Robinson+Cole

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Also admitted in Massachusetts

November 1, 2017

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – Facility Modification**
21 Acorn Road, Branford, Connecticut

Dear Ms. Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains fifteen (15) wireless telecommunications antennas at the 116-foot level on an existing 147-foot tower at 21 Acorn Road in Branford, Connecticut (the "Property"). The Property is owned by Altrio Investment Group. The tower is owned by Crown Castle ("Crown"). Cellco's use of the tower was approved by the Council in 2005. Cellco now intends to modify its facility by replacing nine (9) of its existing antennas with three (3) model SBNHH-1D65B, 700 MHz antennas; three (3) model HBXX-6517DS, 1900 MHz antennas; and three (3) model SBNHH-1D65B, 2100 MHz antennas, all at the same 116-foot level on the tower. Cellco also intends to replace three (3) remote radio heads ("RRHs") and install six (6) new RRHs and one (1) HYBRIFLEX™ antenna cable. Included in Attachment 1 are specifications for Cellco's replacement antennas, RRHs and HYBRIFLEX™ cable.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this notice is being sent to James B. Cosgrove, First Selectman of the Town of Branford; Branford's Town Planner, Harry Smith; Altrio Investment Group LLC, the owner of the Property; and Crown, the tower owner.

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

1. The proposed modifications will not result in an increase in the height of the existing tower. Cellco's replacement antennas and RRHs will be installed at the 116-foot level on the existing 147-foot tower.

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

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

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

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

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

A copy of the parcel map and owner information for the Property is included in Attachment 4. A Certificate of Mailing verifying that the filing was sent to municipal officials and the owner of the Property is included in Attachment 5.

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,

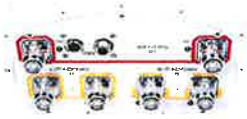
Kenneth C. Baldwin

Enclosures
Copy to:
James B. Cosgrove, Branford First Selectman
Harry Smith, Town Planner
Altrio Investment Group LLC
Crown Castle
Tim Parks

ATTACHMENT 1

Product Specifications

COMMSCOPE®



SBNHH-1D65B

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

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

Electrical Specifications

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

Electrical Specifications, BASTA*

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

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

General Specifications

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

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, frontal	618.0 N @ 150 km/h 138.9 lbf @ 150 km/h
Wind Loading, lateral	197.0 N @ 150 km/h 44.3 lbf @ 150 km/h
Wind Loading, rear	728.0 N @ 150 km/h 163.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

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

Remote Electrical Tilt (RET) Information

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

Packed Dimensions

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

Regulatory Compliance/Certifications

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

Product Specifications

SBNHH-1D65B

Included Products

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

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

Product Specifications

COMMSCOPE®

HBXX-6517DS-VTM | HBXX-6517DS-A2M

Andrew® Quad Port Antenna, 1710–2180 MHz, 65° horizontal beamwidth, RET compatible

- Superior azimuth tracking and pattern symmetry with excellent passive intermodulation suppression

Electrical Specifications

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain, dBi	19.0	19.1	19.2
Beamwidth, Horizontal, degrees	67	66	65
Beamwidth, Vertical, degrees	5.0	4.7	4.4
Beam Tilt, degrees	0–6	0–6	0–6
USLS (First Lobe), dB	18	18	18
Front-to-Back Ratio at 180°, dB	30	30	30
CPR at Boresight, dB	21	22	21
CPR at Sector, dB	10	11	9
Isolation, dB	30	30	30
VSWR | Return Loss, dB	1.4 | 15.6	1.4 | 15.6	1.4 | 15.6
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153
Input Power per Port, maximum, watts	350	350	350
Polarization	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm

Electrical Specifications, BASTA*

Frequency Band, MHz	**1710–1880**	**1850–1990**	**1920–2180**
Gain by all Beam Tilts, average, dBi	18.5	18.6	18.8
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.3	±0.4
Gain by Beam Tilt, average, dBi	0 ° | 18.4	0 ° | 18.4	0 ° | 18.7
	3 ° | 18.7	3 ° | 18.7	3 ° | 18.9
	6 ° | 18.4	6 ° | 18.5	6 ° | 18.6
Beamwidth, Horizontal Tolerance, degrees	±2.4	±1.7	±2.9
Beamwidth, Vertical Tolerance, degrees	±0.3	±0.3	±0.3
USLS, beampeak to 20° above beampeak, dB	18	19	19
Front-to-Back Total Power at 180° ± 30°, dB	25	26	26
CPR at Boresight, dB	22	23	22
CPR at Sector, dB	10	10	9

* 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® quad
Band	Single band
Brand	DualPol®
Operating Frequency Band	1710 – 2180 MHz

Product Specifications

HBXX-6517DS-VTM | HBXX-6517DS-A2M

Performance Note	Outdoor usage

Mechanical Specifications

Color	Light gray
Lightning Protection	dc Ground
Radiator Material	Low loss circuit board
Radome Material	PVC, UV resistant
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, total	4
Wind Loading, frontal	668.0 N @ 150 km/h 150.2 lbf @ 150 km/h
Wind Loading, lateral	175.0 N @ 150 km/h 39.3 lbf @ 150 km/h
Wind Loading, rear	777.0 N @ 150 km/h 174.7 lbf @ 150 km/h
Wind Speed, maximum	241 km/h | 150 mph

Dimensions

Depth	166.0 mm | 6.5 in
Length	1906.0 mm | 75.0 in
Width	305.0 mm | 12.0 in
Net Weight, without mounting kit	18.5 kg | 40.8 lb

Remote Electrical Tilt (RET) Information

Model with Factory Installed AISG 2.0 Actuator	HBXX-6517DS-A2M

Packed Dimensions

Depth	292.0 mm | 11.5 in
Length	2036.0 mm | 80.2 in
Width	402.0 mm | 15.8 in
Shipping Weight	28.2 kg | 62.2 lb

Regulatory Compliance/Certifications

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

Included Products

600899A-2 — Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket

set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

ALCATEL-LUCENT B13 RRH4X30-4R

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

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

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

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

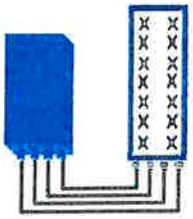
Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

FEATURES

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

BENEFITS

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



4x30W with 4T4R
or
2x60W with 2T4R

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

Alcatel·Lucent

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

ALCATEL-LUCENT B25 RRH4X30

Alcatel-Lucent Band 25 Remote Radio Head 4x30W is the new addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

Supporting 2Tx/4Tx MIMO and 4-way Rx diversity, Alcatel-Lucent B25 RRH4x30 allows operators to have a compact radio solution to deploy LTE in the PCS band (1.9 GHz, 3GPP band 25), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B25 RRH4x30 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity, LTE carriers from 3 MHz up to 20 MHz and up to 65 MHz instantaneous bandwidth.

