

September 20, 2016

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

Re: **Notice of Exempt Modification – Facility Modification
651 Paddock Avenue, Meriden, Connecticut**

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless (“Cellco”) currently maintains nine (9) antennas at the 107-foot level of the existing 120-foot tower at 651 Paddock Avenue in Meriden, Connecticut (the “Property”). The tower is owned by SBA Communications (“SBA”). The Council approved Cellco’s use of this tower in 2008. Cellco now intends to modify its facility by replacing six (6) existing antennas with three (3) model SBNHH-1D65B, 700/2100 MHz antennas and three (3) model SBNHH-1D65B, 1900 MHz antennas, all at the same 107-foot level on the tower. Cellco also intends to replace three (3) remote radio heads (“RRHs”) and install six (6) new RRHs and two (2) HYBRIFLEX™ 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 notice is being sent to Kevin Scarpati, Mayor for the City of Meriden. A copy of this letter is also being sent to First Assembly Church of God, the owner 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).

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1. The proposed modifications will not result in an increase in the height of the existing structure. Cellco's new antennas and RRHs will be installed at a centerline height of 107 feet on the existing 120-foot tower.
2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the 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 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 can support Cellco's proposed modifications. (See Structural Analysis Report included in Attachment 3).

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

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

Sincerely,



Kenneth C. Baldwin

Enclosures
Copy to:

Kevin Scarpati, Meriden Mayor
First Assembly Church of God
SBA
Tim Parks

ATTACHMENT 1



SBNHH-1D65B

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

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

Electrical Specifications

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

Electrical Specifications, BASTA*

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

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

General Specifications

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

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground

SBNHH-1D65B

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

Dimensions

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

Remote Electrical Tilt (RET) Information

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

Packed Dimensions

Depth	296.0 mm 11.7 in
Length	2025.0 mm 79.7 in
Width	390.0 mm 15.4 in
Shipping Weight	31.0 kg 68.3 lb

Regulatory Compliance/Certifications

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



SBNHH-1D65B

Included Products

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

* Footnotes

Performance Note Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

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

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

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

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

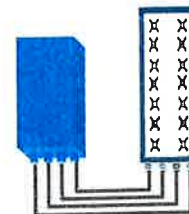


FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R
or
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

TECHNICAL SPECIFICATIONS

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

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

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



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

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

administration and maintenance (OA&M) information.

SUPERIOR RF PERFORMANCE

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

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

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

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

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

OPTIMIZED TCO

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

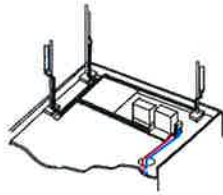
The Alcatel-Lucent RRH2x60-1900A-4R is a very cost-effective solution to deploy LTE MIMO.

EASY INSTALLATION

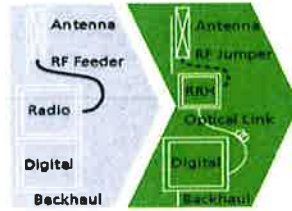
The limited space available in some sites may prevent the installation of traditional single-cabinet BTS equipment. However, many of these sites can host an Alcatel-Lucent RRH2x60-1900A-4R installation, providing more flexible site selection and improved network quality along with greatly reduced installation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

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

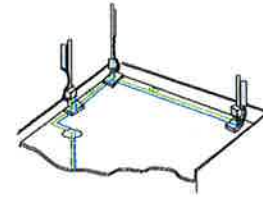
Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-190A-4R is compact and weighs about 21 kg, eliminating the need for a crane to hoist the BTS cabinet to the rooftop. A site can be in operation in less than one day.



Macro



RRH for space-constrained cell sites



Distributed

FEATURES

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

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

BENEFITS

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

- in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

TECHNICAL SPECIFICATIONS

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

Dimensions and weights

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

Electrical Data

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

RF Characteristics

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

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

Connectivity

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

Environmental specifications

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

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

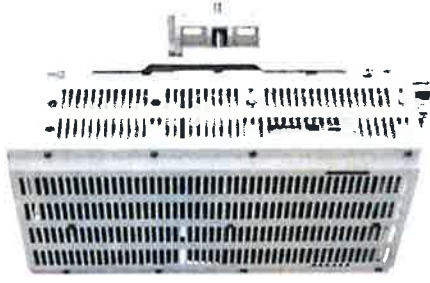
Safety and Regulatory Data

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

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B66A RRH 4X45 - PHYSICAL CHARACTERISTICS- TARGET 15.1



- Commercial Product Will include B66 support of AWS 1 and 3.
- Lower AWS 3 UL Not in 3GPP Band 66 Definition

B4 RRH4x45-4R (AWS-Extension Band)	
Frequency Band	LR15.1 – B4 / LR16.1 B66 (AWS 1 and 3 only)
RF Output Power	2x90W/4x45W (SW configurable)
Operational range	2110-2180 MHz, DL/ 1710-1780 MHz UL
Instantaneous Bandwidth	70MHz
Configuration (HW readiness)	LTE: 2T2R, 2T4R, 4T4R
Carrier Bandwidths	5, 10, 15 and 20 MHz
Interfaces	2x CPRI Rate 7 Ports Antenna Connectors 4.3-10
AISG Support	AISG 2.0 for RET Internal Smart Bias T
Monitor Ports	NA (Spec An to replace ports)
Environmental	GR487 Compliance / GR3178 Compliance (with exceptions)
Mounting options	Pole/Wall
Connectors location	All bottom
External Alarms	4
Annual Return Rate (Target)	<2%
Operating Temperature	-40 C to +55 C (without solar load)

Physical Dimensions – Not to Exceed		
	W/O Solar Shield	With Solar Shield
Dimensions HxWxD	H = 26in (H=660mm) W = 11.4in (W=290mm) D = 5.9in (D=150mm)	H = 26.6in (H=675mm) W = 12in (W=304mm) D = 6.8in (D=173mm)
Volume	29l	35.5l
Weight		64lbs / 29kg



Alcatel-Lucent



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)
Resistance			
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)			UL34-V0, UL1666 RoHS Compliant
Power			
Size (Power)		(mm (AWG))	8.4 (8)
Quantity, Wire Count (Power)			16 (8 pairs)
Size (Alarm)		(mm (AWG))	0.8 (18)
Quantity, Wire Count (Alarm)			4 (2 pairs)
Type			UV protected
Strands			19
Primary Jacket Diameter, Nominal		(mm (in))	6.8 (0.27)
Standards (Meets or exceeds)			NFPA 130, ICEA S-95-658 UL Type XHHW-2, UL 44 UL-LS Limited Smoke, UL VW-1 IEEE-383 (1974), IEEE 1202/FT4 RoHS Compliant
Temperature			
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

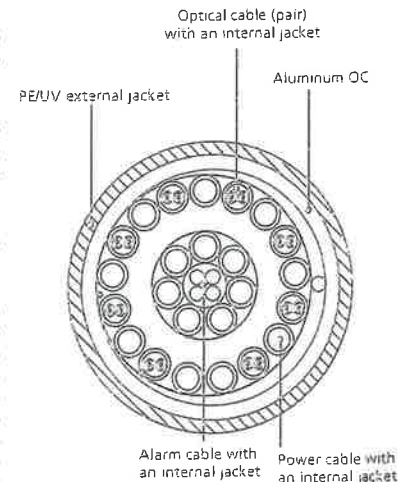


Figure 2: Construction Detail

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

ATTACHMENT 2

	General	Power	Density							
Site Name: Meriden SE										
Tower Height: 119Ft.										
CARRIER	# OF CHAN.	WATTS ERP	HEIGHT	CALC. POWER DENS	FREQ.	MAX. PERMISS. EXP.	FRACTION MPE	Total		
*T-Mobile	2	12	117	1950	0.0007	1.0000	0.01%			
*T-Mobile	4	16	117	2100	0.0019	1.0000	0.02%			
*Clearwire	2	153	97	2496	0.0133	1.0000	0.13%			
*Clearwire	1	211	97	11 GHz	0.0092	1.0000	0.09%			
Verizon PCS	1	2456	107	0.0771	1970	1.0000	7.71%			
Verizon Cellular	9	499	107	0.1410	869	0.5793	24.35%			
Verizon AWS	1	3615	107	0.1135	2145	1.0000	11.35%			
Verizon 700	1	1075	107	0.0338	746	0.4973	6.79%			
									50.45%	

* Source: Siting Council

ATTACHMENT 3



Tower Engineering Solutions

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

Structural Analysis Report

Existing 119 ft SABRE Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT13069-A

Customer Site Name: Meriden

Carrier Name: Verizon

Carrier Site ID / Name: 179857

Site Location: 651 Paddock Avenue

Meriden, CT

New Haven County

Latitude: 41.512750

Longitude: -72.779449

Analysis Result:

Max Structural Usage: 91.8% [Pass]

Max Foundation Usage: 96.0% [Pass]

Report Prepared By : Fabiaye Arinyedokiari



8/12/16

Introduction

The purpose of this report is to summarize the analysis results on the 119 ft SABRE 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	Sabre, Job #08-10201 dated November 9, 2007
Foundation Drawing	Sabre, Job #08-10201 dated November 9, 2007
Geotechnical Report	Gemini Geotechnical Associates, Project #07099CT dated August 21, 2007
Modification Drawings	N/A

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 mph (fastest mile)
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	117.0	3	Ericsson AIR 21 B2A/B4P - Panel	Standoff Mount (SitePro RDS-272)	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
2		3	Ericsson AIR 21 B4A/B2P - Panel			
3		3	Ericsson KRY 112 144/1 - TMA			
4		3	Ericsson S11B12 - RRU			
-	107.0	3	Commscope DBXNH-6565B-VTM - Panel	(3) Side Arm	(12) 1 5/8" (1) 1 5/8" Fiber	Verizon
-		3	Amphenol BXA-80063-6BF - Panel			
-		3	Antel BXA-171063/12BF - Panel			
-		6	RFS FD9R6004/2C-3L - Diplexers			
-		3	ALU RRH-2X40-AWS - RRH			
-		1	RFS DB-T1-6Z-8AB-OZ – Distribution Box			
11	97.0	3	Argus LLPX310R	(3) Side Arm	(3) 1/2" (6) 5/16"	Clearwire
12		3	Samsung 2.5GHz RRH			
13		1	Andrew VHLP1-23 - Dish			
14		2	Andrew VHLP2-18 - Dish			

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
5	107.0	3	Amphenol BXA-80063-6BF-EDIN-X – Panel	(3) Side Arm	(11) 1 5/8" (2) 1 5/8" Hybriflex Fiber	Verizon
6		6	Andrew SBNHH-1D65B – Panel			
7		3	ALU RRH2X90-AWS - RRH			
8		3	ALU RRH2X60-PCS - RRH			
9		3	ALU RRH2X60-700 - RRH			
10		2	RFS DB-T1-6Z-8AB-OZ – Distribution Box			

(1) 1 5/8" Fiber was considered running outside of pole shaft all other proposed transmission lines are considered running inside of the pole shaft. If installed outside, the line shall be strapped tightly to the face of the pole shaft. Stacking lines is not allowed.

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
Max. Usage:	91.8%	84.5%	74.3%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Original Design Reactions	1627.5	19.1	26.6
Analysis Reactions	1326.9	15.9	21.5
% of Design Reactions	81.5%	83.2%	80.8%

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):

Maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
107.0	Various Panels	Verizon	0.000	1.263
97.0	Andrew VHLP1-23	Clearwire	0.000	1.231
	Andrew VHLP2-18			

It is recommended that the carriers review the twist and sway values of the microwave dishes.

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 and/or 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 91.8% at 0.0ft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

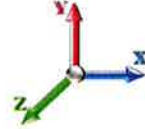
8/12/2016



Page: 1

Dead Load Factor: 1.00
Wind Load Factor: 1.00

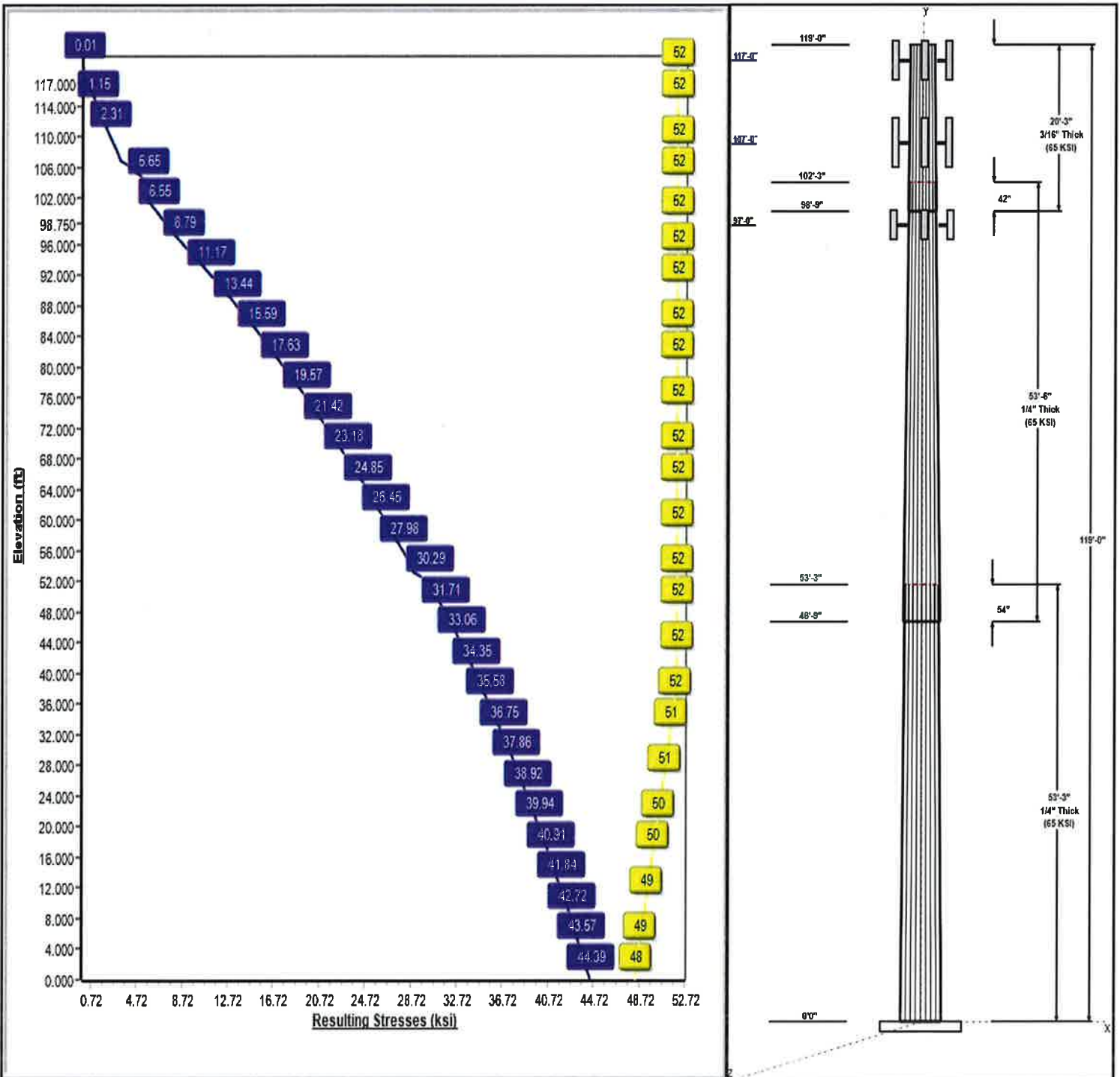
Load Case : 85 mph Wind with 0 in Ice



Iterations: 27

- 48 Allowable Stress
- 44 Resulting Stress

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Structure: CT13069-A-SBA

Type: Tapered
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.16197

8/12/2016

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Shaft Properties							
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	53.25	34.63	43.26	0.250		0.16197	65
2	53.50	27.20	35.86	0.250	Slip	0.16197	65
3	20.25	24.86	28.14	0.188	Slip	0.16197	65

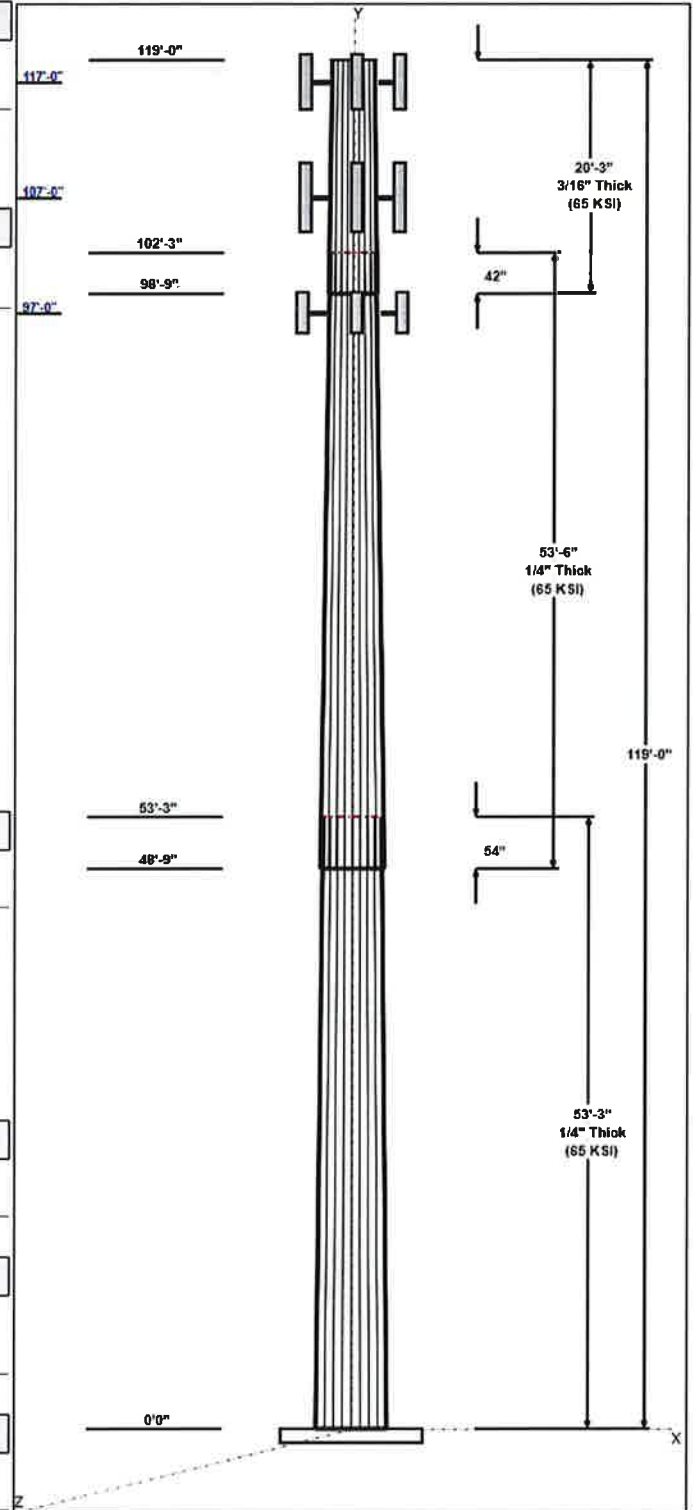
Discrete Appurtenances				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
117.00	117.00	3	AIR 21 B2A B4P	T-Mobile
117.00	117.00	3	AIR 21 B4A B2P	T-Mobile
117.00	117.00	3	KRY 112 144/1	T-Mobile
117.00	117.00	3	S11B12	T-Mobile
117.00	117.00	3	(3) Standoff Mount	T-Mobile
107.00	107.00	3	Side Arms	Verizon
107.00	107.00	3	BXA-80063-6BF-EDIN-X	Verizon
107.00	107.00	6	SBNHH-1D65B	Verizon
107.00	107.00	3	RRH2X90-AWS	Verizon
107.00	107.00	3	RRH2X60-PCS	Verizon
107.00	107.00	3	RRH2X60-700	Verizon
107.00	107.00	2	DB-T1-6Z-8AB-OZ	Verizon
97.00	97.00	3	LLPX310R	Clearwire
97.00	97.00	2	VHLP2-18	Clearwire
97.00	97.00	1	VHLP1-23	Clearwire
97.00	97.00	3	2.5GHz RRH	Clearwire
97.00	97.00	3	Side Arm	Clearwire

