Robinson+Cole

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Also admitted in Massachusetts

August 4, 2015

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

Re: **Notice of Exempt Modification – Facility Modification**
625 Spring Street, Southington, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains twelve (12) antennas at the 132-foot level of the existing 160-foot tower at 625 Spring Street in Southington, Connecticut (the "Property"). The tower is owned by Crown Castle. The Council approved Cellco's use of this tower in 1999. Cellco now intends to replace six (6) of its existing antennas with three (3) model SBNHH-1D65B, 1900 MHz antennas and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same 132-foot level on the tower. Cellco also intends to install nine (9) remote radio heads ("RRHs") and one (1) HYBRIFLEX™ fiber optic antenna cable attached to the outside of the monopole. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cable.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Garry Brumback, Town Manager for the Town of Southington. A copy of this letter is also being sent to Crown Castle, the tower owner and Global Signal Acquisitions II, LLC, the owner of the Property.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRH's will be located at the 132-foot level on the 160-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 worst-case General Power Density table for Cellco's modified facility is included in Attachment 2.

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

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

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Garry Brumback, Southington Town Manager
Global Signal Acquisitions II, LLC
Crown Castle
Tim Parks

ATTACHMENT 1

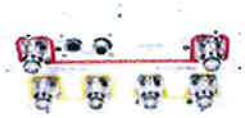
Product Specifications

COMMSCOPE®

POWERED BY ANDREW.

SBNHH-1D65B

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



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

Electrical Specifications

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain, dBi	14.9	14.7	17.7	18.2	18.6	18.6
Beamwidth, Horizontal, degrees	68	66	69	66	63	58
Beamwidth, Vertical, degrees	12.1	10.7	5.6	5.2	5.0	4.5
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS, dB	14	13	15	15	15	13
Front-to-Back Ratio at 180°, dB	27	29	28	28	28	27
CPR at Boresight, dB	20	23	20	20	17	21
CPR at Sector, dB	14	10	12	10	9	1
Isolation, dB	25	25	25	25	25	25
Isolation, Intersystem, dB	30	30	30	30	30	30
VSWR | Return Loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350	350	350	300
Polarization	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	698–806	806–896	1695–1880	1850–1990	1920–2180	2300–2360
Gain by all Beam Tilts, average, dBi	14.5	14.3	17.4	17.9	18.2	18.3
Gain by all Beam Tilts Tolerance, dB	±0.5	±0.8	±0.4	±0.3	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.6	0 ° | 14.5	0 ° | 17.4	0 ° | 17.8	0 ° | 18.1	0 ° | 18.2
	7 ° | 14.6	7 ° | 14.4	3 ° | 17.5	3 ° | 17.9	3 ° | 18.3	3 ° | 18.4
	14 ° | 14.2	14 ° | 13.6	7 ° | 17.4	7 ° | 17.9	7 ° | 18.2	7 ° | 18.4
Beamwidth, Horizontal Tolerance, degrees	±2.2	±3.4	±2	±4.6	±5.7	±4.3
Beamwidth, Vertical Tolerance, degrees	±0.8	±1	±0.3	±0.2	±0.3	±0.2
USLS, dB	16	14	16	16	16	15
Front-to-Back Total Power at 180° ± 30°, dB	25	26	27	26	26	26
CPR at Boresight, dB	22	23	21	20	20	22
CPR at Sector, dB	13	11	16	12	11	4

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

General Specifications

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

Product Specifications

SBNHH-1D65B

Mechanical Specifications

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

Dimensions

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

Remote Electrical Tilt (RET) Information

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

Regulatory Compliance/Certifications

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

Included Products

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.

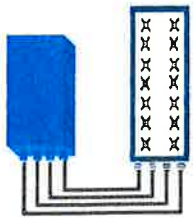
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

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TECHNICAL SPECIFICATIONS

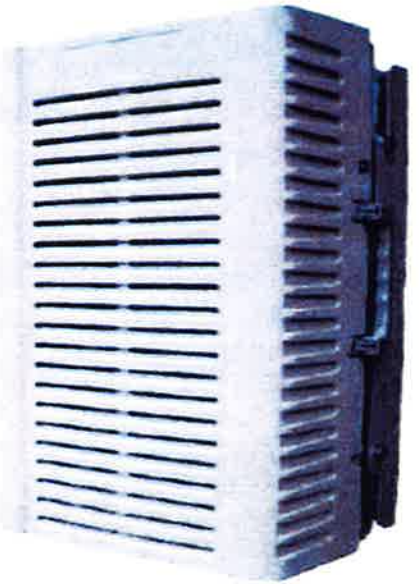
Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	U700 (C) (3GPP bands 13): DL: 746 - 756 MHz / UL: 777 - 787 MHz
Instantaneous bandwidth - #carriers	10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)
LTE carrier bandwidth	10 MHz
RF output power	2x60W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

PCS RF MODULES

RRH1900 2X60 - HW CHARACTERISTICS

LA6.0.1/13.3

	RRH2x60
RF Output Power	2x60W
Instantaneous Bandwidth	20MHz
Transmitter	2 TX
Receiver 1900 HW version 1900A HW version	2 Branch RX – LA6.0.1 4 Branch RX – LR13.3
Features	AISG 2.0 for RET/TMA
	Internal Smart Bias-T
Power	-48VDC
CPRI Ports	2 CPRI Rate 3 Ports
External Alarms	4 External User Alarms
Monitor Ports	TX
Environmental	GR487 Compliance
RF Connectors	7/16 DIN (top mounted)



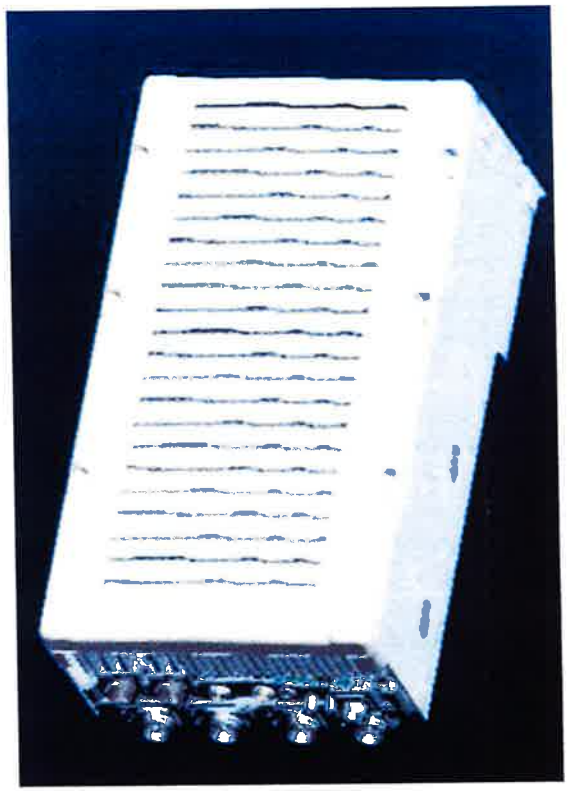
** Not a Verizon Wireless deployed product

Alcatel-Lucent

NEW PCS RF MODULES FOR VZW
RRH2X60 - HW CHARACTERISTICS

LR14.3

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



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

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

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

The Alcatel-Lucent RRH2x60-AWS 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.

The Alcatel-Lucent RRH2x60-AWS integrates all the latest technologies. This allows to offer best-in-class characteristics.

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

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

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

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

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

The Alcatel-Lucent RRH2x60-AWS 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).

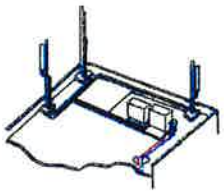
The Alcatel-Lucent RRH2x60-AWS is a very cost-effective solution to deploy LTE MIMO.

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

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

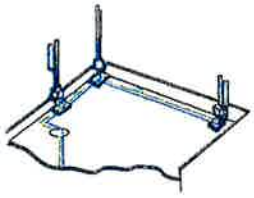
The Alcatel-Lucent RRH2x60-AWS is a zero-footprint solution and is convection cooled without fans for silent operation, simplifying negotiations with site property owners and minimizing environmental impacts.

Installation can easily be done by a single person as the Alcatel-Lucent RRH2x60-AWS is compact and weighs about 20 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

- RRH2x60-AWS integrates two power amplifiers of 60W rating (at each antenna connector)
- Support multiple carriers over the entire 3GPP band 4
- RRH2x60-AWS is optimized for LTE operation
- RRH2x60-AWS is a very compact and lightweight product
- Advanced power management techniques are embedded to provide power savings, such as PA bias control
- MIMO LTE operation with only one single unit per sector
- Improved uplink coverage with built-in 4-way receive diversity capability
- RRH can be mounted close to the antenna, eliminating nearly all losses in RF cables and thus reducing power consumption by 50% compared to conventional solutions
- Distributed configurations provide easily deployable and cost-effective solutions, near zero footprint and silent solutions, with minimum impact on the neighborhood, which ease the deployment
- RETA and TMA support without additional hardware thanks to the AISG v2.0 port and the integrated Bias-Tees. Bias-Tees support AISG DC supply and signaling.

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

Dimensions and weights
- HxWxD : 510x285x186mm (27 l with solar shield)
- Weight : 20 kg (44 lbs)

Electrical Data
- Power Supply : -48V DC (-40.5 to -57V)
- Power Consumption (ETSI average traffic load reference) : 250W @2x60W

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

Connectivity
- Two CPRI optical ports for daisychaining 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 20km 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 : ETS 300 019-1-4 class 4.1E
- Ingress Protection : IEC 60529 IP65
- Acoustic Noise : Noiseless (natural convection cooling)

Safety and Regulatory Data
- EMC : 3GPP 25113, EN 301 489-1, EN 301 489-23, GR 1089, GR 3108, OET-65
- Safety : IEC60950-1, EN 60825-1, UL, ANSI/NFPA 70, CAN/CSA-C22.2
- Regulatory : FCC Part 15 Class B, CE Mark – European Directive : 2002/95/EC (ROHS); 2002/96/EC (WEEE); 1999/5/EC (R&TTE)
- Health : EN 50385

Alcatel·Lucent

AT THE SPEED OF IDEAS™

Product Data Sheet HB158-1-08U8-S8J18

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

Product Description

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

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

Figure 1: HYBRIFLEX Series

Features/Benefits

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

Technical Specifications

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

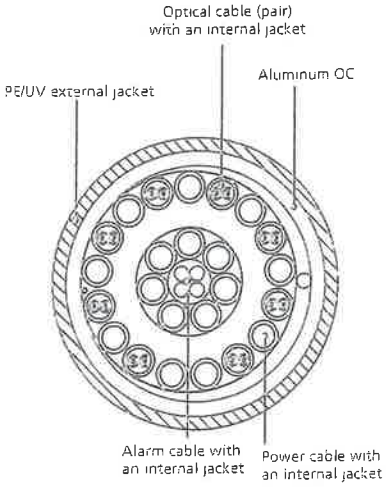


Figure 2: Construction Detail

* This data is provisional and subject to change

ATTACHMENT 2

	General	Power	Density					
Site Name: Southington								
Tower Height: 160Ft.								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*Sprint CDMA/LTE	6	551	147	0.0550	1900	1.0000	5.50%	
*Sprint CDMA/LTE	1	276	147	0.0046	850	0.5667	0.81%	
*Sprint CDMA/LTE	2	693	147	0.0231	2500	1.0000	2.31%	
*MetroPCS CDMA	3	727	139	0.0406	2135	1.0000	4.06%	
*MetroPCS LTE	1	1200	139	0.0223	2130	1.0000	2.23%	
*Nextel	9	100	115	0.0245	851	0.5673	4.31%	
*AT&T UMTS	2	1077	156	0.0318	880	0.5867	5.42%	
*AT&T UMTS	2	1556	156	0.0460	1900	1.0000	4.60%	
*AT&T GSM	1	538	156	0.0079	880	0.5867	1.35%	
*AT&T GSM	4	934	156	0.0552	1900	1.0000	5.52%	
*AT&T LTE	1	1375	156	0.0203	734	0.4893	4.15%	
Verizon PCS	**11**	**426**	**132**	**0.0967**	**1970**	**1.0000**	**9.67%**	
Verizon Cellular	**9**	**396**	**132**	**0.0735**	**869**	**0.5793**	**12.70%**	
Verizon AWS	**1**	**3500**	**132**	**0.0722**	**2145**	**1.0000**	**7.22%**	
Verizon 700	**1**	**2100**	**132**	**0.0433**	**746**	**0.4973**	**8.71%**	
								78.57%
* Source: Siting Council								

ATTACHMENT 3

Date: **June 19, 2015**

David Smith
Crown Castle
3530 Toringdon Way Suite 300
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FDH VELOCITEL
ENGINEERING INNOVATION
Velocitel, Inc., d.b.a. FDH Velocitel
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Subject: **Structural Modification Report**

Carrier Designation:	***Verizon Wireless* Co-Locate** **Carrier Site Name:**	 Southington, CT
Crown Castle Designation:	**Crown Castle BU Number:** **Crown Castle Site Name:** **Crown Castle JDE Job Number:** **Crown Castle Work Order Number:** **Crown Castle Application Number:**	876334 SOUTHINGTON, SMORON 333073 1068522 294435 Rev. 3
Engineering Firm Designation:	**FDH Velocitel Project Number:**	15BRLT1400
Site Data:	**625 Spring Street, SOUTHINGTON, Hartford County, CT** **Latitude *41° 37' 56.9"*, Longitude *-72° 53' 39.3"*** **160 Foot - Monopole Tower**	

Dear David Smith,

FDH Velocitel is pleased to submit this **"Structural Modification Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 792126, in accordance with application 294435, revision 3.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC4.7: Modified Structure w/ Existing + Reserved + Proposed **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and 2005 CT State Building Code based upon a wind speed of 80 mph fastest mile.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

We at *FDH Velocitel* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Mark S. Girgis

Mark S. Girgis, EI
Project Engineer

Reviewed by:

Dennis D. Abel, PE
Director of Structural Engineering
CT PE License No. 23247

06-19-2015

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1) INTRODUCTION

This tower is a 160 ft Monopole tower designed by SUMMIT in November of 1996. The tower was originally designed for a wind speed of 80 mph per TIA/EIA-222-E&F. The tower has been modified multiple times. It has been modified by Paul J. and Ford Company in 2010 and 2012 and by FDH Engineering Inc. in 2014.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 38 mph with 1 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
132.0	133.0	6	andrew	SBNHH-1D65B w/ Mount Pipe	1	1-5/8	-
		3	alcatel lucent	RRH2X60-AWS			
		3	alcatel lucent	RRH2x60-700			
		3	alcatel lucent	RRH2X60-PCS			
		2	rfs celwave	DB-T1-6Z-8AB-0Z			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
156.0	157.0	4	andrew	SBNH-1D6565C w/ Mount Pipe	6 1 2	1-5/8 3/8 3/4	1
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	communication components inc.	DTMABP7819VG12A			
		3	ericsson	RRUS 11 B12			
		1	raycap	DC6-48-60-18-8F			
		3	ericsson	RRUS 11 B2	-	-	2
	156.0	1	tower mounts	T-Arm Mount [TA 703-3]	-	-	1
148.0	148.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER			
		6	alcatel lucent	PCS 1900MHz 4x45W-65MHz			
		1	tower mounts	Side Arm Mount [SO 103-3]			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
146.0	147.0	3	alcatel lucent	TD-RRH8x20-25	1	1-1/4	2
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe			
		1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe	3	1-1/4	1
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
		3	rfs celwave	IBC1900BB-1			
		3	rfs celwave	IBC1900HG-2A			
	146.0	1	tower mounts	Platform Mount [LP 712-1]			
139.0	139.0	3	rfs celwave	APXV18-206517S-C w/ Mount Pipe	6	1-5/8	1
		1	tower mounts	Pipe Mount [PM 501-3]			
132.0	134.0	3	antel	BXA-171063/8CF-EDIN-2 w/ Mount Pipe	-	-	3
		3	antel	BXA-80080-6CF-EDIN-X w/ Mount Pipe	19	1-5/8	1
	133.0	3	antel	BXA-70063/6CFx2 w/ Mount Pipe			
		3	antel	BXA-185085/12CFx2 w/ Mount Pipe	-	-	3
		1	raycap	RRFDC-3315-PF-48			
		3	alcatel lucent	RRH2x40-AWS			
	132.0	1	tower mounts	Platform Mount [LP 712-1]	-	-	1
121.0	122.0	1	andrew	VHLP2-18	3 3 3	1/4 1/2 5/16	1
		2	andrew	VHLP800-11			
		3	dragonwave	HORIZON COMPACT			
		2	samsung telecommunications	RRH-2WB			
		1	argus technologies	LLPX310R w/ Mount Pipe			
		1	kathrein	840 10054 w/ Mount Pipe			
	121.0	1	samsung telecommunications	RRH-2WB			
		1	argus technologies	LLPX310R w/ Mount Pipe			
		1	tower mounts	T-Arm Mount [TA 602-3]			
110.0	111.0	12	decibel	DB844H90E-XY w/ Mount Pipe	12	7/8	3
	110.0	1	tower mounts	Platform Mount [LP 712-1]			
101.0	102.0	1	symmetricom	58532A	1	1/2	1
	101.0	1	tower mounts	Side Arm Mount [SO 701-1]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed; Not Considered in this Analysis

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
146.0	146.0	12	-	D890H PCS	-	-
		1	-	14' Low Profile Platform		
130.0	130.0	12	Generic	Panel Antennas	-	-
		1	-	14' Low Profile Platform		
110.0	110.0	12	Generic	Panel Antennas	-	-
		1	-	14' Low Profile Platform		
100.0	100.0	1	-	GPS Antenna w/ Mount	-	-

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	Paul J. Ford and Company	1614569	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Paul J. Ford and Company	1999756	CCISITES
4-GEOTECHNICAL REPORTS	FDH Engineering, Inc.	1530919	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	FDH Velocitel	Project No. 15BRLT1400	Appendix D

3.1) Analysis Method

tnxTower (version 6.1.4.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
5) The modifications outlined in FDH Velocitel (Project No. 15BRLT1400) Modification Drawings for a 160' Monopole dated June 19, 2015 must be installed as specified in order for this analysis to be considered valid.

This analysis may be affected if any assumptions are not valid or have been made in error. FDH Velocitel should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP16x16x0.375	Pole	3.4%	Pass
155 - 150	Pole	TP16x16x0.375	Pole	15.9%	Pass
150 - 146	Pole	TP16x16x0.375	Pole	28.0%	Pass
146 - 141	Pole	TP22.924x22x0.25	Pole	26.2%	Pass
141 - 136	Pole	TP23.848x22.924x0.25	Pole	37.2%	Pass
136 - 131	Pole	TP24.772x23.848x0.25	Pole	50.0%	Pass
131 - 126	Pole	TP25.696x24.772x0.25	Pole	65.0%	Pass
126 - 121	Pole	TP26.62x25.696x0.25	Pole	78.4%	Pass
121 - 117.25	Pole	TP27.313x26.62x0.25	Pole	88.9%	Pass
117.25 - 117	Pole + Reinf.	TP27.359x27.313x0.2625	Pole	90.2%	Pass
117 - 115.5	Pole + Reinf.	TP27.637x27.359x0.2625	Pole	94.2%	Pass
115.5 - 115.25	Pole + Reinf.	TP27.683x27.637x0.425	Reinf. 15 Compression	70.9%	Pass[1]
115.25 - 110.25	Pole + Reinf.	TP28.607x27.683x0.4125	Reinf. 15 Compression	81.1%	Pass[1]
110.25 - 107.5	Pole + Reinf.	TP29.808x28.607x0.4125	Reinf. 15 Compression	86.1%	Pass[1]
107.5 - 102.5	Pole + Reinf.	TP29.539x28.615x0.475	Reinf. 15 Compression	85.1%	Pass[1]
102.5 - 98.5	Pole + Reinf.	TP30.277x29.539x0.4688	Reinf. 15 Compression	91.4%	Pass[1]
98.5 - 98.25	Pole + Reinf.	TP30.324x30.277x0.45	Pole	79.5%	Pass
98.25 - 93.25	Pole + Reinf.	TP31.247x30.324x0.45	Pole	85.5%	Pass
93.25 - 88.25	Pole + Reinf.	TP32.171x31.247x0.4438	Pole	91.1%	Pass
88.25 - 83.5	Pole + Reinf.	TP33.048x32.171x0.4563	Reinf. 7 Tension Rupture	95.1%	Pass[1]
83.5 - 83.25	Pole + Reinf.	TP33.094x33.048x0.6125	Reinf. 11 Bolt Shear	73.3%	Pass[1]
83.25 - 82.5	Pole + Reinf.	TP33.233x33.094x0.5875	Reinf. 7 Bolt Shear	75.4%	Pass[1]
82.5 - 82.25	Pole + Reinf.	TP33.279x33.233x0.4375	Pole	97.2%	Pass
82.25 - 80.75	Pole + Reinf.	TP33.556x33.279x0.45	Reinf. 11 Tension Rupture	98.5%	Pass[1]
80.75 - 80.5	Pole + Reinf.	TP33.602x33.556x0.5375	Reinf. 11 Tension Rupture	94.2%	Pass[1]
80.5 - 78.5	Pole + Reinf.	TP33.972x33.602x0.525	Reinf. 11 Tension Rupture	96.4%	Pass[1]
78.5 - 78.25	Pole + Reinf.	TP34.018x33.972x0.7625	Reinf. 8 Bolt Shear	69.1%	Pass[1]
78.25 - 77.5	Pole + Reinf.	TP34.157x34.018x0.7625	Reinf. 8 Tension Rupture	68.4%	Pass[1]
77.5 - 77.25	Pole + Reinf.	TP34.203x34.157x0.5625	Reinf. 8 Tension Rupture	91.1%	Pass[1]
77.25 - 73	Pole + Reinf.	TP35.819x34.203x0.55	Reinf. 8 Tension Rupture	94.5%	Pass[1]
73 - 68	Pole + Reinf.	TP35.287x34.363x0.6125	Reinf. 8 Tension Rupture	91.3%	Pass[1]
68 - 65.25	Pole + Reinf.	TP35.795x35.287x0.6125	Reinf. 8 Tension Rupture	93.9%	Pass[1]
65.25 - 65	Pole + Reinf.	TP35.841x35.795x0.85	Reinf. 8 Tension Rupture	68.7%	Pass[1]
65 - 64.25	Pole + Reinf.	TP35.979x35.841x0.85	Reinf. 8 Tension Rupture	69.1%	Pass[1]
64.25 - 64	Pole + Reinf.	TP36.026x35.979x0.675	Reinf. 8 Tension Rupture	76.9%	Pass[1]
64 - 62.5	Pole + Reinf.	TP36.303x36.026x0.675	Reinf. 8 Bolt Shear	78.3%	Pass[1]
62.5 - 62.25	Pole + Reinf.	TP36.349x36.303x0.5438	Pole	92.7%	Pass
62.25 - 60.08	Pole + Reinf.	TP36.75x36.349x0.525	Pole	96.0%	Pass
60.08 - 59.83	Pole + Reinf.	TP36.796x36.75x0.5375	Pole	96.2%	Pass
59.83 - 59.08	Pole + Reinf.	TP36.934x36.796x0.5375	Pole	96.7%	Pass
59.08 - 58.83	Pole + Reinf.	TP36.981x36.934x0.65	Reinf. 3 Tension Rupture	86.7%	Pass[1]

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
58.83 - 57.25	Pole + Reinf.	TP37.273x36.981x0.65	Reinf. 3 Tension Rupture	87.8%	Pass[1]
57.25 - 57	Pole + Reinf.	TP37.319x37.273x0.825	Reinf. 3 Tension Rupture	70.8%	Pass[1]
57 - 55.75	Pole + Reinf.	TP37.55x37.319x0.8375	Reinf. 3 Tension Rupture	71.2%	Pass[1]
55.75 - 55.5	Pole + Reinf.	TP37.596x37.55x0.675	Reinf. 3 Tension Rupture	86.2%	Pass[1]
55.5 - 50.5	Pole + Reinf.	TP38.52x37.596x0.6625	Reinf. 3 Tension Rupture	88.9%	Pass[1]
50.5 - 45.5	Pole + Reinf.	TP39.443x38.52x0.6625	Reinf. 3 Tension Rupture	90.6%	Pass[1]
45.5 - 41.33	Pole + Reinf.	TP40.214x39.443x0.65	Reinf. 3 Tension Rupture	93.5%	Pass[1]
41.33 - 41.08	Pole + Reinf.	TP40.26x40.214x0.775	Reinf. 9 Tension Rupture	81.6%	Pass[1]
41.08 - 39	Pole + Reinf.	TP41.568x40.26x0.7625	Reinf. 9 Bolt Shear	83.9%	Pass[1]
39 - 33	Pole + Reinf.	TP41.003x39.894x0.7	Reinf. 13 Bolt Shear	94.0%	Pass[1]
33 - 31.5	Pole + Reinf.	TP41.28x41.003x0.7	Reinf. 13 Tension Rupture	93.5%	Pass[1]
31.5 - 31.25	Pole + Reinf.	TP41.326x41.28x0.7	Reinf. 13 Tension Rupture	93.6%	Pass[1]
31.25 - 30.5	Pole + Reinf.	TP41.465x41.326x0.7	Reinf. 13 Tension Rupture	93.9%	Pass[1]
30.5 - 30.25	Pole + Reinf.	TP41.511x41.465x0.7375	Reinf. 13 Tension Rupture	89.0%	Pass[1]
30.25 - 28.5	Pole + Reinf.	TP41.834x41.511x0.7375	Reinf. 13 Tension Rupture	89.7%	Pass[1]
28.5 - 28.25	Pole + Reinf.	TP41.88x41.834x0.925	Reinf. 10 Bolt Shear	75.1%	Pass[1]
28.25 - 25.75	Pole + Reinf.	TP42.342x41.88x0.95	Reinf. 10 Tension Rupture	74.6%	Pass[1]
25.75 - 25.5	Pole + Reinf.	TP42.389x42.342x0.7125	Reinf. 10 Tension Rupture	95.5%	Pass[1]
25.5 - 20.5	Pole + Reinf.	TP43.312x42.389x0.7	Reinf. 10 Tension Rupture	97.8%	Pass[1]
20.5 - 15.5	Pole + Reinf.	TP44.236x43.312x0.75	Reinf. 10 Tension Rupture	96.9%	Pass[1]
15.5 - 14.08	Pole + Reinf.	TP44.499x44.236x0.75	Reinf. 10 Tension Rupture	90.4%	Pass[1]
14.08 - 13.82	Pole + Reinf.	TP44.547x44.499x0.725	Reinf. 10 Tension Rupture	96.2%	Pass[1]
13.82 - 13.67	Pole + Reinf.	TP44.574x44.547x0.725	Reinf. 10 Tension Rupture	96.3%	Pass[1]
13.67 - 10.5	Pole + Reinf.	TP45.16x44.574x0.7125	Reinf. 10 Tension Rupture	96.3%	Pass[1]
10.5 - 10.25	Pole + Reinf.	TP45.206x45.16x0.7	Reinf. 10 Tension Rupture	95.1%	Pass[1]
10.25 - 5.25	Pole + Reinf.	TP46.13x45.206x0.7	Reinf. 10 Tension Rupture	99.1%	Pass[1]
5.25 - 3	Pole + Reinf.	TP46.546x46.13x1.1	Reinf. 10 Bolt Shear	63.2%	Pass[1]
3 - 2.75	Pole + Reinf.	TP46.592x46.546x0.775	Reinf. 6 Compression	79.9%	Pass[1]
2.75 - 0	Pole + Reinf.	TP47.1x46.592x0.7625	Reinf. 6 Compression	80.6%	Pass[1]
				Summary	
			Pole	97.2%	Pass
			Reinforcement	99.8%	Pass
			Overall	99.8%	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC4.7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Bolts	146	26.4	Pass
1	Flange Plate	146	68.6	Pass
1	Anchor Rods	0	97.0	Pass
1	Base Plate	0	98.0	Pass
1	Base Foundation	0	55.7	Pass
1	Base Foundation Soil Interaction	0	83.8	Pass

Structure Rating (max from all components) =	99.8%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

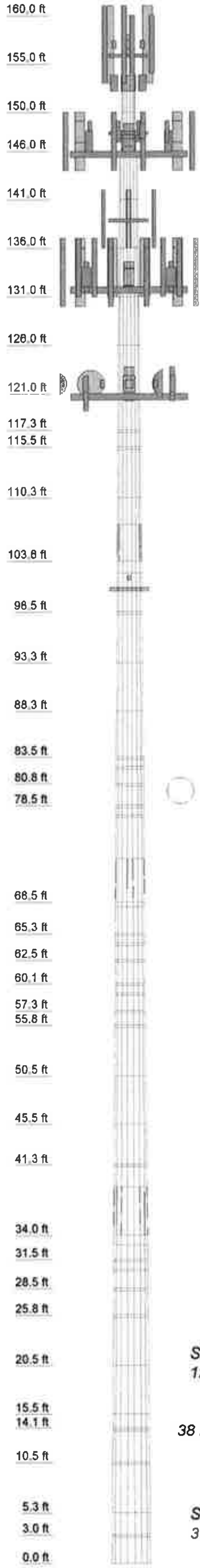
4.1) Recommendations

The modifications outlined in FDH Velocitel (Project No. 15BRLT1400) Modification Drawings for a 160' Monopole dated June 19, 2015 must be installed as specified in order for this analysis to be considered valid.

APPENDIX A

TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.0000	0	0.3750		16.0000	16.0000	A53-B-35	0.3
2	5.0000	0	0.3750		16.0000	16.0000		0.3
3	4.0000	0	0.3750		16.0000	16.0000		0.3
4	5.0000	12	0.2500		22.0000	22.9240		0.3
5	5.0000	12	0.2500		22.9240	23.8480		0.3
6	5.0000	12	0.2500		23.8480	24.7721		0.3
7	5.0000	12	0.2500		24.7721	25.6961		0.3
8	5.0000	12	0.2500		25.6961	26.6201		0.4
9–13	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
14	[illegible]	12	0.4125	3.7500	[illegible]	[illegible]		0.8
15–18	[illegible]	12	[illegible]		[illegible]	[illegible]		[illegible]
19	5.0000	12	0.4437		31.2472	32.1708	A607-60	0.8
20	[illegible]	12	[illegible]		[illegible]	[illegible]		0.8
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
30	[illegible]	12	0.5500	4.5000	[illegible]	[illegible]		1.9
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
40	[illegible]	12	[illegible]		[illegible]	[illegible]		1.4
47	5.0000	12	0.6625		38.5196	39.4434		1.4
48–49	[illegible]	12 12	[illegible]		[illegible]	[illegible]		[illegible]
50	[illegible]	12	[illegible]	5.0000	[illegible]	[illegible]		2.3
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
60	[illegible]	12	[illegible]		[illegible]	[illegible]		1.6
61	[illegible]	12	[illegible]		[illegible]	[illegible]	A607-65	1.7
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
67	[illegible]	12	[illegible]		[illegible]	[illegible]		1.7
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
								36.1



DESIGNED APPURTENANCE LOADING

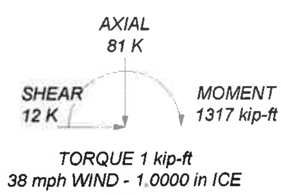
TYPE	ELEVATION	TYPE	ELEVATION
SBNH-1D6565C w/ Mount Pipe	156	APXV18-206517S-C	139
SBNH-1D6565C w/ Mount Pipe	156	APXV18-206517S-C	139
AM-X-CD-16-65-00T-RET w/ Mount Pipe	156	APXV18-206517S-C	139
AM-X-CD-16-65-00T-RET w/ Mount Pipe	156	Pipe Mount [PM 501-3]	139
SBNH-1D6565C w/ Mount Pipe	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
SBNH-1D6565C w/ Mount Pipe	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-70063/6CFx2 w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-70063/6CFx2 w/ Mount Pipe	132
RRUS 11 B2	156	BXA-70063/6CFx2 w/ Mount Pipe	132
RRUS 11 B2	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B2	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B12	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B12	156	RRH2X60-AWS	132
RRUS 11 B12	156	RRH2X60-AWS	132
DC6-48-60-18-8F	156	RRH2X60-AWS	132
T-Arm Mount [TA 703-3]	156	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	DB-T1-6Z-8AB-0Z	132
Side Arm Mount [SO 103-3]	148	DB-T1-6Z-8AB-0Z	132
APXV9ERR18-C-A20 w/ Mount Pipe	146	Platform Mount [LP 712-1]	132
APXVSPP18-C-A20 w/ Mount Pipe	146	LLPX310R w/ Mount Pipe	121
APXVSPP18-C-A20 w/ Mount Pipe	146	840 10054 w/ Mount Pipe	121
APXVTM14-C-120 w/ Mount Pipe	146	LLPX310R w/ Mount Pipe	121
APXVTM14-C-120 w/ Mount Pipe	146	RRH-2WB	121
APXVTM14-C-120 w/ Mount Pipe	146	RRH-2WB	121
IBC1900BB-1	146	RRH-2WB	121
IBC1900BB-1	146	HORIZON COMPACT	121
IBC1900BB-1	146	HORIZON COMPACT	121
IBC1900HG-2A	146	HORIZON COMPACT	121
IBC1900HG-2A	146	6' x 2.375" Pipe Mount	121
IBC1900HG-2A	146	6' x 2.375" Pipe Mount	121
TD-RRH8x20-25	146	6' x 2.375" Pipe Mount	121
TD-RRH8x20-25	146	T-Arm Mount [TA 602-3]	121
TD-RRH8x20-25	146	VHLP800-11	121
6' x 2.375" Pipe Mount	146	VHLP800-11	121
6' x 2.375" Pipe Mount	146	VHLP2-18	121
6' x 2.375" Pipe Mount	146	Side Arm Mount [SO 701-1]	101
Platform Mount [LP 712-1]	146	58532A	101

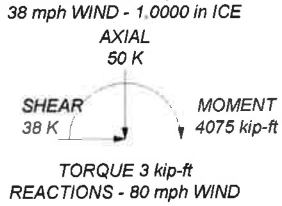
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A607-65	65 ksi	80 ksi
A607-60	60 ksi	75 ksi			

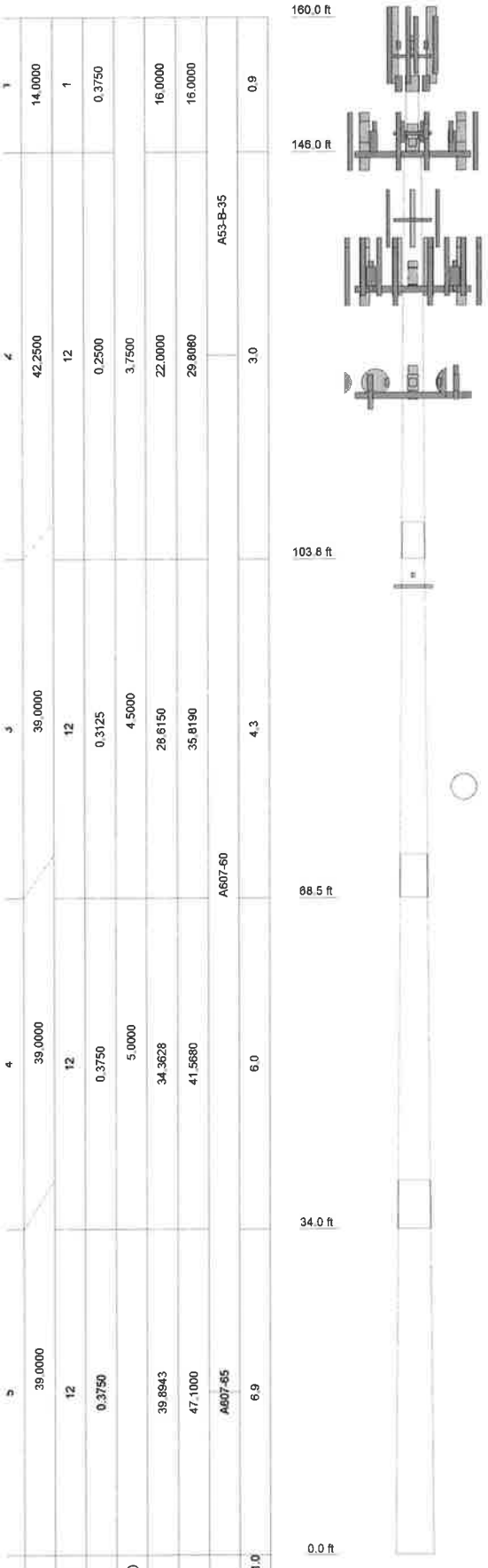
TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 94.4%





FDH VELOCITEL ENGINEERING INNOVATION	**FDH Velocitel** 6521 Meridien Drive Raleigh, NC 27616 Phone: (919) 755-1012 FAX: (919) 755-1031	Job: **SOUTHINGTON, SMORON, BU# 876334** Project: **15BRLT1400** Client: Crown Castle — Drawn by: Mark S. Girgis — App'd: Code: TIA/EIA-222-F — Date: 06/16/15 — Scale: N Path: — Dwg No.



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
SBNH-1D6565C w/ Mount Pipe	156	APXV18-206517S-C	139
SBNH-1D6565C w/ Mount Pipe	156	APXV18-206517S-C	139
AM-X-CD-16-65-00T-RET w/ Mount Pipe	156	APXV18-206517S-C	139
AM-X-CD-16-65-00T-RET w/ Mount Pipe	156	Pipe Mount [PM 501-3]	139
SBNH-1D6565C w/ Mount Pipe	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
SBNH-1D6565C w/ Mount Pipe	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-80080-6CF-EDIN-X w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-70063/6CFx2 w/ Mount Pipe	132
DTMABP7819VG12A	156	BXA-70063/6CFx2 w/ Mount Pipe	132
RRUS 11 B2	156	BXA-70063/6CFx2 w/ Mount Pipe	132
RRUS 11 B2	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B2	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B12	156	(2) SBNHH-1D65B w/ Mount Pipe	132
RRUS 11 B12	156	RRH2X60-AWS	132
RRUS 11 B12	156	RRH2X60-AWS	132
DC6-48-60-18-8F	156	RRH2X60-AWS	132
T-Arm Mount [TA 703-3]	156	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2x60-700	132
(2) PCS 1900MHz 4x45W-65MHz	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	RRH2X60-PCS	132
800MHz 2X50W RRH W/FILTER	148	DB-T1-6Z-8AB-0Z	132
Side Arm Mount [SO 103-3]	148	DB-T1-6Z-8AB-0Z	132
APXV9ERR18-C-A20 w/ Mount Pipe	146	Platform Mount [LP 712-1]	132
APXVSPP18-C-A20 w/ Mount Pipe	146	LLPX310R w/ Mount Pipe	121
APXVSPP18-C-A20 w/ Mount Pipe	146	840 10054 w/ Mount Pipe	121
APXVTM14-C-120 w/ Mount Pipe	146	LLPX310R w/ Mount Pipe	121
APXVTM14-C-120 w/ Mount Pipe	146	RRH-2WB	121
APXVTM14-C-120 w/ Mount Pipe	146	RRH-2WB	121
IBC1900BB-1	146	RRH-2WB	121
IBC1900BB-1	146	HORIZON COMPACT	121
IBC1900BB-1	146	HORIZON COMPACT	121
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TD-RRH8x20-25	146	T-Arm Mount [TA 602-3]	121
TD-RRH8x20-25	146	VHLP800-11	121
6' x 2.375" Pipe Mount	146	VHLP800-11	121
6' x 2.375" Pipe Mount	146	VHLP2-18	121
6' x 2.375" Pipe Mount	146	Side Arm Mount [SO 701-1]	101
Platform Mount [LP 712-1]	146	58532A	101

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A607-65	65 ksi	80 ksi
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 38 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.

FDH VELOCITEL ENGINEERING INNOVATION
FDH Velocitel
6521 Meridien Drive
Raleigh, NC 27616
Phone: (919) 755-1012
FAX: (919) 755-1031

Job: SOUTHINGTON, SMORON, BU# 876334			
Project: 15BRLT1400			
Client: Crown Castle	Drawn by: Mark S. Girgis	App'd:	
Code: TIA/EIA-222-F	Date: 06/19/15	Scale: N	
Path:		Dwg No.	

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56.00 pcf.
A wind speed of 38 mph is used in combination with ice.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.333.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Treat Feedline Bundles As Cylinder
	Consider Moments - Horizontals		Assume Legs Pinned		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Calculate Redundant Bracing Forces
	Use Moment Magnification	√	Use Clear Spans For Wind Area		Ignore Redundant Members in FEA
√	Use Code Stress Ratios		Use Clear Spans For KL/r		SR Leg Bolts Resist Compression
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		All Leg Panels Have Same Allowable
√	Escalate Ice	√	Bypass Mast Stability Checks		Offset Girt At Foundation
	Always Use Max Kz	√	Use Azimuth Dish Coefficients	√	Consider Feedline Torque
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Include Angle Block Shear Check
	Include Bolts In Member Capacity	√	Autocalc Torque Arm Areas		Poles
	Leg Bolts Are At Top Of Section		SR Members Have Cut Ends	√	Include Shear-Torsion Interaction
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component		Always Use Sub-Critical Flow
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Use Top Mounted Sockets
	Add IBC .6D+W Combination		Use TIA-222-G Tension Splice Capacity Exemption		

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	160.0000-155.0000	5.0000	0.00	Round	16.0000	16.0000	0.3750		A53-B-35 (35 ksi)
L2	155.0000-150.0000	5.0000	0.00	Round	16.0000	16.0000	0.3750		A53-B-35 (35 ksi)
L3	150.0000-146.0000	4.0000	0.00	Round	16.0000	16.0000	0.3750		A53-B-35 (35 ksi)
L4	146.0000-141.0000	5.0000	0.00	12	22.0000	22.9240	0.2500	1.0000	A607-60 (60 ksi)
L5	141.0000-136.0000	5.0000	0.00	12	22.9240	23.8480	0.2500	1.0000	A607-60 (60 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L6	136.0000-131.0000	5.0000	0.00	12	23.8480	24.7721	0.2500	1.0000	A607-60 (60 ksi)
L7	131.0000-126.0000	5.0000	0.00	12	24.7721	25.6961	0.2500	1.0000	A607-60 (60 ksi)
L8	126.0000-121.0000	5.0000	0.00	12	25.6961	26.6201	0.2500	1.0000	A607-60 (60 ksi)
L9	121.0000-117.2500	3.7500	0.00	12	26.6201	27.3131	0.2500	1.0000	A607-60 (60 ksi)
L10	117.2500-117.0000	0.2500	0.00	12	27.3131	27.3593	0.2625	1.0500	A607-60 (60 ksi)
L11	117.0000-115.5000	1.5000	0.00	12	27.3593	27.6365	0.2625	1.0500	A607-60 (60 ksi)
L12	115.5000-115.2500	0.2500	0.00	12	27.6365	27.6827	0.4250	1.7000	A607-60 (60 ksi)
L13	115.2500-110.2500	5.0000	0.00	12	27.6827	28.6068	0.4125	1.6500	A607-60 (60 ksi)
L14	110.2500-103.7500	6.5000	3.75	12	28.6068	29.8080	0.4125	1.6500	A607-60 (60 ksi)
L15	103.7500-102.5000	5.0000	0.00	12	28.6150	29.5386	0.4750	1.9000	A607-60 (60 ksi)
L16	102.5000-98.5000	4.0000	0.00	12	29.5386	30.2774	0.4688	1.8750	A607-60 (60 ksi)
L17	98.5000-98.2500	0.2500	0.00	12	30.2774	30.3236	0.4500	1.8000	A607-60 (60 ksi)
L18	98.2500-93.2500	5.0000	0.00	12	30.3236	31.2472	0.4500	1.8000	A607-60 (60 ksi)
L19	93.2500-88.2500	5.0000	0.00	12	31.2472	32.1708	0.4437	1.7750	A607-60 (60 ksi)
L20	88.2500-83.5000	4.7500	0.00	12	32.1708	33.0482	0.4562	1.8250	A607-60 (60 ksi)
L21	83.5000-83.2500	0.2500	0.00	12	33.0482	33.0944	0.6125	2.4500	A607-60 (60 ksi)
L22	83.2500-82.5000	0.7500	0.00	12	33.0944	33.2329	0.5875	2.3500	A607-60 (60 ksi)
L23	82.5000-82.2500	0.2500	0.00	12	33.2329	33.2791	0.4375	1.7500	A607-60 (60 ksi)
L24	82.2500-80.7500	1.5000	0.00	12	33.2791	33.5562	0.4500	1.8000	A607-60 (60 ksi)
L25	80.7500-80.5000	0.2500	0.00	12	33.5562	33.6024	0.5375	2.1500	A607-60 (60 ksi)
L26	80.5000-78.5000	2.0000	0.00	12	33.6024	33.9718	0.5250	2.1000	A607-60 (60 ksi)
L27	78.5000-78.2500	0.2500	0.00	12	33.9718	34.0180	0.7625	3.0500	A607-60 (60 ksi)
L28	78.2500-77.5000	0.7500	0.00	12	34.0180	34.1565	0.7625	3.0500	A607-60 (60 ksi)
L29	77.5000-77.2500	0.2500	0.00	12	34.1565	34.2027	0.5625	2.2500	A607-60 (60 ksi)
L30	77.2500-68.5000	8.7500	4.50	12	34.2027	35.8190	0.5500	2.2000	A607-60 (60 ksi)
L31	68.5000-68.0000	5.0000	0.00	12	34.3628	35.2865	0.6125	2.4500	A607-60 (60 ksi)
L32	68.0000-65.2500	2.7500	0.00	12	35.2865	35.7946	0.6125	2.4500	A607-60 (60 ksi)
L33	65.2500-65.0000	0.2500	0.00	12	35.7946	35.8408	0.8500	3.4000	A607-60 (60 ksi)
L34	65.0000-64.2500	0.7500	0.00	12	35.8408	35.9793	0.8500	3.4000	A607-60 (60 ksi)
L35	64.2500-64.0000	0.2500	0.00	12	35.9793	36.0255	0.6750	2.7000	A607-60 (60 ksi)
L36	64.0000-62.500	1.5000	0.00	12	36.0255	36.3026	0.6750	2.7000	A607-60

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
	0								(60 ksi)
L37	62.5000-62.2500	0.2500	0.00	12	36.3026	36.3488	0.5437	2.1750	A607-60
	0								(60 ksi)
L38	62.2500-60.0800	2.1700	0.00	12	36.3488	36.7497	0.5250	2.1000	A607-60
	0								(60 ksi)
L39	60.0800-59.8300	0.2500	0.00	12	36.7497	36.7959	0.5375	2.1500	A607-60
	0								(60 ksi)
L40	59.8300-59.0800	0.7500	0.00	12	36.7959	36.9345	0.5375	2.1500	A607-60
	0								(60 ksi)
L41	59.0800-58.8300	0.2500	0.00	12	36.9345	36.9807	0.6500	2.6000	A607-60
	0								(60 ksi)
L42	58.8300-57.2500	1.5800	0.00	12	36.9807	37.2726	0.6500	2.6000	A607-60
	0								(60 ksi)
L43	57.2500-57.0000	0.2500	0.00	12	37.2726	37.3188	0.8250	3.3000	A607-60
	0								(60 ksi)
L44	57.0000-55.7500	1.2500	0.00	12	37.3188	37.5497	0.8375	3.3500	A607-60
	0								(60 ksi)
L45	55.7500-55.5000	0.2500	0.00	12	37.5497	37.5959	0.6750	2.7000	A607-60
	0								(60 ksi)
L46	55.5000-50.5000	5.0000	0.00	12	37.5959	38.5196	0.6625	2.6500	A607-60
	0								(60 ksi)
L47	50.5000-45.5000	5.0000	0.00	12	38.5196	39.4434	0.6625	2.6500	A607-60
	0								(60 ksi)
L48	45.5000-41.3300	4.1700	0.00	12	39.4434	40.2138	0.6500	2.6000	A607-60
	0								(60 ksi)
L49	41.3300-41.0800	0.2500	0.00	12	40.2138	40.2600	0.7750	3.1000	A607-60
	0								(60 ksi)
L50	41.0800-34.0000	7.0800	5.00	12	40.2600	41.5680	0.7625	3.0500	A607-60
	0								(60 ksi)
L51	34.0000-33.0000	6.0000	0.00	12	39.8943	41.0028	0.7000	2.8000	A607-65
	0								(65 ksi)
L52	33.0000-31.5000	1.5000	0.00	12	41.0028	41.2800	0.7000	2.8000	A607-65
	0								(65 ksi)
L53	31.5000-31.2500	0.2500	0.00	12	41.2800	41.3262	0.7000	2.8000	A607-65
	0								(65 ksi)
L54	31.2500-30.5000	0.7500	0.00	12	41.3262	41.4647	0.7000	2.8000	A607-65
	0								(65 ksi)
L55	30.5000-30.2500	0.2500	0.00	12	41.4647	41.5109	0.7375	2.9500	A607-65
	0								(65 ksi)
L56	30.2500-28.5000	1.7500	0.00	12	41.5109	41.8343	0.7375	2.9500	A607-65
	0								(65 ksi)
L57	28.5000-28.2500	0.2500	0.00	12	41.8343	41.8805	0.9250	3.7000	A607-65
	0								(65 ksi)
L58	28.2500-25.7500	2.5000	0.00	12	41.8805	42.3424	0.9500	3.8000	A607-65
	0								(65 ksi)
L59	25.7500-25.5000	0.2500	0.00	12	42.3424	42.3885	0.7125	2.8500	A607-65
	0								(65 ksi)
L60	25.5000-20.5000	5.0000	0.00	12	42.3885	43.3124	0.7000	2.8000	A607-65
	0								(65 ksi)
L61	20.5000-15.5000	5.0000	0.00	12	43.3124	44.2362	0.7500	3.0000	A607-65
	0								(65 ksi)
L62	15.5000-14.0800	1.4200	0.00	12	44.2362	44.4985	0.7500	3.0000	A607-65
	0								(65 ksi)
L63	14.0800-13.8200	0.2600	0.00	12	44.4985	44.5466	0.7250	2.9000	A607-65
	0								(65 ksi)
L64	13.8200-13.6700	0.1500	0.00	12	44.5466	44.5743	0.7250	2.9000	A607-65
	0								(65 ksi)
L65	13.6700-10.5000	3.1700	0.00	12	44.5743	45.1600	0.7125	2.8500	A607-65
	0								(65 ksi)
L66	10.5000-10.2500	0.2500	0.00	12	45.1600	45.2062	0.7000	2.8000	A607-65
	0								(65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L67	10.2500-5.2500	5.0000	0.00	12	45.2062	46.1300	0.7000	2.8000	A607-65 (65 ksi)
L68	5.2500-3.0000	2.2500	0.00	12	46.1300	46.5457	1.1000	4.4000	A607-65 (65 ksi)
L69	3.0000-2.7500	0.2500	0.00	12	46.5457	46.5919	0.7750	3.1000	A607-65 (65 ksi)
L70	2.7500-0.0000	2.7500		12	46.5919	47.1000	0.7625	3.0500	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
L2	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
L3	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
	16.0000	18.4078	562.0841	5.5259	8.0000	70.2605	1124.1682	9.1984	0.0000	0
L4	22.7761	17.5087	1057.2060	7.7865	11.3960	92.7699	2142.1860	8.6173	5.2260	20.904
	23.7327	18.2526	1197.7540	8.1173	11.8746	100.8665	2426.9743	8.9834	5.4736	21.895
L5	23.7327	18.2526	1197.7540	8.1173	11.8746	100.8665	2426.9743	8.9834	5.4736	21.895
	24.6893	18.9964	1350.2371	8.4481	12.3533	109.3018	2735.9464	9.3495	5.7213	22.885
L6	24.6893	18.9964	1350.2371	8.4481	12.3533	109.3018	2735.9464	9.3495	5.7213	22.885
	25.6459	19.7403	1515.1418	8.7789	12.8319	118.0759	3070.0880	9.7156	5.9689	23.876
L7	25.6459	19.7403	1515.1418	8.7789	12.8319	118.0759	3070.0880	9.7156	5.9689	23.876
	26.6026	20.4841	1692.9543	9.1097	13.3106	127.1887	3430.3845	10.0817	6.2166	24.866
L8	26.6026	20.4841	1692.9543	9.1097	13.3106	127.1887	3430.3845	10.0817	6.2166	24.866
	27.5592	21.2279	1884.1612	9.4405	13.7892	136.6401	3817.8215	10.4477	6.4642	25.857
L9	27.5592	21.2279	1884.1612	9.4405	13.7892	136.6401	3817.8215	10.4477	6.4642	25.857
	28.2766	21.7858	2036.6490	9.6886	14.1482	143.9511	4126.8031	10.7223	6.6499	26.6
L10	28.2766	22.8646	2135.5197	9.6841	14.1482	150.9393	4327.1418	11.2532	6.6164	25.205
	28.3245	22.9036	2146.4805	9.7007	14.1721	151.4578	4349.3514	11.2725	6.6288	25.253
L11	28.3245	22.9036	2146.4805	9.7007	14.1721	151.4578	4349.3514	11.2725	6.6288	25.253
	28.6115	23.1379	2213.0337	9.7999	14.3157	154.5876	4484.2063	11.3878	6.7031	25.536
L12	28.6115	37.2390	3519.5758	9.7417	14.3157	245.8537	7131.6148	18.3279	6.2676	14.747
	28.6593	37.3022	3537.5334	9.7583	14.3397	246.6957	7168.0018	18.3590	6.2800	14.776
L13	28.6593	36.2217	3438.2141	9.7627	14.3397	239.7695	6966.7540	17.8272	6.3135	15.305
	29.6159	37.4490	3799.6912	10.0935	14.8183	256.4187	7699.2045	18.4313	6.5611	15.906
L14	29.6159	37.4490	3799.6912	10.0935	14.8183	256.4187	7699.2045	18.4313	6.5611	15.906
	30.8595	39.0446	4306.3401	10.5236	15.4405	278.8982	8725.8126	19.2166	6.8830	16.686
L15	30.3415	43.0401	4350.1766	10.0741	14.8226	293.4835	8814.6372	21.1830	6.3958	13.465
	30.5806	44.4527	4792.7249	10.4048	15.3010	313.2299	9711.3600	21.8783	6.6433	13.986
L16	30.5806	43.8773	4732.7147	10.4070	15.3010	309.3079	9589.7630	21.5951	6.6601	14.208
	31.3455	44.9925	5102.8420	10.6715	15.6837	325.3592	10339.7413	22.1439	6.8581	14.631
L17	31.3455	43.2200	4907.9782	10.6782	15.6837	312.9346	9944.8944	21.2716	6.9084	15.352
	31.3933	43.2869	4930.8094	10.6948	15.7076	313.9116	9991.1567	21.3045	6.9207	15.379
L18	31.3933	43.2869	4930.8094	10.6948	15.7076	313.9116	9991.1567	21.3045	6.9207	15.379
	32.3495	44.6252	5402.4264	11.0254	16.1861	333.7703	10946.7806	21.9632	7.1683	15.929
L19	32.3495	44.0143	5330.6368	11.0276	16.1861	329.3351	10801.3154	21.6625	7.1850	16.192
	33.3057	45.3340	5824.6487	11.3583	16.6645	349.5248	11802.3175	22.3120	7.4325	16.749
L20	33.3057	46.5927	5981.6477	11.3538	16.6645	358.9459	12120.4400	22.9315	7.3990	16.217
	34.2140	47.8817	6491.9728	11.6679	17.1190	379.2266	13154.4970	23.5659	7.6342	16.732
L21	34.2140	63.9714	8590.5051	11.6120	17.1190	501.8117	17406.6924	31.4848	7.2154	11.78
	34.2618	64.0624	8627.2490	11.6285	17.1429	503.2549	17481.1454	31.5296	7.2278	11.8
L22	34.2618	61.4949	8294.2381	11.6375	17.1429	483.8293	16806.3752	30.2659	7.2948	12.417

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	34.4053	61.7570	8400.7366	11.6871	17.2147	487.9989	17022.1698	30.3949	7.3319	12.48
L23	34.4053	46.2006	6342.4983	11.7408	17.2147	368.4358	12851.6211	22.7385	7.7339	17.678
	34.4531	46.2656	6369.3288	11.7573	17.2386	369.4810	12905.9870	22.7705	7.7463	17.706
L24	34.4531	47.5694	6543.8319	11.7528	17.2386	379.6038	13259.5776	23.4122	7.7128	17.14
	34.7399	47.9709	6710.9240	11.8520	17.3821	386.0822	13598.1515	23.6098	7.7871	17.305
L25	34.7399	57.1471	7952.4360	11.8207	17.3821	457.5069	16113.7914	28.1261	7.5526	14.051
	34.7877	57.2270	7985.8493	11.8372	17.4060	458.7978	16181.4957	28.1654	7.5649	14.074
L26	34.7877	55.9173	7808.9816	11.8417	17.4060	448.6365	15823.1138	27.5208	7.5984	14.473
	35.1702	56.5418	8073.5672	11.9740	17.5974	458.7932	16359.2361	27.8282	7.6974	14.662
L27	35.1702	81.5372	11477.8742	11.8889	17.5974	652.2483	23257.2849	40.1301	7.0609	9.26
	35.2180	81.6506	11525.8229	11.9055	17.6213	654.0839	23354.4420	40.1859	7.0733	9.276
L28	35.2180	81.6506	11525.8229	11.9055	17.6213	654.0839	23354.4420	40.1859	7.0733	9.276
	35.3614	81.9907	11670.4698	11.9551	17.6931	659.6063	23647.5358	40.3533	7.1105	9.325
L29	35.3614	60.8472	8764.9781	12.0267	17.6931	495.3900	17760.2219	29.9471	7.6465	13.594
	35.4093	60.9308	8801.1738	12.0432	17.7170	496.7642	17833.5642	29.9883	7.6588	13.616
L30	35.4093	59.5990	8615.1887	12.0477	17.7170	486.2666	17456.7080	29.3328	7.6923	13.986
	37.0826	62.4614	9917.0830	12.6263	18.5542	534.4914	20094.6989	30.7416	8.1255	14.774
L31	36.4357	66.5640	9677.8650	12.0826	17.7999	543.7029	19609.9783	32.7608	7.5677	12.355
	36.5313	68.3858	10494.4652	12.4133	18.2784	574.1453	21264.6317	33.6574	7.8153	12.76
L32	36.5313	68.3858	10494.4652	12.4133	18.2784	574.1453	21264.6317	33.6574	7.8153	12.76
	37.0573	69.3878	10962.5683	12.5952	18.5416	591.2421	22213.1355	34.1506	7.9514	12.982
L33	37.0573	95.6433	14907.3375	12.5102	18.5416	803.9945	30206.3073	47.0727	7.3149	8.606
	37.1051	95.7697	14966.5262	12.5267	18.5655	806.1465	30326.2397	47.1349	7.3273	8.62
L34	37.1051	95.7697	14966.5262	12.5267	18.5655	806.1465	30326.2397	47.1349	7.3273	8.62
	37.2485	96.1490	15145.0319	12.5763	18.6373	812.6198	30687.9407	47.3216	7.3645	8.664
L35	37.2485	76.7340	12207.5739	12.6389	18.6373	655.0080	24735.8544	37.7661	7.8335	11.605
	37.2964	76.8343	12255.5488	12.6555	18.6612	656.7390	24833.0646	37.8155	7.8458	11.623
L36	37.2964	76.8343	12255.5488	12.6555	18.6612	656.7390	24833.0646	37.8155	7.8458	11.623
	37.5833	77.4367	12546.0401	12.7547	18.8048	667.1734	25421.6786	38.1120	7.9201	11.733
L37	37.5833	62.6093	10218.6398	12.8017	18.8048	543.4069	20705.7346	30.8144	8.2719	15.213
	37.6311	62.6902	10258.2872	12.8182	18.8287	544.8221	20786.0710	30.8542	8.2842	15.235
L38	37.6311	60.5602	9920.1214	12.8249	18.8287	526.8620	20100.8555	29.8059	8.3345	15.875
	38.0461	61.2379	10256.9125	12.9685	19.0364	538.8064	20783.2855	30.1394	8.4419	16.08
L39	38.0461	62.6743	10490.2576	12.9640	19.0364	551.0642	21256.1060	30.8464	8.4084	15.644
	38.0939	62.7543	10530.4487	12.9805	19.0603	552.4811	21337.5440	30.8857	8.4208	15.667
L40	38.0939	62.7543	10530.4487	12.9805	19.0603	552.4811	21337.5440	30.8857	8.4208	15.667
	38.2374	62.9941	10651.6375	13.0301	19.1321	556.7428	21583.1054	31.0038	8.4579	15.736
L41	38.2374	75.9434	12761.9761	12.9898	19.1321	667.0466	25859.2235	37.3770	8.1564	12.548
	38.2852	76.0401	12810.7732	13.0064	19.1560	668.7608	25958.0997	37.4246	8.1688	12.567
L42	38.2852	76.0401	12810.7732	13.0064	19.1560	668.7608	25958.0997	37.4246	8.1688	12.567
	38.5874	76.6510	13122.0512	13.1109	19.3072	679.6457	26588.8334	37.7253	8.2470	12.688
L43	38.5874	96.8230	16417.2951	13.0482	19.3072	850.3202	33265.8908	47.6533	7.7780	9.428
	38.6352	96.9457	16479.7876	13.0648	19.3311	852.5005	33392.5176	47.7137	7.7904	9.443
L44	38.6352	98.3808	16712.2965	13.0603	19.3311	864.5282	33863.6436	48.4201	7.7569	9.262
	38.8743	99.0036	17031.6909	13.1430	19.4507	875.6319	34510.8232	48.7266	7.8188	9.336
L45	38.8743	80.1472	13910.1233	13.2011	19.4507	715.1461	28185.6810	39.4460	8.2543	12.229
	38.9221	80.2475	13962.4581	13.2177	19.4747	716.9549	28291.7256	39.4954	8.2667	12.247
L46	38.9221	78.7881	13717.8177	13.2222	19.4747	704.3929	27796.0176	38.7771	8.3002	12.529
	39.8785	80.7587	14773.0729	13.5529	19.9532	740.3873	29934.2509	39.7470	8.5478	12.902
L47	39.8785	80.7587	14773.0729	13.5529	19.9532	740.3873	29934.2509	39.7470	8.5478	12.902
	40.8348	82.7293	15881.1039	13.8836	20.4317	777.2788	32179.4220	40.7169	8.7953	13.276
L48	40.8348	81.1945	15596.5321	13.8880	20.4317	763.3508	31602.8024	39.9615	8.8288	13.583
	41.6324	82.8070	16544.3116	14.1638	20.8307	794.2258	33523.2608	40.7551	9.0353	13.9
L49	41.6324	98.4195	19539.5307	14.1191	20.8307	938.0142	39592.3867	48.4391	8.7003	11.226
	41.6802	98.5348	19608.2603	14.1356	20.8547	940.2337	39731.6515	48.4958	8.7127	11.242
L50	41.6802	96.9762	19310.3260	14.1401	20.8547	925.9475	39127.9558	47.7287	8.7462	11.47
	43.0344	100.1877	21293.0455	14.6084	21.5322	988.8921	43145.4829	49.3093	9.0967	11.93
L51	42.2580	88.3438	17322.3580	14.0315	20.6652	838.2372	35099.7937	43.4802	8.8157	12.594
	42.4493	90.8426	18834.1685	14.4284	21.2395	886.7534	38163.1315	44.7100	9.1128	13.018
L52	42.4493	90.8426	18834.1685	14.4284	21.2395	886.7534	38163.1315	44.7100	9.1128	13.018
	42.7362	91.4673	19225.3883	14.5276	21.3830	899.0958	38955.8490	45.0174	9.1870	13.124
L53	42.7362	91.4673	19225.3883	14.5276	21.3830	899.0958	38955.8490	45.0174	9.1870	13.124

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	42.7840	91.5714	19291.1138	14.5442	21.4070	901.1611	39089.0265	45.0686	9.1994	13.142
L54	42.7840	91.5714	19291.1138	14.5442	21.4070	901.1611	39089.0265	45.0686	9.1994	13.142
	42.9275	91.8837	19489.1884	14.5938	21.4787	907.3714	39490.3795	45.2224	9.2365	13.195
L55	42.9275	96.7170	20476.6378	14.5804	21.4787	953.3448	41491.2197	47.6012	9.1360	12.388
	42.9753	96.8267	20546.3874	14.5969	21.5027	955.5277	41632.5513	47.6552	9.1484	12.405
L56	42.9753	96.8267	20546.3874	14.5969	21.5027	955.5277	41632.5513	47.6552	9.1484	12.405
	43.3100	97.5945	21039.0748	14.7126	21.6701	970.8783	42630.8695	48.0331	9.2351	12.522
L57	43.3100	121.8482	26028.4595	14.6455	21.6701	1201.1206	52740.7156	59.9700	8.7326	9.441
	43.3578	121.9858	26116.7254	14.6621	21.6941	1203.8645	52919.5662	60.0377	8.7450	9.454
L58	43.3578	125.2063	26773.4937	14.6531	21.6941	1234.1386	54250.3569	61.6227	8.6780	9.135
	43.8360	126.6192	27690.1913	14.8185	21.9333	1262.4702	56107.8347	62.3181	8.8018	9.265
L59	43.8360	95.5093	21127.1787	14.9035	21.9333	963.2449	42809.3918	47.0068	9.4383	13.247
	43.8839	95.6153	21197.5821	14.9200	21.9573	965.4016	42952.0483	47.0589	9.4506	13.264
L60	43.8839	93.9660	20844.4393	14.9245	21.9573	949.3184	42236.4851	46.2472	9.4841	13.549
	44.8403	96.0483	22261.1054	15.2552	22.4358	992.2134	45107.0348	47.2720	9.7317	13.902
L61	44.8403	102.7881	23767.3242	15.2373	22.4358	1059.3480	48159.0424	50.5892	9.5977	12.797
	45.7967	105.0191	25348.7634	15.5681	22.9143	1106.2402	51363.4670	51.6872	9.8453	13.127
L62	45.7967	105.0191	25348.7634	15.5681	22.9143	1106.2402	51363.4670	51.6872	9.8453	13.127
	46.0683	105.6527	25810.3436	15.6620	23.0502	1119.7428	52298.7536	51.9991	9.9156	13.221
L63	46.0683	102.1893	24992.7961	15.6709	23.0502	1084.2747	50642.1808	50.2945	9.9826	13.769
	46.1180	102.3015	25075.1698	15.6881	23.0751	1086.6752	50809.0923	50.3497	9.9955	13.787
L64	46.1180	102.3015	25075.1698	15.6881	23.0751	1086.6752	50809.0923	50.3497	9.9955	13.787
	46.1467	102.3662	25122.7754	15.6980	23.0895	1088.0614	50905.5540	50.3815	10.0029	13.797
L65	46.1467	100.6299	24710.7447	15.7025	23.0895	1070.2164	50070.6682	49.5270	10.0364	14.086
	46.7531	101.9737	25713.9291	15.9122	23.3929	1099.2205	52103.3917	50.1883	10.1934	14.306
L66	46.7531	100.2128	25284.1276	15.9167	23.3929	1080.8474	51232.4973	49.3217	10.2269	14.61
	46.8009	100.3169	25363.0146	15.9332	23.4168	1083.1118	51392.3437	49.3729	10.2393	14.628
L67	46.8009	100.3169	25363.0146	15.9332	23.4168	1083.1118	51392.3437	49.3729	10.2393	14.628
	47.7573	102.3992	26975.4031	16.2639	23.8953	1128.8982	54659.4801	50.3978	10.4868	14.981
L68	47.7573	159.4962	41280.0503	16.1207	23.8953	1727.5358	83644.5734	78.4992	9.4148	8.559
	48.1877	160.9687	42433.9279	16.2696	24.1107	1759.9641	85982.6424	79.2239	9.5263	8.66
L69	48.1877	114.2208	30542.6363	16.3859	24.1107	1266.7680	61887.6617	56.2160	10.3973	13.416
	48.2355	114.3361	30635.1983	16.4025	24.1346	1269.3474	62075.2174	56.2727	10.4096	13.432
L70	48.2355	112.5226	30165.7587	16.4069	24.1346	1249.8965	61124.0054	55.3802	10.4431	13.696
	48.7615	113.7701	31180.2410	16.5888	24.3978	1277.9940	63179.6216	55.9942	10.5793	13.874