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

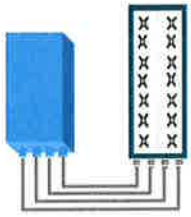
Its compactness and slim design makes the Alcatel-Lucent B25 RRH4x30 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the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

FEATURES

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

BENEFITS

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



4x30W with 4T4R
or
2x60W with 2T4R

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

Alcatel·Lucent

Features & performance	
Number of TX/RX paths	4 duplexed (either 4T4R or 2T4R by SW)
Frequency band	3GPP bands 2 & 25 (PCS-G) DL: 1930 - 1995 MHz UL: 1850 - 1915 MHz
Instantaneous bandwidth - #carriers	65MHz – Up to 4 LTE carriers (in 40MHz occupied bandwidth)
LTE carrier bandwidth	3, 5, 10, 15 or 20 MHz
RF output power	2x60W or 4x30W (by SW)
Noise figure (3GPP band 2) **RX Diversity scheme**	2.0 dB typ. (<2.5 dB max) 2 or 4 way Rx diversity
Sizes (HxWxD)(w/ solar shield) in mm (in.) **Volume (w/ solar shield) in L** **Weight (w/ solar shield) in kg (lb)**	538 x 304 x 182 (21.2" x 12.0" x 7.2") 30 24 (53)
DC voltage range **DC power consumption**	-40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption 580W typical @100% RF load
Environmental conditions **Wind load (@150km/h or 93mph)**	-40°C (-40°F) /+55°C (+131°F) IP65 Frontal:<200N / Lateral :<150N
Antenna ports	4 ports 7/16 DIN female (50 ohms) VSWR < 1.5 (> 14dB)
CPRI ports	2 CPRI ports (HW ready for Rate7 / 9.8 Gbps)
AISG interfaces	1 AISG2.0 output (RS485), +24V/2A DC power Integrated Smart Bias Tees (x2)
Misc. Interfaces	1 external alarms connector (4 alarms) 4 RF Tx & 4 RF Rx monitor ports 1 DC connector (2 pins)
Installation conditions	Pole and wall mounting
Regulatory compliance	3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27

ALCATEL-LUCENT B66A RRH4X45

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

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

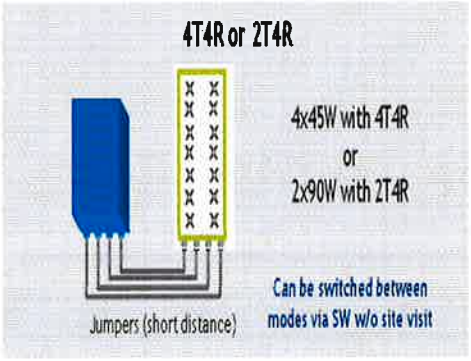
The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.

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

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

FEATURES

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



BENEFITS

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

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

ATTACHMENT 2

	General	Power	Density					
Site Name: Branford 3								
Tower Height: 147ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**CALC. POWER DENS**	**FREQ.**	**MAX. PERMISS. EXP.**	**FRACTION MPE**	**Total**
*AT&T	1	267	108	850	0.0092	0.5667	0.16%	
*AT&T	1	320	108	1900	0.0111	1.0000	0.11%	
*AT&T	1	630	108	737	0.0218	0.4913	0.44%	
*AT&T	1	2133	108	1900	0.0737	1.0000	0.74%	
*AT&T	1	212	108	850	0.0073	0.5667	0.13%	
* T-Mobule-AWS-LTE	2	2334	135	2100	0.1009	1.0000	1.01%	
* T-Mobile-PCS-UMTS	2	1167	135	1900	0.0504	1.0000	0.50%	
* T-Mobile-LTE	1	681	135	700	0.0147	0.4667	0.32%	
*Sprint	3	348	147	1900	0.0189	1.0000	0.19%	
Sprint	1	195	147	850	0.0035	0.5667	0.06%	
Sprint	2	195	147	2500	0.0071	1.0000	0.07%	
*Nextel	9	100	130	851	0.0210	0.5673	0.37%	
Verizon PCS	**1**	**2410**	**116**	**0.0644**	**1970**	**1.0000**	**6.44%**	
Verizon Cellular	**9**	**406**	**116**	**0.0976**	**869**	**0.5793**	**16.85%**	
Verizon AWS	**1**	**2306**	**116**	**0.0616**	**2145**	**1.0000**	**6.16%**	
Verizon 700	**1**	**1048**	**116**	**0.0280**	**746**	**0.4973**	**5.63%**	
								39.19%
* Source: Siting Council								

ATTACHMENT 3

PJF PAUL J. FORD & COMPANY

Date: **September 29, 2017**

Charles Trask
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Paul J. Ford and Company
250 E Broad St, Suite 600
Columbus, OH 43215
(614) 221-6679

Subject: **Structural Analysis Report**

Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	N/A
	Carrier Site Name:	Branford 3, CT
Crown Castle Designation:	**Crown Castle BU Number:**	876316
	Crown Castle Site Name:	SECONDINO PROPERTY
	Crown Castle JDE Job Number:	337988
	Crown Castle Work Order Number:	1467626
	Crown Castle Application Number:	300679 Rev. 4
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37517-1800.002.7805
Site Data:	**21 Acorn Road, BRANFORD, New Haven County, CT**	
	Latitude *41° 17' 35.06"*, Longitude *-72° 45' 46.4"*	
	147 Foot - Monopole Tower	

Dear Charles Trask,

Paul J. Ford and Company is pleased to submit this **"Existing TIA Assessment and Structural Analysis 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 1087716, in accordance with application 300679, revision 4.

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 Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 were used in this analysis.

All modifications and equipment proposed in this report shall be installed in accordance with the proposed modifications drawings, referenced in Table 3 of this report, for the determined available structural capacity to be effective.

This report is only valid if the proposed TMA's are installed in such a manner that the largest portion is parallel to the width of the proposed antennas they are mounted behind. Thereby, shielding the proposed TMA's from the wind.

We at *Paul J. Ford and Company* 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:

Michelle Herbert
Structural Designer MLS

tnxTower Report - version 7.0.5.1

10-4-17

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 147 ft Monopole tower designed by SUMMIT in September of 1997. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G-2005 Standard, "Structural Standard for Antenna Supporting Structures and Antennas", with ANSI/TIA-222-G-1-2007 and ANSI/TIA-222-G-2-2009 Addenda per Exception #5 of Section 1609.1.1. Risk Category II, Exposure Category C and Topographic Category 1 were used in this analysis.