Linear Appurtenances				
Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	117.00	Inside	1 5/8" Coax	T-Mobile
0.00	117.00	Inside	1 5/8" Fiber	T-Mobile
0.00	107.00	Inside	1 5/8" Coax	Verizon
0.00	107.00	Outside	1 5/8" Hybrid	Verizon
0.00	107.00	Inside	1 5/8" Hybriflex Fiber	Verizon
0.00	97.00	Inside	1/2" Coax	Clearwire
0.00	97.00	Inside	5/16" Coax	Clearwire

Anchor Bolts			
Qty	Specifications	Grade (ksi)	Arrangement
8	2.25" 18J	75.0	Cluster

Base Plate			
Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.2500	47.0	60.0	Clipped

Reactions				
Load Case	Moment	Shear	Axial	
85 mph Wind with 0" Ice	1326.9	15.9	17.5	
73.61 mph Wind with 0.5" Ice	1174.2	13.7	21.5	
50 mph Wind with 0" Ice	459.4	5.5	17.5	

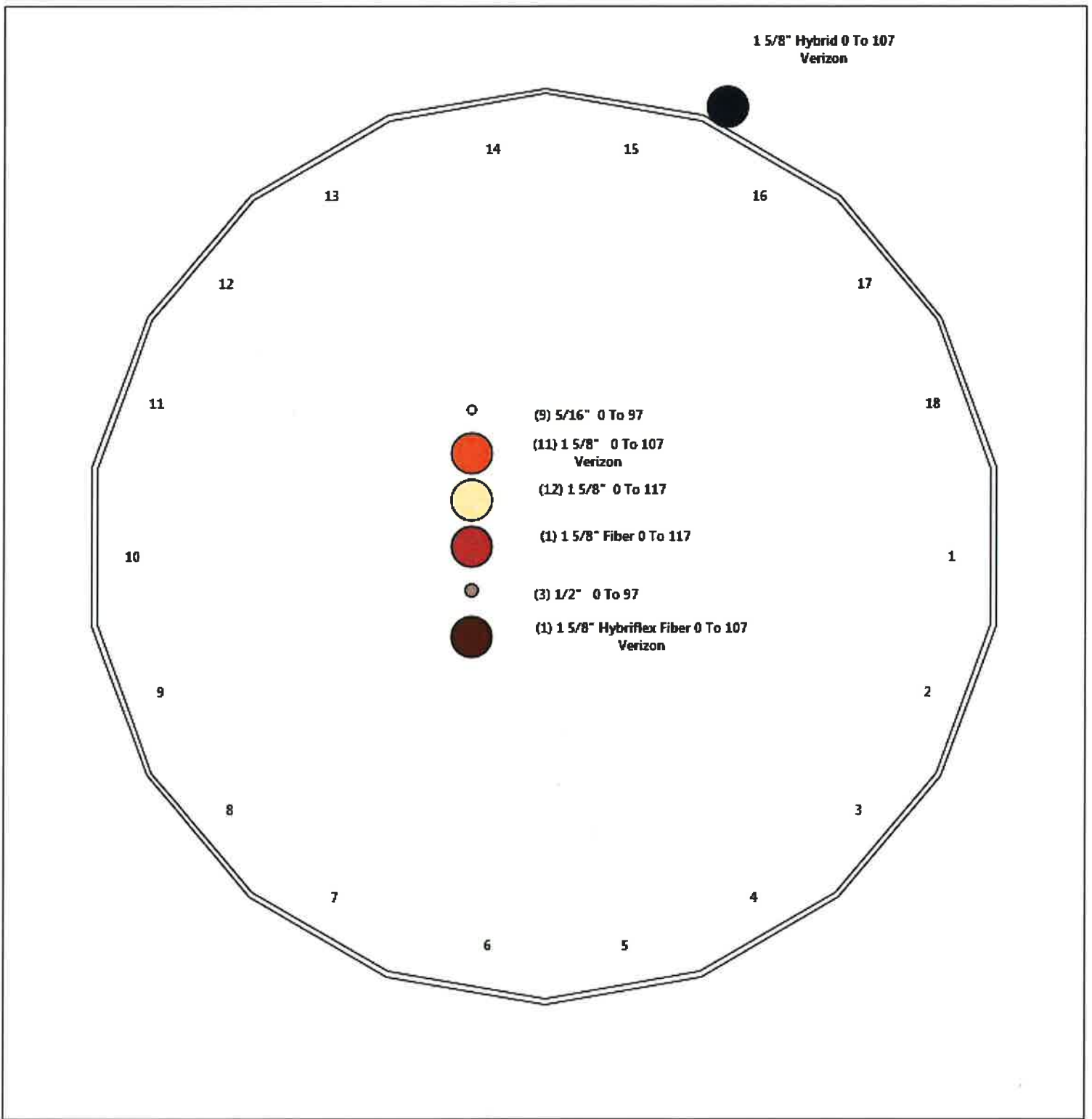


Structure: CT13069-A-SBA - Coax Line Placement

Type: Monopole
Site Name: Meriden
Height: 119.00 (ft)

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Shaft Properties

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	53.250	0.2500	65		0.00	5,564
2	18	53.500	0.2500	65	Slip	54.00	4,519
3	18	20.250	0.1875	65	Slip	42.00	1,079
Total Shaft Weight:							11,161

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	43.26	0.00	34.13	7976.14	29.10	173.04	34.63	53.25	27.28	4075.54	23.02	138.54	0.161975
2	35.86	48.75	28.26	4528.32	23.88	143.45	27.20	102.2	21.38	1961.86	17.77	108.79	0.161975
3	28.14	98.75	16.63	1642.13	25.05	150.08	24.86	119.0	14.68	1129.24	21.97	132.59	0.161975

Loading Summary

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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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	117.00	AIR 21 B2A B4P	3	91.50	6.58	0.83	129.20	6.970	0.83	0.00	0.00
2	117.00	AIR 21 B4A B2P	3	96.00	6.58	0.83	128.10	6.970	0.83	0.00	0.00
3	117.00	KRY 112 144/1	3	11.00	0.41	0.72	14.10	0.550	0.72	0.00	0.00
4	117.00	S11B12	3	51.00	3.31	0.67	67.10	3.520	0.71	0.00	0.00
5	117.00	(3) Standoff Mount (RDS-272)	3	198.00	2.10	0.67	250.00	6.000	0.67	0.00	0.00
6	107.00	Side Arms	3	120.00	1.50	0.67	150.00	6.000	0.67	0.00	0.00
7	107.00	BXA-80063-6BF-EDIN-X	3	19.20	7.47	0.78	57.70	7.920	0.78	0.00	0.00
8	107.00	SBNHH-1D65B	6	40.60	8.33	0.83	87.00	8.800	0.83	0.00	0.00
9	107.00	RRH2X90-AWS	3	64.00	3.03	0.67	80.50	3.250	0.75	0.00	0.00
10	107.00	RRH2X60-PCS	3	55.00	2.57	0.67	70.90	2.760	0.89	0.00	0.00
11	107.00	RRH2X60-700	3	55.00	3.96	0.67	75.10	4.230	0.76	0.00	0.00
12	107.00	DB-T1-6Z-8AB-OZ	2	18.90	5.60	0.67	46.00	5.870	0.71	0.00	0.00
13	97.00	LLPX310R	3	28.60	4.83	0.69	54.50	5.360	0.69	0.00	0.00
14	97.00	VHLP2-18	2	31.00	4.69	1.00	54.80	5.050	1.00	0.00	0.00
15	97.00	VHLP1-23	1	14.20	1.61	1.00	24.30	1.820	1.00	0.00	0.00
16	97.00	2.5GHz RRH	3	33.00	1.82	0.67	44.90	2.090	0.73	0.00	0.00
17	97.00	Side Arm	3	120.00	2.78	0.67	150.00	6.000	0.67	0.00	0.00
Totals:			50	3,184.50			4,564.20				

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	117.00	(12) 1 5/8" Coax	12.48	0.00	12.48	0.00	Inside
0.00	117.00	(1) 1 5/8" Fiber	1.10	0.00	1.10	0.00	Inside
0.00	107.00	(11) 1 5/8" Coax	11.44	0.00	11.44	0.00	Inside
0.00	107.00	(1) 1 5/8" Hybrid	1.10	0.20	1.65	0.30	Outside
0.00	107.00	(1) 1 5/8" Hybriflex Fiber	1.10	0.00	1.10	0.00	Inside
0.00	97.00	(3) 1/2" Coax	0.48	0.00	0.48	0.00	Inside
0.00	97.00	(9) 5/16" Coax	0.72	0.00	0.72	0.00	Inside
Totals:			3,164.74		3,223.59		

Shaft Section Properties

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.2500	43.260	34.127	7976.1	29.10	173.04	65	48	0.0
2.00		0.2500	42.936	33.870	7797.3	28.87	171.74	65	49	231.4
4.00		0.2500	42.612	33.613	7621.1	28.64	170.45	65	49	229.6
6.00		0.2500	42.288	33.356	7447.6	28.42	169.15	65	49	227.9
8.00		0.2500	41.964	33.099	7276.7	28.19	167.86	65	49	226.1
10.00		0.2500	41.640	32.842	7108.5	27.96	166.56	65	49	224.4
12.00		0.2500	41.316	32.585	6942.9	27.73	165.27	65	50	222.6
14.00		0.2500	40.992	32.328	6779.9	27.50	163.97	65	50	220.9
16.00		0.2500	40.668	32.071	6619.4	27.27	162.67	65	50	219.1
18.00		0.2500	40.344	31.814	6461.6	27.04	161.38	65	50	217.4
20.00		0.2500	40.021	31.557	6306.2	26.82	160.08	65	50	215.6
22.00		0.2500	39.697	31.300	6153.3	26.59	158.79	65	50	213.9
24.00		0.2500	39.373	31.043	6003.0	26.36	157.49	65	51	212.1
26.00		0.2500	39.049	30.786	5855.1	26.13	156.19	65	51	210.4
28.00		0.2500	38.725	30.529	5709.7	25.90	154.90	65	51	208.6
30.00		0.2500	38.401	30.272	5566.6	25.67	153.60	65	51	206.9
32.00		0.2500	38.077	30.014	5426.0	25.45	152.31	65	51	205.1
34.00		0.2500	37.753	29.757	5287.8	25.22	151.01	65	52	203.4
36.00		0.2500	37.429	29.500	5152.0	24.99	149.72	65	52	201.6
38.00		0.2500	37.105	29.243	5018.5	24.76	148.42	65	52	199.9
40.00		0.2500	36.781	28.986	4887.3	24.53	147.12	65	52	198.1
42.00		0.2500	36.457	28.729	4758.4	24.30	145.83	65	52	196.4
44.00		0.2500	36.133	28.472	4631.9	24.07	144.53	65	52	194.6
46.00		0.2500	35.809	28.215	4507.5	23.85	143.24	65	52	192.9
48.00		0.2500	35.485	27.958	4385.5	23.62	141.94	65	52	191.1
48.75	Bot - Section 2	0.2500	35.364	27.862	4340.3	23.53	141.45	65	52	71.2
50.00		0.2500	35.161	27.701	4265.6	23.39	140.65	65	52	238.0
52.00		0.2500	34.837	27.444	4148.0	23.16	139.35	65	52	378.0
53.25	Top - Section 1	0.2500	35.135	27.680	4255.9	23.37	140.54	65	52	234.5
54.00		0.2500	35.013	27.584	4211.6	23.28	140.05	65	52	70.5
56.00		0.2500	34.689	27.327	4095.0	23.06	138.76	65	52	186.8
58.00		0.2500	34.365	27.070	3980.5	22.83	137.46	65	52	185.1
60.00		0.2500	34.042	26.813	3868.2	22.60	136.17	65	52	183.3
62.00		0.2500	33.718	26.556	3758.0	22.37	134.87	65	52	181.6
64.00		0.2500	33.394	26.299	3649.9	22.14	133.57	65	52	179.9
66.00		0.2500	33.070	26.041	3543.9	21.91	132.28	65	52	178.1
68.00		0.2500	32.746	25.784	3440.0	21.69	130.98	65	52	176.4
70.00		0.2500	32.422	25.527	3338.2	21.46	129.69	65	52	174.6
72.00		0.2500	32.098	25.270	3238.3	21.23	128.39	65	52	172.9
74.00		0.2500	31.774	25.013	3140.5	21.00	127.10	65	52	171.1
76.00		0.2500	31.450	24.756	3044.7	20.77	125.80	65	52	169.4
78.00		0.2500	31.126	24.499	2950.8	20.54	124.50	65	52	167.6
80.00		0.2500	30.802	24.242	2858.9	20.31	123.21	65	52	165.9
82.00		0.2500	30.478	23.985	2769.0	20.09	121.91	65	52	164.1
84.00		0.2500	30.154	23.728	2680.9	19.86	120.62	65	52	162.4
86.00		0.2500	29.830	23.471	2594.7	19.63	119.32	65	52	160.6
88.00		0.2500	29.506	23.214	2510.4	19.40	118.02	65	52	158.9
90.00		0.2500	29.182	22.957	2427.9	19.17	116.73	65	52	157.1
92.00		0.2500	28.858	22.700	2347.3	18.94	115.43	65	52	155.4
94.00		0.2500	28.534	22.443	2268.4	18.71	114.14	65	52	153.6
96.00		0.2500	28.210	22.186	2191.4	18.49	112.84	65	52	151.9
97.00		0.2500	28.048	22.057	2153.5	18.37	112.19	65	52	75.3

Increment Length: 2 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
98.00		0.2500	27.886	21.929	2116.1	18.26	111.55	65	52	74.8
98.75	Bot - Section 3	0.2500	27.765	21.832	2088.3	18.17	111.06	65	52	55.8
100.00		0.2500	27.563	21.672	2042.5	18.03	110.25	65	52	163.0
102.00		0.2500	27.239	21.415	1970.7	17.80	108.95	65	52	258.3
102.25	Top - Section 2	0.1875	27.573	16.297	1544.2	24.52	147.06	65	52	32.1
104.00		0.1875	27.290	16.129	1496.8	24.25	145.54	65	52	96.5
106.00		0.1875	26.966	15.936	1443.7	23.95	143.82	65	52	109.1
107.00		0.1875	26.804	15.839	1417.7	23.80	142.95	65	52	54.1
108.00		0.1875	26.642	15.743	1392.0	23.64	142.09	65	52	53.7
110.00		0.1875	26.318	15.550	1341.5	23.34	140.36	65	52	106.5
112.00		0.1875	25.994	15.357	1292.2	23.03	138.63	65	52	105.2
114.00		0.1875	25.670	15.165	1244.1	22.73	136.91	65	52	103.9
116.00		0.1875	25.346	14.972	1197.3	22.42	135.18	65	52	102.5
117.00		0.1875	25.184	14.875	1174.3	22.27	134.31	65	52	50.8
118.00		0.1875	25.022	14.779	1151.6	22.12	133.45	65	52	50.5
119.00		0.1875	24.860	14.683	1129.2	21.97	132.59	65	52	50.1
										11161.3

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016

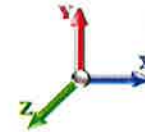
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00