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 160.0000-155.0000				1	1	1		
L2 155.0000-150.0000				1	1	1		
L3 150.0000-146.0000				1	1	1		
L4 146.0000-141.0000				1	1	1		
L5 141.0000-136.0000				1	1	1		
L6 136.0000-131.0000				1	1	1		
L7 131.0000-126.				1	1	1		

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
0000								
L8				1	1	1		
126.0000-121.0000								
L9				1	1	1		
121.0000-117.2500								
L10				1	1	1.14958		
117.2500-117.0000								
L11				1	1	1.14758		
117.0000-115.5000								
L12				1	1	0.954439		
115.5000-115.2500								
L13				1	1	0.97056		
115.2500-110.2500								
L14				1	1	0.964106		
110.2500-103.7500								
L15				1	1	0.965702		
103.7500-102.5000								
L16				1	1	0.970641		
102.5000-98.5000								
L17				1	1	1.11407		
98.5000-98.2500								
L18				1	1	1.10148		
98.2500-93.2500								
L19				1	1	1.10476		
93.2500-88.2500								
L20				1	1	1.06442		
88.2500-83.5000								
L21				1	1	1.07767		
83.5000-83.2500								
L22				1	1	1.12016		
83.2500-82.5000								
L23				1	1	1.10662		
82.5000-82.2500								
L24				1	1	1.07309		
82.2500-80.7500								
L25				1	1	1.08627		
80.7500-80.5000								
L26				1	1	1.10601		
80.5000-78.5000								
L27				1	1	0.987231		

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
78.5000-78.2500								
L28 78.2500-77.5000				1	1	0.984836		
L29 77.5000-77.2500				1	1	1.03015		
L30 77.2500-68.5000				1	1	1.04212		
L31 68.5000-68.0000				1	1	1.03562		
L32 68.0000-65.2500				1	1	1.02951		
L33 65.2500-65.0000				1	1	1.00137		
L34 65.0000-64.2500				1	1	0.99916		
L35 64.2500-64.0000				1	1	1.11257		
L36 64.0000-62.5000				1	1	1.10824		
L37 62.5000-62.2500				1	1	1.08228		
L38 62.2500-60.0800				1	1	1.11585		
L39 60.0800-59.8300				1	1	1.15568		
L40 59.8300-59.0800				1	1	1.15394		
L41 59.0800-58.8300				1	1	1.06548		
L42 58.8300-57.2500				1	1	1.06158		
L43 57.2500-57.0000				1	1	1.09172		
L44 57.0000-55.7500				1	1	1.07184		
L45 55.7500-55.5000				1	1	1.01887		
L46 55.5000-50.5000				1	1	1.02623		

Tower Elevation ft	Gusset Area (per face) ft²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L47 50.5000-45.5000				1	1	1.01527		
L48 45.5000-41.3300				1	1	1.02555		
L49 41.3300-41.0800				1	1	0.970409		
L50 41.0800-34.0000				1	1	0.981244		
L51 34.0000-33.0000				1	1	1.06245		
L52 33.0000-31.5000				1	1	1.05886		
L53 31.5000-31.2500				1	1	1.07488		
L54 31.2500-30.5000				1	1	1.07305		
L55 30.5000-30.2500				1	1	1.05029		
L56 30.2500-28.5000				1	1	1.04603		
L57 28.5000-28.2500				1	1	0.985099		
L58 28.2500-25.7500				1	1	0.953456		
L59 25.7500-25.5000				1	1	1.00791		
L60 25.5000-20.5000				1	1	1.01498		
L61 20.5000-15.5000				1	1	0.938902		
L62 15.5000-14.0800				1	1	1.01456		
L63 14.0800-13.8200				1	1	0.993058		
L64 13.8200-13.6700				1	1	0.992757		
L65 13.6700-10.5000				1	1	1.06244		
L66 10.5000-10.2500				1	1	0.974473		

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
00 L67 10.2500-5.2500				1	1	0.96555		
L68 5.2500-3.0000				1	1	0.891473		
L69 3.0000-2.7500				1	1	0.874025		
L70 2.7500-0.0000				1	1	0.883765		

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight klf
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
Aero MP305	A	No	CaAa (Out Of Face)	31.5000 - 0.5000	1	No Ice	0.3483	0.00
						1/2" Ice	0.4594	0.00
						1" Ice	0.5706	0.00
						2" Ice	0.7928	0.00
						4" Ice	1.2372	0.00
Aero MP305	B	No	Inside Pole	31.5000 - 0.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
Aero MP305	C	No	Inside Pole	31.5000 - 0.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
Aero MP304	A	No	CaAa (Out Of Face)	61.5000 - 31.5000	1	No Ice	0.2680	0.00
						1/2" Ice	0.9078	0.00
						1" Ice	1.0189	0.00
						2" Ice	1.2411	0.00
						4" Ice	1.6856	0.00
Aero MP304	A	No	Inside Pole	61.5000 - 31.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
Aero MP304	B	No	CaAa (Out Of Face)	61.5000 - 31.5000	1	No Ice	0.2680	0.00
						1/2" Ice	0.9078	0.00
						1" Ice	1.0189	0.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						2" Ice	1.2411	0.00
						4" Ice	1.6856	0.00
Aero MP304	B	No	Inside Pole	61.5000 - 0.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
Aero MP304	C	No	Inside Pole	61.5000 - 0.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
6" x 1" Flat Plate (F)	A	No	CaAa (Out Of Face)	30.5000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
6" x 1" Flat Plate (F)	B	No	Inside Pole	30.5000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
6" x 1" Flat Plate (F)	C	No	Inside Pole	30.5000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
6.5" x 1.25" Flat Plate (F)	A	No	CaAa (Out Of Face)	60.5000 - 30.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
6.5" x 1.25" Flat Plate (F)	B	No	Inside Pole	60.5000 - 30.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
6.5" x 1.25" Flat Plate (F)	C	No	Inside Pole	60.5000 - 30.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
6" x 1" Flat Plate (F)	A	No	CaAa (Out Of Face)	100.5000 - 61.5000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00
6" x 1" Flat Plate (F)	B	No	Inside Pole	100.5000 - 61.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
6" x 1" Flat Plate (F)	C	No	Inside Pole	100.5000 - 60.5000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
4.5" x 1" Flat Plate (F)	A	No	CaAa (Out Of Face)	117.0000 - 97.0000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00
4.5" x 1" Flat Plate (F)	B	No	Inside Pole	117.0000 - 97.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
4.5" x 1" Flat Plate (F)	C	No	Inside Pole	117.0000 - 97.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
8.5" x 1.25" Flat Plate (F)	C	No	CaAa (Out Of Face)	85.0000 - 60.0000	1	No Ice	0.2083	0.00
						1/2" Ice	0.3194	0.00
						1" Ice	0.4306	0.00
						2" Ice	0.6528	0.00
						4" Ice	1.0972	0.00
8.5" x 1.25" Flat Plate (F)	C	No	CaAa (Out Of Face)	45.6000 - 10.6000	1	No Ice	0.2083	0.00
						1/2" Ice	0.3194	0.00
						1" Ice	0.4306	0.00
						2" Ice	0.6528	0.00
						4" Ice	1.0972	0.00
6" x 1" Flat Plate (F)	C	No	CaAa (Out Of Face)	10.5000 - 0.5000	1	No Ice	0.1667	0.00
						1/2" Ice	0.2778	0.00
						1" Ice	0.3889	0.00
						2" Ice	0.6111	0.00
						4" Ice	1.0556	0.00
***								
FB-L98B-002-75000(3/8")	B	No	CaAa (Out Of Face)	156.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.02
WR-VG86ST-BRD(3/4)	B	No	CaAa (Out Of Face)	156.0000 - 0.0000	2	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.02
LDF7-50A(1-5/8")	B	No	CaAa (Out Of Face)	156.0000 - 8.0000	1	No Ice	0.1980	0.00
						1/2" Ice	0.2980	0.00
						1" Ice	0.3980	0.00
						2" Ice	0.5980	0.01
						4" Ice	0.9980	0.03
LDF7-50A(1-5/8")	B	No	CaAa (Out Of Face)	156.0000 - 8.0000	5	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.03
***								
HB114-1-08U4-M5J(1 1/4")	B	No	CaAa (Out Of Face)	146.0000 - 8.0000	1	No Ice	0.1540	0.00
						1/2" Ice	0.2540	0.00
						1" Ice	0.3540	0.00
						2" Ice	0.5540	0.01
						4" Ice	0.9540	0.03
HB114-1-08U4-M5J(1 1/4")	B	No	CaAa (Out Of Face)	146.0000 - 8.0000	3	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.03
***								
AVA7-50(1-5/8)	B	No	Inside Pole	139.0000 - 0.0000	6	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
HB158-1-08U8-S8J18(1-5/8)	A	No	CaAa (Out Of Face)	132.0000 - 8.0000	2	No Ice	0.1980	0.00
						1/2" Ice	0.2980	0.00
						1" Ice	0.3980	0.00
						2" Ice	0.5980	0.01
						4" Ice	0.9980	0.03
HB158-1-08U8-S8J18(1-5/8)	A	No	CaAa (Out Of Face)	132.0000 - 8.0000	5	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.03
HB158-1-08U8-S8J18(1-5/8)	A	No	Inside Pole	132.0000 - 8.0000	13	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								
FSJ1-50A(1/4")	A	No	CaAa (Out Of Face)	121.0000 - 8.0000	3	No Ice	0.0000	0.00
						1/2" Ice	0.1290	0.00
						1" Ice	0.2290	0.00
						2" Ice	0.4290	0.01
						4" Ice	0.8290	0.02
FSJ4-50B(1/2")	A	No	CaAa (Out Of Face)	121.0000 - 8.0000	3	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.02
9207(5/16")	A	No	CaAa (Out Of Face)	121.0000 - 8.0000	3	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.01
						4" Ice	0.0000	0.02
***								
***								
LDF4-50A(1/2")	B	No	Inside Pole	101.0000 - 0.0000	1	No Ice	0.0000	0.00
						1/2" Ice	0.0000	0.00
						1" Ice	0.0000	0.00
						2" Ice	0.0000	0.00
						4" Ice	0.0000	0.00
***								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.0000-155.000	A	0.000	0.000	0.000	0.000	0.00
	0	B	0.000	0.000	0.000	0.198	0.01
		C	0.000	0.000	0.000	0.000	0.00
L2	155.0000-150.000	A	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
	0	B	0.000	0.000	0.000	0.990	0.03
		C	0.000	0.000	0.000	0.000	0.00
L3	150.0000-146.000	A	0.000	0.000	0.000	0.000	0.00
	0	B	0.000	0.000	0.000	0.792	0.02
		C	0.000	0.000	0.000	0.000	0.00
L4	146.0000-141.000	A	0.000	0.000	0.000	0.000	0.00
	0	B	0.000	0.000	0.000	1.760	0.05
		C	0.000	0.000	0.000	0.000	0.00
L5	141.0000-136.000	A	0.000	0.000	0.000	0.000	0.00
	0	B	0.000	0.000	0.000	1.760	0.06
		C	0.000	0.000	0.000	0.000	0.00
L6	136.0000-131.000	A	0.000	0.000	0.000	0.396	0.03
	0	B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L7	131.0000-126.000	A	0.000	0.000	0.000	1.980	0.13
	0	B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L8	126.0000-121.000	A	0.000	0.000	0.000	1.980	0.13
	0	B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L9	121.0000-117.250	A	0.000	0.000	0.000	1.485	0.11
	0	B	0.000	0.000	0.000	1.320	0.06
		C	0.000	0.000	0.000	0.000	0.00
L10	117.2500-117.000	A	0.000	0.000	0.000	0.099	0.01
	0	B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.000	0.00
L11	117.0000-115.500	A	0.000	0.000	0.000	0.844	0.04
	0	B	0.000	0.000	0.000	0.528	0.02
		C	0.000	0.000	0.000	0.000	0.00
L12	115.5000-115.250	A	0.000	0.000	0.000	0.141	0.01
	0	B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.000	0.00
L13	115.2500-110.250	A	0.000	0.000	0.000	2.813	0.14
	0	B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L14	110.2500-103.750	A	0.000	0.000	0.000	3.657	0.18
	0	B	0.000	0.000	0.000	2.288	0.10
		C	0.000	0.000	0.000	0.000	0.00
L15	103.7500-102.500	A	0.000	0.000	0.000	0.703	0.04
	0	B	0.000	0.000	0.000	0.440	0.02
		C	0.000	0.000	0.000	0.000	0.00
L16	102.5000-98.5000	A	0.000	0.000	0.000	2.584	0.11
		B	0.000	0.000	0.000	1.408	0.06
		C	0.000	0.000	0.000	0.000	0.00
L17	98.5000-98.2500	A	0.000	0.000	0.000	0.182	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.000	0.00
L18	98.2500-93.2500	A	0.000	0.000	0.000	3.022	0.14
		B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L19	93.2500-88.2500	A	0.000	0.000	0.000	2.813	0.14
		B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	0.000	0.00
L20	88.2500-83.5000	A	0.000	0.000	0.000	2.673	0.13
		B	0.000	0.000	0.000	1.672	0.07
		C	0.000	0.000	0.000	0.312	0.00
L21	83.5000-83.2500	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L22	83.2500-82.5000	A	0.000	0.000	0.000	0.422	0.02
		B	0.000	0.000	0.000	0.264	0.01

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C	0.000	0.000	0.000	0.156	0.00
L23	82.5000-82.2500	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L24	82.2500-80.7500	A	0.000	0.000	0.000	0.844	0.04
		B	0.000	0.000	0.000	0.528	0.02
		C	0.000	0.000	0.000	0.312	0.00
L25	80.7500-80.5000	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L26	80.5000-78.5000	A	0.000	0.000	0.000	1.125	0.06
		B	0.000	0.000	0.000	0.704	0.03
		C	0.000	0.000	0.000	0.417	0.00
L27	78.5000-78.2500	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L28	78.2500-77.5000	A	0.000	0.000	0.000	0.422	0.02
		B	0.000	0.000	0.000	0.264	0.01
		C	0.000	0.000	0.000	0.156	0.00
L29	77.5000-77.2500	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L30	77.2500-68.5000	A	0.000	0.000	0.000	4.923	0.25
		B	0.000	0.000	0.000	3.080	0.13
		C	0.000	0.000	0.000	1.823	0.00
L31	68.5000-68.0000	A	0.000	0.000	0.000	0.281	0.01
		B	0.000	0.000	0.000	0.176	0.01
		C	0.000	0.000	0.000	0.104	0.00
L32	68.0000-65.2500	A	0.000	0.000	0.000	1.547	0.08
		B	0.000	0.000	0.000	0.968	0.04
		C	0.000	0.000	0.000	0.573	0.00
L33	65.2500-65.0000	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L34	65.0000-64.2500	A	0.000	0.000	0.000	0.422	0.02
		B	0.000	0.000	0.000	0.264	0.01
		C	0.000	0.000	0.000	0.156	0.00
L35	64.2500-64.0000	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L36	64.0000-62.5000	A	0.000	0.000	0.000	0.844	0.04
		B	0.000	0.000	0.000	0.528	0.02
		C	0.000	0.000	0.000	0.312	0.00
L37	62.5000-62.2500	A	0.000	0.000	0.000	0.141	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L38	62.2500-60.0800	A	0.000	0.000	0.000	1.365	0.06
		B	0.000	0.000	0.000	1.144	0.03
		C	0.000	0.000	0.000	0.452	0.00
L39	60.0800-59.8300	A	0.000	0.000	0.000	0.166	0.01
		B	0.000	0.000	0.000	0.155	0.00
		C	0.000	0.000	0.000	0.017	0.00
L40	59.8300-59.0800	A	0.000	0.000	0.000	0.498	0.02
		B	0.000	0.000	0.000	0.465	0.01
		C	0.000	0.000	0.000	0.000	0.00
L41	59.0800-58.8300	A	0.000	0.000	0.000	0.166	0.01
		B	0.000	0.000	0.000	0.155	0.00
		C	0.000	0.000	0.000	0.000	0.00
L42	58.8300-57.2500	A	0.000	0.000	0.000	1.049	0.04
		B	0.000	0.000	0.000	0.980	0.02
		C	0.000	0.000	0.000	0.000	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L43	57.2500-57.0000	A	0.000	0.000	0.000	0.166	0.01
		B	0.000	0.000	0.000	0.155	0.00
		C	0.000	0.000	0.000	0.000	0.00
L44	57.0000-55.7500	A	0.000	0.000	0.000	0.830	0.04
		B	0.000	0.000	0.000	0.775	0.02
		C	0.000	0.000	0.000	0.000	0.00
L45	55.7500-55.5000	A	0.000	0.000	0.000	0.166	0.01
		B	0.000	0.000	0.000	0.155	0.00
		C	0.000	0.000	0.000	0.000	0.00
L46	55.5000-50.5000	A	0.000	0.000	0.000	3.320	0.14
		B	0.000	0.000	0.000	3.100	0.07
		C	0.000	0.000	0.000	0.000	0.00
L47	50.5000-45.5000	A	0.000	0.000	0.000	3.320	0.14
		B	0.000	0.000	0.000	3.100	0.07
		C	0.000	0.000	0.000	0.021	0.00
L48	45.5000-41.3300	A	0.000	0.000	0.000	2.769	0.12
		B	0.000	0.000	0.000	2.585	0.06
		C	0.000	0.000	0.000	0.869	0.00
L49	41.3300-41.0800	A	0.000	0.000	0.000	0.166	0.01
		B	0.000	0.000	0.000	0.155	0.00
		C	0.000	0.000	0.000	0.052	0.00
L50	41.0800-34.0000	A	0.000	0.000	0.000	4.701	0.20
		B	0.000	0.000	0.000	4.390	0.10
		C	0.000	0.000	0.000	1.475	0.00
L51	34.0000-33.0000	A	0.000	0.000	0.000	0.664	0.03
		B	0.000	0.000	0.000	0.620	0.01
		C	0.000	0.000	0.000	0.208	0.00
L52	33.0000-31.5000	A	0.000	0.000	0.000	0.996	0.04
		B	0.000	0.000	0.000	0.930	0.02
		C	0.000	0.000	0.000	0.312	0.00
L53	31.5000-31.2500	A	0.000	0.000	0.000	0.186	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L54	31.2500-30.5000	A	0.000	0.000	0.000	0.558	0.02
		B	0.000	0.000	0.000	0.264	0.01
		C	0.000	0.000	0.000	0.156	0.00
L55	30.5000-30.2500	A	0.000	0.000	0.000	0.186	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L56	30.2500-28.5000	A	0.000	0.000	0.000	1.303	0.05
		B	0.000	0.000	0.000	0.616	0.03
		C	0.000	0.000	0.000	0.365	0.00
L57	28.5000-28.2500	A	0.000	0.000	0.000	0.186	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L58	28.2500-25.7500	A	0.000	0.000	0.000	1.861	0.07
		B	0.000	0.000	0.000	0.880	0.04
		C	0.000	0.000	0.000	0.521	0.00
L59	25.7500-25.5000	A	0.000	0.000	0.000	0.186	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.052	0.00
L60	25.5000-20.5000	A	0.000	0.000	0.000	3.722	0.14
		B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	1.042	0.00
L61	20.5000-15.5000	A	0.000	0.000	0.000	3.722	0.14
		B	0.000	0.000	0.000	1.760	0.07
		C	0.000	0.000	0.000	1.042	0.00
L62	15.5000-14.0800	A	0.000	0.000	0.000	1.057	0.04
		B	0.000	0.000	0.000	0.500	0.02
		C	0.000	0.000	0.000	0.296	0.00
L63	14.0800-13.8200	A	0.000	0.000	0.000	0.194	0.01

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.000	0.092	0.00
		C	0.000	0.000	0.000	0.054	0.00
L64	13.8200-13.6700	A	0.000	0.000	0.000	0.112	0.00
		B	0.000	0.000	0.000	0.053	0.00
		C	0.000	0.000	0.000	0.031	0.00
L65	13.6700-10.5000	A	0.000	0.000	0.000	2.360	0.09
		B	0.000	0.000	0.000	1.116	0.05
		C	0.000	0.000	0.000	0.640	0.00
L66	10.5000-10.2500	A	0.000	0.000	0.000	0.186	0.01
		B	0.000	0.000	0.000	0.088	0.00
		C	0.000	0.000	0.000	0.042	0.00
L67	10.2500-5.2500	A	0.000	0.000	0.000	2.633	0.06
		B	0.000	0.000	0.000	0.792	0.05
		C	0.000	0.000	0.000	0.833	0.00
L68	5.2500-3.0000	A	0.000	0.000	0.000	0.784	0.00
		B	0.000	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.375	0.00
L69	3.0000-2.7500	A	0.000	0.000	0.000	0.087	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.042	0.00
L70	2.7500-0.0000	A	0.000	0.000	0.000	0.784	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.375	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	160.0000-155.000	A	1.206	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	0.439	0.04
		C		0.000	0.000	0.000	0.000	0.00
L2	155.0000-150.000	A	1.202	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	2.192	0.22
		C		0.000	0.000	0.000	0.000	0.00
L3	150.0000-146.000	A	1.197	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	1.750	0.18
		C		0.000	0.000	0.000	0.000	0.00
L4	146.0000-141.000	A	1.193	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	4.146	0.32
		C		0.000	0.000	0.000	0.000	0.00
L5	141.0000-136.000	A	1.188	0.000	0.000	0.000	0.000	0.00
	0	B		0.000	0.000	0.000	4.136	0.33
		C		0.000	0.000	0.000	0.000	0.00
L6	136.0000-131.000	A	1.183	0.000	0.000	0.000	0.869	0.06
	0	B		0.000	0.000	0.000	4.125	0.34
		C		0.000	0.000	0.000	0.000	0.00
L7	131.0000-126.000	A	1.177	0.000	0.000	0.000	4.334	0.30
	0	B		0.000	0.000	0.000	4.114	0.34
		C		0.000	0.000	0.000	0.000	0.00
L8	126.0000-121.000	A	1.172	0.000	0.000	0.000	4.323	0.29
	0	B		0.000	0.000	0.000	4.103	0.34
		C		0.000	0.000	0.000	0.000	0.00
L9	121.0000-117.250	A	1.167	0.000	0.000	0.000	6.186	0.31
	0	B		0.000	0.000	0.000	3.070	0.25
		C		0.000	0.000	0.000	0.000	0.00
L10	117.2500-117.000	A	1.164	0.000	0.000	0.000	0.412	0.02
	0	B		0.000	0.000	0.000	0.204	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		C		0.000	0.000	0.000	0.000	0.00
L11	117.0000-115.5000	A	1.163	0.000	0.000	0.000	3.107	0.12
	0	B		0.000	0.000	0.000	1.226	0.10
		C		0.000	0.000	0.000	0.000	0.00
L12	115.5000-115.2500	A	1.162	0.000	0.000	0.000	0.517	0.02
	0	B		0.000	0.000	0.000	0.204	0.02
		C		0.000	0.000	0.000	0.000	0.00
L13	115.2500-110.2500	A	1.159	0.000	0.000	0.000	10.330	0.41
	0	B		0.000	0.000	0.000	4.078	0.33
		C		0.000	0.000	0.000	0.000	0.00
L14	110.2500-103.7500	A	1.152	0.000	0.000	0.000	13.371	0.53
	0	B		0.000	0.000	0.000	5.282	0.43
		C		0.000	0.000	0.000	0.000	0.00
L15	103.7500-102.5000	A	1.147	0.000	0.000	0.000	2.571	0.10
	0	B		0.000	0.000	0.000	1.016	0.08
		C		0.000	0.000	0.000	0.000	0.00
L16	102.5000-98.5000	A	1.143	0.000	0.000	0.000	9.028	0.32
		B		0.000	0.000	0.000	3.237	0.26
		C		0.000	0.000	0.000	0.000	0.00
L17	98.5000-98.2500	A	1.140	0.000	0.000	0.000	0.616	0.02
		B		0.000	0.000	0.000	0.202	0.02
		C		0.000	0.000	0.000	0.000	0.00
L18	98.2500-93.2500	A	1.136	0.000	0.000	0.000	10.717	0.40
		B		0.000	0.000	0.000	4.033	0.32
		C		0.000	0.000	0.000	0.000	0.00
L19	93.2500-88.2500	A	1.129	0.000	0.000	0.000	10.148	0.40
		B		0.000	0.000	0.000	4.018	0.32
		C		0.000	0.000	0.000	0.000	0.00
L20	88.2500-83.5000	A	1.122	0.000	0.000	0.000	9.597	0.37
		B		0.000	0.000	0.000	3.803	0.30
		C		0.000	0.000	0.000	0.686	0.00
L21	83.5000-83.2500	A	1.118	0.000	0.000	0.000	0.504	0.02
		B		0.000	0.000	0.000	0.200	0.02
		C		0.000	0.000	0.000	0.114	0.00
L22	83.2500-82.5000	A	1.117	0.000	0.000	0.000	1.511	0.06
		B		0.000	0.000	0.000	0.599	0.05
		C		0.000	0.000	0.000	0.342	0.00
L23	82.5000-82.2500	A	1.116	0.000	0.000	0.000	0.503	0.02
		B		0.000	0.000	0.000	0.200	0.02
		C		0.000	0.000	0.000	0.114	0.00
L24	82.2500-80.7500	A	1.115	0.000	0.000	0.000	3.018	0.12
		B		0.000	0.000	0.000	1.197	0.10
		C		0.000	0.000	0.000	0.684	0.00
L25	80.7500-80.5000	A	1.113	0.000	0.000	0.000	0.503	0.02
		B		0.000	0.000	0.000	0.199	0.02
		C		0.000	0.000	0.000	0.114	0.00
L26	80.5000-78.5000	A	1.111	0.000	0.000	0.000	4.016	0.16
		B		0.000	0.000	0.000	1.593	0.13
		C		0.000	0.000	0.000	0.911	0.00
L27	78.5000-78.2500	A	1.109	0.000	0.000	0.000	0.501	0.02
		B		0.000	0.000	0.000	0.199	0.02
		C		0.000	0.000	0.000	0.114	0.00
L28	78.2500-77.5000	A	1.109	0.000	0.000	0.000	1.503	0.06
		B		0.000	0.000	0.000	0.597	0.05
		C		0.000	0.000	0.000	0.341	0.00
L29	77.5000-77.2500	A	1.108	0.000	0.000	0.000	0.501	0.02
		B		0.000	0.000	0.000	0.199	0.02
		C		0.000	0.000	0.000	0.114	0.00
L30	77.2500-68.5000	A	1.100	0.000	0.000	0.000	17.445	0.67
		B		0.000	0.000	0.000	6.929	0.55
		C		0.000	0.000	0.000	3.961	0.00

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L31	68.5000-68.0000	A	1.091	0.000	0.000	0.000	0.997	0.04
		B		0.000	0.000	0.000	0.396	0.03
		C		0.000	0.000	0.000	0.226	0.00
L32	68.0000-65.2500	A	1.088	0.000	0.000	0.000	5.443	0.21
		B		0.000	0.000	0.000	2.165	0.17
		C		0.000	0.000	0.000	1.238	0.00
L33	65.2500-65.0000	A	1.085	0.000	0.000	0.000	0.494	0.02
		B		0.000	0.000	0.000	0.197	0.02
		C		0.000	0.000	0.000	0.112	0.00
L34	65.0000-64.2500	A	1.084	0.000	0.000	0.000	1.481	0.06
		B		0.000	0.000	0.000	0.589	0.05
		C		0.000	0.000	0.000	0.337	0.00
L35	64.2500-64.0000	A	1.083	0.000	0.000	0.000	0.493	0.02
		B		0.000	0.000	0.000	0.196	0.02
		C		0.000	0.000	0.000	0.112	0.00
L36	64.0000-62.5000	A	1.081	0.000	0.000	0.000	2.957	0.11
		B		0.000	0.000	0.000	1.177	0.09
		C		0.000	0.000	0.000	0.673	0.00
L37	62.5000-62.2500	A	1.079	0.000	0.000	0.000	0.492	0.02
		B		0.000	0.000	0.000	0.196	0.02
		C		0.000	0.000	0.000	0.112	0.00
L38	62.2500-60.0800	A	1.077	0.000	0.000	0.000	5.160	0.16
		B		0.000	0.000	0.000	3.170	0.13
		C		0.000	0.000	0.000	0.971	0.00
L39	60.0800-59.8300	A	1.074	0.000	0.000	0.000	0.648	0.02
		B		0.000	0.000	0.000	0.454	0.02
		C		0.000	0.000	0.000	0.036	0.00
L40	59.8300-59.0800	A	1.073	0.000	0.000	0.000	1.944	0.06
		B		0.000	0.000	0.000	1.362	0.05
		C		0.000	0.000	0.000	0.000	0.00
L41	59.0800-58.8300	A	1.072	0.000	0.000	0.000	0.648	0.02
		B		0.000	0.000	0.000	0.454	0.02
		C		0.000	0.000	0.000	0.000	0.00
L42	58.8300-57.2500	A	1.070	0.000	0.000	0.000	4.088	0.12
		B		0.000	0.000	0.000	2.867	0.10
		C		0.000	0.000	0.000	0.000	0.00
L43	57.2500-57.0000	A	1.068	0.000	0.000	0.000	0.646	0.02
		B		0.000	0.000	0.000	0.453	0.02
		C		0.000	0.000	0.000	0.000	0.00
L44	57.0000-55.7500	A	1.066	0.000	0.000	0.000	3.229	0.09
		B		0.000	0.000	0.000	2.265	0.07
		C		0.000	0.000	0.000	0.000	0.00
L45	55.7500-55.5000	A	1.065	0.000	0.000	0.000	0.645	0.02
		B		0.000	0.000	0.000	0.453	0.01
		C		0.000	0.000	0.000	0.000	0.00
L46	55.5000-50.5000	A	1.058	0.000	0.000	0.000	12.867	0.37
		B		0.000	0.000	0.000	9.036	0.30
		C		0.000	0.000	0.000	0.000	0.00
L47	50.5000-45.5000	A	1.046	0.000	0.000	0.000	12.790	0.36
		B		0.000	0.000	0.000	8.997	0.29
		C		0.000	0.000	0.000	0.044	0.00
L48	45.5000-41.3300	A	1.033	0.000	0.000	0.000	10.603	0.30
		B		0.000	0.000	0.000	7.471	0.24
		C		0.000	0.000	0.000	1.826	0.00
L49	41.3300-41.0800	A	1.027	0.000	0.000	0.000	0.634	0.02
		B		0.000	0.000	0.000	0.447	0.01
		C		0.000	0.000	0.000	0.109	0.00
L50	41.0800-34.0000	A	1.016	0.000	0.000	0.000	17.848	0.50
		B		0.000	0.000	0.000	12.606	0.40
		C		0.000	0.000	0.000	3.073	0.00
L51	34.0000-33.0000	A	1.002	0.000	0.000	0.000	2.521	0.07

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.000	1.781	0.06
		C		0.000	0.000	0.000	0.434	0.00
L52	33.0000-31.5000	A	1.000	0.000	0.000	0.000	3.753	0.10
		B		0.000	0.000	0.000	2.656	0.08
		C		0.000	0.000	0.000	0.646	0.00
L53	31.5000-31.2500	A	1.000	0.000	0.000	0.000	0.513	0.02
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.108	0.00
L54	31.2500-30.5000	A	1.000	0.000	0.000	0.000	1.540	0.05
		B		0.000	0.000	0.000	0.564	0.04
		C		0.000	0.000	0.000	0.323	0.00
L55	30.5000-30.2500	A	1.000	0.000	0.000	0.000	0.513	0.02
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.108	0.00
L56	30.2500-28.5000	A	1.000	0.000	0.000	0.000	3.594	0.12
		B		0.000	0.000	0.000	1.316	0.10
		C		0.000	0.000	0.000	0.753	0.00
L57	28.5000-28.2500	A	1.000	0.000	0.000	0.000	0.513	0.02
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.108	0.00
L58	28.2500-25.7500	A	1.000	0.000	0.000	0.000	5.134	0.17
		B		0.000	0.000	0.000	1.880	0.14
		C		0.000	0.000	0.000	1.076	0.00
L59	25.7500-25.5000	A	1.000	0.000	0.000	0.000	0.513	0.02
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.108	0.00
L60	25.5000-20.5000	A	1.000	0.000	0.000	0.000	10.268	0.35
		B		0.000	0.000	0.000	3.760	0.28
		C		0.000	0.000	0.000	2.153	0.00
L61	20.5000-15.5000	A	1.000	0.000	0.000	0.000	10.268	0.35
		B		0.000	0.000	0.000	3.760	0.28
		C		0.000	0.000	0.000	2.153	0.00
L62	15.5000-14.0800	A	1.000	0.000	0.000	0.000	2.916	0.10
		B		0.000	0.000	0.000	1.068	0.08
		C		0.000	0.000	0.000	0.611	0.00
L63	14.0800-13.8200	A	1.000	0.000	0.000	0.000	0.534	0.02
		B		0.000	0.000	0.000	0.196	0.01
		C		0.000	0.000	0.000	0.112	0.00
L64	13.8200-13.6700	A	1.000	0.000	0.000	0.000	0.308	0.01
		B		0.000	0.000	0.000	0.113	0.01
		C		0.000	0.000	0.000	0.065	0.00
L65	13.6700-10.5000	A	1.000	0.000	0.000	0.000	6.510	0.22
		B		0.000	0.000	0.000	2.384	0.17
		C		0.000	0.000	0.000	1.322	0.00
L66	10.5000-10.2500	A	1.000	0.000	0.000	0.000	0.513	0.02
		B		0.000	0.000	0.000	0.188	0.01
		C		0.000	0.000	0.000	0.097	0.00
L67	10.2500-5.2500	A	1.000	0.000	0.000	0.000	6.190	0.16
		B		0.000	0.000	0.000	1.692	0.16
		C		0.000	0.000	0.000	1.944	0.00
L68	5.2500-3.0000	A	1.000	0.000	0.000	0.000	1.284	0.00
		B		0.000	0.000	0.000	0.000	0.03
		C		0.000	0.000	0.000	0.875	0.00
L69	3.0000-2.7500	A	1.000	0.000	0.000	0.000	0.143	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.097	0.00
L70	2.7500-0.0000	A	1.000	0.000	0.000	0.000	1.284	0.00
		B		0.000	0.000	0.000	0.000	0.03
		C		0.000	0.000	0.000	0.875	0.00

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	160.0000-155.0000	0.0500	0.0288	0.0938	0.0542
L2	155.0000-150.0000	0.2240	0.1293	0.3850	0.2223
L3	150.0000-146.0000	0.2240	0.1293	0.3846	0.2220
L4	146.0000-141.0000	0.3849	0.2222	0.6953	0.4014
L5	141.0000-136.0000	0.3873	0.2236	0.7041	0.4065
L6	136.0000-131.0000	0.3770	0.1182	0.6739	0.2227
L7	131.0000-126.0000	0.3373	-0.2434	0.5635	-0.3602
L8	126.0000-121.0000	0.3404	-0.2457	0.5723	-0.3659
L9	121.0000-117.2500	0.3431	-0.2476	0.4867	-0.8515
L10	117.2500-117.0000	0.3442	-0.2484	0.4901	-0.8571
L11	117.0000-115.5000	0.3268	-0.4145	0.4527	-1.0635
L12	115.5000-115.2500	0.3274	-0.4152	0.4541	-1.0667
L13	115.2500-110.2500	0.3290	-0.4173	0.4584	-1.0763
L14	110.2500-103.7500	0.3324	-0.4216	0.4675	-1.0967
L15	103.7500-102.5000	0.3330	-0.4224	0.4694	-1.1012
L16	102.5000-98.5000	0.3265	-0.5040	0.4557	-1.2054
L17	98.5000-98.2500	0.3202	-0.5811	0.4428	-1.3028
L18	98.2500-93.2500	0.3331	-0.4675	0.4712	-1.1730
L19	93.2500-88.2500	0.3397	-0.4309	0.4870	-1.1392
L20	88.2500-83.5000	0.2726	-0.3896	0.3938	-1.0744
L21	83.5000-83.2500	0.1326	-0.3011	0.1973	-0.9233
L22	83.2500-82.5000	0.1327	-0.3013	0.1975	-0.9245
L23	82.5000-82.2500	0.1328	-0.3016	0.1978	-0.9256
L24	82.2500-80.7500	0.1330	-0.3020	0.1983	-0.9277
L25	80.7500-80.5000	0.1332	-0.3024	0.1988	-0.9297
L26	80.5000-78.5000	0.1334	-0.3029	0.1994	-0.9323
L27	78.5000-78.2500	0.1336	-0.3035	0.2000	-0.9348
L28	78.2500-77.5000	0.1337	-0.3037	0.2002	-0.9360
L29	77.5000-77.2500	0.1339	-0.3039	0.2005	-0.9371
L30	77.2500-68.5000	0.1348	-0.3060	0.2028	-0.9468
L31	68.5000-68.0000	0.1350	-0.3065	0.2035	-0.9501
L32	68.0000-65.2500	0.1353	-0.3073	0.2039	-0.9505
L33	65.2500-65.0000	0.1356	-0.3079	0.2046	-0.9535
L34	65.0000-64.2500	0.1357	-0.3081	0.2049	-0.9544
L35	64.2500-64.0000	0.1358	-0.3083	0.2051	-0.9554
L36	64.0000-62.5000	0.1360	-0.3087	0.2055	-0.9571
L37	62.5000-62.2500	0.1361	-0.3091	0.2059	-0.9587
L38	62.2500-60.0800	0.2865	-0.2705	0.5343	-0.8661
L39	60.0800-59.8300	0.4989	-0.3339	0.8548	-0.9508
L40	59.8300-59.0800	0.5680	-0.3745	0.9465	-1.0127
L41	59.0800-58.8300	0.5684	-0.3748	0.9478	-1.0139
L42	58.8300-57.2500	0.5692	-0.3753	0.9503	-1.0161
L43	57.2500-57.0000	0.5699	-0.3758	0.9527	-1.0183
L44	57.0000-55.7500	0.5706	-0.3762	0.9547	-1.0201
L45	55.7500-55.5000	0.5712	-0.3766	0.9566	-1.0218
L46	55.5000-50.5000	0.5733	-0.3780	0.9634	-1.0278
L47	50.5000-45.5000	0.5728	-0.3780	0.9701	-1.0346
L48	45.5000-41.3300	0.3689	-0.2585	0.7063	-0.8603
L49	41.3300-41.0800	0.3701	-0.2593	0.7105	-0.8639
L50	41.0800-34.0000	0.3720	-0.2607	0.7173	-0.8695
L51	34.0000-33.0000	0.3719	-0.2607	0.7173	-0.8695
L52	33.0000-31.5000	0.3726	-0.2611	0.7193	-0.8683
L53	31.5000-31.2500	0.1353	-0.5049	0.2100	-1.1030
L54	31.2500-30.5000	0.1354	-0.5052	0.2102	-1.1042
L55	30.5000-30.2500	0.1355	-0.5055	0.2104	-1.1054

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L56	30.2500-28.5000	0.1357	-0.5061	0.2109	-1.1079
L57	28.5000-28.2500	0.1358	-0.5067	0.2114	-1.1103
L58	28.2500-25.7500	0.1360	-0.5076	0.2120	-1.1136
L59	25.7500-25.5000	0.1363	-0.5084	0.2126	-1.1169
L60	25.5000-20.5000	0.1367	-0.5099	0.2138	-1.1231
L61	20.5000-15.5000	0.1375	-0.5128	0.2160	-1.1348
L62	15.5000-14.0800	0.1379	-0.5147	0.2174	-1.1422
L63	14.0800-13.8200	0.1381	-0.5151	0.2178	-1.1441
L64	13.8200-13.6700	0.1381	-0.5152	0.2179	-1.1446
L65	13.6700-10.5000	0.1449	-0.5205	0.2283	-1.1559
L66	10.5000-10.2500	0.1803	-0.5448	0.2492	-1.1754
L67	10.2500-5.2500	-0.0097	-0.4455	-0.0436	-0.8379
L68	5.2500-3.0000	-0.1910	-0.3507	-0.3911	-0.4368
L69	3.0000-2.7500	-0.1911	-0.3509	-0.3916	-0.4373
L70	2.7500-0.0000	-0.1597	-0.2933	-0.3320	-0.3708

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert ft / ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
SBNH-1D6565C w/ Mount Pipe	A	From Leg	1.0000 2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.6828 12.4043 13.1351 14.6007 17.8748	9.8418 11.3657 12.9138 15.2672 20.1392	0.10 0.19 0.29 0.52 1.17
SBNH-1D6565C w/ Mount Pipe	A	From Leg	1.0000 -2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.6828 12.4043 13.1351 14.6007 17.8748	9.8418 11.3657 12.9138 15.2672 20.1392	0.10 0.19 0.29 0.52 1.17
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	1.0000 2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.4975 9.1490 9.7672 11.0311 13.6786	6.3042 7.4790 8.3676 10.1785 14.0237	0.07 0.14 0.21 0.38 0.87
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	1.0000 -2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.4975 9.1490 9.7672 11.0311 13.6786	6.3042 7.4790 8.3676 10.1785 14.0237	0.07 0.14 0.21 0.38 0.87
SBNH-1D6565C w/ Mount Pipe	C	From Leg	1.0000 2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.6828 12.4043 13.1351 14.6007 17.8748	9.8418 11.3657 12.9138 15.2672 20.1392	0.10 0.19 0.29 0.52 1.17
SBNH-1D6565C w/ Mount Pipe	C	From Leg	1.0000 -2.00 1.00	0.00	156.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	11.6828 12.4043 13.1351 14.6007 17.8748	9.8418 11.3657 12.9138 15.2672 20.1392	0.10 0.19 0.29 0.52 1.17
DTMABP7819VG12A	A	From Leg	1.0000	0.00	156.0000	No Ice	1.1389	0.3907	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00 1.00			1/2" Ice	1.2835	0.4884	0.03
						1" Ice	1.4368	0.5947	0.04
						2" Ice	1.7693	0.8334	0.06
						4" Ice	2.5380	1.4144	0.14
DTMABP7819VG12A	B	From Leg	1.0000 0.00 1.00	0.00	156.0000	No Ice	1.1389	0.3907	0.02
						1/2" Ice	1.2835	0.4884	0.03
						1" Ice	1.4368	0.5947	0.04
						2" Ice	1.7693	0.8334	0.06
						4" Ice	2.5380	1.4144	0.14
DTMABP7819VG12A	C	From Leg	1.0000 0.00 1.00	0.00	156.0000	No Ice	1.1389	0.3907	0.02
						1/2" Ice	1.2835	0.4884	0.03
						1" Ice	1.4368	0.5947	0.04
						2" Ice	1.7693	0.8334	0.06
						4" Ice	2.5380	1.4144	0.14
RRUS 11 B2	A	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
RRUS 11 B2	B	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
RRUS 11 B2	C	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
RRUS 11 B12	A	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
RRUS 11 B12	B	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
RRUS 11 B12	C	From Leg	1.0000 0.00 -3.00	0.00	156.0000	No Ice	3.3056	1.3611	0.05
						1/2" Ice	3.5497	1.5404	0.07
						1" Ice	3.8025	1.7284	0.10
						2" Ice	4.3340	2.1302	0.15
						4" Ice	5.5006	3.0377	0.31
DC6-48-60-18-8F	A	From Leg	0.5000 0.00 1.00	0.00	156.0000	No Ice	2.5667	4.3167	0.03
						1/2" Ice	2.7978	4.5965	0.06
						1" Ice	3.0377	4.8849	0.10
						2" Ice	3.5432	5.4877	0.18
						4" Ice	4.6580	6.7969	0.40
T-Arm Mount [TA 703-3]	C	None		0.00	156.0000	No Ice	14.2000	14.2000	0.45
						1/2" Ice	18.5000	18.5000	0.65
						1" Ice	22.8000	22.8000	0.84
						2" Ice	31.4000	31.4000	1.24
						4" Ice	48.6000	48.6000	2.03
***									
(2) PCS 1900MHz 4x45W-65MHz	A	From Leg	1.0000 0.00	0.00	148.0000	No Ice	2.7087	2.6111	0.06
						1/2" Ice	2.9477	2.8475	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1" Ice	3.1953	3.0925	0.11
						2" Ice	3.7164	3.6084	0.17
						4" Ice	4.8623	4.7439	0.35
(2) PCS 1900MHz 4x45W-65MHz	B	From Leg	1.0000 0.00 0.00	0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.7087 2.9477 3.1953 3.7164 4.8623	2.6111 2.8475 3.0925 3.6084 4.7439	0.06 0.08 0.11 0.17 0.35
(2) PCS 1900MHz 4x45W-65MHz	C	From Leg	1.0000 0.00 0.00	0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.7087 2.9477 3.1953 3.7164 4.8623	2.6111 2.8475 3.0925 3.6084 4.7439	0.06 0.08 0.11 0.17 0.35
800MHz 2X50W RRH W/FILTER	A	From Leg	1.0000 0.00 0.00	0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.4014 2.6131 2.8335 3.3002 4.3372	2.2536 2.4602 2.6753 3.1316 4.1479	0.06 0.09 0.11 0.17 0.34
800MHz 2X50W RRH W/FILTER	B	From Leg	1.0000 0.00 0.00	0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.4014 2.6131 2.8335 3.3002 4.3372	2.2536 2.4602 2.6753 3.1316 4.1479	0.06 0.09 0.11 0.17 0.34
800MHz 2X50W RRH W/FILTER	C	From Leg	1.0000 0.00 0.00	0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.4014 2.6131 2.8335 3.3002 4.3372	2.2536 2.4602 2.6753 3.1316 4.1479	0.06 0.09 0.11 0.17 0.34
Side Arm Mount [SO 103-3]	C	None		0.00	148.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	9.5000 11.8000 14.1000 18.7000 27.9000	9.5000 11.8000 14.1000 18.7000 27.9000	0.22 0.32 0.41 0.60 0.97
***									
APXV9ERR18-C-A20 w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.4975 9.1490 9.7672 11.0311 13.6786	7.4708 8.6564 9.5559 11.3884 15.5274	0.09 0.16 0.24 0.42 0.94
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.4975 9.1490 9.7672 11.0311 13.6786	6.9458 8.1266 9.0212 10.8440 14.8507	0.08 0.15 0.23 0.41 0.91
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.4975 9.1490 9.7672 11.0311 13.6786	6.9458 8.1266 9.0212 10.8440 14.8507	0.08 0.15 0.23 0.41 0.91
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.1342 7.6618 8.1830 9.2563 11.5262	4.9591 5.7544 6.4723 8.0099 11.4120	0.08 0.13 0.19 0.34 0.75
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice	7.1342 7.6618 8.1830	4.9591 5.7544 6.4723	0.08 0.13 0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	9.2563	8.0099	0.34
						4" Ice	11.5262	11.4120	0.75
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	7.1342	4.9591	0.08
						1/2" Ice	7.6618	5.7544	0.13
						1" Ice	8.1830	6.4723	0.19
						2" Ice	9.2563	8.0099	0.34
						4" Ice	11.5262	11.4120	0.75
IBC1900BB-1	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
IBC1900BB-1	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
IBC1900BB-1	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
IBC1900HG-2A	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
IBC1900HG-2A	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
IBC1900HG-2A	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.1270	0.5329	0.02
						1/2" Ice	1.2726	0.6471	0.03
						1" Ice	1.4269	0.7699	0.04
						2" Ice	1.7613	1.0415	0.06
						4" Ice	2.5339	1.6883	0.15
TD-RRH8x20-25	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	4.7198	1.7001	0.07
						1/2" Ice	5.0138	1.9170	0.10
						1" Ice	5.3165	2.1426	0.13
						2" Ice	5.9478	2.6196	0.20
						4" Ice	7.3141	3.6774	0.40
TD-RRH8x20-25	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	4.7198	1.7001	0.07
						1/2" Ice	5.0138	1.9170	0.10
						1" Ice	5.3165	2.1426	0.13
						2" Ice	5.9478	2.6196	0.20
						4" Ice	7.3141	3.6774	0.40
TD-RRH8x20-25	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	4.7198	1.7001	0.07
						1/2" Ice	5.0138	1.9170	0.10
						1" Ice	5.3165	2.1426	0.13
						2" Ice	5.9478	2.6196	0.20
						4" Ice	7.3141	3.6774	0.40
6' x 2.375" Pipe Mount	A	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice	1.4250	1.4250	0.02
						1/2" Ice	1.9250	1.9250	0.03
						1" Ice	2.2939	2.2939	0.05
						2" Ice	3.0596	3.0596	0.09
						4" Ice	4.7022	4.7022	0.23

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
6' x 2.375" Pipe Mount	B	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.4250 1.9250 2.2939 3.0596 4.7022	1.4250 1.9250 2.2939 3.0596 4.7022	0.02 0.03 0.05 0.09 0.23
6' x 2.375" Pipe Mount	C	From Leg	4.0000 0.00 1.00	0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	1.4250 1.9250 2.2939 3.0596 4.7022	1.4250 1.9250 2.2939 3.0596 4.7022	0.02 0.03 0.05 0.09 0.23
Platform Mount [LP 712-1]	C	None		0.00	146.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	24.5300 29.9400 35.3500 46.1700 67.8100	24.5300 29.9400 35.3500 46.1700 67.8100	1.34 1.65 1.96 2.58 3.82
***									
APXV18-206517S-C	A	From Leg	2.0000 0.00 0.00	30.00	139.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.1667 5.6182 6.0772 7.0173 9.1225	3.0375 3.4693 3.9086 4.8093 6.6995	0.03 0.05 0.09 0.17 0.40
APXV18-206517S-C	B	From Leg	2.0000 0.00 0.00	30.00	139.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.1667 5.6182 6.0772 7.0173 9.1225	3.0375 3.4693 3.9086 4.8093 6.6995	0.03 0.05 0.09 0.17 0.40
APXV18-206517S-C	C	From Leg	2.0000 0.00 0.00	30.00	139.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.1667 5.6182 6.0772 7.0173 9.1225	3.0375 3.4693 3.9086 4.8093 6.6995	0.03 0.05 0.09 0.17 0.40
Pipe Mount [PM 501-3]	C	None		0.00	139.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.7800 7.3700 8.9600 12.1400 18.5000	5.7800 7.3700 8.9600 12.1400 18.5000	0.16 0.18 0.20 0.24 0.32
***									
BXA-80080-6CF-EDIN-X w/ Mount Pipe	A	From Leg	4.0000 0.00 2.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.0062 6.5619 7.0826 8.1672 10.6907	6.2035 7.3594 8.2293 10.0193 13.8398	0.04 0.10 0.16 0.31 0.75
BXA-80080-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.0000 0.00 2.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.0062 6.5619 7.0826 8.1672 10.6907	6.2035 7.3594 8.2293 10.0193 13.8398	0.04 0.10 0.16 0.31 0.75
BXA-80080-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.0000 0.00 2.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.0062 6.5619 7.0826 8.1672 10.6907	6.2035 7.3594 8.2293 10.0193 13.8398	0.04 0.10 0.16 0.31 0.75
BXA-70063/6CFx2 w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.9686 8.6091 9.2158 10.4591 13.0655	5.3981 6.5465 7.4089 9.1837 12.9333	0.04 0.10 0.17 0.33 0.79

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
BXA-70063/6CFx2 w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.9686 8.6091 9.2158 10.4591 13.0655	5.3981 6.5465 7.4089 9.1837 12.9333	0.04 0.10 0.17 0.33 0.79
BXA-70063/6CFx2 w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	7.9686 8.6091 9.2158 10.4591 13.0655	5.3981 6.5465 7.4089 9.1837 12.9333	0.04 0.10 0.17 0.33 0.79
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.8625 9.6164 10.3410 11.7309 14.6413	7.2963 8.5810 9.7177 11.6633 15.9185	0.07 0.14 0.22 0.41 0.94
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.8625 9.6164 10.3410 11.7309 14.6413	7.2963 8.5810 9.7177 11.6633 15.9185	0.07 0.14 0.22 0.41 0.94
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	8.8625 9.6164 10.3410 11.7309 14.6413	7.2963 8.5810 9.7177 11.6633 15.9185	0.07 0.14 0.22 0.41 0.94
RRH2X60-AWS	A	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.1904 2.3976 2.6134 3.0710 4.0899	1.4290 1.6109 1.8015 2.2085 3.1263	0.04 0.06 0.08 0.13 0.26
RRH2X60-AWS	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.1904 2.3976 2.6134 3.0710 4.0899	1.4290 1.6109 1.8015 2.2085 3.1263	0.04 0.06 0.08 0.13 0.26
RRH2X60-AWS	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.1904 2.3976 2.6134 3.0710 4.0899	1.4290 1.6109 1.8015 2.2085 3.1263	0.04 0.06 0.08 0.13 0.26
RRH2x60-700	A	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.9569 4.2724 4.5965 5.2705 6.7224	1.8157 2.0752 2.3603 2.9566 4.2529	0.06 0.08 0.11 0.17 0.35
RRH2x60-700	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.9569 4.2724 4.5965 5.2705 6.7224	1.8157 2.0752 2.3603 2.9566 4.2529	0.06 0.08 0.11 0.17 0.35
RRH2x60-700	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.9569 4.2724 4.5965 5.2705 6.7224	1.8157 2.0752 2.3603 2.9566 4.2529	0.06 0.08 0.11 0.17 0.35
RRH2X60-PCS	A	From Leg	4.0000 0.00	0.00	132.0000	No Ice 1/2" Ice	2.5667 2.7914	1.9250 2.1302	0.05 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			1.00			1" Ice	3.0247	2.3441	0.09
						2" Ice	3.5173	2.7978	0.14
						4" Ice	4.6062	3.8090	0.30
RRH2X60-PCS	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.5667 2.7914 3.0247 3.5173 4.6062	1.9250 2.1302 2.3441 2.7978 3.8090	0.05 0.07 0.09 0.14 0.30
RRH2X60-PCS	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.5667 2.7914 3.0247 3.5173 4.6062	1.9250 2.1302 2.3441 2.7978 3.8090	0.05 0.07 0.09 0.14 0.30
DB-T1-6Z-8AB-0Z	B	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.6000 5.9154 6.2395 6.9136 8.3654	2.3333 2.5580 2.7914 3.2840 4.3728	0.04 0.08 0.12 0.21 0.45
DB-T1-6Z-8AB-0Z	C	From Leg	4.0000 0.00 1.00	0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.6000 5.9154 6.2395 6.9136 8.3654	2.3333 2.5580 2.7914 3.2840 4.3728	0.04 0.08 0.12 0.21 0.45
Platform Mount [LP 712-1]	C	None		0.00	132.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	24.5300 29.9400 35.3500 46.1700 67.8100	24.5300 29.9400 35.3500 46.1700 67.8100	1.34 1.65 1.96 2.58 3.82
***									
LLPX310R w/ Mount Pipe	A	From Leg	4.0000 0.00 1.00	30.00	121.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.0651 5.4799 5.9053 6.7882 8.7047	2.9846 3.5275 4.0872 5.3142 8.1325	0.05 0.08 0.13 0.23 0.54
840 10054 w/ Mount Pipe	B	From Leg	4.0000 0.00 1.00	30.00	121.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.4134 5.8330 6.2634 7.1562 9.0928	2.3851 2.9173 3.4662 4.6140 7.3165	0.05 0.09 0.13 0.23 0.53
LLPX310R w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	30.00	121.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	5.0651 5.4799 5.9053 6.7882 8.7047	2.9846 3.5275 4.0872 5.3142 8.1325	0.05 0.08 0.13 0.23 0.54
RRH-2WB	A	From Leg	4.0000 0.00 1.00	0.00	121.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.6889 2.9121 3.1440 3.6338 4.7170	0.8506 1.0121 1.1823 1.5485 2.3846	0.04 0.06 0.08 0.12 0.25
RRH-2WB	B	From Leg	4.0000 0.00 1.00	0.00	121.0000	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	2.6889 2.9121 3.1440 3.6338 4.7170	0.8506 1.0121 1.1823 1.5485 2.3846	0.04 0.06 0.08 0.12 0.25
RRH-2WB	C	From Leg	4.0000 0.00 1.00	0.00	121.0000	No Ice 1/2" Ice 1" Ice	2.6889 2.9121 3.1440	0.8506 1.0121 1.1823	0.04 0.06 0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.6338	1.5485	0.12
						4" Ice	4.7170	2.3846	0.25
HORIZON COMPACT	A	From Leg	2.0000 0.00 1.00	0.00	121.0000	No Ice	0.8409	0.4295	0.01
						1/2" Ice	0.9658	0.5249	0.02
						1" Ice	1.0993	0.6289	0.03
						2" Ice	1.3922	0.8629	0.05
						4" Ice	2.0819	1.4345	0.12
HORIZON COMPACT	B	From Leg	2.0000 0.00 1.00	0.00	121.0000	No Ice	0.8409	0.4295	0.01
						1/2" Ice	0.9658	0.5249	0.02
						1" Ice	1.0993	0.6289	0.03
						2" Ice	1.3922	0.8629	0.05
						4" Ice	2.0819	1.4345	0.12
HORIZON COMPACT	C	From Leg	2.0000 0.00 1.00	0.00	121.0000	No Ice	0.8409	0.4295	0.01
						1/2" Ice	0.9658	0.5249	0.02
						1" Ice	1.0993	0.6289	0.03
						2" Ice	1.3922	0.8629	0.05
						4" Ice	2.0819	1.4345	0.12
6' x 2.375" Pipe Mount	A	From Leg	4.0000 0.00 0.00	0.00	121.0000	No Ice	1.4250	1.4250	0.02
						1/2" Ice	1.9250	1.9250	0.03
						1" Ice	2.2939	2.2939	0.05
						2" Ice	3.0596	3.0596	0.09
						4" Ice	4.7022	4.7022	0.23
6' x 2.375" Pipe Mount	B	From Leg	4.0000 0.00 0.00	0.00	121.0000	No Ice	1.4250	1.4250	0.02
						1/2" Ice	1.9250	1.9250	0.03
						1" Ice	2.2939	2.2939	0.05
						2" Ice	3.0596	3.0596	0.09
						4" Ice	4.7022	4.7022	0.23
6' x 2.375" Pipe Mount	C	From Leg	4.0000 0.00 0.00	0.00	121.0000	No Ice	1.4250	1.4250	0.02
						1/2" Ice	1.9250	1.9250	0.03
						1" Ice	2.2939	2.2939	0.05
						2" Ice	3.0596	3.0596	0.09
						4" Ice	4.7022	4.7022	0.23
T-Arm Mount [TA 602-3]	C	None		0.00	121.0000	No Ice	11.5900	11.5900	0.77
						1/2" Ice	15.4400	15.4400	0.99
						1" Ice	19.2900	19.2900	1.21
						2" Ice	26.9900	26.9900	1.64
						4" Ice	42.3900	42.3900	2.50
***									
***									
58532A	A	From Leg	2.0000 0.00 1.00	0.00	101.0000	No Ice	0.2209	0.2209	0.00
						1/2" Ice	0.2897	0.2897	0.00
						1" Ice	0.3672	0.3672	0.01
						2" Ice	0.5481	0.5481	0.02
						4" Ice	1.0137	1.0137	0.06
Side Arm Mount [SO 701-1]	A	From Leg	1.0000 0.00 0.00	0.00	101.0000	No Ice	0.8500	1.6700	0.07
						1/2" Ice	1.1400	2.3400	0.08
						1" Ice	1.4300	3.0100	0.09
						2" Ice	2.0100	4.3500	0.12
						4" Ice	3.1700	7.0300	0.18
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
VHLP800-11	A	Paraboloid w/o Radome	From Leg	4.0000 -4.00 1.00	0.00		121.0000	2.9167	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.6800 7.0700 7.4600 8.2300 9.7800	0.02 0.06 0.09 0.17 0.31
VHLP800-11	B	Paraboloid w/o Radome	From Leg	4.0000 4.00 1.00	30.00		121.0000	2.9167	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	6.6800 7.0700 7.4600 8.2300 9.7800	0.02 0.06 0.09 0.17 0.31
VHLP2-18	C	Paraboloid w/o Radome	From Leg	4.0000 4.00 1.00	90.00		121.0000	2.1750	No Ice 1/2" Ice 1" Ice 2" Ice 4" Ice	3.7200 4.0100 4.3000 4.8800 6.0400	0.03 0.05 0.07 0.11 0.20

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Tower Pressures - No Ice

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg % %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 160.0000-155.0000	157.5000	1.563	0.03	6.667	A B C	0.000 0.000 0.000	6.667 6.667 6.667	6.667	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.198 0.000
L2 155.0000-150.0000	152.5000	1.549	0.03	6.667	A B C	0.000 0.000 0.000	6.667 6.667 6.667	6.667	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.990 0.000
L3 150.0000-146.0000	148.0000	1.535	0.03	5.333	A B C	0.000 0.000 0.000	5.333 5.333 5.333	5.333	100.00 100.00 100.00	0.000 0.000 0.000	0.000 0.792 0.000
L4 146.0000-141.0000	143.4829	1.522	0.02	9.359	A B C	0.000 0.000 0.000	9.359 9.359 9.359	9.359	100.00 100.00 100.00	0.000 0.000 0.000	0.000 1.760 0.000
L5 141.0000-136.0000	138.4835	1.506	0.02	9.744	A B C	0.000 0.000 0.000	9.744 9.744 9.744	9.744	100.00 100.00 100.00	0.000 0.000 0.000	0.000 1.760 0.000
L6 136.0000-131.0000	133.4842	1.491	0.02	10.129	A B C	0.000 0.000 0.000	10.129 10.129 10.129	10.129	100.00 100.00 100.00	0.000 0.000 0.000	0.396 1.760 0.000
L7 131.0000-126.0000	128.4847	1.475	0.02	10.514	A B C	0.000 0.000 0.000	10.514 10.514 10.514	10.514	100.00 100.00 100.00	0.000 0.000 0.000	1.980 1.760 0.000
L8 126.0000-121.0000	123.4853	1.458	0.02	10.899	A B C	0.000 0.000 0.000	10.899 10.899 10.899	10.899	100.00 100.00 100.00	0.000 0.000 0.000	1.980 1.760 0.000
L9 121.0000-117.2500	119.1170	1.443	0.02	8.427	A B C	0.000 0.000 0.000	8.427 8.427 8.427	8.427	100.00 100.00 100.00	0.000 0.000 0.000	1.485 1.320 0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L10 117.2500-117.0000	117.1250	1.436	0.02	0.570	A	0.000	0.570	0.570	100.00	0.000	0.099
					B	0.000	0.570		100.00	0.000	0.088
					C	0.000	0.570		100.00	0.000	0.000
L11 117.0000-115.5000	116.2487	1.433	0.02	3.437	A	0.000	3.437	3.437	100.00	0.000	0.844
					B	0.000	3.437		100.00	0.000	0.528
					C	0.000	3.437		100.00	0.000	0.000
L12 115.5000-115.2500	115.3750	1.43	0.02	0.576	A	0.000	0.576	0.576	100.00	0.000	0.141
					B	0.000	0.576		100.00	0.000	0.088
					C	0.000	0.576		100.00	0.000	0.000
L13 115.2500-110.2500	112.7363	1.421	0.02	11.727	A	0.000	11.727	11.727	100.00	0.000	2.813
					B	0.000	11.727		100.00	0.000	1.760
					C	0.000	11.727		100.00	0.000	0.000
L14 110.2500-103.7500	106.9777	1.399	0.02	15.821	A	0.000	15.821	15.821	100.00	0.000	3.657
					B	0.000	15.821		100.00	0.000	2.288
					C	0.000	15.821		100.00	0.000	0.000
L15 103.7500-102.5000	103.1242	1.385	0.02	3.065	A	0.000	3.065	3.065	100.00	0.000	0.703
					B	0.000	3.065		100.00	0.000	0.440
					C	0.000	3.065		100.00	0.000	0.000
L16 102.5000-98.5000	100.4918	1.375	0.02	9.969	A	0.000	9.969	9.969	100.00	0.000	2.584
					B	0.000	9.969		100.00	0.000	1.408
					C	0.000	9.969		100.00	0.000	0.000
L17 98.5000-98.2500	98.3750	1.366	0.02	0.631	A	0.000	0.631	0.631	100.00	0.000	0.182
					B	0.000	0.631		100.00	0.000	0.088
					C	0.000	0.631		100.00	0.000	0.000
L18 98.2500-93.2500	95.7375	1.356	0.02	12.827	A	0.000	12.827	12.827	100.00	0.000	3.022
					B	0.000	12.827		100.00	0.000	1.760
					C	0.000	12.827		100.00	0.000	0.000
L19 93.2500-88.2500	90.7379	1.335	0.02	13.212	A	0.000	13.212	13.212	100.00	0.000	2.813
					B	0.000	13.212		100.00	0.000	1.760
					C	0.000	13.212		100.00	0.000	0.000
L20 88.2500-83.5000	85.8643	1.314	0.02	12.908	A	0.000	12.908	12.908	100.00	0.000	2.673
					B	0.000	12.908		100.00	0.000	1.672
					C	0.000	12.908		100.00	0.000	0.312
L21 83.5000-83.2500	83.3750	1.303	0.02	0.689	A	0.000	0.689	0.689	100.00	0.000	0.141
					B	0.000	0.689		100.00	0.000	0.088
					C	0.000	0.689		100.00	0.000	0.052
L22 83.2500-82.5000	82.8747	1.301	0.02	2.073	A	0.000	2.073	2.073	100.00	0.000	0.422
					B	0.000	2.073		100.00	0.000	0.264
					C	0.000	2.073		100.00	0.000	0.156
L23 82.5000-82.2500	82.3750	1.299	0.02	0.693	A	0.000	0.693	0.693	100.00	0.000	0.141
					B	0.000	0.693		100.00	0.000	0.088
					C	0.000	0.693		100.00	0.000	0.052
L24 82.2500-80.7500	81.4990	1.295	0.02	4.177	A	0.000	4.177	4.177	100.00	0.000	0.844
					B	0.000	4.177		100.00	0.000	0.528
					C	0.000	4.177		100.00	0.000	0.312
L25 80.7500-80.5000	80.6250	1.291	0.02	0.700	A	0.000	0.700	0.700	100.00	0.000	0.141
					B	0.000	0.700		100.00	0.000	0.088
					C	0.000	0.700		100.00	0.000	0.052
L26 80.5000-78.5000	79.4982	1.286	0.02	5.631	A	0.000	5.631	5.631	100.00	0.000	1.125
					B	0.000	5.631		100.00	0.000	0.704
					C	0.000	5.631		100.00	0.000	0.417
L27 78.5000-78.2500	78.3750	1.28	0.02	0.708	A	0.000	0.708	0.708	100.00	0.000	0.141
					B	0.000	0.708		100.00	0.000	0.088
					C	0.000	0.708		100.00	0.000	0.052
L28 78.2500-77.5000	77.8747	1.278	0.02	2.130	A	0.000	2.130	2.130	100.00	0.000	0.422
					B	0.000	2.130		100.00	0.000	0.264
					C	0.000	2.130		100.00	0.000	0.156
L29 77.5000-77.2500	77.3750	1.276	0.02	0.712	A	0.000	0.712	0.712	100.00	0.000	0.141
					B	0.000	0.712		100.00	0.000	0.088
					C	0.000	0.712		100.00	0.000	0.052