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
116.0	116.0	3	alcatel lucent	*** RRH2X60-PCS**	1	1-5/8	--
		3	alcatel lucent	*** RRH2x60-700**			
		3	alcatel lucent	*** RRH4X45-AWS4 B66**			
		3	commscope	HBXX-6517DS-A2M w/ MP			
		6	commscope	SBNHH-1D65B w/ MP			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			

***TMA's to be installed in such a manner that the largest portion is parallel to the width of the proposed antennas they are mounted behind. Thereby, shielding the proposed TMA's from the wind.**

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
147.0	147.0	3	alcatel lucent	1900MHz RRH (65MHz)	1 3	5/8 1-1/4	1
		3	alcatel lucent	800 EXTERNAL NOTCH FILTER			
		3	alcatel lucent	800MHZ RRH			
		3	alcatel lucent	TD-RRH8x20-25			
		9	rfs celwave	ACU-A20-N			
		3	rfs celwave	APXVSPP18-C-A20 w/ MP			
		3	rfs celwave	APXVTM14-C-120 w/ MP			
		1	tower mounts	Platform Mount [LP 1201-1]			
	143.0	1	tower mounts	Miscellaneous [NA 507-1]			
135.0	135.0	3	commscope	ATSBT-TOP-MF-4G	--	--	2
		3	commscope	LNX-6515DS-A1M w/ MP			
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ MP	1 6	1-3/16 1-5/8	1
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ MP			
		1	tower mounts	T-Arm Mount [TA 602-3]			
116.0	116.0	6	rfs celwave	FD9R6004/2C-3L	6	1-5/8	3
		3	alcatel lucent	RRH2x40-AWS			
		3	antel	BXA-171063-12CF-EDIN-2 w/ MP			
		3	antel	BXA-171085-8BF-EDIN-2 w/ MP			
		3	antel	BXA-70063/6CF-2 w/ MP			
		2	antel	LPA-80063/6CF w/ MP	7	1-5/8	1
		2	antel	LPA-80080/4CF w/ MP			
		2	rfs celwave	APL868013 w/ MP			
		1	rfs celwave	DB-T1-6Z-8AB-0Z			
		2	adc	ClearGain Dual Band 800/1900 MHz			
		1	tower mounts	Platform Mount [LP 1201-1]			
106.0	108.0	3	andrew	SBNHH-1D65A w/ MP	1 1 2 12	17/64 3/8 7/8 1-1/4	1
		6	ericsson	RRUS-11			
		3	ericsson	RRUS12/RRUS A2			
		6	powerwave	7770.00 w/ MP			
		12	powerwave	LGP2140X			
		1	raycap	DC6-48-60-18-8F			
	106.0	1	tower mounts	Platform Mount [LP 1201-1]			
		1	tower mounts	Miscellaneous [NA 507-1]			
		1	tower mounts	Miscellaneous [NA 509-3]			
76.0	77.0	1	kathrein	OG-860/1920/GPS-A	--	--	1
		1	lucent	KS24019-L112A			
	76.0	1	tower mounts	Side Arm Mount [SO 701-3]			

Notes:
1) Existing Equipment
2) Reserved Equipment
3) Equipment To Be Removed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	TEP, 25581.34391, 07/30/2015	1529736	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Summit, 2737, 09/29/1997	1632435	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Summit, 2737-97, 09/29/1997	1632399	CCISITES
4-POST-MODIFICATION INSPECTION	JTec Enterprises, 3017636, 10/10/2005	2031904	CCISITES
4-POST-MODIFICATION INSPECTION	PJF, 41708-0180, 03/15/2009	2417887	CCISITES
4-TOWER PROPOSED REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37517-1800.001.7700, 04/21/2017	6823303	CCISITES

3.1) Analysis Method

tnxTower (version 7.0.5.1), 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) Monopole was modified in conformance with the referenced modification drawings.
5) Monopole will be modified in conformance with the referenced proposed modification drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L1	147 - 142	Pole	TP22.85x22x0.25	Pole	5.5%	Pass
L2	142 - 137	Pole	TP23.7x22.85x0.25	Pole	10.5%	Pass
L3	137 - 132	Pole	TP24.55x23.7x0.25	Pole	17.1%	Pass
L4	132 - 127	Pole	TP25.4x24.55x0.25	Pole	24.3%	Pass
L5	127 - 122	Pole	TP26.251x25.4x0.25	Pole	30.8%	Pass
L6	122 - 117	Pole	TP27.101x26.251x0.25	Pole	37.1%	Pass
L7	117 - 112	Pole	TP27.951x27.101x0.25	Pole	47.0%	Pass
L8	112 - 108.75	Pole	TP29.141x27.951x0.25	Pole	53.4%	Pass
L9	108.75 - 103.75	Pole	TP28.854x28.003x0.3125	Pole	52.6%	Pass
L10	103.75 - 98.75	Pole	TP29.704x28.854x0.3125	Pole	61.4%	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
L11	98.75 - 93.75	Pole	TP30.554x29.704x0.3125	Pole	69.3%	Pass
L12	93.75 - 89.75	Pole	TP31.234x30.554x0.3125	Pole	75.1%	Pass
L13	89.75 - 89.5	Pole + Reinf.	TP31.277x31.234x0.3188	Pole	76.3%	Pass
L14	89.5 - 88.25	Pole + Reinf.	TP31.489x31.277x0.3188	Pole	78.0%	Pass
L15	88.25 - 88	Pole + Reinf.	TP31.532x31.489x0.5125	Reinf. 2 Tension Rupture	66.0%	Pass
L16	88 - 86	Pole + Reinf.	TP31.872x31.532x0.5125	Reinf. 2 Tension Rupture	68.6%	Pass
L17	86 - 85.75	Pole + Reinf.	TP31.914x31.872x0.5125	Reinf. 2 Tension Rupture	69.5%	Pass
L18	85.75 - 84.25	Pole + Reinf.	TP32.17x31.914x0.5125	Reinf. 2 Tension Rupture	71.4%	Pass
L19	84.25 - 84	Pole + Reinf.	TP32.212x32.17x0.475	Reinf. 2 Tension Rupture	73.1%	Pass
L20	84 - 79	Pole + Reinf.	TP33.062x32.212x0.4625	Reinf. 2 Tension Rupture	79.2%	Pass
L21	79 - 78	Pole + Reinf.	TP33.955x33.062x0.4625	Reinf. 2 Tension Rupture	80.4%	Pass
L22	78 - 72.75	Pole + Reinf.	TP33.5x32.607x0.5625	Reinf. 2 Tension Rupture	77.2%	Pass
L23	72.75 - 67.75	Pole + Reinf.	TP34.35x33.5x0.5625	Reinf. 2 Tension Rupture	81.9%	Pass
L24	67.75 - 63.08	Pole + Reinf.	TP35.144x34.35x0.55	Reinf. 2 Tension Rupture	86.0%	Pass
L25	63.08 - 62.83	Pole + Reinf.	TP35.187x35.144x0.7125	Reinf. 8 Tension Rupture	70.6%	Pass
L26	62.83 - 57.83	Pole + Reinf.	TP36.037x35.187x0.7	Reinf. 8 Tension Rupture	74.4%	Pass
L27	57.83 - 52.83	Pole + Reinf.	TP36.887x36.037x0.6875	Reinf. 8 Tension Rupture	78.0%	Pass
L28	52.83 - 47.83	Pole + Reinf.	TP37.737x36.887x0.6875	Reinf. 8 Tension Rupture	81.6%	Pass
L29	47.83 - 47.5	Pole + Reinf.	TP38.601x37.737x0.675	Reinf. 8 Tension Rupture	81.8%	Pass
L30	47.5 - 42.5	Pole + Reinf.	TP37.894x37.043x0.75	Reinf. 8 Tension Rupture	80.7%	Pass
L31	42.5 - 37.5	Pole + Reinf.	TP38.744x37.894x0.7375	Reinf. 8 Tension Rupture	83.8%	Pass
L32	37.5 - 32.75	Pole + Reinf.	TP39.551x38.744x0.7375	Reinf. 8 Tension Rupture	86.5%	Pass
L33	32.75 - 32.5	Pole + Reinf.	TP39.594x39.551x0.7875	Reinf. 2 Tension Rupture	79.8%	Pass
L34	32.5 - 27.5	Pole + Reinf.	TP40.444x39.594x0.775	Reinf. 2 Tension Rupture	82.4%	Pass
L35	27.5 - 22.5	Pole + Reinf.	TP41.294x40.444x0.7625	Reinf. 6 Tension Rupture	84.9%	Pass
L36	22.5 - 17.5	Pole + Reinf.	TP42.144x41.294x0.7625	Reinf. 6 Tension Rupture	87.3%	Pass
L37	17.5 - 12.5	Pole + Reinf.	TP42.995x42.144x0.75	Reinf. 6 Tension Rupture	89.7%	Pass
L38	12.5 - 8.25	Pole + Reinf.	TP43.717x42.995x0.7375	Reinf. 6 Tension Rupture	91.5%	Pass
L39	8.25 - 8	Pole + Reinf.	TP43.76x43.717x0.8	Reinf. 2 Tension Rupture	89.3%	Pass
L40	8 - 6.25	Pole + Reinf.	TP44.057x43.76x0.7875	Reinf. 2 Tension Rupture	90.0%	Pass
L41	6.25 - 6	Pole + Reinf.	TP44.1x44.057x0.775	Reinf. 2 Tension Rupture	90.4%	Pass
L42	6 - 3.25	Pole + Reinf.	TP44.567x44.1x0.7625	Reinf. 2 Tension Rupture	91.4%	Pass
L43	3.25 - 3	Pole + Reinf.	TP44.61x44.567x0.7625	Reinf. 1 Tension Rupture	90.5%	Pass
L44	3 - 0	Pole + Reinf.	TP45.12x44.61x0.75	Reinf. 1 Tension Rupture	91.6%	Pass
					Summary	
				Pole	78.0%	Pass
				Reinforcement	91.6%	Pass
				Overall	91.6%	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	99.6	Pass
1	Base Plate	0	84.3	Pass
1	Base Foundation Structural Steel	0	61.7	Pass
1	Base Foundation Soil Interaction	0	67.9	Pass