Iterations: 27



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	18.496	31.26	306.43	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		0.00	1.00	18.496	31.26	304.13	0.650	0.000	2.00	7.183	4.67	145.9	0.0	231.4
4.00		0.00	1.00	18.496	31.26	301.84	0.650	0.000	2.00	7.129	4.63	144.8	0.0	229.6
6.00		0.00	1.00	18.496	31.26	299.54	0.650	0.000	2.00	7.075	4.60	143.7	0.0	227.9
8.00		0.00	1.00	18.496	31.26	297.25	0.650	0.000	2.00	7.021	4.56	142.7	0.0	226.1
10.00		0.00	1.00	18.496	31.26	294.95	0.650	0.000	2.00	6.967	4.53	141.6	0.0	224.4
12.00		0.00	1.00	18.496	31.26	292.66	0.650	0.000	2.00	6.913	4.49	140.5	0.0	222.6
14.00		0.00	1.00	18.496	31.26	290.36	0.650	0.000	2.00	6.859	4.46	139.4	0.0	220.9
16.00		0.00	1.00	18.496	31.26	288.07	0.650	0.000	2.00	6.805	4.42	138.3	0.0	219.1
18.00		0.00	1.00	18.496	31.26	285.77	0.650	0.000	2.00	6.751	4.39	137.2	0.0	217.4
20.00		0.00	1.00	18.496	31.26	283.48	0.650	0.000	2.00	6.697	4.35	136.1	0.0	215.6
22.00		0.00	1.00	18.496	31.26	281.18	0.650	0.000	2.00	6.643	4.32	135.0	0.0	213.9
24.00		0.00	1.00	18.496	31.26	278.89	0.650	0.000	2.00	6.589	4.28	133.9	0.0	212.1
26.00		0.00	1.00	18.496	31.26	276.59	0.650	0.000	2.00	6.535	4.25	132.8	0.0	210.4
28.00		0.00	1.00	18.496	31.26	274.30	0.650	0.000	2.00	6.481	4.21	131.7	0.0	208.6
30.00		0.00	1.00	18.496	31.26	272.01	0.650	0.000	2.00	6.427	4.18	130.6	0.0	206.9
32.00		0.00	1.00	18.496	31.26	269.71	0.650	0.000	2.00	6.373	4.14	129.5	0.0	205.1
34.00		0.00	1.01	18.654	31.53	268.56	0.650	0.000	2.00	6.319	4.11	129.5	0.0	203.4
36.00		0.00	1.03	18.962	32.05	268.44	0.650	0.000	2.00	6.265	4.07	130.5	0.0	201.6
38.00		0.00	1.04	19.257	32.54	268.18	0.650	0.000	2.00	6.211	4.04	131.4	0.0	199.9
40.00		0.00	1.06	19.541	33.02	267.79	0.650	0.000	2.00	6.157	4.00	132.2	0.0	198.1
42.00		0.00	1.07	19.815	33.49	267.29	0.650	0.000	2.00	6.103	3.97	132.8	0.0	196.4
44.00		0.00	1.09	20.081	33.94	266.68	0.650	0.000	2.00	6.049	3.93	133.4	0.0	194.6
46.00		0.00	1.10	20.337	34.37	265.97	0.650	0.000	2.00	5.995	3.90	133.9	0.0	192.9
48.00		0.00	1.11	20.586	34.79	265.17	0.650	0.000	2.00	5.941	3.86	134.4	0.0	191.1
48.75 Bot - Section 2		0.00	1.12	20.677	34.94	264.85	0.650	0.000	0.75	2.214	1.44	50.3	0.0	71.2
50.00		0.00	1.13	20.827	35.20	264.29	0.650	0.000	1.25	3.725	2.42	85.2	0.0	238.0
52.00		0.00	1.14	21.062	35.60	263.33	0.650	0.000	2.00	5.917	3.85	136.9	0.0	378.0
53.25 Top - Section 1		0.00	1.15	21.206	35.84	262.69	0.650	0.000	1.25	3.670	2.39	85.5	0.0	234.5
54.00		0.00	1.15	21.291	35.98	266.09	0.650	0.000	0.75	2.192	1.42	51.3	0.0	70.5
56.00		0.00	1.16	21.513	36.36	265.00	0.650	0.000	2.00	5.809	3.78	137.3	0.0	186.8
58.00		0.00	1.17	21.730	36.72	263.84	0.650	0.000	2.00	5.755	3.74	137.4	0.0	185.1
60.00		0.00	1.19	21.941	37.08	262.63	0.650	0.000	2.00	5.701	3.71	137.4	0.0	183.3
62.00		0.00	1.20	22.148	37.43	261.35	0.650	0.000	2.00	5.647	3.67	137.4	0.0	181.6
64.00		0.00	1.21	22.350	37.77	260.01	0.650	0.000	2.00	5.593	3.64	137.3	0.0	179.9
66.00		0.00	1.22	22.547	38.10	258.63	0.650	0.000	2.00	5.539	3.60	137.2	0.0	178.1
68.00		0.00	1.23	22.740	38.43	257.19	0.650	0.000	2.00	5.485	3.56	137.0	0.0	176.4
70.00		0.00	1.24	22.929	38.75	255.70	0.650	0.000	2.00	5.431	3.53	136.8	0.0	174.6
72.00		0.00	1.25	23.114	39.06	254.17	0.650	0.000	2.00	5.377	3.49	136.5	0.0	172.9
74.00		0.00	1.26	23.296	39.37	252.59	0.650	0.000	2.00	5.323	3.46	136.2	0.0	171.1
76.00		0.00	1.27	23.474	39.67	250.97	0.650	0.000	2.00	5.269	3.42	135.9	0.0	169.4
78.00		0.00	1.28	23.649	39.97	249.30	0.650	0.000	2.00	5.215	3.39	135.5	0.0	167.6
80.00		0.00	1.29	23.821	40.26	247.60	0.650	0.000	2.00	5.161	3.35	135.0	0.0	165.9
82.00		0.00	1.30	23.989	40.54	245.86	0.650	0.000	2.00	5.107	3.32	134.6	0.0	164.1
84.00		0.00	1.31	24.155	40.82	244.09	0.650	0.000	2.00	5.053	3.28	134.1	0.0	162.4
86.00		0.00	1.31	24.318	41.10	242.28	0.650	0.000	2.00	4.999	3.25	133.5	0.0	160.6
88.00		0.00	1.32	24.478	41.37	240.44	0.650	0.000	2.00	4.945	3.21	133.0	0.0	158.9
90.00		0.00	1.33	24.636	41.63	238.56	0.650	0.000	2.00	4.891	3.18	132.4	0.0	157.1

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016

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92.00	0.00	1.34	24.791	41.90	236.66	0.650	0.000	2.00	4.837	3.14	131.7	0.0	155.4			
94.00	0.00	1.35	24.944	42.16	234.72	0.650	0.000	2.00	4.783	3.11	131.1	0.0	153.6			
96.00	0.00	1.36	25.095	42.41	232.75	0.650	0.000	2.00	4.729	3.07	130.4	0.0	151.9			
97.00 Appurtenance(s)	0.00	1.36	25.169	42.54	231.76	0.650	0.000	1.00	2.344	1.52	64.8	0.0	75.3			
98.00	0.00	1.36	25.243	42.66	230.76	0.650	0.000	1.00	2.331	1.51	64.6	0.0	74.8			
98.75 Bot - Section 3	0.00	1.37	25.298	42.75	230.01	0.650	0.000	0.75	1.739	1.13	48.3	0.0	55.8			
100.00	0.00	1.37	25.389	42.91	228.74	0.650	0.000	1.25	2.921	1.90	81.5	0.0	163.0			
102.00	0.00	1.38	25.533	43.15	226.69	0.650	0.000	2.00	4.629	3.01	129.8	0.0	258.3			
102.25 Top - Section 2	0.00	1.38	25.551	43.18	226.43	0.650	0.000	0.25	0.575	0.37	16.1	0.0	32.1			
104.00	0.00	1.39	25.675	43.39	227.75	0.650	0.000	1.75	4.000	2.60	112.8	0.0	96.5			
106.00	0.00	1.40	25.815	43.63	225.66	0.650	0.000	2.00	4.521	2.94	128.2	0.0	109.1			
107.00 Appurtenance(s)	0.00	1.40	25.885	43.74	224.60	0.650	0.000	1.00	2.240	1.46	63.7	0.0	54.1			
108.00	0.00	1.40	25.953	43.86	223.54	0.650	0.000	1.00	2.227	1.45	63.5	0.0	53.7			
110.00	0.00	1.41	26.090	44.09	221.40	0.650	0.000	2.00	4.413	2.87	126.5	0.0	106.5			
112.00	0.00	1.42	26.225	44.32	219.24	0.650	0.000	2.00	4.359	2.83	125.6	0.0	105.2			
114.00	0.00	1.43	26.357	44.54	217.06	0.650	0.000	2.00	4.305	2.80	124.7	0.0	103.9			
116.00	0.00	1.43	26.489	44.77	214.85	0.650	0.000	2.00	4.251	2.76	123.7	0.0	102.5			
117.00 Appurtenance(s)	0.00	1.44	26.554	44.88	213.74	0.650	0.000	1.00	2.105	1.37	61.4	0.0	50.8			
118.00	0.00	1.44	26.618	44.99	212.62	0.650	0.000	1.00	2.092	1.36	61.2	0.0	50.5			
119.00	0.00	1.44	26.683	45.09	211.50	0.650	0.000	1.00	2.078	1.35	60.9	0.0	50.1			
Totals:								119.00				7,965.5				11,161.3

Discrete Appurtenance Forces

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

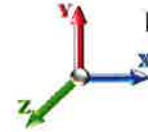
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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	117.00	(3) Standoff Mount	3	26.554	44.876	0.67	4.22	594.00	0.000	0.000	189.42	0.00	0.00
2	117.00	S11B12	3	26.554	44.876	0.67	6.65	153.00	0.000	0.000	298.56	0.00	0.00
3	117.00	KRY 112 144/1	3	26.554	44.876	0.72	0.89	33.00	0.000	0.000	39.74	0.00	0.00
4	117.00	AIR 21 B4A B2P	3	26.554	44.876	0.83	16.38	288.00	0.000	0.000	735.26	0.00	0.00
5	117.00	AIR 21 B2A B4P	3	26.554	44.876	0.83	16.38	274.50	0.000	0.000	735.26	0.00	0.00
6	107.00	DB-T1-6Z-8AB-OZ	2	25.885	43.745	0.67	7.50	37.80	0.000	0.000	328.26	0.00	0.00
7	107.00	RRH2X60-700	3	25.885	43.745	0.67	7.96	165.00	0.000	0.000	348.19	0.00	0.00
8	107.00	RRH2X60-PCS	3	25.885	43.745	0.67	5.17	165.00	0.000	0.000	225.97	0.00	0.00
9	107.00	RRH2X90-AWS	3	25.885	43.745	0.67	6.09	192.00	0.000	0.000	266.42	0.00	0.00
10	107.00	SBNHH-1D65B	6	25.885	43.745	0.83	41.48	243.60	0.000	0.000	1814.69	0.00	0.00
11	107.00	BXA-80063-6BF-EDIN-X	3	25.885	43.745	0.78	17.48	57.60	0.000	0.000	764.65	0.00	0.00
12	107.00	Side Arms	3	25.885	43.745	0.67	3.02	360.00	0.000	0.000	131.89	0.00	0.00
13	97.00	Side Arm	3	25.169	42.536	0.67	5.59	360.00	0.000	0.000	237.68	0.00	0.00
14	97.00	2.5GHz RRH	3	25.169	42.536	0.67	3.66	99.00	0.000	0.000	155.60	0.00	0.00
15	97.00	VHLP1-23	1	25.169	42.536	1.00	1.61	14.20	0.000	0.000	68.48	0.00	0.00
16	97.00	VHLP2-18	2	25.169	42.536	1.00	9.38	62.00	0.000	0.000	398.98	0.00	0.00
17	97.00	LLPX310R	3	25.169	42.536	0.69	10.00	85.80	0.000	0.000	425.28	0.00	0.00
Totals:								3,184.50			7,164.34		

Total Applied Force Summary

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

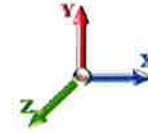
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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
2.00		158.45	288.22	0.00	0.00
4.00		157.35	286.47	0.00	0.00
6.00		156.25	284.72	0.00	0.00
8.00		155.16	282.97	0.00	0.00
10.00		154.06	281.22	0.00	0.00
12.00		152.96	279.47	0.00	0.00
14.00		151.86	277.72	0.00	0.00
16.00		150.77	275.97	0.00	0.00
18.00		149.67	274.23	0.00	0.00
20.00		148.57	272.48	0.00	0.00
22.00		147.48	270.73	0.00	0.00
24.00		146.38	268.98	0.00	0.00
26.00		145.28	267.23	0.00	0.00
28.00		144.19	265.48	0.00	0.00
30.00		143.09	263.73	0.00	0.00
32.00		141.99	261.98	0.00	0.00
34.00		142.10	260.23	0.00	0.00
36.00		143.32	258.48	0.00	0.00
38.00		144.41	256.73	0.00	0.00
40.00		145.38	254.98	0.00	0.00
42.00		146.24	253.23	0.00	0.00
44.00		147.01	251.48	0.00	0.00
46.00		147.68	249.73	0.00	0.00
48.00		148.27	247.99	0.00	0.00
48.75		55.53	92.54	0.00	0.00
50.00		94.03	273.55	0.00	0.00
52.00		151.13	434.83	0.00	0.00
53.25		94.46	269.99	0.00	0.00
54.00		56.67	91.83	0.00	0.00
56.00		151.81	243.69	0.00	0.00
58.00		152.05	241.94	0.00	0.00
60.00		152.23	240.19	0.00	0.00
62.00		152.35	238.44	0.00	0.00
64.00		152.41	236.69	0.00	0.00
66.00		152.42	234.94	0.00	0.00
68.00		152.38	233.19	0.00	0.00
70.00		152.28	231.44	0.00	0.00
72.00		152.14	229.69	0.00	0.00
74.00		151.96	227.94	0.00	0.00
76.00		151.73	226.19	0.00	0.00
78.00		151.46	224.45	0.00	0.00
80.00		151.14	222.70	0.00	0.00
82.00		150.79	220.95	0.00	0.00
84.00		150.40	219.20	0.00	0.00
86.00		149.97	217.45	0.00	0.00
88.00		149.51	215.70	0.00	0.00
90.00		149.01	213.95	0.00	0.00
92.00		148.48	212.20	0.00	0.00

Total Applied Force Summary

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016

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94.00	147.91	210.45	0.00	0.00
96.00	147.32	208.70	0.00	0.00
97.00 (12) appurtenances	1359.34	724.69	0.00	0.00
98.00	73.16	102.06	0.00	0.00
98.75	54.74	76.26	0.00	0.00
100.00	92.18	197.05	0.00	0.00
102.00	147.10	312.79	0.00	0.00
102.25	18.29	38.88	0.00	0.00
104.00	128.01	144.18	0.00	0.00
106.00	145.67	163.55	0.00	0.00
107.00 (23) appurtenances	3952.53	1302.28	0.00	0.00
108.00	63.49	67.31	0.00	0.00
110.00	126.48	133.64	0.00	0.00
112.00	125.58	132.33	0.00	0.00
114.00	124.65	131.02	0.00	0.00
116.00	123.70	129.71	0.00	0.00
117.00 (15) appurtenances	2059.65	1406.86	0.00	0.00
118.00	61.17	50.45	0.00	0.00
119.00	60.92	50.13	0.00	0.00
Totals:	15,906.17	17,510.49	0.00	0.00

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

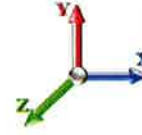
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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	-15.919	-17.497	0.000	0.000	0.000	-1326.913	0.000	0.000	0.000	0.000	0.000
2.00	-15.789	-17.183	0.000	0.000	0.000	-1295.075	-0.020	0.000	0.020	-0.094	0.000
4.00	-15.658	-16.871	0.000	0.000	0.000	-1263.498	-0.080	0.000	0.080	-0.187	0.000
6.00	-15.528	-16.562	0.000	0.000	0.000	-1232.182	-0.179	0.000	0.179	-0.280	0.000
8.00	-15.397	-16.255	0.000	0.000	0.000	-1201.128	-0.316	0.000	0.316	-0.373	0.000
10.00	-15.267	-15.951	0.000	0.000	0.000	-1170.334	-0.493	0.000	0.493	-0.466	0.000
12.00	-15.137	-15.648	0.000	0.000	0.000	-1139.801	-0.708	0.000	0.708	-0.558	0.000
14.00	-15.006	-15.348	0.000	0.000	0.000	-1109.528	-0.962	0.000	0.962	-0.650	0.000
16.00	-14.876	-15.050	0.000	0.000	0.000	-1079.516	-1.255	0.000	1.255	-0.742	0.000
18.00	-14.747	-14.754	0.000	0.000	0.000	-1049.763	-1.585	0.000	1.585	-0.834	0.000
20.00	-14.617	-14.461	0.000	0.000	0.000	-1020.271	-1.955	0.000	1.955	-0.925	0.000
22.00	-14.487	-14.170	0.000	0.000	0.000	-991.038	-2.362	0.000	2.362	-1.016	0.000
24.00	-14.358	-13.881	0.000	0.000	0.000	-962.064	-2.807	0.000	2.807	-1.106	0.000
26.00	-14.228	-13.595	0.000	0.000	0.000	-933.349	-3.290	0.000	3.290	-1.196	0.000
28.00	-14.099	-13.311	0.000	0.000	0.000	-904.893	-3.810	0.000	3.810	-1.285	0.000
30.00	-13.970	-13.029	0.000	0.000	0.000	-876.695	-4.368	0.000	4.368	-1.374	0.000
32.00	-13.841	-12.749	0.000	0.000	0.000	-848.756	-4.963	0.000	4.963	-1.462	0.000
34.00	-13.711	-12.472	0.000	0.000	0.000	-821.074	-5.594	0.000	5.594	-1.550	0.000
36.00	-13.579	-12.197	0.000	0.000	0.000	-793.651	-6.262	0.000	6.262	-1.636	0.000
38.00	-13.445	-11.924	0.000	0.000	0.000	-766.493	-6.967	0.000	6.967	-1.723	0.000
40.00	-13.309	-11.654	0.000	0.000	0.000	-739.603	-7.707	0.000	7.707	-1.808	0.000
42.00	-13.172	-11.387	0.000	0.000	0.000	-712.985	-8.483	0.000	8.483	-1.893	0.000
44.00	-13.033	-11.121	0.000	0.000	0.000	-686.642	-9.293	0.000	9.293	-1.976	0.000
46.00	-12.892	-10.858	0.000	0.000	0.000	-660.577	-10.139	0.000	10.139	-2.059	0.000
48.00	-12.745	-10.604	0.000	0.000	0.000	-634.794	-11.020	0.000	11.020	-2.141	0.000
48.75	-12.693	-10.504	0.000	0.000	0.000	-625.235	-11.358	0.000	11.358	-2.171	0.000
50.00	-12.601	-10.220	0.000	0.000	0.000	-609.369	-11.934	0.000	11.934	-2.222	0.000
52.00	-12.443	-9.778	0.000	0.000	0.000	-584.168	-12.882	0.000	12.882	-2.302	0.000
53.25	-12.345	-9.503	0.000	0.000	0.000	-568.614	-13.491	0.000	13.491	-2.351	0.000
54.00	-12.293	-9.403	0.000	0.000	0.000	-559.356	-13.863	0.000	13.863	-2.381	0.000
56.00	-12.143	-9.150	0.000	0.000	0.000	-534.770	-14.876	0.000	14.876	-2.454	0.000
58.00	-11.991	-8.900	0.000	0.000	0.000	-510.486	-15.920	0.000	15.920	-2.527	0.000
60.00	-11.839	-8.652	0.000	0.000	0.000	-486.503	-16.994	0.000	16.994	-2.598	0.000
62.00	-11.686	-8.407	0.000	0.000	0.000	-462.826	-18.097	0.000	18.097	-2.668	0.000
64.00	-11.532	-8.164	0.000	0.000	0.000	-439.454	-19.230	0.000	19.230	-2.736	0.000
66.00	-11.378	-7.924	0.000	0.000	0.000	-416.389	-20.390	0.000	20.390	-2.803	0.000
68.00	-11.223	-7.686	0.000	0.000	0.000	-393.634	-21.579	0.000	21.579	-2.868	0.000
70.00	-11.067	-7.450	0.000	0.000	0.000	-371.188	-22.794	0.000	22.794	-2.931	0.000
72.00	-10.911	-7.217	0.000	0.000	0.000	-349.054	-24.035	0.000	24.035	-2.993	0.000
74.00	-10.754	-6.987	0.000	0.000	0.000	-327.232	-25.301	0.000	25.301	-3.052	0.000
76.00	-10.597	-6.759	0.000	0.000	0.000	-305.724	-26.592	0.000	26.592	-3.110	0.000
78.00	-10.440	-6.533	0.000	0.000	0.000	-284.529	-27.906	0.000	27.906	-3.165	0.000
80.00	-10.282	-6.310	0.000	0.000	0.000	-263.650	-29.243	0.000	29.243	-3.218	0.000
82.00	-10.125	-6.089	0.000	0.000	0.000	-243.085	-30.601	0.000	30.601	-3.268	0.000
84.00	-9.967	-5.871	0.000	0.000	0.000	-222.836	-31.980	0.000	31.980	-3.316	0.000
86.00	-9.809	-5.655	0.000	0.000	0.000	-202.903	-33.379	0.000	33.379	-3.361	0.000
88.00	-9.651	-5.442	0.000	0.000	0.000	-183.286	-34.795	0.000	34.795	-3.403	0.000
90.00	-9.493	-5.231	0.000	0.000	0.000	-163.985	-36.229	0.000	36.229	-3.443	0.000
92.00	-9.335	-5.022	0.000	0.000	0.000	-145.000	-37.679	0.000	37.679	-3.479	0.000