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L30	72.8413	1.254	0.02	25.529	A	0.000	25.529	25.529	100.00	0.000	4.923
77.2500-68.50					B	0.000	25.529		100.00	0.000	3.080
00					C	0.000	25.529		100.00	0.000	1.823
L31	68.2499	1.231	0.02	1.468	A	0.000	1.468	1.468	100.00	0.000	0.281
68.5000-68.00					B	0.000	1.468		100.00	0.000	0.176
00					C	0.000	1.468		100.00	0.000	0.104
L32	66.6217	1.222	0.02	8.145	A	0.000	8.145	8.145	100.00	0.000	1.547
68.0000-65.25					B	0.000	8.145		100.00	0.000	0.968
00					C	0.000	8.145		100.00	0.000	0.573
L33	65.1250	1.214	0.02	0.746	A	0.000	0.746	0.746	100.00	0.000	0.141
65.2500-65.00					B	0.000	0.746		100.00	0.000	0.088
00					C	0.000	0.746		100.00	0.000	0.052
L34	64.6248	1.212	0.02	2.244	A	0.000	2.244	2.244	100.00	0.000	0.422
65.0000-64.25					B	0.000	2.244		100.00	0.000	0.264
00					C	0.000	2.244		100.00	0.000	0.156
L35	64.1250	1.209	0.02	0.750	A	0.000	0.750	0.750	100.00	0.000	0.141
64.2500-64.00					B	0.000	0.750		100.00	0.000	0.088
00					C	0.000	0.750		100.00	0.000	0.052
L36	63.2490	1.204	0.02	4.521	A	0.000	4.521	4.521	100.00	0.000	0.844
64.0000-62.50					B	0.000	4.521		100.00	0.000	0.528
00					C	0.000	4.521		100.00	0.000	0.312
L37	62.3750	1.199	0.02	0.757	A	0.000	0.757	0.757	100.00	0.000	0.141
62.5000-62.25					B	0.000	0.757		100.00	0.000	0.088
00					C	0.000	0.757		100.00	0.000	0.052
L38	61.1630	1.193	0.02	6.609	A	0.000	6.609	6.609	100.00	0.000	1.365
62.2500-60.08					B	0.000	6.609		100.00	0.000	1.144
00					C	0.000	6.609		100.00	0.000	0.452
L39	59.9550	1.186	0.02	0.766	A	0.000	0.766	0.766	100.00	0.000	0.166
60.0800-59.83					B	0.000	0.766		100.00	0.000	0.155
00					C	0.000	0.766		100.00	0.000	0.017
L40	59.4548	1.183	0.02	2.304	A	0.000	2.304	2.304	100.00	0.000	0.498
59.8300-59.08					B	0.000	2.304		100.00	0.000	0.465
00					C	0.000	2.304		100.00	0.000	0.000
L41	58.9550	1.18	0.02	0.770	A	0.000	0.770	0.770	100.00	0.000	0.166
59.0800-58.83					B	0.000	0.770		100.00	0.000	0.155
00					C	0.000	0.770		100.00	0.000	0.000
L42	58.0390	1.175	0.02	4.888	A	0.000	4.888	4.888	100.00	0.000	1.049
58.8300-57.25					B	0.000	4.888		100.00	0.000	0.980
00					C	0.000	4.888		100.00	0.000	0.000
L43	57.1250	1.17	0.02	0.777	A	0.000	0.777	0.777	100.00	0.000	0.166
57.2500-57.00					B	0.000	0.777		100.00	0.000	0.155
00					C	0.000	0.777		100.00	0.000	0.000
L44	56.3744	1.165	0.02	3.899	A	0.000	3.899	3.899	100.00	0.000	0.830
57.0000-55.75					B	0.000	3.899		100.00	0.000	0.775
00					C	0.000	3.899		100.00	0.000	0.000
L45	55.6250	1.161	0.02	0.783	A	0.000	0.783	0.783	100.00	0.000	0.166
55.7500-55.50					B	0.000	0.783		100.00	0.000	0.155
00					C	0.000	0.783		100.00	0.000	0.000
L46	52.9899	1.145	0.02	15.857	A	0.000	15.857	15.857	100.00	0.000	3.320
55.5000-50.50					B	0.000	15.857		100.00	0.000	3.100
00					C	0.000	15.857		100.00	0.000	0.000
L47	47.9901	1.113	0.02	16.242	A	0.000	16.242	16.242	100.00	0.000	3.320
50.5000-45.50					B	0.000	16.242		100.00	0.000	3.100
00					C	0.000	16.242		100.00	0.000	0.021
L48	43.4083	1.081	0.02	13.840	A	0.000	13.840	13.840	100.00	0.000	2.769
45.5000-41.33					B	0.000	13.840		100.00	0.000	2.585
00					C	0.000	13.840		100.00	0.000	0.869
L49	41.2050	1.065	0.02	0.838	A	0.000	0.838	0.838	100.00	0.000	0.166
41.3300-41.08					B	0.000	0.838		100.00	0.000	0.155
00					C	0.000	0.838		100.00	0.000	0.052

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L50	37.5211	1.037	0.02	24.139	A	0.000	24.139	24.139	100.00	0.000	4.701
41.0800-34.00					B	0.000	24.139		100.00	0.000	4.390
00					C	0.000	24.139		100.00	0.000	1.475
L51	33.4996	1.004	0.02	3.409	A	0.000	3.409	3.409	100.00	0.000	0.664
34.0000-33.00					B	0.000	3.409		100.00	0.000	0.620
00					C	0.000	3.409		100.00	0.000	0.208
L52	32.2492	1	0.02	5.143	A	0.000	5.143	5.143	100.00	0.000	0.996
33.0000-31.50					B	0.000	5.143		100.00	0.000	0.930
00					C	0.000	5.143		100.00	0.000	0.312
L53	31.3750	1	0.02	0.860	A	0.000	0.860	0.860	100.00	0.000	0.186
31.5000-31.25					B	0.000	0.860		100.00	0.000	0.088
00					C	0.000	0.860		100.00	0.000	0.052
L54	30.8748	1	0.02	2.587	A	0.000	2.587	2.587	100.00	0.000	0.558
31.2500-30.50					B	0.000	2.587		100.00	0.000	0.264
00					C	0.000	2.587		100.00	0.000	0.156
L55	30.3750	1	0.02	0.864	A	0.000	0.864	0.864	100.00	0.000	0.186
30.5000-30.25					B	0.000	0.864		100.00	0.000	0.088
00					C	0.000	0.864		100.00	0.000	0.052
L56	29.3739	1	0.02	6.077	A	0.000	6.077	6.077	100.00	0.000	1.303
30.2500-28.50					B	0.000	6.077		100.00	0.000	0.616
00					C	0.000	6.077		100.00	0.000	0.365
L57	28.3750	1	0.02	0.872	A	0.000	0.872	0.872	100.00	0.000	0.186
28.5000-28.25					B	0.000	0.872		100.00	0.000	0.088
00					C	0.000	0.872		100.00	0.000	0.052
L58	26.9977	1	0.02	8.773	A	0.000	8.773	8.773	100.00	0.000	1.861
28.2500-25.75					B	0.000	8.773		100.00	0.000	0.880
00					C	0.000	8.773		100.00	0.000	0.521
L59	25.6250	1	0.02	0.883	A	0.000	0.883	0.883	100.00	0.000	0.186
25.7500-25.50					B	0.000	0.883		100.00	0.000	0.088
00					C	0.000	0.883		100.00	0.000	0.052
L60	22.9910	1	0.02	17.854	A	0.000	17.854	17.854	100.00	0.000	3.722
25.5000-20.50					B	0.000	17.854		100.00	0.000	1.760
00					C	0.000	17.854		100.00	0.000	1.042
L61	17.9912	1	0.02	18.239	A	0.000	18.239	18.239	100.00	0.000	3.722
20.5000-15.50					B	0.000	18.239		100.00	0.000	1.760
00					C	0.000	18.239		100.00	0.000	1.042
L62	14.7893	1	0.02	5.250	A	0.000	5.250	5.250	100.00	0.000	1.057
15.5000-14.08					B	0.000	5.250		100.00	0.000	0.500
00					C	0.000	5.250		100.00	0.000	0.296
L63	13.9500	1	0.02	0.965	A	0.000	0.965	0.965	100.00	0.000	0.194
14.0800-13.82					B	0.000	0.965		100.00	0.000	0.092
00					C	0.000	0.965		100.00	0.000	0.054
L64	13.7450	1	0.02	0.557	A	0.000	0.557	0.557	100.00	0.000	0.112
13.8200-13.67					B	0.000	0.557		100.00	0.000	0.053
00					C	0.000	0.557		100.00	0.000	0.031
L65	12.0816	1	0.02	11.852	A	0.000	11.852	11.852	100.00	0.000	2.360
13.6700-10.50					B	0.000	11.852		100.00	0.000	1.116
00					C	0.000	11.852		100.00	0.000	0.640
L66	10.3750	1	0.02	0.941	A	0.000	0.941	0.941	100.00	0.000	0.186
10.5000-10.25					B	0.000	0.941		100.00	0.000	0.088
00					C	0.000	0.941		100.00	0.000	0.042
L67	7.7416	1	0.02	19.028	A	0.000	19.028	19.028	100.00	0.000	2.633
10.2500-5.250					B	0.000	19.028		100.00	0.000	0.792
0					C	0.000	19.028		100.00	0.000	0.833
L68	4.1233	1	0.02	8.688	A	0.000	8.688	8.688	100.00	0.000	0.784
5.2500-3.0000					B	0.000	8.688		100.00	0.000	0.000
					C	0.000	8.688		100.00	0.000	0.375
L69	2.8750	1	0.02	0.970	A	0.000	0.970	0.970	100.00	0.000	0.087
3.0000-2.7500					B	0.000	0.970		100.00	0.000	0.000
					C	0.000	0.970		100.00	0.000	0.042

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L70 2.7500-0.0000	1.3725	1	0.02	10.736	A	0.000	10.736	10.736	100.00	0.000	0.784
					B	0.000	10.736		100.00	0.000	0.000
					C	0.000	10.736		100.00	0.000	0.375

Tower Pressure - With Ice

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 160.0000-155.0000	157.5000	1.563	0.01	1.2063	7.672	A	0.000	7.672	7.672	100.00	0.000	0.000
						B	0.000	7.672		100.00	0.000	0.439
						C	0.000	7.672		100.00	0.000	0.000
L2 155.0000-150.0000	152.5000	1.549	0.01	1.2016	7.668	A	0.000	7.668	7.668	100.00	0.000	0.000
						B	0.000	7.668		100.00	0.000	2.192
						C	0.000	7.668		100.00	0.000	0.000
L3 150.0000-146.0000	148.0000	1.535	0.01	1.1973	6.132	A	0.000	6.132	6.132	100.00	0.000	0.000
						B	0.000	6.132		100.00	0.000	1.750
						C	0.000	6.132		100.00	0.000	0.000
L4 146.0000-141.0000	143.4829	1.522	0.01	1.1929	10.353	A	0.000	10.353	10.353	100.00	0.000	0.000
						B	0.000	10.353		100.00	0.000	4.146
						C	0.000	10.353		100.00	0.000	0.000
L5 141.0000-136.0000	138.4835	1.506	0.01	1.1878	10.734	A	0.000	10.734	10.734	100.00	0.000	0.000
						B	0.000	10.734		100.00	0.000	4.136
						C	0.000	10.734		100.00	0.000	0.000
L6 136.0000-131.0000	133.4842	1.491	0.01	1.1826	11.115	A	0.000	11.115	11.115	100.00	0.000	0.869
						B	0.000	11.115		100.00	0.000	4.125
						C	0.000	11.115		100.00	0.000	0.000
L7 131.0000-126.0000	128.4847	1.475	0.01	1.1772	11.495	A	0.000	11.495	11.495	100.00	0.000	4.334
						B	0.000	11.495		100.00	0.000	4.114
						C	0.000	11.495		100.00	0.000	0.000
L8 126.0000-121.0000	123.4853	1.458	0.01	1.1716	11.876	A	0.000	11.876	11.876	100.00	0.000	4.323
						B	0.000	11.876		100.00	0.000	4.103
						C	0.000	11.876		100.00	0.000	0.000
L9 121.0000-117.2500	119.1170	1.443	0.01	1.1665	9.156	A	0.000	9.156	9.156	100.00	0.000	6.186
						B	0.000	9.156		100.00	0.000	3.070
						C	0.000	9.156		100.00	0.000	0.000
L10 117.2500-117.0000	117.1250	1.436	0.01	1.1642	0.618	A	0.000	0.618	0.618	100.00	0.000	0.412
						B	0.000	0.618		100.00	0.000	0.204
						C	0.000	0.618		100.00	0.000	0.000
L11 117.0000-115.5000	116.2487	1.433	0.01	1.1631	3.728	A	0.000	3.728	3.728	100.00	0.000	3.107
						B	0.000	3.728		100.00	0.000	1.226
						C	0.000	3.728		100.00	0.000	0.000
L12 115.5000-115.2500	115.3750	1.43	0.01	1.1621	0.625	A	0.000	0.625	0.625	100.00	0.000	0.517
						B	0.000	0.625		100.00	0.000	0.204
						C	0.000	0.625		100.00	0.000	0.000
L13 115.2500-110.2500	112.7363	1.421	0.01	1.1588	12.693	A	0.000	12.693	12.693	100.00	0.000	10.330
						B	0.000	12.693		100.00	0.000	4.078
						C	0.000	12.693		100.00	0.000	0.000
L14 110.2500-103.7500	106.9777	1.399	0.01	1.1516	17.068	A	0.000	17.068	17.068	100.00	0.000	13.371
						B	0.000	17.068		100.00	0.000	5.282
						C	0.000	17.068		100.00	0.000	0.000
L15 103.7500-102.50	103.1242	1.385	0.01	1.1465	3.305	A	0.000	3.305	3.305	100.00	0.000	2.571
						B	0.000	3.305		100.00	0.000	1.016

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
00						C	0.000	3.305		100.00	0.000	0.000
L16	100.4918	1.375	0.00	1.1430	10.731	A	0.000	10.731	10.731	100.00	0.000	9.028
102.5000-98.500						B	0.000	10.731		100.00	0.000	3.237
0						C	0.000	10.731		100.00	0.000	0.000
L17	98.3750	1.366	0.00	1.1401	0.679	A	0.000	0.679	0.679	100.00	0.000	0.616
98.5000-98.2500						B	0.000	0.679		100.00	0.000	0.202
						C	0.000	0.679		100.00	0.000	0.000
L18	95.7375	1.356	0.00	1.1363	13.774	A	0.000	13.774	13.774	100.00	0.000	10.717
98.2500-93.2500						B	0.000	13.774		100.00	0.000	4.033
						C	0.000	13.774		100.00	0.000	0.000
L19	90.7379	1.335	0.00	1.1290	14.153	A	0.000	14.153	14.153	100.00	0.000	10.148
93.2500-88.2500						B	0.000	14.153		100.00	0.000	4.018
						C	0.000	14.153		100.00	0.000	0.000
L20	85.8643	1.314	0.00	1.1216	13.796	A	0.000	13.796	13.796	100.00	0.000	9.597
88.2500-83.5000						B	0.000	13.796		100.00	0.000	3.803
						C	0.000	13.796		100.00	0.000	0.686
L21	83.3750	1.303	0.00	1.1176	0.736	A	0.000	0.736	0.736	100.00	0.000	0.504
83.5000-83.2500						B	0.000	0.736		100.00	0.000	0.200
						C	0.000	0.736		100.00	0.000	0.114
L22	82.8747	1.301	0.00	1.1168	2.212	A	0.000	2.212	2.212	100.00	0.000	1.511
83.2500-82.5000						B	0.000	2.212		100.00	0.000	0.599
						C	0.000	2.212		100.00	0.000	0.342
L23	82.3750	1.299	0.00	1.1160	0.739	A	0.000	0.739	0.739	100.00	0.000	0.503
82.5000-82.2500						B	0.000	0.739		100.00	0.000	0.200
						C	0.000	0.739		100.00	0.000	0.114
L24	81.4990	1.295	0.00	1.1146	4.456	A	0.000	4.456	4.456	100.00	0.000	3.018
82.2500-80.7500						B	0.000	4.456		100.00	0.000	1.197
						C	0.000	4.456		100.00	0.000	0.684
L25	80.6250	1.291	0.00	1.1132	0.746	A	0.000	0.746	0.746	100.00	0.000	0.503
80.7500-80.5000						B	0.000	0.746		100.00	0.000	0.199
						C	0.000	0.746		100.00	0.000	0.114
L26	79.4982	1.286	0.00	1.1113	6.002	A	0.000	6.002	6.002	100.00	0.000	4.016
80.5000-78.5000						B	0.000	6.002		100.00	0.000	1.593
						C	0.000	6.002		100.00	0.000	0.911
L27	78.3750	1.28	0.00	1.1094	0.754	A	0.000	0.754	0.754	100.00	0.000	0.501
78.5000-78.2500						B	0.000	0.754		100.00	0.000	0.199
						C	0.000	0.754		100.00	0.000	0.114
L28	77.8747	1.278	0.00	1.1085	2.269	A	0.000	2.269	2.269	100.00	0.000	1.503
78.2500-77.5000						B	0.000	2.269		100.00	0.000	0.597
						C	0.000	2.269		100.00	0.000	0.341
L29	77.3750	1.276	0.00	1.1077	0.758	A	0.000	0.758	0.758	100.00	0.000	0.501
77.5000-77.2500						B	0.000	0.758		100.00	0.000	0.199
						C	0.000	0.758		100.00	0.000	0.114
L30	72.8413	1.254	0.00	1.0997	27.132	A	0.000	27.132	27.132	100.00	0.000	17.445
77.2500-68.5000						B	0.000	27.132		100.00	0.000	6.929
						C	0.000	27.132		100.00	0.000	3.961
L31	68.2499	1.231	0.00	1.0911	1.560	A	0.000	1.560	1.560	100.00	0.000	0.997
68.5000-68.0000						B	0.000	1.560		100.00	0.000	0.396
						C	0.000	1.560		100.00	0.000	0.226
L32	66.6217	1.222	0.00	1.0880	8.643	A	0.000	8.643	8.643	100.00	0.000	5.443
68.0000-65.2500						B	0.000	8.643		100.00	0.000	2.165
						C	0.000	8.643		100.00	0.000	1.238
L33	65.1250	1.214	0.00	1.0850	0.791	A	0.000	0.791	0.791	100.00	0.000	0.494
65.2500-65.0000						B	0.000	0.791		100.00	0.000	0.197
						C	0.000	0.791		100.00	0.000	0.112
L34	64.6248	1.212	0.00	1.0840	2.380	A	0.000	2.380	2.380	100.00	0.000	1.481
65.0000-64.2500						B	0.000	2.380		100.00	0.000	0.589
						C	0.000	2.380		100.00	0.000	0.337
L35	64.1250	1.209	0.00	1.0830	0.795	A	0.000	0.795	0.795	100.00	0.000	0.493
64.2500-64.0000						B	0.000	0.795		100.00	0.000	0.196

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	0.795		100.00	0.000	0.112
L36	63.2490	1.204	0.00	1.0812	4.791	A	0.000	4.791	4.791	100.00	0.000	2.957
64.0000-62.5000						B	0.000	4.791		100.00	0.000	1.177
						C	0.000	4.791		100.00	0.000	0.673
L37	62.3750	1.199	0.00	1.0794	0.802	A	0.000	0.802	0.802	100.00	0.000	0.492
62.5000-62.2500						B	0.000	0.802		100.00	0.000	0.196
						C	0.000	0.802		100.00	0.000	0.112
L38	61.1630	1.193	0.00	1.0769	6.999	A	0.000	6.999	6.999	100.00	0.000	5.160
62.2500-60.0800						B	0.000	6.999		100.00	0.000	3.170
						C	0.000	6.999		100.00	0.000	0.971
L39	59.9550	1.186	0.00	1.0743	0.811	A	0.000	0.811	0.811	100.00	0.000	0.648
60.0800-59.8300						B	0.000	0.811		100.00	0.000	0.454
						C	0.000	0.811		100.00	0.000	0.036
L40	59.4548	1.183	0.00	1.0732	2.438	A	0.000	2.438	2.438	100.00	0.000	1.944
59.8300-59.0800						B	0.000	2.438		100.00	0.000	1.362
						C	0.000	2.438		100.00	0.000	0.000
L41	58.9550	1.18	0.00	1.0721	0.815	A	0.000	0.815	0.815	100.00	0.000	0.648
59.0800-58.8300						B	0.000	0.815		100.00	0.000	0.454
						C	0.000	0.815		100.00	0.000	0.000
L42	58.0390	1.175	0.00	1.0701	5.170	A	0.000	5.170	5.170	100.00	0.000	4.088
58.8300-57.2500						B	0.000	5.170		100.00	0.000	2.867
						C	0.000	5.170		100.00	0.000	0.000
L43	57.1250	1.17	0.00	1.0681	0.821	A	0.000	0.821	0.821	100.00	0.000	0.646
57.2500-57.0000						B	0.000	0.821		100.00	0.000	0.453
						C	0.000	0.821		100.00	0.000	0.000
L44	56.3744	1.165	0.00	1.0664	4.122	A	0.000	4.122	4.122	100.00	0.000	3.229
57.0000-55.7500						B	0.000	4.122		100.00	0.000	2.265
						C	0.000	4.122		100.00	0.000	0.000
L45	55.6250	1.161	0.00	1.0647	0.827	A	0.000	0.827	0.827	100.00	0.000	0.645
55.7500-55.5000						B	0.000	0.827		100.00	0.000	0.453
						C	0.000	0.827		100.00	0.000	0.000
L46	52.9899	1.145	0.00	1.0585	16.739	A	0.000	16.739	16.739	100.00	0.000	12.867
55.5000-50.5000						B	0.000	16.739		100.00	0.000	9.036
						C	0.000	16.739		100.00	0.000	0.000
L47	47.9901	1.113	0.00	1.0460	17.114	A	0.000	17.114	17.114	100.00	0.000	12.790
50.5000-45.5000						B	0.000	17.114		100.00	0.000	8.997
						C	0.000	17.114		100.00	0.000	0.044
L48	43.4083	1.081	0.00	1.0334	14.559	A	0.000	14.559	14.559	100.00	0.000	10.603
45.5000-41.3300						B	0.000	14.559		100.00	0.000	7.471
						C	0.000	14.559		100.00	0.000	1.826
L49	41.2050	1.065	0.00	1.0270	0.881	A	0.000	0.881	0.881	100.00	0.000	0.634
41.3300-41.0800						B	0.000	0.881		100.00	0.000	0.447
						C	0.000	0.881		100.00	0.000	0.109
L50	37.5211	1.037	0.00	1.0155	25.338	A	0.000	25.338	25.338	100.00	0.000	17.848
41.0800-34.0000						B	0.000	25.338		100.00	0.000	12.606
						C	0.000	25.338		100.00	0.000	3.073
L51	33.4996	1.004	0.00	1.0018	3.578	A	0.000	3.578	3.578	100.00	0.000	2.521
34.0000-33.0000						B	0.000	3.578		100.00	0.000	1.781
						C	0.000	3.578		100.00	0.000	0.434
L52	32.2492	1	0.00	1.0000	5.393	A	0.000	5.393	5.393	100.00	0.000	3.753
33.0000-31.5000						B	0.000	5.393		100.00	0.000	2.656
						C	0.000	5.393		100.00	0.000	0.646
L53	31.3750	1	0.00	1.0000	0.902	A	0.000	0.902	0.902	100.00	0.000	0.513
31.5000-31.2500						B	0.000	0.902		100.00	0.000	0.188
						C	0.000	0.902		100.00	0.000	0.108
L54	30.8748	1	0.00	1.0000	2.712	A	0.000	2.712	2.712	100.00	0.000	1.540
31.2500-30.5000						B	0.000	2.712		100.00	0.000	0.564
						C	0.000	2.712		100.00	0.000	0.323
L55	30.3750	1	0.00	1.0000	0.906	A	0.000	0.906	0.906	100.00	0.000	0.513
30.5000-30.2500						B	0.000	0.906		100.00	0.000	0.188

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
						C	0.000	0.906		100.00	0.000	0.108
L56 30.2500-28.5000	29.3739	1	0.00	1.0000	6.369	A	0.000	6.369	6.369	100.00	0.000	3.594
						B	0.000	6.369		100.00	0.000	1.316
						C	0.000	6.369		100.00	0.000	0.753
L57 28.5000-28.2500	28.3750	1	0.00	1.0000	0.914	A	0.000	0.914	0.914	100.00	0.000	0.513
						B	0.000	0.914		100.00	0.000	0.188
						C	0.000	0.914		100.00	0.000	0.108
L58 28.2500-25.7500	26.9977	1	0.00	1.0000	9.190	A	0.000	9.190	9.190	100.00	0.000	5.134
						B	0.000	9.190		100.00	0.000	1.880
						C	0.000	9.190		100.00	0.000	1.076
L59 25.7500-25.5000	25.6250	1	0.00	1.0000	0.924	A	0.000	0.924	0.924	100.00	0.000	0.513
						B	0.000	0.924		100.00	0.000	0.188
						C	0.000	0.924		100.00	0.000	0.108
L60 25.5000-20.5000	22.9910	1	0.00	1.0000	18.688	A	0.000	18.688	18.688	100.00	0.000	10.268
						B	0.000	18.688		100.00	0.000	3.760
						C	0.000	18.688		100.00	0.000	2.153
L61 20.5000-15.5000	17.9912	1	0.00	1.0000	19.073	A	0.000	19.073	19.073	100.00	0.000	10.268
						B	0.000	19.073		100.00	0.000	3.760
						C	0.000	19.073		100.00	0.000	2.153
L62 15.5000-14.0800	14.7893	1	0.00	1.0000	5.487	A	0.000	5.487	5.487	100.00	0.000	2.916
						B	0.000	5.487		100.00	0.000	1.068
						C	0.000	5.487		100.00	0.000	0.611
L63 14.0800-13.8200	13.9500	1	0.00	1.0000	1.008	A	0.000	1.008	1.008	100.00	0.000	0.534
						B	0.000	1.008		100.00	0.000	0.196
						C	0.000	1.008		100.00	0.000	0.112
L64 13.8200-13.6700	13.7450	1	0.00	1.0000	0.582	A	0.000	0.582	0.582	100.00	0.000	0.308
						B	0.000	0.582		100.00	0.000	0.113
						C	0.000	0.582		100.00	0.000	0.065
L65 13.6700-10.5000	12.0816	1	0.00	1.0000	12.381	A	0.000	12.381	12.381	100.00	0.000	6.510
						B	0.000	12.381		100.00	0.000	2.384
						C	0.000	12.381		100.00	0.000	1.322
L66 10.5000-10.2500	10.3750	1	0.00	1.0000	0.983	A	0.000	0.983	0.983	100.00	0.000	0.513
						B	0.000	0.983		100.00	0.000	0.188
						C	0.000	0.983		100.00	0.000	0.097
L67 10.2500-5.2500	7.7416	1	0.00	1.0000	19.862	A	0.000	19.862	19.862	100.00	0.000	6.190
						B	0.000	19.862		100.00	0.000	1.692
						C	0.000	19.862		100.00	0.000	1.944
L68 5.2500-3.0000	4.1233	1	0.00	1.0000	9.063	A	0.000	9.063	9.063	100.00	0.000	1.284
						B	0.000	9.063		100.00	0.000	0.000
						C	0.000	9.063		100.00	0.000	0.875
L69 3.0000-2.7500	2.8750	1	0.00	1.0000	1.012	A	0.000	1.012	1.012	100.00	0.000	0.143
						B	0.000	1.012		100.00	0.000	0.000
						C	0.000	1.012		100.00	0.000	0.097
L70 2.7500-0.0000	1.3725	1	0.00	1.0000	11.194	A	0.000	11.194	11.194	100.00	0.000	1.284
						B	0.000	11.194		100.00	0.000	0.000
						C	0.000	11.194		100.00	0.000	0.875

Tower Pressure - Service

$G_H = 1.690$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 160.0000-155.0000	157.5000	1.563	0.01	6.667	A	0.000	6.667	6.667	100.00	0.000	0.000
					B	0.000	6.667		100.00	0.000	0.198
					C	0.000	6.667		100.00	0.000	0.000
L2 155.0000-150.0000	152.5000	1.549	0.01	6.667	A	0.000	6.667	6.667	100.00	0.000	0.000
					B	0.000	6.667		100.00	0.000	0.990
					C	0.000	6.667		100.00	0.000	0.000
L3 150.0000-146.0000	148.0000	1.535	0.01	5.333	A	0.000	5.333	5.333	100.00	0.000	0.000
					B	0.000	5.333		100.00	0.000	0.792
					C	0.000	5.333		100.00	0.000	0.000
L4 146.0000-141.0000	143.4829	1.522	0.01	9.359	A	0.000	9.359	9.359	100.00	0.000	0.000
					B	0.000	9.359		100.00	0.000	1.760
					C	0.000	9.359		100.00	0.000	0.000
L5 141.0000-136.0000	138.4835	1.506	0.01	9.744	A	0.000	9.744	9.744	100.00	0.000	0.000
					B	0.000	9.744		100.00	0.000	1.760
					C	0.000	9.744		100.00	0.000	0.000
L6 136.0000-131.0000	133.4842	1.491	0.01	10.129	A	0.000	10.129	10.129	100.00	0.000	0.396
					B	0.000	10.129		100.00	0.000	1.760
					C	0.000	10.129		100.00	0.000	0.000
L7 131.0000-126.0000	128.4847	1.475	0.01	10.514	A	0.000	10.514	10.514	100.00	0.000	1.980
					B	0.000	10.514		100.00	0.000	1.760
					C	0.000	10.514		100.00	0.000	0.000
L8 126.0000-121.0000	123.4853	1.458	0.01	10.899	A	0.000	10.899	10.899	100.00	0.000	1.980
					B	0.000	10.899		100.00	0.000	1.760
					C	0.000	10.899		100.00	0.000	0.000
L9 121.0000-117.2500	119.1170	1.443	0.01	8.427	A	0.000	8.427	8.427	100.00	0.000	1.485
					B	0.000	8.427		100.00	0.000	1.320
					C	0.000	8.427		100.00	0.000	0.000
L10 117.2500-117.0000	117.1250	1.436	0.01	0.570	A	0.000	0.570	0.570	100.00	0.000	0.099
					B	0.000	0.570		100.00	0.000	0.088
					C	0.000	0.570		100.00	0.000	0.000
L11 117.0000-115.5000	116.2487	1.433	0.01	3.437	A	0.000	3.437	3.437	100.00	0.000	0.844
					B	0.000	3.437		100.00	0.000	0.528
					C	0.000	3.437		100.00	0.000	0.000
L12 115.5000-115.2500	115.3750	1.43	0.01	0.576	A	0.000	0.576	0.576	100.00	0.000	0.141
					B	0.000	0.576		100.00	0.000	0.088
					C	0.000	0.576		100.00	0.000	0.000
L13 115.2500-110.2500	112.7363	1.421	0.01	11.727	A	0.000	11.727	11.727	100.00	0.000	2.813
					B	0.000	11.727		100.00	0.000	1.760
					C	0.000	11.727		100.00	0.000	0.000
L14 110.2500-103.7500	106.9777	1.399	0.01	15.821	A	0.000	15.821	15.821	100.00	0.000	3.657
					B	0.000	15.821		100.00	0.000	2.288
					C	0.000	15.821		100.00	0.000	0.000
L15 103.7500-102.5000	103.1242	1.385	0.01	3.065	A	0.000	3.065	3.065	100.00	0.000	0.703
					B	0.000	3.065		100.00	0.000	0.440
					C	0.000	3.065		100.00	0.000	0.000
L16 102.5000-98.5000	100.4918	1.375	0.01	9.969	A	0.000	9.969	9.969	100.00	0.000	2.584
					B	0.000	9.969		100.00	0.000	1.408
					C	0.000	9.969		100.00	0.000	0.000
L17 98.5000-98.2500	98.3750	1.366	0.01	0.631	A	0.000	0.631	0.631	100.00	0.000	0.182
					B	0.000	0.631		100.00	0.000	0.088
					C	0.000	0.631		100.00	0.000	0.000
L18 98.2500-93.2500	95.7375	1.356	0.01	12.827	A	0.000	12.827	12.827	100.00	0.000	3.022
					B	0.000	12.827		100.00	0.000	1.760
					C	0.000	12.827		100.00	0.000	0.000
L19 93.2500-88.2500	90.7379	1.335	0.01	13.212	A	0.000	13.212	13.212	100.00	0.000	2.813
					B	0.000	13.212		100.00	0.000	1.760
					C	0.000	13.212		100.00	0.000	0.000
L20 88.2500-83.5000	85.8643	1.314	0.01	12.908	A	0.000	12.908	12.908	100.00	0.000	2.673
					B	0.000	12.908		100.00	0.000	1.672
					C	0.000	12.908		100.00	0.000	0.312

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L21	83.3750	1.303	0.01	0.689	A	0.000	0.689	0.689	100.00	0.000	0.141
83.5000-83.25					B	0.000	0.689		100.00	0.000	0.088
00					C	0.000	0.689		100.00	0.000	0.052
L22	82.8747	1.301	0.01	2.073	A	0.000	2.073	2.073	100.00	0.000	0.422
83.2500-82.50					B	0.000	2.073		100.00	0.000	0.264
00					C	0.000	2.073		100.00	0.000	0.156
L23	82.3750	1.299	0.01	0.693	A	0.000	0.693	0.693	100.00	0.000	0.141
82.5000-82.25					B	0.000	0.693		100.00	0.000	0.088
00					C	0.000	0.693		100.00	0.000	0.052
L24	81.4990	1.295	0.01	4.177	A	0.000	4.177	4.177	100.00	0.000	0.844
82.2500-80.75					B	0.000	4.177		100.00	0.000	0.528
00					C	0.000	4.177		100.00	0.000	0.312
L25	80.6250	1.291	0.01	0.700	A	0.000	0.700	0.700	100.00	0.000	0.141
80.7500-80.50					B	0.000	0.700		100.00	0.000	0.088
00					C	0.000	0.700		100.00	0.000	0.052
L26	79.4982	1.286	0.01	5.631	A	0.000	5.631	5.631	100.00	0.000	1.125
80.5000-78.50					B	0.000	5.631		100.00	0.000	0.704
00					C	0.000	5.631		100.00	0.000	0.417
L27	78.3750	1.28	0.01	0.708	A	0.000	0.708	0.708	100.00	0.000	0.141
78.5000-78.25					B	0.000	0.708		100.00	0.000	0.088
00					C	0.000	0.708		100.00	0.000	0.052
L28	77.8747	1.278	0.01	2.130	A	0.000	2.130	2.130	100.00	0.000	0.422
78.2500-77.50					B	0.000	2.130		100.00	0.000	0.264
00					C	0.000	2.130		100.00	0.000	0.156
L29	77.3750	1.276	0.01	0.712	A	0.000	0.712	0.712	100.00	0.000	0.141
77.5000-77.25					B	0.000	0.712		100.00	0.000	0.088
00					C	0.000	0.712		100.00	0.000	0.052
L30	72.8413	1.254	0.01	25.529	A	0.000	25.529	25.529	100.00	0.000	4.923
77.2500-68.50					B	0.000	25.529		100.00	0.000	3.080
00					C	0.000	25.529		100.00	0.000	1.823
L31	68.2499	1.231	0.01	1.468	A	0.000	1.468	1.468	100.00	0.000	0.281
68.5000-68.00					B	0.000	1.468		100.00	0.000	0.176
00					C	0.000	1.468		100.00	0.000	0.104
L32	66.6217	1.222	0.01	8.145	A	0.000	8.145	8.145	100.00	0.000	1.547
68.0000-65.25					B	0.000	8.145		100.00	0.000	0.968
00					C	0.000	8.145		100.00	0.000	0.573
L33	65.1250	1.214	0.01	0.746	A	0.000	0.746	0.746	100.00	0.000	0.141
65.2500-65.00					B	0.000	0.746		100.00	0.000	0.088
00					C	0.000	0.746		100.00	0.000	0.052
L34	64.6248	1.212	0.01	2.244	A	0.000	2.244	2.244	100.00	0.000	0.422
65.0000-64.25					B	0.000	2.244		100.00	0.000	0.264
00					C	0.000	2.244		100.00	0.000	0.156
L35	64.1250	1.209	0.01	0.750	A	0.000	0.750	0.750	100.00	0.000	0.141
64.2500-64.00					B	0.000	0.750		100.00	0.000	0.088
00					C	0.000	0.750		100.00	0.000	0.052
L36	63.2490	1.204	0.01	4.521	A	0.000	4.521	4.521	100.00	0.000	0.844
64.0000-62.50					B	0.000	4.521		100.00	0.000	0.528
00					C	0.000	4.521		100.00	0.000	0.312
L37	62.3750	1.199	0.01	0.757	A	0.000	0.757	0.757	100.00	0.000	0.141
62.5000-62.25					B	0.000	0.757		100.00	0.000	0.088
00					C	0.000	0.757		100.00	0.000	0.052
L38	61.1630	1.193	0.01	6.609	A	0.000	6.609	6.609	100.00	0.000	1.365
62.2500-60.08					B	0.000	6.609		100.00	0.000	1.144
00					C	0.000	6.609		100.00	0.000	0.452
L39	59.9550	1.186	0.01	0.766	A	0.000	0.766	0.766	100.00	0.000	0.166
60.0800-59.83					B	0.000	0.766		100.00	0.000	0.155
00					C	0.000	0.766		100.00	0.000	0.017
L40	59.4548	1.183	0.01	2.304	A	0.000	2.304	2.304	100.00	0.000	0.498
59.8300-59.08					B	0.000	2.304		100.00	0.000	0.465
00					C	0.000	2.304		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L41 59.0800-58.8300	58.9550	1.18	0.01	0.770	A	0.000	0.770	0.770	100.00	0.000	0.166
					B	0.000	0.770		100.00	0.000	0.155
					C	0.000	0.770		100.00	0.000	0.000
L42 58.8300-57.2500	58.0390	1.175	0.01	4.888	A	0.000	4.888	4.888	100.00	0.000	1.049
					B	0.000	4.888		100.00	0.000	0.980
					C	0.000	4.888		100.00	0.000	0.000
L43 57.2500-57.0000	57.1250	1.17	0.01	0.777	A	0.000	0.777	0.777	100.00	0.000	0.166
					B	0.000	0.777		100.00	0.000	0.155
					C	0.000	0.777		100.00	0.000	0.000
L44 57.0000-55.7500	56.3744	1.165	0.01	3.899	A	0.000	3.899	3.899	100.00	0.000	0.830
					B	0.000	3.899		100.00	0.000	0.775
					C	0.000	3.899		100.00	0.000	0.000
L45 55.7500-55.5000	55.6250	1.161	0.01	0.783	A	0.000	0.783	0.783	100.00	0.000	0.166
					B	0.000	0.783		100.00	0.000	0.155
					C	0.000	0.783		100.00	0.000	0.000
L46 55.5000-50.5000	52.9899	1.145	0.01	15.857	A	0.000	15.857	15.857	100.00	0.000	3.320
					B	0.000	15.857		100.00	0.000	3.100
					C	0.000	15.857		100.00	0.000	0.000
L47 50.5000-45.5000	47.9901	1.113	0.01	16.242	A	0.000	16.242	16.242	100.00	0.000	3.320
					B	0.000	16.242		100.00	0.000	3.100
					C	0.000	16.242		100.00	0.000	0.021
L48 45.5000-41.3300	43.4083	1.081	0.01	13.840	A	0.000	13.840	13.840	100.00	0.000	2.769
					B	0.000	13.840		100.00	0.000	2.585
					C	0.000	13.840		100.00	0.000	0.869
L49 41.3300-41.0800	41.2050	1.065	0.01	0.838	A	0.000	0.838	0.838	100.00	0.000	0.166
					B	0.000	0.838		100.00	0.000	0.155
					C	0.000	0.838		100.00	0.000	0.052
L50 41.0800-34.0000	37.5211	1.037	0.01	24.139	A	0.000	24.139	24.139	100.00	0.000	4.701
					B	0.000	24.139		100.00	0.000	4.390
					C	0.000	24.139		100.00	0.000	1.475
L51 34.0000-33.0000	33.4996	1.004	0.01	3.409	A	0.000	3.409	3.409	100.00	0.000	0.664
					B	0.000	3.409		100.00	0.000	0.620
					C	0.000	3.409		100.00	0.000	0.208
L52 33.0000-31.5000	32.2492	1	0.01	5.143	A	0.000	5.143	5.143	100.00	0.000	0.996
					B	0.000	5.143		100.00	0.000	0.930
					C	0.000	5.143		100.00	0.000	0.312
L53 31.5000-31.2500	31.3750	1	0.01	0.860	A	0.000	0.860	0.860	100.00	0.000	0.186
					B	0.000	0.860		100.00	0.000	0.088
					C	0.000	0.860		100.00	0.000	0.052
L54 31.2500-30.5000	30.8748	1	0.01	2.587	A	0.000	2.587	2.587	100.00	0.000	0.558
					B	0.000	2.587		100.00	0.000	0.264
					C	0.000	2.587		100.00	0.000	0.156
L55 30.5000-30.2500	30.3750	1	0.01	0.864	A	0.000	0.864	0.864	100.00	0.000	0.186
					B	0.000	0.864		100.00	0.000	0.088
					C	0.000	0.864		100.00	0.000	0.052
L56 30.2500-28.5000	29.3739	1	0.01	6.077	A	0.000	6.077	6.077	100.00	0.000	1.303
					B	0.000	6.077		100.00	0.000	0.616
					C	0.000	6.077		100.00	0.000	0.365
L57 28.5000-28.2500	28.3750	1	0.01	0.872	A	0.000	0.872	0.872	100.00	0.000	0.186
					B	0.000	0.872		100.00	0.000	0.088
					C	0.000	0.872		100.00	0.000	0.052
L58 28.2500-25.7500	26.9977	1	0.01	8.773	A	0.000	8.773	8.773	100.00	0.000	1.861
					B	0.000	8.773		100.00	0.000	0.880
					C	0.000	8.773		100.00	0.000	0.521
L59 25.7500-25.5000	25.6250	1	0.01	0.883	A	0.000	0.883	0.883	100.00	0.000	0.186
					B	0.000	0.883		100.00	0.000	0.088
					C	0.000	0.883		100.00	0.000	0.052
L60 25.5000-20.5000	22.9910	1	0.01	17.854	A	0.000	17.854	17.854	100.00	0.000	3.722
					B	0.000	17.854		100.00	0.000	1.760
					C	0.000	17.854		100.00	0.000	1.042

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L61	17.9912	1	0.01	18.239	A	0.000	18.239	18.239	100.00	0.000	3.722
20.5000-15.50					B	0.000	18.239		100.00	0.000	1.760
00					C	0.000	18.239		100.00	0.000	1.042
L62	14.7893	1	0.01	5.250	A	0.000	5.250	5.250	100.00	0.000	1.057
15.5000-14.08					B	0.000	5.250		100.00	0.000	0.500
00					C	0.000	5.250		100.00	0.000	0.296
L63	13.9500	1	0.01	0.965	A	0.000	0.965	0.965	100.00	0.000	0.194
14.0800-13.82					B	0.000	0.965		100.00	0.000	0.092
00					C	0.000	0.965		100.00	0.000	0.054
L64	13.7450	1	0.01	0.557	A	0.000	0.557	0.557	100.00	0.000	0.112
13.8200-13.67					B	0.000	0.557		100.00	0.000	0.053
00					C	0.000	0.557		100.00	0.000	0.031
L65	12.0816	1	0.01	11.852	A	0.000	11.852	11.852	100.00	0.000	2.360
13.6700-10.50					B	0.000	11.852		100.00	0.000	1.116
00					C	0.000	11.852		100.00	0.000	0.640
L66	10.3750	1	0.01	0.941	A	0.000	0.941	0.941	100.00	0.000	0.186
10.5000-10.25					B	0.000	0.941		100.00	0.000	0.088
00					C	0.000	0.941		100.00	0.000	0.042
L67	7.7416	1	0.01	19.028	A	0.000	19.028	19.028	100.00	0.000	2.633
10.2500-5.250					B	0.000	19.028		100.00	0.000	0.792
0					C	0.000	19.028		100.00	0.000	0.833
L68	4.1233	1	0.01	8.688	A	0.000	8.688	8.688	100.00	0.000	0.784
5.2500-3.0000					B	0.000	8.688		100.00	0.000	0.000
					C	0.000	8.688		100.00	0.000	0.375
L69	2.8750	1	0.01	0.970	A	0.000	0.970	0.970	100.00	0.000	0.087
3.0000-2.7500					B	0.000	0.970		100.00	0.000	0.000
					C	0.000	0.970		100.00	0.000	0.042
L70	1.3725	1	0.01	10.736	A	0.000	10.736	10.736	100.00	0.000	0.784
2.7500-0.0000					B	0.000	10.736		100.00	0.000	0.000
					C	0.000	10.736		100.00	0.000	0.375