Structure Rating (max from all components) =	99.6%

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

4.1) Recommendations

The monopole and its foundation will have sufficient capacity to carry the proposed loading configuration once the proposed modifications are installed.

- Install the modifications as per the proposed modification drawings referenced in Table 3.
- This report is only valid if the proposed TMA's are installed in such a manner that the largest portion is parallel to the width of the proposed antennas they are mounted behind. Thereby, shielding the proposed TMA's from the wind.

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

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

1) Tower is located in New Haven County, Connecticut.
2) ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
3) Basic wind speed of 101 mph.
4) Structure Class II.
5) Exposure Category C.
6) Topographic Category 1.
7) Crest Height 0.00 ft.
8) Nominal ice thickness of 0.7500 in.
9) Ice thickness is considered to increase with height.
10) Ice density of 56 pcf.
11) A wind speed of 50 mph is used in combination with ice.
12) Temperature drop of 50 °F.
13) Deflections calculated using a wind speed of 60 mph.
14) A non-linear (P-delta) analysis was used.
15) Pressures are calculated at each section.
16) Stress ratio used in pole design is 1.
17) 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		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios	√	Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				

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	147.00-142.00	5.00	0.00	18	22.0000	22.8501	0.2500	1.0000	A607-60 (60 ksi)
L2	142.00-137.00	5.00	0.00	18	22.8501	23.7002	0.2500	1.0000	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
									(60 ksi)
L3	137.00-132.00	5.00	0.00	18	23.7002	24.5504	0.2500	1.0000	A607-60 (60 ksi)
L4	132.00-127.00	5.00	0.00	18	24.5504	25.4005	0.2500	1.0000	A607-60 (60 ksi)
L5	127.00-122.00	5.00	0.00	18	25.4005	26.2506	0.2500	1.0000	A607-60 (60 ksi)
L6	122.00-117.00	5.00	0.00	18	26.2506	27.1007	0.2500	1.0000	A607-60 (60 ksi)
L7	117.00-112.00	5.00	0.00	18	27.1007	27.9508	0.2500	1.0000	A607-60 (60 ksi)
L8	112.00-105.00	7.00	3.75	18	27.9508	29.1410	0.2500	1.0000	A607-60 (60 ksi)
L9	105.00-103.75	5.00	0.00	18	28.0034	28.8536	0.3125	1.2500	A607-60 (60 ksi)
L10	103.75-98.75	5.00	0.00	18	28.8536	29.7039	0.3125	1.2500	A607-60 (60 ksi)
L11	98.75-93.75	5.00	0.00	18	29.7039	30.5541	0.3125	1.2500	A607-60 (60 ksi)
L12	93.75-89.75	4.00	0.00	18	30.5541	31.2343	0.3125	1.2500	A607-60 (60 ksi)
L13	89.75-89.50	0.25	0.00	18	31.2343	31.2768	0.3187	1.2750	A607-60 (60 ksi)
L14	89.50-88.25	1.25	0.00	18	31.2768	31.4893	0.3187	1.2750	A607-60 (60 ksi)
L15	88.25-88.00	0.25	0.00	18	31.4893	31.5319	0.5125	2.0500	A607-60 (60 ksi)
L16	88.00-86.00	2.00	0.00	18	31.5319	31.8719	0.5125	2.0500	A607-60 (60 ksi)
L17	86.00-85.75	0.25	0.00	18	31.8719	31.9145	0.5125	2.0500	A607-60 (60 ksi)
L18	85.75-84.25	1.50	0.00	18	31.9145	32.1695	0.5125	2.0500	A607-60 (60 ksi)
L19	84.25-84.00	0.25	0.00	18	32.1695	32.2120	0.4750	1.9000	A607-60 (60 ksi)
L20	84.00-79.00	5.00	0.00	18	32.2120	33.0623	0.4625	1.8500	A607-60 (60 ksi)
L21	79.00-73.75	5.25	4.25	18	33.0623	33.9550	0.4625	1.8500	A607-60 (60 ksi)
L22	73.75-72.75	5.25	0.00	18	32.6073	33.5000	0.5625	2.2500	A607-60 (60 ksi)
L23	72.75-67.75	5.00	0.00	18	33.5000	34.3502	0.5625	2.2500	A607-60 (60 ksi)
L24	67.75-63.08	4.67	0.00	18	34.3502	35.1442	0.5500	2.2000	A607-60 (60 ksi)
L25	63.08-62.83	0.25	0.00	18	35.1442	35.1867	0.7125	2.8500	A607-60 (60 ksi)
L26	62.83-57.83	5.00	0.00	18	35.1867	36.0369	0.7000	2.8000	A607-60 (60 ksi)
L27	57.83-52.83	5.00	0.00	18	36.0369	36.8871	0.6875	2.7500	A607-60 (60 ksi)
L28	52.83-47.83	5.00	0.00	18	36.8871	37.7372	0.6875	2.7500	A607-60 (60 ksi)
L29	47.83-42.75	5.08	4.75	18	37.7372	38.6010	0.6750	2.7000	A607-60 (60 ksi)
L30	42.75-42.50	5.00	0.00	18	37.0433	37.8935	0.7500	3.0000	A607-60 (60 ksi)
L31	42.50-37.50	5.00	0.00	18	37.8935	38.7437	0.7375	2.9500	A607-60 (60 ksi)
