0	1224.2
40.00		0.00	1.06	6.762	11.43	238.43	1.030	0.000	5.00	23.543	24.25	277.1	0.0	1468.1
45.00		0.00	1.09	6.993	11.82	235.26	1.030	0.000	5.00	22.852	23.54	278.2	0.0	1434.0
49.00	RT1	0.00	1.12	7.165	12.11	232.29	1.030	0.000	4.00	17.784	18.32	221.8	0.0	1122.7
50.00		0.00	1.13	7.207	12.18	231.50	1.030	0.000	1.00	4.377	4.51	54.9	0.0	214.3
55.00		0.00	1.16	7.406	12.52	227.24	1.030	0.000	5.00	21.470	22.11	276.8	0.0	1050.9
60.00		0.00	1.19	7.592	12.83	222.56	1.030	0.000	5.00	20.779	21.40	274.6	0.0	1016.8
64.92	Bot - Section 4	0.00	1.21	7.765	13.12	217.59	1.030	0.000	4.92	19.759	20.35	267.1	0.0	966.7
65.00		0.00	1.21	7.768	13.13	217.50	1.030	0.000	0.08	0.333	0.34	4.5	0.0	29.7
66.00	RB2	0.00	1.22	7.802	13.18	216.45	1.030	0.000	1.00	3.987	4.11	54.1	0.0	418.2
70.00		0.00	1.24	7.934	13.41	212.13	1.030	0.000	4.00	15.671	16.14	216.4	0.0	1647.9
70.92	Top - Section 3	0.00	1.24	7.964	13.46	211.11	1.030	0.000	0.92	3.529	3.63	48.9	0.0	372.0
74.92	Top - Section 4	0.00	1.26	8.089	13.67	209.48	1.030	0.000	4.00	15.128	15.58	213.0	0.0	869.3
75.00		0.00	1.26	8.092	13.68	209.39	1.030	0.000	0.08	0.310	0.32	4.4	0.0	17.9
80.00		0.00	1.29	8.242	13.93	203.49	1.030	0.000	5.00	18.276	18.82	262.2	0.0	1060.6
85.00		0.00	1.31	8.387	14.17	197.35	1.030	0.000	5.00	17.585	18.11	256.7	0.0	1032.2
89.92	Bot - Section 6	0.00	1.33	8.522	14.40	191.10	1.030	0.000	4.92	16.619	17.12	246.5	0.0	987.3
90.00		0.00	1.33	8.525	14.41	190.99	1.030	0.000	0.08	0.279	0.29	4.1	0.0	25.6
94.92	Top - Section 5	0.00	1.35	8.655	14.63	184.55	1.030	0.000	4.92	16.144	16.63	243.2	0.0	1486.7
95.00		0.00	1.35	8.657	14.63	186.86	1.030	0.000	0.08	0.268	0.28	4.0	0.0	14.0
100.00	Appurtenance(s)	0.00	1.37	8.785	14.85	180.14	1.030	0.000	5.00	15.721	16.19	240.4	0.0	828.3
105.00		0.00	1.39	8.908	15.06	173.25	1.030	0.000	5.00	15.030	15.48	233.1	0.0	805.6
109.00	RT2	0.00	1.41	9.004	15.22	167.63	1.030	0.000	4.00	11.527	11.87	180.7	0.0	628.2
109.92	Top - Section 6	0.00	1.41	9.026	15.25	166.32	1.030	0.000	0.92	2.579	2.66	40.5	0.0	84.2
110.00		0.00	1.41	9.028	15.26	166.20	1.030	0.000	0.08	0.233	0.24	3.7	0.0	7.6
115.00		0.00	1.43	9.143	15.45	159.00	1.030	0.000	5.00	13.649	14.06	217.2	0.0	445.2
120.00		0.00	1.45	9.255	15.64	151.67	1.030	0.000	5.00	12.958	13.35	208.7	0.0	422.5
125.00		0.00	1.46	9.363	15.82	144.20	1.030	0.000	5.00	12.267	12.63	199.9	0.0	399.8
130.00		0.00	1.48	9.469	16.00	136.60	1.030	0.000	5.00	11.576	11.92	190.8	0.0	377.1
132.00	Appurtenance(s)	0.00	1.49	9.510	16.07	133.53	1.030	0.000	2.00	4.437	4.57	73.5	0.0	144.5
135.00		0.00	1.50	9.572	16.18	128.89	1.030	0.000	3.00	6.448	6.64	107.4	0.0	209.9
140.00		0.00	1.51	9.672	16.35	121.07	1.030	0.000	5.00	10.194	10.50	171.6	0.0	331.7
145.00		0.00	1.53	9.769	16.51	113.15	1.030	0.000	5.00	9.503	9.79	161.6	0.0	309.0
150.00		0.00	1.54	9.864	16.67	105.12	1.030	0.000	5.00	8.813	9.08	151.3	0.0	286.3
155.00		0.00	1.56	9.957	16.83	96.99	1.030	0.000	5.00	8.122	8.37	140.8	0.0	263.5
155.50	Appurtenance(s)	0.00	1.56	9.966	16.84	96.18	1.030	0.000	0.50	0.774	0.80	13.4	0.0	25.1
157.00	Appurtenance(s)	0.00	1.56	9.994	16.89	93.72	1.030	0.000	1.50	2.281	2.35	39.7	0.0	74.0
Totals:									157.00			7,629.9		34,079.9