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.01	0.31	A	1	0.59	1	1	1	6.667	0.18	0.04	C
160.0000-155.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L2	0.03	0.31	A	1	0.59	1	1	1	6.667	0.21	0.04	C
155.0000-150.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L3	0.02	0.25	A	1	0.59	1	1	1	5.333	0.17	0.04	C
150.0000-146.			B	1	0.59	1	1	1	5.333			
0000			C	1	0.59	1	1	1	5.333			
L4	0.05	0.30	A	1	1.03	1	1	1	9.359	0.48	0.10	C
146.0000-141.			B	1	1.03	1	1	1	9.359			
0000			C	1	1.03	1	1	1	9.359			
L5	0.06	0.32	A	1	1.03	1	1	1	9.744	0.49	0.10	C
141.0000-136.			B	1	1.03	1	1	1	9.744			
0000			C	1	1.03	1	1	1	9.744			
L6	0.10	0.33	A	1	1.03	1	1	1	10.129	0.52	0.10	C
136.0000-131.			B	1	1.03	1	1	1	10.129			
0000			C	1	1.03	1	1	1	10.129			
L7	0.20	0.34	A	1	1.03	1	1	1	10.514	0.59	0.12	C
131.0000-126.			B	1	1.03	1	1	1	10.514			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
0000			C	1	1.03	1	1	1	10.514			
L8	0.20	0.35	A	1	1.03	1	1	1	10.899	0.60	0.12	C
126.0000-121.			B	1	1.03	1	1	1	10.899			
0000			C	1	1.03	1	1	1	10.899			
L9	0.16	0.27	A	1	1.03	1	1	1	8.427	0.46	0.12	C
121.0000-117.			B	1	1.03	1	1	1	8.427			
2500			C	1	1.03	1	1	1	8.427			
L10	0.01	0.02	A	1	1.03	1	1	1	0.570	0.03	0.12	C
117.2500-117.			B	1	1.03	1	1	1	0.570			
0000			C	1	1.03	1	1	1	0.570			
L11	0.06	0.13	A	1	1.03	1	1	1	3.437	0.19	0.13	C
117.0000-115.			B	1	1.03	1	1	1	3.437			
5000			C	1	1.03	1	1	1	3.437			
L12	0.01	0.03	A	1	1.03	1	1	1	0.576	0.03	0.13	C
115.5000-115.			B	1	1.03	1	1	1	0.576			
2500			C	1	1.03	1	1	1	0.576			
L13	0.22	0.61	A	1	1.03	1	1	1	11.727	0.65	0.13	C
115.2500-110.			B	1	1.03	1	1	1	11.727			
2500			C	1	1.03	1	1	1	11.727			
L14	0.28	0.82	A	1	1.03	1	1	1	15.821	0.86	0.13	C
110.2500-103.			B	1	1.03	1	1	1	15.821			
7500			C	1	1.03	1	1	1	15.821			
L15	0.05	0.72	A	1	1.03	1	1	1	3.065	0.16	0.13	C
103.7500-102.			B	1	1.03	1	1	1	3.065			
5000			C	1	1.03	1	1	1	3.065			
L16	0.17	0.59	A	1	1.03	1	1	1	9.969	0.54	0.14	C
102.5000-98.5			B	1	1.03	1	1	1	9.969			
000			C	1	1.03	1	1	1	9.969			
L17	0.01	0.04	A	1	1.03	1	1	1	0.631	0.03	0.14	C
98.5000-98.25			B	1	1.03	1	1	1	0.631			
00			C	1	1.03	1	1	1	0.631			
L18	0.22	0.82	A	1	1.03	1	1	1	12.827	0.68	0.14	C
98.2500-93.25			B	1	1.03	1	1	1	12.827			
00			C	1	1.03	1	1	1	12.827			
L19	0.22	0.84	A	1	1.03	1	1	1	13.212	0.67	0.13	C
93.2500-88.25			B	1	1.03	1	1	1	13.212			
00			C	1	1.03	1	1	1	13.212			
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.65	0.14	C
88.2500-83.50			B	1	1.03	1	1	1	12.908			
00			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.04	0.14	C
83.5000-83.25			B	1	1.03	1	1	1	0.689			
00			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.11	0.14	C
83.2500-82.50			B	1	1.03	1	1	1	2.073			
00			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.04	0.14	C
82.5000-82.25			B	1	1.03	1	1	1	0.693			
00			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.21	0.14	C
82.2500-80.75			B	1	1.03	1	1	1	4.177			
00			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.04	0.14	C
80.7500-80.50			B	1	1.03	1	1	1	0.700			
00			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.29	0.14	C
80.5000-78.50			B	1	1.03	1	1	1	5.631			
00			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.04	0.14	C
78.5000-78.25			B	1	1.03	1	1	1	0.708			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.11	0.14	C
78.2500-77.50			B	1	1.03	1	1	1	2.130			
00			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.04	0.14	C
77.5000-77.25			B	1	1.03	1	1	1	0.712			
00			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	1.25	0.14	C
77.2500-68.50			B	1	1.03	1	1	1	25.529			
00			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.07	0.14	C
68.5000-68.00			B	1	1.03	1	1	1	1.468			
00			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.39	0.14	C
68.0000-65.25			B	1	1.03	1	1	1	8.145			
00			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.04	0.14	C
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.11	0.14	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.04	0.14	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.21	0.14	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.04	0.14	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.32	0.15	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.04	0.15	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.11	0.15	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.04	0.15	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.23	0.15	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.04	0.15	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.18	0.15	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.04	0.14	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.72	0.14	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.71	0.14	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.61	0.15	C
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.04	0.15	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	1.02	0.14	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.14	0.14	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.21	0.14	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.03	0.13	C
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.10	0.13	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.03	0.13	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.24	0.14	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.03	0.14	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.34	0.14	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.03	0.14	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.69	0.14	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.70	0.14	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.20	0.14	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.04	0.14	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.02	0.14	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.45	0.14	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.04	0.14	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.66	0.13	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.28	0.12	C
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.03	0.12	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.34	0.12	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	1447.45 kip-ft	19.96		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.01	0.31	A	1	0.59	1	1	1	6.667	0.18	0.04	C
160.0000-155.0000			B	1	0.59	1	1	1	6.667			
			C	1	0.59	1	1	1	6.667			
L2	0.03	0.31	A	1	0.59	1	1	1	6.667	0.21	0.04	C
155.0000-150.0000			B	1	0.59	1	1	1	6.667			
			C	1	0.59	1	1	1	6.667			
L3	0.02	0.25	A	1	0.59	1	1	1	5.333	0.17	0.04	C
150.0000-146.0000			B	1	0.59	1	1	1	5.333			
			C	1	0.59	1	1	1	5.333			
L4	0.05	0.30	A	1	1.03	1	1	1	9.359	0.48	0.10	C
146.0000-141.0000			B	1	1.03	1	1	1	9.359			
			C	1	1.03	1	1	1	9.359			
L5	0.06	0.32	A	1	1.03	1	1	1	9.744	0.49	0.10	C
141.0000-136.0000			B	1	1.03	1	1	1	9.744			
			C	1	1.03	1	1	1	9.744			
L6	0.10	0.33	A	1	1.03	1	1	1	10.129	0.52	0.10	C
136.0000-131.0000			B	1	1.03	1	1	1	10.129			
			C	1	1.03	1	1	1	10.129			
L7	0.20	0.34	A	1	1.03	1	1	1	10.514	0.59	0.12	C
131.0000-126.0000			B	1	1.03	1	1	1	10.514			
			C	1	1.03	1	1	1	10.514			
L8	0.20	0.35	A	1	1.03	1	1	1	10.899	0.60	0.12	C
126.0000-121.0000			B	1	1.03	1	1	1	10.899			
			C	1	1.03	1	1	1	10.899			
L9	0.16	0.27	A	1	1.03	1	1	1	8.427	0.46	0.12	C
121.0000-117.2500			B	1	1.03	1	1	1	8.427			
			C	1	1.03	1	1	1	8.427			
L10	0.01	0.02	A	1	1.03	1	1	1	0.570	0.03	0.12	C
117.2500-117.0000			B	1	1.03	1	1	1	0.570			
			C	1	1.03	1	1	1	0.570			
L11	0.06	0.13	A	1	1.03	1	1	1	3.437	0.19	0.13	C
117.0000-115.5000			B	1	1.03	1	1	1	3.437			
			C	1	1.03	1	1	1	3.437			
L12	0.01	0.03	A	1	1.03	1	1	1	0.576	0.03	0.13	C
115.5000-115.2500			B	1	1.03	1	1	1	0.576			
			C	1	1.03	1	1	1	0.576			
L13	0.22	0.61	A	1	1.03	1	1	1	11.727	0.65	0.13	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
115.2500-110.2500			B	1	1.03	1	1	1	11.727			
			C	1	1.03	1	1	1	11.727			
L14	0.28	0.82	A	1	1.03	1	1	1	15.821	0.86	0.13	C
110.2500-103.7500			B	1	1.03	1	1	1	15.821			
			C	1	1.03	1	1	1	15.821			
L15	0.05	0.72	A	1	1.03	1	1	1	3.065	0.16	0.13	C
103.7500-102.5000			B	1	1.03	1	1	1	3.065			
			C	1	1.03	1	1	1	3.065			
L16	0.17	0.59	A	1	1.03	1	1	1	9.969	0.54	0.14	C
102.5000-98.5000			B	1	1.03	1	1	1	9.969			
			C	1	1.03	1	1	1	9.969			
L17	0.01	0.04	A	1	1.03	1	1	1	0.631	0.03	0.14	C
98.5000-98.2500			B	1	1.03	1	1	1	0.631			
			C	1	1.03	1	1	1	0.631			
L18	0.22	0.82	A	1	1.03	1	1	1	12.827	0.68	0.14	C
98.2500-93.2500			B	1	1.03	1	1	1	12.827			
			C	1	1.03	1	1	1	12.827			
L19	0.22	0.84	A	1	1.03	1	1	1	13.212	0.67	0.13	C
93.2500-88.2500			B	1	1.03	1	1	1	13.212			
			C	1	1.03	1	1	1	13.212			
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.65	0.14	C
88.2500-83.5000			B	1	1.03	1	1	1	12.908			
			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.04	0.14	C
83.5000-83.2500			B	1	1.03	1	1	1	0.689			
			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.11	0.14	C
83.2500-82.5000			B	1	1.03	1	1	1	2.073			
			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.04	0.14	C
82.5000-82.2500			B	1	1.03	1	1	1	0.693			
			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.21	0.14	C
82.2500-80.7500			B	1	1.03	1	1	1	4.177			
			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.04	0.14	C
80.7500-80.5000			B	1	1.03	1	1	1	0.700			
			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.29	0.14	C
80.5000-78.5000			B	1	1.03	1	1	1	5.631			
			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.04	0.14	C
78.5000-78.2500			B	1	1.03	1	1	1	0.708			
			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.11	0.14	C
78.2500-77.5000			B	1	1.03	1	1	1	2.130			
			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.04	0.14	C
77.5000-77.2500			B	1	1.03	1	1	1	0.712			
			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	1.25	0.14	C
77.2500-68.5000			B	1	1.03	1	1	1	25.529			
			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.07	0.14	C
68.5000-68.0000			B	1	1.03	1	1	1	1.468			
			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.39	0.14	C
68.0000-65.2500			B	1	1.03	1	1	1	8.145			
			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.04	0.14	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.11	0.14	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.04	0.14	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.21	0.14	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.04	0.14	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.32	0.15	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.04	0.15	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.11	0.15	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.04	0.15	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.23	0.15	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.04	0.15	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.18	0.15	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.04	0.14	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.72	0.14	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.71	0.14	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.61	0.15	C
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.04	0.15	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	1.02	0.14	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.14	0.14	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.21	0.14	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.03	0.13	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.10	0.13	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.03	0.13	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.24	0.14	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.03	0.14	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.34	0.14	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.03	0.14	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.69	0.14	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.70	0.14	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.20	0.14	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.04	0.14	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.02	0.14	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.45	0.14	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.04	0.14	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.66	0.13	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.28	0.12	C
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.03	0.12	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.34	0.12	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	1447.45 kip-ft	19.96		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1 160.0000-155.0000	0.01	0.31	A	1	0.59	1	1	1	6.667	0.18	0.04	C
			B	1	0.59	1	1	1	6.667			
			C	1	0.59	1	1	1	6.667			
L2 155.0000-150.0000	0.03	0.31	A	1	0.59	1	1	1	6.667	0.21	0.04	C
			B	1	0.59	1	1	1	6.667			
			C	1	0.59	1	1	1	6.667			
L3 150.0000-146.0000	0.02	0.25	A	1	0.59	1	1	1	5.333	0.17	0.04	C
			B	1	0.59	1	1	1	5.333			
			C	1	0.59	1	1	1	5.333			
L4 146.0000-141.0000	0.05	0.30	A	1	1.03	1	1	1	9.359	0.48	0.10	C
			B	1	1.03	1	1	1	9.359			
			C	1	1.03	1	1	1	9.359			
L5 141.0000-136.0000	0.06	0.32	A	1	1.03	1	1	1	9.744	0.49	0.10	C
			B	1	1.03	1	1	1	9.744			
			C	1	1.03	1	1	1	9.744			
L6 136.0000-131.0000	0.10	0.33	A	1	1.03	1	1	1	10.129	0.52	0.10	C
			B	1	1.03	1	1	1	10.129			
			C	1	1.03	1	1	1	10.129			
L7 131.0000-126.0000	0.20	0.34	A	1	1.03	1	1	1	10.514	0.59	0.12	C
			B	1	1.03	1	1	1	10.514			
			C	1	1.03	1	1	1	10.514			
L8 126.0000-121.0000	0.20	0.35	A	1	1.03	1	1	1	10.899	0.60	0.12	C
			B	1	1.03	1	1	1	10.899			
			C	1	1.03	1	1	1	10.899			
L9 121.0000-117.2500	0.16	0.27	A	1	1.03	1	1	1	8.427	0.46	0.12	C
			B	1	1.03	1	1	1	8.427			
			C	1	1.03	1	1	1	8.427			
L10 117.2500-117.0000	0.01	0.02	A	1	1.03	1	1	1	0.570	0.03	0.12	C
			B	1	1.03	1	1	1	0.570			
			C	1	1.03	1	1	1	0.570			
L11 117.0000-115.5000	0.06	0.13	A	1	1.03	1	1	1	3.437	0.19	0.13	C
			B	1	1.03	1	1	1	3.437			
			C	1	1.03	1	1	1	3.437			
L12 115.5000-115.2500	0.01	0.03	A	1	1.03	1	1	1	0.576	0.03	0.13	C
			B	1	1.03	1	1	1	0.576			
			C	1	1.03	1	1	1	0.576			
L13 115.2500-110.2500	0.22	0.61	A	1	1.03	1	1	1	11.727	0.65	0.13	C
			B	1	1.03	1	1	1	11.727			
			C	1	1.03	1	1	1	11.727			
L14 110.2500-103.7500	0.28	0.82	A	1	1.03	1	1	1	15.821	0.86	0.13	C
			B	1	1.03	1	1	1	15.821			
			C	1	1.03	1	1	1	15.821			
L15 103.7500-102.5000	0.05	0.72	A	1	1.03	1	1	1	3.065	0.16	0.13	C
			B	1	1.03	1	1	1	3.065			
			C	1	1.03	1	1	1	3.065			
L16 102.5000-98.5000	0.17	0.59	A	1	1.03	1	1	1	9.969	0.54	0.14	C
			B	1	1.03	1	1	1	9.969			
			C	1	1.03	1	1	1	9.969			
L17 98.5000-98.2500	0.01	0.04	A	1	1.03	1	1	1	0.631	0.03	0.14	C
			B	1	1.03	1	1	1	0.631			
			C	1	1.03	1	1	1	0.631			
L18 98.2500-93.2500	0.22	0.82	A	1	1.03	1	1	1	12.827	0.68	0.14	C
			B	1	1.03	1	1	1	12.827			
			C	1	1.03	1	1	1	12.827			
L19 93.2500-88.2500	0.22	0.84	A	1	1.03	1	1	1	13.212	0.67	0.13	C
			B	1	1.03	1	1	1	13.212			
			C	1	1.03	1	1	1	13.212			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.65	0.14	C
88.2500-83.50			B	1	1.03	1	1	1	12.908			
00			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.04	0.14	C
83.5000-83.25			B	1	1.03	1	1	1	0.689			
00			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.11	0.14	C
83.2500-82.50			B	1	1.03	1	1	1	2.073			
00			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.04	0.14	C
82.5000-82.25			B	1	1.03	1	1	1	0.693			
00			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.21	0.14	C
82.2500-80.75			B	1	1.03	1	1	1	4.177			
00			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.04	0.14	C
80.7500-80.50			B	1	1.03	1	1	1	0.700			
00			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.29	0.14	C
80.5000-78.50			B	1	1.03	1	1	1	5.631			
00			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.04	0.14	C
78.5000-78.25			B	1	1.03	1	1	1	0.708			
00			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.11	0.14	C
78.2500-77.50			B	1	1.03	1	1	1	2.130			
00			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.04	0.14	C
77.5000-77.25			B	1	1.03	1	1	1	0.712			
00			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	1.25	0.14	C
77.2500-68.50			B	1	1.03	1	1	1	25.529			
00			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.07	0.14	C
68.5000-68.00			B	1	1.03	1	1	1	1.468			
00			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.39	0.14	C
68.0000-65.25			B	1	1.03	1	1	1	8.145			
00			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.04	0.14	C
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.11	0.14	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.04	0.14	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.21	0.14	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.04	0.14	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.32	0.15	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.04	0.15	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.11	0.15	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.04	0.15	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.23	0.15	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.04	0.15	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.18	0.15	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.04	0.14	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.72	0.14	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.71	0.14	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.61	0.15	C
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.04	0.15	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	1.02	0.14	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.14	0.14	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.21	0.14	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.03	0.13	C
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.10	0.13	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.03	0.13	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.24	0.14	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.03	0.14	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.34	0.14	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.03	0.14	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.69	0.14	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.70	0.14	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.20	0.14	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.04	0.14	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.02	0.14	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.45	0.14	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.04	0.14	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.66	0.13	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.28	0.12	C
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.03	0.12	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.34	0.12	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	1447.45 kip-ft	19.96		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.04	0.44	A	1	0.599	1	1	1	7.672	0.05	0.01	C
160.0000-155.			B	1	0.599	1	1	1	7.672			
0000			C	1	0.599	1	1	1	7.672			
L2	0.22	0.44	A	1	0.603	1	1	1	7.668	0.06	0.01	C
155.0000-150.			B	1	0.603	1	1	1	7.668			
0000			C	1	0.603	1	1	1	7.668			
L3	0.18	0.35	A	1	0.606	1	1	1	6.132	0.05	0.01	C
150.0000-146.			B	1	0.606	1	1	1	6.132			
0000			C	1	0.606	1	1	1	6.132			
L4	0.32	0.48	A	1	1.03	1	1	1	10.353	0.14	0.03	C
146.0000-141.			B	1	1.03	1	1	1	10.353			
0000			C	1	1.03	1	1	1	10.353			
L5	0.33	0.50	A	1	1.03	1	1	1	10.734	0.14	0.03	C
141.0000-136.			B	1	1.03	1	1	1	10.734			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
0000			C	1	1.03	1	1	1	10.734			
L6	0.40	0.52	A	1	1.03	1	1	1	11.115	0.15	0.03	C
136.0000-131.			B	1	1.03	1	1	1	11.115			
0000			C	1	1.03	1	1	1	11.115			
L7	0.63	0.54	A	1	1.03	1	1	1	11.495	0.18	0.04	C
131.0000-126.			B	1	1.03	1	1	1	11.495			
0000			C	1	1.03	1	1	1	11.495			
L8	0.63	0.56	A	1	1.03	1	1	1	11.876	0.18	0.04	C
126.0000-121.			B	1	1.03	1	1	1	11.876			
0000			C	1	1.03	1	1	1	11.876			
L9	0.56	0.43	A	1	1.03	1	1	1	9.156	0.16	0.04	C
121.0000-117.			B	1	1.03	1	1	1	9.156			
2500			C	1	1.03	1	1	1	9.156			
L10	0.04	0.03	A	1	1.03	1	1	1	0.618	0.01	0.04	C
117.2500-117.			B	1	1.03	1	1	1	0.618			
0000			C	1	1.03	1	1	1	0.618			
L11	0.22	0.20	A	1	1.03	1	1	1	3.728	0.07	0.05	C
117.0000-115.			B	1	1.03	1	1	1	3.728			
5000			C	1	1.03	1	1	1	3.728			
L12	0.04	0.04	A	1	1.03	1	1	1	0.625	0.01	0.05	C
115.5000-115.			B	1	1.03	1	1	1	0.625			
2500			C	1	1.03	1	1	1	0.625			
L13	0.74	0.82	A	1	1.03	1	1	1	12.693	0.24	0.05	C
115.2500-110.			B	1	1.03	1	1	1	12.693			
2500			C	1	1.03	1	1	1	12.693			
L14	0.96	1.10	A	1	1.03	1	1	1	17.068	0.31	0.05	C
110.2500-103.			B	1	1.03	1	1	1	17.068			
7500			C	1	1.03	1	1	1	17.068			
L15	0.18	0.77	A	1	1.03	1	1	1	3.305	0.06	0.05	C
103.7500-102.			B	1	1.03	1	1	1	3.305			
5000			C	1	1.03	1	1	1	3.305			
L16	0.58	0.76	A	1	1.03	1	1	1	10.731	0.20	0.05	C
102.5000-98.5			B	1	1.03	1	1	1	10.731			
000			C	1	1.03	1	1	1	10.731			
L17	0.04	0.05	A	1	1.03	1	1	1	0.679	0.01	0.05	C
98.5000-98.25			B	1	1.03	1	1	1	0.679			
00			C	1	1.03	1	1	1	0.679			
L18	0.72	1.05	A	1	1.03	1	1	1	13.774	0.24	0.05	C
98.2500-93.25			B	1	1.03	1	1	1	13.774			
00			C	1	1.03	1	1	1	13.774			
L19	0.72	1.07	A	1	1.03	1	1	1	14.153	0.23	0.05	C
93.2500-88.25			B	1	1.03	1	1	1	14.153			
00			C	1	1.03	1	1	1	14.153			
L20	0.68	1.04	A	1	1.03	1	1	1	13.796	0.23	0.05	C
88.2500-83.50			B	1	1.03	1	1	1	13.796			
00			C	1	1.03	1	1	1	13.796			
L21	0.04	0.07	A	1	1.03	1	1	1	0.736	0.01	0.05	C
83.5000-83.25			B	1	1.03	1	1	1	0.736			
00			C	1	1.03	1	1	1	0.736			
L22	0.11	0.21	A	1	1.03	1	1	1	2.212	0.04	0.05	C
83.2500-82.50			B	1	1.03	1	1	1	2.212			
00			C	1	1.03	1	1	1	2.212			
L23	0.04	0.06	A	1	1.03	1	1	1	0.739	0.01	0.05	C
82.5000-82.25			B	1	1.03	1	1	1	0.739			
00			C	1	1.03	1	1	1	0.739			
L24	0.21	0.33	A	1	1.03	1	1	1	4.456	0.08	0.05	C
82.2500-80.75			B	1	1.03	1	1	1	4.456			
00			C	1	1.03	1	1	1	4.456			
L25	0.04	0.06	A	1	1.03	1	1	1	0.746	0.01	0.05	C
80.7500-80.50			B	1	1.03	1	1	1	0.746			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	0.746			
L26	0.28	0.52	A	1	1.03	1	1	1	6.002	0.10	0.05	C
80.5000-78.50			B	1	1.03	1	1	1	6.002			
00			C	1	1.03	1	1	1	6.002			
L27	0.04	0.08	A	1	1.03	1	1	1	0.754	0.01	0.05	C
78.5000-78.25			B	1	1.03	1	1	1	0.754			
00			C	1	1.03	1	1	1	0.754			
L28	0.11	0.24	A	1	1.03	1	1	1	2.269	0.04	0.05	C
78.2500-77.50			B	1	1.03	1	1	1	2.269			
00			C	1	1.03	1	1	1	2.269			
L29	0.04	0.07	A	1	1.03	1	1	1	0.758	0.01	0.05	C
77.5000-77.25			B	1	1.03	1	1	1	0.758			
00			C	1	1.03	1	1	1	0.758			
L30	1.22	2.33	A	1	1.03	1	1	1	27.132	0.43	0.05	C
77.2500-68.50			B	1	1.03	1	1	1	27.132			
00			C	1	1.03	1	1	1	27.132			
L31	0.07	1.21	A	1	1.03	1	1	1	1.560	0.02	0.05	C
68.5000-68.00			B	1	1.03	1	1	1	1.560			
00			C	1	1.03	1	1	1	1.560			
L32	0.38	0.80	A	1	1.03	1	1	1	8.643	0.13	0.05	C
68.0000-65.25			B	1	1.03	1	1	1	8.643			
00			C	1	1.03	1	1	1	8.643			
L33	0.03	0.09	A	1	1.03	1	1	1	0.791	0.01	0.05	C
65.2500-65.00			B	1	1.03	1	1	1	0.791			
00			C	1	1.03	1	1	1	0.791			
L34	0.10	0.28	A	1	1.03	1	1	1	2.380	0.04	0.05	C
65.0000-64.25			B	1	1.03	1	1	1	2.380			
00			C	1	1.03	1	1	1	2.380			
L35	0.03	0.09	A	1	1.03	1	1	1	0.795	0.01	0.05	C
64.2500-64.00			B	1	1.03	1	1	1	0.795			
00			C	1	1.03	1	1	1	0.795			
L36	0.20	0.51	A	1	1.03	1	1	1	4.791	0.07	0.05	C
64.0000-62.50			B	1	1.03	1	1	1	4.791			
00			C	1	1.03	1	1	1	4.791			
L37	0.03	0.07	A	1	1.03	1	1	1	0.802	0.01	0.05	C
62.5000-62.25			B	1	1.03	1	1	1	0.802			
00			C	1	1.03	1	1	1	0.802			
L38	0.29	0.61	A	1	1.03	1	1	1	6.999	0.12	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.999			
00			C	1	1.03	1	1	1	6.999			
L39	0.03	0.07	A	1	1.03	1	1	1	0.811	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.811			
00			C	1	1.03	1	1	1	0.811			
L40	0.10	0.22	A	1	1.03	1	1	1	2.438	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.438			
00			C	1	1.03	1	1	1	2.438			
L41	0.03	0.08	A	1	1.03	1	1	1	0.815	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.815			
00			C	1	1.03	1	1	1	0.815			
L42	0.21	0.52	A	1	1.03	1	1	1	5.170	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	5.170			
00			C	1	1.03	1	1	1	5.170			
L43	0.03	0.10	A	1	1.03	1	1	1	0.821	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.821			
00			C	1	1.03	1	1	1	0.821			
L44	0.17	0.51	A	1	1.03	1	1	1	4.122	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	4.122			
00			C	1	1.03	1	1	1	4.122			
L45	0.03	0.08	A	1	1.03	1	1	1	0.827	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.827			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	0.827			
L46	0.67	1.65	A	1	1.03	1	1	1	16.739	0.27	0.05	C
55.5000-50.50			B	1	1.03	1	1	1	16.739			
00			C	1	1.03	1	1	1	16.739			
L47	0.66	1.67	A	1	1.03	1	1	1	17.114	0.27	0.05	C
50.5000-45.50			B	1	1.03	1	1	1	17.114			
00			C	1	1.03	1	1	1	17.114			
L48	0.54	1.41	A	1	1.03	1	1	1	14.559	0.23	0.06	C
45.5000-41.33			B	1	1.03	1	1	1	14.559			
00			C	1	1.03	1	1	1	14.559			
L49	0.03	0.09	A	1	1.03	1	1	1	0.881	0.01	0.05	C
41.3300-41.08			B	1	1.03	1	1	1	0.881			
00			C	1	1.03	1	1	1	0.881			
L50	0.90	2.71	A	1	1.03	1	1	1	25.338	0.38	0.05	C
41.0800-34.00			B	1	1.03	1	1	1	25.338			
00			C	1	1.03	1	1	1	25.338			
L51	0.13	2.00	A	1	1.03	1	1	1	3.578	0.05	0.05	C
34.0000-33.00			B	1	1.03	1	1	1	3.578			
00			C	1	1.03	1	1	1	3.578			
L52	0.19	0.57	A	1	1.03	1	1	1	5.393	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.393			
00			C	1	1.03	1	1	1	5.393			
L53	0.03	0.10	A	1	1.03	1	1	1	0.902	0.01	0.04	C
31.5000-31.25			B	1	1.03	1	1	1	0.902			
00			C	1	1.03	1	1	1	0.902			
L54	0.09	0.29	A	1	1.03	1	1	1	2.712	0.03	0.04	C
31.2500-30.50			B	1	1.03	1	1	1	2.712			
00			C	1	1.03	1	1	1	2.712			
L55	0.03	0.10	A	1	1.03	1	1	1	0.906	0.01	0.04	C
30.5000-30.25			B	1	1.03	1	1	1	0.906			
00			C	1	1.03	1	1	1	0.906			
L56	0.22	0.70	A	1	1.03	1	1	1	6.369	0.07	0.04	C
30.2500-28.50			B	1	1.03	1	1	1	6.369			
00			C	1	1.03	1	1	1	6.369			
L57	0.03	0.12	A	1	1.03	1	1	1	0.914	0.01	0.04	C
28.5000-28.25			B	1	1.03	1	1	1	0.914			
00			C	1	1.03	1	1	1	0.914			
L58	0.31	1.16	A	1	1.03	1	1	1	9.190	0.11	0.04	C
28.2500-25.75			B	1	1.03	1	1	1	9.190			
00			C	1	1.03	1	1	1	9.190			
L59	0.03	0.10	A	1	1.03	1	1	1	0.924	0.01	0.04	C
25.7500-25.50			B	1	1.03	1	1	1	0.924			
00			C	1	1.03	1	1	1	0.924			
L60	0.62	1.92	A	1	1.03	1	1	1	18.688	0.22	0.04	C
25.5000-20.50			B	1	1.03	1	1	1	18.688			
00			C	1	1.03	1	1	1	18.688			
L61	0.62	1.94	A	1	1.03	1	1	1	19.073	0.22	0.04	C
20.5000-15.50			B	1	1.03	1	1	1	19.073			
00			C	1	1.03	1	1	1	19.073			
L62	0.18	0.60	A	1	1.03	1	1	1	5.487	0.06	0.04	C
15.5000-14.08			B	1	1.03	1	1	1	5.487			
00			C	1	1.03	1	1	1	5.487			
L63	0.03	0.10	A	1	1.03	1	1	1	1.008	0.01	0.04	C
14.0800-13.82			B	1	1.03	1	1	1	1.008			
00			C	1	1.03	1	1	1	1.008			
L64	0.02	0.06	A	1	1.03	1	1	1	0.582	0.01	0.04	C
13.8200-13.67			B	1	1.03	1	1	1	0.582			
00			C	1	1.03	1	1	1	0.582			
L65	0.39	1.34	A	1	1.03	1	1	1	12.381	0.14	0.04	C
13.6700-10.50			B	1	1.03	1	1	1	12.381			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	12.381			
L66	0.03	0.10	A	1	1.03	1	1	1	0.983	0.01	0.04	C
10.5000-10.25			B	1	1.03	1	1	1	0.983			
00			C	1	1.03	1	1	1	0.983			
L67	0.31	1.96	A	1	1.03	1	1	1	19.862	0.19	0.04	C
10.2500-5.250			B	1	1.03	1	1	1	19.862			
0			C	1	1.03	1	1	1	19.862			
L68	0.03	1.23	A	1	1.03	1	1	1	9.063	0.07	0.03	C
5.2500-3.0000			B	1	1.03	1	1	1	9.063			
			C	1	1.03	1	1	1	9.063			
L69	0.00	0.10	A	1	1.03	1	1	1	1.012	0.01	0.03	C
3.0000-2.7500			B	1	1.03	1	1	1	1.012			
			C	1	1.03	1	1	1	1.012			
L70	0.03	1.10	A	1	1.03	1	1	1	11.194	0.08	0.03	C
2.7500-0.0000			B	1	1.03	1	1	1	11.194			
			C	1	1.03	1	1	1	11.194			
Sum Weight:	18.23	43.54						OTM	487.94 kip-ft	6.73		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.04	0.44	A	1	0.599	1	1	1	7.672	0.05	0.01	C
160.0000-155.			B	1	0.599	1	1	1	7.672			
0000			C	1	0.599	1	1	1	7.672			
L2	0.22	0.44	A	1	0.603	1	1	1	7.668	0.06	0.01	C
155.0000-150.			B	1	0.603	1	1	1	7.668			
0000			C	1	0.603	1	1	1	7.668			
L3	0.18	0.35	A	1	0.606	1	1	1	6.132	0.05	0.01	C
150.0000-146.			B	1	0.606	1	1	1	6.132			
0000			C	1	0.606	1	1	1	6.132			
L4	0.32	0.48	A	1	1.03	1	1	1	10.353	0.14	0.03	C
146.0000-141.			B	1	1.03	1	1	1	10.353			
0000			C	1	1.03	1	1	1	10.353			
L5	0.33	0.50	A	1	1.03	1	1	1	10.734	0.14	0.03	C
141.0000-136.			B	1	1.03	1	1	1	10.734			
0000			C	1	1.03	1	1	1	10.734			
L6	0.40	0.52	A	1	1.03	1	1	1	11.115	0.15	0.03	C
136.0000-131.			B	1	1.03	1	1	1	11.115			
0000			C	1	1.03	1	1	1	11.115			
L7	0.63	0.54	A	1	1.03	1	1	1	11.495	0.18	0.04	C
131.0000-126.			B	1	1.03	1	1	1	11.495			
0000			C	1	1.03	1	1	1	11.495			
L8	0.63	0.56	A	1	1.03	1	1	1	11.876	0.18	0.04	C
126.0000-121.			B	1	1.03	1	1	1	11.876			
0000			C	1	1.03	1	1	1	11.876			
L9	0.56	0.43	A	1	1.03	1	1	1	9.156	0.16	0.04	C
121.0000-117.			B	1	1.03	1	1	1	9.156			
2500			C	1	1.03	1	1	1	9.156			
L10	0.04	0.03	A	1	1.03	1	1	1	0.618	0.01	0.04	C
117.2500-117.			B	1	1.03	1	1	1	0.618			
0000			C	1	1.03	1	1	1	0.618			
L11	0.22	0.20	A	1	1.03	1	1	1	3.728	0.07	0.05	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
117.0000-115.5000			B	1	1.03	1	1	1	3.728			
			C	1	1.03	1	1	1	3.728			
L12	0.04	0.04	A	1	1.03	1	1	1	0.625	0.01	0.05	C
115.5000-115.2500			B	1	1.03	1	1	1	0.625			
			C	1	1.03	1	1	1	0.625			
L13	0.74	0.82	A	1	1.03	1	1	1	12.693	0.24	0.05	C
115.2500-110.2500			B	1	1.03	1	1	1	12.693			
			C	1	1.03	1	1	1	12.693			
L14	0.96	1.10	A	1	1.03	1	1	1	17.068	0.31	0.05	C
110.2500-103.7500			B	1	1.03	1	1	1	17.068			
			C	1	1.03	1	1	1	17.068			
L15	0.18	0.77	A	1	1.03	1	1	1	3.305	0.06	0.05	C
103.7500-102.5000			B	1	1.03	1	1	1	3.305			
			C	1	1.03	1	1	1	3.305			
L16	0.58	0.76	A	1	1.03	1	1	1	10.731	0.20	0.05	C
102.5000-98.5000			B	1	1.03	1	1	1	10.731			
			C	1	1.03	1	1	1	10.731			
L17	0.04	0.05	A	1	1.03	1	1	1	0.679	0.01	0.05	C
98.5000-98.2500			B	1	1.03	1	1	1	0.679			
			C	1	1.03	1	1	1	0.679			
L18	0.72	1.05	A	1	1.03	1	1	1	13.774	0.24	0.05	C
98.2500-93.2500			B	1	1.03	1	1	1	13.774			
			C	1	1.03	1	1	1	13.774			
L19	0.72	1.07	A	1	1.03	1	1	1	14.153	0.23	0.05	C
93.2500-88.2500			B	1	1.03	1	1	1	14.153			
			C	1	1.03	1	1	1	14.153			
L20	0.68	1.04	A	1	1.03	1	1	1	13.796	0.23	0.05	C
88.2500-83.5000			B	1	1.03	1	1	1	13.796			
			C	1	1.03	1	1	1	13.796			
L21	0.04	0.07	A	1	1.03	1	1	1	0.736	0.01	0.05	C
83.5000-83.2500			B	1	1.03	1	1	1	0.736			
			C	1	1.03	1	1	1	0.736			
L22	0.11	0.21	A	1	1.03	1	1	1	2.212	0.04	0.05	C
83.2500-82.5000			B	1	1.03	1	1	1	2.212			
			C	1	1.03	1	1	1	2.212			
L23	0.04	0.06	A	1	1.03	1	1	1	0.739	0.01	0.05	C
82.5000-82.2500			B	1	1.03	1	1	1	0.739			
			C	1	1.03	1	1	1	0.739			
L24	0.21	0.33	A	1	1.03	1	1	1	4.456	0.08	0.05	C
82.2500-80.7500			B	1	1.03	1	1	1	4.456			
			C	1	1.03	1	1	1	4.456			
L25	0.04	0.06	A	1	1.03	1	1	1	0.746	0.01	0.05	C
80.7500-80.5000			B	1	1.03	1	1	1	0.746			
			C	1	1.03	1	1	1	0.746			
L26	0.28	0.52	A	1	1.03	1	1	1	6.002	0.10	0.05	C
80.5000-78.5000			B	1	1.03	1	1	1	6.002			
			C	1	1.03	1	1	1	6.002			
L27	0.04	0.08	A	1	1.03	1	1	1	0.754	0.01	0.05	C
78.5000-78.2500			B	1	1.03	1	1	1	0.754			
			C	1	1.03	1	1	1	0.754			
L28	0.11	0.24	A	1	1.03	1	1	1	2.269	0.04	0.05	C
78.2500-77.5000			B	1	1.03	1	1	1	2.269			
			C	1	1.03	1	1	1	2.269			
L29	0.04	0.07	A	1	1.03	1	1	1	0.758	0.01	0.05	C
77.5000-77.2500			B	1	1.03	1	1	1	0.758			
			C	1	1.03	1	1	1	0.758			
L30	1.22	2.33	A	1	1.03	1	1	1	27.132	0.43	0.05	C
77.2500-68.5000			B	1	1.03	1	1	1	27.132			
			C	1	1.03	1	1	1	27.132			
L31	0.07	1.21	A	1	1.03	1	1	1	1.560	0.02	0.05	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
68.5000-68.00			B	1	1.03	1	1	1	1.560			
00			C	1	1.03	1	1	1	1.560			
L32	0.38	0.80	A	1	1.03	1	1	1	8.643	0.13	0.05	C
68.0000-65.25			B	1	1.03	1	1	1	8.643			
00			C	1	1.03	1	1	1	8.643			
L33	0.03	0.09	A	1	1.03	1	1	1	0.791	0.01	0.05	C
65.2500-65.00			B	1	1.03	1	1	1	0.791			
00			C	1	1.03	1	1	1	0.791			
L34	0.10	0.28	A	1	1.03	1	1	1	2.380	0.04	0.05	C
65.0000-64.25			B	1	1.03	1	1	1	2.380			
00			C	1	1.03	1	1	1	2.380			
L35	0.03	0.09	A	1	1.03	1	1	1	0.795	0.01	0.05	C
64.2500-64.00			B	1	1.03	1	1	1	0.795			
00			C	1	1.03	1	1	1	0.795			
L36	0.20	0.51	A	1	1.03	1	1	1	4.791	0.07	0.05	C
64.0000-62.50			B	1	1.03	1	1	1	4.791			
00			C	1	1.03	1	1	1	4.791			
L37	0.03	0.07	A	1	1.03	1	1	1	0.802	0.01	0.05	C
62.5000-62.25			B	1	1.03	1	1	1	0.802			
00			C	1	1.03	1	1	1	0.802			
L38	0.29	0.61	A	1	1.03	1	1	1	6.999	0.12	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.999			
00			C	1	1.03	1	1	1	6.999			
L39	0.03	0.07	A	1	1.03	1	1	1	0.811	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.811			
00			C	1	1.03	1	1	1	0.811			
L40	0.10	0.22	A	1	1.03	1	1	1	2.438	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.438			
00			C	1	1.03	1	1	1	2.438			
L41	0.03	0.08	A	1	1.03	1	1	1	0.815	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.815			
00			C	1	1.03	1	1	1	0.815			
L42	0.21	0.52	A	1	1.03	1	1	1	5.170	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	5.170			
00			C	1	1.03	1	1	1	5.170			
L43	0.03	0.10	A	1	1.03	1	1	1	0.821	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.821			
00			C	1	1.03	1	1	1	0.821			
L44	0.17	0.51	A	1	1.03	1	1	1	4.122	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	4.122			
00			C	1	1.03	1	1	1	4.122			
L45	0.03	0.08	A	1	1.03	1	1	1	0.827	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.827			
00			C	1	1.03	1	1	1	0.827			
L46	0.67	1.65	A	1	1.03	1	1	1	16.739	0.27	0.05	C
55.5000-50.50			B	1	1.03	1	1	1	16.739			
00			C	1	1.03	1	1	1	16.739			
L47	0.66	1.67	A	1	1.03	1	1	1	17.114	0.27	0.05	C
50.5000-45.50			B	1	1.03	1	1	1	17.114			
00			C	1	1.03	1	1	1	17.114			
L48	0.54	1.41	A	1	1.03	1	1	1	14.559	0.23	0.06	C
45.5000-41.33			B	1	1.03	1	1	1	14.559			
00			C	1	1.03	1	1	1	14.559			
L49	0.03	0.09	A	1	1.03	1	1	1	0.881	0.01	0.05	C
41.3300-41.08			B	1	1.03	1	1	1	0.881			
00			C	1	1.03	1	1	1	0.881			
L50	0.90	2.71	A	1	1.03	1	1	1	25.338	0.38	0.05	C
41.0800-34.00			B	1	1.03	1	1	1	25.338			
00			C	1	1.03	1	1	1	25.338			
L51	0.13	2.00	A	1	1.03	1	1	1	3.578	0.05	0.05	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
34.0000-33.00			B	1	1.03	1	1	1	3.578			
00			C	1	1.03	1	1	1	3.578			
L52	0.19	0.57	A	1	1.03	1	1	1	5.393	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.393			
00			C	1	1.03	1	1	1	5.393			
L53	0.03	0.10	A	1	1.03	1	1	1	0.902	0.01	0.04	C
31.5000-31.25			B	1	1.03	1	1	1	0.902			
00			C	1	1.03	1	1	1	0.902			
L54	0.09	0.29	A	1	1.03	1	1	1	2.712	0.03	0.04	C
31.2500-30.50			B	1	1.03	1	1	1	2.712			
00			C	1	1.03	1	1	1	2.712			
L55	0.03	0.10	A	1	1.03	1	1	1	0.906	0.01	0.04	C
30.5000-30.25			B	1	1.03	1	1	1	0.906			
00			C	1	1.03	1	1	1	0.906			
L56	0.22	0.70	A	1	1.03	1	1	1	6.369	0.07	0.04	C
30.2500-28.50			B	1	1.03	1	1	1	6.369			
00			C	1	1.03	1	1	1	6.369			
L57	0.03	0.12	A	1	1.03	1	1	1	0.914	0.01	0.04	C
28.5000-28.25			B	1	1.03	1	1	1	0.914			
00			C	1	1.03	1	1	1	0.914			
L58	0.31	1.16	A	1	1.03	1	1	1	9.190	0.11	0.04	C
28.2500-25.75			B	1	1.03	1	1	1	9.190			
00			C	1	1.03	1	1	1	9.190			
L59	0.03	0.10	A	1	1.03	1	1	1	0.924	0.01	0.04	C
25.7500-25.50			B	1	1.03	1	1	1	0.924			
00			C	1	1.03	1	1	1	0.924			
L60	0.62	1.92	A	1	1.03	1	1	1	18.688	0.22	0.04	C
25.5000-20.50			B	1	1.03	1	1	1	18.688			
00			C	1	1.03	1	1	1	18.688			
L61	0.62	1.94	A	1	1.03	1	1	1	19.073	0.22	0.04	C
20.5000-15.50			B	1	1.03	1	1	1	19.073			
00			C	1	1.03	1	1	1	19.073			
L62	0.18	0.60	A	1	1.03	1	1	1	5.487	0.06	0.04	C
15.5000-14.08			B	1	1.03	1	1	1	5.487			
00			C	1	1.03	1	1	1	5.487			
L63	0.03	0.10	A	1	1.03	1	1	1	1.008	0.01	0.04	C
14.0800-13.82			B	1	1.03	1	1	1	1.008			
00			C	1	1.03	1	1	1	1.008			
L64	0.02	0.06	A	1	1.03	1	1	1	0.582	0.01	0.04	C
13.8200-13.67			B	1	1.03	1	1	1	0.582			
00			C	1	1.03	1	1	1	0.582			
L65	0.39	1.34	A	1	1.03	1	1	1	12.381	0.14	0.04	C
13.6700-10.50			B	1	1.03	1	1	1	12.381			
00			C	1	1.03	1	1	1	12.381			
L66	0.03	0.10	A	1	1.03	1	1	1	0.983	0.01	0.04	C
10.5000-10.25			B	1	1.03	1	1	1	0.983			
00			C	1	1.03	1	1	1	0.983			
L67	0.31	1.96	A	1	1.03	1	1	1	19.862	0.19	0.04	C
10.2500-5.250			B	1	1.03	1	1	1	19.862			
0			C	1	1.03	1	1	1	19.862			
L68	0.03	1.23	A	1	1.03	1	1	1	9.063	0.07	0.03	C
5.2500-3.0000			B	1	1.03	1	1	1	9.063			
			C	1	1.03	1	1	1	9.063			
L69	0.00	0.10	A	1	1.03	1	1	1	1.012	0.01	0.03	C
3.0000-2.7500			B	1	1.03	1	1	1	1.012			
			C	1	1.03	1	1	1	1.012			
L70	0.03	1.10	A	1	1.03	1	1	1	11.194	0.08	0.03	C
2.7500-0.0000			B	1	1.03	1	1	1	11.194			
			C	1	1.03	1	1	1	11.194			
Sum Weight:	18.23	43.54						OTM	487.94	6.73		

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
									kip-ft			

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L1 160.0000-155.0000	0.04	0.44	A	1	0.599	1	1	1	7.672	0.05	0.01	C
			B	1	0.599	1	1	1	7.672			
			C	1	0.599	1	1	1	7.672			
L2 155.0000-150.0000	0.22	0.44	A	1	0.603	1	1	1	7.668	0.06	0.01	C
			B	1	0.603	1	1	1	7.668			
			C	1	0.603	1	1	1	7.668			
L3 150.0000-146.0000	0.18	0.35	A	1	0.606	1	1	1	6.132	0.05	0.01	C
			B	1	0.606	1	1	1	6.132			
			C	1	0.606	1	1	1	6.132			
L4 146.0000-141.0000	0.32	0.48	A	1	1.03	1	1	1	10.353	0.14	0.03	C
			B	1	1.03	1	1	1	10.353			
			C	1	1.03	1	1	1	10.353			
L5 141.0000-136.0000	0.33	0.50	A	1	1.03	1	1	1	10.734	0.14	0.03	C
			B	1	1.03	1	1	1	10.734			
			C	1	1.03	1	1	1	10.734			
L6 136.0000-131.0000	0.40	0.52	A	1	1.03	1	1	1	11.115	0.15	0.03	C
			B	1	1.03	1	1	1	11.115			
			C	1	1.03	1	1	1	11.115			
L7 131.0000-126.0000	0.63	0.54	A	1	1.03	1	1	1	11.495	0.18	0.04	C
			B	1	1.03	1	1	1	11.495			
			C	1	1.03	1	1	1	11.495			
L8 126.0000-121.0000	0.63	0.56	A	1	1.03	1	1	1	11.876	0.18	0.04	C
			B	1	1.03	1	1	1	11.876			
			C	1	1.03	1	1	1	11.876			
L9 121.0000-117.2500	0.56	0.43	A	1	1.03	1	1	1	9.156	0.16	0.04	C
			B	1	1.03	1	1	1	9.156			
			C	1	1.03	1	1	1	9.156			
L10 117.2500-117.0000	0.04	0.03	A	1	1.03	1	1	1	0.618	0.01	0.04	C
			B	1	1.03	1	1	1	0.618			
			C	1	1.03	1	1	1	0.618			
L11 117.0000-115.5000	0.22	0.20	A	1	1.03	1	1	1	3.728	0.07	0.05	C
			B	1	1.03	1	1	1	3.728			
			C	1	1.03	1	1	1	3.728			
L12 115.5000-115.2500	0.04	0.04	A	1	1.03	1	1	1	0.625	0.01	0.05	C
			B	1	1.03	1	1	1	0.625			
			C	1	1.03	1	1	1	0.625			
L13 115.2500-110.2500	0.74	0.82	A	1	1.03	1	1	1	12.693	0.24	0.05	C
			B	1	1.03	1	1	1	12.693			
			C	1	1.03	1	1	1	12.693			
L14 110.2500-103.7500	0.96	1.10	A	1	1.03	1	1	1	17.068	0.31	0.05	C
			B	1	1.03	1	1	1	17.068			
			C	1	1.03	1	1	1	17.068			
L15 103.7500-102.5000	0.18	0.77	A	1	1.03	1	1	1	3.305	0.06	0.05	C
			B	1	1.03	1	1	1	3.305			
			C	1	1.03	1	1	1	3.305			
L16 102.5000-98.5000	0.58	0.76	A	1	1.03	1	1	1	10.731	0.20	0.05	C
			B	1	1.03	1	1	1	10.731			
			C	1	1.03	1	1	1	10.731			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L17	0.04	0.05	A	1	1.03	1	1	1	0.679	0.01	0.05	C
98.5000-98.25			B	1	1.03	1	1	1	0.679			
00			C	1	1.03	1	1	1	0.679			
L18	0.72	1.05	A	1	1.03	1	1	1	13.774	0.24	0.05	C
98.2500-93.25			B	1	1.03	1	1	1	13.774			
00			C	1	1.03	1	1	1	13.774			
L19	0.72	1.07	A	1	1.03	1	1	1	14.153	0.23	0.05	C
93.2500-88.25			B	1	1.03	1	1	1	14.153			
00			C	1	1.03	1	1	1	14.153			
L20	0.68	1.04	A	1	1.03	1	1	1	13.796	0.23	0.05	C
88.2500-83.50			B	1	1.03	1	1	1	13.796			
00			C	1	1.03	1	1	1	13.796			
L21	0.04	0.07	A	1	1.03	1	1	1	0.736	0.01	0.05	C
83.5000-83.25			B	1	1.03	1	1	1	0.736			
00			C	1	1.03	1	1	1	0.736			
L22	0.11	0.21	A	1	1.03	1	1	1	2.212	0.04	0.05	C
83.2500-82.50			B	1	1.03	1	1	1	2.212			
00			C	1	1.03	1	1	1	2.212			
L23	0.04	0.06	A	1	1.03	1	1	1	0.739	0.01	0.05	C
82.5000-82.25			B	1	1.03	1	1	1	0.739			
00			C	1	1.03	1	1	1	0.739			
L24	0.21	0.33	A	1	1.03	1	1	1	4.456	0.08	0.05	C
82.2500-80.75			B	1	1.03	1	1	1	4.456			
00			C	1	1.03	1	1	1	4.456			
L25	0.04	0.06	A	1	1.03	1	1	1	0.746	0.01	0.05	C
80.7500-80.50			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L26	0.28	0.52	A	1	1.03	1	1	1	6.002	0.10	0.05	C
80.5000-78.50			B	1	1.03	1	1	1	6.002			
00			C	1	1.03	1	1	1	6.002			
L27	0.04	0.08	A	1	1.03	1	1	1	0.754	0.01	0.05	C
78.5000-78.25			B	1	1.03	1	1	1	0.754			
00			C	1	1.03	1	1	1	0.754			
L28	0.11	0.24	A	1	1.03	1	1	1	2.269	0.04	0.05	C
78.2500-77.50			B	1	1.03	1	1	1	2.269			
00			C	1	1.03	1	1	1	2.269			
L29	0.04	0.07	A	1	1.03	1	1	1	0.758	0.01	0.05	C
77.5000-77.25			B	1	1.03	1	1	1	0.758			
00			C	1	1.03	1	1	1	0.758			
L30	1.22	2.33	A	1	1.03	1	1	1	27.132	0.43	0.05	C
77.2500-68.50			B	1	1.03	1	1	1	27.132			
00			C	1	1.03	1	1	1	27.132			
L31	0.07	1.21	A	1	1.03	1	1	1	1.560	0.02	0.05	C
68.5000-68.00			B	1	1.03	1	1	1	1.560			
00			C	1	1.03	1	1	1	1.560			
L32	0.38	0.80	A	1	1.03	1	1	1	8.643	0.13	0.05	C
68.0000-65.25			B	1	1.03	1	1	1	8.643			
00			C	1	1.03	1	1	1	8.643			
L33	0.03	0.09	A	1	1.03	1	1	1	0.791	0.01	0.05	C
65.2500-65.00			B	1	1.03	1	1	1	0.791			
00			C	1	1.03	1	1	1	0.791			
L34	0.10	0.28	A	1	1.03	1	1	1	2.380	0.04	0.05	C
65.0000-64.25			B	1	1.03	1	1	1	2.380			
00			C	1	1.03	1	1	1	2.380			
L35	0.03	0.09	A	1	1.03	1	1	1	0.795	0.01	0.05	C
64.2500-64.00			B	1	1.03	1	1	1	0.795			
00			C	1	1.03	1	1	1	0.795			
L36	0.20	0.51	A	1	1.03	1	1	1	4.791	0.07	0.05	C
64.0000-62.50			B	1	1.03	1	1	1	4.791			
00			C	1	1.03	1	1	1	4.791			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L37	0.03	0.07	A	1	1.03	1	1	1	0.802	0.01	0.05	C
62.5000-62.25			B	1	1.03	1	1	1	0.802			
00			C	1	1.03	1	1	1	0.802			
L38	0.29	0.61	A	1	1.03	1	1	1	6.999	0.12	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.999			
00			C	1	1.03	1	1	1	6.999			
L39	0.03	0.07	A	1	1.03	1	1	1	0.811	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.811			
00			C	1	1.03	1	1	1	0.811			
L40	0.10	0.22	A	1	1.03	1	1	1	2.438	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.438			
00			C	1	1.03	1	1	1	2.438			
L41	0.03	0.08	A	1	1.03	1	1	1	0.815	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.815			
00			C	1	1.03	1	1	1	0.815			
L42	0.21	0.52	A	1	1.03	1	1	1	5.170	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	5.170			
00			C	1	1.03	1	1	1	5.170			
L43	0.03	0.10	A	1	1.03	1	1	1	0.821	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.821			
00			C	1	1.03	1	1	1	0.821			
L44	0.17	0.51	A	1	1.03	1	1	1	4.122	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	4.122			
00			C	1	1.03	1	1	1	4.122			
L45	0.03	0.08	A	1	1.03	1	1	1	0.827	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.827			
00			C	1	1.03	1	1	1	0.827			
L46	0.67	1.65	A	1	1.03	1	1	1	16.739	0.27	0.05	C
55.5000-50.50			B	1	1.03	1	1	1	16.739			
00			C	1	1.03	1	1	1	16.739			
L47	0.66	1.67	A	1	1.03	1	1	1	17.114	0.27	0.05	C
50.5000-45.50			B	1	1.03	1	1	1	17.114			
00			C	1	1.03	1	1	1	17.114			
L48	0.54	1.41	A	1	1.03	1	1	1	14.559	0.23	0.06	C
45.5000-41.33			B	1	1.03	1	1	1	14.559			
00			C	1	1.03	1	1	1	14.559			
L49	0.03	0.09	A	1	1.03	1	1	1	0.881	0.01	0.05	C
41.3300-41.08			B	1	1.03	1	1	1	0.881			
00			C	1	1.03	1	1	1	0.881			
L50	0.90	2.71	A	1	1.03	1	1	1	25.338	0.38	0.05	C
41.0800-34.00			B	1	1.03	1	1	1	25.338			
00			C	1	1.03	1	1	1	25.338			
L51	0.13	2.00	A	1	1.03	1	1	1	3.578	0.05	0.05	C
34.0000-33.00			B	1	1.03	1	1	1	3.578			
00			C	1	1.03	1	1	1	3.578			
L52	0.19	0.57	A	1	1.03	1	1	1	5.393	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.393			
00			C	1	1.03	1	1	1	5.393			
L53	0.03	0.10	A	1	1.03	1	1	1	0.902	0.01	0.04	C
31.5000-31.25			B	1	1.03	1	1	1	0.902			
00			C	1	1.03	1	1	1	0.902			
L54	0.09	0.29	A	1	1.03	1	1	1	2.712	0.03	0.04	C
31.2500-30.50			B	1	1.03	1	1	1	2.712			
00			C	1	1.03	1	1	1	2.712			
L55	0.03	0.10	A	1	1.03	1	1	1	0.906	0.01	0.04	C
30.5000-30.25			B	1	1.03	1	1	1	0.906			
00			C	1	1.03	1	1	1	0.906			
L56	0.22	0.70	A	1	1.03	1	1	1	6.369	0.07	0.04	C
30.2500-28.50			B	1	1.03	1	1	1	6.369			
00			C	1	1.03	1	1	1	6.369			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L57	0.03	0.12	A	1	1.03	1	1	1	0.914	0.01	0.04	C
28.5000-28.25			B	1	1.03	1	1	1	0.914			
00			C	1	1.03	1	1	1	0.914			
L58	0.31	1.16	A	1	1.03	1	1	1	9.190	0.11	0.04	C
28.2500-25.75			B	1	1.03	1	1	1	9.190			
00			C	1	1.03	1	1	1	9.190			
L59	0.03	0.10	A	1	1.03	1	1	1	0.924	0.01	0.04	C
25.7500-25.50			B	1	1.03	1	1	1	0.924			
00			C	1	1.03	1	1	1	0.924			
L60	0.62	1.92	A	1	1.03	1	1	1	18.688	0.22	0.04	C
25.5000-20.50			B	1	1.03	1	1	1	18.688			
00			C	1	1.03	1	1	1	18.688			
L61	0.62	1.94	A	1	1.03	1	1	1	19.073	0.22	0.04	C
20.5000-15.50			B	1	1.03	1	1	1	19.073			
00			C	1	1.03	1	1	1	19.073			
L62	0.18	0.60	A	1	1.03	1	1	1	5.487	0.06	0.04	C
15.5000-14.08			B	1	1.03	1	1	1	5.487			
00			C	1	1.03	1	1	1	5.487			
L63	0.03	0.10	A	1	1.03	1	1	1	1.008	0.01	0.04	C
14.0800-13.82			B	1	1.03	1	1	1	1.008			
00			C	1	1.03	1	1	1	1.008			
L64	0.02	0.06	A	1	1.03	1	1	1	0.582	0.01	0.04	C
13.8200-13.67			B	1	1.03	1	1	1	0.582			
00			C	1	1.03	1	1	1	0.582			
L65	0.39	1.34	A	1	1.03	1	1	1	12.381	0.14	0.04	C
13.6700-10.50			B	1	1.03	1	1	1	12.381			
00			C	1	1.03	1	1	1	12.381			
L66	0.03	0.10	A	1	1.03	1	1	1	0.983	0.01	0.04	C
10.5000-10.25			B	1	1.03	1	1	1	0.983			
00			C	1	1.03	1	1	1	0.983			
L67	0.31	1.96	A	1	1.03	1	1	1	19.862	0.19	0.04	C
10.2500-5.250			B	1	1.03	1	1	1	19.862			
0			C	1	1.03	1	1	1	19.862			
L68	0.03	1.23	A	1	1.03	1	1	1	9.063	0.07	0.03	C
5.2500-3.0000			B	1	1.03	1	1	1	9.063			
			C	1	1.03	1	1	1	9.063			
L69	0.00	0.10	A	1	1.03	1	1	1	1.012	0.01	0.03	C
3.0000-2.7500			B	1	1.03	1	1	1	1.012			
			C	1	1.03	1	1	1	1.012			
L70	0.03	1.10	A	1	1.03	1	1	1	11.194	0.08	0.03	C
2.7500-0.0000			B	1	1.03	1	1	1	11.194			
			C	1	1.03	1	1	1	11.194			
Sum Weight:	18.23	43.54						OTM	487.94 kip-ft	6.73		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.01	0.31	A	1	0.59	1	1	1	6.667	0.07	0.01	C
160.0000-155.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L2	0.03	0.31	A	1	0.59	1	1	1	6.667	0.08	0.02	C
155.0000-150.			B	1	0.59	1	1	1	6.667			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
0000			C	1	0.59	1	1	1	6.667			
L3	0.02	0.25	A	1	0.59	1	1	1	5.333	0.07	0.02	C
150.0000-146.			B	1	0.59	1	1	1	5.333			
0000			C	1	0.59	1	1	1	5.333			
L4	0.05	0.30	A	1	1.03	1	1	1	9.359	0.19	0.04	C
146.0000-141.			B	1	1.03	1	1	1	9.359			
0000			C	1	1.03	1	1	1	9.359			
L5	0.06	0.32	A	1	1.03	1	1	1	9.744	0.19	0.04	C
141.0000-136.			B	1	1.03	1	1	1	9.744			
0000			C	1	1.03	1	1	1	9.744			
L6	0.10	0.33	A	1	1.03	1	1	1	10.129	0.20	0.04	C
136.0000-131.			B	1	1.03	1	1	1	10.129			
0000			C	1	1.03	1	1	1	10.129			
L7	0.20	0.34	A	1	1.03	1	1	1	10.514	0.23	0.05	C
131.0000-126.			B	1	1.03	1	1	1	10.514			
0000			C	1	1.03	1	1	1	10.514			
L8	0.20	0.35	A	1	1.03	1	1	1	10.899	0.24	0.05	C
126.0000-121.			B	1	1.03	1	1	1	10.899			
0000			C	1	1.03	1	1	1	10.899			
L9	0.16	0.27	A	1	1.03	1	1	1	8.427	0.18	0.05	C
121.0000-117.			B	1	1.03	1	1	1	8.427			
2500			C	1	1.03	1	1	1	8.427			
L10	0.01	0.02	A	1	1.03	1	1	1	0.570	0.01	0.05	C
117.2500-117.			B	1	1.03	1	1	1	0.570			
0000			C	1	1.03	1	1	1	0.570			
L11	0.06	0.13	A	1	1.03	1	1	1	3.437	0.08	0.05	C
117.0000-115.			B	1	1.03	1	1	1	3.437			
5000			C	1	1.03	1	1	1	3.437			
L12	0.01	0.03	A	1	1.03	1	1	1	0.576	0.01	0.05	C
115.5000-115.			B	1	1.03	1	1	1	0.576			
2500			C	1	1.03	1	1	1	0.576			
L13	0.22	0.61	A	1	1.03	1	1	1	11.727	0.26	0.05	C
115.2500-110.			B	1	1.03	1	1	1	11.727			
2500			C	1	1.03	1	1	1	11.727			
L14	0.28	0.82	A	1	1.03	1	1	1	15.821	0.34	0.05	C
110.2500-103.			B	1	1.03	1	1	1	15.821			
7500			C	1	1.03	1	1	1	15.821			
L15	0.05	0.72	A	1	1.03	1	1	1	3.065	0.06	0.05	C
103.7500-102.			B	1	1.03	1	1	1	3.065			
5000			C	1	1.03	1	1	1	3.065			
L16	0.17	0.59	A	1	1.03	1	1	1	9.969	0.21	0.05	C
102.5000-98.5			B	1	1.03	1	1	1	9.969			
000			C	1	1.03	1	1	1	9.969			
L17	0.01	0.04	A	1	1.03	1	1	1	0.631	0.01	0.05	C
98.5000-98.25			B	1	1.03	1	1	1	0.631			
00			C	1	1.03	1	1	1	0.631			
L18	0.22	0.82	A	1	1.03	1	1	1	12.827	0.26	0.05	C
98.2500-93.25			B	1	1.03	1	1	1	12.827			
00			C	1	1.03	1	1	1	12.827			
L19	0.22	0.84	A	1	1.03	1	1	1	13.212	0.26	0.05	C
93.2500-88.25			B	1	1.03	1	1	1	13.212			
00			C	1	1.03	1	1	1	13.212			
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.26	0.05	C
88.2500-83.50			B	1	1.03	1	1	1	12.908			
00			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.01	0.06	C
83.5000-83.25			B	1	1.03	1	1	1	0.689			
00			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.04	0.06	C
83.2500-82.50			B	1	1.03	1	1	1	2.073			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.01	0.06	C
82.5000-82.25			B	1	1.03	1	1	1	0.693			
00			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.08	0.06	C
82.2500-80.75			B	1	1.03	1	1	1	4.177			
00			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.01	0.06	C
80.7500-80.50			B	1	1.03	1	1	1	0.700			
00			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.11	0.06	C
80.5000-78.50			B	1	1.03	1	1	1	5.631			
00			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.01	0.06	C
78.5000-78.25			B	1	1.03	1	1	1	0.708			
00			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.04	0.06	C
78.2500-77.50			B	1	1.03	1	1	1	2.130			
00			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.01	0.06	C
77.5000-77.25			B	1	1.03	1	1	1	0.712			
00			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	0.49	0.06	C
77.2500-68.50			B	1	1.03	1	1	1	25.529			
00			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.03	0.06	C
68.5000-68.00			B	1	1.03	1	1	1	1.468			
00			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.15	0.06	C
68.0000-65.25			B	1	1.03	1	1	1	8.145			
00			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.01	0.06	C
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.04	0.06	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.01	0.06	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.08	0.06	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.01	0.06	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.13	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.28	0.06	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.28	0.06	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.24	0.06	C
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.01	0.06	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	0.40	0.06	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.05	0.05	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.01	0.05	C
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.04	0.05	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.01	0.05	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.09	0.05	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.01	0.05	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.13	0.05	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.01	0.05	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.27	0.05	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.27	0.05	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.08	0.06	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.01	0.06	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.01	0.06	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.18	0.06	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.01	0.06	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.26	0.05	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.11	0.05	C
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.01	0.05	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.13	0.05	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	565.41 kip-ft	7.80		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.01	0.31	A	1	0.59	1	1	1	6.667	0.07	0.01	C
160.0000-155.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L2	0.03	0.31	A	1	0.59	1	1	1	6.667	0.08	0.02	C
155.0000-150.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L3	0.02	0.25	A	1	0.59	1	1	1	5.333	0.07	0.02	C
150.0000-146.			B	1	0.59	1	1	1	5.333			
0000			C	1	0.59	1	1	1	5.333			
L4	0.05	0.30	A	1	1.03	1	1	1	9.359	0.19	0.04	C
146.0000-141.			B	1	1.03	1	1	1	9.359			
0000			C	1	1.03	1	1	1	9.359			
L5	0.06	0.32	A	1	1.03	1	1	1	9.744	0.19	0.04	C
141.0000-136.			B	1	1.03	1	1	1	9.744			
0000			C	1	1.03	1	1	1	9.744			
L6	0.10	0.33	A	1	1.03	1	1	1	10.129	0.20	0.04	C
136.0000-131.			B	1	1.03	1	1	1	10.129			
0000			C	1	1.03	1	1	1	10.129			
L7	0.20	0.34	A	1	1.03	1	1	1	10.514	0.23	0.05	C
131.0000-126.			B	1	1.03	1	1	1	10.514			
0000			C	1	1.03	1	1	1	10.514			
L8	0.20	0.35	A	1	1.03	1	1	1	10.899	0.24	0.05	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
126.0000-121.0000			B	1	1.03	1	1	1	10.899			
			C	1	1.03	1	1	1	10.899			
L9	0.16	0.27	A	1	1.03	1	1	1	8.427	0.18	0.05	C
121.0000-117.2500			B	1	1.03	1	1	1	8.427			
			C	1	1.03	1	1	1	8.427			
L10	0.01	0.02	A	1	1.03	1	1	1	0.570	0.01	0.05	C
117.2500-117.0000			B	1	1.03	1	1	1	0.570			
			C	1	1.03	1	1	1	0.570			
L11	0.06	0.13	A	1	1.03	1	1	1	3.437	0.08	0.05	C
117.0000-115.5000			B	1	1.03	1	1	1	3.437			
			C	1	1.03	1	1	1	3.437			
L12	0.01	0.03	A	1	1.03	1	1	1	0.576	0.01	0.05	C
115.5000-115.2500			B	1	1.03	1	1	1	0.576			
			C	1	1.03	1	1	1	0.576			
L13	0.22	0.61	A	1	1.03	1	1	1	11.727	0.26	0.05	C
115.2500-110.2500			B	1	1.03	1	1	1	11.727			
			C	1	1.03	1	1	1	11.727			
L14	0.28	0.82	A	1	1.03	1	1	1	15.821	0.34	0.05	C
110.2500-103.7500			B	1	1.03	1	1	1	15.821			
			C	1	1.03	1	1	1	15.821			
L15	0.05	0.72	A	1	1.03	1	1	1	3.065	0.06	0.05	C
103.7500-102.5000			B	1	1.03	1	1	1	3.065			
			C	1	1.03	1	1	1	3.065			
L16	0.17	0.59	A	1	1.03	1	1	1	9.969	0.21	0.05	C
102.5000-98.5000			B	1	1.03	1	1	1	9.969			
			C	1	1.03	1	1	1	9.969			
L17	0.01	0.04	A	1	1.03	1	1	1	0.631	0.01	0.05	C
98.5000-98.2500			B	1	1.03	1	1	1	0.631			
			C	1	1.03	1	1	1	0.631			
L18	0.22	0.82	A	1	1.03	1	1	1	12.827	0.26	0.05	C
98.2500-93.2500			B	1	1.03	1	1	1	12.827			
			C	1	1.03	1	1	1	12.827			
L19	0.22	0.84	A	1	1.03	1	1	1	13.212	0.26	0.05	C
93.2500-88.2500			B	1	1.03	1	1	1	13.212			
			C	1	1.03	1	1	1	13.212			
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.26	0.05	C
88.2500-83.5000			B	1	1.03	1	1	1	12.908			
			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.01	0.06	C
83.5000-83.2500			B	1	1.03	1	1	1	0.689			
			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.04	0.06	C
83.2500-82.5000			B	1	1.03	1	1	1	2.073			
			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.01	0.06	C
82.5000-82.2500			B	1	1.03	1	1	1	0.693			
			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.08	0.06	C
82.2500-80.7500			B	1	1.03	1	1	1	4.177			
			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.01	0.06	C
80.7500-80.5000			B	1	1.03	1	1	1	0.700			
			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.11	0.06	C
80.5000-78.5000			B	1	1.03	1	1	1	5.631			
			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.01	0.06	C
78.5000-78.2500			B	1	1.03	1	1	1	0.708			
			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.04	0.06	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
78.2500-77.50			B	1	1.03	1	1	1	2.130			
00			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.01	0.06	C
77.5000-77.25			B	1	1.03	1	1	1	0.712			
00			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	0.49	0.06	C
77.2500-68.50			B	1	1.03	1	1	1	25.529			
00			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.03	0.06	C
68.5000-68.00			B	1	1.03	1	1	1	1.468			
00			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.15	0.06	C
68.0000-65.25			B	1	1.03	1	1	1	8.145			
00			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.01	0.06	C
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.04	0.06	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.01	0.06	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.08	0.06	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.01	0.06	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.13	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.28	0.06	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.28	0.06	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.24	0.06	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.01	0.06	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	0.40	0.06	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.05	0.05	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.01	0.05	C
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.04	0.05	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.01	0.05	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.09	0.05	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.01	0.05	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.13	0.05	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.01	0.05	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.27	0.05	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.27	0.05	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.08	0.06	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.01	0.06	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.01	0.06	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.18	0.06	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.01	0.06	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.26	0.05	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.11	0.05	C

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.01	0.05	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.13	0.05	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	565.41 kip-ft	7.80		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.01	0.31	A	1	0.59	1	1	1	6.667	0.07	0.01	C
160.0000-155.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L2	0.03	0.31	A	1	0.59	1	1	1	6.667	0.08	0.02	C
155.0000-150.			B	1	0.59	1	1	1	6.667			
0000			C	1	0.59	1	1	1	6.667			
L3	0.02	0.25	A	1	0.59	1	1	1	5.333	0.07	0.02	C
150.0000-146.			B	1	0.59	1	1	1	5.333			
0000			C	1	0.59	1	1	1	5.333			
L4	0.05	0.30	A	1	1.03	1	1	1	9.359	0.19	0.04	C
146.0000-141.			B	1	1.03	1	1	1	9.359			
0000			C	1	1.03	1	1	1	9.359			
L5	0.06	0.32	A	1	1.03	1	1	1	9.744	0.19	0.04	C
141.0000-136.			B	1	1.03	1	1	1	9.744			
0000			C	1	1.03	1	1	1	9.744			
L6	0.10	0.33	A	1	1.03	1	1	1	10.129	0.20	0.04	C
136.0000-131.			B	1	1.03	1	1	1	10.129			
0000			C	1	1.03	1	1	1	10.129			
L7	0.20	0.34	A	1	1.03	1	1	1	10.514	0.23	0.05	C
131.0000-126.			B	1	1.03	1	1	1	10.514			
0000			C	1	1.03	1	1	1	10.514			
L8	0.20	0.35	A	1	1.03	1	1	1	10.899	0.24	0.05	C
126.0000-121.			B	1	1.03	1	1	1	10.899			
0000			C	1	1.03	1	1	1	10.899			
L9	0.16	0.27	A	1	1.03	1	1	1	8.427	0.18	0.05	C
121.0000-117.			B	1	1.03	1	1	1	8.427			
2500			C	1	1.03	1	1	1	8.427			
L10	0.01	0.02	A	1	1.03	1	1	1	0.570	0.01	0.05	C
117.2500-117.			B	1	1.03	1	1	1	0.570			
0000			C	1	1.03	1	1	1	0.570			
L11	0.06	0.13	A	1	1.03	1	1	1	3.437	0.08	0.05	C
117.0000-115.			B	1	1.03	1	1	1	3.437			
5000			C	1	1.03	1	1	1	3.437			
L12	0.01	0.03	A	1	1.03	1	1	1	0.576	0.01	0.05	C
115.5000-115.			B	1	1.03	1	1	1	0.576			
2500			C	1	1.03	1	1	1	0.576			
L13	0.22	0.61	A	1	1.03	1	1	1	11.727	0.26	0.05	C
115.2500-110.			B	1	1.03	1	1	1	11.727			
2500			C	1	1.03	1	1	1	11.727			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft^2	F K	w klf	Ctrl. Face
L14	0.28	0.82	A	1	1.03	1	1	1	15.821	0.34	0.05	C
110.2500-103.			B	1	1.03	1	1	1	15.821			
7500			C	1	1.03	1	1	1	15.821			
L15	0.05	0.72	A	1	1.03	1	1	1	3.065	0.06	0.05	C
103.7500-102.			B	1	1.03	1	1	1	3.065			
5000			C	1	1.03	1	1	1	3.065			
L16	0.17	0.59	A	1	1.03	1	1	1	9.969	0.21	0.05	C
102.5000-98.5			B	1	1.03	1	1	1	9.969			
000			C	1	1.03	1	1	1	9.969			
L17	0.01	0.04	A	1	1.03	1	1	1	0.631	0.01	0.05	C
98.5000-98.25			B	1	1.03	1	1	1	0.631			
00			C	1	1.03	1	1	1	0.631			
L18	0.22	0.82	A	1	1.03	1	1	1	12.827	0.26	0.05	C
98.2500-93.25			B	1	1.03	1	1	1	12.827			
00			C	1	1.03	1	1	1	12.827			
L19	0.22	0.84	A	1	1.03	1	1	1	13.212	0.26	0.05	C
93.2500-88.25			B	1	1.03	1	1	1	13.212			
00			C	1	1.03	1	1	1	13.212			
L20	0.21	0.81	A	1	1.03	1	1	1	12.908	0.26	0.05	C
88.2500-83.50			B	1	1.03	1	1	1	12.908			
00			C	1	1.03	1	1	1	12.908			
L21	0.01	0.06	A	1	1.03	1	1	1	0.689	0.01	0.06	C
83.5000-83.25			B	1	1.03	1	1	1	0.689			
00			C	1	1.03	1	1	1	0.689			
L22	0.03	0.18	A	1	1.03	1	1	1	2.073	0.04	0.06	C
83.2500-82.50			B	1	1.03	1	1	1	2.073			
00			C	1	1.03	1	1	1	2.073			
L23	0.01	0.04	A	1	1.03	1	1	1	0.693	0.01	0.06	C
82.5000-82.25			B	1	1.03	1	1	1	0.693			
00			C	1	1.03	1	1	1	0.693			
L24	0.06	0.26	A	1	1.03	1	1	1	4.177	0.08	0.06	C
82.2500-80.75			B	1	1.03	1	1	1	4.177			
00			C	1	1.03	1	1	1	4.177			
L25	0.01	0.05	A	1	1.03	1	1	1	0.700	0.01	0.06	C
80.7500-80.50			B	1	1.03	1	1	1	0.700			
00			C	1	1.03	1	1	1	0.700			
L26	0.09	0.42	A	1	1.03	1	1	1	5.631	0.11	0.06	C
80.5000-78.50			B	1	1.03	1	1	1	5.631			
00			C	1	1.03	1	1	1	5.631			
L27	0.01	0.07	A	1	1.03	1	1	1	0.708	0.01	0.06	C
78.5000-78.25			B	1	1.03	1	1	1	0.708			
00			C	1	1.03	1	1	1	0.708			
L28	0.03	0.21	A	1	1.03	1	1	1	2.130	0.04	0.06	C
78.2500-77.50			B	1	1.03	1	1	1	2.130			
00			C	1	1.03	1	1	1	2.130			
L29	0.01	0.05	A	1	1.03	1	1	1	0.712	0.01	0.06	C
77.5000-77.25			B	1	1.03	1	1	1	0.712			
00			C	1	1.03	1	1	1	0.712			
L30	0.38	1.89	A	1	1.03	1	1	1	25.529	0.49	0.06	C
77.2500-68.50			B	1	1.03	1	1	1	25.529			
00			C	1	1.03	1	1	1	25.529			
L31	0.02	1.19	A	1	1.03	1	1	1	1.468	0.03	0.06	C
68.5000-68.00			B	1	1.03	1	1	1	1.468			
00			C	1	1.03	1	1	1	1.468			
L32	0.12	0.66	A	1	1.03	1	1	1	8.145	0.15	0.06	C
68.0000-65.25			B	1	1.03	1	1	1	8.145			
00			C	1	1.03	1	1	1	8.145			
L33	0.01	0.08	A	1	1.03	1	1	1	0.746	0.01	0.06	C
65.2500-65.00			B	1	1.03	1	1	1	0.746			
00			C	1	1.03	1	1	1	0.746			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L34	0.03	0.24	A	1	1.03	1	1	1	2.244	0.04	0.06	C
65.0000-64.25			B	1	1.03	1	1	1	2.244			
00			C	1	1.03	1	1	1	2.244			
L35	0.01	0.07	A	1	1.03	1	1	1	0.750	0.01	0.06	C
64.2500-64.00			B	1	1.03	1	1	1	0.750			
00			C	1	1.03	1	1	1	0.750			
L36	0.06	0.44	A	1	1.03	1	1	1	4.521	0.08	0.06	C
64.0000-62.50			B	1	1.03	1	1	1	4.521			
00			C	1	1.03	1	1	1	4.521			
L37	0.01	0.06	A	1	1.03	1	1	1	0.757	0.01	0.06	C
62.5000-62.25			B	1	1.03	1	1	1	0.757			
00			C	1	1.03	1	1	1	0.757			
L38	0.09	0.50	A	1	1.03	1	1	1	6.609	0.13	0.06	C
62.2500-60.08			B	1	1.03	1	1	1	6.609			
00			C	1	1.03	1	1	1	6.609			
L39	0.01	0.06	A	1	1.03	1	1	1	0.766	0.01	0.06	C
60.0800-59.83			B	1	1.03	1	1	1	0.766			
00			C	1	1.03	1	1	1	0.766			
L40	0.03	0.19	A	1	1.03	1	1	1	2.304	0.04	0.06	C
59.8300-59.08			B	1	1.03	1	1	1	2.304			
00			C	1	1.03	1	1	1	2.304			
L41	0.01	0.07	A	1	1.03	1	1	1	0.770	0.01	0.06	C
59.0800-58.83			B	1	1.03	1	1	1	0.770			
00			C	1	1.03	1	1	1	0.770			
L42	0.07	0.44	A	1	1.03	1	1	1	4.888	0.09	0.06	C
58.8300-57.25			B	1	1.03	1	1	1	4.888			
00			C	1	1.03	1	1	1	4.888			
L43	0.01	0.09	A	1	1.03	1	1	1	0.777	0.01	0.06	C
57.2500-57.00			B	1	1.03	1	1	1	0.777			
00			C	1	1.03	1	1	1	0.777			
L44	0.05	0.45	A	1	1.03	1	1	1	3.899	0.07	0.06	C
57.0000-55.75			B	1	1.03	1	1	1	3.899			
00			C	1	1.03	1	1	1	3.899			
L45	0.01	0.07	A	1	1.03	1	1	1	0.783	0.01	0.06	C
55.7500-55.50			B	1	1.03	1	1	1	0.783			
00			C	1	1.03	1	1	1	0.783			
L46	0.22	1.39	A	1	1.03	1	1	1	15.857	0.28	0.06	C
55.5000-50.50			B	1	1.03	1	1	1	15.857			
00			C	1	1.03	1	1	1	15.857			
L47	0.22	1.41	A	1	1.03	1	1	1	16.242	0.28	0.06	C
50.5000-45.50			B	1	1.03	1	1	1	16.242			
00			C	1	1.03	1	1	1	16.242			
L48	0.18	1.19	A	1	1.03	1	1	1	13.840	0.24	0.06	C
45.5000-41.33			B	1	1.03	1	1	1	13.840			
00			C	1	1.03	1	1	1	13.840			
L49	0.01	0.08	A	1	1.03	1	1	1	0.838	0.01	0.06	C
41.3300-41.08			B	1	1.03	1	1	1	0.838			
00			C	1	1.03	1	1	1	0.838			
L50	0.31	2.33	A	1	1.03	1	1	1	24.139	0.40	0.06	C
41.0800-34.00			B	1	1.03	1	1	1	24.139			
00			C	1	1.03	1	1	1	24.139			
L51	0.04	1.94	A	1	1.03	1	1	1	3.409	0.05	0.05	C
34.0000-33.00			B	1	1.03	1	1	1	3.409			
00			C	1	1.03	1	1	1	3.409			
L52	0.06	0.49	A	1	1.03	1	1	1	5.143	0.08	0.05	C
33.0000-31.50			B	1	1.03	1	1	1	5.143			
00			C	1	1.03	1	1	1	5.143			
L53	0.01	0.08	A	1	1.03	1	1	1	0.860	0.01	0.05	C
31.5000-31.25			B	1	1.03	1	1	1	0.860			
00			C	1	1.03	1	1	1	0.860			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	R_R	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L54	0.03	0.25	A	1	1.03	1	1	1	2.587	0.04	0.05	C
31.2500-30.50			B	1	1.03	1	1	1	2.587			
00			C	1	1.03	1	1	1	2.587			
L55	0.01	0.09	A	1	1.03	1	1	1	0.864	0.01	0.05	C
30.5000-30.25			B	1	1.03	1	1	1	0.864			
00			C	1	1.03	1	1	1	0.864			
L56	0.08	0.61	A	1	1.03	1	1	1	6.077	0.09	0.05	C
30.2500-28.50			B	1	1.03	1	1	1	6.077			
00			C	1	1.03	1	1	1	6.077			
L57	0.01	0.10	A	1	1.03	1	1	1	0.872	0.01	0.05	C
28.5000-28.25			B	1	1.03	1	1	1	0.872			
00			C	1	1.03	1	1	1	0.872			
L58	0.11	1.02	A	1	1.03	1	1	1	8.773	0.13	0.05	C
28.2500-25.75			B	1	1.03	1	1	1	8.773			
00			C	1	1.03	1	1	1	8.773			
L59	0.01	0.08	A	1	1.03	1	1	1	0.883	0.01	0.05	C
25.7500-25.50			B	1	1.03	1	1	1	0.883			
00			C	1	1.03	1	1	1	0.883			
L60	0.22	1.64	A	1	1.03	1	1	1	17.854	0.27	0.05	C
25.5000-20.50			B	1	1.03	1	1	1	17.854			
00			C	1	1.03	1	1	1	17.854			
L61	0.22	1.66	A	1	1.03	1	1	1	18.239	0.27	0.05	C
20.5000-15.50			B	1	1.03	1	1	1	18.239			
00			C	1	1.03	1	1	1	18.239			
L62	0.06	0.52	A	1	1.03	1	1	1	5.250	0.08	0.06	C
15.5000-14.08			B	1	1.03	1	1	1	5.250			
00			C	1	1.03	1	1	1	5.250			
L63	0.01	0.09	A	1	1.03	1	1	1	0.965	0.01	0.06	C
14.0800-13.82			B	1	1.03	1	1	1	0.965			
00			C	1	1.03	1	1	1	0.965			
L64	0.01	0.05	A	1	1.03	1	1	1	0.557	0.01	0.06	C
13.8200-13.67			B	1	1.03	1	1	1	0.557			
00			C	1	1.03	1	1	1	0.557			
L65	0.14	1.16	A	1	1.03	1	1	1	11.852	0.18	0.06	C
13.6700-10.50			B	1	1.03	1	1	1	11.852			
00			C	1	1.03	1	1	1	11.852			
L66	0.01	0.08	A	1	1.03	1	1	1	0.941	0.01	0.06	C
10.5000-10.25			B	1	1.03	1	1	1	0.941			
00			C	1	1.03	1	1	1	0.941			
L67	0.11	1.67	A	1	1.03	1	1	1	19.028	0.26	0.05	C
10.2500-5.250			B	1	1.03	1	1	1	19.028			
0			C	1	1.03	1	1	1	19.028			
L68	0.01	1.09	A	1	1.03	1	1	1	8.688	0.11	0.05	C
5.2500-3.0000			B	1	1.03	1	1	1	8.688			
			C	1	1.03	1	1	1	8.688			
L69	0.00	0.08	A	1	1.03	1	1	1	0.970	0.01	0.05	C
3.0000-2.7500			B	1	1.03	1	1	1	0.970			
			C	1	1.03	1	1	1	0.970			
L70	0.02	0.94	A	1	1.03	1	1	1	10.736	0.13	0.05	C
2.7500-0.0000			B	1	1.03	1	1	1	10.736			
			C	1	1.03	1	1	1	10.736			
Sum Weight:	5.60	36.14						OTM	565.41 kip-ft	7.80		