L32	37.50-32.75	4.75	0.00	18	38.7437	39.5514	0.7375	2.9500	A607-60 (60 ksi)
L33	32.75-32.50	0.25	0.00	18	39.5514	39.5939	0.7875	3.1500	A607-60 (60 ksi)
L34	32.50-27.50	5.00	0.00	18	39.5939	40.4440	0.7750	3.1000	A607-60 (60 ksi)
L35	27.50-22.50	5.00	0.00	18	40.4440	41.2942	0.7625	3.0500	A607-60 (60 ksi)
L36	22.50-17.50	5.00	0.00	18	41.2942	42.1444	0.7625	3.0500	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
L37	17.50-12.50	5.00	0.00	18	42.1444	42.9946	0.7500	3.0000	A607-60 (60 ksi)
L38	12.50-8.25	4.25	0.00	18	42.9946	43.7172	0.7375	2.9500	A607-60 (60 ksi)
L39	8.25-8.00	0.25	0.00	18	43.7172	43.7597	0.8000	3.2000	A607-60 (60 ksi)
L40	8.00-6.25	1.75	0.00	18	43.7597	44.0573	0.7875	3.1500	A607-60 (60 ksi)
L41	6.25-6.00	0.25	0.00	18	44.0573	44.0998	0.7750	3.1000	A607-60 (60 ksi)
L42	6.00-3.25	2.75	0.00	18	44.0998	44.5674	0.7625	3.0500	A607-60 (60 ksi)
L43	3.25-3.00	0.25	0.00	18	44.5674	44.6099	0.7625	3.0500	A607-60 (60 ksi)
L44	3.00-0.00	3.00		18	44.6099	45.1200	0.7500	3.0000	A607-60 (60 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	22.3394	17.2586	1031.4832	7.7212	11.1760	92.2945	2064.3237	8.6310	3.4320	13.728
	23.2026	17.9332	1157.2217	8.0230	11.6079	99.6929	2315.9661	8.9683	3.5816	14.326
L2	23.2026	17.9332	1157.2217	8.0230	11.6079	99.6929	2315.9661	8.9683	3.5816	14.326
	24.0659	18.6078	1292.7845	8.3248	12.0397	107.3766	2587.2702	9.3057	3.7312	14.925
L3	24.0659	18.6078	1292.7845	8.3248	12.0397	107.3766	2587.2702	9.3057	3.7312	14.925
	24.9291	19.2823	1438.5414	8.6266	12.4716	115.3455	2878.9756	9.6430	3.8809	15.523
L4	24.9291	19.2823	1438.5414	8.6266	12.4716	115.3455	2878.9756	9.6430	3.8809	15.523
	25.7923	19.9569	1594.8617	8.9284	12.9034	123.5997	3191.8219	9.9803	4.0305	16.122
L5	25.7923	19.9569	1594.8617	8.9284	12.9034	123.5997	3191.8219	9.9803	4.0305	16.122
	26.6556	20.6315	1762.1150	9.2302	13.3353	132.1391	3526.5487	10.3177	4.1801	16.72
L6	26.6556	20.6315	1762.1150	9.2302	13.3353	132.1391	3526.5487	10.3177	4.1801	16.72
	27.5188	21.3060	1940.6710	9.5320	13.7672	140.9638	3883.8955	10.6550	4.3297	17.319
L7	27.5188	21.3060	1940.6710	9.5320	13.7672	140.9638	3883.8955	10.6550	4.3297	17.319
	28.3820	21.9806	2130.8991	9.8338	14.1990	150.0736	4264.6021	10.9924	4.4793	17.917
L8	28.3820	21.9806	2130.8991	9.8338	14.1990	150.0736	4264.6021	10.9924	4.4793	17.917
	29.5905	22.9250	2417.5313	10.2563	14.8036	163.3067	4838.2436	11.4647	4.6888	18.755
L9	29.0829	27.4659	2660.7625	9.8303	14.2257	187.0387	5325.0261	13.7356	4.3786	14.012
	29.2988	28.3092	2913.4545	10.1321	14.6576	198.7668	5830.7426	14.1573	4.5282	14.49
L10	29.2988	28.3092	2913.4545	10.1321	14.6576	198.7668	5830.7426	14.1573	4.5282	14.49
	30.1621	29.1526	3181.6592	10.4339	15.0896	210.8516	6367.5048	14.5791	4.6779	14.969
L11	30.1621	29.1526	3181.6592	10.4339	15.0896	210.8516	6367.5048	14.5791	4.6779	14.969
	31.0254	29.9959	3465.8386	10.7358	15.5215	223.2931	6936.2377	15.0008	4.8275	15.448
L12	31.0254	29.9959	3465.8386	10.7358	15.5215	223.2931	6936.2377	15.0008	4.8275	15.448
	31.7161	30.6705	3704.9946	10.9772	15.8670	233.5030	7414.8643	15.3382	4.9472	15.831
L13	31.7161	31.2776	3776.8034	10.9750	15.8670	238.0287	7558.5764	15.6418	4.9362	15.486
	31.7593	31.3206	3792.4051	10.9901	15.8886	238.6871	7589.8003	15.6633	4.9437	15.51
L14	31.7593	31.3206	3792.4051	10.9901	15.8886	238.6871	7589.8003	15.6633	4.9437	15.51
	31.9751	31.5357	3871.0582	11.0656	15.9966	241.9928	7747.2100	15.7708	4.9811	15.627
L15	31.9751	50.3893	6108.7119	10.9968	15.9966	381.8760	12225.4619	25.1994	4.6401	9.054
	32.0183	50.4584	6133.8965	11.0119	16.0182	382.9334	12275.8642	25.2340	4.6476	9.068
L16	32.0183	50.4584	6133.8965	11.0119	16.0182	382.9334	12275.8642	25.2340	4.6476	9.068
	32.3636	51.0116	6337.8695	11.1326	16.1909	391.4453	12684.0786	25.5107	4.7075	9.185
L17	32.3636	51.0116	6337.8695	11.1326	16.1909	391.4453	12684.0786	25.5107	4.7075	9.185
	32.4068	51.0808	6363.6796	11.1477	16.2125	392.5158	12735.7327	25.5452	4.7149	9.2
L18	32.4068	51.0808	6363.6796	11.1477	16.2125	392.5158	12735.7327	25.5452	4.7149	9.2
	32.6658	51.4957	6520.0131	11.2382	16.3421	398.9699	13048.6053	25.7527	4.7598	9.287