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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94.00	-9.177	-4.816	0.000	0.000	0.000	-126.331	-39.143	0.000	39.143	-3.512	0.000
96.00	-9.019	-4.614	0.000	0.000	0.000	-107.977	-40.620	0.000	40.620	-3.541	0.000
97.00	-7.618	-3.973	0.000	0.000	0.000	-98.959	-41.363	0.000	41.363	-3.555	0.000
98.00	-7.539	-3.874	0.000	0.000	0.000	-91.341	-42.109	0.000	42.109	-3.567	0.000
98.75	-7.481	-3.800	0.000	0.000	0.000	-85.686	-42.670	0.000	42.670	-3.576	0.000
100.00	-7.378	-3.607	0.000	0.000	0.000	-76.335	-43.607	0.000	43.607	-3.590	0.000
102.00	-7.212	-3.303	0.000	0.000	0.000	-61.580	-45.115	0.000	45.115	-3.609	0.000
102.25	-7.192	-3.264	0.000	0.000	0.000	-59.777	-45.304	0.000	45.304	-3.611	0.000
104.00	-7.056	-3.126	0.000	0.000	0.000	-47.192	-46.630	0.000	46.630	-3.625	0.000
106.00	-6.900	-2.971	0.000	0.000	0.000	-33.081	-48.151	0.000	48.151	-3.640	0.000
107.00	-2.873	-1.922	0.000	0.000	0.000	-26.180	-48.914	0.000	48.914	-3.646	0.000
108.00	-2.806	-1.859	0.000	0.000	0.000	-23.307	-49.678	0.000	49.678	-3.651	0.000
110.00	-2.672	-1.733	0.000	0.000	0.000	-17.695	-51.208	0.000	51.208	-3.659	0.000
112.00	-2.538	-1.609	0.000	0.000	0.000	-12.352	-52.742	0.000	52.742	-3.666	0.000
114.00	-2.405	-1.486	0.000	0.000	0.000	-7.276	-54.277	0.000	54.277	-3.670	0.000
116.00	-2.274	-1.365	0.000	0.000	0.000	-2.466	-55.814	0.000	55.814	-3.672	0.000
117.00	-0.128	-0.093	0.000	0.000	0.000	-0.192	-56.583	0.000	56.583	-3.673	0.000
118.00	-0.064	-0.046	0.000	0.000	0.000	-0.064	-57.352	0.000	57.352	-3.673	0.000
119.00	-0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	58.121	-3.673	0.000

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

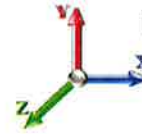
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Load Case: 85 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.51	0.94	0.00	0.00	0.00	43.85	44.39	48.3	0.918
2.00	0.51	0.94	0.00	0.00	0.00	43.45	43.99	48.5	0.906
4.00	0.50	0.94	0.00	0.00	0.00	43.04	43.57	48.7	0.894
6.00	0.50	0.94	0.00	0.00	0.00	42.63	43.15	48.9	0.882
8.00	0.49	0.94	0.00	0.00	0.00	42.20	42.72	49.1	0.870
10.00	0.49	0.94	0.00	0.00	0.00	41.77	42.28	49.3	0.858
12.00	0.48	0.94	0.00	0.00	0.00	41.32	41.84	49.5	0.845
14.00	0.47	0.94	0.00	0.00	0.00	40.87	41.38	49.7	0.833
16.00	0.47	0.93	0.00	0.00	0.00	40.41	40.91	49.9	0.820
18.00	0.46	0.93	0.00	0.00	0.00	39.93	40.43	50.1	0.807
20.00	0.46	0.93	0.00	0.00	0.00	39.45	39.94	50.3	0.794
22.00	0.45	0.93	0.00	0.00	0.00	38.95	39.44	50.5	0.781
24.00	0.45	0.93	0.00	0.00	0.00	38.44	38.92	50.7	0.768
26.00	0.44	0.93	0.00	0.00	0.00	37.92	38.40	50.9	0.755
28.00	0.44	0.93	0.00	0.00	0.00	37.39	37.86	51.1	0.742
30.00	0.43	0.93	0.00	0.00	0.00	36.85	37.31	51.2	0.728
32.00	0.42	0.93	0.00	0.00	0.00	36.29	36.75	51.4	0.714
34.00	0.42	0.93	0.00	0.00	0.00	35.72	36.17	51.6	0.701
36.00	0.41	0.93	0.00	0.00	0.00	35.13	35.58	51.8	0.686
38.00	0.41	0.93	0.00	0.00	0.00	34.53	34.97	52.0	0.673
40.00	0.40	0.93	0.00	0.00	0.00	33.91	34.35	52.0	0.661
42.00	0.40	0.92	0.00	0.00	0.00	33.28	33.72	52.0	0.649
44.00	0.39	0.92	0.00	0.00	0.00	32.63	33.06	52.0	0.636
46.00	0.38	0.92	0.00	0.00	0.00	31.97	32.40	52.0	0.623
48.00	0.38	0.92	0.00	0.00	0.00	31.29	31.71	52.0	0.610
48.75	0.38	0.92	0.00	0.00	0.00	31.04	31.45	52.0	0.605
50.00	0.37	0.92	0.00	0.00	0.00	30.60	31.01	52.0	0.597
52.00	0.36	0.91	0.00	0.00	0.00	29.89	30.29	52.0	0.583
53.25	0.34	0.90	0.00	0.00	0.00	28.60	28.98	52.0	0.558
54.00	0.34	0.90	0.00	0.00	0.00	28.33	28.71	52.0	0.552
56.00	0.33	0.90	0.00	0.00	0.00	27.60	27.98	52.0	0.538
58.00	0.33	0.89	0.00	0.00	0.00	26.85	27.22	52.0	0.524
60.00	0.32	0.89	0.00	0.00	0.00	26.08	26.45	52.0	0.509
62.00	0.32	0.89	0.00	0.00	0.00	25.30	25.66	52.0	0.494
64.00	0.31	0.88	0.00	0.00	0.00	24.50	24.85	52.0	0.478
66.00	0.30	0.88	0.00	0.00	0.00	23.67	24.03	52.0	0.462
68.00	0.30	0.88	0.00	0.00	0.00	22.83	23.18	52.0	0.446
70.00	0.29	0.87	0.00	0.00	0.00	21.96	22.31	52.0	0.429
72.00	0.29	0.87	0.00	0.00	0.00	21.08	21.42	52.0	0.412
74.00	0.28	0.87	0.00	0.00	0.00	20.17	20.51	52.0	0.394
76.00	0.27	0.86	0.00	0.00	0.00	19.24	19.57	52.0	0.376
78.00	0.27	0.86	0.00	0.00	0.00	18.29	18.61	52.0	0.358
80.00	0.26	0.85	0.00	0.00	0.00	17.31	17.63	52.0	0.339
82.00	0.25	0.85	0.00	0.00	0.00	16.30	16.62	52.0	0.320
84.00	0.25	0.85	0.00	0.00	0.00	15.27	15.59	52.0	0.300
86.00	0.24	0.84	0.00	0.00	0.00	14.21	14.53	52.0	0.279
88.00	0.23	0.84	0.00	0.00	0.00	13.13	13.44	52.0	0.259

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016

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90.00	0.23	0.83	0.00	0.00	0.00	12.01	12.32	52.0	0.237
92.00	0.22	0.83	0.00	0.00	0.00	10.86	11.17	52.0	0.215
94.00	0.21	0.82	0.00	0.00	0.00	9.68	10.00	52.0	0.192
96.00	0.21	0.82	0.00	0.00	0.00	8.47	8.79	52.0	0.169
97.00	0.18	0.70	0.00	0.00	0.00	7.85	8.12	52.0	0.156
98.00	0.18	0.69	0.00	0.00	0.00	7.33	7.61	52.0	0.146
98.75	0.17	0.69	0.00	0.00	0.00	6.94	7.21	52.0	0.139
100.00	0.17	0.69	0.00	0.00	0.00	6.28	6.55	52.0	0.126
102.00	0.15	0.68	0.00	0.00	0.00	5.19	5.47	52.0	0.105
102.25	0.20	0.89	0.00	0.00	0.00	6.50	6.88	52.0	0.132
104.00	0.19	0.88	0.00	0.00	0.00	5.24	5.65	52.0	0.109
106.00	0.19	0.87	0.00	0.00	0.00	3.76	4.23	52.0	0.081
107.00	0.12	0.37	0.00	0.00	0.00	3.02	3.20	52.0	0.062
108.00	0.12	0.36	0.00	0.00	0.00	2.72	2.90	52.0	0.056
110.00	0.11	0.35	0.00	0.00	0.00	2.12	2.31	52.0	0.044
112.00	0.10	0.33	0.00	0.00	0.00	1.51	1.72	52.0	0.033
114.00	0.10	0.32	0.00	0.00	0.00	0.91	1.15	52.0	0.022
116.00	0.09	0.31	0.00	0.00	0.00	0.32	0.67	52.0	0.013
117.00	0.01	0.02	0.00	0.00	0.00	0.03	0.04	52.0	0.001
118.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.000
119.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	52.0	0.000

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016

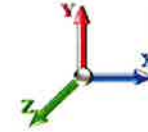
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Load Case: 73.61 mph Wind with 0.5" Ice

Iterations: 27

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	265.36	0.650	0.500	0.00	0.000	0.00	0.0	0.0	0.0
2.00		0.00	1.00	13.871	23.44	263.38	0.650	0.500	2.00	7.350	4.78	112.0	53.6	285.0
4.00		0.00	1.00	13.871	23.44	261.39	0.650	0.500	2.00	7.296	4.74	111.2	53.2	282.8
6.00		0.00	1.00	13.871	23.44	259.40	0.650	0.500	2.00	7.242	4.71	110.3	52.8	280.7
8.00		0.00	1.00	13.871	23.44	257.42	0.650	0.500	2.00	7.188	4.67	109.5	52.4	278.5
10.00		0.00	1.00	13.871	23.44	255.43	0.650	0.500	2.00	7.134	4.64	108.7	52.0	276.4
12.00		0.00	1.00	13.871	23.44	253.44	0.650	0.500	2.00	7.080	4.60	107.9	51.6	274.2
14.00		0.00	1.00	13.871	23.44	251.45	0.650	0.500	2.00	7.026	4.57	107.1	51.2	272.1
16.00		0.00	1.00	13.871	23.44	249.47	0.650	0.500	2.00	6.972	4.53	106.2	50.8	269.9
18.00		0.00	1.00	13.871	23.44	247.48	0.650	0.500	2.00	6.918	4.50	105.4	50.4	267.8
20.00		0.00	1.00	13.871	23.44	245.49	0.650	0.500	2.00	6.864	4.46	104.6	50.0	265.6
22.00		0.00	1.00	13.871	23.44	243.51	0.650	0.500	2.00	6.810	4.43	103.8	49.6	263.5
24.00		0.00	1.00	13.871	23.44	241.52	0.650	0.500	2.00	6.756	4.39	102.9	49.2	261.4
26.00		0.00	1.00	13.871	23.44	239.53	0.650	0.500	2.00	6.702	4.36	102.1	48.8	259.2
28.00		0.00	1.00	13.871	23.44	237.54	0.650	0.500	2.00	6.648	4.32	101.3	48.4	257.1
30.00		0.00	1.00	13.871	23.44	235.56	0.650	0.500	2.00	6.594	4.29	100.5	48.0	254.9
32.00		0.00	1.00	13.871	23.44	233.57	0.650	0.500	2.00	6.540	4.25	99.7	47.6	252.8
34.00		0.00	1.01	13.990	23.64	232.57	0.650	0.500	2.00	6.486	4.22	99.7	47.2	250.6
36.00		0.00	1.03	14.220	24.03	232.47	0.650	0.500	2.00	6.432	4.18	100.5	46.8	248.5
38.00		0.00	1.04	14.442	24.41	232.24	0.650	0.500	2.00	6.378	4.15	101.2	46.4	246.3
40.00		0.00	1.06	14.655	24.77	231.91	0.650	0.500	2.00	6.324	4.11	101.8	46.0	244.2
42.00		0.00	1.07	14.861	25.11	231.47	0.650	0.500	2.00	6.270	4.08	102.4	45.6	242.0
44.00		0.00	1.09	15.059	25.45	230.95	0.650	0.500	2.00	6.216	4.04	102.8	45.2	239.9
46.00		0.00	1.10	15.252	25.78	230.33	0.650	0.500	2.00	6.162	4.01	103.2	44.8	237.7
48.00		0.00	1.11	15.439	26.09	229.64	0.650	0.500	2.00	6.108	3.97	103.6	44.4	235.6
48.75 Bot - Section 2		0.00	1.12	15.507	26.21	229.36	0.650	0.500	0.75	2.277	1.48	38.8	16.6	87.8
50.00		0.00	1.13	15.620	26.40	228.88	0.650	0.500	1.25	3.829	2.49	65.7	27.9	265.9
52.00		0.00	1.14	15.796	26.69	228.04	0.650	0.500	2.00	6.083	3.95	105.6	44.2	422.2
53.25 Top - Section 1		0.00	1.15	15.903	26.88	227.49	0.650	0.500	1.25	3.775	2.45	65.9	27.5	262.0
54.00		0.00	1.15	15.967	26.98	230.43	0.650	0.500	0.75	2.255	1.47	39.5	16.4	87.0
56.00		0.00	1.16	16.134	27.27	229.49	0.650	0.500	2.00	5.975	3.88	105.9	43.4	230.3
58.00		0.00	1.17	16.296	27.54	228.49	0.650	0.500	2.00	5.921	3.85	106.0	43.0	228.1
60.00		0.00	1.19	16.455	27.81	227.43	0.650	0.500	2.00	5.867	3.81	106.1	42.6	226.0
62.00		0.00	1.20	16.610	28.07	226.33	0.650	0.500	2.00	5.813	3.78	106.1	42.2	223.8
64.00		0.00	1.21	16.761	28.33	225.17	0.650	0.500	2.00	5.759	3.74	106.0	41.8	221.7
66.00		0.00	1.22	16.909	28.58	223.97	0.650	0.500	2.00	5.705	3.71	106.0	41.4	219.5
68.00		0.00	1.23	17.054	28.82	222.72	0.650	0.500	2.00	5.651	3.67	105.9	41.0	217.4
70.00		0.00	1.24	17.196	29.06	221.44	0.650	0.500	2.00	5.597	3.64	105.7	40.6	215.2
72.00		0.00	1.25	17.335	29.30	220.11	0.650	0.500	2.00	5.543	3.60	105.6	40.2	213.1
74.00		0.00	1.26	17.471	29.53	218.74	0.650	0.500	2.00	5.489	3.57	105.4	39.8	210.9
76.00		0.00	1.27	17.605	29.75	217.34	0.650	0.500	2.00	5.435	3.53	105.1	39.4	208.8
78.00		0.00	1.28	17.736	29.97	215.90	0.650	0.500	2.00	5.381	3.50	104.8	39.0	206.6
80.00		0.00	1.29	17.865	30.19	214.42	0.650	0.500	2.00	5.327	3.46	104.5	38.6	204.5
82.00		0.00	1.30	17.991	30.40	212.92	0.650	0.500	2.00	5.273	3.43	104.2	38.2	202.3
84.00		0.00	1.31	18.115	30.61	211.38	0.650	0.500	2.00	5.219	3.39	103.9	37.8	200.2
86.00		0.00	1.31	18.238	30.82	209.82	0.650	0.500	2.00	5.165	3.36	103.5	37.4	198.0
88.00		0.00	1.32	18.358	31.02	208.22	0.650	0.500	2.00	5.111	3.32	103.1	37.0	195.9
90.00		0.00	1.33	18.476	31.22	206.60	0.650	0.500	2.00	5.057	3.29	102.6	36.6	193.7