Discrete Appurtenance Pressures - No Ice $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
SBNH-1D6565C w/ Mount Pipe	0.00	0.10	2.00	-1.67	157.0000	1.561	0.03	11.6828	9.8418
SBNH-1D6565C w/ Mount Pipe	0.00	0.10	-2.00	-1.67	157.0000	1.561	0.03	11.6828	9.8418
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.07	0.44	2.57	157.0000	1.561	0.03	8.4975	6.3042
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.07	2.44	-0.90	157.0000	1.561	0.03	8.4975	6.3042
SBNH-1D6565C w/ Mount Pipe	240.00	0.10	-2.44	-0.90	157.0000	1.561	0.03	11.6828	9.8418
SBNH-1D6565C w/ Mount Pipe	240.00	0.10	-0.44	2.57	157.0000	1.561	0.03	11.6828	9.8418
DTMABP7819VG12A	0.00	0.02	0.00	-1.67	157.0000	1.561	0.03	1.1389	0.3907
DTMABP7819VG12A	120.00	0.02	1.44	0.83	157.0000	1.561	0.03	1.1389	0.3907
DTMABP7819VG12A	240.00	0.02	-1.44	0.83	157.0000	1.561	0.03	1.1389	0.3907
RRUS 11 B2	0.00	0.05	0.00	-1.67	153.0000	1.550	0.03	3.3056	1.3611
RRUS 11 B2	120.00	0.05	1.44	0.83	153.0000	1.550	0.03	3.3056	1.3611
RRUS 11 B2	240.00	0.05	-1.44	0.83	153.0000	1.550	0.03	3.3056	1.3611
RRUS 11 B12	0.00	0.05	0.00	-1.67	153.0000	1.550	0.03	3.3056	1.3611
RRUS 11 B12	120.00	0.05	1.44	0.83	153.0000	1.550	0.03	3.3056	1.3611
RRUS 11 B12	240.00	0.05	-1.44	0.83	153.0000	1.550	0.03	3.3056	1.3611
DC6-48-60-18-8F	0.00	0.03	0.00	-1.17	157.0000	1.561	0.03	2.5667	4.3167
T-Arm Mount [TA 703-3]	0.00	0.45	0.00	0.00	156.0000	1.559	0.03	14.2000	14.2000
PCS 1900MHz 4x45W-65MHz	0.00	0.12	0.00	-1.67	148.0000	1.535	0.03	5.4174	5.2222
PCS 1900MHz 4x45W-65MHz	120.00	0.12	1.44	0.83	148.0000	1.535	0.03	5.4174	5.2222
PCS 1900MHz 4x45W-65MHz	240.00	0.12	-1.44	0.83	148.0000	1.535	0.03	5.4174	5.2222
800MHz 2X50W RRH W/FILTER	0.00	0.06	0.00	-1.67	148.0000	1.535	0.03	2.4014	2.2536
800MHz 2X50W RRH W/FILTER	120.00	0.06	1.44	0.83	148.0000	1.535	0.03	2.4014	2.2536
800MHz 2X50W RRH W/FILTER	240.00	0.06	-1.44	0.83	148.0000	1.535	0.03	2.4014	2.2536
Side Arm Mount [SO 103-3]	0.00	0.22	0.00	0.00	148.0000	1.535	0.03	9.5000	9.5000
APXV9ERR18-C-A20 w/ Mount Pipe	0.00	0.09	0.00	-4.67	147.0000	1.532	0.03	8.4975	7.4708
APXVSPP18-C-A20 w/ Mount Pipe	120.00	0.08	4.04	2.33	147.0000	1.532	0.03	8.4975	6.9458
APXVSPP18-C-A20 w/ Mount Pipe	240.00	0.08	-4.04	2.33	147.0000	1.532	0.03	8.4975	6.9458
APXVTM14-C-120 w/ Mount Pipe	0.00	0.08	0.00	-4.67	147.0000	1.532	0.03	7.1342	4.9591
APXVTM14-C-120 w/ Mount Pipe	120.00	0.08	4.04	2.33	147.0000	1.532	0.03	7.1342	4.9591
APXVTM14-C-120 w/ Mount Pipe	240.00	0.08	-4.04	2.33	147.0000	1.532	0.03	7.1342	4.9591
IBC1900BB-1	0.00	0.02	0.00	-4.67	147.0000	1.532	0.03	1.1270	0.5329
IBC1900BB-1	120.00	0.02	4.04	2.33	147.0000	1.532	0.03	1.1270	0.5329
IBC1900BB-1	240.00	0.02	-4.04	2.33	147.0000	1.532	0.03	1.1270	0.5329
IBC1900HG-2A	0.00	0.02	0.00	-4.67	147.0000	1.532	0.03	1.1270	0.5329
IBC1900HG-2A	120.00	0.02	4.04	2.33	147.0000	1.532	0.03	1.1270	0.5329
IBC1900HG-2A	240.00	0.02	-4.04	2.33	147.0000	1.532	0.03	1.1270	0.5329
TD-RRH8x20-25	0.00	0.07	0.00	-4.67	147.0000	1.532	0.03	4.7198	1.7001
TD-RRH8x20-25	120.00	0.07	4.04	2.33	147.0000	1.532	0.03	4.7198	1.7001
TD-RRH8x20-25	240.00	0.07	-4.04	2.33	147.0000	1.532	0.03	4.7198	1.7001
6' x 2.375" Pipe Mount	0.00	0.02	0.00	-4.67	147.0000	1.532	0.03	1.4250	1.4250
6' x 2.375" Pipe Mount	120.00	0.02	4.04	2.33	147.0000	1.532	0.03	1.4250	1.4250

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
6' x 2.375" Pipe Mount	240.00	0.02	-4.04	2.33	147.0000	1.532	0.03	1.4250	1.4250
Platform Mount [LP 712-1]	0.00	1.34	0.00	0.00	146.0000	1.529	0.03	24.5300	24.5300
APXV18-206517S-C	30.00	0.03	0.00	-2.97	139.0000	1.508	0.02	5.1667	3.0375
APXV18-206517S-C	150.00	0.03	2.57	1.49	139.0000	1.508	0.02	5.1667	3.0375
APXV18-206517S-C	270.00	0.03	-2.57	1.49	139.0000	1.508	0.02	5.1667	3.0375
Pipe Mount [PM 501-3]	0.00	0.16	0.00	0.00	139.0000	1.508	0.02	5.7800	5.7800
BXA-80080-6CF-EDIN-X w/ Mount Pipe	0.00	0.04	0.00	-5.02	134.0000	1.492	0.02	6.0062	6.2035
BXA-80080-6CF-EDIN-X w/ Mount Pipe	120.00	0.04	4.35	2.51	134.0000	1.492	0.02	6.0062	6.2035
BXA-80080-6CF-EDIN-X w/ Mount Pipe	240.00	0.04	-4.35	2.51	134.0000	1.492	0.02	6.0062	6.2035
BXA-70063/6CFx2 w/ Mount Pipe	0.00	0.04	0.00	-5.02	133.0000	1.489	0.02	7.9686	5.3981
BXA-70063/6CFx2 w/ Mount Pipe	120.00	0.04	4.35	2.51	133.0000	1.489	0.02	7.9686	5.3981
BXA-70063/6CFx2 w/ Mount Pipe	240.00	0.04	-4.35	2.51	133.0000	1.489	0.02	7.9686	5.3981
SBNHH-1D65B w/ Mount Pipe	0.00	0.14	0.00	-5.02	133.0000	1.489	0.02	17.7251	14.5925
SBNHH-1D65B w/ Mount Pipe	120.00	0.14	4.35	2.51	133.0000	1.489	0.02	17.7251	14.5925
SBNHH-1D65B w/ Mount Pipe	240.00	0.14	-4.35	2.51	133.0000	1.489	0.02	17.7251	14.5925
RRH2X60-AWS	0.00	0.04	0.00	-5.02	133.0000	1.489	0.02	2.1904	1.4290
RRH2X60-AWS	120.00	0.04	4.35	2.51	133.0000	1.489	0.02	2.1904	1.4290
RRH2X60-AWS	240.00	0.04	-4.35	2.51	133.0000	1.489	0.02	2.1904	1.4290
RRH2x60-700	0.00	0.06	0.00	-5.02	133.0000	1.489	0.02	3.9569	1.8157
RRH2x60-700	120.00	0.06	4.35	2.51	133.0000	1.489	0.02	3.9569	1.8157
RRH2x60-700	240.00	0.06	-4.35	2.51	133.0000	1.489	0.02	3.9569	1.8157
RRH2X60-PCS	0.00	0.05	0.00	-5.02	133.0000	1.489	0.02	2.5667	1.9250
RRH2X60-PCS	120.00	0.05	4.35	2.51	133.0000	1.489	0.02	2.5667	1.9250
RRH2X60-PCS	240.00	0.05	-4.35	2.51	133.0000	1.489	0.02	2.5667	1.9250
DB-T1-6Z-8AB-0Z	120.00	0.04	4.35	2.51	133.0000	1.489	0.02	5.6000	2.3333
DB-T1-6Z-8AB-0Z	240.00	0.04	-4.35	2.51	133.0000	1.489	0.02	5.6000	2.3333
Platform Mount [LP 712-1]	0.00	1.34	0.00	0.00	132.0000	1.486	0.02	24.5300	24.5300
LLPX310R w/ Mount Pipe	30.00	0.05	0.00	-5.11	122.0000	1.453	0.02	5.0651	2.9846
840 10054 w/ Mount Pipe	150.00	0.05	4.42	2.55	122.0000	1.453	0.02	5.4134	2.3851
LLPX310R w/ Mount Pipe	270.00	0.05	-4.42	2.55	121.0000	1.450	0.02	5.0651	2.9846
RRH-2WB	0.00	0.04	0.00	-5.11	122.0000	1.453	0.02	2.6889	0.8506
RRH-2WB	120.00	0.04	4.42	2.55	122.0000	1.453	0.02	2.6889	0.8506
RRH-2WB	240.00	0.04	-4.42	2.55	122.0000	1.453	0.02	2.6889	0.8506
HORIZON COMPACT	0.00	0.01	0.00	-3.11	122.0000	1.453	0.02	0.8409	0.4295
HORIZON COMPACT	120.00	0.01	2.69	1.55	122.0000	1.453	0.02	0.8409	0.4295
HORIZON COMPACT	240.00	0.01	-2.69	1.55	122.0000	1.453	0.02	0.8409	0.4295
6' x 2.375" Pipe Mount	0.00	0.02	0.00	-5.11	121.0000	1.450	0.02	1.4250	1.4250
6' x 2.375" Pipe Mount	120.00	0.02	4.42	2.55	121.0000	1.450	0.02	1.4250	1.4250
6' x 2.375" Pipe Mount	240.00	0.02	-4.42	2.55	121.0000	1.450	0.02	1.4250	1.4250
T-Arm Mount [TA 602-3]	0.00	0.77	0.00	0.00	121.0000	1.450	0.02	11.5900	11.5900
58532A	0.00	0.00	0.00	-3.24	102.0000	1.380	0.02	0.2209	0.2209
Side Arm Mount [SO 701-1]	0.00	0.07	0.00	-2.24	101.0000	1.377	0.02	0.8500	1.6700
	Sum Weight:	8.33							

Discrete Appurtenance Pressures - With Ice $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
SBNH-1D6565C w/ Mount Pipe	0.00	0.34	2.00	-1.67	157.0000	1.561	0.01	13.4354	13.3960	1.2049
SBNH-1D6565C w/ Mount Pipe	0.00	0.34	-2.00	-1.67	157.0000	1.561	0.01	13.4354	13.3960	1.2049
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.25	0.44	2.57	157.0000	1.561	0.01	10.0262	8.7387	1.2049
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.25	2.44	-0.90	157.0000	1.561	0.01	10.0262	8.7387	1.2049
SBNH-1D6565C w/ Mount Pipe	240.00	0.34	-2.44	-0.90	157.0000	1.561	0.01	13.4354	13.3960	1.2049
SBNH-1D6565C w/ Mount Pipe	240.00	0.34	-0.44	2.57	157.0000	1.561	0.01	13.4354	13.3960	1.2049
DTMABP7819VG12A	0.00	0.04	0.00	-1.67	157.0000	1.561	0.01	1.5049	0.6436	1.2049
DTMABP7819VG12A	120.00	0.04	1.44	0.83	157.0000	1.561	0.01	1.5049	0.6436	1.2049
DTMABP7819VG12A	240.00	0.04	-1.44	0.83	157.0000	1.561	0.01	1.5049	0.6436	1.2049
RRUS 11 B2	0.00	0.11	0.00	-1.67	153.0000	1.550	0.01	3.9114	1.8107	1.2049
RRUS 11 B2	120.00	0.11	1.44	0.83	153.0000	1.550	0.01	3.9114	1.8107	1.2049
RRUS 11 B2	240.00	0.11	-1.44	0.83	153.0000	1.550	0.01	3.9114	1.8107	1.2049
RRUS 11 B12	0.00	0.11	0.00	-1.67	153.0000	1.550	0.01	3.9114	1.8107	1.2049
RRUS 11 B12	120.00	0.11	1.44	0.83	153.0000	1.550	0.01	3.9114	1.8107	1.2049
RRUS 11 B12	240.00	0.11	-1.44	0.83	153.0000	1.550	0.01	3.9114	1.8107	1.2049
DC6-48-60-18-8F	0.00	0.12	0.00	-1.17	157.0000	1.561	0.01	3.1412	5.0084	1.2049
T-Arm Mount [TA 703-3]	0.00	0.92	0.00	0.00	156.0000	1.559	0.01	24.5622	24.5622	1.2049
PCS 1900MHz 4x45W-65MHz	0.00	0.24	0.00	-1.67	148.0000	1.535	0.01	6.5962	6.3885	1.1973
PCS 1900MHz 4x45W-65MHz	120.00	0.24	1.44	0.83	148.0000	1.535	0.01	6.5962	6.3885	1.1973
PCS 1900MHz 4x45W-65MHz	240.00	0.24	-1.44	0.83	148.0000	1.535	0.01	6.5962	6.3885	1.1973
800MHz 2X50W RRH W/FILTER	0.00	0.12	0.00	-1.67	148.0000	1.535	0.01	2.9256	2.7654	1.1973
800MHz 2X50W RRH W/FILTER	120.00	0.12	1.44	0.83	148.0000	1.535	0.01	2.9256	2.7654	1.1973
800MHz 2X50W RRH W/FILTER	240.00	0.12	-1.44	0.83	148.0000	1.535	0.01	2.9256	2.7654	1.1973
Side Arm Mount [SO 103-3]	0.00	0.45	0.00	0.00	148.0000	1.535	0.01	15.0077	15.0077	1.1973
APXV9ERR18-C-A20 w/ Mount Pipe	0.00	0.27	0.00	-4.67	147.0000	1.532	0.01	10.0141	9.9139	1.1954
APXVSPP18-C-A20 w/ Mount Pipe	120.00	0.26	4.04	2.33	147.0000	1.532	0.01	10.0141	9.3773	1.1954
APXVSPP18-C-A20 w/ Mount Pipe	240.00	0.26	-4.04	2.33	147.0000	1.532	0.01	10.0141	9.3773	1.1954
APXVTM14-C-120 w/ Mount Pipe	0.00	0.22	0.00	-4.67	147.0000	1.532	0.01	8.3927	6.7727	1.1954
APXVTM14-C-120 w/ Mount Pipe	120.00	0.22	4.04	2.33	147.0000	1.532	0.01	8.3927	6.7727	1.1954
APXVTM14-C-120 w/ Mount Pipe	240.00	0.22	-4.04	2.33	147.0000	1.532	0.01	8.3927	6.7727	1.1954
IBC1900BB-1	0.00	0.04	0.00	-4.67	147.0000	1.532	0.01	1.4922	0.8229	1.1954
IBC1900BB-1	120.00	0.04	4.04	2.33	147.0000	1.532	0.01	1.4922	0.8229	1.1954
IBC1900BB-1	240.00	0.04	-4.04	2.33	147.0000	1.532	0.01	1.4922	0.8229	1.1954
IBC1900HG-2A	0.00	0.04	0.00	-4.67	147.0000	1.532	0.01	1.4922	0.8229	1.1954
IBC1900HG-2A	120.00	0.04	4.04	2.33	147.0000	1.532	0.01	1.4922	0.8229	1.1954

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	I_z in
IBC1900HG-2A	240.00	0.04	-4.04	2.33	147.0000	1.532	0.01	1.4922	0.8229	1.1954
TD-RRH8x20-25	0.00	0.14	0.00	-4.67	147.0000	1.532	0.01	5.4398	2.2358	1.1954
TD-RRH8x20-25	120.00	0.14	4.04	2.33	147.0000	1.532	0.01	5.4398	2.2358	1.1954
TD-RRH8x20-25	240.00	0.14	-4.04	2.33	147.0000	1.532	0.01	5.4398	2.2358	1.1954
6' x 2.375" Pipe Mount	0.00	0.06	0.00	-4.67	147.0000	1.532	0.01	2.4435	2.4435	1.1954
6' x 2.375" Pipe Mount	120.00	0.06	4.04	2.33	147.0000	1.532	0.01	2.4435	2.4435	1.1954
6' x 2.375" Pipe Mount	240.00	0.06	-4.04	2.33	147.0000	1.532	0.01	2.4435	2.4435	1.1954
Platform Mount [LP 712-1]	0.00	2.08	0.00	0.00	146.0000	1.529	0.01	37.4639	37.4639	1.1954
APXV18-206517S-C	30.00	0.10	0.00	-2.97	139.0000	1.508	0.01	6.2542	4.0782	1.1883
APXV18-206517S-C	150.00	0.10	2.57	1.49	139.0000	1.508	0.01	6.2542	4.0782	1.1883
APXV18-206517S-C	270.00	0.10	-2.57	1.49	139.0000	1.508	0.01	6.2542	4.0782	1.1883
Pipe Mount [PM 501-3]	0.00	0.21	0.00	0.00	139.0000	1.508	0.01	9.5589	9.5589	1.1883
BXA-80080-6CF-EDIN-X w/ Mount Pipe	0.00	0.19	0.00	-5.02	134.0000	1.492	0.01	7.2789	8.5533	1.1810
BXA-80080-6CF-EDIN-X w/ Mount Pipe	120.00	0.19	4.35	2.51	134.0000	1.492	0.01	7.2789	8.5533	1.1810
BXA-80080-6CF-EDIN-X w/ Mount Pipe	240.00	0.19	-4.35	2.51	134.0000	1.492	0.01	7.2789	8.5533	1.1810
BXA-70063/6CFx2 w/ Mount Pipe	0.00	0.20	0.00	-5.02	133.0000	1.489	0.01	9.4408	7.7301	1.1810
BXA-70063/6CFx2 w/ Mount Pipe	120.00	0.20	4.35	2.51	133.0000	1.489	0.01	9.4408	7.7301	1.1810
BXA-70063/6CFx2 w/ Mount Pipe	240.00	0.20	-4.35	2.51	133.0000	1.489	0.01	9.4408	7.7301	1.1810
SBNHH-1D65B w/ Mount Pipe	0.00	0.51	0.00	-5.02	133.0000	1.489	0.01	21.1852	20.1397	1.1810
SBNHH-1D65B w/ Mount Pipe	120.00	0.51	4.35	2.51	133.0000	1.489	0.01	21.1852	20.1397	1.1810
SBNHH-1D65B w/ Mount Pipe	240.00	0.51	-4.35	2.51	133.0000	1.489	0.01	21.1852	20.1397	1.1810
RRH2X60-AWS	0.00	0.09	0.00	-5.02	133.0000	1.489	0.01	2.6962	1.8752	1.1810
RRH2X60-AWS	120.00	0.09	4.35	2.51	133.0000	1.489	0.01	2.6962	1.8752	1.1810
RRH2X60-AWS	240.00	0.09	-4.35	2.51	133.0000	1.489	0.01	2.6962	1.8752	1.1810
RRH2x60-700	0.00	0.12	0.00	-5.02	133.0000	1.489	0.01	4.7185	2.4683	1.1810
RRH2x60-700	120.00	0.12	4.35	2.51	133.0000	1.489	0.01	4.7185	2.4683	1.1810
RRH2x60-700	240.00	0.12	-4.35	2.51	133.0000	1.489	0.01	4.7185	2.4683	1.1810
RRH2X60-PCS	0.00	0.10	0.00	-5.02	133.0000	1.489	0.01	3.1138	2.4263	1.1810
RRH2X60-PCS	120.00	0.10	4.35	2.51	133.0000	1.489	0.01	3.1138	2.4263	1.1810
RRH2X60-PCS	240.00	0.10	-4.35	2.51	133.0000	1.489	0.01	3.1138	2.4263	1.1810
DB-T1-6Z-8AB-0Z	120.00	0.14	4.35	2.51	133.0000	1.489	0.01	6.3615	2.8805	1.1810
DB-T1-6Z-8AB-0Z	240.00	0.14	-4.35	2.51	133.0000	1.489	0.01	6.3615	2.8805	1.1810
Platform Mount [LP 712-1]	0.00	2.07	0.00	0.00	132.0000	1.486	0.01	37.3083	37.3083	1.1810
LLPX310R w/ Mount Pipe	30.00	0.14	0.00	-5.11	122.0000	1.453	0.01	6.0542	4.2942	1.1687
840 10054 w/ Mount Pipe	150.00	0.15	4.42	2.55	122.0000	1.453	0.01	6.4140	3.6599	1.1687
LLPX310R w/ Mount Pipe	270.00	0.14	-4.42	2.55	121.0000	1.450	0.01	6.0542	4.2942	1.1687
RRH-2WB	0.00	0.08	0.00	-5.11	122.0000	1.453	0.01	3.2267	1.2441	1.1687
RRH-2WB	120.00	0.08	4.42	2.55	122.0000	1.453	0.01	3.2267	1.2441	1.1687
RRH-2WB	240.00	0.08	-4.42	2.55	122.0000	1.453	0.01	3.2267	1.2441	1.1687
HORIZON COMPACT	0.00	0.03	0.00	-3.11	122.0000	1.453	0.01	1.1487	0.6684	1.1687
HORIZON COMPACT	120.00	0.03	2.69	1.55	122.0000	1.453	0.01	1.1487	0.6684	1.1687
HORIZON COMPACT	240.00	0.03	-2.69	1.55	122.0000	1.453	0.01	1.1487	0.6684	1.1687
6' x 2.375" Pipe Mount	0.00	0.05	0.00	-5.11	121.0000	1.450	0.01	2.4231	2.4231	1.1687
6' x 2.375" Pipe Mount	120.00	0.05	4.42	2.55	121.0000	1.450	0.01	2.4231	2.4231	1.1687
6' x 2.375" Pipe Mount	240.00	0.05	-4.42	2.55	121.0000	1.450	0.01	2.4231	2.4231	1.1687
T-Arm Mount [TA 602-3]	0.00	1.28	0.00	0.00	121.0000	1.450	0.01	20.5892	20.5892	1.1687

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2	t_z in
58532A	0.00	0.01	0.00	-3.24	102.0000	1.380	0.00	0.3932	0.3932	1.1437
Side Arm Mount [SO 701-1]	0.00	0.10	0.00	-2.24	101.0000	1.377	0.00	1.5133	3.2025	1.1437
	Sum Weight:	18.36								

Discrete Appurtenance Pressures - Service $G_H = 1.690$

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
SBNH-1D6565C w/ Mount Pipe	0.00	0.10	2.00	-1.67	157.0000	1.561	0.01	11.6828	9.8418
SBNH-1D6565C w/ Mount Pipe	0.00	0.10	-2.00	-1.67	157.0000	1.561	0.01	11.6828	9.8418
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.07	0.44	2.57	157.0000	1.561	0.01	8.4975	6.3042
AM-X-CD-16-65-00T-RET w/ Mount Pipe	120.00	0.07	2.44	-0.90	157.0000	1.561	0.01	8.4975	6.3042
SBNH-1D6565C w/ Mount Pipe	240.00	0.10	-2.44	-0.90	157.0000	1.561	0.01	11.6828	9.8418
SBNH-1D6565C w/ Mount Pipe	240.00	0.10	-0.44	2.57	157.0000	1.561	0.01	11.6828	9.8418
DTMABP7819VG12A	0.00	0.02	0.00	-1.67	157.0000	1.561	0.01	1.1389	0.3907
DTMABP7819VG12A	120.00	0.02	1.44	0.83	157.0000	1.561	0.01	1.1389	0.3907
DTMABP7819VG12A	240.00	0.02	-1.44	0.83	157.0000	1.561	0.01	1.1389	0.3907
RRUS 11 B2	0.00	0.05	0.00	-1.67	153.0000	1.550	0.01	3.3056	1.3611
RRUS 11 B2	120.00	0.05	1.44	0.83	153.0000	1.550	0.01	3.3056	1.3611
RRUS 11 B2	240.00	0.05	-1.44	0.83	153.0000	1.550	0.01	3.3056	1.3611
RRUS 11 B12	0.00	0.05	0.00	-1.67	153.0000	1.550	0.01	3.3056	1.3611
RRUS 11 B12	120.00	0.05	1.44	0.83	153.0000	1.550	0.01	3.3056	1.3611
RRUS 11 B12	240.00	0.05	-1.44	0.83	153.0000	1.550	0.01	3.3056	1.3611
DC6-48-60-18-8F	0.00	0.03	0.00	-1.17	157.0000	1.561	0.01	2.5667	4.3167
T-Arm Mount [TA 703-3]	0.00	0.45	0.00	0.00	156.0000	1.559	0.01	14.2000	14.2000
PCS 1900MHz 4x45W-65MHz	0.00	0.12	0.00	-1.67	148.0000	1.535	0.01	5.4174	5.2222
PCS 1900MHz 4x45W-65MHz	120.00	0.12	1.44	0.83	148.0000	1.535	0.01	5.4174	5.2222
PCS 1900MHz 4x45W-65MHz	240.00	0.12	-1.44	0.83	148.0000	1.535	0.01	5.4174	5.2222
800MHz 2X50W RRH W/FILTER	0.00	0.06	0.00	-1.67	148.0000	1.535	0.01	2.4014	2.2536
800MHz 2X50W RRH W/FILTER	120.00	0.06	1.44	0.83	148.0000	1.535	0.01	2.4014	2.2536
800MHz 2X50W RRH W/FILTER	240.00	0.06	-1.44	0.83	148.0000	1.535	0.01	2.4014	2.2536
Side Arm Mount [SO 103-3]	0.00	0.22	0.00	0.00	148.0000	1.535	0.01	9.5000	9.5000
APXV9ERR18-C-A20 w/ Mount Pipe	0.00	0.09	0.00	-4.67	147.0000	1.532	0.01	8.4975	7.4708
APXVSPP18-C-A20 w/ Mount Pipe	120.00	0.08	4.04	2.33	147.0000	1.532	0.01	8.4975	6.9458
APXVSPP18-C-A20 w/ Mount Pipe	240.00	0.08	-4.04	2.33	147.0000	1.532	0.01	8.4975	6.9458
APXVTM14-C-120 w/ Mount Pipe	0.00	0.08	0.00	-4.67	147.0000	1.532	0.01	7.1342	4.9591
APXVTM14-C-120 w/	120.00	0.08	4.04	2.33	147.0000	1.532	0.01	7.1342	4.9591

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
Mount Pipe									
APXVTM14-C-120 w/ Mount Pipe	240.00	0.08	-4.04	2.33	147.0000	1.532	0.01	7.1342	4.9591
IBC1900BB-1	0.00	0.02	0.00	-4.67	147.0000	1.532	0.01	1.1270	0.5329
IBC1900BB-1	120.00	0.02	4.04	2.33	147.0000	1.532	0.01	1.1270	0.5329
IBC1900BB-1	240.00	0.02	-4.04	2.33	147.0000	1.532	0.01	1.1270	0.5329
IBC1900HG-2A	0.00	0.02	0.00	-4.67	147.0000	1.532	0.01	1.1270	0.5329
IBC1900HG-2A	120.00	0.02	4.04	2.33	147.0000	1.532	0.01	1.1270	0.5329
IBC1900HG-2A	240.00	0.02	-4.04	2.33	147.0000	1.532	0.01	1.1270	0.5329
TD-RRH8x20-25	0.00	0.07	0.00	-4.67	147.0000	1.532	0.01	4.7198	1.7001
TD-RRH8x20-25	120.00	0.07	4.04	2.33	147.0000	1.532	0.01	4.7198	1.7001
TD-RRH8x20-25	240.00	0.07	-4.04	2.33	147.0000	1.532	0.01	4.7198	1.7001
6' x 2.375" Pipe Mount	0.00	0.02	0.00	-4.67	147.0000	1.532	0.01	1.4250	1.4250
6' x 2.375" Pipe Mount	120.00	0.02	4.04	2.33	147.0000	1.532	0.01	1.4250	1.4250
6' x 2.375" Pipe Mount	240.00	0.02	-4.04	2.33	147.0000	1.532	0.01	1.4250	1.4250
Platform Mount [LP 712-1]	0.00	1.34	0.00	0.00	146.0000	1.529	0.01	24.5300	24.5300
APXV18-206517S-C	30.00	0.03	0.00	-2.97	139.0000	1.508	0.01	5.1667	3.0375
APXV18-206517S-C	150.00	0.03	2.57	1.49	139.0000	1.508	0.01	5.1667	3.0375
APXV18-206517S-C	270.00	0.03	-2.57	1.49	139.0000	1.508	0.01	5.1667	3.0375
Pipe Mount [PM 501-3]	0.00	0.16	0.00	0.00	139.0000	1.508	0.01	5.7800	5.7800
BXA-80080-6CF-EDIN-X w/ Mount Pipe	0.00	0.04	0.00	-5.02	134.0000	1.492	0.01	6.0062	6.2035
BXA-80080-6CF-EDIN-X w/ Mount Pipe	120.00	0.04	4.35	2.51	134.0000	1.492	0.01	6.0062	6.2035
BXA-80080-6CF-EDIN-X w/ Mount Pipe	240.00	0.04	-4.35	2.51	134.0000	1.492	0.01	6.0062	6.2035
BXA-70063/6CFx2 w/ Mount Pipe	0.00	0.04	0.00	-5.02	133.0000	1.489	0.01	7.9686	5.3981
BXA-70063/6CFx2 w/ Mount Pipe	120.00	0.04	4.35	2.51	133.0000	1.489	0.01	7.9686	5.3981
BXA-70063/6CFx2 w/ Mount Pipe	240.00	0.04	-4.35	2.51	133.0000	1.489	0.01	7.9686	5.3981
SBNHH-1D65B w/ Mount Pipe	0.00	0.14	0.00	-5.02	133.0000	1.489	0.01	17.7251	14.5925
SBNHH-1D65B w/ Mount Pipe	120.00	0.14	4.35	2.51	133.0000	1.489	0.01	17.7251	14.5925
SBNHH-1D65B w/ Mount Pipe	240.00	0.14	-4.35	2.51	133.0000	1.489	0.01	17.7251	14.5925
RRH2X60-AWS	0.00	0.04	0.00	-5.02	133.0000	1.489	0.01	2.1904	1.4290
RRH2X60-AWS	120.00	0.04	4.35	2.51	133.0000	1.489	0.01	2.1904	1.4290
RRH2X60-AWS	240.00	0.04	-4.35	2.51	133.0000	1.489	0.01	2.1904	1.4290
RRH2x60-700	0.00	0.06	0.00	-5.02	133.0000	1.489	0.01	3.9569	1.8157
RRH2x60-700	120.00	0.06	4.35	2.51	133.0000	1.489	0.01	3.9569	1.8157
RRH2x60-700	240.00	0.06	-4.35	2.51	133.0000	1.489	0.01	3.9569	1.8157
RRH2X60-PCS	0.00	0.05	0.00	-5.02	133.0000	1.489	0.01	2.5667	1.9250
RRH2X60-PCS	120.00	0.05	4.35	2.51	133.0000	1.489	0.01	2.5667	1.9250
RRH2X60-PCS	240.00	0.05	-4.35	2.51	133.0000	1.489	0.01	2.5667	1.9250
DB-T1-6Z-8AB-0Z	120.00	0.04	4.35	2.51	133.0000	1.489	0.01	5.6000	2.3333
DB-T1-6Z-8AB-0Z	240.00	0.04	-4.35	2.51	133.0000	1.489	0.01	5.6000	2.3333
Platform Mount [LP 712-1]	0.00	1.34	0.00	0.00	132.0000	1.486	0.01	24.5300	24.5300
LLPX310R w/ Mount Pipe	30.00	0.05	0.00	-5.11	122.0000	1.453	0.01	5.0651	2.9846
840 10054 w/ Mount Pipe	150.00	0.05	4.42	2.55	122.0000	1.453	0.01	5.4134	2.3851
LLPX310R w/ Mount Pipe	270.00	0.05	-4.42	2.55	121.0000	1.450	0.01	5.0651	2.9846
RRH-2WB	0.00	0.04	0.00	-5.11	122.0000	1.453	0.01	2.6889	0.8506
RRH-2WB	120.00	0.04	4.42	2.55	122.0000	1.453	0.01	2.6889	0.8506
RRH-2WB	240.00	0.04	-4.42	2.55	122.0000	1.453	0.01	2.6889	0.8506

Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	z ft	K_z	q_z ksf	C_AA_C Front ft^2	C_AA_C Side ft^2
HORIZON COMPACT	0.00	0.01	0.00	-3.11	122.0000	1.453	0.01	0.8409	0.4295
HORIZON COMPACT	120.00	0.01	2.69	1.55	122.0000	1.453	0.01	0.8409	0.4295
HORIZON COMPACT	240.00	0.01	-2.69	1.55	122.0000	1.453	0.01	0.8409	0.4295
6' x 2.375" Pipe Mount	0.00	0.02	0.00	-5.11	121.0000	1.450	0.01	1.4250	1.4250
6' x 2.375" Pipe Mount	120.00	0.02	4.42	2.55	121.0000	1.450	0.01	1.4250	1.4250
6' x 2.375" Pipe Mount	240.00	0.02	-4.42	2.55	121.0000	1.450	0.01	1.4250	1.4250
T-Arm Mount [TA 602-3]	0.00	0.77	0.00	0.00	121.0000	1.450	0.01	11.5900	11.5900
58532A	0.00	0.00	0.00	-3.24	102.0000	1.380	0.01	0.2209	0.2209
Side Arm Mount [SO 701-1]	0.00	0.07	0.00	-2.24	101.0000	1.377	0.01	0.8500	1.6700
	Sum Weight:	8.33							

Dish Pressures - No Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z ksf
122.0000	VHLP800-11	0.00	0.02	0.00	-5.10	1.453	6.6800	0.02
122.0000	VHLP800-11	150.00	0.02	4.42	2.55	1.453	6.6800	0.02
122.0000	VHLP2-18	330.00	0.03	-4.42	2.55	1.453	3.7200	0.02
		Sum Weight:	0.07					

Dish Pressures - With Ice

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z ksf	t_z in
122.0000	VHLP800-11	0.00	0.10	0.00	-5.10	1.453	7.5908	0.01	1.1699
122.0000	VHLP800-11	150.00	0.10	4.42	2.55	1.453	7.5908	0.01	1.1699
122.0000	VHLP2-18	330.00	0.08	-4.42	2.55	1.453	4.3985	0.01	1.1699
		Sum Weight:	0.28						

Dish Pressures - Service

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	$Offset_x$ ft	$Offset_z$ ft	K_z	A_A ft^2	q_z ksf
122.0000	VHLP800-11	0.00	0.02	0.00	-5.10	1.453	6.6800	0.01
122.0000	VHLP800-11	150.00	0.02	4.42	2.55	1.453	6.6800	0.01
122.0000	VHLP2-18	330.00	0.03	-4.42	2.55	1.453	3.7200	0.01
		Sum Weight:	0.07					

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	36.14					
Bracing Weight	0.00					
Total Member Self-Weight	36.14			-1.09	-1.51	
Total Weight	50.14			-1.09	-1.51	
Wind 0 deg - No Ice		-0.25	-37.54	-3926.22	29.83	-2.47
Wind 30 deg - No Ice		18.45	-32.55	-3404.43	-1927.34	-2.64
Wind 60 deg - No Ice		32.30	-18.55	-1936.72	-3378.92	-1.58
Wind 90 deg - No Ice		37.44	0.27	31.95	-3919.44	0.66
Wind 120 deg - No Ice		32.46	19.18	2012.48	-3398.15	2.90
Wind 150 deg - No Ice		18.79	32.72	3424.24	-1969.13	2.75
Wind 180 deg - No Ice		0.16	37.62	3933.54	-21.87	2.26
Wind 210 deg - No Ice		-18.43	32.65	3414.44	1921.84	2.64
Wind 240 deg - No Ice		-32.24	18.88	1973.90	3368.68	2.37
Wind 270 deg - No Ice		-37.49	-0.41	-51.45	3922.36	0.69
Wind 300 deg - No Ice		-32.52	-18.97	-1988.49	3402.54	0.41
Wind 330 deg - No Ice		-18.93	-32.56	-3407.05	1983.54	-0.95
Member Ice	7.40					
Total Weight Ice	80.42			-4.40	-9.07	
Wind 0 deg - Ice		-0.07	-11.92	-1224.05	-0.13	-0.50
Wind 30 deg - Ice		5.88	-10.33	-1061.11	-609.42	-0.74
Wind 60 deg - Ice		10.28	-5.90	-606.50	-1060.45	-0.66
Wind 90 deg - Ice		11.91	0.08	5.20	-1228.37	-0.19
Wind 120 deg - Ice		10.32	6.07	619.32	-1066.42	0.36
Wind 150 deg - Ice		5.98	10.38	1059.03	-621.86	0.41
Wind 180 deg - Ice		0.05	11.94	1217.72	-15.39	0.45
Wind 210 deg - Ice		-5.87	10.36	1055.55	590.51	0.75
Wind 240 deg - Ice		-10.26	5.98	607.57	1040.50	0.85
Wind 270 deg - Ice		-11.92	-0.11	-18.13	1211.64	0.54
Wind 300 deg - Ice		-10.34	-6.02	-621.39	1050.13	0.48
Wind 330 deg - Ice		-6.01	-10.34	-1062.89	608.04	0.05
Total Weight	50.14			-1.09	-1.51	
Wind 0 deg - Service		-0.10	-14.66	-1533.34	12.55	-0.97
Wind 30 deg - Service		7.21	-12.71	-1329.52	-751.97	-1.03
Wind 60 deg - Service		12.62	-7.25	-756.19	-1318.99	-0.62
Wind 90 deg - Service		14.63	0.10	12.82	-1530.13	0.26
Wind 120 deg - Service		12.68	7.49	786.46	-1326.50	1.13
Wind 150 deg - Service		7.34	12.78	1337.93	-768.29	1.07
Wind 180 deg - Service		0.06	14.69	1536.88	-7.64	0.88
Wind 210 deg - Service		-7.20	12.75	1334.10	751.62	1.03
Wind 240 deg - Service		-12.59	7.37	771.39	1316.79	0.93
Wind 270 deg - Service		-14.65	-0.16	-19.76	1533.08	0.27
Wind 300 deg - Service		-12.70	-7.41	-776.42	1330.02	0.16
Wind 330 deg - Service		-7.40	-12.72	-1330.54	775.72	-0.37

Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice

Comb. No.	Description
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice
15	Dead+Wind 0 deg+Ice
16	Dead+Wind 30 deg+Ice
17	Dead+Wind 60 deg+Ice
18	Dead+Wind 90 deg+Ice
19	Dead+Wind 120 deg+Ice
20	Dead+Wind 150 deg+Ice
21	Dead+Wind 180 deg+Ice
22	Dead+Wind 210 deg+Ice
23	Dead+Wind 240 deg+Ice
24	Dead+Wind 270 deg+Ice
25	Dead+Wind 300 deg+Ice
26	Dead+Wind 330 deg+Ice
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	160 - 155	Pole	Max Tension	18	0.00	0.00	-0.00
			Max. Compression	14	-4.13	0.23	0.27
			Max. Mx	11	-1.21	5.75	0.06
			Max. My	2	-1.23	0.06	5.57
			Max. Vy	11	-4.35	5.75	0.06
			Max. Vx	8	4.26	0.01	-5.40
			Max. Torque	10			-0.64
L2	155 - 150	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-4.79	0.10	0.20
			Max. Mx	11	-1.53	28.11	0.13
			Max. My	2	-1.55	0.12	27.48
			Max. Vy	11	-4.60	28.11	0.13
			Max. Vx	8	4.51	-0.07	-27.33
			Max. Torque	10			-0.64
L3	150 - 146	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-6.87	-0.01	0.14
			Max. Mx	11	-2.40	49.79	0.18
			Max. My	2	-2.41	0.18	48.80
			Max. Vy	11	-6.25	49.79	0.18
			Max. Vx	8	6.16	-0.14	-48.68
			Max. Torque	10			-0.64
L4	146 - 141	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-12.07	-0.29	0.04

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-4.52	104.02	0.29
			Max. My	2	-4.54	0.23	102.51
			Max. Vy	11	-10.60	104.02	0.29
			Max. Vx	8	10.48	-0.25	-102.34
			Max. Torque	10			-0.73
L5	141 - 136	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-13.41	-0.58	-0.12
			Max. Mx	5	-5.04	-160.65	-0.34
			Max. My	2	-5.06	0.29	158.51
			Max. Vy	11	-11.89	160.58	0.37
			Max. Vx	8	11.78	-0.36	-158.40
			Max. Torque	10			-0.72
L6	136 - 131	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-20.27	-0.88	-0.92
			Max. Mx	5	-7.36	-233.17	-0.61
			Max. My	8	-7.39	-0.47	-230.26
			Max. Vy	11	-18.51	233.01	0.31
			Max. Vx	8	18.26	-0.47	-230.26
			Max. Torque	10			-0.70
L7	131 - 126	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-21.44	-1.20	-0.86
			Max. Mx	5	-7.92	-327.29	-0.70
			Max. My	8	-7.95	-0.58	-323.08
			Max. Vy	11	-19.13	327.04	0.44
			Max. Vx	8	18.88	-0.58	-323.08
			Max. Torque	8			-0.40
L8	126 - 121	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-22.91	-0.87	-0.82
			Max. Mx	11	-8.54	424.83	0.99
			Max. My	8	-8.53	-0.82	-419.81
			Max. Vy	11	-20.21	424.83	0.99
			Max. Vx	8	20.34	-0.82	-419.81
			Max. Torque	6			-3.76
L9	121 - 117.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.12	-1.13	-0.68
			Max. Mx	11	-10.02	507.58	2.61
			Max. My	8	-10.01	-1.49	-503.26
			Max. Vy	11	-22.16	507.58	2.61
			Max. Vx	8	22.32	-1.49	-503.26
			Max. Torque	6			-3.76
L10	117.25 - 117	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.19	-1.15	-0.67
			Max. Mx	11	-10.07	513.12	2.71
			Max. My	8	-10.06	-1.54	-508.84
			Max. Vy	11	-22.19	513.12	2.71
			Max. Vx	8	22.34	-1.54	-508.84
			Max. Torque	6			-3.66
L11	117 - 115.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.61	-1.25	-0.61
			Max. Mx	11	-10.28	546.53	3.36
			Max. My	8	-10.26	-1.80	-542.48
			Max. Vy	11	-22.39	546.53	3.36
			Max. Vx	8	22.54	-1.80	-542.48
			Max. Torque	6			-3.66
L12	115.5 - 115.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-26.69	-1.27	-0.60
			Max. Mx	11	-10.34	552.12	3.46
			Max. My	8	-10.32	-1.84	-548.12
			Max. Vy	11	-22.41	552.12	3.46
			Max. Vx	8	22.57	-1.84	-548.12
			Max. Torque	6			-3.65

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L13	115.25 - 110.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-28.25	-1.61	-0.39
			Max. Mx	11	-11.19	665.82	5.61
			Max. My	8	-11.18	-2.72	-662.62
			Max. Vy	11	-23.10	665.82	5.61
			Max. Vx	8	23.25	-2.72	-662.62
			Max. Torque	6			-3.65
L14	110.25 - 103.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-29.11	-1.81	-0.27
			Max. Mx	11	-11.67	729.80	6.79
			Max. My	8	-11.66	-3.21	-727.03
			Max. Vy	11	-23.47	729.80	6.79
			Max. Vx	8	23.62	-3.21	-727.03
			Max. Torque	6			-3.62
L15	103.75 - 102.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-31.43	-2.17	-0.06
			Max. Mx	11	-13.09	848.93	8.94
			Max. My	8	-13.08	-4.09	-846.97
			Max. Vy	11	-24.21	848.93	8.94
			Max. Vx	8	24.36	-4.09	-846.97
			Max. Torque	6			-3.58
L16	102.5 - 98.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-32.88	-2.46	0.36
			Max. Mx	11	-13.96	946.99	10.80
			Max. My	8	-13.95	-4.81	-945.44
			Max. Vy	11	-24.83	946.99	10.80
			Max. Vx	8	24.96	-4.81	-945.44
			Max. Torque	6			-3.57
L17	98.5 - 98.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-32.97	-2.48	0.37
			Max. Mx	11	-14.02	953.19	10.91
			Max. My	8	-14.01	-4.85	-951.68
			Max. Vy	11	-24.86	953.19	10.91
			Max. Vx	8	24.99	-4.85	-951.68
			Max. Torque	6			-3.40
L18	98.25 - 93.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-34.74	-2.84	0.59
			Max. Mx	11	-15.12	1079.13	13.07
			Max. My	8	-15.11	-5.74	-1078.27
			Max. Vy	11	-25.55	1079.13	13.07
			Max. Vx	8	25.67	-5.74	-1078.27
			Max. Torque	6			-3.40
L19	93.25 - 88.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-36.53	-3.22	0.82
			Max. Mx	11	-16.26	1208.42	15.23
			Max. My	8	-16.25	-6.64	-1208.20
			Max. Vy	11	-26.21	1208.42	15.23
			Max. Vx	8	26.33	-6.64	-1208.20
			Max. Torque	6			-3.36
L20	88.25 - 83.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.25	-3.58	1.04
			Max. Mx	11	-17.36	1334.31	17.28
			Max. My	8	-17.35	-7.50	-1334.72
			Max. Vy	11	-26.84	1334.31	17.28
			Max. Vx	8	26.97	-7.50	-1334.72
			Max. Torque	6			-3.33
L21	83.5 - 83.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.35	-3.60	1.05
			Max. Mx	11	-17.45	1341.02	17.39

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	8	-17.44	-7.54	-1341.46
			Max. Vy	11	-26.87	1341.02	17.39
			Max. Vx	8	27.00	-7.54	-1341.46
			Max. Torque	6			-3.30
L22	83.25 - 82.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.67	-3.66	1.08
			Max. Mx	11	-17.66	1361.20	17.71
			Max. My	8	-17.65	-7.68	-1361.74
			Max. Vy	11	-26.98	1361.20	17.71
			Max. Vx	8	27.11	-7.68	-1361.74
			Max. Torque	6			-3.30
L23	82.5 - 82.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-38.76	-3.68	1.09
			Max. Mx	11	-17.73	1367.95	17.82
			Max. My	8	-17.72	-7.72	-1368.52
			Max. Vy	11	-27.01	1367.95	17.82
			Max. Vx	8	27.14	-7.72	-1368.52
			Max. Torque	6			-3.30
L24	82.25 - 80.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-39.31	-3.79	1.16
			Max. Mx	11	-18.06	1408.60	18.47
			Max. My	8	-18.05	-7.99	-1409.37
			Max. Vy	11	-27.23	1408.60	18.47
			Max. Vx	8	27.36	-7.99	-1409.37
			Max. Torque	6			-3.30
L25	80.75 - 80.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-39.41	-3.81	1.18
			Max. Mx	11	-18.15	1415.40	18.57
			Max. My	8	-18.14	-8.04	-1416.21
			Max. Vy	11	-27.26	1415.40	18.57
			Max. Vx	8	27.38	-8.04	-1416.21
			Max. Torque	6			-3.29
L26	80.5 - 78.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.21	-3.97	1.27
			Max. Mx	11	-18.68	1470.17	19.44
			Max. My	8	-18.67	-8.40	-1471.23
			Max. Vy	11	-27.54	1470.17	19.44
			Max. Vx	8	27.67	-8.40	-1471.23
			Max. Torque	6			-3.29
L27	78.5 - 78.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.33	-3.99	1.28
			Max. Mx	11	-18.77	1477.05	19.55
			Max. My	8	-18.76	-8.44	-1478.15
			Max. Vy	11	-27.57	1477.05	19.55
			Max. Vx	8	27.70	-8.44	-1478.15
			Max. Torque	6			-3.28
L28	78.25 - 77.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.68	-4.05	1.32
			Max. Mx	11	-19.01	1497.76	19.87
			Max. My	8	-19.00	-8.58	-1498.95
			Max. Vy	11	-27.69	1497.76	19.87
			Max. Vx	8	27.81	-8.58	-1498.95
			Max. Torque	6			-3.28
L29	77.5 - 77.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-40.78	-4.06	1.33
			Max. Mx	11	-19.09	1504.68	19.98
			Max. My	8	-19.08	-8.63	-1505.91
			Max. Vy	11	-27.72	1504.68	19.98
			Max. Vx	8	27.85	-8.63	-1505.91
			Max. Torque	6			-3.28
L30	77.25 - 68.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	14	-42.49	-4.40	1.53
			Max. Mx	11	-20.24	1623.66	21.82
			Max. My	8	-20.23	-9.40	-1625.45
			Max. Vy	11	-28.31	1623.66	21.82
			Max. Vx	8	28.44	-9.40	-1625.45
			Max. Torque	6			-3.28
L31	68.5 - 68	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-45.83	-4.80	1.77
			Max. Mx	11	-22.66	1767.10	23.98
			Max. My	8	-22.66	-10.30	-1769.54
			Max. Vy	11	-29.09	1767.10	23.98
			Max. Vx	8	29.22	-10.30	-1769.54
			Max. Torque	6			-3.24
L32	68 - 65.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.01	-5.01	1.90
			Max. Mx	11	-23.48	1847.57	25.17
			Max. My	8	-23.48	-10.80	-1850.37
			Max. Vy	11	-29.47	1847.57	25.17
			Max. Vx	8	29.60	-10.80	-1850.37
			Max. Torque	6			-3.24
L33	65.25 - 65	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.14	-5.03	1.91
			Max. Mx	11	-23.59	1854.94	25.28
			Max. My	8	-23.59	-10.85	-1857.77
			Max. Vy	11	-29.50	1854.94	25.28
			Max. Vx	8	29.63	-10.85	-1857.77
			Max. Torque	6			-3.23
L34	65 - 64.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.53	-5.09	1.95
			Max. Mx	11	-23.88	1877.09	25.60
			Max. My	8	-23.87	-10.98	-1880.03
			Max. Vy	11	-29.61	1877.09	25.60
			Max. Vx	8	29.74	-10.98	-1880.03
			Max. Torque	6			-3.23
L35	64.25 - 64	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-47.64	-5.11	1.96
			Max. Mx	11	-23.97	1884.50	25.71
			Max. My	8	-23.96	-11.03	-1887.46
			Max. Vy	11	-29.64	1884.50	25.71
			Max. Vx	8	29.77	-11.03	-1887.46
			Max. Torque	6			-3.22
L36	64 - 62.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-48.36	-5.23	2.03
			Max. Mx	11	-24.48	1929.09	26.36
			Max. My	8	-24.47	-11.30	-1932.25
			Max. Vy	11	-29.86	1929.09	26.36
			Max. Vx	8	29.99	-11.30	-1932.25
			Max. Torque	6			-3.22
L37	62.5 - 62.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-48.47	-5.25	2.05
			Max. Mx	11	-24.57	1936.55	26.47
			Max. My	8	-24.56	-11.35	-1939.74
			Max. Vy	11	-29.88	1936.55	26.47
			Max. Vx	8	30.01	-11.35	-1939.74
			Max. Torque	6			-3.22
L38	62.25 - 60.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.37	-5.42	2.15
			Max. Mx	11	-25.20	2001.67	27.41
			Max. My	8	-25.19	-11.74	-2005.15
			Max. Vy	11	-30.18	2001.67	27.41
			Max. Vx	8	30.31	-11.74	-2005.15

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	6			-3.21
L39	60.08 - 59.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.48	-5.44	2.16
			Max. Mx	11	-25.29	2009.21	27.52
			Max. My	8	-25.28	-11.79	-2012.73
			Max. Vy	11	-30.21	2009.21	27.52
			Max. Vx	8	30.34	-11.79	-2012.73
			Max. Torque	6			-3.20
L40	59.83 - 59.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.81	-5.50	2.20
			Max. Mx	11	-25.52	2031.90	27.84
			Max. My	8	-25.51	-11.93	-2035.51
			Max. Vy	11	-30.31	2031.90	27.84
			Max. Vx	8	30.44	-11.93	-2035.51
			Max. Torque	6			-3.20
L41	59.08 - 58.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-49.92	-5.52	2.21
			Max. Mx	11	-25.61	2039.47	27.95
			Max. My	8	-25.60	-11.97	-2043.12
			Max. Vy	11	-30.34	2039.47	27.95
			Max. Vx	8	30.47	-11.97	-2043.12
			Max. Torque	6			-3.20
L42	58.83 - 57.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-50.65	-5.65	2.29
			Max. Mx	11	-26.12	2087.56	28.63
			Max. My	8	-26.12	-12.26	-2091.41
			Max. Vy	11	-30.57	2087.56	28.63
			Max. Vx	8	30.70	-12.26	-2091.41
			Max. Torque	6			-3.19
L43	57.25 - 57	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-50.79	-5.67	2.30
			Max. Mx	11	-26.24	2095.20	28.74
			Max. My	8	-26.24	-12.31	-2099.09
			Max. Vy	11	-30.60	2095.20	28.74
			Max. Vx	8	30.72	-12.31	-2099.09
			Max. Torque	6			-3.18
L44	57 - 55.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-51.47	-5.77	2.36
			Max. Mx	11	-26.75	2133.54	29.28
			Max. My	8	-26.75	-12.53	-2137.59
			Max. Vy	11	-30.78	2133.54	29.28
			Max. Vx	8	30.91	-12.53	-2137.59
			Max. Torque	6			-3.18
L45	55.75 - 55.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-51.58	-5.79	2.37
			Max. Mx	11	-26.85	2141.23	29.39
			Max. My	8	-26.84	-12.58	-2145.31
			Max. Vy	11	-30.81	2141.23	29.39
			Max. Vx	8	30.94	-12.58	-2145.31
			Max. Torque	6			-3.17
L46	55.5 - 50.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-53.90	-6.18	2.61
			Max. Mx	11	-28.54	2296.87	31.55
			Max. My	8	-28.54	-13.49	-2301.61
			Max. Vy	11	-31.49	2296.87	31.55
			Max. Vx	8	31.62	-13.49	-2301.61
			Max. Torque	6			-3.17
L47	50.5 - 45.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-56.23	-6.56	2.84
			Max. Mx	11	-30.27	2455.82	33.71
			Max. My	8	-30.26	-14.40	-2461.22

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	11	-32.14	2455.82	33.71
			Max. Vx	8	32.27	-14.40	-2461.22
			Max. Torque	6			-3.13
L48	45.5 - 41.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-58.19	-6.88	3.04
			Max. Mx	11	-31.73	2590.88	35.51
			Max. My	8	-31.72	-15.17	-2596.83
			Max. Vy	11	-32.69	2590.88	35.51
			Max. Vx	8	32.82	-15.17	-2596.83
			Max. Torque	6			-3.09
L49	41.33 - 41.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-58.31	-6.90	3.05
			Max. Mx	11	-31.84	2599.05	35.62
			Max. My	8	-31.83	-15.21	-2605.04
			Max. Vy	11	-32.72	2599.05	35.62
			Max. Vx	8	32.84	-15.21	-2605.04
			Max. Torque	6			-3.07
L50	41.08 - 34	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-59.36	-7.06	3.15
			Max. Mx	11	-32.63	2667.35	36.51
			Max. My	8	-32.63	-15.59	-2673.61
			Max. Vy	11	-33.00	2667.35	36.51
			Max. Vx	8	33.12	-15.59	-2673.61
			Max. Torque	6			-3.07
L51	34 - 33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-64.30	-7.52	3.43
			Max. Mx	11	-36.55	2867.83	39.10
			Max. My	8	-36.54	-16.69	-2874.88
			Max. Vy	11	-33.86	2867.83	39.10
			Max. Vx	8	33.99	-16.69	-2874.88
			Max. Torque	6			-3.04
L52	33 - 31.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-65.06	-7.63	3.50
			Max. Mx	11	-37.13	2918.72	39.75
			Max. My	8	-37.13	-16.96	-2925.96
			Max. Vy	11	-34.05	2918.72	39.75
			Max. Vx	8	34.18	-16.96	-2925.96
			Max. Torque	6			-3.03
L53	31.5 - 31.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-65.19	-7.65	3.51
			Max. Mx	11	-37.25	2927.22	39.85
			Max. My	8	-37.25	-17.01	-2934.50
			Max. Vy	11	-34.06	2927.22	39.85
			Max. Vx	8	34.19	-17.01	-2934.50
			Max. Torque	6			-3.02
L54	31.25 - 30.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-65.57	-7.71	3.54
			Max. Mx	11	-37.54	2952.79	40.18
			Max. My	8	-37.54	-17.15	-2960.17
			Max. Vy	11	-34.15	2952.79	40.18
			Max. Vx	8	34.28	-17.15	-2960.17
			Max. Torque	6			-3.02
L55	30.5 - 30.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-65.70	-7.73	3.55
			Max. Mx	11	-37.65	2961.32	40.28
			Max. My	8	-37.65	-17.19	-2968.74
			Max. Vy	11	-34.18	2961.32	40.28
			Max. Vx	8	34.30	-17.19	-2968.74
			Max. Torque	6			-3.02
L56	30.25 - 28.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-66.62	-7.86	3.64

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	11	-38.35	3021.27	41.04
			Max. My	8	-38.35	-17.51	-3028.92
			Max. Vy	11	-34.40	3021.27	41.04
			Max. Vx	8	34.53	-17.51	-3028.92
			Max. Torque	6			-3.02
L57	28.5 - 28.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-66.76	-7.88	3.65
			Max. Mx	11	-38.49	3029.87	41.14
			Max. My	8	-38.49	-17.56	-3037.54
			Max. Vy	11	-34.41	3029.87	41.14
			Max. Vx	8	34.54	-17.56	-3037.54
			Max. Torque	6			-3.01
L58	28.25 - 25.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-68.23	-8.07	3.76
			Max. Mx	11	-39.65	3116.23	42.22
			Max. My	8	-39.65	-18.02	-3124.23
			Max. Vy	11	-34.73	3116.23	42.22
			Max. Vx	8	34.85	-18.02	-3124.23
			Max. Torque	6			-3.01
L59	25.75 - 25.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-68.36	-8.09	3.78
			Max. Mx	11	-39.76	3124.90	42.32
			Max. My	8	-39.75	-18.06	-3132.94
			Max. Vy	11	-34.74	3124.90	42.32
			Max. Vx	8	34.87	-18.06	-3132.94
			Max. Torque	6			-2.99
L60	25.5 - 20.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-70.89	-8.49	4.01
			Max. Mx	11	-41.72	3299.94	44.47
			Max. My	8	-41.72	-18.98	-3308.64
			Max. Vy	11	-35.32	3299.94	44.47
			Max. Vx	8	35.45	-18.98	-3308.64
			Max. Torque	6			-2.99
L61	20.5 - 15.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-73.46	-8.89	4.26
			Max. Mx	11	-43.71	3477.84	46.60
			Max. My	8	-43.71	-19.89	-3487.19
			Max. Vy	11	-35.90	3477.84	46.60
			Max. Vx	8	36.03	-19.89	-3487.19
			Max. Torque	6			-2.96
L62	15.5 - 14.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-74.23	-9.00	4.33
			Max. Mx	11	-44.32	3528.89	47.21
			Max. My	8	-44.32	-20.15	-3538.43
			Max. Vy	11	-36.07	3528.89	47.21
			Max. Vx	8	36.20	-20.15	-3538.43
			Max. Torque	6			-2.93
L63	14.08 - 13.82	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-74.37	-9.02	4.34
			Max. Mx	11	-44.44	3538.26	47.32
			Max. My	8	-44.44	-20.20	-3547.83
			Max. Vy	11	-36.08	3538.26	47.32
			Max. Vx	8	36.21	-20.20	-3547.83
			Max. Torque	6			-2.92
L64	13.82 - 13.67	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-74.44	-9.04	4.35
			Max. Mx	11	-44.50	3543.67	47.38
			Max. My	8	-44.50	-20.22	-3553.27
			Max. Vy	11	-36.10	3543.67	47.38
			Max. Vx	8	36.23	-20.22	-3553.27
			Max. Torque	6			-2.92

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L65	13.67 - 10.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-76.18	-9.30	4.51
			Max. Mx	11	-45.87	3658.61	48.73
			Max. My	8	-45.87	-20.80	-3668.62
			Max. Vy	11	-36.47	3658.61	48.73
			Max. Vx	8	36.60	-20.80	-3668.62
			Max. Torque	6			-2.92
L66	10.5 - 10.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-76.31	-9.32	4.52
			Max. Mx	11	-45.98	3667.73	48.84
			Max. My	8	-45.98	-20.85	-3677.77
			Max. Vy	11	-36.49	3667.73	48.84
			Max. Vx	8	36.61	-20.85	-3677.77
			Max. Torque	6			-2.90
L67	10.25 - 5.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-78.58	-9.54	4.61
			Max. Mx	11	-47.87	3851.36	50.92
			Max. My	8	-47.87	-21.72	-3862.05
			Max. Vy	11	-37.00	3851.36	50.92
			Max. Vx	8	37.13	-21.72	-3862.05
			Max. Torque	6			-2.90
L68	5.25 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-79.83	-9.57	4.60
			Max. Mx	11	-49.02	3934.84	51.84
			Max. My	8	-49.02	-22.09	-3945.81
			Max. Vy	11	-37.23	3934.84	51.84
			Max. Vx	8	37.36	-22.09	-3945.81
			Max. Torque	6			-2.88
L69	3 - 2.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-79.93	-9.57	4.60
			Max. Mx	11	-49.12	3944.14	51.94
			Max. My	8	-49.12	-22.13	-3955.15
			Max. Vy	11	-37.25	3944.14	51.94
			Max. Vx	8	37.37	-22.13	-3955.15
			Max. Torque	6			-2.87
L70	2.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-81.07	-9.60	4.58
			Max. Mx	11	-50.12	4046.90	53.06
			Max. My	8	-50.12	-22.59	-4058.26
			Max. Vy	11	-37.52	4046.90	53.06
			Max. Vx	8	37.64	-22.59	-4058.26
			Max. Torque	6			-2.87

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	18	81.07	-11.91	-0.08
	Max. H_x	11	50.14	37.49	0.41
	Max. H_z	2	50.14	0.25	37.54
	Max. M_x	2	4050.73	0.25	37.54
	Max. M_z	5	4043.88	-37.44	-0.27
	Max. Torsion	3	2.61	-18.45	32.55
	Min. Vert	1	50.14	0.00	0.00
	Min. H_x	5	50.14	-37.44	-0.27
	Min. H_z	8	50.14	-0.16	-37.62

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
	Min. M_x	8	-4058.26	-0.16	-37.62
	Min. M_z	11	-4046.90	37.49	0.41
	Min. Torsion	6	-2.87	-32.46	-19.18