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
L19	32.6658	47.7842	6064.4393	11.2516	16.3421	371.0926	12136.8583	23.8967	4.8258	10.16
	32.7090	47.8483	6088.8744	11.2666	16.3637	372.0961	12185.7607	23.9287	4.8333	10.175
L20	32.7090	46.6075	5935.6488	11.2711	16.3637	362.7324	11879.1079	23.3082	4.8553	10.498
	33.5723	47.8556	6425.3884	11.5729	16.7956	382.5631	12859.2314	23.9324	5.0050	10.822
L21	33.5723	47.8556	6425.3884	11.5729	16.7956	382.5631	12859.2314	23.9324	5.0050	10.822
	34.4788	49.1662	6967.8502	11.8898	17.2491	403.9535	13944.8690	24.5877	5.1621	11.161
L22	33.8441	57.2120	7422.3235	11.3759	16.5645	448.0859	14854.4135	28.6114	4.7489	8.442
	34.0168	58.8058	8060.0585	11.6928	17.0180	473.6198	16130.7225	29.4085	4.9060	8.722
L23	34.0168	58.8058	8060.0585	11.6928	17.0180	473.6198	16130.7225	29.4085	4.9060	8.722
	34.8801	60.3236	8700.4359	11.9946	17.4499	498.5958	17412.3200	30.1675	5.0556	8.988
L24	34.8801	59.0049	8516.5381	11.9991	17.4499	488.0572	17044.2826	29.5081	5.0776	9.232
	35.6864	60.3911	9130.9799	12.2809	17.8533	511.4461	18273.9746	30.2013	5.2174	9.486
L25	35.6864	77.8665	11662.8608	12.2233	17.8533	653.2623	23341.0678	38.9406	4.9314	6.921
	35.7295	77.9626	11706.1101	12.2383	17.8749	654.8926	23427.6234	38.9887	4.9389	6.932
L26	35.7295	76.6226	11513.2544	12.2428	17.8749	644.1034	23041.6583	38.3186	4.9609	7.087
	36.5928	78.5115	12385.8944	12.5446	18.3067	676.5756	24788.0865	39.2632	5.1105	7.301
L27	36.5928	77.1368	12177.6317	12.5490	18.3067	665.1994	24371.2869	38.5757	5.1325	7.465
	37.4561	78.9920	13077.5657	12.8508	18.7386	697.8935	26172.3391	39.5035	5.2821	7.683
L28	37.4561	78.9920	13077.5657	12.8508	18.7386	697.8935	26172.3391	39.5035	5.2821	7.683
	38.3194	80.8471	14020.7792	13.1527	19.1705	731.3722	28060.0073	40.4313	5.4318	7.901
L29	38.3194	79.4040	13779.7938	13.1571	19.1705	718.8016	27577.7194	39.7095	5.4538	8.08
	39.1965	81.2546	14765.8777	13.4637	19.6093	753.0035	29551.1848	40.6350	5.6058	8.305
L30	38.4349	86.3963	14377.6008	12.8841	18.8180	764.0338	28774.1200	43.2064	5.1996	6.933
	38.4781	88.4201	15411.8439	13.1859	19.2499	800.6192	30843.9672	44.2185	5.3493	7.132
L31	38.4781	86.9757	15170.2855	13.1904	19.2499	788.0707	30360.5324	43.4961	5.3713	7.283
	39.3414	88.9658	16235.6382	13.4922	19.6818	824.9064	32492.6396	44.4914	5.5209	7.486
L32	39.3414	88.9658	16235.6382	13.4922	19.6818	824.9064	32492.6396	44.4914	5.5209	7.486
	40.1615	90.8564	17292.8563	13.7789	20.0921	860.6799	34608.4670	45.4369	5.6630	7.679
L33	40.1615	96.8912	18393.9844	13.7612	20.0921	915.4840	36812.1721	48.4548	5.5750	7.079
	40.2047	96.9975	18454.5638	13.7763	20.1137	917.5129	36933.4105	48.5080	5.5825	7.089
L34	40.2047	95.4886	18179.1901	13.7807	20.1137	903.8221	36382.3008	47.7534	5.6045	7.232
	41.0680	97.5799	19399.9718	14.0825	20.5456	944.2410	38825.4705	48.7992	5.7542	7.425
L35	41.0680	96.0363	19105.1181	14.0869	20.5456	929.8898	38235.3752	48.0273	5.7762	7.575
	41.9312	98.0938	20359.5937	14.3888	20.9775	970.5462	40745.9771	49.0562	5.9258	7.772
L36	41.9312	98.0938	20359.5937	14.3888	20.9775	970.5462	40745.9771	49.0562	5.9258	7.772