Discrete Appurtenance Forces

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

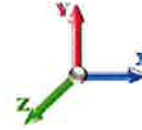
7/20/2015

Page: 20



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	157.00	Powerwave - LGP 13519	6	10.021	16.935	0.92	1.88	31.80	0.000	1.500	31.78	0.00	47.68
2	157.00	Lightning Rod	1	10.057	16.996	1.00	1.05	35.00	0.000	3.500	17.85	0.00	62.46
3	157.00	Kathrein - 800 10121	3	10.021	16.935	0.79	12.92	138.90	0.000	1.500	218.74	0.00	328.11
4	157.00	Kathrein - 800 10025	6	10.021	16.935	0.67	0.00	4.20	0.000	1.500	0.00	0.00	0.00
5	157.00	CCI - DTMABP7819VG12A	3	10.021	16.935	0.67	2.29	57.60	0.000	1.500	38.80	0.00	58.21
6	157.00	Andrew - SBNH-1D6565C	6	10.021	16.935	0.80	54.91	396.60	0.000	1.500	929.94	0.00	1394.90
7	157.00	16' LP Platform	1	9.994	16.889	1.00	28.79	1800.00	0.000	0.000	486.24	0.00	0.00
8	155.50	Valmont Ring Mount MINT	1	9.966	16.843	1.00	24.00	1400.00	0.000	0.000	404.23	0.00	0.00
9	155.50	Raycap - DC6-48-60-18-8-F	1	9.966	16.843	1.00	1.47	31.80	0.000	0.000	24.76	0.00	0.00
10	155.50	Andrew - RRUS 11	6	9.966	16.843	0.76	13.41	304.20	0.000	0.000	225.80	0.00	0.00
11	132.00	RFS - DB-T1-6Z-8AB-0Z	1	9.510	16.073	0.62	2.66	44.00	0.000	0.000	42.75	0.00	0.00
12	132.00	Decibel - DB844G65ZAXY	6	9.510	16.073	0.86	19.25	96.00	0.000	0.000	309.34	0.00	0.00
13	132.00	Commscope -	6	9.510	16.073	0.83	41.83	304.26	0.000	0.000	672.35	0.00	0.00
14	132.00	ALU - RRH2x60-PCS	3	9.510	16.073	0.90	4.75	165.00	0.000	0.000	76.38	0.00	0.00
15	132.00	ALU - RRH2x60-700	3	9.510	16.073	0.76	9.03	180.00	0.000	0.000	145.12	0.00	0.00
16	132.00	14' LP Platform	1	9.510	16.073	1.00	25.00	1500.00	0.000	0.000	401.81	0.00	0.00
17	100.00	Kathrein - 742 213	3	8.785	14.847	0.72	11.10	66.00	0.000	0.000	164.84	0.00	0.00
Totals:								6,555.36			4,190.71		