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	50.14	0.00	0.00	-1.09	-1.51	0.00
Dead+Wind 0 deg - No Ice	50.14	-0.25	-37.54	-4050.73	30.76	-2.46
Dead+Wind 30 deg - No Ice	50.14	18.45	-32.55	-3512.41	-1988.58	-2.61
Dead+Wind 60 deg - No Ice	50.14	32.30	-18.55	-1998.17	-3486.28	-1.56
Dead+Wind 90 deg - No Ice	50.14	37.44	0.27	32.96	-4043.88	0.66
Dead+Wind 120 deg - No Ice	50.14	32.46	19.18	2076.22	-3505.99	2.87
Dead+Wind 150 deg - No Ice	50.14	18.79	32.72	3532.75	-2031.64	2.73
Dead+Wind 180 deg - No Ice	50.14	0.16	37.62	4058.26	-22.59	2.26
Dead+Wind 210 deg - No Ice	50.14	-18.43	32.65	3522.73	1982.87	2.65
Dead+Wind 240 deg - No Ice	50.14	-32.24	18.88	2036.52	3475.69	2.36
Dead+Wind 270 deg - No Ice	50.14	-37.49	-0.41	-53.06	4046.90	0.66
Dead+Wind 300 deg - No Ice	50.14	-32.52	-18.97	-2051.52	3510.53	0.38
Dead+Wind 330 deg - No Ice	50.14	-18.93	-32.56	-3515.06	2046.49	-0.97
Dead+Ice	81.07	0.00	-0.00	-4.58	-9.60	0.00
Dead+Wind 0 deg+Ice	81.07	-0.07	-11.92	-1306.92	-0.19	-0.53
Dead+Wind 30 deg+Ice	81.07	5.88	-10.33	-1132.94	-650.81	-0.76
Dead+Wind 60 deg+Ice	81.07	10.28	-5.90	-647.51	-1132.44	-0.66
Dead+Wind 90 deg+Ice	81.07	11.91	0.08	5.63	-1311.75	-0.18
Dead+Wind 120 deg+Ice	81.07	10.32	6.07	661.34	-1138.84	0.38
Dead+Wind 150 deg+Ice	81.07	5.98	10.38	1130.84	-664.13	0.44
Dead+Wind 180 deg+Ice	81.07	0.05	11.94	1300.27	-16.53	0.48
Dead+Wind 210 deg+Ice	81.07	-5.87	10.36	1127.10	630.48	0.77
Dead+Wind 240 deg+Ice	81.07	-10.26	5.98	648.77	1111.01	0.86
Dead+Wind 270 deg+Ice	81.07	-11.92	-0.11	-19.33	1293.77	0.52
Dead+Wind 300 deg+Ice	81.07	-10.34	-6.02	-663.46	1121.32	0.45
Dead+Wind 330 deg+Ice	81.07	-6.01	-10.34	-1134.86	649.25	0.01
Dead+Wind 0 deg - Service	50.14	-0.10	-14.66	-1585.11	11.08	-0.98
Dead+Wind 30 deg - Service	50.14	7.21	-12.71	-1374.54	-778.77	-1.04
Dead+Wind 60 deg - Service	50.14	12.62	-7.25	-782.25	-1364.58	-0.62
Dead+Wind 90 deg - Service	50.14	14.63	0.10	12.21	-1582.71	0.26
Dead+Wind 120 deg - Service	50.14	12.68	7.49	811.44	-1372.33	1.14
Dead+Wind 150 deg - Service	50.14	7.34	12.78	1381.16	-795.63	1.08
Dead+Wind 180 deg - Service	50.14	0.06	14.69	1586.69	-9.78	0.89
Dead+Wind 210 deg - Service	50.14	-7.20	12.75	1377.21	774.65	1.04
Dead+Wind 240 deg - Service	50.14	-12.59	7.37	795.88	1358.55	0.93
Dead+Wind 270 deg - Service	50.14	-14.65	-0.16	-21.44	1581.99	0.26
Dead+Wind 300 deg - Service	50.14	-12.70	-7.41	-803.14	1372.20	0.15
Dead+Wind 330 deg - Service	50.14	-7.40	-12.72	-1375.60	799.54	-0.38

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-50.14	0.00	0.00	50.14	0.00	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
2	-0.25	-50.14	-37.54	0.25	50.14	37.54	0.000%
3	18.45	-50.14	-32.55	-18.45	50.14	32.55	0.000%
4	32.30	-50.14	-18.55	-32.30	50.14	18.55	0.000%
5	37.44	-50.14	0.27	-37.44	50.14	-0.27	0.000%
6	32.46	-50.14	19.18	-32.46	50.14	-19.18	0.000%
7	18.79	-50.14	32.72	-18.79	50.14	-32.72	0.000%
8	0.16	-50.14	37.62	-0.16	50.14	-37.62	0.000%
9	-18.43	-50.14	32.65	18.43	50.14	-32.65	0.000%
10	-32.24	-50.14	18.88	32.24	50.14	-18.88	0.000%
11	-37.49	-50.14	-0.41	37.49	50.14	0.41	0.000%
12	-32.52	-50.14	-18.97	32.52	50.14	18.97	0.000%
13	-18.93	-50.14	-32.56	18.93	50.14	32.56	0.000%
14	0.00	-81.07	0.00	-0.00	81.07	0.00	0.000%
15	-0.07	-81.07	-11.92	0.07	81.07	11.92	0.000%
16	5.88	-81.07	-10.33	-5.88	81.07	10.33	0.000%
17	10.28	-81.07	-5.90	-10.28	81.07	5.90	0.000%
18	11.91	-81.07	0.08	-11.91	81.07	-0.08	0.000%
19	10.32	-81.07	6.07	-10.32	81.07	-6.07	0.000%
20	5.98	-81.07	10.38	-5.98	81.07	-10.38	0.000%
21	0.05	-81.07	11.94	-0.05	81.07	-11.94	0.000%
22	-5.87	-81.07	10.36	5.87	81.07	-10.36	0.000%
23	-10.26	-81.07	5.98	10.26	81.07	-5.98	0.000%
24	-11.92	-81.07	-0.11	11.92	81.07	0.11	0.000%
25	-10.34	-81.07	-6.02	10.34	81.07	6.02	0.000%
26	-6.01	-81.07	-10.34	6.01	81.07	10.34	0.000%
27	-0.10	-50.14	-14.66	0.10	50.14	14.66	0.000%
28	7.21	-50.14	-12.71	-7.21	50.14	12.71	0.000%
29	12.62	-50.14	-7.25	-12.62	50.14	7.25	0.000%
30	14.63	-50.14	0.10	-14.63	50.14	-0.10	0.000%
31	12.68	-50.14	7.49	-12.68	50.14	-7.49	0.000%
32	7.34	-50.14	12.78	-7.34	50.14	-12.78	0.000%
33	0.06	-50.14	14.69	-0.06	50.14	-14.69	0.000%
34	-7.20	-50.14	12.75	7.20	50.14	-12.75	0.000%
35	-12.59	-50.14	7.37	12.59	50.14	-7.37	0.000%
36	-14.65	-50.14	-0.16	14.65	50.14	0.16	0.000%
37	-12.70	-50.14	-7.41	12.70	50.14	7.41	0.000%
38	-7.40	-50.14	-12.72	7.40	50.14	12.72	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00081430
3	Yes	6	0.00000001	0.00031770
4	Yes	6	0.00000001	0.00033835
5	Yes	5	0.00000001	0.00043411
6	Yes	6	0.00000001	0.00035806
7	Yes	6	0.00000001	0.00032230
8	Yes	5	0.00000001	0.00044521
9	Yes	6	0.00000001	0.00034613
10	Yes	6	0.00000001	0.00032316
11	Yes	5	0.00000001	0.00043219
12	Yes	6	0.00000001	0.00033855
13	Yes	6	0.00000001	0.00034439
14	Yes	4	0.00000001	0.00005623

15	Yes	5	0.00000001	0.00064860
16	Yes	6	0.00000001	0.00027329
17	Yes	6	0.00000001	0.00030143
18	Yes	5	0.00000001	0.00052900
19	Yes	6	0.00000001	0.00031518
20	Yes	6	0.00000001	0.00028280
21	Yes	5	0.00000001	0.00058570
22	Yes	6	0.00000001	0.00029731
23	Yes	6	0.00000001	0.00026485
24	Yes	5	0.00000001	0.00059574
25	Yes	6	0.00000001	0.00029625
26	Yes	6	0.00000001	0.00029293
27	Yes	5	0.00000001	0.00019000
28	Yes	5	0.00000001	0.00099211
29	Yes	6	0.00000001	0.00004601
30	Yes	5	0.00000001	0.00010274
31	Yes	6	0.00000001	0.00005085
32	Yes	6	0.00000001	0.00004253
33	Yes	5	0.00000001	0.00014892
34	Yes	6	0.00000001	0.00004794
35	Yes	6	0.00000001	0.00004232
36	Yes	5	0.00000001	0.00009058
37	Yes	6	0.00000001	0.00004595
38	Yes	6	0.00000001	0.00004735

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	44.44	31	2.55	0.01
L2	155 - 150	41.78	31	2.55	0.01
L3	150 - 146	39.12	31	2.53	0.01
L4	146 - 141	37.01	31	2.50	0.01
L5	141 - 136	34.41	31	2.46	0.01
L6	136 - 131	31.86	31	2.40	0.01
L7	131 - 126	29.38	31	2.33	0.01
L8	126 - 121	26.99	31	2.23	0.01
L9	121 - 117.25	24.72	31	2.12	0.01
L10	117.25 - 117	23.10	31	2.02	0.01
L11	117 - 115.5	22.99	31	2.01	0.01
L12	115.5 - 115.25	22.37	31	1.97	0.01
L13	115.25 - 110.25	22.26	31	1.96	0.01
L14	110.25 - 103.75	20.25	31	1.87	0.00
L15	107.5 - 102.5	19.19	31	1.82	0.00
L16	102.5 - 98.5	17.32	31	1.75	0.00
L17	98.5 - 98.25	15.89	31	1.67	0.00
L18	98.25 - 93.25	15.80	31	1.67	0.00
L19	93.25 - 88.25	14.11	31	1.56	0.00
L20	88.25 - 83.5	12.54	31	1.44	0.00
L21	83.5 - 83.25	11.16	31	1.33	0.00
L22	83.25 - 82.5	11.09	31	1.33	0.00
L23	82.5 - 82.25	10.89	31	1.31	0.00
L24	82.25 - 80.75	10.82	31	1.31	0.00
L25	80.75 - 80.5	10.41	31	1.27	0.00
L26	80.5 - 78.5	10.34	31	1.27	0.00
L27	78.5 - 78.25	9.82	31	1.23	0.00
L28	78.25 - 77.5	9.76	31	1.22	0.00
L29	77.5 - 77.25	9.57	31	1.21	0.00
L30	77.25 - 68.5	9.50	31	1.21	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L31	73 - 68	8.46	31	1.13	0.00
L32	68 - 65.25	7.31	31	1.07	0.00
L33	65.25 - 65	6.71	31	1.02	0.00
L34	65 - 64.25	6.66	31	1.02	0.00
L35	64.25 - 64	6.50	31	1.01	0.00
L36	64 - 62.5	6.44	31	1.00	0.00
L37	62.5 - 62.25	6.13	31	0.98	0.00
L38	62.25 - 60.08	6.08	31	0.97	0.00
L39	60.08 - 59.83	5.65	31	0.92	0.00
L40	59.83 - 59.08	5.60	31	0.92	0.00
L41	59.08 - 58.83	5.46	31	0.90	0.00
L42	58.83 - 57.25	5.41	31	0.90	0.00
L43	57.25 - 57	5.12	31	0.87	0.00
L44	57 - 55.75	5.07	31	0.87	0.00
L45	55.75 - 55.5	4.85	31	0.85	0.00
L46	55.5 - 50.5	4.81	31	0.84	0.00
L47	50.5 - 45.5	3.97	31	0.76	0.00
L48	45.5 - 41.33	3.22	31	0.67	0.00
L49	41.33 - 41.08	2.67	31	0.60	0.00
L50	41.08 - 34	2.63	31	0.59	0.00
L51	39 - 33	2.38	31	0.56	0.00
L52	33 - 31.5	1.71	31	0.50	0.00
L53	31.5 - 31.25	1.55	31	0.48	0.00
L54	31.25 - 30.5	1.53	31	0.48	0.00
L55	30.5 - 30.25	1.45	31	0.46	0.00
L56	30.25 - 28.5	1.43	31	0.46	0.00
L57	28.5 - 28.25	1.27	31	0.43	0.00
L58	28.25 - 25.75	1.25	31	0.43	0.00
L59	25.75 - 25.5	1.03	31	0.40	0.00
L60	25.5 - 20.5	1.01	31	0.39	0.00
L61	20.5 - 15.5	0.64	31	0.31	0.00
L62	15.5 - 14.08	0.36	31	0.23	0.00
L63	14.08 - 13.82	0.30	31	0.21	0.00
L64	13.82 - 13.67	0.28	31	0.20	0.00
L65	13.67 - 10.5	0.28	31	0.20	0.00
L66	10.5 - 10.25	0.16	31	0.15	0.00
L67	10.25 - 5.25	0.15	31	0.15	0.00
L68	5.25 - 3	0.04	31	0.07	0.00
L69	3 - 2.75	0.01	31	0.04	0.00
L70	2.75 - 0	0.01	31	0.04	0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
156.0000	SBNH-1D6565C w/ Mount Pipe	31	42.31	2.55	0.01	39261
148.0000	(2) PCS 1900MHz 4x45W-65MHz	31	38.06	2.52	0.01	8621
146.0000	APXV9ERR18-C-A20 w/ Mount Pipe	31	37.01	2.50	0.01	7697
139.0000	APXV18-206517S-C	31	33.38	2.44	0.01	5242
132.0000	BXA-80080-6CF-EDIN-X w/ Mount Pipe	31	29.87	2.35	0.01	3516
122.0000	VHLP800-11	31	25.16	2.14	0.01	2345
121.0000	LLPX310R w/ Mount Pipe	31	24.72	2.12	0.01	2284
101.0000	58532A	31	16.77	1.73	0.00	3019

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	160 - 155	113.24	6	6.50	0.02
L2	155 - 150	106.46	6	6.50	0.02
L3	150 - 146	99.70	6	6.46	0.02
L4	146 - 141	94.34	6	6.38	0.02
L5	141 - 136	87.73	6	6.28	0.02
L6	136 - 131	81.24	6	6.13	0.02
L7	131 - 126	74.94	6	5.94	0.02
L8	126 - 121	68.85	6	5.70	0.02
L9	121 - 117.25	63.06	6	5.40	0.02
L10	117.25 - 117	58.92	6	5.15	0.02
L11	117 - 115.5	58.66	6	5.13	0.02
L12	115.5 - 115.25	57.06	6	5.03	0.01
L13	115.25 - 110.25	56.80	6	5.02	0.01
L14	110.25 - 103.75	51.69	6	4.78	0.01
L15	107.5 - 102.5	48.98	6	4.64	0.01
L16	102.5 - 98.5	44.21	6	4.48	0.01
L17	98.5 - 98.25	40.55	6	4.27	0.01
L18	98.25 - 93.25	40.33	6	4.25	0.01
L19	93.25 - 88.25	36.02	6	3.97	0.01
L20	88.25 - 83.5	32.02	6	3.68	0.01
L21	83.5 - 83.25	28.50	6	3.40	0.01
L22	83.25 - 82.5	28.33	6	3.39	0.01
L23	82.5 - 82.25	27.80	6	3.36	0.01
L24	82.25 - 80.75	27.62	6	3.34	0.01
L25	80.75 - 80.5	26.59	6	3.25	0.01
L26	80.5 - 78.5	26.42	6	3.24	0.01
L27	78.5 - 78.25	25.08	6	3.14	0.01
L28	78.25 - 77.5	24.92	6	3.13	0.01
L29	77.5 - 77.25	24.43	6	3.10	0.00
L30	77.25 - 68.5	24.27	6	3.09	0.00
L31	73 - 68	21.62	6	2.87	0.00
L32	68 - 65.25	18.67	7	2.74	0.00
L33	65.25 - 65	17.14	7	2.61	0.00
L34	65 - 64.25	17.00	7	2.60	0.00
L35	64.25 - 64	16.59	7	2.57	0.00
L36	64 - 62.5	16.46	7	2.56	0.00
L37	62.5 - 62.25	15.67	7	2.49	0.00
L38	62.25 - 60.08	15.54	7	2.48	0.00
L39	60.08 - 59.83	14.44	7	2.36	0.00
L40	59.83 - 59.08	14.31	7	2.35	0.00
L41	59.08 - 58.83	13.95	7	2.31	0.00
L42	58.83 - 57.25	13.83	7	2.29	0.00
L43	57.25 - 57	13.08	7	2.22	0.00
L44	57 - 55.75	12.96	7	2.21	0.00
L45	55.75 - 55.5	12.39	7	2.17	0.00
L46	55.5 - 50.5	12.28	7	2.16	0.00
L47	50.5 - 45.5	10.14	7	1.94	0.00
L48	45.5 - 41.33	8.23	7	1.71	0.00
L49	41.33 - 41.08	6.81	7	1.53	0.00
L50	41.08 - 34	6.73	7	1.52	0.00
L51	39 - 33	6.09	7	1.44	0.00
L52	33 - 31.5	4.36	7	1.29	0.00
L53	31.5 - 31.25	3.97	7	1.23	0.00
L54	31.25 - 30.5	3.91	7	1.21	0.00

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L55	30.5 - 30.25	3.72	7	1.18	0.00
L56	30.25 - 28.5	3.66	7	1.17	0.00
L57	28.5 - 28.25	3.24	7	1.10	0.00
L58	28.25 - 25.75	3.18	7	1.09	0.00
L59	25.75 - 25.5	2.63	7	1.01	0.00
L60	25.5 - 20.5	2.58	7	1.00	0.00
L61	20.5 - 15.5	1.64	7	0.79	0.00
L62	15.5 - 14.08	0.92	7	0.59	0.00
L63	14.08 - 13.82	0.76	7	0.53	0.00
L64	13.82 - 13.67	0.73	7	0.52	0.00
L65	13.67 - 10.5	0.71	7	0.52	0.00
L66	10.5 - 10.25	0.41	7	0.39	0.00
L67	10.25 - 5.25	0.39	7	0.38	0.00
L68	5.25 - 3	0.10	7	0.17	0.00
L69	3 - 2.75	0.04	7	0.11	0.00
L70	2.75 - 0	0.03	7	0.10	0.00

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
156.0000	SBNH-1D6565C w/ Mount Pipe	6	107.81	6.50	0.02	15973
148.0000	(2) PCS 1900MHz 4x45W-65MHz	6	97.01	6.42	0.02	3465
146.0000	APXV9ERR18-C-A20 w/ Mount Pipe	6	94.34	6.38	0.02	3090
139.0000	APXV18-206517S-C	6	85.12	6.23	0.02	2099
132.0000	BXA-80080-6CF-EDIN-X w/ Mount Pipe	6	76.18	5.99	0.02	1406
122.0000	VHLP800-11	6	64.19	5.46	0.02	934
121.0000	LLPX310R w/ Mount Pipe	6	63.06	5.40	0.02	909
101.0000	58532A	6	42.81	4.41	0.01	1198

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	160 - 159	TP16x16x0.375	5.0000	0.0000	0.0	21.00	18.4078	-0.10	386.56	0.000
	159 - 158					21.00	18.4078	-0.12	386.56	0.000
	158 - 157					21.00	18.4078	-0.18	386.56	0.000
	157 - 156					21.00	18.4078	-0.24	386.56	0.001
	156 - 155					21.00	18.4078	-1.21	386.56	0.003
L2	155 - 154	TP16x16x0.375	5.0000	0.0000	0.0	21.00	18.4078	-1.28	386.56	0.003
	154 - 153					21.00	18.4078	-1.34	386.56	0.003
	153 - 152					21.00	18.4078	-1.41	386.56	0.004
	152 - 151					21.00	18.4078	-1.47	386.56	0.004
	151 - 150					21.00	18.4078	-1.53	386.56	0.004

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L3	150 - 149	TP16x16x0.375	4.0000	0.0000	0.0	21.00	18.4078	-1.60	386.56	0.004
	149 - 148					21.00	18.4078	-1.66	386.56	0.004
	148 - 147					21.00	18.4078	-2.34	386.56	0.006
	147 - 146					21.00	18.4078	-2.40	386.56	0.006
L4	146 - 145	TP22.924x22x0.25	5.0000	0.0000	0.0	36.00	17.6575	-4.27	635.67	0.007
	145 - 144					36.00	17.8063	-4.33	641.03	0.007
	144 - 143					36.00	17.9551	-4.39	646.38	0.007
	143 - 142					36.00	18.1038	-4.46	651.74	0.007
	142 - 141					36.00	18.2526	-4.52	657.09	0.007
L5	141 - 140	TP23.848x22.924x0.25	5.0000	0.0000	0.0	36.00	18.4014	-4.59	662.45	0.007
	140 - 139					36.00	18.5501	-4.66	667.80	0.007
	139 - 138					36.00	18.6989	-4.90	673.16	0.007
	138 - 137					36.00	18.8477	-4.97	678.52	0.007
	137 - 136					36.00	18.9964	-5.04	683.87	0.007
L6	136 - 135	TP24.7721x23.848x0.25	5.0000	0.0000	0.0	36.00	19.1452	-5.12	689.23	0.007
	135 - 134					36.00	19.2940	-5.20	694.58	0.007
	134 - 133					36.00	19.4427	-5.28	699.94	0.008
	133 - 132					36.00	19.5915	-5.37	705.29	0.008
	132 - 131					36.00	19.7403	-7.36	710.65	0.010
L7	131 - 130	TP25.6961x24.7721x0.25	5.0000	0.0000	0.0	36.00	19.8890	-7.47	716.01	0.010
	130 - 129					36.00	20.0378	-7.58	721.36	0.011
	129 - 128					36.00	20.1866	-7.69	726.72	0.011
	128 - 127					36.00	20.3353	-7.81	732.07	0.011
	127 - 126					36.00	20.4841	-7.92	737.43	0.011
L8	126 - 125	TP26.6201x25.6961x0.25	5.0000	0.0000	0.0	36.00	20.6329	-8.04	742.78	0.011
	125 - 124					36.00	20.7816	-8.16	748.14	0.011
	124 - 123					36.00	20.9304	-8.28	753.50	0.011
	123 - 122					36.00	21.0792	-8.40	758.85	0.011
	122 - 121					36.00	21.2279	-8.54	764.21	0.011
L9	121 - 119.75	TP27.3131x26.6201x0.25	3.7500	0.0000	0.0	36.00	21.4139	-9.70	770.90	0.013
	119.75 - 118.5					36.00	21.5999	-9.83	777.60	0.013
	118.5 - 117.25					36.00	21.7858	-9.99	784.29	0.013
L10	117.25 - 117 (10)	TP27.3593x27.3131x0.2625	0.2500	0.0000	0.0	36.00	22.9036	-10.04	824.53	0.012
L11	117 - 115.5 (11)	TP27.6365x27.3593x0.2625	1.5000	0.0000	0.0	36.00	23.1379	-10.25	832.97	0.012
L12	115.5 - 115.25 (12)	TP27.6827x27.6365x0.425	0.2500	0.0000	0.0	36.00	37.3022	-10.31	1342.88	0.008
L13	115.25 - 114.25	TP28.6068x27.6827x0.4125	5.0000	0.0000	0.0	36.00	36.4672	-10.47	1312.82	0.008
	114.25 - 113.25					36.00	36.7126	-10.64	1321.66	0.008
	113.25 - 112.25					36.00	36.9581	-10.81	1330.49	0.008
	112.25 - 111.25					36.00	37.2036	-10.99	1339.33	0.008
	111.25 - 110.25					36.00	37.4490	-11.16	1348.17	0.008
L14	110.25 - 108.875	TP29.808x28.6068x0.4125	6.5000	0.0000	0.0	36.00	37.7866	-11.40	1360.32	0.008
	108.875 - 107.5					36.00	38.1241	-11.64	1372.47	0.008
	107.5 - 103.75					36.00	39.0446	-6.05	1405.60	0.004
L15	107.5 - 103.75	TP29.5386x28.615x0.475	5.0000	0.0000	0.0	36.00	44.0996	-6.76	1587.58	0.004
	103.75 - 102.5					36.00	44.4527	-13.06	1600.30	0.008
L16	102.5 - 101.5	TP30.2774x29.5386x0.4688	4.0000	0.0000	0.0	36.00	44.1561	-13.26	1589.62	0.008
	101.5 - 100.5					36.00	44.4349	-13.52	1599.66	0.008
	100.5 - 99.5					36.00	44.7137	-13.73	1609.69	0.009
	99.5 - 98.5					36.00	44.9925	-13.93	1619.73	0.009
L17	98.5 - 98.25 (17)	TP30.3236x30.2774x0.45	0.2500	0.0000	0.0	36.00	43.2869	-13.99	1558.33	0.009
L18	98.25 - 97.25	TP31.2472x30.3236x0.45	5.0000	0.0000	0.0	36.00	43.5545	-14.20	1567.96	0.009
	97.25 - 96.25					36.00	43.8222	-14.42	1577.60	0.009
	96.25 - 95.25					36.00	44.0899	-14.65	1587.23	0.009
	95.25 - 94.25					36.00	44.3575	-14.87	1596.87	0.009
	94.25 - 93.25					36.00	44.6252	-15.10	1606.51	0.009
L19	93.25 - 92.25	TP32.1708x31.2472x0.4438	5.0000	0.0000	0.0	36.00	44.2782	-15.32	1594.02	0.010
	92.25 - 91.25					36.00	44.5422	-15.55	1603.52	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
	91.25 - 90.25					36.00	44.8061	-15.78	1613.02	0.010
	90.25 - 89.25					36.00	45.0701	-16.01	1622.52	0.010
	89.25 - 88.25					36.00	45.3340	-16.24	1632.02	0.010
L20	88.25 - 87.0625	TP33.0482x32.1708x0.4563	4.7500	0.0000	0.0	36.00	46.9149	-16.51	1688.94	0.010
	87.0625 - 85.875					36.00	47.2372	-16.78	1700.54	0.010
	85.875 - 84.6875					36.00	47.5594	-17.06	1712.14	0.010
	84.6875 - 83.5					36.00	47.8817	-17.34	1723.74	0.010
L21	83.5 - 83.25 (21)	TP33.0944x33.0482x0.6125	0.2500	0.0000	0.0	36.00	64.0624	-17.43	2306.25	0.008
L22	83.25 - 82.5 (22)	TP33.2329x33.0944x0.5875	0.7500	0.0000	0.0	36.00	61.7570	-17.64	2223.25	0.008
L23	82.5 - 82.25 (23)	TP33.2791x33.2329x0.4375	0.2500	0.0000	0.0	36.00	46.2656	-17.70	1665.56	0.011
L24	82.25 - 80.75 (24)	TP33.5562x33.2791x0.45	1.5000	0.0000	0.0	36.00	47.9709	-18.04	1726.95	0.010
L25	80.75 - 80.5 (25)	TP33.6024x33.5562x0.5375	0.2500	0.0000	0.0	36.00	57.2270	-18.13	2060.17	0.009
L26	80.5 - 79.5	TP33.9718x33.6024x0.525	2.0000	0.0000	0.0	36.00	56.2296	-18.39	2024.26	0.009
	79.5 - 78.5					36.00	56.5418	-18.66	2035.51	0.009
L27	78.5 - 78.25 (27)	TP34.018x33.9718x0.7625	0.2500	0.0000	0.0	36.00	81.6506	-18.75	2939.42	0.006
L28	78.25 - 77.5 (28)	TP34.1565x34.018x0.7625	0.7500	0.0000	0.0	36.00	81.9907	-18.99	2951.67	0.006
L29	77.5 - 77.25 (29)	TP34.2027x34.1565x0.5625	0.2500	0.0000	0.0	36.00	60.9308	-19.06	2193.51	0.009
L30	77.25 - 76.1875	TP35.819x34.2027x0.55	8.7500	0.0000	0.0	36.00	59.9465	-19.34	2158.08	0.009
	76.1875 - 75.125					36.00	60.2941	-19.63	2170.59	0.009
	75.125 - 74.0625					36.00	60.6417	-19.93	2183.10	0.009
	74.0625 - 73					36.00	60.9893	-20.22	2195.61	0.009
	73 - 68.5					36.00	62.4614	-10.79	2248.61	0.005
L31	73 - 68.5	TP35.2865x34.3628x0.6125	5.0000	0.0000	0.0	36.00	68.2036	-22.65	2455.33	0.009
	68.5 - 68					36.00	68.3858	-22.65	2461.89	0.009
L32	68 - 66.625	TP35.7946x35.2865x0.6125	2.7500	0.0000	0.0	36.00	68.8868	-23.05	2479.93	0.009
	66.625 - 65.25					36.00	69.3878	-23.47	2497.96	0.009
L33	65.25 - 65 (33)	TP35.8408x35.7946x0.85	0.2500	0.0000	0.0	36.00	95.7697	-23.58	3447.71	0.007
L34	65 - 64.25 (34)	TP35.9793x35.8408x0.85	0.7500	0.0000	0.0	36.00	96.1490	-23.86	3461.36	0.007
L35	64.25 - 64 (35)	TP36.0255x35.9793x0.675	0.2500	0.0000	0.0	36.00	76.8343	-23.95	2766.04	0.009
L36	64 - 62.5 (36)	TP36.3026x36.0255x0.675	1.5000	0.0000	0.0	36.00	77.4367	-24.46	2787.72	0.009
L37	62.5 - 62.25 (37)	TP36.3488x36.3026x0.5438	0.2500	0.0000	0.0	36.00	62.6902	-24.55	2256.85	0.011
L38	62.25 - 61.165	TP36.7497x36.3488x0.525	2.1700	0.0000	0.0	36.00	60.8990	-24.86	2192.37	0.011
	61.165 - 60.08					36.00	61.2379	-25.18	2204.56	0.011
L39	60.08 - 59.83 (39)	TP36.7959x36.7497x0.5375	0.2500	0.0000	0.0	36.00	62.7543	-25.27	2259.15	0.011
L40	59.83 - 59.08 (40)	TP36.9345x36.7959x0.5375	0.7500	0.0000	0.0	36.00	62.9941	-25.50	2267.79	0.011
L41	59.08 - 58.83 (41)	TP36.9807x36.9345x0.65	0.2500	0.0000	0.0	36.00	76.0401	-25.59	2737.44	0.009
L42	58.83 - 57.25 (42)	TP37.2726x36.9807x0.65	1.5800	0.0000	0.0	36.00	76.6510	-26.11	2759.44	0.009
L43	57.25 - 57 (43)	TP37.3188x37.2726x0.825	0.2500	0.0000	0.0	36.00	96.9457	-26.23	3490.04	0.008
L44	57 - 55.75 (44)	TP37.5497x37.3188x0.8375	1.2500	0.0000	0.0	36.00	99.0036	-26.74	3564.13	0.008
L45	55.75 - 55.5 (45)	TP37.5959x37.5497x0.675	0.2500	0.0000	0.0	36.00	80.2475	-26.83	2888.91	0.009
L46	55.5 - 54.5	TP38.5196x37.5959x0.6625	5.0000	0.0000	0.0	36.00	79.1823	-27.16	2850.56	0.010
	54.5 - 53.5					36.00	79.5764	-27.50	2864.75	0.010
	53.5 - 52.5					36.00	79.9705	-27.84	2878.94	0.010
	52.5 - 51.5					36.00	80.3646	-28.18	2893.13	0.010
	51.5 - 50.5					36.00	80.7587	-28.53	2907.31	0.010
L47	50.5 - 49.5	TP39.4434x38.5196x0.6625	5.0000	0.0000	0.0	36.00	81.1528	-28.87	2921.50	0.010
	49.5 - 48.5					36.00	81.5470	-29.21	2935.69	0.010
	48.5 - 47.5					36.00	81.9411	-29.56	2949.88	0.010
	47.5 - 46.5					36.00	82.3352	-29.91	2964.07	0.010
	46.5 - 45.5					36.00	82.7293	-30.26	2978.26	0.010
L48	45.5 - 44.4575	TP40.2138x39.4434x0.65	4.1700	0.0000	0.0	36.00	81.5977	-30.62	2937.52	0.010

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
	44.4575 - 43.415					36.00	82.0008	-30.98	2952.03	0.010
	43.415 - 42.3725					36.00	82.4039	-31.35	2966.54	0.011
	42.3725 - 41.33					36.00	82.8070	-31.72	2981.05	0.011
L49	41.33 - 41.08 (49)	TP40.26x40.2138x0.775	0.2500	0.0000	0.0	36.00	98.5348	-31.82	3547.25	0.009
L50	41.08 - 40.04	TP41.568x40.26x0.7625	7.0800	0.0000	0.0	36.00	97.4479	-32.22	3508.13	0.009
	40.04 - 39					36.00	97.9197	-32.62	3525.11	0.009
	39 - 34					36.00	100.1880	-19.01	3606.76	0.005
L51	39 - 34	TP41.0028x39.8943x0.7	6.0000	0.0000	0.0	39.00	90.4261	-17.12	3526.62	0.005
	34 - 33					39.00	90.8426	-36.54	3542.86	0.010
L52	33 - 31.5 (52)	TP41.28x41.0028x0.7	1.5000	0.0000	0.0	39.00	91.4673	-37.12	3567.22	0.010
L53	31.5 - 31.25 (53)	TP41.3262x41.28x0.7	0.2500	0.0000	0.0	39.00	91.5714	-37.24	3571.28	0.010
L54	31.25 - 30.5 (54)	TP41.4647x41.3262x0.7	0.7500	0.0000	0.0	39.00	91.8837	-37.53	3583.46	0.010
L55	30.5 - 30.25 (55)	TP41.5109x41.4647x0.7375	0.2500	0.0000	0.0	39.00	96.8267	-37.64	3776.24	0.010
L56	30.25 - 28.5 (56)	TP41.8343x41.5109x0.7375	1.7500	0.0000	0.0	39.00	97.5945	-38.34	3806.19	0.010
L57	28.5 - 28.25 (57)	TP41.8805x41.8343x0.925	0.2500	0.0000	0.0	39.00	121.9860	-38.48	4757.45	0.008
L58	28.25 - 27	TP42.3424x41.8805x0.95	2.5000	0.0000	0.0	39.00	125.9130	-39.06	4910.60	0.008
	27 - 25.75					39.00	126.6190	-39.64	4938.15	0.008
L59	25.75 - 25.5 (59)	TP42.3885x42.3424x0.7125	0.2500	0.0000	0.0	39.00	95.6153	-39.75	3729.00	0.011
L60	25.5 - 24.5	TP43.3124x42.3885x0.7	5.0000	0.0000	0.0	39.00	94.3824	-40.13	3680.92	0.011
	24.5 - 23.5					39.00	94.7989	-40.53	3697.16	0.011
	23.5 - 22.5					39.00	95.2154	-40.92	3713.40	0.011
	22.5 - 21.5					39.00	95.6318	-41.32	3729.64	0.011
	21.5 - 20.5					39.00	96.0483	-41.72	3745.88	0.011
L61	20.5 - 19.5	TP44.2362x43.3124x0.75	5.0000	0.0000	0.0	39.00	103.2340	-42.11	4026.14	0.010
	19.5 - 18.5					39.00	103.6810	-42.51	4043.54	0.011
	18.5 - 17.5					39.00	104.1270	-42.91	4060.94	0.011
	17.5 - 16.5					39.00	104.5730	-43.31	4078.34	0.011
	16.5 - 15.5					39.00	105.0190	-43.71	4095.75	0.011
L62	15.5 - 14.08 (62)	TP44.4985x44.2362x0.75	1.4200	0.0000	0.0	39.00	105.6530	-44.31	4120.46	0.011
L63	14.08 - 13.82 (63)	TP44.5466x44.4985x0.725	0.2600	0.0000	0.0	39.00	102.3010	-44.44	3989.76	0.011
L64	13.82 - 13.67 (64)	TP44.5743x44.5466x0.725	0.1500	0.0000	0.0	39.00	102.3660	-44.50	3992.28	0.011
L65	13.67 - 12.6133	TP45.16x44.5743x0.7125	3.1700	0.0000	0.0	39.00	101.0780	-44.94	3942.04	0.011
	12.6133 - 11.5567					39.00	101.5260	-45.40	3959.50	0.011
	11.5567 - 10.5					39.00	101.9740	-45.86	3976.97	0.012
L66	10.5 - 10.25 (66)	TP45.2062x45.16x0.7	0.2500	0.0000	0.0	39.00	100.3170	-45.98	3912.36	0.012
L67	10.25 - 9.25	TP46.13x45.2062x0.7	5.0000	0.0000	0.0	39.00	100.7330	-46.34	3928.60	0.012
	9.25 - 8.25					39.00	101.1500	-46.72	3944.84	0.012
	8.25 - 7.25					39.00	101.5660	-47.10	3961.09	0.012
	7.25 - 6.25					39.00	101.9830	-47.49	3977.33	0.012
	6.25 - 5.25					39.00	102.3990	-47.87	3993.57	0.012
L68	5.25 - 4.125	TP46.5457x46.13x1.1	2.2500	0.0000	0.0	39.00	160.2320	-48.45	6249.07	0.008
	4.125 - 3					39.00	160.9690	-49.02	6277.78	0.008
L69	3 - 2.75 (69)	TP46.5919x46.5457x0.775	0.2500	0.0000	0.0	39.00	114.3360	-49.12	4459.11	0.011
L70	2.75 - 1.375	TP47.1x46.5919x0.7625	2.7500	0.0000	0.0	39.00	113.1460	-49.61	4412.71	0.011
	1.375 - 0					39.00	113.7700	-50.12	4437.04	0.011

* DL controls

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	160 - 159	TP16x16x0.375	0.01	0.00	23.10	0.000	0.00	0.00	23.10	0.000
	159 - 158		0.09	0.01	23.10	0.001	0.00	0.00	23.10	0.000
	158 - 157		0.19	0.03	23.10	0.001	0.00	0.00	23.10	0.000
	157 - 156		0.35	0.06	23.10	0.003	0.00	0.00	23.10	0.000
	156 - 155		5.75	0.98	23.10	0.042	0.00	0.00	23.10	0.000
L2	155 - 154	TP16x16x0.375	10.12	1.73	23.10	0.075	0.00	0.00	23.10	0.000
	154 - 153		14.54	2.48	23.10	0.108	0.00	0.00	23.10	0.000
	153 - 152		19.02	3.25	23.10	0.141	0.00	0.00	23.10	0.000
	152 - 151		23.54	4.02	23.10	0.174	0.00	0.00	23.10	0.000
	151 - 150		28.11	4.80	23.10	0.208	0.00	0.00	23.10	0.000
L3	150 - 149	TP16x16x0.375	32.73	5.59	23.10	0.242	0.00	0.00	23.10	0.000
	149 - 148		37.40	6.39	23.10	0.276	0.00	0.00	23.10	0.000
	148 - 147		43.57	7.44	23.10	0.322	0.00	0.00	23.10	0.000
	147 - 146		49.79	8.50	23.10	0.368	0.00	0.00	23.10	0.000
L4	146 - 145	TP22.924x22x0.25	62.50	7.95	36.00	0.221	0.00	0.00	36.00	0.000
	145 - 144		72.73	9.09	36.00	0.253	0.00	0.00	36.00	0.000
	144 - 143		83.06	10.21	36.00	0.284	0.00	0.00	36.00	0.000
	143 - 142		93.49	11.31	36.00	0.314	0.00	0.00	36.00	0.000
	142 - 141		104.03	12.38	36.00	0.344	0.00	0.00	36.00	0.000
L5	141 - 140	TP23.848x22.924x0.25	114.66	13.42	36.00	0.373	0.00	0.00	36.00	0.000
	140 - 139		125.42	14.44	36.00	0.401	0.00	0.00	36.00	0.000
	139 - 138		137.06	15.53	36.00	0.431	0.00	0.00	36.00	0.000
	138 - 137		148.80	16.60	36.00	0.461	0.00	0.00	36.00	0.000
	137 - 136		160.65	17.64	36.00	0.490	0.00	0.00	36.00	0.000
L6	136 - 135	TP24.7721x23.848x0.25	172.60	18.65	36.00	0.518	0.00	0.00	36.00	0.000
	135 - 134		184.66	19.65	36.00	0.546	0.00	0.00	36.00	0.000
	134 - 133		196.83	20.62	36.00	0.573	0.00	0.00	36.00	0.000
	133 - 132		209.11	21.58	36.00	0.599	0.00	0.00	36.00	0.000
	132 - 131		233.17	23.70	36.00	0.658	0.00	0.00	36.00	0.000
L7	131 - 130	TP25.6961x24.7721x0.25	251.75	25.20	36.00	0.700	0.00	0.00	36.00	0.000
	130 - 129		270.45	26.67	36.00	0.741	0.00	0.00	36.00	0.000
	129 - 128		289.27	28.11	36.00	0.781	0.00	0.00	36.00	0.000
	128 - 127		308.22	29.51	36.00	0.820	0.00	0.00	36.00	0.000
	127 - 126		327.29	30.88	36.00	0.858	0.00	0.00	36.00	0.000
L8	126 - 125	TP26.6201x25.6961x0.25	346.49	32.22	36.00	0.895	0.00	0.00	36.00	0.000
	125 - 124		365.80	33.53	36.00	0.931	0.00	0.00	36.00	0.000
	124 - 123		385.24	34.81	36.00	0.967	0.00	0.00	36.00	0.000
	123 - 122		404.80	36.06	36.00	1.002	0.00	0.00	36.00	0.000
	122 - 121		424.83	37.31	36.00	1.036	0.00	0.00	36.00	0.000
L9	121 - 119.75	TP27.3131x26.6201x0.25	452.60	39.06	36.00	1.085	0.00	0.00	36.00	0.000
	119.75 - 118.5		479.97	40.71	36.00	1.131	0.00	0.00	36.00	0.000
	118.5 - 117.25		507.85	42.34	36.00	1.176	0.00	0.00	36.00	0.000
L10	117.25 - 117 (10)	TP27.3593x27.3131x0.2625	513.45	40.68	36.00	1.130	0.00	0.00	36.00	0.000
L11	117 - 115.5 (11)	TP27.6365x27.3593x0.2625	547.21	42.48	36.00	1.180	0.00	0.00	36.00	0.000
L12	115.5 - 115.25 (12)	TP27.6827x27.6365x0.425	552.86	26.89	36.00	0.747	0.00	0.00	36.00	0.000
L13	115.25 - 114.25	TP28.6068x27.6827x0.4125	575.57	28.42	36.00	0.789	0.00	0.00	36.00	0.000
	114.25 - 113.25		598.41	29.15	36.00	0.810	0.00	0.00	36.00	0.000
	113.25 - 112.25		621.38	29.86	36.00	0.830	0.00	0.00	36.00	0.000
	112.25 - 111.25		644.50	30.56	36.00	0.849	0.00	0.00	36.00	0.000
	111.25 - 110.25		667.74	31.25	36.00	0.868	0.00	0.00	36.00	0.000
L14	110.25 - 108.875	TP29.808x28.6068x0.4125	699.93	32.17	36.00	0.894	0.00	0.00	36.00	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
	108.875 - 107.5		732.37	33.06	36.00	0.918	0.00	0.00	36.00	0.000
	107.5 - 103.75		394.28	16.96	36.00	0.471	0.00	0.00	36.00	0.000
L15	107.5 - 103.75	TP29.5386x28.615x0.475	427.99	16.66	36.00	0.463	0.00	0.00	36.00	0.000
	103.75 - 102.5		852.70	32.67	36.00	0.907	0.00	0.00	36.00	0.000
L16	102.5 - 101.5	TP30.2774x29.5386x0.4688	877.20	33.60	36.00	0.933	0.00	0.00	36.00	0.000
	101.5 - 100.5		901.80	34.11	36.00	0.947	0.00	0.00	36.00	0.000
	100.5 - 99.5		926.64	34.61	36.00	0.961	0.00	0.00	36.00	0.000
	99.5 - 98.5		951.62	35.10	36.00	0.975	0.00	0.00	36.00	0.000
L17	98.5 - 98.25 (17)	TP30.3236x30.2774x0.45	957.88	36.62	36.00	1.017	0.00	0.00	36.00	0.000
L18	98.25 - 97.25	TP31.2472x30.3236x0.45	983.03	37.12	36.00	1.031	0.00	0.00	36.00	0.000
	97.25 - 96.25		1008.32	37.60	36.00	1.045	0.00	0.00	36.00	0.000
	96.25 - 95.25		1033.74	38.08	36.00	1.058	0.00	0.00	36.00	0.000
	95.25 - 94.25		1059.30	38.55	36.00	1.071	0.00	0.00	36.00	0.000
	94.25 - 93.25		1084.99	39.01	36.00	1.084	0.00	0.00	36.00	0.000
L19	93.25 - 92.25	TP32.1708x31.2472x0.4438	1110.82	39.99	36.00	1.111	0.00	0.00	36.00	0.000
	92.25 - 91.25		1136.78	40.44	36.00	1.123	0.00	0.00	36.00	0.000
	91.25 - 90.25		1162.87	40.88	36.00	1.135	0.00	0.00	36.00	0.000
	90.25 - 89.25		1189.08	41.31	36.00	1.147	0.00	0.00	36.00	0.000
	89.25 - 88.25		1215.44	41.73	36.00	1.159	0.00	0.00	36.00	0.000
L20	88.25 - 87.0625	TP33.0482x32.1708x0.4563	1246.91	41.11	36.00	1.142	0.00	0.00	36.00	0.000
	87.0625 - 85.875		1278.57	41.58	36.00	1.155	0.00	0.00	36.00	0.000
	85.875 - 84.6875		1310.41	42.03	36.00	1.168	0.00	0.00	36.00	0.000
	84.6875 - 83.5		1342.44	42.48	36.00	1.180	0.00	0.00	36.00	0.000
L21	83.5 - 83.25 (21)	TP33.0944x33.0482x0.6125	1349.21	32.17	36.00	0.894	0.00	0.00	36.00	0.000
L22	83.25 - 82.5 (22)	TP33.2329x33.0944x0.5875	1369.58	33.68	36.00	0.936	0.00	0.00	36.00	0.000
L23	82.5 - 82.25 (23)	TP33.2791x33.2329x0.4375	1376.38	44.70	36.00	1.242	0.00	0.00	36.00	0.000
L24	82.25 - 80.75 (24)	TP33.5562x33.2791x0.45	1417.38	44.05	36.00	1.224	0.00	0.00	36.00	0.000
L25	80.75 - 80.5 (25)	TP33.6024x33.5562x0.5375	1424.24	37.25	36.00	1.035	0.00	0.00	36.00	0.000
L26	80.5 - 79.5	TP33.9718x33.6024x0.525	1451.79	38.40	36.00	1.067	0.00	0.00	36.00	0.000
	79.5 - 78.5		1479.47	38.70	36.00	1.075	0.00	0.00	36.00	0.000
L27	78.5 - 78.25 (27)	TP34.018x33.9718x0.7625	1486.42	27.27	36.00	0.758	0.00	0.00	36.00	0.000
L28	78.25 - 77.5 (28)	TP34.1565x34.018x0.7625	1507.31	27.42	36.00	0.762	0.00	0.00	36.00	0.000
L29	77.5 - 77.25 (29)	TP34.2027x34.1565x0.5625	1514.28	36.58	36.00	1.016	0.00	0.00	36.00	0.000
L30	77.25 - 76.1875	TP35.819x34.2027x0.55	1544.05	37.66	36.00	1.046	0.00	0.00	36.00	0.000
	76.1875 - 75.125		1573.97	37.94	36.00	1.054	0.00	0.00	36.00	0.000
	75.125 - 74.0625		1604.04	38.22	36.00	1.062	0.00	0.00	36.00	0.000
	74.0625 - 73		1634.28	38.50	36.00	1.069	0.00	0.00	36.00	0.000
	73 - 68.5		861.13	19.33	36.00	0.537	0.00	0.00	36.00	0.000
L31	73 - 68.5	TP35.2865x34.3628x0.6125	903.12	18.98	36.00	0.527	0.00	0.00	36.00	0.000
	68.5 - 68		1778.89	37.18	36.00	1.033	0.00	0.00	36.00	0.000
L32	68 - 66.625	TP35.7946x35.2865x0.6125	1819.33	37.47	36.00	1.041	0.00	0.00	36.00	0.000
	66.625 - 65.25		1860.02	37.75	36.00	1.049	0.00	0.00	36.00	0.000
L33	65.25 - 65 (33)	TP35.8408x35.7946x0.85	1867.44	27.80	36.00	0.772	0.00	0.00	36.00	0.000
L34	65 - 64.25 (34)	TP35.9793x35.8408x0.85	1889.77	27.91	36.00	0.775	0.00	0.00	36.00	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L35	64.25 - 64 (35)	TP36.0255x35.9793x0.675	1897.23	34.67	36.00	0.963	0.00	0.00	36.00	0.000
L36	64 - 62.5 (36)	TP36.3026x36.0255x0.675	1942.18	34.93	36.00	0.970	0.00	0.00	36.00	0.000
L37	62.5 - 62.25 (37)	TP36.3488x36.3026x0.5438	1949.70	42.94	36.00	1.193	0.00	0.00	36.00	0.000
L38	62.25 - 61.165	TP36.7497x36.3488x0.525	1982.43	44.65	36.00	1.240	0.00	0.00	36.00	0.000
	61.165 - 60.08		2015.33	44.88	36.00	1.247	0.00	0.00	36.00	0.000
L39	60.08 - 59.83 (39)	TP36.7959x36.7497x0.5375	2022.93	43.94	36.00	1.221	0.00	0.00	36.00	0.000
L40	59.83 - 59.08 (40)	TP36.9345x36.7959x0.5375	2045.79	44.09	36.00	1.225	0.00	0.00	36.00	0.000
L41	59.08 - 58.83 (41)	TP36.9807x36.9345x0.65	2053.43	36.85	36.00	1.023	0.00	0.00	36.00	0.000
L42	58.83 - 57.25 (42)	TP37.2726x36.9807x0.65	2101.89	37.11	36.00	1.031	0.00	0.00	36.00	0.000
L43	57.25 - 57 (43)	TP37.3188x37.2726x0.825	2109.59	29.70	36.00	0.825	0.00	0.00	36.00	0.000
L44	57 - 55.75 (44)	TP37.5497x37.3188x0.8375	2148.22	29.44	36.00	0.818	0.00	0.00	36.00	0.000
L45	55.75 - 55.5 (45)	TP37.5959x37.5497x0.675	2155.98	36.09	36.00	1.002	0.00	0.00	36.00	0.000
L46	55.5 - 54.5	TP38.5196x37.5959x0.6625	2187.07	36.89	36.00	1.025	0.00	0.00	36.00	0.000
	54.5 - 53.5		2218.31	37.04	36.00	1.029	0.00	0.00	36.00	0.000
	53.5 - 52.5		2249.68	37.19	36.00	1.033	0.00	0.00	36.00	0.000
	52.5 - 51.5		2281.18	37.34	36.00	1.037	0.00	0.00	36.00	0.000
	51.5 - 50.5		2312.81	37.49	36.00	1.041	0.00	0.00	36.00	0.000
L47	50.5 - 49.5	TP39.4434x38.5196x0.6625	2344.57	37.63	36.00	1.045	0.00	0.00	36.00	0.000
	49.5 - 48.5		2376.47	37.77	36.00	1.049	0.00	0.00	36.00	0.000
	48.5 - 47.5		2408.49	37.91	36.00	1.053	0.00	0.00	36.00	0.000
	47.5 - 46.5		2440.65	38.04	36.00	1.057	0.00	0.00	36.00	0.000
	46.5 - 45.5		2472.94	38.18	36.00	1.061	0.00	0.00	36.00	0.000
L48	45.5 - 44.4575	TP40.2138x39.4434x0.65	2506.74	39.01	36.00	1.084	0.00	0.00	36.00	0.000
	44.4575 - 43.415		2540.68	39.15	36.00	1.088	0.00	0.00	36.00	0.000
	43.415 - 42.3725		2574.77	39.29	36.00	1.091	0.00	0.00	36.00	0.000
	42.3725 - 41.33		2609.00	39.42	36.00	1.095	0.00	0.00	36.00	0.000
L49	41.33 - 41.08 (49)	TP40.26x40.2138x0.775	2617.22	33.40	36.00	0.928	0.00	0.00	36.00	0.000
L50	41.08 - 40.04	TP41.568x40.26x0.7625	2651.55	34.03	36.00	0.945	0.00	0.00	36.00	0.000
	40.04 - 39		2686.02	34.14	36.00	0.948	0.00	0.00	36.00	0.000
	39 - 34		1524.74	18.50	36.00	0.514	0.00	0.00	36.00	0.000
L51	39 - 34	TP41.0028x39.8943x0.7	1329.18	18.15	39.00	0.466	0.00	0.00	39.00	0.000
	34 - 33		2887.93	39.08	39.00	1.002	0.00	0.00	39.00	0.000
L52	33 - 31.5 (52)	TP41.28x41.0028x0.7	2939.18	39.23	39.00	1.006	0.00	0.00	39.00	0.000
L53	31.5 - 31.25 (53)	TP41.3262x41.28x0.7	2947.74	39.25	39.00	1.006	0.00	0.00	39.00	0.000
L54	31.25 - 30.5 (54)	TP41.4647x41.3262x0.7	2973.48	39.32	39.00	1.008	0.00	0.00	39.00	0.000
L55	30.5 - 30.25 (55)	TP41.5109x41.4647x0.7375	2982.07	37.45	39.00	0.960	0.00	0.00	39.00	0.000
L56	30.25 - 28.5 (56)	TP41.8343x41.5109x0.7375	3042.44	37.60	39.00	0.964	0.00	0.00	39.00	0.000
L57	28.5 - 28.25 (57)	TP41.8805x41.8343x0.925	3051.09	30.41	39.00	0.780	0.00	0.00	39.00	0.000
L58	28.25 - 27	TP42.3424x41.8805x0.95	3094.47	29.75	39.00	0.763	0.00	0.00	39.00	0.000
	27 - 25.75		3138.05	29.83	39.00	0.765	0.00	0.00	39.00	0.000
L59	25.75 - 25.5 (59)	TP42.3885x42.3424x0.7125	3146.79	39.11	39.00	1.003	0.00	0.00	39.00	0.000
L60	25.5 - 24.5	TP43.3124x42.3885x0.7	3181.83	39.86	39.00	1.022	0.00	0.00	39.00	0.000
	24.5 - 23.5		3216.98	39.95	39.00	1.024	0.00	0.00	39.00	0.000
	23.5 - 22.5		3252.26	40.03	39.00	1.026	0.00	0.00	39.00	0.000

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
	22.5 - 21.5		3287.63	40.11	39.00	1.028	0.00	0.00	39.00	0.000
	21.5 - 20.5		3323.13	40.19	39.00	1.031	0.00	0.00	39.00	0.000
L61	20.5 - 19.5	TP44.2362x43.3124x0.75	3358.73	37.72	39.00	0.967	0.00	0.00	39.00	0.000
	19.5 - 18.5		3394.46	37.79	39.00	0.969	0.00	0.00	39.00	0.000
	18.5 - 17.5		3430.30	37.86	39.00	0.971	0.00	0.00	39.00	0.000
	17.5 - 16.5		3466.25	37.92	39.00	0.972	0.00	0.00	39.00	0.000
	16.5 - 15.5		3502.32	37.99	39.00	0.974	0.00	0.00	39.00	0.000
L62	15.5 - 14.08 (62)	TP44.4985x44.2362x0.75	3553.74	38.08	39.00	0.977	0.00	0.00	39.00	0.000
L63	14.08 - 13.82 (63)	TP44.5466x44.4985x0.725	3563.18	39.35	39.00	1.009	0.00	0.00	39.00	0.000
L64	13.82 - 13.67 (64)	TP44.5743x44.5466x0.725	3568.63	39.36	39.00	1.009	0.00	0.00	39.00	0.000
L65	13.67 - 12.6133	TP45.16x44.5743x0.7125	3607.08	40.08	39.00	1.028	0.00	0.00	39.00	0.000
	12.6133 - 11.5567		3645.68	40.15	39.00	1.030	0.00	0.00	39.00	0.000
	11.5567 - 10.5		3684.39	40.22	39.00	1.031	0.00	0.00	39.00	0.000
L66	10.5 - 10.25 (66)	TP45.2062x45.16x0.7	3693.57	40.92	39.00	1.049	0.00	0.00	39.00	0.000
L67	10.25 - 9.25	TP46.13x45.2062x0.7	3730.34	40.99	39.00	1.051	0.00	0.00	39.00	0.000
	9.25 - 8.25		3767.22	41.05	39.00	1.053	0.00	0.00	39.00	0.000
	8.25 - 7.25		3804.20	41.11	39.00	1.054	0.00	0.00	39.00	0.000
	7.25 - 6.25		3841.28	41.17	39.00	1.056	0.00	0.00	39.00	0.000
	6.25 - 5.25		3878.45	41.23	39.00	1.057	0.00	0.00	39.00	0.000
L68	5.25 - 4.125	TP46.5457x46.13x1.1	3920.40	26.98	39.00	0.692	0.00	0.00	39.00	0.000
	4.125 - 3		3962.48	27.02	39.00	0.693	0.00	0.00	39.00	0.000
L69	3 - 2.75 (69)	TP46.5919x46.5457x0.775	3971.85	37.55	39.00	0.963	0.00	0.00	39.00	0.000
L70	2.75 - 1.375	TP47.1x46.5919x0.7625	4023.47	38.20	39.00	0.979	0.00	0.00	39.00	0.000
	1.375 - 0		4075.28	38.27	39.00	0.981	0.00	0.00	39.00	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
L1	160 - 159	TP16x16x0.375	0.00	0.00	14.00	0.000	0.00	0.00	14.00	0.000
	159 - 158		0.09	0.00	14.00	0.001	0.00	0.00	14.00	0.000
	158 - 157		0.13	0.01	14.00	0.001	0.00	0.00	14.00	0.000
	157 - 156		0.17	0.01	14.00	0.001	0.00	0.00	14.00	0.000
	156 - 155		4.35	0.24	14.00	0.034	0.48	0.04	14.00	0.003
L2	155 - 154	TP16x16x0.375	4.40	0.24	14.00	0.034	0.48	0.04	14.00	0.003
	154 - 153		4.45	0.24	14.00	0.035	0.48	0.04	14.00	0.003
	153 - 152		4.50	0.24	14.00	0.035	0.48	0.04	14.00	0.003
	152 - 151		4.55	0.25	14.00	0.035	0.48	0.04	14.00	0.003
	151 - 150		4.60	0.25	14.00	0.036	0.48	0.04	14.00	0.003
L3	150 - 149	TP16x16x0.375	4.65	0.25	14.00	0.036	0.48	0.04	14.00	0.003
	149 - 148		4.70	0.26	14.00	0.036	0.48	0.04	14.00	0.003
	148 - 147		6.20	0.34	14.00	0.048	0.48	0.04	14.00	0.003
	147 - 146		6.25	0.34	14.00	0.049	0.48	0.04	14.00	0.003
L4	146 - 145	TP22.924x22x0.25	10.19	0.58	24.00	0.049	0.58	0.03	24.00	0.001
	145 - 144		10.29	0.58	24.00	0.049	0.58	0.03	24.00	0.001
	144 - 143		10.39	0.58	24.00	0.049	0.58	0.03	24.00	0.001
	143 - 142		10.49	0.58	24.00	0.049	0.58	0.03	24.00	0.001
	142 - 141		10.60	0.58	24.00	0.049	0.57	0.03	24.00	0.001
L5	141 - 140	TP23.848x22.924x0.25	10.70	0.58	24.00	0.049	0.57	0.03	24.00	0.001

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
	140 - 139		10.80	0.58	24.00	0.049	0.57	0.03	24.00	0.001
	139 - 138		11.68	0.62	24.00	0.053	0.57	0.03	24.00	0.001
	138 - 137		11.79	0.63	24.00	0.053	0.57	0.03	24.00	0.001
	137 - 136		11.89	0.63	24.00	0.053	0.57	0.03	24.00	0.001
L6	136 - 135	TP24.7721x23.848x0.25	12.00	0.63	24.00	0.053	0.57	0.03	24.00	0.001
	135 - 134		12.11	0.63	24.00	0.053	0.57	0.03	24.00	0.001
	134 - 133		12.22	0.63	24.00	0.053	0.56	0.03	24.00	0.001
	133 - 132		12.33	0.63	24.00	0.053	0.56	0.03	24.00	0.001
	132 - 131		18.51	0.94	24.00	0.079	0.06	0.00	24.00	0.000
L7	131 - 130	TP25.6961x24.7721x0.25	18.63	0.94	24.00	0.079	0.07	0.00	24.00	0.000
	130 - 129		18.76	0.94	24.00	0.079	0.07	0.00	24.00	0.000
	129 - 128		18.88	0.94	24.00	0.079	0.07	0.00	24.00	0.000
	128 - 127		19.00	0.93	24.00	0.079	0.07	0.00	24.00	0.000
	127 - 126		19.13	0.93	24.00	0.079	0.08	0.00	24.00	0.000
L8	126 - 125	TP26.6201x25.6961x0.25	19.25	0.93	24.00	0.079	0.08	0.00	24.00	0.000
	125 - 124		19.37	0.93	24.00	0.079	0.08	0.00	24.00	0.000
	124 - 123		19.49	0.93	24.00	0.079	0.08	0.00	24.00	0.000
	123 - 122		19.62	0.93	24.00	0.079	0.09	0.00	24.00	0.000
	122 - 121		20.21	0.95	24.00	0.081	0.15	0.01	24.00	0.000
L9	121 - 119.75	TP27.3131x26.6201x0.25	21.86	1.02	24.00	0.086	0.15	0.01	24.00	0.000
	119.75 - 118.5		22.23	1.03	24.00	0.087	3.67	0.15	24.00	0.006
	118.5 - 117.25		22.39	1.03	24.00	0.087	3.66	0.14	24.00	0.006
L10	117.25 - 117 (10)	TP27.3593x27.3131x0.2625	22.41	0.98	24.00	0.083	3.66	0.14	24.00	0.006
L11	117 - 115.5 (11)	TP27.6365x27.3593x0.2625	22.61	0.98	24.00	0.083	3.66	0.13	24.00	0.006
L12	115.5 - 115.25 (12)	TP27.6827x27.6365x0.425	22.64	0.61	24.00	0.051	3.65	0.08	24.00	0.003
L13	115.25 - 114.25	TP28.6068x27.6827x0.4125	22.77	0.62	24.00	0.053	3.65	0.08	24.00	0.004
	114.25 - 113.25		22.91	0.62	24.00	0.053	3.64	0.08	24.00	0.003
	113.25 - 112.25		23.05	0.62	24.00	0.053	3.64	0.08	24.00	0.003
	112.25 - 111.25		23.18	0.62	24.00	0.053	3.63	0.08	24.00	0.003
	111.25 - 110.25		23.32	0.62	24.00	0.053	3.62	0.08	24.00	0.003
L14	110.25 - 108.875	TP29.808x28.6068x0.4125	23.50	0.62	24.00	0.053	3.62	0.08	24.00	0.003
	108.875 - 107.5		23.69	0.62	24.00	0.053	3.61	0.08	24.00	0.003
	107.5 - 103.75		11.76	0.30	24.00	0.026	1.73	0.04	24.00	0.001
L15	107.5 - 103.75	TP29.5386x28.615x0.475	12.50	0.28	24.00	0.024	1.87	0.03	24.00	0.001
	103.75 - 102.5		24.43	0.55	24.00	0.047	3.58	0.06	24.00	0.003
L16	102.5 - 101.5	TP30.2774x29.5386x0.4688	24.57	0.56	24.00	0.047	3.57	0.06	24.00	0.003
	101.5 - 100.5		24.77	0.56	24.00	0.047	3.56	0.06	24.00	0.003
	100.5 - 99.5		24.91	0.56	24.00	0.047	3.41	0.06	24.00	0.002
	99.5 - 98.5		25.05	0.56	24.00	0.047	3.41	0.06	24.00	0.002
L17	98.5 - 98.25 (17)	TP30.3236x30.2774x0.45	25.08	0.58	24.00	0.049	3.40	0.06	24.00	0.003
L18	98.25 - 97.25	TP31.2472x30.3236x0.45	25.22	0.58	24.00	0.049	3.40	0.06	24.00	0.003
	97.25 - 96.25		25.35	0.58	24.00	0.049	3.39	0.06	24.00	0.002
	96.25 - 95.25		25.49	0.58	24.00	0.049	3.38	0.06	24.00	0.002
	95.25 - 94.25		25.63	0.58	24.00	0.049	3.38	0.06	24.00	0.002
	94.25 - 93.25		25.76	0.58	24.00	0.049	3.37	0.06	24.00	0.002
L19	93.25 - 92.25	TP32.1708x31.2472x0.4438	25.89	0.58	24.00	0.050	3.36	0.06	24.00	0.002
	92.25 - 91.25		26.03	0.58	24.00	0.049	3.36	0.06	24.00	0.002
	91.25 - 90.25		26.16	0.58	24.00	0.049	3.35	0.06	24.00	0.002
	90.25 - 89.25		26.29	0.58	24.00	0.049	3.34	0.05	24.00	0.002