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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92.00	0.00	1.34	18.592	31.42	204.94	0.650	0.500	2.00	5.003	3.25	102.2	36.2	191.6
94.00	0.00	1.35	18.707	31.61	203.27	0.650	0.500	2.00	4.949	3.22	101.7	35.8	189.4
96.00	0.00	1.36	18.820	31.81	201.57	0.650	0.500	2.00	4.895	3.18	101.2	35.4	187.3
97.00 Appurtenance(s)	0.00	1.36	18.876	31.90	200.71	0.650	0.500	1.00	2.427	1.58	50.3	17.6	92.9
98.00	0.00	1.36	18.931	31.99	199.84	0.650	0.500	1.00	2.414	1.57	50.2	17.5	92.4
98.75 Bot - Section 3	0.00	1.37	18.972	32.06	199.18	0.650	0.500	0.75	1.802	1.17	37.5	13.1	68.9
100.00	0.00	1.37	19.041	32.18	198.09	0.650	0.500	1.25	3.025	1.97	63.3	21.9	185.0
102.00	0.00	1.38	19.149	32.36	196.31	0.650	0.500	2.00	4.796	3.12	100.9	34.7	293.0
102.25 Top - Section 2	0.00	1.38	19.162	32.38	196.09	0.650	0.500	0.25	0.596	0.39	12.5	4.3	36.4
104.00	0.00	1.39	19.255	32.54	197.23	0.650	0.500	1.75	4.146	2.70	87.7	30.0	126.6
106.00	0.00	1.40	19.360	32.72	195.42	0.650	0.500	2.00	4.688	3.05	99.7	33.9	143.0
107.00 Appurtenance(s)	0.00	1.40	19.412	32.81	194.51	0.650	0.500	1.00	2.324	1.51	49.6	16.9	70.9
108.00	0.00	1.40	19.464	32.89	193.59	0.650	0.500	1.00	2.310	1.50	49.4	16.8	70.5
110.00	0.00	1.41	19.566	33.07	191.74	0.650	0.500	2.00	4.580	2.98	98.4	33.1	139.6
112.00	0.00	1.42	19.667	33.24	189.86	0.650	0.500	2.00	4.526	2.94	97.8	32.7	137.9
114.00	0.00	1.43	19.767	33.41	187.97	0.650	0.500	2.00	4.472	2.91	97.1	32.3	136.2
116.00	0.00	1.43	19.865	33.57	186.06	0.650	0.500	2.00	4.418	2.87	96.4	31.9	134.4
117.00 Appurtenance(s)	0.00	1.44	19.914	33.65	185.10	0.650	0.500	1.00	2.189	1.42	47.9	15.9	66.6
118.00	0.00	1.44	19.963	33.74	184.13	0.650	0.500	1.00	2.175	1.41	47.7	15.8	66.2
119.00	0.00	1.44	20.011	33.82	183.16	0.650	0.500	1.00	2.162	1.41	47.5	15.7	65.8
Totals:								119.00		6,153.2		13,682.4	

Discrete Appurtenance Forces

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

8/12/2016
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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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	117.00	(3) Standoff Mount	3	19.914	33.655	0.67	12.06	750.00	0.000	0.000	405.88	0.00	0.00
2	117.00	S11B12	3	19.914	33.655	0.71	7.50	201.30	0.000	0.000	252.33	0.00	0.00
3	117.00	KRY 112 144/1	3	19.914	33.655	0.72	1.19	42.30	0.000	0.000	39.98	0.00	0.00
4	117.00	AIR 21 B4A B2P	3	19.914	33.655	0.83	17.36	384.30	0.000	0.000	584.09	0.00	0.00
5	117.00	AIR 21 B2A B4P	3	19.914	33.655	0.83	17.36	387.60	0.000	0.000	584.09	0.00	0.00
6	107.00	DB-T1-6Z-8AB-0Z	2	19.412	32.807	0.71	8.34	92.00	0.000	0.000	273.46	0.00	0.00
7	107.00	RRH2X60-700	3	19.412	32.807	0.76	9.64	225.30	0.000	0.000	316.40	0.00	0.00
8	107.00	RRH2X60-PCS	3	19.412	32.807	0.89	7.37	212.70	0.000	0.000	241.76	0.00	0.00
9	107.00	RRH2X90-AWS	3	19.412	32.807	0.75	7.31	241.50	0.000	0.000	239.90	0.00	0.00
10	107.00	SBNHH-1D65B	6	19.412	32.807	0.83	43.82	522.00	0.000	0.000	1437.72	0.00	0.00
11	107.00	BXA-80063-6BF-EDIN-X	3	19.412	32.807	0.78	18.53	173.10	0.000	0.000	608.00	0.00	0.00
12	107.00	Side Arms	3	19.412	32.807	0.67	12.06	450.00	0.000	0.000	395.65	0.00	0.00
13	97.00	Side Arm	3	18.876	31.900	0.67	12.06	450.00	0.000	0.000	384.71	0.00	0.00
14	97.00	2.5GHz RRH	3	18.876	31.900	0.73	4.58	134.70	0.000	0.000	146.01	0.00	0.00
15	97.00	VHLP1-23	1	18.876	31.900	1.00	1.82	24.30	0.000	0.000	58.06	0.00	0.00
16	97.00	VHLP2-18	2	18.876	31.900	1.00	10.10	109.60	0.000	0.000	322.19	0.00	0.00
17	97.00	LLPX310R	3	18.876	31.900	0.69	11.10	163.50	0.000	0.000	353.93	0.00	0.00
Totals:								4,564.20			6,644.17		

Total Applied Force Summary

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

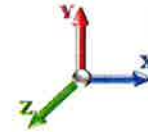
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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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
2.00		126.06	342.93	0.00	0.00
4.00		125.23	340.78	0.00	0.00
6.00		124.41	338.63	0.00	0.00
8.00		123.59	336.49	0.00	0.00
10.00		122.77	334.34	0.00	0.00
12.00		121.94	332.19	0.00	0.00
14.00		121.12	330.04	0.00	0.00
16.00		120.30	327.89	0.00	0.00
18.00		119.47	325.74	0.00	0.00
20.00		118.65	323.59	0.00	0.00
22.00		117.83	321.44	0.00	0.00
24.00		117.01	319.29	0.00	0.00
26.00		116.18	317.14	0.00	0.00
28.00		115.36	314.99	0.00	0.00
30.00		114.54	312.84	0.00	0.00
32.00		113.72	310.69	0.00	0.00
34.00		113.86	308.55	0.00	0.00
36.00		114.89	306.40	0.00	0.00
38.00		115.82	304.25	0.00	0.00
40.00		116.66	302.10	0.00	0.00
42.00		117.42	299.95	0.00	0.00
44.00		118.10	297.80	0.00	0.00
46.00		118.70	295.65	0.00	0.00
48.00		119.24	293.50	0.00	0.00
48.75		44.68	109.56	0.00	0.00
50.00		75.61	302.13	0.00	0.00
52.00		121.57	480.17	0.00	0.00
53.25		76.02	298.17	0.00	0.00
54.00		45.62	108.68	0.00	0.00
56.00		122.26	288.22	0.00	0.00
58.00		122.52	286.07	0.00	0.00
60.00		122.74	283.92	0.00	0.00
62.00		122.91	281.77	0.00	0.00
64.00		123.04	279.63	0.00	0.00
66.00		123.12	277.48	0.00	0.00
68.00		123.16	275.33	0.00	0.00
70.00		123.17	273.18	0.00	0.00
72.00		123.13	271.03	0.00	0.00
74.00		123.07	268.88	0.00	0.00
76.00		122.96	266.73	0.00	0.00
78.00		122.83	264.58	0.00	0.00
80.00		122.66	262.43	0.00	0.00
82.00		122.46	260.28	0.00	0.00
84.00		122.23	258.13	0.00	0.00
86.00		121.98	255.98	0.00	0.00
88.00		121.69	253.83	0.00	0.00
90.00		121.38	251.69	0.00	0.00
92.00		121.04	249.54	0.00	0.00

Total Applied Force Summary

Structure: CT13069-A-SB

Code: EIA/TIA-222-F

8/12/2016

Site Name: Meriden

Exposure: C

Height: 119.00 (ft)

Gh: 1.69

Base Elev: 0.000 (ft)

Struct Class: II

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94.00	120.68	247.39	0.00	0.00
96.00	120.29	245.24	0.00	0.00
97.00 (12) appurtenances	1324.80	1003.96	0.00	0.00
98.00	59.80	120.13	0.00	0.00
98.75	44.76	89.75	0.00	0.00
100.00	75.34	219.67	0.00	0.00
102.00	120.30	348.59	0.00	0.00
102.25	14.97	43.35	0.00	0.00
104.00	104.78	175.16	0.00	0.00
106.00	119.33	198.55	0.00	0.00
107.00 (23) appurtenances	3572.28	2015.28	0.00	0.00
108.00	49.40	84.06	0.00	0.00
110.00	98.44	166.74	0.00	0.00
112.00	97.78	165.03	0.00	0.00
114.00	97.10	163.32	0.00	0.00
116.00	96.41	161.61	0.00	0.00
117.00 (15) appurtenances	1914.26	1845.71	0.00	0.00
118.00	47.70	66.20	0.00	0.00
119.00	47.52	65.78	0.00	0.00
Totals:	13,670.65	21,470.15	0.00	0.00

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

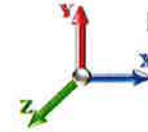
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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	-13.685	-21.460	0.000	0.000	0.000	-1174.167	0.000	0.000	0.000	0.000	0.000
2.00	-13.589	-21.097	0.000	0.000	0.000	-1146.797	-0.018	0.000	0.018	-0.083	0.000
4.00	-13.493	-20.737	0.000	0.000	0.000	-1119.619	-0.071	0.000	0.071	-0.165	0.000
6.00	-13.397	-20.380	0.000	0.000	0.000	-1092.633	-0.158	0.000	0.158	-0.248	0.000
8.00	-13.301	-20.025	0.000	0.000	0.000	-1065.840	-0.280	0.000	0.280	-0.331	0.000
10.00	-13.204	-19.673	0.000	0.000	0.000	-1039.239	-0.436	0.000	0.436	-0.413	0.000
12.00	-13.107	-19.323	0.000	0.000	0.000	-1012.832	-0.627	0.000	0.627	-0.495	0.000
14.00	-13.010	-18.975	0.000	0.000	0.000	-986.619	-0.853	0.000	0.853	-0.577	0.000
16.00	-12.913	-18.630	0.000	0.000	0.000	-960.600	-1.112	0.000	1.112	-0.659	0.000
18.00	-12.815	-18.288	0.000	0.000	0.000	-934.775	-1.406	0.000	1.406	-0.740	0.000
20.00	-12.717	-17.948	0.000	0.000	0.000	-909.146	-1.733	0.000	1.733	-0.821	0.000
22.00	-12.620	-17.610	0.000	0.000	0.000	-883.712	-2.095	0.000	2.095	-0.902	0.000
24.00	-12.522	-17.276	0.000	0.000	0.000	-858.473	-2.491	0.000	2.491	-0.983	0.000
26.00	-12.423	-16.943	0.000	0.000	0.000	-833.430	-2.920	0.000	2.920	-1.063	0.000
28.00	-12.325	-16.613	0.000	0.000	0.000	-808.584	-3.382	0.000	3.382	-1.143	0.000
30.00	-12.227	-16.286	0.000	0.000	0.000	-783.934	-3.878	0.000	3.878	-1.222	0.000
32.00	-12.128	-15.961	0.000	0.000	0.000	-759.482	-4.407	0.000	4.407	-1.301	0.000
34.00	-12.028	-15.639	0.000	0.000	0.000	-735.226	-4.969	0.000	4.969	-1.379	0.000
36.00	-11.927	-15.320	0.000	0.000	0.000	-711.170	-5.564	0.000	5.564	-1.457	0.000
38.00	-11.823	-15.003	0.000	0.000	0.000	-687.318	-6.191	0.000	6.191	-1.534	0.000
40.00	-11.718	-14.688	0.000	0.000	0.000	-663.672	-6.851	0.000	6.851	-1.611	0.000
42.00	-11.611	-14.377	0.000	0.000	0.000	-640.237	-7.542	0.000	7.542	-1.687	0.000
44.00	-11.502	-14.068	0.000	0.000	0.000	-617.017	-8.265	0.000	8.265	-1.762	0.000
46.00	-11.392	-13.761	0.000	0.000	0.000	-594.013	-9.019	0.000	9.019	-1.836	0.000
48.00	-11.275	-13.462	0.000	0.000	0.000	-571.230	-9.805	0.000	9.805	-1.910	0.000
48.75	-11.235	-13.347	0.000	0.000	0.000	-562.774	-10.107	0.000	10.107	-1.937	0.000
50.00	-11.163	-13.036	0.000	0.000	0.000	-548.730	-10.620	0.000	10.620	-1.983	0.000
52.00	-11.037	-12.549	0.000	0.000	0.000	-526.406	-11.467	0.000	11.467	-2.055	0.000
53.25	-10.958	-12.247	0.000	0.000	0.000	-512.610	-12.011	0.000	12.011	-2.099	0.000
54.00	-10.918	-12.131	0.000	0.000	0.000	-504.392	-12.343	0.000	12.343	-2.126	0.000
56.00	-10.799	-11.835	0.000	0.000	0.000	-482.556	-13.248	0.000	13.248	-2.193	0.000
58.00	-10.678	-11.542	0.000	0.000	0.000	-460.959	-14.180	0.000	14.180	-2.258	0.000
60.00	-10.557	-11.252	0.000	0.000	0.000	-439.603	-15.140	0.000	15.140	-2.322	0.000
62.00	-10.434	-10.964	0.000	0.000	0.000	-418.490	-16.127	0.000	16.127	-2.386	0.000
64.00	-10.311	-10.679	0.000	0.000	0.000	-397.621	-17.140	0.000	17.140	-2.447	0.000
66.00	-10.187	-10.396	0.000	0.000	0.000	-377.000	-18.178	0.000	18.178	-2.508	0.000
68.00	-10.062	-10.116	0.000	0.000	0.000	-356.626	-19.241	0.000	19.241	-2.567	0.000
70.00	-9.936	-9.839	0.000	0.000	0.000	-336.503	-20.328	0.000	20.328	-2.624	0.000
72.00	-9.810	-9.565	0.000	0.000	0.000	-316.630	-21.440	0.000	21.440	-2.680	0.000
74.00	-9.683	-9.293	0.000	0.000	0.000	-297.011	-22.574	0.000	22.574	-2.734	0.000
76.00	-9.555	-9.024	0.000	0.000	0.000	-277.646	-23.730	0.000	23.730	-2.786	0.000
78.00	-9.427	-8.758	0.000	0.000	0.000	-258.535	-24.908	0.000	24.908	-2.836	0.000
80.00	-9.299	-8.494	0.000	0.000	0.000	-239.681	-26.106	0.000	26.106	-2.884	0.000
82.00	-9.169	-8.233	0.000	0.000	0.000	-221.085	-27.323	0.000	27.323	-2.930	0.000
84.00	-9.040	-7.975	0.000	0.000	0.000	-202.746	-28.560	0.000	28.560	-2.973	0.000
86.00	-8.910	-7.720	0.000	0.000	0.000	-184.666	-29.814	0.000	29.814	-3.014	0.000
88.00	-8.780	-7.467	0.000	0.000	0.000	-166.846	-31.085	0.000	31.085	-3.053	0.000
90.00	-8.650	-7.217	0.000	0.000	0.000	-149.286	-32.371	0.000	32.371	-3.089	0.000
92.00	-8.519	-6.970	0.000	0.000	0.000	-131.986	-33.672	0.000	33.672	-3.122	0.000

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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94.00	-8.389	-6.725	0.000	0.000	0.000	-114.948	-34.986	0.000	34.986	-3.152	0.000
96.00	-8.257	-6.484	0.000	0.000	0.000	-98.171	-36.312	0.000	36.312	-3.178	0.000
97.00	-6.880	-5.554	0.000	0.000	0.000	-89.914	-36.979	0.000	36.979	-3.190	0.000
98.00	-6.814	-5.436	0.000	0.000	0.000	-83.034	-37.648	0.000	37.648	-3.202	0.000
98.75	-6.766	-5.348	0.000	0.000	0.000	-77.923	-38.152	0.000	38.152	-3.210	0.000
100.00	-6.680	-5.131	0.000	0.000	0.000	-69.466	-38.994	0.000	38.994	-3.223	0.000
102.00	-6.541	-4.789	0.000	0.000	0.000	-56.107	-40.347	0.000	40.347	-3.240	0.000
102.25	-6.524	-4.745	0.000	0.000	0.000	-54.472	-40.517	0.000	40.517	-3.242	0.000
104.00	-6.410	-4.575	0.000	0.000	0.000	-43.055	-41.707	0.000	41.707	-3.254	0.000
106.00	-6.281	-4.382	0.000	0.000	0.000	-30.235	-43.073	0.000	43.073	-3.268	0.000
107.00	-2.600	-2.574	0.000	0.000	0.000	-23.954	-43.758	0.000	43.758	-3.274	0.000
108.00	-2.546	-2.493	0.000	0.000	0.000	-21.354	-44.444	0.000	44.444	-3.278	0.000
110.00	-2.438	-2.332	0.000	0.000	0.000	-16.263	-45.819	0.000	45.819	-3.286	0.000
112.00	-2.331	-2.172	0.000	0.000	0.000	-11.387	-47.196	0.000	47.196	-3.292	0.000
114.00	-2.225	-2.015	0.000	0.000	0.000	-6.724	-48.575	0.000	48.575	-3.296	0.000
116.00	-2.120	-1.859	0.000	0.000	0.000	-2.273	-49.956	0.000	49.956	-3.298	0.000
117.00	-0.103	-0.126	0.000	0.000	0.000	-0.154	-50.646	0.000	50.646	-3.298	0.000
118.00	-0.051	-0.063	0.000	0.000	0.000	-0.051	-51.336	0.000	51.336	-3.298	0.000
119.00	-0.047	0.000	0.000	0.000	0.000	0.000	0.000	0.000	52.027	-3.298	0.000

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

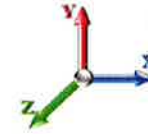
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Load Case: 73.61 mph Wind with 0.5" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 27