Total Applied Force Summary

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 21



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		312.67	1759.15	0.00	0.00
10.00		304.97	1719.41	0.00	0.00
11.92		114.87	648.57	0.00	0.00
15.00		184.56	1843.17	0.00	0.00
16.00		62.80	623.26	0.00	0.00
20.00		248.11	2463.51	0.00	0.00
25.00		303.21	1567.95	0.00	0.00
30.00		295.51	1533.88	0.00	0.00
30.92		53.34	277.52	0.00	0.00
35.00		238.45	1222.30	0.00	0.00
40.00		295.95	1465.76	0.00	0.00
45.00		297.67	1431.69	0.00	0.00
49.00		237.80	1120.83	0.00	0.00
50.00		58.93	245.30	0.00	0.00
55.00		276.77	1206.07	0.00	0.00
60.00		274.61	1172.00	0.00	0.00
64.92		267.07	1119.25	0.00	0.00
65.00		4.51	32.30	0.00	0.00
66.00		58.49	417.74	0.00	0.00
70.00		234.13	1646.00	0.00	0.00
70.92		52.99	371.58	0.00	0.00
74.92		231.06	867.42	0.00	0.00
75.00		4.75	17.88	0.00	0.00
80.00		285.21	1058.26	0.00	0.00
85.00		280.10	1029.87	0.00	0.00
89.92		269.90	985.03	0.00	0.00
90.00		4.54	25.59	0.00	0.00
94.92		266.96	1484.42	0.00	0.00
95.00		4.44	13.96	0.00	0.00
100.00	(3) appurtenances	429.74	892.01	0.00	0.00
105.00		257.91	772.10	0.00	0.00
109.00		200.75	601.33	0.00	0.00
109.92		45.14	106.88	0.00	0.00
110.00		4.09	9.68	0.00	0.00
115.00		217.22	569.18	0.00	0.00
120.00		208.75	546.47	0.00	0.00
125.00		199.94	523.76	0.00	0.00
130.00		190.80	501.05	0.00	0.00
132.00	(20) appurtenances	1721.20	2483.32	0.00	0.00
135.00		107.44	243.54	0.00	0.00
140.00		171.62	387.74	0.00	0.00
145.00		161.61	365.03	0.00	0.00
150.00		151.32	342.32	0.00	0.00
155.00		140.77	319.61	0.00	0.00
155.50	(8) appurtenances	668.22	1766.71	0.00	0.00
157.00	(26) appurtenances	1763.03	2554.87	0.00	1891.36
	Totals:	12,163.90	42,355.28	0.00	1,891.36