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
	89.25 - 88.25		26.42	0.58	24.00	0.049	3.34	0.05	24.00	0.002
L20	88.25 - 87.0625	TP33.0482x32.1708x0.4563	26.58	0.57	24.00	0.048	3.33	0.05	24.00	0.002
	87.0625 - 85.875		26.74	0.57	24.00	0.048	3.32	0.05	24.00	0.002
	85.875 - 84.6875		26.90	0.57	24.00	0.048	3.32	0.05	24.00	0.002
	84.6875 - 83.5		27.06	0.57	24.00	0.048	3.31	0.05	24.00	0.002
L21	83.5 - 83.25 (21)	TP33.0944x33.0482x0.6125	27.09	0.42	24.00	0.036	3.30	0.04	24.00	0.002
L22	83.25 - 82.5 (22)	TP33.2329x33.0944x0.5875	27.20	0.44	24.00	0.037	3.30	0.04	24.00	0.002
L23	82.5 - 82.25 (23)	TP33.2791x33.2329x0.4375	27.23	0.59	24.00	0.050	3.30	0.05	24.00	0.002
L24	82.25 - 80.75 (24)	TP33.5562x33.2791x0.45	27.45	0.57	24.00	0.048	3.30	0.05	24.00	0.002
L25	80.75 - 80.5 (25)	TP33.6024x33.5562x0.5375	27.47	0.48	24.00	0.041	3.29	0.04	24.00	0.002
L26	80.5 - 79.5	TP33.9718x33.6024x0.525	27.62	0.49	24.00	0.042	3.29	0.04	24.00	0.002
	79.5 - 78.5		27.76	0.49	24.00	0.042	3.29	0.04	24.00	0.002
L27	78.5 - 78.25 (27)	TP34.018x33.9718x0.7625	27.79	0.34	24.00	0.029	3.28	0.03	24.00	0.001
L28	78.25 - 77.5 (28)	TP34.1565x34.018x0.7625	27.90	0.34	24.00	0.029	3.28	0.03	24.00	0.001
L29	77.5 - 77.25 (29)	TP34.2027x34.1565x0.5625	27.94	0.46	24.00	0.039	3.28	0.04	24.00	0.002
L30	77.25 - 76.1875	TP35.819x34.2027x0.55	28.09	0.47	24.00	0.040	3.28	0.04	24.00	0.002
	76.1875 - 75.125		28.23	0.47	24.00	0.040	3.27	0.04	24.00	0.002
	75.125 - 74.0625		28.38	0.47	24.00	0.040	3.27	0.04	24.00	0.002
	74.0625 - 73		28.53	0.47	24.00	0.040	3.26	0.04	24.00	0.002
	73 - 68.5		14.45	0.23	24.00	0.020	1.60	0.02	24.00	0.001
L31	73 - 68.5	TP35.2865x34.3628x0.6125	14.81	0.22	24.00	0.018	1.66	0.02	24.00	0.001
	68.5 - 68		29.31	0.43	24.00	0.036	3.24	0.03	24.00	0.001
L32	68 - 66.625	TP35.7946x35.2865x0.6125	29.50	0.43	24.00	0.036	3.24	0.03	24.00	0.001
	66.625 - 65.25		29.69	0.43	24.00	0.036	3.23	0.03	24.00	0.001
L33	65.25 - 65 (33)	TP35.8408x35.7946x0.85	29.72	0.31	24.00	0.026	3.23	0.02	24.00	0.001
L34	65 - 64.25 (34)	TP35.9793x35.8408x0.85	29.83	0.31	24.00	0.026	3.23	0.02	24.00	0.001
L35	64.25 - 64 (35)	TP36.0255x35.9793x0.675	29.86	0.39	24.00	0.033	3.22	0.03	24.00	0.001
L36	64 - 62.5 (36)	TP36.3026x36.0255x0.675	30.07	0.39	24.00	0.033	3.22	0.03	24.00	0.001
L37	62.5 - 62.25 (37)	TP36.3488x36.3026x0.5438	30.10	0.48	24.00	0.041	3.22	0.03	24.00	0.001
L38	62.25 - 61.165	TP36.7497x36.3488x0.525	30.25	0.50	24.00	0.042	3.21	0.03	24.00	0.001
	61.165 - 60.08		30.40	0.50	24.00	0.042	3.21	0.03	24.00	0.001
L39	60.08 - 59.83 (39)	TP36.7959x36.7497x0.5375	30.43	0.48	24.00	0.041	3.20	0.03	24.00	0.001
L40	59.83 - 59.08 (40)	TP36.9345x36.7959x0.5375	30.53	0.48	24.00	0.041	3.20	0.03	24.00	0.001
L41	59.08 - 58.83 (41)	TP36.9807x36.9345x0.65	30.56	0.40	24.00	0.034	3.20	0.03	24.00	0.001
L42	58.83 - 57.25 (42)	TP37.2726x36.9807x0.65	30.79	0.40	24.00	0.034	3.19	0.03	24.00	0.001
L43	57.25 - 57 (43)	TP37.3188x37.2726x0.825	30.81	0.32	24.00	0.027	3.18	0.02	24.00	0.001
L44	57 - 55.75 (44)	TP37.5497x37.3188x0.8375	31.00	0.31	24.00	0.027	3.18	0.02	24.00	0.001
L45	55.75 - 55.5 (45)	TP37.5959x37.5497x0.675	31.03	0.39	24.00	0.033	3.17	0.02	24.00	0.001
L46	55.5 - 54.5	TP38.5196x37.5959x0.6625	31.17	0.39	24.00	0.033	3.17	0.03	24.00	0.001
	54.5 - 53.5		31.30	0.39	24.00	0.033	3.16	0.02	24.00	0.001

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_{vt} ksi	Allow. F_{vt} ksi	Ratio $\frac{f_{vt}}{F_{vt}}$
	53.5 - 52.5		31.44	0.39	24.00	0.033	3.15	0.02	24.00	0.001
	52.5 - 51.5		31.57	0.39	24.00	0.033	3.15	0.02	24.00	0.001
	51.5 - 50.5		31.70	0.39	24.00	0.033	3.14	0.02	24.00	0.001
L47	50.5 - 49.5	TP39.4434x38.5196x0.6625	31.83	0.39	24.00	0.033	3.13	0.02	24.00	0.001
	49.5 - 48.5		31.97	0.39	24.00	0.033	3.12	0.02	24.00	0.001
	48.5 - 47.5		32.10	0.39	24.00	0.033	3.12	0.02	24.00	0.001
	47.5 - 46.5		32.23	0.39	24.00	0.033	3.11	0.02	24.00	0.001
	46.5 - 45.5		32.36	0.39	24.00	0.033	3.10	0.02	24.00	0.001
L48	45.5 - 44.4575	TP40.2138x39.4434x0.65	32.50	0.40	24.00	0.034	3.09	0.02	24.00	0.001
	44.4575 - 43.415		32.63	0.40	24.00	0.034	3.09	0.02	24.00	0.001
	43.415 - 42.3725		32.77	0.40	24.00	0.034	3.08	0.02	24.00	0.001
	42.3725 - 41.33		32.91	0.40	24.00	0.034	3.08	0.02	24.00	0.001
L49	41.33 - 41.08 (49)	TP40.26x40.2138x0.775	32.93	0.33	24.00	0.028	3.07	0.02	24.00	0.001
L50	41.08 - 40.04	TP41.568x40.26x0.7625	33.08	0.34	24.00	0.029	3.07	0.02	24.00	0.001
	40.04 - 39		33.21	0.34	24.00	0.029	3.07	0.02	24.00	0.001
	39 - 34		18.32	0.18	24.00	0.015	1.64	0.01	24.00	0.000
L51	39 - 34	TP41.0028x39.8943x0.7	15.66	0.17	26.00	0.014	1.42	0.01	26.00	0.000
	34 - 33		34.08	0.38	26.00	0.029	3.04	0.02	26.00	0.001
L52	33 - 31.5 (52)	TP41.28x41.0028x0.7	34.26	0.37	26.00	0.029	3.03	0.02	26.00	0.001
L53	31.5 - 31.25 (53)	TP41.3262x41.28x0.7	34.28	0.37	26.00	0.029	3.02	0.02	26.00	0.001
L54	31.25 - 30.5 (54)	TP41.4647x41.3262x0.7	34.37	0.37	26.00	0.029	3.02	0.02	26.00	0.001
L55	30.5 - 30.25 (55)	TP41.5109x41.4647x0.7375	34.39	0.36	26.00	0.028	3.02	0.02	26.00	0.001
L56	30.25 - 28.5 (56)	TP41.8343x41.5109x0.7375	34.61	0.35	26.00	0.028	3.02	0.02	26.00	0.001
L57	28.5 - 28.25 (57)	TP41.8805x41.8343x0.925	34.62	0.28	26.00	0.022	3.01	0.01	26.00	0.001
L58	28.25 - 27	TP42.3424x41.8805x0.95	34.79	0.28	26.00	0.022	3.01	0.01	26.00	0.001
	27 - 25.75		34.97	0.28	26.00	0.022	2.82	0.01	26.00	0.000
L59	25.75 - 25.5 (59)	TP42.3885x42.3424x0.7125	34.99	0.37	26.00	0.029	2.81	0.02	26.00	0.001
L60	25.5 - 24.5	TP43.3124x42.3885x0.7	35.11	0.37	26.00	0.029	2.81	0.02	26.00	0.001
	24.5 - 23.5		35.23	0.37	26.00	0.029	2.81	0.02	26.00	0.001
	23.5 - 22.5		35.34	0.37	26.00	0.029	2.80	0.02	26.00	0.001
	22.5 - 21.5		35.45	0.37	26.00	0.029	2.80	0.02	26.00	0.001
	21.5 - 20.5		35.57	0.37	26.00	0.029	2.79	0.02	26.00	0.001
L61	20.5 - 19.5	TP44.2362x43.3124x0.75	35.68	0.35	26.00	0.027	2.79	0.01	26.00	0.001
	19.5 - 18.5		35.80	0.35	26.00	0.027	2.78	0.01	26.00	0.001
	18.5 - 17.5		35.91	0.34	26.00	0.027	2.78	0.01	26.00	0.001
	17.5 - 16.5		36.03	0.34	26.00	0.027	2.77	0.01	26.00	0.001
	16.5 - 15.5		36.14	0.34	26.00	0.027	2.77	0.01	26.00	0.001
L62	15.5 - 14.08 (62)	TP44.4985x44.2362x0.75	36.31	0.34	26.00	0.027	2.77	0.01	26.00	0.001
L63	14.08 - 13.82 (63)	TP44.5466x44.4985x0.725	36.33	0.36	26.00	0.028	2.76	0.01	26.00	0.001
L64	13.82 - 13.67 (64)	TP44.5743x44.5466x0.725	36.34	0.36	26.00	0.028	2.76	0.01	26.00	0.001
L65	13.67 - 12.6133	TP45.16x44.5743x0.7125	36.48	0.36	26.00	0.028	2.76	0.01	26.00	0.001
	12.6133 - 11.5567		36.60	0.36	26.00	0.028	2.75	0.01	26.00	0.001
	11.5567 - 10.5		36.72	0.36	26.00	0.028	2.75	0.01	26.00	0.001
L66	10.5 - 10.25 (66)	TP45.2062x45.16x0.7	36.73	0.37	26.00	0.029	2.74	0.01	26.00	0.001

Section No.	Elevation ft	Size	Actual V K	Actual f_v ksi	Allow. F_v ksi	Ratio $\frac{f_v}{F_v}$	Actual T kip-ft	Actual f_w ksi	Allow. F_{vt} ksi	Ratio $\frac{f_w}{F_{vt}}$
L67	10.25 - 9.25	TP46.13x45.2062x0.7	36.84	0.37	26.00	0.029	2.74	0.01	26.00	0.001
	9.25 - 8.25		36.94	0.37	26.00	0.029	2.74	0.01	26.00	0.001
	8.25 - 7.25		37.04	0.36	26.00	0.029	2.74	0.01	26.00	0.001
	7.25 - 6.25		37.14	0.36	26.00	0.028	2.73	0.01	26.00	0.001
	6.25 - 5.25		37.24	0.36	26.00	0.028	2.73	0.01	26.00	0.001
L68	5.25 - 4.125	TP46.5457x46.13x1.1	37.36	0.23	26.00	0.018	2.73	0.01	26.00	0.000
	4.125 - 3		37.47	0.23	26.00	0.018	2.73	0.01	26.00	0.000
L69	3 - 2.75 (69)	TP46.5919x46.5457x0.775	37.49	0.33	26.00	0.026	2.73	0.01	26.00	0.000
L70	2.75 - 1.375	TP47.1x46.5919x0.7625	37.63	0.33	26.00	0.026	2.73	0.01	26.00	0.000
	1.375 - 0		37.76	0.33	26.00	0.026	2.73	0.01	26.00	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_w}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	160 - 159	0.000	0.000	0.000	0.000	0.000	0.000* ✔	1.000	H1-3+VT ✔
	159 - 158	0.000	0.001	0.000	0.001	0.000	0.001 ✔	1.333	H1-3+VT ✔
	158 - 157	0.000	0.001	0.000	0.001	0.000	0.002 ✔	1.333	H1-3+VT ✔
	157 - 156	0.001	0.003	0.000	0.001	0.000	0.003 ✔	1.333	H1-3+VT ✔
	156 - 155	0.003	0.042	0.000	0.034	0.003	0.046 ✔	1.333	H1-3+VT ✔
L2	155 - 154	0.003	0.075	0.000	0.034	0.003	0.079 ✔	1.333	H1-3+VT ✔
	154 - 153	0.003	0.108	0.000	0.035	0.003	0.111 ✔	1.333	H1-3+VT ✔
	153 - 152	0.004	0.141	0.000	0.035	0.003	0.145 ✔	1.333	H1-3+VT ✔
	152 - 151	0.004	0.174	0.000	0.035	0.003	0.178 ✔	1.333	H1-3+VT ✔
	151 - 150	0.004	0.208	0.000	0.036	0.003	0.212 ✔	1.333	H1-3+VT ✔
L3	150 - 149	0.004	0.242	0.000	0.036	0.003	0.247 ✔	1.333	H1-3+VT ✔
	149 - 148	0.004	0.276	0.000	0.036	0.003	0.281 ✔	1.333	H1-3+VT ✔
	148 - 147	0.006	0.322	0.000	0.048	0.003	0.329 ✔	1.333	H1-3+VT ✔
	147 - 146	0.006	0.368	0.000	0.049	0.003	0.375 ✔	1.333	H1-3+VT ✔
L4	146 - 145	0.007	0.221	0.000	0.049	0.001	0.228 ✔	1.333	H1-3+VT ✔
	145 - 144	0.007	0.253	0.000	0.049	0.001	0.260 ✔	1.333	H1-3+VT ✔
	144 - 143	0.007	0.284	0.000	0.049	0.001	0.291 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	143 - 142	0.007	0.314	0.000	0.049	0.001	0.322 ✔	1.333	H1-3+VT ✔
	142 - 141	0.007	0.344	0.000	0.049	0.001	0.351 ✔	1.333	H1-3+VT ✔
L5	141 - 140	0.007	0.373	0.000	0.049	0.001	0.380 ✔	1.333	H1-3+VT ✔
	140 - 139	0.007	0.401	0.000	0.049	0.001	0.409 ✔	1.333	H1-3+VT ✔
	139 - 138	0.007	0.431	0.000	0.053	0.001	0.439 ✔	1.333	H1-3+VT ✔
	138 - 137	0.007	0.461	0.000	0.053	0.001	0.469 ✔	1.333	H1-3+VT ✔
	137 - 136	0.007	0.490	0.000	0.053	0.001	0.498 ✔	1.333	H1-3+VT ✔
L6	136 - 135	0.007	0.518	0.000	0.053	0.001	0.526 ✔	1.333	H1-3+VT ✔
	135 - 134	0.007	0.546	0.000	0.053	0.001	0.554 ✔	1.333	H1-3+VT ✔
	134 - 133	0.008	0.573	0.000	0.053	0.001	0.581 ✔	1.333	H1-3+VT ✔
	133 - 132	0.008	0.599	0.000	0.053	0.001	0.608 ✔	1.333	H1-3+VT ✔
	132 - 131	0.010	0.658	0.000	0.079	0.000	0.670 ✔	1.333	H1-3+VT ✔
L7	131 - 130	0.010	0.700	0.000	0.079	0.000	0.712 ✔	1.333	H1-3+VT ✔
	130 - 129	0.011	0.741	0.000	0.079	0.000	0.753 ✔	1.333	H1-3+VT ✔
	129 - 128	0.011	0.781	0.000	0.079	0.000	0.793 ✔	1.333	H1-3+VT ✔
	128 - 127	0.011	0.820	0.000	0.079	0.000	0.832 ✔	1.333	H1-3+VT ✔
	127 - 126	0.011	0.858	0.000	0.079	0.000	0.870 ✔	1.333	H1-3+VT ✔
L8	126 - 125	0.011	0.895	0.000	0.079	0.000	0.907 ✔	1.333	H1-3+VT ✔
	125 - 124	0.011	0.931	0.000	0.079	0.000	0.944 ✔	1.333	H1-3+VT ✔
	124 - 123	0.011	0.967	0.000	0.079	0.000	0.979 ✔	1.333	H1-3+VT ✔
	123 - 122	0.011	1.002	0.000	0.079	0.000	1.014 ✔	1.333	H1-3+VT ✔
	122 - 121	0.011	1.036	0.000	0.081	0.000	1.049 ✔	1.333	H1-3+VT ✔
L9	121 - 119.75	0.013	1.085	0.000	0.086	0.000	1.099 ✔	1.333	H1-3+VT ✔
	119.75 - 118.5	0.013	1.131	0.000	0.087	0.006	1.146 ✔	1.333	H1-3+VT ✔
	118.5 - 117.25	0.013	1.176	0.000	0.087	0.006	1.191 ✔	1.333	H1-3+VT ✔
L10	117.25 - 117 (10)	0.012	1.130	0.000	0.083	0.006	1.144 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L11	117 - 115.5 (11)	0.012	1.180	0.000	0.083	0.006	1.194 ✔	1.333	H1-3+VT ✔
L12	115.5 - 115.25 (12)	0.008	0.747	0.000	0.051	0.003	0.756 ✔	1.333	H1-3+VT ✔
L13	115.25 - 114.25	0.008	0.789	0.000	0.053	0.004	0.798 ✔	1.333	H1-3+VT ✔
	114.25 - 113.25	0.008	0.810	0.000	0.053	0.003	0.819 ✔	1.333	H1-3+VT ✔
	113.25 - 112.25	0.008	0.830	0.000	0.053	0.003	0.839 ✔	1.333	H1-3+VT ✔
	112.25 - 111.25	0.008	0.849	0.000	0.053	0.003	0.858 ✔	1.333	H1-3+VT ✔
	111.25 - 110.25	0.008	0.868	0.000	0.053	0.003	0.877 ✔	1.333	H1-3+VT ✔
L14	110.25 - 108.875	0.008	0.894	0.000	0.053	0.003	0.903 ✔	1.333	H1-3+VT ✔
	108.875 - 107.5	0.008	0.918	0.000	0.053	0.003	0.928 ✔	1.333	H1-3+VT ✔
	107.5 - 103.75	0.004	0.471	0.000	0.026	0.001	0.476 ✔	1.333	H1-3+VT ✔
L15	107.5 - 103.75	0.004	0.463	0.000	0.024	0.001	0.467 ✔	1.333	H1-3+VT ✔
	103.75 - 102.5	0.008	0.907	0.000	0.047	0.003	0.916 ✔	1.333	H1-3+VT ✔
L16	102.5 - 101.5	0.008	0.933	0.000	0.047	0.003	0.942 ✔	1.333	H1-3+VT ✔
	101.5 - 100.5	0.008	0.947	0.000	0.047	0.003	0.957 ✔	1.333	H1-3+VT ✔
	100.5 - 99.5	0.009	0.961	0.000	0.047	0.002	0.971 ✔	1.333	H1-3+VT ✔
	99.5 - 98.5	0.009	0.975	0.000	0.047	0.002	0.984 ✔	1.333	H1-3+VT ✔
L17	98.5 - 98.25 (17)	0.009	1.017	0.000	0.049	0.003	1.027 ✔	1.333	H1-3+VT ✔
L18	98.25 - 97.25	0.009	1.031	0.000	0.049	0.003	1.041 ✔	1.333	H1-3+VT ✔
	97.25 - 96.25	0.009	1.045	0.000	0.049	0.002	1.054 ✔	1.333	H1-3+VT ✔
	96.25 - 95.25	0.009	1.058	0.000	0.049	0.002	1.068 ✔	1.333	H1-3+VT ✔
	95.25 - 94.25	0.009	1.071	0.000	0.049	0.002	1.081 ✔	1.333	H1-3+VT ✔
	94.25 - 93.25	0.009	1.084	0.000	0.049	0.002	1.094 ✔	1.333	H1-3+VT ✔
L19	93.25 - 92.25	0.010	1.111	0.000	0.050	0.002	1.121 ✔	1.333	H1-3+VT ✔
	92.25 - 91.25	0.010	1.123	0.000	0.049	0.002	1.134 ✔	1.333	H1-3+VT ✔
	91.25 - 90.25	0.010	1.135	0.000	0.049	0.002	1.146 ✔	1.333	H1-3+VT ✔
	90.25 - 89.25	0.010	1.147	0.000	0.049	0.002	1.158 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	89.25 - 88.25	0.010	1.159	0.000	0.049	0.002	1.170 ✔	1.333	H1-3+VT ✔
L20	88.25 - 87.0625	0.010	1.142	0.000	0.048	0.002	1.152 ✔	1.333	H1-3+VT ✔
	87.0625 - 85.875	0.010	1.155	0.000	0.048	0.002	1.165 ✔	1.333	H1-3+VT ✔
	85.875 - 84.6875	0.010	1.168	0.000	0.048	0.002	1.178 ✔	1.333	H1-3+VT ✔
	84.6875 - 83.5	0.010	1.180	0.000	0.048	0.002	1.191 ✔	1.333	H1-3+VT ✔
L21	83.5 - 83.25 (21)	0.008	0.894	0.000	0.036	0.002	0.902 ✔	1.333	H1-3+VT ✔
L22	83.25 - 82.5 (22)	0.008	0.936	0.000	0.037	0.002	0.944 ✔	1.333	H1-3+VT ✔
L23	82.5 - 82.25 (23)	0.011	1.242	0.000	0.050	0.002	1.253 ✔	1.333	H1-3+VT ✔
L24	82.25 - 80.75 (24)	0.010	1.224	0.000	0.048	0.002	1.235 ✔	1.333	H1-3+VT ✔
L25	80.75 - 80.5 (25)	0.009	1.035	0.000	0.041	0.002	1.044 ✔	1.333	H1-3+VT ✔
L26	80.5 - 79.5	0.009	1.067	0.000	0.042	0.002	1.076 ✔	1.333	H1-3+VT ✔
	79.5 - 78.5	0.009	1.075	0.000	0.042	0.002	1.085 ✔	1.333	H1-3+VT ✔
L27	78.5 - 78.25 (27)	0.006	0.758	0.000	0.029	0.001	0.764 ✔	1.333	H1-3+VT ✔
L28	78.25 - 77.5 (28)	0.006	0.762	0.000	0.029	0.001	0.768 ✔	1.333	H1-3+VT ✔
L29	77.5 - 77.25 (29)	0.009	1.016	0.000	0.039	0.002	1.025 ✔	1.333	H1-3+VT ✔
L30	77.25 - 76.1875	0.009	1.046	0.000	0.040	0.002	1.056 ✔	1.333	H1-3+VT ✔
	76.1875 - 75.125	0.009	1.054	0.000	0.040	0.002	1.064 ✔	1.333	H1-3+VT ✔
	75.125 - 74.0625	0.009	1.062	0.000	0.040	0.002	1.071 ✔	1.333	H1-3+VT ✔
	74.0625 - 73	0.009	1.069	0.000	0.040	0.002	1.079 ✔	1.333	H1-3+VT ✔
	73 - 68.5	0.005	0.537	0.000	0.020	0.001	0.542 ✔	1.333	H1-3+VT ✔
L31	73 - 68.5	0.009	0.527	0.000	0.018	0.001	0.536 ✔	1.333	H1-3+VT ✔
	68.5 - 68	0.009	1.033	0.000	0.036	0.001	1.042 ✔	1.333	H1-3+VT ✔
L32	68 - 66.625	0.009	1.041	0.000	0.036	0.001	1.050 ✔	1.333	H1-3+VT ✔
	66.625 - 65.25	0.009	1.049	0.000	0.036	0.001	1.058 ✔	1.333	H1-3+VT ✔
L33	65.25 - 65 (33)	0.007	0.772	0.000	0.026	0.001	0.779 ✔	1.333	H1-3+VT ✔
L34	65 - 64.25 (34)	0.007	0.775	0.000	0.026	0.001	0.782 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L35	64.25 - 64 (35)	0.009	0.963	0.000	0.033	0.001	0.972 ✔	1.333	H1-3+VT ✔
L36	64 - 62.5 (36)	0.009	0.970	0.000	0.033	0.001	0.979 ✔	1.333	H1-3+VT ✔
L37	62.5 - 62.25 (37)	0.011	1.193	0.000	0.041	0.001	1.204 ✔	1.333	H1-3+VT ✔
L38	62.25 - 61.165	0.011	1.240	0.000	0.042	0.001	1.252 ✔	1.333	H1-3+VT ✔
	61.165 - 60.08	0.011	1.247	0.000	0.042	0.001	1.259 ✔	1.333	H1-3+VT ✔
L39	60.08 - 59.83 (39)	0.011	1.221	0.000	0.041	0.001	1.232 ✔	1.333	H1-3+VT ✔
L40	59.83 - 59.08 (40)	0.011	1.225	0.000	0.041	0.001	1.237 ✔	1.333	H1-3+VT ✔
L41	59.08 - 58.83 (41)	0.009	1.023	0.000	0.034	0.001	1.033 ✔	1.333	H1-3+VT ✔
L42	58.83 - 57.25 (42)	0.009	1.031	0.000	0.034	0.001	1.041 ✔	1.333	H1-3+VT ✔
L43	57.25 - 57 (43)	0.008	0.825	0.000	0.027	0.001	0.833 ✔	1.333	H1-3+VT ✔
L44	57 - 55.75 (44)	0.008	0.818	0.000	0.027	0.001	0.825 ✔	1.333	H1-3+VT ✔
L45	55.75 - 55.5 (45)	0.009	1.002	0.000	0.033	0.001	1.012 ✔	1.333	H1-3+VT ✔
L46	55.5 - 54.5	0.010	1.025	0.000	0.033	0.001	1.034 ✔	1.333	H1-3+VT ✔
	54.5 - 53.5	0.010	1.029	0.000	0.033	0.001	1.039 ✔	1.333	H1-3+VT ✔
	53.5 - 52.5	0.010	1.033	0.000	0.033	0.001	1.043 ✔	1.333	H1-3+VT ✔
	52.5 - 51.5	0.010	1.037	0.000	0.033	0.001	1.047 ✔	1.333	H1-3+VT ✔
	51.5 - 50.5	0.010	1.041	0.000	0.033	0.001	1.051 ✔	1.333	H1-3+VT ✔
L47	50.5 - 49.5	0.010	1.045	0.000	0.033	0.001	1.055 ✔	1.333	H1-3+VT ✔
	49.5 - 48.5	0.010	1.049	0.000	0.033	0.001	1.059 ✔	1.333	H1-3+VT ✔
	48.5 - 47.5	0.010	1.053	0.000	0.033	0.001	1.063 ✔	1.333	H1-3+VT ✔
	47.5 - 46.5	0.010	1.057	0.000	0.033	0.001	1.067 ✔	1.333	H1-3+VT ✔
	46.5 - 45.5	0.010	1.061	0.000	0.033	0.001	1.071 ✔	1.333	H1-3+VT ✔
L48	45.5 - 44.4575	0.010	1.084	0.000	0.034	0.001	1.094 ✔	1.333	H1-3+VT ✔
	44.4575 - 43.415	0.010	1.088	0.000	0.034	0.001	1.098 ✔	1.333	H1-3+VT ✔
	43.415 - 42.3725	0.011	1.091	0.000	0.034	0.001	1.102 ✔	1.333	H1-3+VT ✔
	42.3725 - 41.33	0.011	1.095	0.000	0.034	0.001	1.106 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L49	41.33 - 41.08 (49)	0.009	0.928	0.000	0.028	0.001	0.937 ✔	1.333	H1-3+VT ✔
L50	41.08 - 40.04	0.009	0.945	0.000	0.029	0.001	0.955 ✔	1.333	H1-3+VT ✔
	40.04 - 39	0.009	0.948	0.000	0.029	0.001	0.958 ✔	1.333	H1-3+VT ✔
	39 - 34	0.005	0.514	0.000	0.015	0.000	0.519 ✔	1.333	H1-3+VT ✔
L51	39 - 34	0.005	0.466	0.000	0.014	0.000	0.470 ✔	1.333	H1-3+VT ✔
	34 - 33	0.010	1.002	0.000	0.029	0.001	1.013 ✔	1.333	H1-3+VT ✔
L52	33 - 31.5 (52)	0.010	1.006	0.000	0.029	0.001	1.016 ✔	1.333	H1-3+VT ✔
L53	31.5 - 31.25 (53)	0.010	1.006	0.000	0.029	0.001	1.017 ✔	1.333	H1-3+VT ✔
L54	31.25 - 30.5 (54)	0.010	1.008	0.000	0.029	0.001	1.019 ✔	1.333	H1-3+VT ✔
L55	30.5 - 30.25 (55)	0.010	0.960	0.000	0.028	0.001	0.970 ✔	1.333	H1-3+VT ✔
L56	30.25 - 28.5 (56)	0.010	0.964	0.000	0.028	0.001	0.974 ✔	1.333	H1-3+VT ✔
L57	28.5 - 28.25 (57)	0.008	0.780	0.000	0.022	0.001	0.788 ✔	1.333	H1-3+VT ✔
L58	28.25 - 27	0.008	0.763	0.000	0.022	0.001	0.771 ✔	1.333	H1-3+VT ✔
	27 - 25.75	0.008	0.765	0.000	0.022	0.000	0.773 ✔	1.333	H1-3+VT ✔
L59	25.75 - 25.5 (59)	0.011	1.003	0.000	0.029	0.001	1.014 ✔	1.333	H1-3+VT ✔
L60	25.5 - 24.5	0.011	1.022	0.000	0.029	0.001	1.033 ✔	1.333	H1-3+VT ✔
	24.5 - 23.5	0.011	1.024	0.000	0.029	0.001	1.035 ✔	1.333	H1-3+VT ✔
	23.5 - 22.5	0.011	1.026	0.000	0.029	0.001	1.038 ✔	1.333	H1-3+VT ✔
	22.5 - 21.5	0.011	1.028	0.000	0.029	0.001	1.040 ✔	1.333	H1-3+VT ✔
	21.5 - 20.5	0.011	1.031	0.000	0.029	0.001	1.042 ✔	1.333	H1-3+VT ✔
L61	20.5 - 19.5	0.010	0.967	0.000	0.027	0.001	0.978 ✔	1.333	H1-3+VT ✔
	19.5 - 18.5	0.011	0.969	0.000	0.027	0.001	0.980 ✔	1.333	H1-3+VT ✔
	18.5 - 17.5	0.011	0.971	0.000	0.027	0.001	0.981 ✔	1.333	H1-3+VT ✔
	17.5 - 16.5	0.011	0.972	0.000	0.027	0.001	0.983 ✔	1.333	H1-3+VT ✔
	16.5 - 15.5	0.011	0.974	0.000	0.027	0.001	0.985 ✔	1.333	H1-3+VT ✔
L62	15.5 - 14.08 (62)	0.011	0.977	0.000	0.027	0.001	0.987 ✔	1.333	H1-3+VT ✔

Section No.	Elevation ft	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Ratio $\frac{f_v}{F_v}$	Ratio $\frac{f_{vt}}{F_{vt}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L63	14.08 - 13.82 (63)	0.011	1.009	0.000	0.028	0.001	1.020 ✔	1.333	H1-3+VT ✔
L64	13.82 - 13.67 (64)	0.011	1.009	0.000	0.028	0.001	1.021 ✔	1.333	H1-3+VT ✔
L65	13.67 - 12.6133	0.011	1.028	0.000	0.028	0.001	1.039 ✔	1.333	H1-3+VT ✔
	12.6133 - 11.5567	0.011	1.030	0.000	0.028	0.001	1.041 ✔	1.333	H1-3+VT ✔
	11.5567 - 10.5	0.012	1.031	0.000	0.028	0.001	1.043 ✔	1.333	H1-3+VT ✔
L66	10.5 - 10.25 (66)	0.012	1.049	0.000	0.029	0.001	1.061 ✔	1.333	H1-3+VT ✔
L67	10.25 - 9.25	0.012	1.051	0.000	0.029	0.001	1.063 ✔	1.333	H1-3+VT ✔
	9.25 - 8.25	0.012	1.053	0.000	0.029	0.001	1.065 ✔	1.333	H1-3+VT ✔
	8.25 - 7.25	0.012	1.054	0.000	0.029	0.001	1.066 ✔	1.333	H1-3+VT ✔
	7.25 - 6.25	0.012	1.056	0.000	0.028	0.001	1.068 ✔	1.333	H1-3+VT ✔
	6.25 - 5.25	0.012	1.057	0.000	0.028	0.001	1.069 ✔	1.333	H1-3+VT ✔
L68	5.25 - 4.125	0.008	0.692	0.000	0.018	0.000	0.700 ✔	1.333	H1-3+VT ✔
	4.125 - 3	0.008	0.693	0.000	0.018	0.000	0.701 ✔	1.333	H1-3+VT ✔
L69	3 - 2.75 (69)	0.011	0.963	0.000	0.026	0.000	0.974 ✔	1.333	H1-3+VT ✔
L70	2.75 - 1.375	0.011	0.979	0.000	0.026	0.000	0.991 ✔	1.333	H1-3+VT ✔
	1.375 - 0	0.011	0.981	0.000	0.026	0.000	0.993 ✔	1.333	H1-3+VT ✔

* DL controls

Section Capacity Table

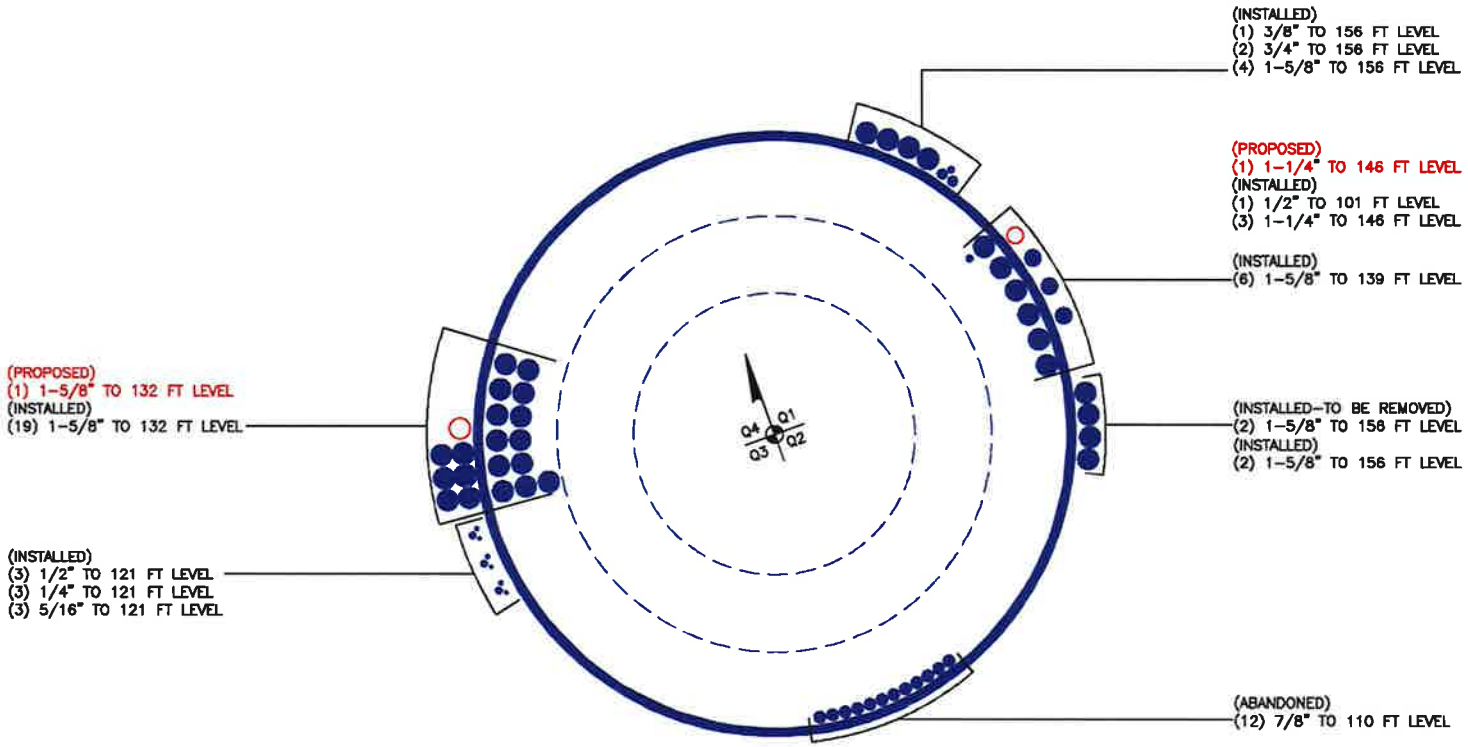
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	160 - 155	Pole	TP16x16x0.375	1	-1.21	515.29	3.5	Pass
L2	155 - 150	Pole	TP16x16x0.375	2	-1.53	515.29	15.9	Pass
L3	150 - 146	Pole	TP16x16x0.375	3	-2.40	515.29	28.1	Pass
L4	146 - 141	Pole	TP22.924x22x0.25	4	-4.52	875.90	26.4	Pass
L5	141 - 136	Pole	TP23.848x22.924x0.25	5	-5.04	911.60	37.4	Pass
L6	136 - 131	Pole	TP24.7721x23.848x0.25	6	-7.36	947.30	50.3	Pass
L7	131 - 126	Pole	TP25.6961x24.7721x0.25	7	-7.92	982.99	65.3	Pass
L8	126 - 121	Pole	TP26.6201x25.6961x0.25	8	-8.54	1018.69	78.7	Pass
L9	121 - 117.25	Pole	TP27.3131x26.6201x0.25	9	-9.99	1045.46	89.4	Pass
L10	117.25 - 117	Pole	TP27.3593x27.3131x0.2625	10	-10.04	1099.10	85.8	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L11	117 - 115.5	Pole	TP27.6365x27.3593x0.2625	11	-10.25	1110.34	89.6	Pass
L12	115.5 - 115.25	Pole	TP27.6827x27.6365x0.425	12	-10.31	1790.06	56.7	Pass
L13	115.25 - 110.25	Pole	TP28.6068x27.6827x0.4125	13	-11.16	1797.11	65.8	Pass
L14	110.25 - 103.75	Pole	TP29.808x28.6068x0.4125	14	-11.64	1829.50	69.6	Pass
L15	103.75 - 102.5	Pole	TP29.5386x28.615x0.475	15	-13.06	2133.20	68.7	Pass
L16	102.5 - 98.5	Pole	TP30.2774x29.5386x0.4688	16	-13.93	2159.10	73.8	Pass
L17	98.5 - 98.25	Pole	TP30.3236x30.2774x0.45	17	-13.99	2077.25	77.0	Pass
L18	98.25 - 93.25	Pole	TP31.2472x30.3236x0.45	18	-15.10	2141.48	82.0	Pass
L19	93.25 - 88.25	Pole	TP32.1708x31.2472x0.4438	19	-16.24	2175.48	87.8	Pass
L20	88.25 - 83.5	Pole	TP33.0482x32.1708x0.4563	20	-17.34	2297.75	89.3	Pass
L21	83.5 - 83.25	Pole	TP33.0944x33.0482x0.6125	21	-17.43	3074.23	67.6	Pass
L22	83.25 - 82.5	Pole	TP33.2329x33.0944x0.5875	22	-17.64	2963.59	70.8	Pass
L23	82.5 - 82.25	Pole	TP33.2791x33.2329x0.4375	23	-17.70	2220.19	94.0	Pass
L24	82.25 - 80.75	Pole	TP33.5562x33.2791x0.45	24	-18.04	2302.02	92.6	Pass
L25	80.75 - 80.5	Pole	TP33.6024x33.5562x0.5375	25	-18.13	2746.21	78.3	Pass
L26	80.5 - 78.5	Pole	TP33.9718x33.6024x0.525	26	-18.66	2713.33	81.4	Pass
L27	78.5 - 78.25	Pole	TP34.018x33.9718x0.7625	27	-18.75	3918.25	57.3	Pass
L28	78.25 - 77.5	Pole	TP34.1565x34.018x0.7625	28	-18.99	3934.58	57.6	Pass
L29	77.5 - 77.25	Pole	TP34.2027x34.1565x0.5625	29	-19.06	2923.95	76.9	Pass
L30	77.25 - 68.5	Pole	TP35.819x34.2027x0.55	30	-20.22	2926.75	80.9	Pass
L31	68.5 - 68	Pole	TP35.2865x34.3628x0.6125	31	-22.65	3281.70	78.2	Pass
L32	68 - 65.25	Pole	TP35.7946x35.2865x0.6125	32	-23.47	3329.78	79.4	Pass
L33	65.25 - 65	Pole	TP35.8408x35.7946x0.85	33	-23.58	4595.80	58.5	Pass
L34	65 - 64.25	Pole	TP35.9793x35.8408x0.85	34	-23.86	4613.99	58.7	Pass
L35	64.25 - 64	Pole	TP36.0255x35.9793x0.675	35	-23.95	3687.13	72.9	Pass
L36	64 - 62.5	Pole	TP36.3026x36.0255x0.675	36	-24.46	3716.03	73.5	Pass
L37	62.5 - 62.25	Pole	TP36.3488x36.3026x0.5438	37	-24.55	3008.38	90.3	Pass
L38	62.25 - 60.08	Pole	TP36.7497x36.3488x0.525	38	-25.18	2938.68	94.4	Pass
L39	60.08 - 59.83	Pole	TP36.7959x36.7497x0.5375	39	-25.27	3011.45	92.4	Pass
L40	59.83 - 59.08	Pole	TP36.9345x36.7959x0.5375	40	-25.50	3022.96	92.8	Pass
L41	59.08 - 58.83	Pole	TP36.9807x36.9345x0.65	41	-25.59	3649.01	77.5	Pass
L42	58.83 - 57.25	Pole	TP37.2726x36.9807x0.65	42	-26.11	3678.33	78.1	Pass
L43	57.25 - 57	Pole	TP37.3188x37.2726x0.825	43	-26.23	4652.22	62.5	Pass
L44	57 - 55.75	Pole	TP37.5497x37.3188x0.8375	44	-26.74	4750.99	61.9	Pass
L45	55.75 - 55.5	Pole	TP37.5959x37.5497x0.675	45	-26.83	3850.92	75.9	Pass
L46	55.5 - 50.5	Pole	TP38.5196x37.5959x0.6625	46	-28.53	3875.44	78.9	Pass
L47	50.5 - 45.5	Pole	TP39.4434x38.5196x0.6625	47	-30.26	3970.02	80.3	Pass
L48	45.5 - 41.33	Pole	TP40.2138x39.4434x0.65	48	-31.72	3973.74	83.0	Pass
L49	41.33 - 41.08	Pole	TP40.26x40.2138x0.775	49	-31.82	4728.48	70.3	Pass
L50	41.08 - 34	Pole	TP41.568x40.26x0.7625	50	-32.62	4698.97	71.8	Pass
L51	34 - 33	Pole	TP41.0028x39.8943x0.7	51	-36.54	4722.63	76.0	Pass
L52	33 - 31.5	Pole	TP41.28x41.0028x0.7	52	-37.12	4755.10	76.3	Pass
L53	31.5 - 31.25	Pole	TP41.3262x41.28x0.7	53	-37.24	4760.52	76.3	Pass
L54	31.25 - 30.5	Pole	TP41.4647x41.3262x0.7	54	-37.53	4776.75	76.4	Pass
L55	30.5 - 30.25	Pole	TP41.5109x41.4647x0.7375	55	-37.64	5033.73	72.8	Pass
L56	30.25 - 28.5	Pole	TP41.8343x41.5109x0.7375	56	-38.34	5073.65	73.1	Pass
L57	28.5 - 28.25	Pole	TP41.8805x41.8343x0.925	57	-38.48	6341.68	59.1	Pass
L58	28.25 - 25.75	Pole	TP42.3424x41.8805x0.95	58	-39.64	6582.55	58.0	Pass
L59	25.75 - 25.5	Pole	TP42.3885x42.3424x0.7125	59	-39.75	4970.76	76.1	Pass
L60	25.5 - 20.5	Pole	TP43.3124x42.3885x0.7	60	-41.72	4993.26	78.2	Pass
L61	20.5 - 15.5	Pole	TP44.2362x43.3124x0.75	61	-43.71	5459.63	73.9	Pass
L62	15.5 - 14.08	Pole	TP44.4985x44.2362x0.75	62	-44.31	5492.57	74.1	Pass
L63	14.08 - 13.82	Pole	TP44.5466x44.4985x0.725	63	-44.44	5318.35	76.5	Pass
L64	13.82 - 13.67	Pole	TP44.5743x44.5466x0.725	64	-44.50	5321.71	76.6	Pass
L65	13.67 - 10.5	Pole	TP45.16x44.5743x0.7125	65	-45.86	5301.30	78.2	Pass
L66	10.5 - 10.25	Pole	TP45.2062x45.16x0.7	66	-45.98	5215.18	79.6	Pass
L67	10.25 - 5.25	Pole	TP46.13x45.2062x0.7	67	-47.87	5323.43	80.2	Pass
L68	5.25 - 3	Pole	TP46.5457x46.13x1.1	68	-49.02	8368.28	52.6	Pass
L69	3 - 2.75	Pole	TP46.5919x46.5457x0.775	69	-49.12	5943.99	73.1	Pass
L70	2.75 - 0	Pole	TP47.1x46.5919x0.7625	70	-50.12	5914.57	74.5	Pass
							Summary	

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
						Pole (L38)	94.4	Pass
						RATING =	**94.4**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(INSTALLED)
(1) 3/8" TO 156 FT LEVEL
(2) 3/4" TO 156 FT LEVEL
(4) 1-5/8" TO 156 FT LEVEL
(PROPOSED)
(1) 1-1/4" TO 146 FT LEVEL
(INSTALLED)
(1) 1/2" TO 101 FT LEVEL
(3) 1-1/4" TO 146 FT LEVEL
(INSTALLED)
(6) 1-5/8" TO 139 FT LEVEL
(PROPOSED)
(1) 1-5/8" TO 132 FT LEVEL
(INSTALLED)
(19) 1-5/8" TO 132 FT LEVEL
(INSTALLED-TO BE REMOVED)
(2) 1-5/8" TO 158 FT LEVEL
(INSTALLED)
(2) 1-5/8" TO 156 FT LEVEL
(INSTALLED)
(3) 1/2" TO 121 FT LEVEL
(3) 1/4" TO 121 FT LEVEL
(3) 5/16" TO 121 FT LEVEL
(ABANDONED)
(12) 7/8" TO 110 FT LEVEL
Q4
Q1
Q3
Q2

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- F

Site BU: 876334
Work Order: 1068522

CROWN CASTLE

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	160	14	0	0	16	16	0.375	n/a	A53-B-35
2	146	42.25	3.75	12	22.00	29.808	0.25	1	A607-60
3	107.5	39	4.5	12	28.61	35.819	0.3125	1.25	A607-60
4	73	39	5	12	34.36	41.568	0.375	1.5	A607-60
5	39	39	0	12	39.89	47.1	0.375	1.5	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Pole Flat Width (in)	1	2	3	4	5	6	7	8	9	10	11	12
1	31.5	60.08	channel	MP3-04 (1.25")	9.85							E-10					
2	13.92	31.5	channel	MP3-05 (1.25")	11.06							E-10					
3	30.5	59.08	channel	MP3-04 (1.25")	9.9			E-10								E-10	
4	3	30.5	channel	MP3-05 (1.25")	11.11			E-10								E-10	
5	3	14.08	channel	MP3-04 (1.25")	11.92						E-10		E-10				
6	0	3	plate	5.875x1.25 Stiffener	12.47		E-10	E-10			E-10	E-10			E-10	E-10	
7	82.5	98.5	plate	MS-600 (1.25")	8.11		E-12			E-12				E-12			
8	62.5	78.5	plate	MS-600 (1.25")	9.1		E-12			E-12				E-12			
9	33.25	57.25	plate	MS-650 (1.25")	9.99		E-12			E-12				E-12			
10	3	28.5	plate	MS-600 (1.25")	11.21		E-12			E-12				E-12			
11	77.5	83.5	plate	MS-600 (1.25")	8.86	E-12			E-12				E-12				
12	55.75	65.25	plate	MS-650 (1.25")	9.59	E-12			E-12				E-12				
13	25.75	35.25	plate	MS-650 (1.25")	11.08	E-12			E-12				E-12				
14	98.5	115.5	plate	CCI-SFP-045100	7.41								E-14				E-14
15	98.5	117.25	plate	CCI-SFP-045100	7.32				E-14								
16	64.25	80.75	plate	CCI-AFP-085125	8.99												P
17	10.5	41.33	plate	CCI-AFP-085125	10.78												P
18	3	10.5	plate	CCI-AFP-060100	12.1												P
19																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_y (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.566	1.2500	A572-65
2	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	1.2500	A572-65
3	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.566	1.2500	A572-65
4	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	1.2500	A572-65
5	4.78	1.61	4.13	0.61	17.000	17.000	18.000	3.566	1.2500	A572-65
6	1.25	5.875	7.34375	2.9375		0.000	0.000	7.344	0.0000	A572-65
7	6	1	6	0.5	24.000	24.000	16.375	4.688	1.2500	A572-65
8	6	1	6	0.5	24.000	24.000	16.375	4.688	1.2500	A572-65
9	6.5	1.25	8.125	0.625	33.000	33.000	19.250	6.484	1.2500	A572-65
10	6	1	6	0.5	24.000	24.000	16.375	4.688	1.2500	A572-65
11	6	1	6	0.5	24.000	24.000	16.375	4.688	1.2500	A572-65
12	6.5	1.25	8.125	0.625	33.000	33.000	19.250	6.484	1.2500	A572-65
13	6.5	1.25	8.125	0.625	33.000	33.000	19.250	6.484	1.2500	A572-65
14	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
15	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65
16	8.5	1.25	10.625	0.625	51.000	51.000	17.000	9.063	1.1875	A572-65
17	8.5	1.25	10.625	0.625	51.000	51.000	17.000	9.063	1.1875	A572-65
18	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	160 - 155	5		0	16.000	16.000	0.375	A53-B-35	1.000
2	155 - 150	5		0	16.000	16.000	0.375	A53-B-35	1.000
3	150 - 146	4	0	0	16.000	16.000	0.375	A53-B-35	1.000
4	146 - 141	5		12	22.000	22.924	0.25	A607-60	1.000
5	141 - 136	5		12	22.924	23.848	0.25	A607-60	1.000
6	136 - 131	5		12	23.848	24.772	0.25	A607-60	1.000
7	131 - 126	5		12	24.772	25.696	0.25	A607-60	1.000
8	126 - 121	5		12	25.696	26.620	0.25	A607-60	1.000
9	121 - 117.25	3.75		12	26.620	27.313	0.25	A607-60	1.000
10	117.25 - 117	0.25		12	27.313	27.359	0.2625	A607-60	1.150
11	117 - 115.5	1.5		12	27.359	27.637	0.2625	A607-60	1.148
12	115.5 - 115.25	0.25		12	27.637	27.683	0.425	A607-60	0.954
13	115.25 - 110.25	5		12	27.683	28.607	0.4125	A607-60	0.971
14	110.25 - 107.5	6.5	3.75	12	28.607	29.808	0.4125	A607-60	0.964
15	107.5 - 102.5	5		12	28.615	29.539	0.475	A607-60	0.966
16	102.5 - 98.5	4		12	29.539	30.277	0.46875	A607-60	0.971
17	98.5 - 98.25	0.25		12	30.277	30.324	0.45	A607-60	1.114
18	98.25 - 93.25	5		12	30.324	31.247	0.45	A607-60	1.101
19	93.25 - 88.25	5		12	31.247	32.171	0.44375	A607-60	1.105
20	88.25 - 83.5	4.75		12	32.171	33.048	0.45625	A607-60	1.064
21	83.5 - 83.25	0.25		12	33.048	33.094	0.6125	A607-60	1.078
22	83.25 - 82.5	0.75		12	33.094	33.233	0.5875	A607-60	1.120
23	82.5 - 82.25	0.25		12	33.233	33.279	0.4375	A607-60	1.107
24	82.25 - 80.75	1.5		12	33.279	33.556	0.45	A607-60	1.073
25	80.75 - 80.5	0.25		12	33.556	33.602	0.5375	A607-60	1.086
26	80.5 - 78.5	2		12	33.602	33.972	0.525	A607-60	1.106
27	78.5 - 78.25	0.25		12	33.972	34.018	0.7625	A607-60	0.987
28	78.25 - 77.5	0.75		12	34.018	34.157	0.7625	A607-60	0.985
29	77.5 - 77.25	0.25		12	34.157	34.203	0.5625	A607-60	1.030
30	77.25 - 73	8.75	4.5	12	34.203	35.819	0.55	A607-60	1.042
31	73 - 68	5		12	34.363	35.287	0.6125	A607-60	1.036
32	68 - 65.25	2.75		12	35.287	35.795	0.6125	A607-60	1.030
33	65.25 - 65	0.25		12	35.795	35.841	0.85	A607-60	1.001
34	65 - 64.25	0.75		12	35.841	35.979	0.85	A607-60	0.999
35	64.25 - 64	0.25		12	35.979	36.026	0.675	A607-60	1.113
36	64 - 62.5	1.5		12	36.026	36.303	0.675	A607-60	1.108
37	62.5 - 62.25	0.25		12	36.303	36.349	0.54375	A607-60	1.082
38	62.25 - 60.08	2.17		12	36.349	36.750	0.525	A607-60	1.116
39	60.08 - 59.83	0.25		12	36.750	36.796	0.5375	A607-60	1.156
40	59.83 - 59.08	0.75		12	36.796	36.934	0.5375	A607-60	1.154
41	59.08 - 58.83	0.25		12	36.934	36.981	0.65	A607-60	1.065
42	58.83 - 57.25	1.58		12	36.981	37.273	0.65	A607-60	1.062
43	57.25 - 57	0.25		12	37.273	37.319	0.825	A607-60	1.092
44	57 - 55.75	1.25		12	37.319	37.550	0.8375	A607-60	1.072
45	55.75 - 55.5	0.25		12	37.550	37.596	0.675	A607-60	1.019
46	55.5 - 50.5	5		12	37.596	38.520	0.6625	A607-60	1.026
47	50.5 - 45.5	5		12	38.520	39.443	0.6625	A607-60	1.015
48	45.5 - 41.33	4.17		12	39.443	40.214	0.65	A607-60	1.026
49	41.33 - 41.08	0.25		12	40.214	40.260	0.775	A607-60	0.970
50	41.08 - 39	7.08	5	12	40.260	41.568	0.7625	A607-60	0.981
51	39 - 33	6		12	39.894	41.003	0.7	A607-65	1.062
52	33 - 31.5	1.5		12	41.003	41.280	0.7	A607-65	1.059
53	31.5 - 31.25	0.25		12	41.280	41.326	0.7	A607-65	1.075
54	31.25 - 30.5	0.75		12	41.326	41.465	0.7	A607-65	1.073
55	30.5 - 30.25	0.25		12	41.465	41.511	0.7375	A607-65	1.050
56	30.25 - 28.5	1.75		12	41.511	41.834	0.7375	A607-65	1.046
57	28.5 - 28.25	0.25		12	41.834	41.880	0.925	A607-65	0.985
58	28.25 - 25.75	2.5		12	41.880	42.342	0.95	A607-65	0.953
59	25.75 - 25.5	0.25		12	42.342	42.389	0.7125	A607-65	1.008
60	25.5 - 20.5	5		12	42.389	43.312	0.7	A607-65	1.015
61	20.5 - 15.5	5		12	43.312	44.236	0.75	A607-65	0.939
62	15.5 - 14.08	1.42		12	44.236	44.499	0.75	A607-65	1.015
63	14.08 - 13.82	0.26		12	44.499	44.547	0.725	A607-65	0.993
64	13.82 - 13.67	0.15		12	44.547	44.574	0.725	A607-65	0.993
65	13.67 - 10.5	3.17		12	44.574	45.160	0.7125	A607-65	1.062
66	10.5 - 10.25	0.25		12	45.160	45.206	0.7	A607-65	0.974
67	10.25 - 5.25	5		12	45.206	46.130	0.7	A607-65	0.966
68	5.25 - 3	2.25		12	46.130	46.546	1.1	A607-65	0.891
69	3 - 2.75	0.25		12	46.546	46.592	0.775	A607-65	0.874
70	2.75 - 0	2.75		12	46.592	47.100	0.7625	A607-65	0.884

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	160 - 155	1.2135	5.756	4.341
2	155 - 150	1.5345	28.108	4.5992
3	150 - 146	2.4017	49.791	6.2495
4	146 - 141	4.5217	104.03	10.597
5	141 - 136	5.0399	160.65	11.892
6	136 - 131	7.3588	233.17	18.512
7	131 - 126	7.9208	327.29	19.127
8	126 - 121	8.5419	424.83	20.213
9	121 - 117.25	9.9928	507.85	22.385
10	117.25 - 117	10.044	513.45	22.411
11	117 - 115.5	10.248	547.21	22.611
12	115.5 - 115.25	10.309	552.86	22.639
13	115.25 - 110.25	11.161	667.74	23.319
14	110.25 - 107.5	11.642	732.37	23.69
15	107.5 - 102.5	13.061	852.7	24.431
16	102.5 - 98.5	13.929	951.62	25.049
17	98.5 - 98.25	13.993	957.89	25.081
18	98.25 - 93.25	15.097	1085	25.762
19	93.25 - 88.25	16.238	1215.4	26.424
20	88.25 - 83.5	17.34	1342.4	27.06
21	83.5 - 83.25	17.426	1349.2	27.089
22	83.25 - 82.5	17.639	1369.6	27.2
23	82.5 - 82.25	17.703	1376.4	27.232
24	82.25 - 80.75	18.041	1417.4	27.448
25	80.75 - 80.5	18.127	1424.2	27.472
26	80.5 - 78.5	18.66	1479.5	27.758
27	78.5 - 78.25	18.752	1486.4	27.79
28	78.25 - 77.5	18.993	1507.3	27.903
29	77.5 - 77.25	19.065	1514.3	27.936
30	77.25 - 73	20.219	1634.3	28.527
31	73 - 68	22.646	1778.9	29.311
32	68 - 65.25	23.466	1860	29.691
33	65.25 - 65	23.576	1867.4	29.716
34	65 - 64.25	23.857	1889.8	29.826
35	64.25 - 64	23.949	1897.2	29.858
36	64 - 62.5	24.46	1942.2	30.074
37	62.5 - 62.25	24.548	1949.7	30.096
38	62.25 - 60.08	25.18	2015.3	30.401
39	60.08 - 59.83	25.3	2022.9	30.4
40	59.83 - 59.08	25.5	2045.8	30.5
41	59.08 - 58.83	25.6	2053.4	30.6
42	58.83 - 57.25	26.1	2101.9	30.8
43	57.25 - 57	26.2	2109.6	30.8
44	57 - 55.75	26.7	2148.2	31.0
45	55.75 - 55.5	26.8	2156.0	31.0
46	55.5 - 50.5	28.5	2312.8	31.7
47	50.5 - 45.5	30.3	2472.9	32.4
48	45.5 - 41.33	31.7	2609.0	32.9
49	41.33 - 41.08	31.8	2617.2	32.9
50	41.08 - 39	32.6	2686.0	33.2
51	39 - 33	36.5	2887.9	34.1
52	33 - 31.5	37.1	2939.2	34.3
53	31.5 - 31.25	37.2	2947.7	34.3
54	31.25 - 30.5	37.5	2973.5	34.4
55	30.5 - 30.25	37.6	2982.1	34.4
56	30.25 - 28.5	38.3	3042.4	34.6
57	28.5 - 28.25	38.5	3051.1	34.6
58	28.25 - 25.75	39.6	3138.1	35.0
59	25.75 - 25.5	39.8	3146.8	35.0
60	25.5 - 20.5	41.7	3323.1	35.6
61	20.5 - 15.5	43.7	3502.3	36.1
62	15.5 - 14.08	44.3	3553.7	36.3
63	14.08 - 13.82	44.4	3563.2	36.3
64	13.82 - 13.67	44.5	3568.6	36.3
65	13.67 - 10.5	45.9	3684.4	36.7
66	10.5 - 10.25	46.0	3693.6	36.7
67	10.25 - 5.25	47.9	3878.5	37.2
68	5.25 - 3	49.0	3962.5	37.5
69	3 - 2.75	49.1	3971.8	37.5
70	2.75 - 0	50.1	4075.3	37.8