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
	42.7945	100.1514	21667.8155	14.6906	21.4093	1012.0726	43364.1420	50.0852	6.0754	7.968
L37	42.7945	98.5393	21331.9245	14.6950	21.4093	996.3836	42691.9182	49.2790	6.0974	8.13
	43.6578	100.5632	22673.4757	14.9968	21.8412	1038.1040	45376.7858	50.2911	6.2470	8.329
L38	43.6578	98.9164	22315.3819	15.0013	21.8412	1021.7087	44660.1269	49.4676	6.2690	8.5
	44.3916	100.6080	23479.9348	15.2578	22.2083	1057.2574	46990.7651	50.3136	6.3962	8.673
L39	44.3916	108.9754	25358.8089	15.2356	22.2083	1141.8595	50750.9855	54.4980	6.2862	7.858
	44.4348	109.0833	25434.2359	15.2507	22.2299	1144.1434	50901.9388	54.5520	6.2937	7.867
L40	44.4348	107.4101	25058.6872	15.2551	22.2299	1127.2495	50150.3473	53.7153	6.3157	8.02
	44.7369	108.1539	25582.8569	15.3608	22.3811	1143.0563	51199.3763	54.0872	6.3681	8.086
L41	44.7369	106.4679	25198.6057	15.3652	22.3811	1125.8878	50430.3683	53.2441	6.3901	8.245
	44.7801	106.5725	25272.9234	15.3803	22.4027	1128.1199	50579.1015	53.2964	6.3976	8.255
L42	44.7801	104.8838	24886.8241	15.3847	22.4027	1110.8854	49806.3949	52.4519	6.4196	8.419
	45.2549	106.0155	25701.1109	15.5507	22.6402	1135.1964	51436.0399	53.0178	6.5019	8.527
L43	45.2549	106.0155	25701.1109	15.5507	22.6402	1135.1964	51436.0399	53.0178	6.5019	8.527
	45.2981	106.1184	25776.0054	15.5658	22.6618	1137.4196	51585.9276	53.0693	6.5093	8.537
L44	45.2981	104.4085	25375.1374	15.5703	22.6618	1119.7304	50783.6640	52.2142	6.5313	8.708
	45.8160	105.6228	26270.8377	15.7514	22.9210	1146.1491	52576.2433	52.8214	6.6211	8.828

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	Double Angle Stitch Bolt Spacing Redundants in
L1 147.00-142.00				1	1	1			
L2 142.00-137.00				1	1	1			
L3 137.00-132.00				1	1	1			
L4 132.00-127.00				1	1	1			
L5 127.00-122.00				1	1	1			
L6 122.00-117.00				1	1	1			
L7 117.00-112.00				1	1	1			
L8 112.00-105.00				1	1	1			
L9 105.00-103.75				1	1	1			
L10 103.75-98.75				1	1	1			
L11 98.75-93.75				1	1	1			
L12 93.75-89.75				1	1	1			
L13 89.75-89.50				1	1	1.16099			
L14 89.50-88.25				1	1	1.15976			
L15 88.25-				1	1	0.94962			

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	Double Angle Stitch Bolt Spacing Redundants in
88.00									
L16 88.00-86.00				1	1	0.945934			
L17 86.00-85.75				1	1	1.05609			
L18 85.75-84.25				1	1	1.0525			
L19 84.25-84.00				1	1	1.01552			
L20 84.00-79.00				1	1	1.03299			
L21 79.00-73.75				1	1	1.03113			
L22 73.75-72.75				1	1	0.958709			
L23 72.75-67.75				1	1	0.951361			
L24 67.75-63.08				1	1	0.965948			
L25 63.08-62.83				1	1	0.979776			
L26 62.83-57.83				1	1	0.985815			
L27 57.83-52.83				1	1	0.992629			
L28 52.83-47.83				1	1	0.982368			
L29 47.83-42.75				1	1	0.99955			
L30 42.75-42.50				1	1	0.983527			
L31 42.50-37.50				1	1	0.990764			
L32 37.50-32.75				1	1	0.982492			
L33 32.75-32.50				1	1	0.986624			
L34 32.50-27.50				1	1	0.992833			
L35 27.50-22.50				1	1	0.999667			
L36 22.50-17.50				1	1	0.990917			
L37 17.50-12.50				1	1	0.998599			
L38 12.50-8.25				1	1	1.00813			
L39 8.25-8.00				1	1	1.03394			
L40 8.00-6.25				1	1	1.04664			
L41 6.25-6.00				1	1	1.00971			
L42 6.00-3.25				1	1	1.02114			
L43 3.25-3.00				1	1	0.994201			
L44 3.00-0.00				1	1	1.00557			

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 plf
***								
HB058-M12-XXXF(5/8)	C	No	CaAa (Out Of Face)	147.00 - 0.00	1	No Ice	0.08	0.24
						1/2" Ice	0.18	1.06
						1" Ice	0.28	2.49