Resulting Forces and Deflections

Structure: CT00252-S-SB
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

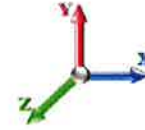
Page: 22



Load Case: 50 mph Wind with 0" Ice

Iterations: 21

Dead Load Factor 1.00
Wind Load Factor 1.00



Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	Deflect X (in)	Deflect Z (in)	Deflect Resultant (in)	Rotation Sway (deg)	Rotation Twist (deg)
0.00	-12.175	-42.352	0.000	0.000	0.000	-1202.7	0.000	0.000	0.000	0.000	0.000
5.00	-11.883	-40.587	0.000	0.000	0.000	-1141.9	-0.016	0.000	0.016	-0.030	0.000
10.00	-11.591	-38.863	0.000	0.000	0.000	-1082.5	-0.064	0.000	0.064	-0.060	0.000
11.92	-11.486	-38.212	0.000	0.000	0.000	-1060.2	-0.091	0.000	0.091	-0.072	0.000
15.00	-11.307	-36.366	0.000	0.000	0.000	-1024.8	-0.144	0.000	0.144	-0.092	0.000
16.00	-11.253	-35.740	0.000	0.000	0.000	-1013.5	-0.165	0.000	0.165	-0.099	0.000
20.00	-11.015	-33.272	0.000	0.000	0.000	-968.55	-0.257	0.000	0.257	-0.122	0.000
25.00	-10.725	-31.699	0.000	0.000	0.000	-913.47	-0.400	0.000	0.400	-0.151	0.000
30.00	-10.435	-30.162	0.000	0.000	0.000	-859.85	-0.576	0.000	0.576	-0.183	0.000
30.92	-10.390	-29.882	0.000	0.000	0.000	-850.28	-0.612	0.000	0.612	-0.190	0.000
35.00	-10.162	-28.655	0.000	0.000	0.000	-807.86	-0.786	0.000	0.786	-0.217	0.000
40.00	-9.877	-27.185	0.000	0.000	0.000	-757.05	-1.032	0.000	1.032	-0.251	0.000
45.00	-9.587	-25.749	0.000	0.000	0.000	-707.67	-1.314	0.000	1.314	-0.286	0.000
49.00	-9.350	-24.627	0.000	0.000	0.000	-669.32	-1.566	0.000	1.566	-0.314	0.000
50.00	-9.301	-24.378	0.000	0.000	0.000	-659.97	-1.632	0.000	1.632	-0.321	0.000
55.00	-9.034	-23.167	0.000	0.000	0.000	-613.47	-1.991	0.000	1.991	-0.363	0.000
60.00	-8.768	-21.990	0.000	0.000	0.000	-568.30	-2.395	0.000	2.395	-0.406	0.000
64.92	-8.500	-20.870	0.000	0.000	0.000	-525.19	-2.836	0.000	2.836	-0.449	0.000
65.00	-8.497	-20.837	0.000	0.000	0.000	-524.48	-2.844	0.000	2.844	-0.450	0.000
66.00	-8.443	-20.416	0.000	0.000	0.000	-515.98	-2.939	0.000	2.939	-0.459	0.000
70.00	-8.201	-18.770	0.000	0.000	0.000	-482.21	-3.337	0.000	3.337	-0.489	0.000
70.92	-8.151	-18.396	0.000	0.000	0.000	-474.70	-3.432	0.000	3.432	-0.497	0.000
74.92	-7.917	-17.528	0.000	0.000	0.000	-442.09	-3.861	0.000	3.861	-0.527	0.000
75.00	-7.919	-17.507	0.000	0.000	0.000	-441.43	-3.871	0.000	3.871	-0.528	0.000
80.00	-7.636	-16.446	0.000	0.000	0.000	-401.84	-4.447	0.000	4.447	-0.571	0.000
85.00	-7.357	-15.414	0.000	0.000	0.000	-363.66	-5.069	0.000	5.069	-0.615	0.000
89.92	-7.081	-14.429	0.000	0.000	0.000	-327.49	-5.725	0.000	5.725	-0.658	0.000
90.00	-7.082	-14.401	0.000	0.000	0.000	-326.90	-5.737	0.000	5.737	-0.658	0.000
94.92	-6.802	-12.917	0.000	0.000	0.000	-292.08	-6.438	0.000	6.438	-0.701	0.000
95.00	-6.804	-12.900	0.000	0.000	0.000	-291.51	-6.450	0.000	6.450	-0.702	0.000
100.00	-6.373	-12.008	0.000	0.000	0.000	-257.49	-7.212	0.000	7.212	-0.752	0.000
105.00	-6.113	-11.235	0.000	0.000	0.000	-225.63	-8.027	0.000	8.027	-0.801	0.000
109.00	-5.909	-10.634	0.000	0.000	0.000	-201.17	-8.715	0.000	8.715	-0.841	0.000
109.92	-5.863	-10.527	0.000	0.000	0.000	-195.76	-8.878	0.000	8.878	-0.850	0.000
110.00	-5.865	-10.514	0.000	0.000	0.000	-195.27	-8.893	0.000	8.893	-0.851	0.000
115.00	-5.651	-9.942	0.000	0.000	0.000	-165.95	-9.821	0.000	9.821	-0.919	0.000
120.00	-5.444	-9.393	0.000	0.000	0.000	-137.69	-10.820	0.000	10.820	-0.985	0.000
125.00	-5.244	-8.867	0.000	0.000	0.000	-110.47	-11.887	0.000	11.887	-1.048	0.000
130.00	-5.050	-8.366	0.000	0.000	0.000	-84.260	-13.018	0.000	13.018	-1.107	0.000
132.00	-3.283	-5.915	0.000	0.000	0.000	-74.162	-13.487	0.000	13.487	-1.131	0.000
135.00	-3.175	-5.672	0.000	0.000	0.000	-64.313	-14.208	0.000	14.208	-1.163	0.000
140.00	-3.000	-5.285	0.000	0.000	0.000	-48.439	-15.454	0.000	15.454	-1.213	0.000
145.00	-2.834	-4.922	0.000	0.000	0.000	-33.441	-16.749	0.000	16.749	-1.257	0.000
150.00	-2.677	-4.581	0.000	0.000	0.000	-19.273	-18.086	0.000	18.086	-1.293	0.000
155.00	-2.530	-4.265	0.000	0.000	0.000	-5.888	-19.454	0.000	19.454	-1.314	0.000
155.50	-1.821	-2.514	0.000	0.000	0.000	-4.623	-19.592	0.000	19.592	-1.315	0.000
157.00	-1.763	0.000	0.000	0.000	0.000	-1.891	0.000	0.000	20.005	-1.318	0.000