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)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.63	0.81	0.00	0.00	0.00	38.80	39.45	48.3	0.816
2.00	0.62	0.81	0.00	0.00	0.00	38.47	39.12	48.5	0.806
4.00	0.62	0.81	0.00	0.00	0.00	38.14	38.78	48.7	0.796
6.00	0.61	0.81	0.00	0.00	0.00	37.80	38.44	48.9	0.786
8.00	0.61	0.81	0.00	0.00	0.00	37.45	38.08	49.1	0.775
10.00	0.60	0.81	0.00	0.00	0.00	37.09	37.71	49.3	0.765
12.00	0.59	0.81	0.00	0.00	0.00	36.72	37.34	49.5	0.754
14.00	0.59	0.81	0.00	0.00	0.00	36.34	36.96	49.7	0.744
16.00	0.58	0.81	0.00	0.00	0.00	35.96	36.56	49.9	0.733
18.00	0.57	0.81	0.00	0.00	0.00	35.56	36.16	50.1	0.722
20.00	0.57	0.81	0.00	0.00	0.00	35.15	35.75	50.3	0.711
22.00	0.56	0.81	0.00	0.00	0.00	34.73	35.32	50.5	0.700
24.00	0.56	0.81	0.00	0.00	0.00	34.30	34.89	50.7	0.689
26.00	0.55	0.81	0.00	0.00	0.00	33.86	34.44	50.9	0.677
28.00	0.54	0.81	0.00	0.00	0.00	33.41	33.99	51.1	0.666
30.00	0.54	0.81	0.00	0.00	0.00	32.95	33.52	51.2	0.654
32.00	0.53	0.81	0.00	0.00	0.00	32.47	33.03	51.4	0.642
34.00	0.53	0.81	0.00	0.00	0.00	31.98	32.54	51.6	0.630
36.00	0.52	0.81	0.00	0.00	0.00	31.48	32.03	51.8	0.618
38.00	0.51	0.81	0.00	0.00	0.00	30.96	31.51	52.0	0.606
40.00	0.51	0.81	0.00	0.00	0.00	30.43	30.97	52.0	0.596
42.00	0.50	0.81	0.00	0.00	0.00	29.89	30.42	52.0	0.585
44.00	0.49	0.81	0.00	0.00	0.00	29.33	29.85	52.0	0.574
46.00	0.49	0.81	0.00	0.00	0.00	28.75	29.27	52.0	0.563
48.00	0.48	0.81	0.00	0.00	0.00	28.16	28.68	52.0	0.552
48.75	0.48	0.81	0.00	0.00	0.00	27.94	28.45	52.0	0.547
50.00	0.47	0.81	0.00	0.00	0.00	27.56	28.06	52.0	0.540
52.00	0.46	0.81	0.00	0.00	0.00	26.94	27.43	52.0	0.528
53.25	0.44	0.80	0.00	0.00	0.00	25.78	26.26	52.0	0.505
54.00	0.44	0.80	0.00	0.00	0.00	25.55	26.02	52.0	0.501
56.00	0.43	0.80	0.00	0.00	0.00	24.91	25.38	52.0	0.488
58.00	0.43	0.80	0.00	0.00	0.00	24.25	24.71	52.0	0.475
60.00	0.42	0.79	0.00	0.00	0.00	23.57	24.03	52.0	0.462
62.00	0.41	0.79	0.00	0.00	0.00	22.88	23.33	52.0	0.449
64.00	0.41	0.79	0.00	0.00	0.00	22.16	22.61	52.0	0.435
66.00	0.40	0.79	0.00	0.00	0.00	21.43	21.87	52.0	0.421
68.00	0.39	0.79	0.00	0.00	0.00	20.68	21.12	52.0	0.406
70.00	0.39	0.78	0.00	0.00	0.00	19.91	20.34	52.0	0.391
72.00	0.38	0.78	0.00	0.00	0.00	19.12	19.55	52.0	0.376
74.00	0.37	0.78	0.00	0.00	0.00	18.31	18.73	52.0	0.360
76.00	0.36	0.78	0.00	0.00	0.00	17.47	17.89	52.0	0.344
78.00	0.36	0.78	0.00	0.00	0.00	16.61	17.03	52.0	0.328
80.00	0.35	0.77	0.00	0.00	0.00	15.73	16.14	52.0	0.310
82.00	0.34	0.77	0.00	0.00	0.00	14.83	15.23	52.0	0.293
84.00	0.34	0.77	0.00	0.00	0.00	13.89	14.29	52.0	0.275
86.00	0.33	0.77	0.00	0.00	0.00	12.93	13.33	52.0	0.256
88.00	0.32	0.76	0.00	0.00	0.00	11.95	12.34	52.0	0.237

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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90.00	0.31	0.76	0.00	0.00	0.00	10.93	11.32	52.0	0.218
92.00	0.31	0.76	0.00	0.00	0.00	9.89	10.28	52.0	0.198
94.00	0.30	0.75	0.00	0.00	0.00	8.81	9.20	52.0	0.177
96.00	0.29	0.75	0.00	0.00	0.00	7.70	8.10	52.0	0.156
97.00	0.25	0.63	0.00	0.00	0.00	7.13	7.47	52.0	0.144
98.00	0.25	0.63	0.00	0.00	0.00	6.67	7.00	52.0	0.135
98.75	0.24	0.62	0.00	0.00	0.00	6.31	6.65	52.0	0.128
100.00	0.24	0.62	0.00	0.00	0.00	5.71	6.04	52.0	0.116
102.00	0.22	0.62	0.00	0.00	0.00	4.72	5.06	52.0	0.097
102.25	0.29	0.81	0.00	0.00	0.00	5.93	6.37	52.0	0.123
104.00	0.28	0.80	0.00	0.00	0.00	4.78	5.25	52.0	0.101
106.00	0.27	0.79	0.00	0.00	0.00	3.44	3.96	52.0	0.076
107.00	0.16	0.33	0.00	0.00	0.00	2.76	2.98	52.0	0.057
108.00	0.16	0.33	0.00	0.00	0.00	2.49	2.71	52.0	0.052
110.00	0.15	0.32	0.00	0.00	0.00	1.94	2.16	52.0	0.042
112.00	0.14	0.31	0.00	0.00	0.00	1.40	1.63	52.0	0.031
114.00	0.13	0.30	0.00	0.00	0.00	0.85	1.10	52.0	0.021
116.00	0.12	0.29	0.00	0.00	0.00	0.29	0.65	52.0	0.012
117.00	0.01	0.01	0.00	0.00	0.00	0.02	0.04	52.0	0.001
118.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.000
119.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	52.0	0.000

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

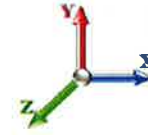
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00

Iterations: 26



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	6.400	10.82	180.25	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
2.00		0.00	1.00	6.400	10.82	178.90	0.650	0.000	2.00	7.183	4.67	50.5	0.0	231.4
4.00		0.00	1.00	6.400	10.82	177.55	0.650	0.000	2.00	7.129	4.63	50.1	0.0	229.6
6.00		0.00	1.00	6.400	10.82	176.20	0.650	0.000	2.00	7.075	4.60	49.7	0.0	227.9
8.00		0.00	1.00	6.400	10.82	174.85	0.650	0.000	2.00	7.021	4.56	49.4	0.0	226.1
10.00		0.00	1.00	6.400	10.82	173.50	0.650	0.000	2.00	6.967	4.53	49.0	0.0	224.4
12.00		0.00	1.00	6.400	10.82	172.15	0.650	0.000	2.00	6.913	4.49	48.6	0.0	222.6
14.00		0.00	1.00	6.400	10.82	170.80	0.650	0.000	2.00	6.859	4.46	48.2	0.0	220.9
16.00		0.00	1.00	6.400	10.82	169.45	0.650	0.000	2.00	6.805	4.42	47.8	0.0	219.1
18.00		0.00	1.00	6.400	10.82	168.10	0.650	0.000	2.00	6.751	4.39	47.5	0.0	217.4
20.00		0.00	1.00	6.400	10.82	166.75	0.650	0.000	2.00	6.697	4.35	47.1	0.0	215.6
22.00		0.00	1.00	6.400	10.82	165.40	0.650	0.000	2.00	6.643	4.32	46.7	0.0	213.9
24.00		0.00	1.00	6.400	10.82	164.05	0.650	0.000	2.00	6.589	4.28	46.3	0.0	212.1
26.00		0.00	1.00	6.400	10.82	162.70	0.650	0.000	2.00	6.535	4.25	45.9	0.0	210.4
28.00		0.00	1.00	6.400	10.82	161.35	0.650	0.000	2.00	6.481	4.21	45.6	0.0	208.6
30.00		0.00	1.00	6.400	10.82	160.00	0.650	0.000	2.00	6.427	4.18	45.2	0.0	206.9
32.00		0.00	1.00	6.400	10.82	158.65	0.650	0.000	2.00	6.373	4.14	44.8	0.0	205.1
34.00		0.00	1.01	6.455	10.91	157.98	0.650	0.000	2.00	6.319	4.11	44.8	0.0	203.4
36.00		0.00	1.03	6.561	11.09	157.90	0.650	0.000	2.00	6.265	4.07	45.2	0.0	201.6
38.00		0.00	1.04	6.663	11.26	157.75	0.650	0.000	2.00	6.211	4.04	45.5	0.0	199.9
40.00		0.00	1.06	6.762	11.43	157.52	0.650	0.000	2.00	6.157	4.00	45.7	0.0	198.1
42.00		0.00	1.07	6.857	11.59	157.23	0.650	0.000	2.00	6.103	3.97	46.0	0.0	196.4
44.00		0.00	1.09	6.948	11.74	156.87	0.650	0.000	2.00	6.049	3.93	46.2	0.0	194.6
46.00		0.00	1.10	7.037	11.89	156.45	0.650	0.000	2.00	5.995	3.90	46.3	0.0	192.9
48.00		0.00	1.11	7.123	12.04	155.99	0.650	0.000	2.00	5.941	3.86	46.5	0.0	191.1
48.75 Bot - Section 2		0.00	1.12	7.155	12.09	155.80	0.650	0.000	0.75	2.214	1.44	17.4	0.0	71.2
50.00		0.00	1.13	7.207	12.18	155.47	0.650	0.000	1.25	3.725	2.42	29.5	0.0	238.0
52.00		0.00	1.14	7.288	12.32	154.90	0.650	0.000	2.00	5.917	3.85	47.4	0.0	378.0
53.25 Top - Section 1		0.00	1.15	7.338	12.40	154.52	0.650	0.000	1.25	3.670	2.39	29.6	0.0	234.5
54.00		0.00	1.15	7.367	12.45	156.52	0.650	0.000	0.75	2.192	1.42	17.7	0.0	70.5
56.00		0.00	1.16	7.444	12.58	155.88	0.650	0.000	2.00	5.809	3.78	47.5	0.0	186.8
58.00		0.00	1.17	7.519	12.71	155.20	0.650	0.000	2.00	5.755	3.74	47.5	0.0	185.1
60.00		0.00	1.19	7.592	12.83	154.49	0.650	0.000	2.00	5.701	3.71	47.5	0.0	183.3
62.00		0.00	1.20	7.664	12.95	153.73	0.650	0.000	2.00	5.647	3.67	47.5	0.0	181.6
64.00		0.00	1.21	7.733	13.07	152.95	0.650	0.000	2.00	5.593	3.64	47.5	0.0	179.9
66.00		0.00	1.22	7.802	13.18	152.13	0.650	0.000	2.00	5.539	3.60	47.5	0.0	178.1
68.00		0.00	1.23	7.869	13.30	151.29	0.650	0.000	2.00	5.485	3.56	47.4	0.0	176.4
70.00		0.00	1.24	7.934	13.41	150.41	0.650	0.000	2.00	5.431	3.53	47.3	0.0	174.6
72.00		0.00	1.25	7.998	13.52	149.51	0.650	0.000	2.00	5.377	3.49	47.2	0.0	172.9
74.00		0.00	1.26	8.061	13.62	148.58	0.650	0.000	2.00	5.323	3.46	47.1	0.0	171.1
76.00		0.00	1.27	8.123	13.73	147.63	0.650	0.000	2.00	5.269	3.42	47.0	0.0	169.4
78.00		0.00	1.28	8.183	13.83	146.65	0.650	0.000	2.00	5.215	3.39	46.9	0.0	167.6
80.00		0.00	1.29	8.242	13.93	145.65	0.650	0.000	2.00	5.161	3.35	46.7	0.0	165.9
82.00		0.00	1.30	8.301	14.03	144.63	0.650	0.000	2.00	5.107	3.32	46.6	0.0	164.1
84.00		0.00	1.31	8.358	14.13	143.58	0.650	0.000	2.00	5.053	3.28	46.4	0.0	162.4
86.00		0.00	1.31	8.415	14.22	142.52	0.650	0.000	2.00	4.999	3.25	46.2	0.0	160.6
88.00		0.00	1.32	8.470	14.31	141.43	0.650	0.000	2.00	4.945	3.21	46.0	0.0	158.9
90.00		0.00	1.33	8.525	14.41	140.33	0.650	0.000	2.00	4.891	3.18	45.8	0.0	157.1

Wind Loading - Shaft

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
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92.00	0.00	1.34	8.578	14.50	139.21	0.650	0.000	2.00	4.837	3.14	45.6	0.0	155.4			
94.00	0.00	1.35	8.631	14.59	138.07	0.650	0.000	2.00	4.783	3.11	45.3	0.0	153.6			
96.00	0.00	1.36	8.683	14.67	136.91	0.650	0.000	2.00	4.729	3.07	45.1	0.0	151.9			
97.00 Appurtenance(s)	0.00	1.36	8.709	14.72	136.33	0.650	0.000	1.00	2.344	1.52	22.4	0.0	75.3			
98.00	0.00	1.36	8.735	14.76	135.74	0.650	0.000	1.00	2.331	1.51	22.4	0.0	74.8			
98.75 Bot - Section 3	0.00	1.37	8.754	14.79	135.30	0.650	0.000	0.75	1.739	1.13	16.7	0.0	55.8			
100.00	0.00	1.37	8.785	14.85	134.55	0.650	0.000	1.25	2.921	1.90	28.2	0.0	163.0			
102.00	0.00	1.38	8.835	14.93	133.35	0.650	0.000	2.00	4.629	3.01	44.9	0.0	258.3			
102.25 Top - Section 2	0.00	1.38	8.841	14.94	133.20	0.650	0.000	0.25	0.575	0.37	5.6	0.0	32.1			
104.00	0.00	1.39	8.884	15.01	133.97	0.650	0.000	1.75	4.000	2.60	39.0	0.0	96.5			
106.00	0.00	1.40	8.933	15.10	132.74	0.650	0.000	2.00	4.521	2.94	44.4	0.0	109.1			
107.00 Appurtenance(s)	0.00	1.40	8.957	15.14	132.12	0.650	0.000	1.00	2.240	1.46	22.0	0.0	54.1			
108.00	0.00	1.40	8.980	15.18	131.50	0.650	0.000	1.00	2.227	1.45	22.0	0.0	53.7			
110.00	0.00	1.41	9.028	15.26	130.24	0.650	0.000	2.00	4.413	2.87	43.8	0.0	106.5			
112.00	0.00	1.42	9.074	15.34	128.97	0.650	0.000	2.00	4.359	2.83	43.5	0.0	105.2			
114.00	0.00	1.43	9.120	15.41	127.68	0.650	0.000	2.00	4.305	2.80	43.1	0.0	103.9			
116.00	0.00	1.43	9.166	15.49	126.38	0.650	0.000	2.00	4.251	2.76	42.8	0.0	102.5			
117.00 Appurtenance(s)	0.00	1.44	9.188	15.53	125.73	0.650	0.000	1.00	2.105	1.37	21.3	0.0	50.8			
118.00	0.00	1.44	9.211	15.57	125.07	0.650	0.000	1.00	2.092	1.36	21.2	0.0	50.5			
119.00	0.00	1.44	9.233	15.60	124.41	0.650	0.000	1.00	2.078	1.35	21.1	0.0	50.1			
Totals:								119.00				2,756.2				11,161.3

Discrete Appurtenance Forces

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

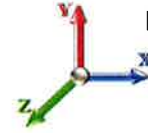
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 26

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	117.00	(3) Standoff Mount	3	9.188	15.528	0.67	4.22	594.00	0.000	0.000	65.54	0.00	0.00
2	117.00	S11B12	3	9.188	15.528	0.67	6.65	153.00	0.000	0.000	103.31	0.00	0.00
3	117.00	KRY 112 144/1	3	9.188	15.528	0.72	0.89	33.00	0.000	0.000	13.75	0.00	0.00
4	117.00	AIR 21 B4A B2P	3	9.188	15.528	0.83	16.38	288.00	0.000	0.000	254.41	0.00	0.00
5	117.00	AIR 21 B2A B4P	3	9.188	15.528	0.83	16.38	274.50	0.000	0.000	254.41	0.00	0.00
6	107.00	DB-T1-6Z-8AB-OZ	2	8.957	15.137	0.67	7.50	37.80	0.000	0.000	113.59	0.00	0.00
7	107.00	RRH2X60-700	3	8.957	15.137	0.67	7.96	165.00	0.000	0.000	120.48	0.00	0.00
8	107.00	RRH2X60-PCS	3	8.957	15.137	0.67	5.17	165.00	0.000	0.000	78.19	0.00	0.00
9	107.00	RRH2X90-AWS	3	8.957	15.137	0.67	6.09	192.00	0.000	0.000	92.19	0.00	0.00
10	107.00	SBNHH-1D65B	6	8.957	15.137	0.83	41.48	243.60	0.000	0.000	627.92	0.00	0.00
11	107.00	BXA-80063-6BF-EDIN-X	3	8.957	15.137	0.78	17.48	57.60	0.000	0.000	264.59	0.00	0.00
12	107.00	Side Arms	3	8.957	15.137	0.67	3.02	360.00	0.000	0.000	45.64	0.00	0.00
13	97.00	Side Arm	3	8.709	14.718	0.67	5.59	360.00	0.000	0.000	82.24	0.00	0.00
14	97.00	2.5GHz RRH	3	8.709	14.718	0.67	3.66	99.00	0.000	0.000	53.84	0.00	0.00
15	97.00	VHLP1-23	1	8.709	14.718	1.00	1.61	14.20	0.000	0.000	23.70	0.00	0.00
16	97.00	VHLP2-18	2	8.709	14.718	1.00	9.38	62.00	0.000	0.000	138.06	0.00	0.00
17	97.00	LLPX310R	3	8.709	14.718	0.69	10.00	85.80	0.000	0.000	147.15	0.00	0.00
Totals:								3,184.50			2,479.01		