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
160 - 155	Pole	TP16x16x0.375	Pole	3.4%	Pass
155 - 150	Pole	TP16x16x0.375	Pole	15.9%	Pass
150 - 146	Pole	TP16x16x0.375	Pole	28.0%	Pass
146 - 141	Pole	TP22.924x22x0.25	Pole	26.2%	Pass
141 - 136	Pole	TP23.848x22.924x0.25	Pole	37.2%	Pass
136 - 131	Pole	TP24.772x23.848x0.25	Pole	50.0%	Pass
131 - 126	Pole	TP25.696x24.772x0.25	Pole	65.0%	Pass
126 - 121	Pole	TP26.62x25.696x0.25	Pole	78.4%	Pass
121 - 117.25	Pole	TP27.313x26.62x0.25	Pole	88.9%	Pass
117.25 - 117	Pole + Reinf.	TP27.359x27.313x0.2625	Pole	90.2%	Pass
117 - 115.5	Pole + Reinf.	TP27.637x27.359x0.2625	Pole	94.2%	Pass
115.5 - 115.25	Pole + Reinf.	TP27.683x27.637x0.425	Reinf. 15 Compression	70.9%	Pass
115.25 - 110.25	Pole + Reinf.	TP28.607x27.683x0.4125	Reinf. 15 Compression	81.1%	Pass
110.25 - 107.5	Pole + Reinf.	TP29.808x28.607x0.4125	Reinf. 15 Compression	86.1%	Pass
107.5 - 102.5	Pole + Reinf.	TP29.539x28.615x0.475	Reinf. 15 Compression	85.1%	Pass
102.5 - 98.5	Pole + Reinf.	TP30.277x29.539x0.4688	Reinf. 15 Compression	91.4%	Pass
98.5 - 98.25	Pole + Reinf.	TP30.324x30.277x0.45	Pole	79.5%	Pass
98.25 - 93.25	Pole + Reinf.	TP31.247x30.324x0.45	Pole	85.5%	Pass
93.25 - 88.25	Pole + Reinf.	TP32.171x31.247x0.4438	Pole	91.1%	Pass
88.25 - 83.5	Pole + Reinf.	TP33.048x32.171x0.4563	Reinf. 7 Tension Rupture	95.1%	Pass
83.5 - 83.25	Pole + Reinf.	TP33.094x33.048x0.6125	Reinf. 11 Bolt Shear	73.3%	Pass
83.25 - 82.5	Pole + Reinf.	TP33.233x33.094x0.5875	Reinf. 7 Bolt Shear	75.4%	Pass
82.5 - 82.25	Pole + Reinf.	TP33.279x33.233x0.4375	Pole	97.2%	Pass
82.25 - 80.75	Pole + Reinf.	TP33.556x33.279x0.45	Reinf. 11 Tension Rupture	98.5%	Pass
80.75 - 80.5	Pole + Reinf.	TP33.602x33.556x0.5375	Reinf. 11 Tension Rupture	94.2%	Pass
80.5 - 78.5	Pole + Reinf.	TP33.972x33.602x0.525	Reinf. 11 Tension Rupture	96.4%	Pass
78.5 - 78.25	Pole + Reinf.	TP34.018x33.972x0.7625	Reinf. 8 Bolt Shear	69.1%	Pass
78.25 - 77.5	Pole + Reinf.	TP34.157x34.018x0.7625	Reinf. 8 Tension Rupture	68.4%	Pass
77.5 - 77.25	Pole + Reinf.	TP34.203x34.157x0.5625	Reinf. 8 Tension Rupture	91.1%	Pass
77.25 - 73	Pole + Reinf.	TP35.819x34.203x0.55	Reinf. 8 Tension Rupture	94.5%	Pass
73 - 68	Pole + Reinf.	TP35.287x34.363x0.6125	Reinf. 8 Tension Rupture	91.3%	Pass
68 - 65.25	Pole + Reinf.	TP35.795x35.287x0.6125	Reinf. 8 Tension Rupture	93.9%	Pass
65.25 - 65	Pole + Reinf.	TP35.841x35.795x0.85	Reinf. 8 Tension Rupture	68.7%	Pass
65 - 64.25	Pole + Reinf.	TP35.979x35.841x0.85	Reinf. 8 Tension Rupture	69.1%	Pass
64.25 - 64	Pole + Reinf.	TP36.026x35.979x0.675	Reinf. 8 Tension Rupture	76.9%	Pass
64 - 62.5	Pole + Reinf.	TP36.303x36.026x0.675	Reinf. 8 Bolt Shear	78.3%	Pass
62.5 - 62.25	Pole + Reinf.	TP36.349x36.303x0.5438	Pole	92.7%	Pass
62.25 - 60.08	Pole + Reinf.	TP36.75x36.349x0.525	Pole	96.0%	Pass
60.08 - 59.83	Pole + Reinf.	TP36.796x36.75x0.5375	Pole	96.2%	Pass
59.83 - 59.08	Pole + Reinf.	TP36.934x36.796x0.5375	Pole	96.7%	Pass
59.08 - 58.83	Pole + Reinf.	TP36.981x36.934x0.65	Reinf. 3 Tension Rupture	86.7%	Pass
58.83 - 57.25	Pole + Reinf.	TP37.273x36.981x0.65	Reinf. 3 Tension Rupture	87.8%	Pass
57.25 - 57	Pole + Reinf.	TP37.319x37.273x0.825	Reinf. 3 Tension Rupture	70.8%	Pass
57 - 55.75	Pole + Reinf.	TP37.55x37.319x0.8375	Reinf. 3 Tension Rupture	71.2%	Pass
55.75 - 55.5	Pole + Reinf.	TP37.596x37.55x0.675	Reinf. 3 Tension Rupture	86.2%	Pass
55.5 - 50.5	Pole + Reinf.	TP38.52x37.596x0.6625	Reinf. 3 Tension Rupture	88.9%	Pass
50.5 - 45.5	Pole + Reinf.	TP39.443x38.52x0.6625	Reinf. 3 Tension Rupture	90.6%	Pass
45.5 - 41.33	Pole + Reinf.	TP40.214x39.443x0.65	Reinf. 3 Tension Rupture	93.5%	Pass
41.33 - 41.08	Pole + Reinf.	TP40.26x40.214x0.775	Reinf. 9 Tension Rupture	81.6%	Pass
41.08 - 39	Pole + Reinf.	TP41.568x40.26x0.7625	Reinf. 9 Bolt Shear	83.9%	Pass
39 - 33	Pole + Reinf.	TP41.003x39.894x0.7	Reinf. 13 Bolt Shear	94.0%	Pass
33 - 31.5	Pole + Reinf.	TP41.28x41.003x0.7	Reinf. 13 Tension Rupture	93.5%	Pass
31.5 - 31.25	Pole + Reinf.	TP41.326x41.28x0.7	Reinf. 13 Tension Rupture	93.6%	Pass
31.25 - 30.5	Pole + Reinf.	TP41.465x41.326x0.7	Reinf. 13 Tension Rupture	93.9%	Pass
30.5 - 30.25	Pole + Reinf.	TP41.511x41.465x0.7375	Reinf. 13 Tension Rupture	89.0%	Pass
30.25 - 28.5	Pole + Reinf.	TP41.834x41.511x0.7375	Reinf. 13 Tension Rupture	89.7%	Pass
28.5 - 28.25	Pole + Reinf.	TP41.88x41.834x0.925	Reinf. 10 Bolt Shear	75.1%	Pass
28.25 - 25.75	Pole + Reinf.	TP42.342x41.88x0.95	Reinf. 10 Tension Rupture	74.6%	Pass
25.75 - 25.5	Pole + Reinf.	TP42.389x42.342x0.7125	Reinf. 10 Tension Rupture	95.5%	Pass
25.5 - 20.5	Pole + Reinf.	TP43.312x42.389x0.7	Reinf. 10 Tension Rupture	97.8%	Pass
20.5 - 15.5	Pole + Reinf.	TP44.236x43.312x0.75	Reinf. 10 Tension Rupture	96.9%	Pass
15.5 - 14.08	Pole + Reinf.	TP44.499x44.236x0.75	Reinf. 10 Tension Rupture	90.4%	Pass
14.08 - 13.82	Pole + Reinf.	TP44.547x44.499x0.725	Reinf. 10 Tension Rupture	96.2%	Pass
13.82 - 13.67	Pole + Reinf.	TP44.574x44.547x0.725	Reinf. 10 Tension Rupture	96.3%	Pass
13.67 - 10.5	Pole + Reinf.	TP45.16x44.574x0.7125	Reinf. 10 Tension Rupture	96.3%	Pass
10.5 - 10.25	Pole + Reinf.	TP45.206x45.16x0.7	Reinf. 10 Tension Rupture	95.1%	Pass
10.25 - 5.25	Pole + Reinf.	TP46.13x45.206x0.7	Reinf. 10 Tension Rupture	99.1%	Pass
5.25 - 3	Pole + Reinf.	TP46.546x46.13x1.1	Reinf. 10 Bolt Shear	63.2%	Pass
3 - 2.75	Pole + Reinf.	TP46.592x46.546x0.775	Reinf. 6 Compression	79.9%	Pass
2.75 - 0	Pole + Reinf.	TP47.1x46.592x0.7625	Reinf. 6 Compression	80.6%	Pass
				Summary	
			Pole	97.2%	Pass
			Reinforcement	99.8%	Pass
			Overall	99.8%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (In^4)			Area (in^2)			% Capacity																
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18
160 - 155	562	n/a	562	18.41	n/a	18.41	3.4%																		
155 - 150	562	n/a	562	18.41	n/a	18.41	16.9%																		
150 - 146	562	n/a	562	18.41	n/a	18.41	28.0%																		
146 - 141	1199	n/a	1199	18.23	n/a	18.23	26.2%																		
141 - 136	1352	n/a	1352	18.97	n/a	18.97	37.2%																		
136 - 131	1517	n/a	1517	19.71	n/a	19.71	50.0%																		
131 - 126	1695	n/a	1695	20.45	n/a	20.45	65.0%																		
126 - 121	1887	n/a	1887	21.20	n/a	21.20	78.4%																		
121 - 117.25	2039	n/a	2039	21.75	n/a	21.75	88.9%																		
117.25 - 117	2065	79	2144	21.79	4.50	26.29	90.2%															68.1%			
117 - 115.5	2129	81	2210	22.01	4.50	26.51	94.2%															71.4%			
115.5 - 115.25	2124	1400	3524	22.05	13.50	35.55	84.9%														70.9%	70.9%			
115.25 - 110.25	2346	1491	3837	22.79	13.50	36.29	92.9%														81.2%	81.2%			
110.25 - 107.5	2474	1542	4017	23.20	13.50	36.70	88.4%														86.5%	86.5%			
107.5 - 102.5	3211	1586	4796	29.37	13.50	42.87	87.6%														85.5%	85.5%			
102.5 - 98.5	3460	1663	5123	30.11	13.50	43.61	71.0%														81.4%	81.4%			
98.5 - 98.25	3497	1498	4996	30.16	18.00	48.16	79.6%							79.4%											
98.25 - 93.25	3829	1587	5416	31.08	18.00	49.08	85.5%							86.0%											
93.25 - 88.25	4181	1678	5859	32.01	18.00	50.01	91.1%							90.7%											
88.25 - 83.5	4543	2003	6546	32.89	18.00	50.89	92.1%							95.7%											
83.5 - 83.25	4544	4101	8645	32.94	36.00	68.94	68.8%							74.3%				73.7%							
83.25 - 82.5	4638	3761	8399	33.08	36.00	69.08	74.6%							76.4%				73.9%							
82.5 - 82.25	4632	1790	6422	33.13	18.00	51.13	97.2%											97.0%							
82.25 - 80.75	4755	1959	6714	33.40	18.00	51.40	97.0%											98.5%							
80.75 - 80.5	4772	3178	7950	33.45	28.63	62.07	81.4%											94.5%					60.4%		
80.5 - 78.5	4919	3156	8075	33.82	28.63	62.45	81.5%											96.4%					61.8%		
78.5 - 78.25	4951	6613	11564	33.87	46.63	80.49	58.0%								69.1%			66.8%					54.3%		
78.25 - 77.5	5018	6814	11832	34.01	46.63	80.63	59.1%								69.2%			67.8%					54.8%		
77.5 - 77.25	5019	3764	8783	34.05	28.63	62.68	77.0%								91.9%								64.7%		
77.25 - 73	5414	3921	9336	34.84	28.63	63.47	85.3%								95.6%								67.6%		
73 - 68	6580	3997	10578	42.10	28.63	70.72	77.2%								91.9%								66.8%		
68 - 65.25	6882	4091	10974	42.71	28.63	71.33	81.2%								93.9%								68.4%		
65.25 - 65	6902	8133	15034	42.76	53.00	95.76	68.1%								68.7%				66.0%				56.2%		
65 - 64.25	6983	8193	15176	42.93	53.00	95.93	68.6%								69.1%				65.6%				56.6%		
64.25 - 64	7066	5266	12332	42.99	42.38	85.36	74.9%								77.6%				73.7%						
64 - 62.5	7231	5344	12575	43.32	42.38	85.70	75.8%								79.0%				74.5%						
62.5 - 62.25	7200	3082	10282	43.38	24.38	67.75	92.7%												93.3%						
62.25 - 60.08	7463	2923	10386	43.86	24.38	68.23	96.0%												94.7%						
60.08 - 59.83	7531	3093	10623	43.92	28.51	72.42	96.2%	72.8%											94.0%						
59.83 - 59.08	7617	3115	10732	44.08	28.51	72.59	96.7%	73.2%											94.6%						
59.08 - 58.83	7596	5244	12840	44.14	36.77	80.90	79.1%	72.9%		86.8%									79.6%						
58.83 - 57.25	7775	5312	13086	44.49	36.77	81.26	78.4%	73.8%		87.8%									80.6%						
57.25 - 57	7848	8803	16650	44.55	61.14	105.69	64.6%	69.0%		70.8%						68.6%			63.7%						
57 - 55.75	8003	9074	17077	44.82	61.14	105.96	63.7%	69.6%		71.4%						65.4%			65.1%						
55.75 - 55.5	7998	5894	13892	44.88	36.77	81.64	78.7%	80.4%		88.2%						81.8%									
55.5 - 50.5	8607	6176	14783	45.99	36.77	82.76	81.2%	83.0%		88.9%						84.2%									
50.5 - 45.5	9249	6696	15945	47.11	36.77	83.87	81.1%	85.5%		91.6%						86.7%									
45.5 - 41.33	9803	6711	16514	48.04	36.77	84.80	85.6%	87.5%		93.5%						88.7%									
41.33 - 41.08	9812	9706	19519	48.09	47.39	95.48	70.4%	80.6%		74.1%						81.9%								67.7%	
41.08 - 39	10109	9863	19972	48.56	47.39	95.95	73.1%	81.6%		76.0%						83.9%								68.6%	
39 - 33	10353	8575	18928	48.99	47.39	96.38	73.9%	82.0%		84.1%										84.0%				70.0%	
33 - 31.5	10567	8687	19253	49.32	47.39	96.71	74.5%	82.6%		84.7%										93.5%				70.6%	
31.5 - 31.25	10602	8708	19310	49.38	48.91	98.29	74.5%		76.3%	84.9%										93.6%				70.2%	
31.25 - 30.5	10710	8764	19474	49.54	48.91	98.45	74.8%		76.6%	85.2%										93.9%				70.5%	
30.5 - 30.25	10746	9891	20637	49.60	51.95	101.55	70.9%		76.7%		78.7%									88.9%				67.9%	
30.25 - 28.5	11002	10039	21041	49.99	51.95	101.94	71.5%		77.4%		79.3%									89.7%				68.5%	
28.5 - 28.25	11045	14879	25924	50.05	69.95	120.00	59.8%		68.4%		66.1%						76.5%			71.6%				63.0%	
28.25 - 25.75	11472	16391	27863	50.60	69.95	120.55	58.7%		67.2%		67.0%						76.9%			73.4%				63.8%	
25.75 - 25.5	11458	9801	21259	50.66	45.58	96.23	74.9%		83.3%		84.5%						86.8%							74.7%	
25.5 - 20.5	12240	10206	22446	51.77	45.58	97.35	78.6%		90.1%		86.3%						97.8%							76.4%	
20.5 - 15.5	13132	12154	25286	52.89	45.58	98.46	76.2%		91.9%		88.0%						99.8%							78.1%	
15.5 - 14.08	13262	12412	25675	53.20	53.84	107.04	72.9%		76.6%		85.8%	82.0%					90.4%							75.4%	
14.08 - 13.82	13313	11614	24927	53.26	48.19	101.45	77.3%				86.9%	93.5%					96.2%							78.2%	
13.82 - 13.67	13338	11628	24966	53.29	48.19	101.48	77.4%				86.0%	93.6%					96.3%							78.3%	
13.67 - 10.5	13920	12018	25939	54.00	54.19	108.19	80.8%				87.2%	84.6%					97.6%							68.8%	71.3%
10.5 - 10.25	13925	11500	25425	54.06	43.56	97.62	78.8%				87.2%	94.9%					97.6%								94.2%
10.25 - 5.25	14790	12448	27238	55.17	43.56	98.73	78.6%				88.8%	96.6%					99.2%								95.9%
5.25 - 3	15196	27636	42832	55.67	87.62	143.29	53.4%				58.2%	62.1%	58.3%				64.7%								62.7%
3 - 2.75	15236	15228	30464	55.73	44.06	99.79	71.9%						79.9%												
2.75 - 0	15744	15523	31267	56.34	44.06	100.40	73.0%						80.6%												

Note: Section capacity checked in 5 degree increments.

Stiffened or Unstiffened, Exterior Flange Plate - Any Bolt Material TIA Rev F

Site Data

BU#: *876334*
Site Name: *SOUTHINGTON, SMORON*

Pole Manufacturer:	Other

Bolt Data			
Qty:	18		
Diameter (in.):	0.75	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	75	<-- Disregard	Bolt Fty: 44.00
N/A:	55	<-- Disregard	
Circle (in.):	19		

Plate Data		
Diam:	24	in
Thick, t:	1.5	in
Grade (Fy):	50	ksi
Strength, Fu:	65	ksi
Single-Rod B-eff:	2.79	in

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	Fillet	
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:	0.3125	in
Fillet V. Weld:	0.3125	in
Width:	5.5	in
Height:	10	in
Thick:	0.5	in
Notch:	1	in
Grade:	50	ksi
Weld str.:	70	ksi

Pole Data		
Diam:	16	in
Thick:	0.375	in
Grade:	35	ksi
# of Sides:	0	"0" IF Round
Fu	63	ksi
Reinf. Fillet Weld	0	"0" if None

Stress Increase Factor		
ASIF:	1.333	

Reactions		
Moment:	49.738	ft-kips
Axial:	2.4217	kips
Shear:	6.2418	kips
Elevation:	146	feet

If No stiffeners, Criteria: AISC ASD <-Only Applcable to Unstiffened Cases

Flange Bolt Results

		Rigid
Bolt Tension Capacity, B:	25.91 kips	Service, ASD
Max Bolt directly applied T:	6.85 Kips	Fty*ASIF
Min. PL "tc" for B cap. w/o Pry:	1.119 in	
Min PL "treq" for actual T w/ Pry:	0.440 in	
Min PL "t1" for actual T w/o Pry:	0.575 in	
T allowable w/o Prying:	25.91 kips	α'<0 case
Prying Force, Q:	0.00 kips	
Total Bolt Tension=T+Q:	6.85 kips	
Non-Prying Bolt Stress Ratio, T/B:	26.4% Pass	

Exterior Flange Plate Results Flexural Check

		Rigid
Compression Side Plate Stress:	6.0 ksi	Service ASD
Allowable Plate Stress:	50.0 ksi	0.75*Fy*ASIF
Compression Plate Stress Ratio:	12.0% Pass	Comp. Y.L. Length: 10.25
No Prying		
Tension Side Stress Ratio, (treq/t)^2:	8.6% Pass	

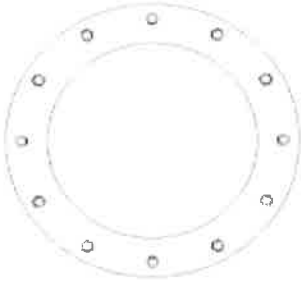
n/a

Stiffener Results

Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Stiffened or Unstiffened, Interior Flange Plate - Any Bolt Material TIA Rev F

Site Data

BU#: *876334*
Site Name: *SOUTHINGTON, SMORO*
App #:

Manufacturer:	Other

Reactions		
Moment:	49.738	ft-kips
Axial:	2.4217	kips
Shear:	6.2418	kips
Exterior Flange Run, T+Q:	6.85	kips

Elevation: 146 feet

Bolt Data			
Qty:	18		
Diam:	0.75	Bolt Fu:	120
Bolt Material:	A325	Bolt Fy:	92
N/A:	100	<-- Disregard	Bolt Fty: 44.00
N/A:	75	<-- Disregard	
Circle:	19	in	

Interior Flange Bolt Results

Maximum Bolt Tension:	6.9	Kips, Ext. Flange T+Q
Allowable Tension:	25.9	Kips
Bolt Stress Ratio:	26.4%	**Pass**

Plate Data		
Plate Outer Diam:	21.5	in
Plate Inner Diam:	14	in (Hole @ Ctr)
Thick:	0.75	in
Grade:	36	ksi
Effective Width:	3.84	in

Interior Flange Plate Results Flexural Check

Controlling Bolt Axial Force:	7.1	Kips, Ext. C= Interior C
Plate Stress:	24.7	ksi
Allowable Plate Stress:	36.0	ksi
Plate Stress Ratio:	68.6%	**Pass**

Stiffener Data (Welding at Both Sides)		
Config:	0	*
Weld Type:	Fillet	
Groove Depth:	0.375	<-- Disregard
Groove Angle:	45	<-- Disregard
Fillet H. Weld:	0.3125	in
Fillet V. Weld:	0.3125	in
Width:	3	in
Height:	18	in
Thick:	0.75	in
Notch:	0.5	in
Grade:	36	ksi
Weld str.:	70	ksi

n/a

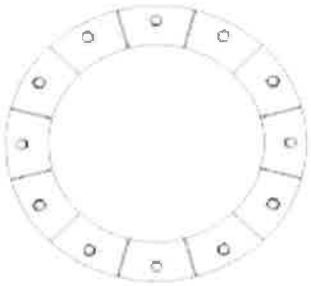
Stiffener Results

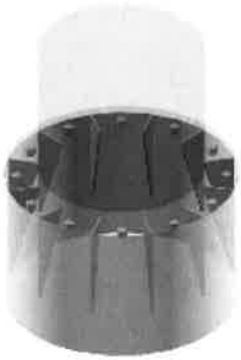
Horizontal Weld :	n/a
Vertical Weld:	n/a
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	n/a
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	n/a
Plate Comp. (AISC Bracket):	n/a

Pole Results

Pole Punching Shear Check: n/a

Pole Data		
Pole OuterDiam:	22	in
Thick:	0.25	in
Pole Inner Diam:	21.5	in
Grade:	60	ksi
# of Sides:	12	"0" IF Round
Fu	75	ksi





Stress Increase Factor		
ASIF:	1.333	

* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

FDH VELOCITEL

ENGINEERING INNOVATION

FDH Velocitel, 6521 Meridien Dr., Raleigh, NC 27616, Ph. 919.755.1012, Fax 919.755.1031

Anchor Rod Design

Site Name:	SOUTHINGTON, SMORON
Job No. :	876334
Elevation:	0
	Input Cells in Yellow

*Note: Use Anchor Rod Transfer Plate Design Tab in Conjunction

Legend
Input
Output/ Notes

Code (F or G):	F	Pull Down
Anchor Bolts (Yes or No)	Yes	Pull Down
P (from RISA)	50	kips
V (from RISA)	38	kips
M (from RISA)	4075	ft-kips
Pier Diameter	7	ft

Existing Rods		
y	27.5	in
No. Bolts	16	
BC	55	in
I	24079	in^4
Bolt Grade	A615-75	Pull Down
Thread Form	Non-Upset	-
d (in)	2.25	Pull Down
Ag	3.98	in^2
Ae	3.25	in^2
Fy	75	ksi
Fu	100	ksi

Itot	27905.45896	in^4

T	189.080	kips
V	2.063	kips

New Rods		
y new	29.55	in
No. Bolts new	4	
BC new	59.1	in
Inew*	3,826	in^4
Bolt Grade	F1554 Gr. 105	Pull Down
Thread Form	Non-Upset	Pull Down
d new (in)	1.75	Pull Down
Ag new	2.41	in^2
Ae new	1.90	in^2
Fy new	105	ksi
Fu new	125	ksi

*Inertia calculated from AutoCAD.

Tnew	123.151	kips
Vnew	1.249	kips

Req'd Embedment Length for New Rods		
f'c, caisson's concrete strength	3000	psi
fy, rebar yield strength	60000	psi
d_b, diameter of vertical rebar	1.41	in
vertical rebar cage BC ø	73.34	in
vertical rebar top cover distance	2	in
τ, Ultimate Hilti Bond Resistance	1.8	ksi
Clear Cover	5.33	in

Note For New Anchor Rods:
Williams Bars (Upset)
A722 (Fy=127.7 ksi, Fu=150 ksi)
A615-75 (Fy=75 ksi, Fu=100 ksi)

l_d (vertical rebar dev. Length)	46.337	in
l_{dH} (Hilti dev. length)	40.183	in
G/1.5	4.747	in

Total Embed. Length of New Bolts	63.13	in
	5.26	ft

Capacity (%)				
Tn/Ω	195	kips	OK	96.96
Tn/Ω, new	132.55	kips	OK	92.91
øTn	260	kips		
øTn, new	190	kips		

Equations:

$^* = (M^*y^*Ag)/Itot-P^*(Ag/Atotal)$

$Tn/\Omega = 0.33^*Fu^*Ag^*(4/3)$

$= 0.8^*Fu^*Ae$ (anchor bolts only) **$øTn = 0.75^*Fu^*Ae$ (non anchor bolts)**

$I = (No.\ Bolts/8)^*BC^{2*}Ag$

Notes:

***Ag and Ae are taken from AISC 13th Ed. Manual (pg. 7-83)**

***I calc. will only work for symmetric bolt group, otherwise use CAD**

Bearing Strength Check of Anchor Rod Pipe Sleeve		
New Anchor Rod Diameter	1.75	in
Selected Pipe Sleeve Area	6.02	in^2
Selected Pipe Sleeve Fy	46	ksi
Rn/Ω (Rev F) or øRn (Rev G)	332.30	k
% Capacity (Analysis)	**37.06%**	**OK**
% Capacity (Design)	**39.89%**	**OK**

Equivalent BC		
No. Existing Rebar		
Existing Rebar BC		in
Area rebar		in^2
Irebar	0	in^4
Itot	3,826	in^4
Equivalent Area	2.410	in^2
Equivalent BC	56.351	in
Total Area	9.64	in^2

(assuming new bolts are reinforcement)

Interaction Equation Checks (Rev. G: Section 4.9.9)			(works for Rev F also)
Detail Type (hover for detail)	d	Pull Down	
η	0.5		
l_{ar}, for Detail Type d only	0	in	(top of concrete to bottom of leveling nut)
øRnt	195	kips	
øRnv	119.4	kips	
øRnm	94.922	kip-in	
Mu	0	kip-in	
$(Pu+Vu/\eta)/øRnt < 1$?	**0.991**	OK	
$(Vu/øRnv)^2 + ((Pu/øRnt)+(Mu/øRnm))^2$	**0.941**	OK	(only applicable for Detail Type d)

$l_d = [(fy^*\psi_t\psi_e\lambda)/(20^*\sqrt{f'c})]^*d_b$ **PER ACI 12.2.2**

$l_{dH} = (øTn^*FS)/(\tau^*pi^*d_{new})$

See Worksheet "New (Design Procedure)"

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

Assumptions: 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

Site ID: *876334*
Site Name: *SOUTHINGTON, SMORON*

Base Reactions			
TIA Revision:	F		
Unfactored Moment, M:	3523.75833	ft-kips	*Moment adjusted for reduced tension from anchor mod.
Unfactored Axial, P:	50	kips	
Unfactored Shear, V:	38	kips	

Anchor Rod Data		
Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	55	in
Anchor Spacing:	6	in

Anchor Rod Results

TIA F --> Maximum Rod Tension	189.1 Kips	
Allowable Tension	195.0 Kips	
Anchor Rod Stress Ratio	97.0%	**Pass**

Plate Data		
W=Side:	55	in
Thick:	3	in
Grade:	53	ksi
Clip Distance:	9	in

Base Plate Results Flexural Check

Base Plate Stress:	51.9 ksi	
Allowable PL Bending Stress:	53.0 ksi	
Base Plate Stress Ratio:	98.0%	**Pass**

PL Ref. Data	
Yield Line (in):	30.68
Max PL Length:	30.68

Stiffener Data (Welding at both sides)		
Configuration:	Unstiffened	
Weld Type:		**
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

N/A - Unstiffened

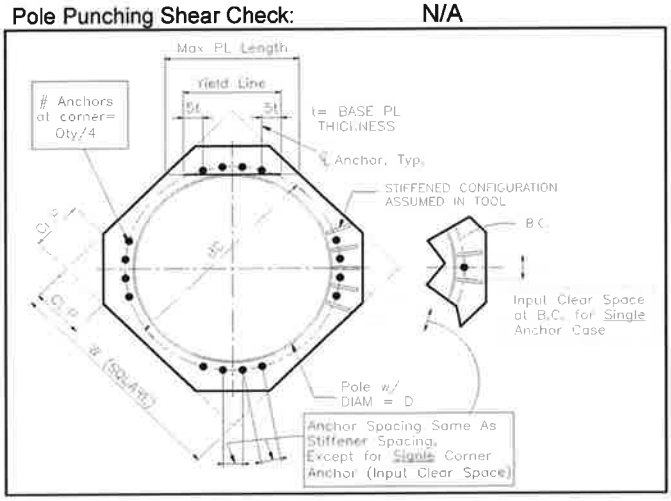
Stiffener Results

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A

Pole Data		
Diam:	47.1	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	12	"0" IF Round



Stress Increase Factor		
ASD ASIF:	1.333	

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

FDH VELOCITEL
ENGINEERING INNOVATION

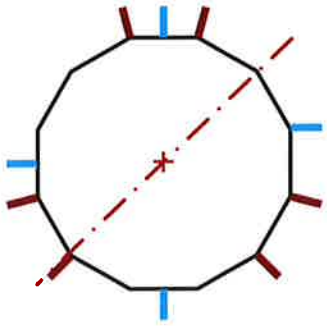
Version: 2.0
Version Date: 5/29/2015

FDH Velocitel -- 6521 Meridien Drive, Raleigh, NC 27616 -- Ph. 919.755.1012 -- Fax 919.755.1031

Base Transfer Stiffener

Project & Site Details	
Project Name	Southington, Smoron
Site ID	876334
Project No.	15BRLT1400
Code	F
Maximum Stress Ratio	100%

Tower Reactions		
Moment	4075	k-ft
Axial	50	k
Shear	38	k



Pole Properties		
Pole Diameter	47.1	in
Pole Thickness	0.375	in
Number of Sides	12	Sided

Stiffener Properties		
Stiffener Quantity	10	Stiffeners
Any Symmetric Plates?	Y	(Y/N)

Symmetric Stiffener Input		
Stiffener Name	Stiffener Quantity	Starting Angle (°)
1. PL 5.875x1.25	3	45
1. PL 5.875x1.25	3	75

Individual Stiffener Input					
Stiffener Name	Angle to 0° (°)	Axis Angle of Max (°)	Controlling Case	Percentage	Pass/Fail
1. PL 5.875x1.25	45	134	Stress	76.9%	Pass
1. PL 5.875x1.25	165	78	Stress	73.4%	Pass
1. PL 5.875x1.25	285	12	Stress	74.5%	Pass
1. PL 5.875x1.25	75	162	Stress	76.1%	Pass
1. PL 5.875x1.25	195	108	Stress	74.9%	Pass
1. PL 5.875x1.25	315	46	Stress	73.8%	Pass
2. PL 4x1.25	0	92	Tension	75.0%	Pass
2. PL 4x1.25	104	11	Tension	76.0%	Pass
2. PL 4x1.25	180	92	Tension	73.4%	Pass
2. PL 4x1.25	-90	178	Tension	74.6%	Pass

Overall	76.9%	Pass

Stiffener Input							
Stiffener Name	Width (in)	Thickness (in)	Height (in)	Grade	Weld Electrode (ksi)	Vertical Weld Size (in)	Notch (in)
1. PL 5.875x1.25	5.875	1.25	36	A572-65	80	1/4	0.75
2. PL 4x1.25	4	1.25	42	A572-65	80	1/4	0.75

(Bearing and Stability Checks) Tool for TIA Rev F or G - Application (MP, SST with unitbase)

Site Data

Site ID: *876334*
Site Name: *SOUTHINGTON, SMORON*

Enter Load Factors Below:		
For P (DL)	1.2	<---- Enter Factor
For P,V, and M (WL)	1.35	<---- Enter Factor

Pad & Pier Data		
Base PL Dist. Above Pier:	0	in
Pier Dist. Above Grade:	12	in
Pad Bearing Depth, D:	3	ft
Pad Thickness, T:	3	ft
Pad Width=Length, L:	23	ft
Pier Cross Section Shape:	Square	<--Pull Down
Enter Pier Side Width:	23	ft
Concrete Density:	150.0	pcf
Pier Cross Section Area:	529.00	ft^2
Pier Height:	1.00	ft
Soil (above pad) Height:	0.00	ft

Soil Parameters		
Unit Weight, γ:	100.0	pcf
Ultimate Bearing Capacity, qn:	6.00	ksf
Strength Reduct. factor, ϕ:	0.75	
Angle of Friction, Φ:	0.0	degrees
Undrained Shear Strength, Cu:	0.00	ksf
Allowable Bearing: ϕ*qn:	4.50	ksf
Passive Pres. Coeff., Kp	1.00	

Forces/Moments due to Wind and Lateral Soil		
Minimum of (φ*Ultimate Pad Passive Force, Vu):	7.8	kips
Pad Force Location Above D:	1.00	ft
ϕ(Passive Pressure Moment):	7.76	ft-kips
Factored O.T. M(WL), "1.6W":	1555.2	ft-kips
Factored OT (MW-Msoil), M1	1547.44	ft-kips

Resistance due to Foundation Gravity		
Soil Wedge Projection grade, a:	0.00	ft
Sum of Soil Wedges Wt:	0.00	kips
Soil Wedges ecc, K1:	0.00	ft
Ftg+Soil above Pad wt:	317.4	kips
Unfactored (Total ftg-soil Wt):	317.40	kips
1.2D. **No Soil Wedges**	440.88	kips
0.9D. **With Soil Wedges**	330.66	kips

Resistance due to Cohesion (Vertical)		
ϕ*(1/2*Cu)(Total Vert. Planes)	0.00	kips
Cohesion Force Eccentricity, K2	0.00	ft

Monopole Base Reaction Forces		
TIA Revision:	F	<--Pull Down
Unfactored DL Axial, PD:	50	kips
Unfactored WL Axial, PW:	0	kips
Unfactored WL Shear, V:	38	kips
Unfactored WL Moment, M:	1000	ft-kips

Load Factor	Shaft Factored Loads		
1.20	1.2D+1.6W, Pu:	60	kips
0.90	0.9D+1.6W, Pu:	45	kips
1.35	Vu:	51.3	kips
	Mu:	1350	ft-kips

1.2D+1.6W Load Combination, Bearing Results:

(**No Soil Wedges**) [Reaction+Conc+Soil]	440.88	P1="1.2D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil), M1	1547.44	ft-kips

Orthogonal Direction:

ecc1 = M1/P1 =	3.51	ft
Orthogonal qu=	1.34	ksf
qu/ϕ*qn Ratio=	**29.83%**	**Pass**

Diagonal Direction:

ecc2 = (0.707M1)/P1 =	2.48	ft
Diagonal qu=	1.36	ksf
qu/ϕ*qn Ratio=	**30.11%**	**Pass**

Run <-- Press Upon Completing All Input

Overturning Stability Check

0.9D+1.6W Load Combination, Bearing Results:

(**w/ Soil Wedges**) [Reaction+Conc+Soil]	330.66	P2="0.9D+1.6W" (Kips)
Factored "1.6W" Overturning Moment (MW-Msoil) - 0.9(M of Wedge + M of Cohesion), M2	1547.44	ft-kips

Orthogonal ecc3 = M2/P2 =	4.68	ft
Ortho Non Bearing Length,NBL=	9.36	ft
Orthogonal qu=	1.13	ksf
Diagonal qu=	1.23	ksf

Max Reaction Moment (ft-kips) so that qu=φ*qn = 100% Capacity Rating			
Actual M:	1000.00		
M Orthogonal:	2279.23	**43.87%**	Pass
M Diagonal:	2279.23	**43.87%**	Pass

CCI Foundation Tool Suite - Monopole Pier

CCIFTS 1.2.108.14286 - Phase 1-2 Date: 6/16/2015

BU:	876334
Site Name:	SOUTHINGTON, SMORON
App Number:	
Work Order:	1068522

CROWN CASTLE

Monopole Drilled Pier

Input

Criteria

TIA Revision:	F
ACI 318 Revision:	2002
Seismic Category:	C

Forces

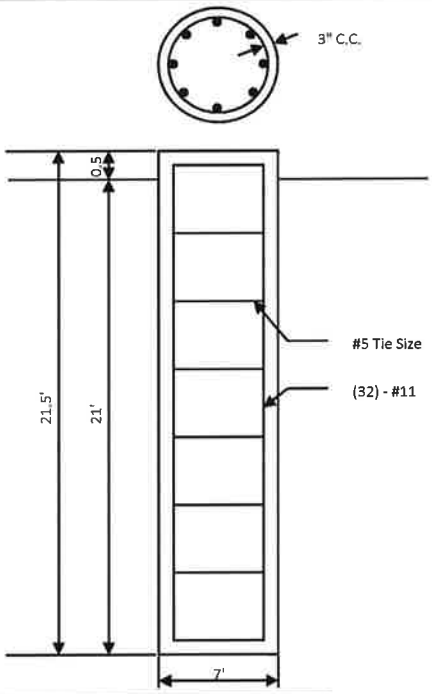
Compression	50 kips
Shear	38 kips
Moment	3075 k-ft
Swelling Force	0 kips

Foundation Dimensions

Pier Diameter:	7 ft
Ext. above grade:	0.5 ft
Depth below grade:	21 ft

Material Properties

Number of Rebar:	32
Rebar Size:	11
Tie Size	5
Rebar tensile strength:	60 ksi
Concrete Strength:	3000 psi
Ultimate Concrete Strain	0.003 in/in
Clear Cover to Ties:	3 in



Soil Profile: Soil 1

Layer	Thickness (ft)	From (ft)	To (ft)	Unit Weight (pcf)	Cohesion (psf)	Friction Angle (deg)	Ultimate Uplift Skin Friction (ksf)	Ultimate Comp. Skin Friction (ksf)	Ultimate Bearing Capacity (ksf)	SPT 'N' Counts
1	1	0	1	110	0	0			0	
2	1	1	2	110	0	0			0	
3	1.5	2	3.5	130	0	0			0	
4	2.5	3.5	6	120	0	36			0	
5	2	6	8	120	0	30			0	
6	4.4	8	12.4	130	0	36			0	
7	8.6	12.4	21	145	0	40			0	

Analysis Results

Soil Lateral Capacity

Depth to Zero Shear:	5.58 ft
Max Moment, Mu:	3262.36 k-ft
Soil Safety Factor:	2.39
Safety Factor Req'd:	2
RATING:	83.8%

Soil Axial Capacity

Skin Friction (k):	165.30 kips
End Bearing (k):	0.00 kips
Comp. Capacity (k), ϕCn:	165.30 kips
Comp. (k), Cu:	65.00 kips
RATING:	39.3%

Concrete/Steel Check

Mu (from soil analysis)	4241.07 k-ft
ϕMn	7618.68 k-ft
RATING:	55.7%

rho provided	0.90	
rho required	0.33	OK
Rebar Spacing	5.99	
Spacing required	22.56	OK
Dev. Length required	15.17	
Dev. Length provided	61.78	OK

Overall Foundation Rating: 83.8%

APPENDIX D

MODIFICATION DRAWINGS

PROJECT DESCRIPTION:

MODIFICATION DRAWINGS FOR A 160' MONOPOLE

CROWN CASTLE

SITE NAME:

SOUTHINGTON, SMORON

SITE NUMBER:

876334

SITE ADDRESS:

625 SPRING STREET
SOUTHINGTON, CT 06489

COORDINATES:

LAT: 41.6325°
LONG: -72.8943°

ATTENTION ALL CONTRACTORS, ANYTIME YOU ACCESS A CROWN SITE FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.

PROJECT DATA

CODES AND STANDARDS

BUILDING CODE	2005 CONNECTICUT STATE BUILDING CODE
TIA STANDARD	TIA/EIA-222-F
NOMINAL WIND SPEED WITHOUT ICE (MPH)	80
NOMINAL WIND SPEED WITH ICE (MPH)	38
SERVICE WIND SPEED (MPH)	50
ICE THICKNESS (IN)	1
EXPOSURE CATEGORY	-
RISK CATEGORY	-
TOPOGRAPHIC CATEGORY	-
CREST HEIGHT (FT)	-
S_S (G)	-
S_1 (G)	-

PROJECT CONTACTS

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CCI PROJECT MANAGER EMAIL ADDRESS	JOHN.MCGEE@CROWNCASTLE.COM
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CCI CONSTRUCTION MANAGER EMAIL ADDRESS	JASON.D'AMICO.VENDOR@CROWNCASTLE.COM
CCI CONSTRUCTION MANAGER PHONE NUMBER	(860) 209-0104
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FDH VELOCITEL PROJECT ENGINEER PHONE NUMBER	(919) 755-1012

FAILING STRUCTURAL ANALYSIS

STRUCTURAL ANALYSIS COMPANY	FDH VELOCITEL
PROJECT NO.	15BPIU1400 R2
DATE	MAY 26, 2015
WORK ORDER#	1056038
CCI DOC#	5677268

PASSING STRUCTURAL ANALYSIS / MODIFICATION DRAWINGS

STRUCTURAL ANALYSIS COMPANY	FDH VELOCITEL
PROJECT NO.	15BRLT1400
DATE	JUNE 19, 2015
SDD WORK ORDER#	1068522
CARRIER NAME	VERIZON WIRELESS
APPLICATION	284435 REV. 3
TOWER MANUFACTURER	PAUL J. FORD AND COMPANY
JOB#	29298-187

THIS REPORT WAS BASED ON A SPECIFIC ANTENNA AND COAX CONFIGURATION PROVIDED BY THE TOWER OWNER. ANY CHANGE TO THIS INFORMATION MUST BE REVIEWED BY FDH VELOCITEL.

ALL CONSTRUCTION SHALL COMPLY WITH THE TIA-1019-A STANDARD

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PREPARED BY:

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PREPARED FOR:

CROWN CASTLE

06/19/15

DENNIS D. ABEL, PE
CONNECTICUT LIC. NO. 23247

DRAWN BY:	WJD
CHECKED BY:	MSG
ENG APPV'D:	DDA

SUBMITTALS

DATE	DESCRIPTION	REV
06/19/15	CONSTRUCTION	0

FDH PROJECT NUMBER:

15BRLT1400

SITE NAME:

SOUTHINGTON, SMORON

SITE NUMBER:

876334

SITE ADDRESS:

625 SPRING STREET
SOUTHINGTON, CT 06489

SHEET TITLE

TITLE SHEET

SHEET NUMBER

S-1

MODIFICATION INSPECTION NOTES:

MI CHECKLIST

INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
X	EOR APPROVAL
X	FABRICATION INSPECTION
N/A	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTS
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
N/A	CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZATIONS
N/A	GUY WIRE TENSION REPORT
X	GC AS BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

GENERAL:

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL MI'S SHALL BE CONDUCTED BY A CROWN ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. SEE ENG-BUL-10173 LIST OF APPROVED MI VENDORS.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR CROWN POINT OF CONTACT (POC).

REFER TO ENG-SOW-10007 : MODIFICATION INSPECTION SOW FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR:

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO CROWN.

GENERAL CONTRACTOR:

THE GC IS REQUIRED TO CONTACT THE MI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST AND ENG-SOW-10007.

RECOMMENDATIONS:

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MI REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI:

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, CROWN SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). IF CROWN CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MI'S:

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
- OR, WITH CROWN'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

MI VERIFICATION INSPECTIONS:

CROWN RESERVES THE RIGHT TO CONDUCT A MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH ENG-SOW-10007.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT AEV/AESV FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED ***"PASSING MI"*** OR ***"PASS AS NOTED MI"*** REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS:

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
  - RAW MATERIALS
  - PHOTOS OF ALL CRITICAL DETAILS
  - FOUNDATION MODIFICATIONS
  - WELD PREPARATION
  - BOLT INSTALLATION AND TORQUE
  - FINAL INSTALLED CONDITION
  - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
  - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO ENG-SOW-10007.

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PREPARED FOR:

CROWN CASTLE

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DRAWN BY:	WJD
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ENG APPV'D:	DDA

SUBMITTALS

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15BRLT1400

SITE NAME:

SOUTHINGTON, SMORON

SITE NUMBER:

876334

SITE ADDRESS:

625 SPRING STREET
SOUTHINGTON, CT 06489

SHEET TITLE

MODIFICATION INSPECTION CHECKLIST

SHEET NUMBER

S-2

GENERAL NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO FDH VELOCITEL FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
3. INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO FDH VELOCITEL PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE FDH VELOCITEL APPROVAL.
4. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AFTER THE COMPLETION OF THE PROJECT.
5. CONTRACTOR SHALL PROMPTLY REMOVE ANY & ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRECONSTRUCTION CONDITION.

CONTRACTOR QUALIFICATION NOTES:

1. ALL REPAIRS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE TIA/EIA 222-F "STRUCTURAL STANDARD FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES".
2. CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, FDH VELOCITEL IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
3. ALL SUBMITTAL INFORMATION MUST BE SENT TO FDH VELOCITEL 6521 MERIDIEN DRIVE, RALEIGH NC, 27616, TEL. (919) 755-1012, FAX. (919) 755-1031, E-MAIL INFO@FDHVELOCITEL.COM. ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM FDH VELOCITEL WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS FDH VELOCITEL
4. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE TIA-1019-A STANDARD.

JOB SITE SAFETY & NOTES:

1. NEITHER THE PROFESSIONAL ACTIVITIES OF FDH VELOCITEL NOR THE PRESENCE OF FDH VELOCITEL OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.

STEEL:

1. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
2. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE (UNLESS OTHERWISE NOTED).
3. ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE SPECIFIED. WHEN "X" TYPE BOLTS ARE USED, CONTRACTOR MAY BE REQUIRED TO STACK ADDITIONAL WASHERS TO OBTAIN PROPER SNUG TIGHT INSTALLATION. ALL NUTS SHALL BE HEAVY HEX UNLESS OTHERWISE NOTED.
4. ALL STEEL, AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH MULTIPLE COATS OF ZRC COLD GALVANIZING COMPOUND ACHEIVING A MINIMUM OF 4 MILS DRY FILM PER ASTM A 780.
5. ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. CONTRACTOR IS REQUIRED TO PROVIDE FDH VELOCITEL WITH A PASSING CERTIFIED WELDING INSPECTION FOR ALL WELDS.
6. STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.

MISC. NOTES:

1. ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
2. CONTRACTOR FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES:

1. ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
2. NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

SUBSTITUTES AND/OR EQUALS:

1. IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL FIRST MAKE WRITTEN APPLICATION TO ENGINEER OF RECORD FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER OF RECORD IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER OF RECORD MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

COLD GALVANIZATION/SURFACE PREPARATION NOTES:

1. CONTRACTOR TO USE ZINGA OR ZRC COLD GALVANIZATION COMPOUNDS OR APPROVED EQUIVALENT.
2. PREPARE RUSTED/CORRODED SURFACE FOR TREATMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
3. CONTRACTOR TO APPLY (2) COATS OF COLD GALVANIZATION COMPOUND PER MANUFACTURER'S RECOMMENDATION. DRYING AND CURING TIMES MUST BE UTILIZED PER MANUFACTURER'S RECOMMENDATION.
4. APPLY ALL COATINGS BY BRUSH IN CALM WIND CONDITIONS. THE USE OF AEROSOL IS NOT PERMITTED.
5. IF THE TOWER IS PAINTED, BRUSH PAINT ALL TREATED AREAS TO MATCH TOWER AFTER COLD GALVANIZATION COMPOUND IS ALLOWED TO CURE.

NEW MONOPOLE REINFORCEMENT NOTES:

1. CONTRACTOR TO FIELD VERIFY PROPOSED LOCATION OF REINFORCEMENT TO ENSURE THAT PROPER SPACING CAN BE MET.
2. CONTRACTOR TO REPLACE AND/OR RELOCATE ANY CLIMBING PEGS THAT INTERFERE WITH THE INSTALLATION OF FLAT PLATE.
3. ALL BLIND BOLT CONNECTIONS TO USE HIGH TENSILE SLEEVE PROVIDED BY MANUFACTURER. BLIND BOLT ASSEMBLY TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS. SEE BLIND BOLT ASSEMBLY DETAILS ON SHEETS N-3 & N-4.
4. ALL SHEAR SLEEVES TO BE HOT DIPPED GALVANIZED PRIOR TO INSTALLATION.
5. PRIOR TO FLAT PLATE INSTALLATION, SLIP JOINTS MUST BE TIGHTENED WITH A MINIMUM JACKING FORCE OF 6000 LBS.
6. NEW REINFORCEMENT TO BE INSTALLED ON THE CENTER OF PROPOSED SIDE UNLESS OTHERWISE NOTED.
7. EXISTING COAX BANDS TO BE REPLACED AFTER REINFORCEMENT INSTALLATION. NEW FLAT PLATE TO BE INSTALLED BENEATH EXISTING COAX BANDS.
8. SHIMS FOR MONOPOLE REINFORCEMENT MEMBERS SHALL BE REQUIRED WHERE GAPS BETWEEN THE POLE SHAFT AND REINFORCING MEMBER EXIST AT FASTENER LOCATIONS. FOR INTERMEDIATE CONNECTIONS, THE MINIMUM SHIM LENGTH AND WIDTH SHALL BE THE WIDTH OF THE REINFORCING MEMBER. FOR TERMINATION CONNECTIONS, A CONTINUOUS SHIM PLATE (PREFERRED) OR EQUIVALENT INDIVIDUAL SHIM PLATES, MATCHING THE WIDTH OF THE REINFORCING MEMBER MAY BE USED. SHIM THICKNESS SHALL BE NO LESS THAN 1/16". STACKING OF SHIMS IS PERMITTED. THE MAXIMUM GAP SHIMMED SHALL BE NO MORE THAN 1/4" WITHOUT PRIOR WRITTEN APPROVAL BY THE ENGINEER OF RECORD.
9. REINFORCEMENT PIECES SHALL NOT BE MADE BY SPLICING TOGETHER TWO SMALLER PIECES UNLESS SPECIFIED ON THIS DRAWING OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER ON RECORD.
10. CONTRACTOR MUST UTILIZE THE SAME MANUFACTURER/TYPE OF BLIND BOLT FOR THE ENTIRETY OF THE MODIFICATION.

CONSTRUCTION NOTES:

1. CONTRACTOR TO FIELD VERIFY PROPOSED REINFORCEMENT LAYOUT PRIOR TO CONSTRUCTION. IF ISSUES ARE PRESENT IN THE FIT OF THE REINFORCEMENT, CONTRACTOR TO CONTACT ENGINEER OF RECORD OR FDH VELOCITEL PROJECT MANAGER PRIOR TO PROCEEDING WITH PROPOSED MODIFICATION OR FABRICATION.

STEEL GRADE SCHEDULE

SCOPE	SHAPE	GRADE	YIELD STRENGTH (F_y)	ULTIMATE STRENGTH (F_u)
MONOPOLE REINFORCEMENT	PLATE	A572-65	65 KSI	80 KSI

PREPARED BY:

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PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

CROWN CASTLE

06/19/15

DENNIS D. ABEL, PE
CONNECTICUT LIC. NO. 23247

DRAWN BY:	WJD
CHECKED BY:	MSG
ENG APPVD:	DDA

SUBMITTALS

DATE	DESCRIPTION	REV
06/19/15	CONSTRUCTION	0

FDH PROJECT NUMBER:

15BRLT1400

SITE NAME:

SOUTHINGTON, SMORON

SITE NUMBER:

876334

SITE ADDRESS:

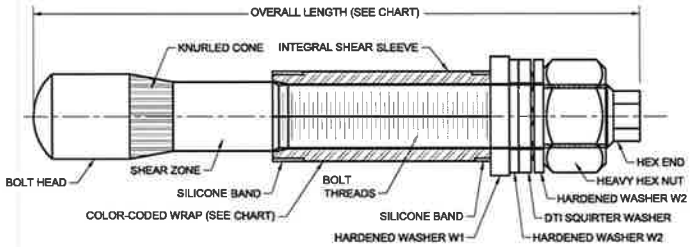
625 SPRING STREET SOUTHINGTON, CT 06489

SHEET TITLE

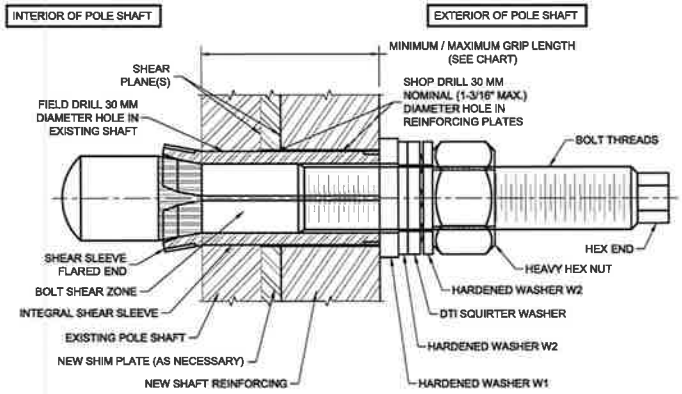
GENERAL NOTES I

SHEET NUMBER

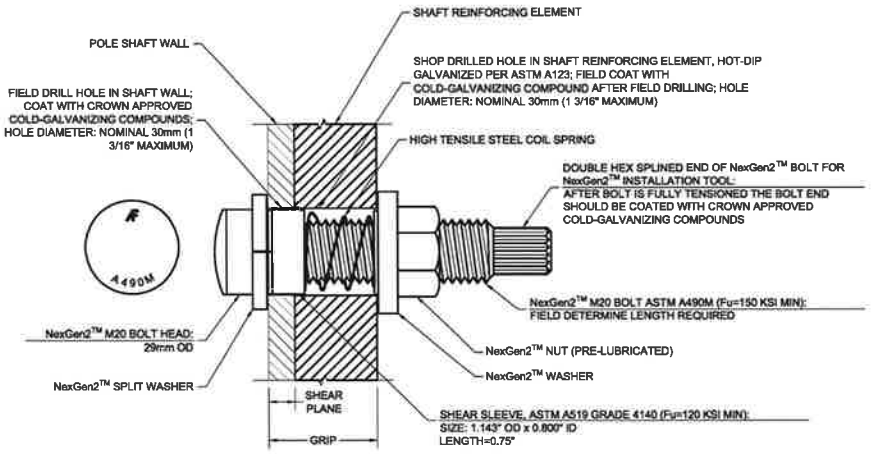
S-3



PRE-INSTALLED FORGBolt™ ASSEMBLY DETAIL (1)



INSTALLED FORGBolt™ ASSEMBLY DETAIL (2)



NexGen2™ BOLT ASSEMBLY

SCALE: NTS

NEXGEN2 BLIND BOLT ASSEMBLY NOTES:

1. ALL SHOP AND FIELD DRILLED HOLES SHALL BE NOMINAL 30 MM DIAMETER. THE MAXIMUM HOLE DIAMETER PERMITTED IS 1-3/16"
2. NEXGEN2™ COMPLETE ASSEMBLY SHALL BE MAGNI 565 COATED PER ASTM F2833 AS APPROPRIATE.
3. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

FORGBolt™ NOTE SHEET: A325/PC8.8 LANDSCAPE VERSION DATE 01/29/2015; Rev. 1.0 04/23/2015

NOTES:

1. ALL STRUCTURAL BOLTS SHALL BE INSTALLED AND TIGHTENED TO THE PRETENSIONED CONDITION ACCORDING TO THE REQUIREMENTS OF THE AISC 'SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS', DEC. 31, 2009.
2. ALL STRUCTURAL BOLTS SHALL BE INSPECTED ACCORDING TO THE REQUIREMENTS OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS', DEC. 31, 2009.

FORGBolt™		AISC Group A Material: ASTM A325 and PC8.8 (Tensile Stress, Fu = 102 ksi minimum)				
GROUP A	FORGBolt™ Size (mm)	Overall Length (inches)	Estimated Weight Each (lbs)	Grip Range (inch)	Comment	Color Code
FORGBolt™ A325 - PC8.8 1	135	5.31	1.3	3/8 to 1"	-	RED
2	160	6.30	1.6	3/4 to 1-1/2"	-	GREEN
3	195	7.68	1.9	1-1/4 to 2-1/4"	-	BLUE
4	260	10.24	2.6	2" to 3-1/2"	Splice Bolt	YELLOW
5	365	14.37	3.6	3-1/2" to 5-1/2"	Flange Jump Bolt	ORANGE
6	440	17.32	4.3	5-1/2" ro 6-1/2"	Flange Jump Bolt	BLACK
DTI Note	Each Group A (A325/PC8.8) FORGBolt™ assembly shall have a 'Squirter' DTI that is compatible with a M20-PC8.8 bolt.					

FORGBolt™ Installation

Follow all Manufacturer/Distributer Recommendations for Installation, Tightening, and Inspection.

1. FIELD DRILL HOLES TO 30 MM DIAMETER.
2. SELECT CORRECT BOLT SIZE FOR INSTALLATION GRIP (REFER TO PLANS).
3. INSERT BOLT ASSEMBLY THROUGH HOLES IN SHAFT REINFORCING PLATES AND SEAT HARDENED WASHER W1 FLUSH AGAINST OUTSIDE OF PLATE.
4. HAND TIGHTEN NUT TO FINGER TIGHT.
5. TIGHTEN NUT TO PRETENSIONED CONDITION AND UNTIL DTI SHOWS PROPER INDICATION.
6. PROPERLY DOCUMENT AND INSPECT BOLT TIGHTENING PER PLAN REQUIREMENTS.

DISTRIBUTOR CONTACT:
PRECISION TOWER PRODUCTS
PHONE: 888-928-4857
EMAIL: info@precisiontowerproducts.com
WEB: www.precisiontowerproducts.com

CONTAINS PROPRIETARY INFORMATION PATENT PENDING

BOLT HOLE NOTES:

1. ALL SHOP-DRILLED HOLES SHALL BE NOMINAL 30 MM DIAMETER. THE MAXIMUM SHOP-DRILLED HOLE DIAMETER PERMITTED IS 1-3/16".
2. ALL FIELD-DRILLED HOLES SHALL BE NOMINAL 30 MM DIAMETER. THE MAXIMUM FIELD-DRILLED HOLE DIAMETER PERMITTED IS 30 MM.

PREPARED BY:

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PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

CROWN CASTLE

06/19/15

DENNIS D. ABEL, PE
CONNECTICUT LIC. NO. 23247

DRAWN BY:	WJD
CHECKED BY:	MSG
ENG APPV'D:	DDA

SUBMITTALS

DATE	DESCRIPTION	REV
06/19/15	CONSTRUCTION	0

FDH PROJECT NUMBER:

15BRLT1400

SITE NAME:

SOUTHINGTON, SMORON

SITE NUMBER:

876334

SITE ADDRESS:

625 SPRING STREET SOUTHINGTON, CT 06489

SHEET TITLE

FORGBOLT & NEXGEN2 SPECIFICATIONS AND TIGHTENING PROCEDURE

SHEET NUMBER

S-4

- CONTRACTOR SHALL VERIFY ALL APPURTENANCE CONDITIONS AND DIMENSIONS IN RELATIONSHIP TO THIS MODIFICATION. APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THIS MODIFICATION. CONTRACTOR SHALL IMMEDIATELY REPORT ANY AND ALL DISCREPANCIES TO THE EOR AND CROWN CASTLE PRIOR TO PROCEEDING WITH THE WORK.
- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING.
- CONTRACTOR TO FIELD VERIFY DIMENSIONS & LOCATIONS OF PROPOSED MODIFICATIONS PRIOR TO STEEL FABRICATION.

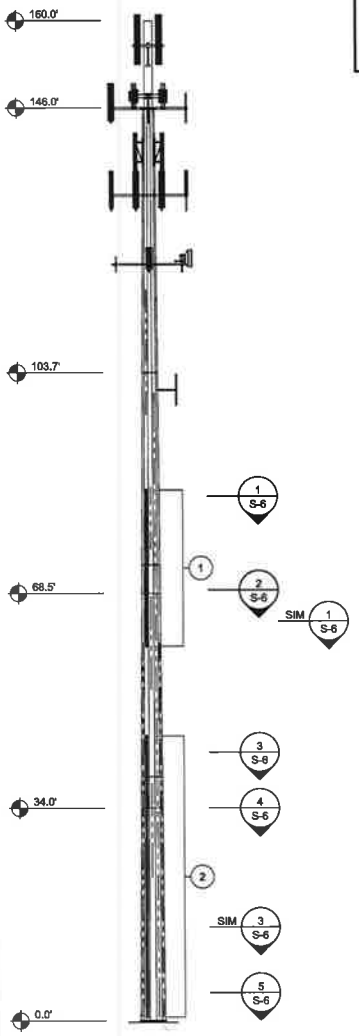
TOWER MODIFICATION SCHEDULE

NO.	TYPE OF MODIFICATION	BTM. ELEV.	TOP ELEV.	SHEET
1	INSTALLATION OF NEW MONOPOLE REINFORCEMENT.	60.0'±	85.0'±	S-5 TO S-7
2	INSTALLATION OF NEW MONOPOLE REINFORCEMENT.	0.5'±	45.6'±	S-5 TO S-7

CROWN CASTLE REINFORCEMENT INSTALLATION SCHEDULE

ELEVATION**	QTY.	FLAT NUMBER	CCI-65FP PLATE (65 KSI)	MAX. STITCH BOLT SPACING	BLIND BOLT QUANTITY	STEEL WEIGHT (LBS.)
60'-0"± TO 85'-0"±	1	12	CCI-AFP-08512525	1'-5"	45*	903.1*
10'-7"± TO 45'-7"±	1	12	CCI-AFP-08512535	1'-5"	52*	1,264.4*
0'-6"± TO 10'-6"±	1	12	CCI-AFP-06010010	1'-4"	23*	204.0*
				TOTAL	120	2,371.5

*QUANTITY SHOWN IS FOR (1) REINFORCEMENT PLATE.
**SEE SHEET S-7 FOR SPLICE PLATE INFORMATION.



TOWER ELEVATION
SCALE: NTS

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PREPARED FOR:
CROWN CASTLE

STATE OF CONNECTICUT
No. 23247
LICENSED
PROFESSIONAL ENGINEER
06/19/15
DENNIS D. ABEL, PE
CONNECTICUT LIC. NO. 23247

DRAWN BY:	WJD
CHECKED BY:	MSG
ENG APPVD:	DDA

SUBMITTALS

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SITE ADDRESS:
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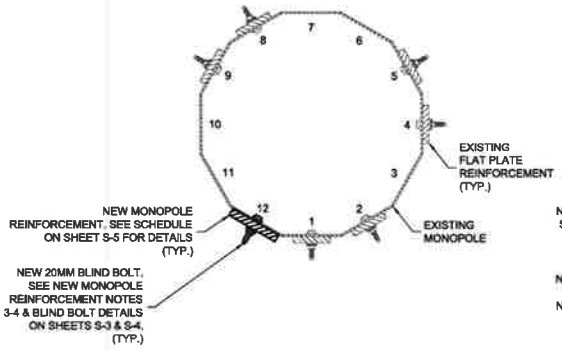
SOUTHINGTON, CT 06489

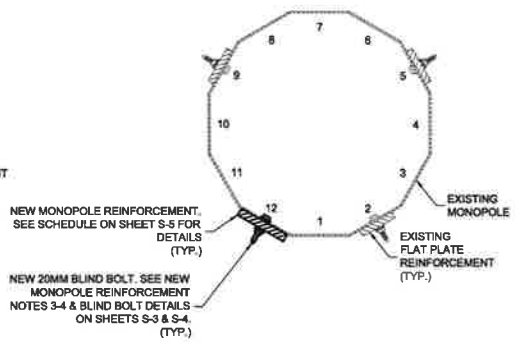
SHEET TITLE
MODIFICATION SCHEDULE & FLAT PLATE INSTALLATION DETAILS I

SHEET NUMBER
S-5



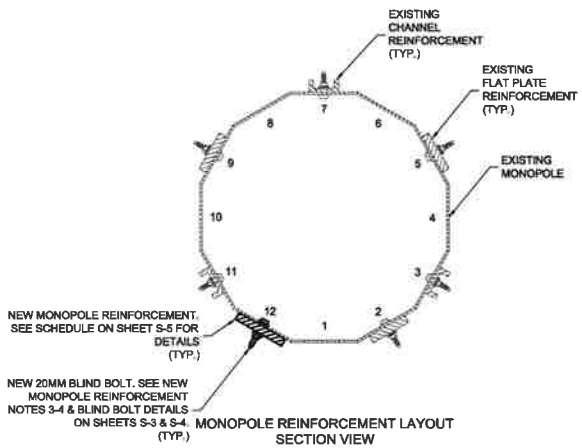
MONOPOLE REINFORCEMENT LAYOUT
SECTION VIEW

1 / S-6 SECTION
NTS



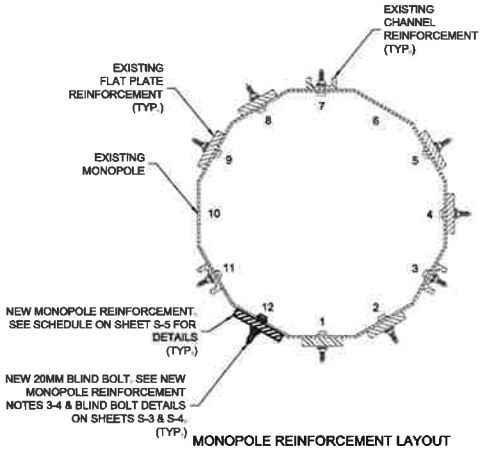
MONOPOLE REINFORCEMENT LAYOUT
SECTION VIEW

2 / S-6 SECTION
NTS



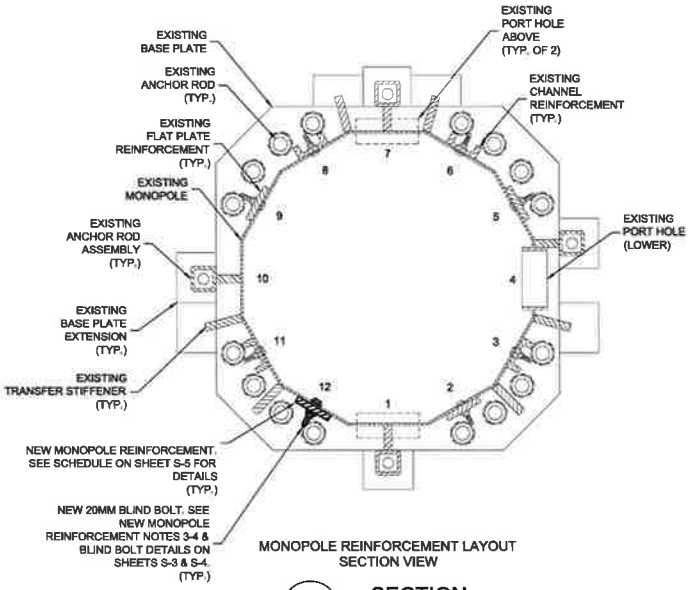
MONOPOLE REINFORCEMENT LAYOUT
SECTION VIEW

3 / S-6 SECTION
NTS



MONOPOLE REINFORCEMENT LAYOUT
SECTION VIEW

4 / S-6 SECTION
NTS



MONOPOLE REINFORCEMENT LAYOUT
SECTION VIEW

5 / S-6 SECTION
NTS

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PREPARED FOR:

CROWN CASTLE

STATE OF CONNECTICUT
No. 23247
LICENSED PROFESSIONAL ENGINEER

06/19/15

DENNIS D. ABEL, PE
CONNECTICUT LIC. NO. 23247

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SUBMITTALS		
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SOUTHINGTON, CT 06489

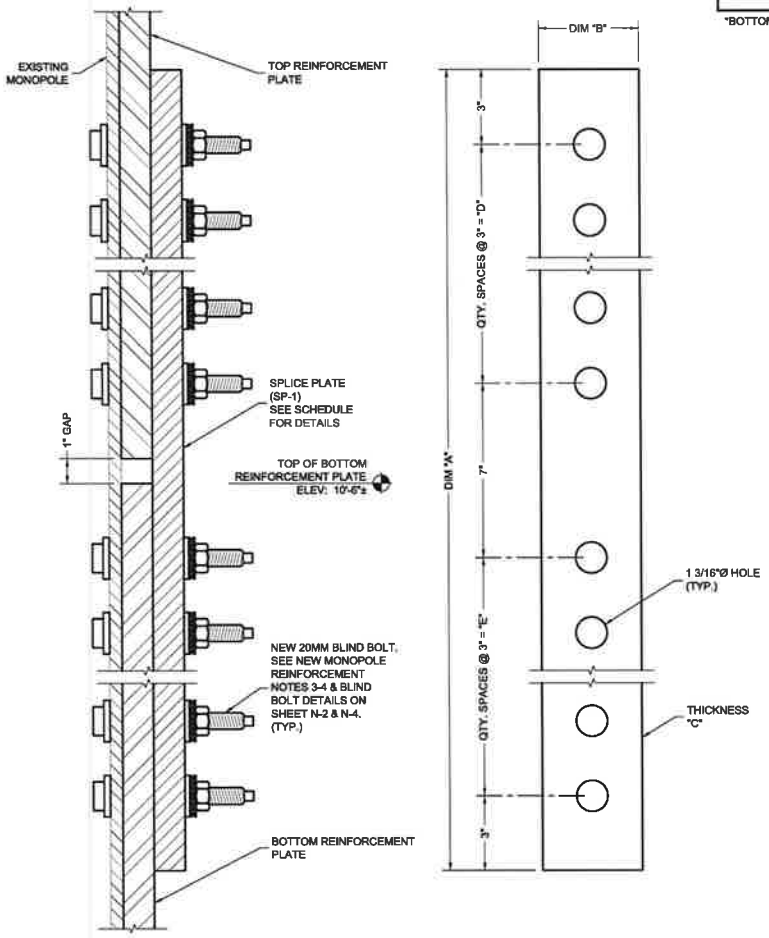
SHEET TITLE
FLAT PLATE INSTALLATION DETAILS II

SHEET NUMBER
S-6

SPLICE PLATE INSTALLATION SCHEDULE

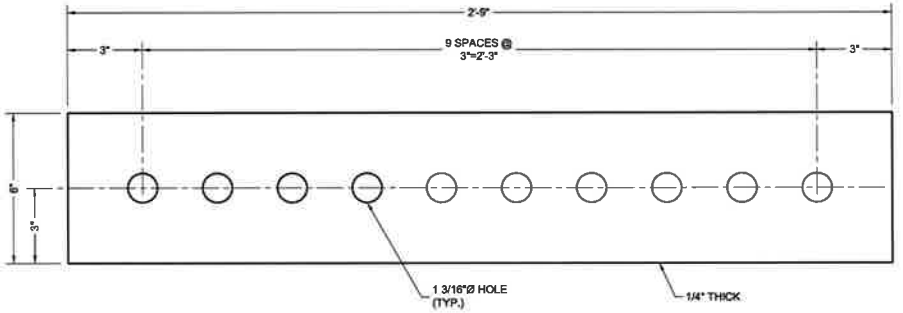
ELEVATION	PART NO.	QUANTITY	DIMENSION "A"	DIMENSION "B"	THICKNESS "C"	QTY. SPACES @ 3" = "D"	QTY. SPACES @ 3" = "E"	TOP/BTM. REINF. PLATE
10'-6"±*	SP-1	1	7'-4"	6"	1"	16 SPACES @ 3" = 4'-0"	9 SPACES @ 3" = 2'-3"	CCI-AFP-08512535 / CCI-AFP-06010010

*BOTTOM PLATE REQUIRES MK-1 SPACER PLATE, SEE MK-1/S-7 FOR DETAILS.



SPLICE PLATE ASSEMBLY
FRONT AND SIDE VIEW

1 / S-7 DETAIL
NTS



SPACER PLATE
FRONT VIEW

MK-1 / S-7 DETAIL
NTS

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SHEET TITLE
SPLICE PLATE INSTALLATION DETAILS

SHEET NUMBER
S-7