Resulting Stresses

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 23



Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 21

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	f Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.44	0.26	0.00	0.00	0.00	9.11	9.57	32.6	0.294
5.00	0.44	0.26	0.00	0.00	0.00	9.09	9.54	33.0	0.289
10.00	0.43	0.26	0.00	0.00	0.00	9.07	9.51	33.4	0.285
11.92	0.43	0.26	0.00	0.00	0.00	9.06	9.50	33.6	0.283
15.00	0.41	0.26	0.00	0.00	0.00	9.05	9.47	33.6	0.282
16.00	0.41	0.26	0.00	0.00	0.00	8.08	8.48	33.6	0.252
20.00	0.44	0.30	0.00	0.00	0.00	8.04	8.04	33.6	0.239
25.00	0.44	0.30	0.00	0.00	0.00	8.93	8.93	31.9	0.280
30.00	0.43	0.30	0.00	0.00	0.00	8.86	8.86	32.4	0.273
30.92	0.42	0.30	0.00	0.00	0.00	8.84	8.84	32.5	0.272
35.00	0.42	0.30	0.00	0.00	0.00	8.78	8.78	32.9	0.267
40.00	0.41	0.30	0.00	0.00	0.00	8.69	8.69	33.4	0.260
45.00	0.40	0.30	0.00	0.00	0.00	8.59	8.59	33.6	0.256
49.00	0.39	0.30	0.00	0.00	0.00	8.51	8.90	33.6	0.265
50.00	0.39	0.30	0.00	0.00	0.00	9.91	10.32	33.6	0.307
55.00	0.38	0.30	0.00	0.00	0.00	9.84	10.23	33.6	0.304
60.00	0.37	0.30	0.00	0.00	0.00	9.75	10.13	33.6	0.302
64.92	0.37	0.30	0.00	0.00	0.00	9.64	10.03	33.6	0.298
65.00	0.37	0.30	0.00	0.00	0.00	9.64	10.02	33.6	0.298
66.00	0.36	0.30	0.00	0.00	0.00	8.06	8.42	33.6	0.251
70.00	0.34	0.30	0.00	0.00	0.00	7.93	7.93	33.6	0.236
70.92	0.40	0.36	0.00	0.00	0.00	7.90	7.90	33.6	0.235
74.92	0.39	0.36	0.00	0.00	0.00	8.80	8.80	33.6	0.262
75.00	0.39	0.36	0.00	0.00	0.00	8.80	8.80	33.6	0.262
80.00	0.38	0.36	0.00	0.00	0.00	8.57	8.57	33.6	0.255
85.00	0.37	0.36	0.00	0.00	0.00	8.32	8.32	33.6	0.248
89.92	0.36	0.36	0.00	0.00	0.00	8.04	8.04	33.6	0.239
90.00	0.36	0.36	0.00	0.00	0.00	8.00	8.00	33.6	0.238
94.92	0.42	0.45	0.00	0.00	0.00	7.69	7.69	33.6	0.229
95.00	0.42	0.45	0.00	0.00	0.00	8.91	8.91	32.8	0.272
100.00	0.41	0.44	0.00	0.00	0.00	8.48	8.48	33.5	0.253
105.00	0.40	0.44	0.00	0.00	0.00	8.03	8.03	33.6	0.239
109.00	0.39	0.44	0.00	0.00	0.00	7.63	8.02	33.6	0.239
109.92	0.39	0.44	0.00	0.00	0.00	10.71	11.13	33.6	0.331
109.92	0.39	0.44	0.00	0.00	0.00	10.71	11.13	33.6	0.331
110.00	0.39	0.44	0.00	0.00	0.00	10.70	11.12	33.6	0.331
115.00	0.39	0.45	0.00	0.00	0.00	10.08	10.50	33.6	0.312
120.00	0.39	0.46	0.00	0.00	0.00	9.31	9.74	33.6	0.290
125.00	0.39	0.47	0.00	0.00	0.00	8.38	8.80	33.6	0.262
130.00	0.39	0.48	0.00	0.00	0.00	7.21	7.64	33.6	0.228
132.00	0.28	0.32	0.00	0.00	0.00	6.68	6.98	33.6	0.208
135.00	0.28	0.32	0.00	0.00	0.00	6.26	6.56	33.6	0.195
140.00	0.28	0.32	0.00	0.00	0.00	5.41	5.72	33.6	0.170
145.00	0.28	0.33	0.00	0.00	0.00	4.33	4.65	33.6	0.138
150.00	0.28	0.34	0.00	0.00	0.00	2.93	3.26	33.6	0.097
155.00	0.29	0.35	0.00	0.00	0.00	1.06	1.48	33.6	0.044
155.50	0.17	0.25	0.00	0.00	0.00	0.85	1.11	33.6	0.033