Total Applied Force Summary

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 26

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
2.00		54.83	288.22	0.00	0.00
4.00		54.45	286.47	0.00	0.00
6.00		54.07	284.72	0.00	0.00
8.00		53.69	282.97	0.00	0.00
10.00		53.31	281.22	0.00	0.00
12.00		52.93	279.47	0.00	0.00
14.00		52.55	277.72	0.00	0.00
16.00		52.17	275.97	0.00	0.00
18.00		51.79	274.23	0.00	0.00
20.00		51.41	272.48	0.00	0.00
22.00		51.03	270.73	0.00	0.00
24.00		50.65	268.98	0.00	0.00
26.00		50.27	267.23	0.00	0.00
28.00		49.89	265.48	0.00	0.00
30.00		49.51	263.73	0.00	0.00
32.00		49.13	261.98	0.00	0.00
34.00		49.17	260.23	0.00	0.00
36.00		49.59	258.48	0.00	0.00
38.00		49.97	256.73	0.00	0.00
40.00		50.30	254.98	0.00	0.00
42.00		50.60	253.23	0.00	0.00
44.00		50.87	251.48	0.00	0.00
46.00		51.10	249.73	0.00	0.00
48.00		51.30	247.99	0.00	0.00
48.75		19.22	92.54	0.00	0.00
50.00		32.54	273.55	0.00	0.00
52.00		52.29	434.83	0.00	0.00
53.25		32.68	269.99	0.00	0.00
54.00		19.61	91.83	0.00	0.00
56.00		52.53	243.69	0.00	0.00
58.00		52.61	241.94	0.00	0.00
60.00		52.67	240.19	0.00	0.00
62.00		52.72	238.44	0.00	0.00
64.00		52.74	236.69	0.00	0.00
66.00		52.74	234.94	0.00	0.00
68.00		52.73	233.19	0.00	0.00
70.00		52.69	231.44	0.00	0.00
72.00		52.65	229.69	0.00	0.00
74.00		52.58	227.94	0.00	0.00
76.00		52.50	226.19	0.00	0.00
78.00		52.41	224.45	0.00	0.00
80.00		52.30	222.70	0.00	0.00
82.00		52.18	220.95	0.00	0.00
84.00		52.04	219.20	0.00	0.00
86.00		51.89	217.45	0.00	0.00
88.00		51.73	215.70	0.00	0.00
90.00		51.56	213.95	0.00	0.00
92.00		51.38	212.20	0.00	0.00

Total Applied Force Summary

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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94.00	51.18	210.45	0.00	0.00
96.00	50.98	208.70	0.00	0.00
97.00 (12) appurtenances	470.36	724.69	0.00	0.00
98.00	25.31	102.06	0.00	0.00
98.75	18.94	76.26	0.00	0.00
100.00	31.90	197.05	0.00	0.00
102.00	50.90	312.79	0.00	0.00
102.25	6.33	38.88	0.00	0.00
104.00	44.30	144.18	0.00	0.00
106.00	50.40	163.55	0.00	0.00
107.00 (23) appurtenances	1367.66	1302.28	0.00	0.00
108.00	21.97	67.31	0.00	0.00
110.00	43.77	133.64	0.00	0.00
112.00	43.45	132.33	0.00	0.00
114.00	43.13	131.02	0.00	0.00
116.00	42.80	129.71	0.00	0.00
117.00 (15) appurtenances	712.68	1406.86	0.00	0.00
118.00	21.17	50.45	0.00	0.00
119.00	21.08	50.13	0.00	0.00
Totals:	5,503.86	17,510.49	0.00	0.00

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

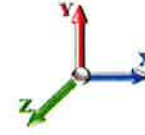
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 26

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	-5.507	-17.509	0.000	0.000	0.000	-459.366	0.000	0.000	0.000	0.000	0.000
2.00	-5.462	-17.218	0.000	0.000	0.000	-448.352	-0.007	0.000	0.007	-0.032	0.000
4.00	-5.417	-16.928	0.000	0.000	0.000	-437.428	-0.028	0.000	0.028	-0.065	0.000
6.00	-5.372	-16.640	0.000	0.000	0.000	-426.594	-0.062	0.000	0.062	-0.097	0.000
8.00	-5.327	-16.355	0.000	0.000	0.000	-415.850	-0.109	0.000	0.109	-0.129	0.000
10.00	-5.282	-16.071	0.000	0.000	0.000	-405.197	-0.171	0.000	0.171	-0.161	0.000
12.00	-5.237	-15.788	0.000	0.000	0.000	-394.634	-0.245	0.000	0.245	-0.193	0.000
14.00	-5.192	-15.508	0.000	0.000	0.000	-384.160	-0.333	0.000	0.333	-0.225	0.000
16.00	-5.147	-15.229	0.000	0.000	0.000	-373.777	-0.434	0.000	0.434	-0.257	0.000
18.00	-5.102	-14.953	0.000	0.000	0.000	-363.483	-0.549	0.000	0.549	-0.289	0.000
20.00	-5.057	-14.678	0.000	0.000	0.000	-353.279	-0.677	0.000	0.677	-0.320	0.000
22.00	-5.013	-14.404	0.000	0.000	0.000	-343.165	-0.818	0.000	0.818	-0.352	0.000
24.00	-4.968	-14.133	0.000	0.000	0.000	-333.140	-0.972	0.000	0.972	-0.383	0.000
26.00	-4.923	-13.863	0.000	0.000	0.000	-323.204	-1.139	0.000	1.139	-0.414	0.000
28.00	-4.879	-13.596	0.000	0.000	0.000	-313.358	-1.319	0.000	1.319	-0.445	0.000
30.00	-4.834	-13.330	0.000	0.000	0.000	-303.600	-1.512	0.000	1.512	-0.476	0.000
32.00	-4.790	-13.066	0.000	0.000	0.000	-293.932	-1.718	0.000	1.718	-0.506	0.000
34.00	-4.745	-12.803	0.000	0.000	0.000	-284.353	-1.937	0.000	1.937	-0.537	0.000
36.00	-4.700	-12.543	0.000	0.000	0.000	-274.863	-2.168	0.000	2.168	-0.567	0.000
38.00	-4.653	-12.284	0.000	0.000	0.000	-265.464	-2.412	0.000	2.412	-0.596	0.000
40.00	-4.606	-12.028	0.000	0.000	0.000	-256.158	-2.669	0.000	2.669	-0.626	0.000
42.00	-4.559	-11.773	0.000	0.000	0.000	-246.945	-2.937	0.000	2.937	-0.655	0.000
44.00	-4.511	-11.520	0.000	0.000	0.000	-237.827	-3.218	0.000	3.218	-0.684	0.000
46.00	-4.463	-11.268	0.000	0.000	0.000	-228.805	-3.511	0.000	3.511	-0.713	0.000
48.00	-4.412	-11.019	0.000	0.000	0.000	-219.880	-3.816	0.000	3.816	-0.741	0.000
48.75	-4.394	-10.926	0.000	0.000	0.000	-216.572	-3.933	0.000	3.933	-0.752	0.000
50.00	-4.362	-10.651	0.000	0.000	0.000	-211.079	-4.133	0.000	4.133	-0.769	0.000
52.00	-4.308	-10.215	0.000	0.000	0.000	-202.355	-4.461	0.000	4.461	-0.797	0.000
53.25	-4.274	-9.945	0.000	0.000	0.000	-196.970	-4.672	0.000	4.672	-0.814	0.000
54.00	-4.256	-9.852	0.000	0.000	0.000	-193.765	-4.801	0.000	4.801	-0.824	0.000
56.00	-4.204	-9.607	0.000	0.000	0.000	-185.253	-5.152	0.000	5.152	-0.850	0.000
58.00	-4.152	-9.364	0.000	0.000	0.000	-176.845	-5.513	0.000	5.513	-0.875	0.000
60.00	-4.100	-9.123	0.000	0.000	0.000	-168.541	-5.885	0.000	5.885	-0.900	0.000
62.00	-4.047	-8.884	0.000	0.000	0.000	-160.342	-6.268	0.000	6.268	-0.924	0.000
64.00	-3.994	-8.647	0.000	0.000	0.000	-152.249	-6.660	0.000	6.660	-0.948	0.000
66.00	-3.940	-8.411	0.000	0.000	0.000	-144.262	-7.062	0.000	7.062	-0.971	0.000
68.00	-3.887	-8.177	0.000	0.000	0.000	-136.381	-7.473	0.000	7.473	-0.993	0.000
70.00	-3.833	-7.945	0.000	0.000	0.000	-128.608	-7.894	0.000	7.894	-1.015	0.000
72.00	-3.779	-7.715	0.000	0.000	0.000	-120.942	-8.324	0.000	8.324	-1.036	0.000
74.00	-3.725	-7.487	0.000	0.000	0.000	-113.383	-8.763	0.000	8.763	-1.057	0.000
76.00	-3.671	-7.261	0.000	0.000	0.000	-105.933	-9.210	0.000	9.210	-1.077	0.000
78.00	-3.617	-7.036	0.000	0.000	0.000	-98.591	-9.666	0.000	9.666	-1.096	0.000
80.00	-3.562	-6.813	0.000	0.000	0.000	-91.358	-10.129	0.000	10.129	-1.114	0.000
82.00	-3.508	-6.592	0.000	0.000	0.000	-84.234	-10.600	0.000	10.600	-1.132	0.000
84.00	-3.453	-6.373	0.000	0.000	0.000	-77.219	-11.077	0.000	11.077	-1.148	0.000
86.00	-3.399	-6.156	0.000	0.000	0.000	-70.312	-11.562	0.000	11.562	-1.164	0.000
88.00	-3.344	-5.941	0.000	0.000	0.000	-63.516	-12.053	0.000	12.053	-1.179	0.000
90.00	-3.289	-5.727	0.000	0.000	0.000	-56.828	-12.550	0.000	12.550	-1.192	0.000
92.00	-3.235	-5.515	0.000	0.000	0.000	-50.250	-13.052	0.000	13.052	-1.205	0.000

Resulting Forces and Deflections

Structure: CT13069-A-SB
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

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

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94.00	-3.180	-5.305	0.000	0.000	0.000	-43.780	-13.559	0.000	13.559	-1.216	0.000
96.00	-3.125	-5.097	0.000	0.000	0.000	-37.420	-14.071	0.000	14.071	-1.227	0.000
97.00	-2.640	-4.383	0.000	0.000	0.000	-34.295	-14.329	0.000	14.329	-1.231	0.000
98.00	-2.613	-4.281	0.000	0.000	0.000	-31.655	-14.587	0.000	14.587	-1.236	0.000
98.75	-2.593	-4.205	0.000	0.000	0.000	-29.696	-14.782	0.000	14.782	-1.239	0.000
100.00	-2.557	-4.008	0.000	0.000	0.000	-26.455	-15.107	0.000	15.107	-1.243	0.000
102.00	-2.499	-3.697	0.000	0.000	0.000	-21.342	-15.629	0.000	15.629	-1.250	0.000
102.25	-2.492	-3.658	0.000	0.000	0.000	-20.717	-15.695	0.000	15.695	-1.251	0.000
104.00	-2.445	-3.514	0.000	0.000	0.000	-16.355	-16.154	0.000	16.154	-1.256	0.000
106.00	-2.392	-3.352	0.000	0.000	0.000	-11.464	-16.681	0.000	16.681	-1.261	0.000
107.00	-0.996	-2.080	0.000	0.000	0.000	-9.073	-16.946	0.000	16.946	-1.263	0.000
108.00	-0.972	-2.013	0.000	0.000	0.000	-8.077	-17.210	0.000	17.210	-1.265	0.000
110.00	-0.926	-1.880	0.000	0.000	0.000	-6.132	-17.741	0.000	17.741	-1.267	0.000
112.00	-0.880	-1.749	0.000	0.000	0.000	-4.281	-18.272	0.000	18.272	-1.270	0.000
114.00	-0.834	-1.619	0.000	0.000	0.000	-2.522	-18.804	0.000	18.804	-1.271	0.000
116.00	-0.788	-1.490	0.000	0.000	0.000	-0.854	-19.337	0.000	19.337	-1.272	0.000
117.00	-0.044	-0.100	0.000	0.000	0.000	-0.066	-19.604	0.000	19.604	-1.272	0.000
118.00	-0.022	-0.050	0.000	0.000	0.000	-0.022	-19.870	0.000	19.870	-1.272	0.000
119.00	-0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	20.136	-1.272	0.000

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

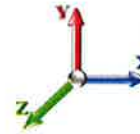
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

8/12/2016
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Load Case: 50 mph Wind with 0" Ice

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations: 26

Applied Stresses

Elev (ft)	fa Axial (Y) (ksi)	fvx Shear (X) (ksi)	fvz Shear (Z) (ksi)	fv _t Torsion (ksi)	fbx Bending (X) (ksi)	fbz Bending (Z) (ksi)	fb Combined (ksi)	Fb Allow Stress (ksi)	f/Fb Stress Ratio
0.00	0.51	0.33	0.00	0.00	0.00	15.18	15.70	48.3	0.325
2.00	0.51	0.33	0.00	0.00	0.00	15.04	15.56	48.5	0.321
4.00	0.50	0.32	0.00	0.00	0.00	14.90	15.42	48.7	0.316
6.00	0.50	0.32	0.00	0.00	0.00	14.76	15.27	48.9	0.312
8.00	0.49	0.32	0.00	0.00	0.00	14.61	15.12	49.1	0.308
10.00	0.49	0.32	0.00	0.00	0.00	14.46	14.96	49.3	0.303
12.00	0.48	0.32	0.00	0.00	0.00	14.31	14.80	49.5	0.299
14.00	0.48	0.32	0.00	0.00	0.00	14.15	14.64	49.7	0.295
16.00	0.47	0.32	0.00	0.00	0.00	13.99	14.48	49.9	0.290
18.00	0.47	0.32	0.00	0.00	0.00	13.83	14.31	50.1	0.286
20.00	0.47	0.32	0.00	0.00	0.00	13.66	14.14	50.3	0.281
22.00	0.46	0.32	0.00	0.00	0.00	13.49	13.96	50.5	0.277
24.00	0.46	0.32	0.00	0.00	0.00	13.31	13.78	50.7	0.272
26.00	0.45	0.32	0.00	0.00	0.00	13.13	13.59	50.9	0.267
28.00	0.45	0.32	0.00	0.00	0.00	12.95	13.41	51.1	0.263
30.00	0.44	0.32	0.00	0.00	0.00	12.76	13.21	51.2	0.258
32.00	0.44	0.32	0.00	0.00	0.00	12.57	13.01	51.4	0.253
34.00	0.43	0.32	0.00	0.00	0.00	12.37	12.81	51.6	0.248
36.00	0.43	0.32	0.00	0.00	0.00	12.17	12.60	51.8	0.243
38.00	0.42	0.32	0.00	0.00	0.00	11.96	12.39	52.0	0.238
40.00	0.41	0.32	0.00	0.00	0.00	11.75	12.17	52.0	0.234
42.00	0.41	0.32	0.00	0.00	0.00	11.53	11.95	52.0	0.230
44.00	0.40	0.32	0.00	0.00	0.00	11.30	11.72	52.0	0.225
46.00	0.40	0.32	0.00	0.00	0.00	11.07	11.49	52.0	0.221
48.00	0.39	0.32	0.00	0.00	0.00	10.84	11.25	52.0	0.216
48.75	0.39	0.32	0.00	0.00	0.00	10.75	11.16	52.0	0.215
50.00	0.38	0.32	0.00	0.00	0.00	10.60	11.00	52.0	0.212
52.00	0.37	0.32	0.00	0.00	0.00	10.35	10.74	52.0	0.207
53.25	0.36	0.31	0.00	0.00	0.00	9.91	10.28	52.0	0.198
54.00	0.36	0.31	0.00	0.00	0.00	9.81	10.19	52.0	0.196
56.00	0.35	0.31	0.00	0.00	0.00	9.56	9.93	52.0	0.191
58.00	0.35	0.31	0.00	0.00	0.00	9.30	9.66	52.0	0.186
60.00	0.34	0.31	0.00	0.00	0.00	9.04	9.39	52.0	0.181
62.00	0.33	0.31	0.00	0.00	0.00	8.76	9.11	52.0	0.175
64.00	0.33	0.31	0.00	0.00	0.00	8.49	8.83	52.0	0.170
66.00	0.32	0.30	0.00	0.00	0.00	8.20	8.54	52.0	0.164
68.00	0.32	0.30	0.00	0.00	0.00	7.91	8.24	52.0	0.159
70.00	0.31	0.30	0.00	0.00	0.00	7.61	7.94	52.0	0.153
72.00	0.31	0.30	0.00	0.00	0.00	7.30	7.63	52.0	0.147
74.00	0.30	0.30	0.00	0.00	0.00	6.99	7.31	52.0	0.141
76.00	0.29	0.30	0.00	0.00	0.00	6.67	6.98	52.0	0.134
78.00	0.29	0.30	0.00	0.00	0.00	6.34	6.64	52.0	0.128
80.00	0.28	0.30	0.00	0.00	0.00	6.00	6.30	52.0	0.121
82.00	0.27	0.29	0.00	0.00	0.00	5.65	5.95	52.0	0.114
84.00	0.27	0.29	0.00	0.00	0.00	5.29	5.58	52.0	0.107
86.00	0.26	0.29	0.00	0.00	0.00	4.92	5.21	52.0	0.100
88.00	0.26	0.29	0.00	0.00	0.00	4.55	4.83	52.0	0.093

Resulting Stresses

Structure: CT13069-A-SBA
Site Name: Meriden
Height: 119.00 (ft)
Base Elev: 0.000 (ft)

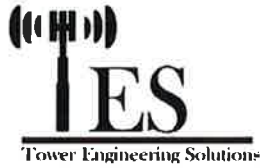
Code: EIA/TIA-222-F
Exposure: C
Gh: 1.69
Struct Class: II

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90.00	0.25	0.29	0.00	0.00	0.00	4.16	4.44	52.0	0.085
92.00	0.24	0.29	0.00	0.00	0.00	3.76	4.04	52.0	0.078
94.00	0.24	0.29	0.00	0.00	0.00	3.36	3.63	52.0	0.070
96.00	0.23	0.28	0.00	0.00	0.00	2.93	3.20	52.0	0.062
97.00	0.20	0.24	0.00	0.00	0.00	2.72	2.95	52.0	0.057
98.00	0.20	0.24	0.00	0.00	0.00	2.54	2.77	52.0	0.053
98.75	0.19	0.24	0.00	0.00	0.00	2.41	2.63	52.0	0.051
100.00	0.18	0.24	0.00	0.00	0.00	2.17	2.40	52.0	0.046
102.00	0.17	0.24	0.00	0.00	0.00	1.80	2.01	52.0	0.039
102.25	0.22	0.31	0.00	0.00	0.00	2.25	2.53	52.0	0.049
104.00	0.22	0.31	0.00	0.00	0.00	1.82	2.10	52.0	0.040
106.00	0.21	0.30	0.00	0.00	0.00	1.30	1.60	52.0	0.031
107.00	0.13	0.13	0.00	0.00	0.00	1.05	1.20	52.0	0.023
108.00	0.13	0.12	0.00	0.00	0.00	0.94	1.09	52.0	0.021
110.00	0.12	0.12	0.00	0.00	0.00	0.73	0.88	52.0	0.017
112.00	0.11	0.12	0.00	0.00	0.00	0.52	0.67	52.0	0.013
114.00	0.11	0.11	0.00	0.00	0.00	0.32	0.47	52.0	0.009
116.00	0.10	0.11	0.00	0.00	0.00	0.11	0.28	52.0	0.005
117.00	0.01	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.000
118.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	52.0	0.000
119.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.000



Monopole Mat Foundation Design

Date

8/12/2016

Customer Name:	Verizon	EIA/TIA Standard:	EIA-222-F
Site Name:	Meriden	Structure Height (Ft.):	119
Site Number:	CT13069-A-SBA	Engineer Name:	Arinyedokia
Engr. Number:	25201	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations

Structure Type:

Monopole

Analysis or Design?

Analysis

Base Reactions (Unfactored)

Axial Load (Kips):	21.5	Shear Force (Kips):	15.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	1326.9

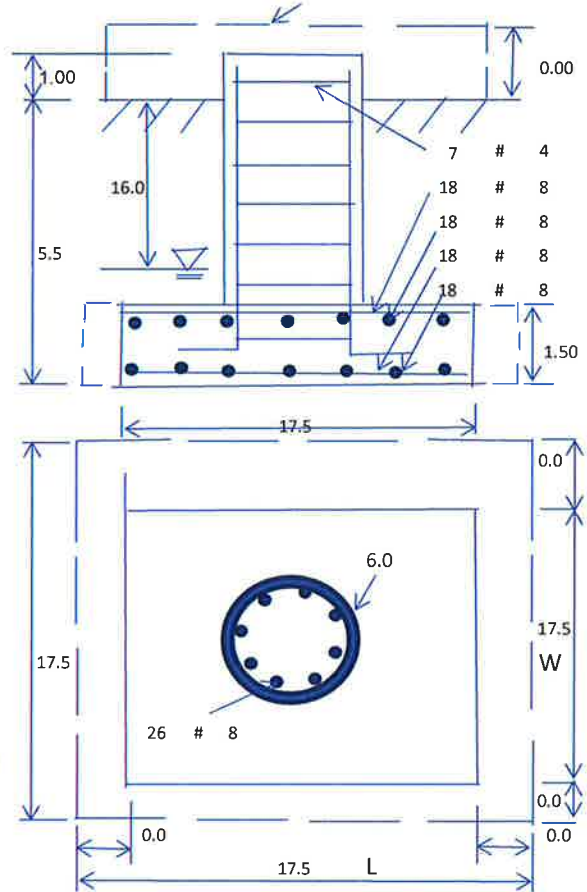
Foundation Geometries:

Diameter of Pier (ft.):	6.0	Depth of Base BG (ft.):	5.5
Pier Height A. G. (ft.):	1.00	Thickness of Pad (ft):	1.50
Length of Pad (ft.):	17.5	Width of Pad (ft.):	17.5
Final Length of pad (ft)	17.5	Final width of pad (ft):	17.5
Control Value for Cell D18:	0	Control Value for Cell F18:	0

Mods required -Yes/No?: No

Material Properties and Rebar Info:

Concrete Strength (psi):	4000	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:	26	Tie Spacing (in):	12.0	
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):	18	Qty. of Rebar in Pad (W):	18	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	18	Qty. of Rebar in Pad (W):	18	



Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	16.0	Unit Weight of Water:	62.4	pcf
Allowable Net Soil Bearing (psf):	6000	Allowable Skin Friction:	150	Psf
Consider Friction for O.T.M. (Y/N):	Yes	Consider Friction for bearing (Y/N):	No	
Consider soil hori. force for O.T.M.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00	
		Angle from Top of Pad:	30	
		Angle from Bottm of Pad:	25	
		Angle from Bottm of Pad:	25	

Foundation Analysis and Design:

Total Dry Soil Volume (cu. Ft.):	1111.90	Total Dry Soil Weight (Kips):	133.43
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	133.43	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	600.75	Total Dry Concrete Weight (Kips):	90.11
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	90.11	Total Vertical Load on Base (Kips):	245.04

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	3453	<	Allowable Soil Bearing (psf):	6000	0.58	OK!
Allowable Foundation Overturning Resistance (SF=1.5, kips-ft.):	1463.9	>	Applied Momont (kips-ft):	1412	0.96	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.55					OK!

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		

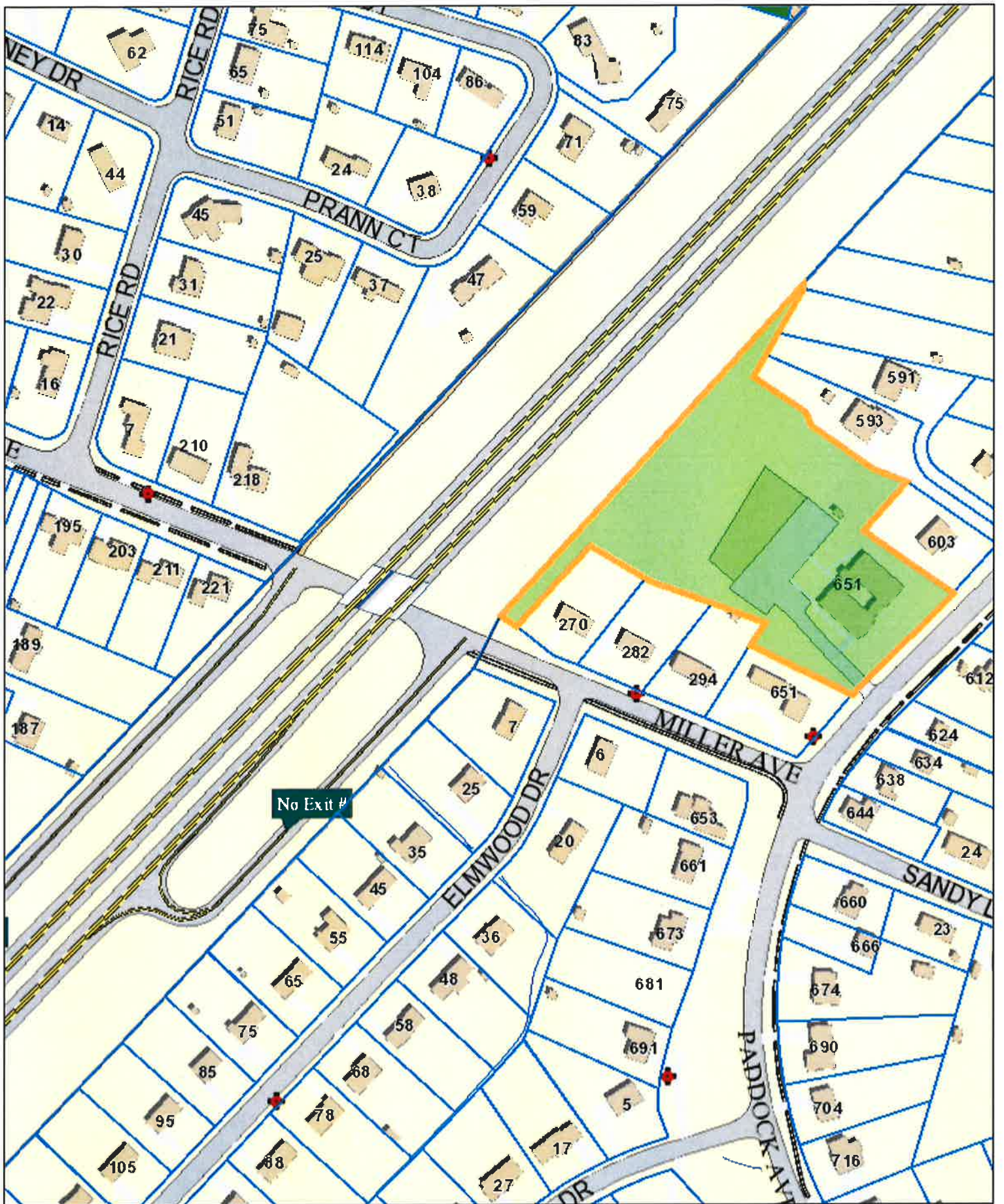
(1) Concrete Pier:

				Load/ Capacity Ratio	
Vertical Steel Rebar Area (sq. in./each):	0.79	Tie / Stirrup Area (sq. in./each):	0.20		
Calculated Moment Capacity (Mn,Kips-Ft):	2994.3	> Design Factored Moment (Mu, Kips-Ft)	1406.4	0.47	OK!
Calculated Shear Capacity (Kips):	501.5	> Design Factored Shear (Kips):	20.7	0.04	OK!
Calculated Tension Capacity (Tn, Kips):	1109.2	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	7162.1	> Design Factored Axial Load (Pu Kips):	28.0	0.00	OK!
Moment & Axial Strength Combination:	0.47	OK! Check Tie Spacing (Design/Required):		1	OK!
Pier Reinforcement Ratio:	0.005	Reinforcement Ratio is satisfied per ACI			

(2).Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	288.9	> One-Way Factored Shear (L-D. Kips):	168.9	0.58	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	288.9	> One-Way Factored Shear (W-D., Kips)	168.9	0.58	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	309.5	> One-Way Factored Shear (C-C, Kips):	243.9	0.79	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0047	OK! Lower Steel Pad Reinf. Ratio (W-Direct	0.0047		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	889.6	> Moment at Bottom (L-Direct. K-Ft):	295.0	0.33	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	889.6	> Moment at Bottom (W-Direct. K-Ft):	295.0	0.33	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	1240.8	> Moment at Bottom (C-C Dir. K-Ft):	417.2	0.34	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0047	OK! Upper Steel Reinf. Ratio (W-Direct.):	0.0047		
Upper Steel Pad Moment Capacity (L-Direction, Kips-ft):	889.6	> Moment at the top (L-Dir Kips-Ft):	152.6	0.17	OK!
Upper Steel Pad Moment Capacity (W-Direction, Kips-ft):	889.6	> Moment at the top (W-Dir Kips-Ft):	152.6	0.17	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	1240.8	> Moment at the top (C-C Direc. K-Ft):	248.7	0.20	OK!

ATTACHMENT 4





CITY OF MERIDEN

GIS Services

NOTE: Due to our on-going revaluation, information is current to October 2015.

Property Information: Address: 651 PADDOCK AVE Map/Lot: 0906-098D-0020-0005 Card Number: 1

Owner Information: FIRST ASSEMBLY CHURCH OF GOD C Owner Address: PO BOX 2777
 HURCH OF MERIDEN INC-CHURCH MERIDEN, CT 06450

Building Information:

Units: 1	Full Bath:	Heat Type: Forced Air
Living Area: 13224	Full Bath Rating:	Style: Church
Year Built: 1968	Half Bath:	Ext Wall: Brick
Eff. Age:	Half Bath Rating:	Roof Mat: Asphalt
Rooms:		Roof Struct: Gable
Bedrooms:		Fireplaces:
		Grade: C

Special Features:

Description	Condition	YearBuilt	AssessedValue
PAVING ASPHALT	AV	1990	\$30,600
COMM SHED FRAME	AV	1968	\$1,500

Appraisal Information: Tax District: 1 District Name: OUTER DISTRICT District Mill Rate: 37.47

Current Building Value: \$751,100	Previous Year: 2014
Current Yard Items: \$32,100	Previous Building Value: \$751,100
Current Land Value: \$160,300	Previous Yard Items: \$32,100
Current Total: \$943,500	Previous Land Value: \$160,300
Assessment: \$660,450	Previous Total: \$943,500

(Assessment is 70% of appraised value)

Special Land Value: \$0

Land Information:

Type	Lot Size	Lot Unit	Zoning*
Tax Exempt	2.94 AC		S-R

Total Acreage: 2.94
 *Confirm zoning with Planning Office. Zoning map is the official document.

Sales Information:

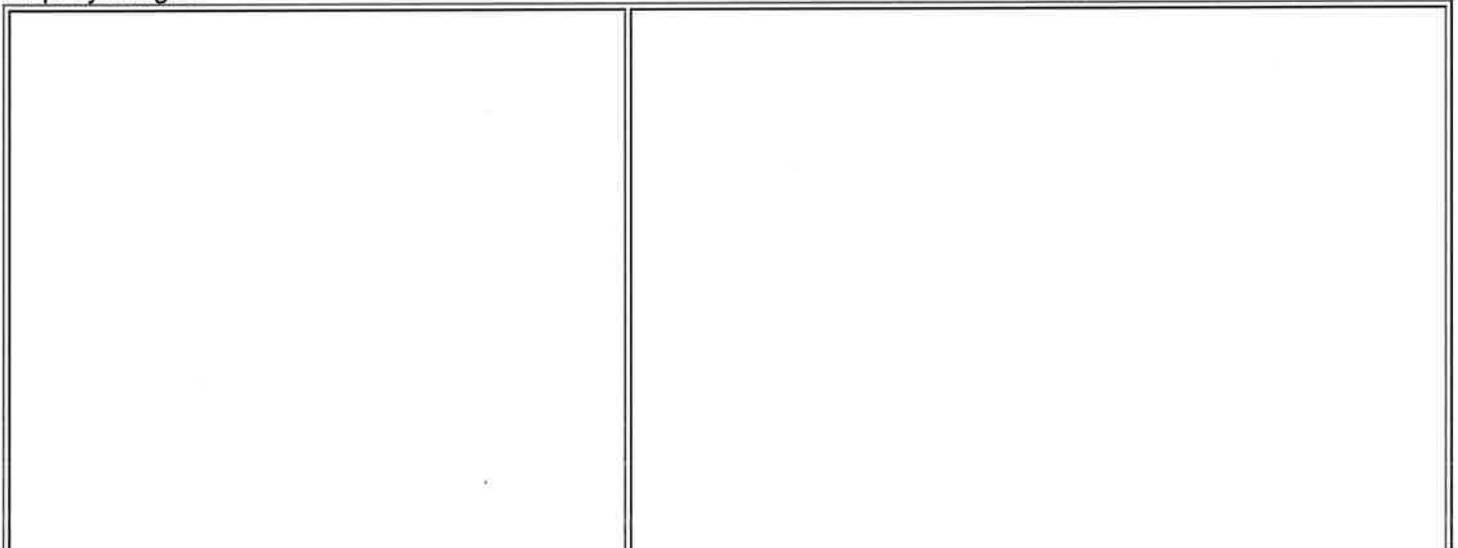
Book	Page	Grantor	Sale Date	Sale Price	Deed Type
4540	0088	FIRST ASSEMBLY CHURCH OF GOD C,	11/12/2010	\$12,000	Warranty Deed
487	16		6/26/1967	\$0	

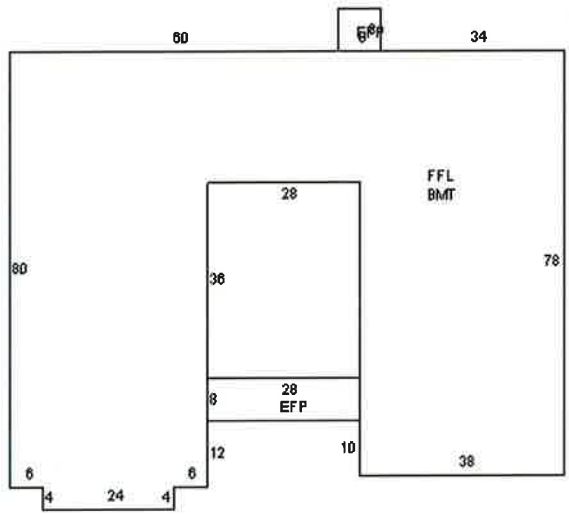
Assessor's Permit History:

Date	Permit Number	Notes	Type
5/18/2015	B-15-275	SIDEWALKS INSTALLED.Est complete.	
12/30/2014	B-14-	NEW SIGN/6X3.Est complete.	

	259		
7/1/2014	1969	ADD ANTENNA`S TO TOWER.	
5/9/2014	1283	REPLACE CELL ANTENNAS & EQUIPMENT.	
4/29/2014	1147	INSTALL LOW VOLTAGE CCTV CAMERA SYS	
12/21/2012	3964	VERIZON WIRELESS - REPLACING 3 EXISTING ANTENNAS WITH 9 NEWER MODEL ANTENNAS	
7/3/2012	2110	REPLACE EXISTING CHURCH STEEPLE WITH SIMILAR STRUCTURE TO CODE	C
4/27/2011	1269	BONDING OF CSST GAS PIPING PER CODE.	
2/23/2011	496	FIRE ALARM SYSTEM UPGRADE WITH REPLACEMENT OF PANEL AND DEVICES.	
5/18/2010	1383	"Clearwire" cell site. Install 100a. service per code. CRS#1469392	C
1/26/2010	160	CLEARWIRE ADDING ANTENNA`S TO EXISTING TELECOMMUNICATIONS TOWER PER PLANS AND TO CODE	C
12/28/2009	3843	INSTALL 8` OLYPIA CHIMNEY LINER FOR EXISTING WOODSTOVE	
5/27/2009	1584	SWAP EXISTING ANTENNAS ON EXISTING TOWER AND ONE TELECOMMUNICATION CABINET	
10/22/2008	3328	INSTALL 1000 GAL PROPANE TANK & GAS LINE PER NFPA 54 & 58	
8/26/2008	2675	CELL TOWER INSTALL 1-100A SERVICE FOR NEW AT&T EQUIPMENT	
6/24/2008	1976	INSTALL 200A UG SERVICE AND TEL/COM WIRING TO A 12X30 MODULAR BUILDING	
6/10/2008	1778	INSTALL ANTENNAS ON EXISTING TOWER AND ADD RADIO EQUIPMENT BUILDING TO COMPOUND 12X30 PREFAB	
12/26/2007	4348	CELL TOWER:INSTALL UG UTILITIES FOR 800A MULTI-METER CENTER INSTALL GROUND GRID AND 200A FEEDER TO PAD MOUNTED T-MOBILE EQUIPMENT	
11/26/2007	4079	CONSTRUCTION OF WIRELESS TELECOMMUNICATIONS FACILITY AND OMNIPOINT COMMUNICATIONS INC ANTENNAS AND EQUIPMENT	
10/25/2007	3561	SERVICE UPGRADE TO 200A- RELOCATE SERVICE ENTRANCE CRS#1018499	
6/1/2006	2048	10`X16` STORAGE SHED	RA
11/10/2004	4376	SIDING ON HOUSE	RA

Property Images





Unsketched SubAreas:
CBMT: 6612,

145830906-098D-0020-00051