Resulting Stresses

Structure: CT00252-S-SBA

Code: EIA/TIA-222-F

7/20/2015

Site Name: Prospect

Exposure: C

Height: 157.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

Page: 24



157.00	0.00	0.25	0.00	0.00	0.00	0.37	0.57	33.6	0.017
--------	------	------	------	------	------	------	------	------	-------

Final Analysis Summary

Structure: CT00252-S-SBA
Site Name: Prospect
Height: 157.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

7/20/2015

Page: 25



Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	t MZ (ft-kips)
85 mph Wind with 0" Ice	35.2	0.00	42.33	0.00	0.00	3474.87
73.61 mph Wind with 0.5" Ice	27.9	0.00	49.14	0.00	0.00	2802.60
50 mph Wind with 0" Ice	12.2	0.00	42.35	0.00	0.00	1202.79

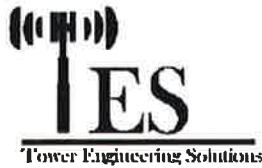
Max Stresses

Load Case	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fvT Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
85 mph Wind with 0" Ice	0.37	1.28	0.00	0.00	0.00	30.92	31.36	33.6	109.92	0.933
73.61 mph Wind with 0.5" Ice	0.50	1.05	0.00	0.00	0.00	25.51	26.08	33.6	109.92	0.776
50 mph Wind with 0" Ice	0.39	0.44	0.00	0.00	0.00	10.71	11.13	33.6	109.92	0.331

Additional Steel Summary

Intermediate Connectors
 Upper Termination
 Lower Termination
 Max Member

Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	V (kips)	Shear Allow (kips)	MQ/I (kips)	Num Reqd	Num Actual	MQ/I (kips)	Num Reqd	Num Actual	MQ/I (kips)	Ta (kips)	Pa (kips)	Ratio
16.0	49.0	(3) PLT-C6x10.5(1.5" Hole)	-91.1	-2.19	22.5	78.23	4	0	74.3	2	0	81.4	138.1	147.6	0.590
66.0	109.0	(3) PLT-C6x10.5(1.5" Hole)	-177.8	-4.27	22.5	72.60	4	0	75.5	2	0	83.8	138.1	147.6	0.607



Monopole Mat Foundation Design

Date

7/20/2015

Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-F
Site Name:		Structure Height (Ft.):	157
Site Number:	CT00252-S-SBA	Engineer Name:	D. Zhou
Engr. Number:	16419	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Unfactored)

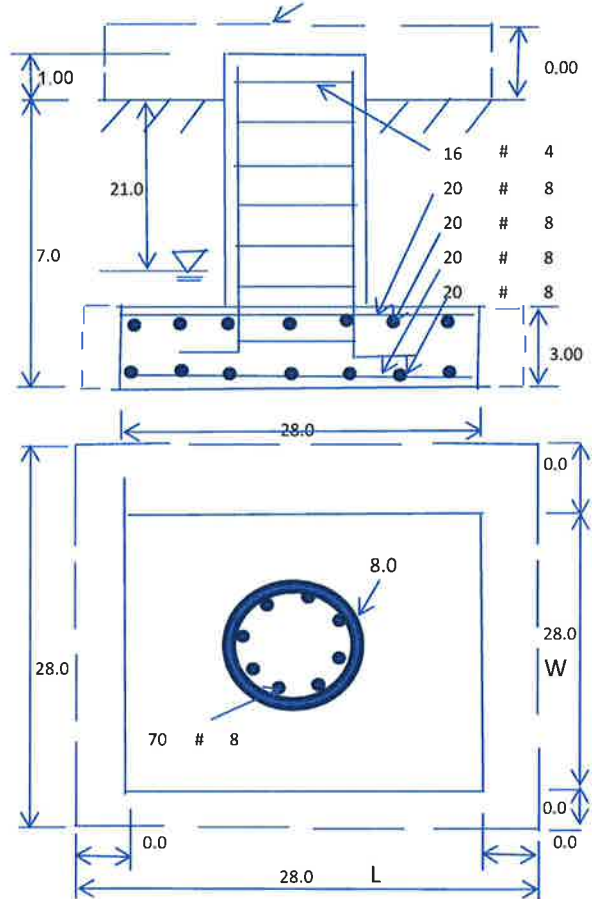
Axial Load (Kips):	49.1	Shear Force (Kips):	35.2
Uplift Force (Kips):	0.0	Moment (Kips-ft):	3474.9

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	7.0
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	3.00
Length of Pad (ft.):	28	Width of Pad (ft.):	28
Final Length of pad (ft)	28.0	Final width of pad (ft):	28.0
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Material Properties and Rebar Info:

Concrete Strength (psi):	4939	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	8	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	70	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	20	Qty. of Rebar in Pad (W):	20	



Soil Design Parameters:

Soil Unit Weight (pcf):	110.0	Soil Buoyant Weight:	50.0	Pcf	Angle from Top of Pad:	30
Water Table B.G.S. (ft):	21.0	Unit Weight of Water:	62.4	pcf	Angle from Bottm of Pad:	25
Allowable Net Soil Bearing (psf):	8000	Allowable Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Reduction factor on the maximum soil bearing pressure:	1.00
Consider soil hori. force for O.T.M.:	No					

Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	2934.94	Total Dry Soil Weight (Kips):	322.84
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	322.84	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2603.33	Total Dry Concrete Weight (Kips):	390.50
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	390.50	Total Vertical Load on Base (Kips):	762.44

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	1642	<	Allowable Soil Bearing (psf):	8000	0.21	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	7116.1	>	Applied Momont (kips-ft):	3757	0.53	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	2.84					

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension): 0.90 Strength reduction factor (Shear): 0.75
 Strength reduction factor (Axial compression): 0.65 Wind Load Factor on Concrete Design: 1.30

Load/
Capacity
Ratio

(1) Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	10829.5	> Design Factored Moment (Mu, Kips-F	4746.2	0.44	OKI
Calculated Shear Capacity (Kips):	1070.2	> Design Factored Shear (Kips):	45.8	0.04	OKI
Calculated Tension Capacity (Tn, Kips):	2986.2	> Design Factored Tension (Tu Kips):	0.0	0.00	OKI
Calculated Compression Capacity (Pn, Kips):	15680.6	> Design Factored Axial Load (Pu Kips):	63.8	0.00	OKI
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.44	OKI Check Tie Spacing (Design/Required):		0.5	OKI
Pier Reinforcement Ratio:	0.008	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1151.2	> One-Way Factored Shear (L-D. Kips):	254.3	0.22	OKI
One-Way Design Shear Capacity (W-Direction, Kips):	1151.2	> One-Way Factored Shear (W-D., Kips)	254.3	0.22	OKI
One-Way Design Shear Capacity (Corner-Corner. Kips):	1299.1	> One-Way Factored Shear (C-C, Kips):	369.4	0.28	OKI
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0014	OKI Lower Steel Pad Reinf. Ratio (W-Direc	0.0014		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	2285.5	> Moment at Bottom (L-Direct. K-Ft):	713.3	0.31	OKI
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	2285.5	> Moment at Bottom (W-Direct. K-Ft):	713.3	0.31	OKI
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	3223.1	> Moment at Bottom (C-C Dir. K-Ft):	1008.7	0.31	OKI
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0014	OKI Upper Steel Reinf. Ratio (W-Direct.):	0.0014		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	2285.5	> Moment at the top (L-Dir Kips-Ft):	332.4	0.15	OKI
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	2285.5	> Moment at the top (W-Dir Kips-Ft):	332.4	0.15	OKI
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	3223.1	> Moment at the top (C-C Direc. K-Ft):	802.9	0.25	OKI