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
HB114-1-0813U4-M5J(1-1/4)	C	No	Inside Pole	147.00 - 0.00	3	No Ice	0.00	1.20
						1/2" Ice	0.00	1.20
						1" Ice	0.00	1.20
***								
1.2 Masterline Extreme Hybrid(1-3/16)	C	No	Inside Pole	135.00 - 0.00	1	No Ice	0.00	0.95
						1/2" Ice	0.00	0.95
						1" Ice	0.00	0.95
AVA7-50(1-5/8)	C	No	CaAa (Out Of Face)	135.00 - 0.00	5	No Ice	0.00	0.70
						1/2" Ice	0.00	2.23
						1" Ice	0.00	4.38
AVA7-50(1-5/8)	C	No	CaAa (Out Of Face)	135.00 - 0.00	1	No Ice	0.20	0.70
						1/2" Ice	0.30	2.23
						1" Ice	0.40	4.38
***								
HB158-1-08U8-S8J18(1-5/8)	C	No	Inside Pole	116.00 - 0.00	1	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
LDF7-50A(1-5/8)	C	No	Inside Pole	116.00 - 0.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82
HB158-1-08U8-S8J18(1-5/8)	C	No	Inside Pole	116.00 - 0.00	1	No Ice	0.00	1.30
						1/2" Ice	0.00	1.30
						1" Ice	0.00	1.30
***								
A-DQZNB2Yn1750N(17/64)	C	No	Inside Pole	106.00 - 0.00	1	No Ice	0.00	0.03
						1/2" Ice	0.00	0.03
						1" Ice	0.00	0.03
LDF2-50A(3/8)	C	No	Inside Pole	106.00 - 0.00	1	No Ice	0.00	0.08
						1/2" Ice	0.00	0.08
						1" Ice	0.00	0.08
6-8AWG 3 PAIR(7/8)	C	No	Inside Pole	106.00 - 0.00	2	No Ice	0.00	0.68
						1/2" Ice	0.00	0.68
						1" Ice	0.00	0.68
LDF6-50A(1-1/4)	C	No	Inside Pole	106.00 - 0.00	12	No Ice	0.00	0.60
						1/2" Ice	0.00	0.60
						1" Ice	0.00	0.60
**********								
******								
Aero MP3-05	C	No	CaAa (Out Of Face)	90.50 - 0.00	1	No Ice	0.35	0.00
						1/2" Ice	0.40	0.00
						1" Ice	0.66	0.00
1 1/4" Flat Reinforcement	C	No	CaAa (Out Of Face)	35.00 - 0.00	1	No Ice	0.21	0.00
						1/2" Ice	0.32	0.00
						1" Ice	0.43	0.00
1" Flat Reinforcement	C	No	CaAa (Out Of Face)	65.00 - 35.00	1	No Ice	0.17	0.00
						1/2" Ice	0.28	0.00
						1" Ice	0.39	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
***									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.95 8.13 9.02	0.08 0.15 0.23
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice	8.26 8.82 9.35	6.95 8.13 9.02	0.08 0.15 0.23
APXVSPP18-C-A20 w/	C	From Leg	4.00	0.0000	147.00	No Ice	8.26	6.95	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Mount Pipe			0.00				1/2"	8.82	8.13	0.15
			0.00				Ice	9.35	9.02	0.23
							1" Ice			
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.00		0.0000	147.00	No Ice	6.58	4.96	0.08
			0.00				1/2"	7.03	5.75	0.13
			0.00				Ice	7.47	6.47	0.19
							1" Ice			
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.00		0.0000	147.00	No Ice	6.58	4.96	0.08
			0.00				1/2"	7.03	5.75	0.13
			0.00				Ice	7.47	6.47	0.19
							1" Ice			
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.00		0.0000	147.00	No Ice	6.58	4.96	0.08
			0.00				1/2"	7.03	5.75	0.13
			0.00				Ice	7.47	6.47	0.19
							1" Ice			
800 EXTERNAL NOTCH FILTER	A	From Leg	4.00		0.0000	147.00	No Ice	0.66	0.32	0.01
			0.00				1/2"	0.76	0.40	0.02
			0.00				Ice	0.87	0.48	0.02
							1" Ice			
800 EXTERNAL NOTCH FILTER	B	From Leg	4.00		0.0000	147.00	No Ice	0.66	0.32	0.01
			0.00				1/2"	0.76	0.40	0.02
			0.00				Ice	0.87	0.48	0.02
							1" Ice			
800 EXTERNAL NOTCH FILTER	C	From Leg	4.00		0.0000	147.00	No Ice	0.66	0.32	0.01
			0.00				1/2"	0.76	0.40	0.02
			0.00				Ice	0.87	0.48	0.02
							1" Ice			
1900MHz RRH (65MHz)	A	From Leg	4.00		0.0000	147.00	No Ice	2.32	2.24	0.06
			0.00				1/2"	2.53	2.44	0.08
			0.00				Ice	2.74	2.65	0.11
							1" Ice			
1900MHz RRH (65MHz)	B	From Leg	4.00		0.0000	147.00	No Ice	2.32	2.24	0.06
			0.00				1/2"	2.53	2.44	0.08
			0.00				Ice	2.74	2.65	0.11
							1" Ice			
1900MHz RRH (65MHz)	C	From Leg	4.00		0.0000	147.00	No Ice	2.32	2.24	0.06
			0.00				1/2"	2.53	2.44	0.08
			0.00				Ice	2.74	2.65	0.11
							1" Ice			
(3) ACU-A20-N	A	From Leg	4.00		0.0000	147.00	No Ice	0.07	0.12	0.00
			0.00				1/2"	0.10	0.16	0.00
			0.00				Ice	0.15	0.21	0.00
							1" Ice			
(3) ACU-A20-N	B	From Leg	4.00		0.0000	147.00	No Ice	0.07	0.12	0.00
			0.00				1/2"	0.10	0.16	0.00
			0.00				Ice	0.15	0.21	0.00
							1" Ice			
(3) ACU-A20-N	C	From Leg	4.00		0.0000	147.00	No Ice	0.07	0.12	0.00
			0.00				1/2"	0.10	0.16	0.00
			0.00				Ice	0.15	0.21	0.00
							1" Ice			
800MHZ RRH	A	From Leg	4.00		0.0000	147.00	No Ice	2.13	1.77	0.05
			0.00				1/2"	2.32	1.95	0.07
			0.00				Ice	2.51	2.13	0.10
							1" Ice			
800MHZ RRH	B	From Leg	4.00		0.0000	147.00	No Ice	2.13	1.77	0.05
			0.00				1/2"	2.32	1.95	0.07
			0.00				Ice	2.51	2.13	0.10
							1" Ice			
800MHZ RRH	C	From Leg	4.00		0.0000	147.00	No Ice	2.13	1.77	0.05
			0.00				1/2"	2.32	1.95	0.07
			0.00				Ice	2.51	2.13	0.10
							1" Ice			
TD-RRH8x20-25	A	From Leg	4.00		0.0000	147.00	No Ice	4.05	1.53	0.07
			0.00				1/2"	4.30	1.71	0.10

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
			0.00			Ice	4.56	1.90	0.13
						1" Ice			
TD-RRH8x20-25	B	From Leg	4.00	0.0000	147.00	No Ice	4.05	1.53	0.07
			0.00			1/2"	4.30	1.71	0.10
			0.00			Ice	4.56	1.90	0.13
						1" Ice			
TD-RRH8x20-25	C	From Leg	4.00	0.0000	147.00	No Ice	4.05	1.53	0.07
			0.00			1/2"	4.30	1.71	0.10
			0.00			Ice	4.56	1.90	0.13
						1" Ice			
Platform Mount [LP 1201-1]	C	None		0.0000	147.00	No Ice	23.10	23.10	2.10
						1/2"	26.80	26.80	2.50
						Ice	30.50	30.50	2.90
						1" Ice			
Miscellaneous [NA 507-1]	C	From Leg	0.00	0.0000	147.00	No Ice	4.80	4.80	0.25
			0.00			1/2"	6.70	6.70	0.29
			-4.00			Ice	8.60	8.60	0.34
						1" Ice			
(2) 2 3/8" OD x 6 ft mount pipe	A	From Leg	4.00	0.0000	147.00	No Ice	1.43	1.43	0.00
			0.00			1/2"	1.92	1.92	0.01
			0.00			Ice	2.29	2.29	0.03
						1" Ice			
(2) 2 3/8" OD x 6 ft mount pipe	B	From Leg	4.00	0.0000	147.00	No Ice	1.43	1.43	0.00
			0.00			1/2"	1.92	1.92	0.01
			0.00			Ice	2.29	2.29	0.03
						1" Ice			
(2) 2 3/8" OD x 6 ft mount pipe	C	From Leg	4.00	0.0000	147.00	No Ice	1.43	1.43	0.00
			0.00			1/2"	1.92	1.92	0.01
			0.00			Ice	2.29	2.29	0.03
						1" Ice			
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ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00	0.0000	135.00	No Ice	6.33	5.64	0.11
			0.00			1/2"	6.78	6.43	0.17
			0.00			Ice	7.21	7.13	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00	0.0000	135.00	No Ice	6.33	5.64	0.11
			0.00			1/2"	6.78	6.43	0.17
			0.00			Ice	7.21	7.13	0.23
						1" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00	0.0000	135.00	No Ice	6.33	5.64	0.11
			0.00			1/2"	6.78	6.43	0.17
			0.00			Ice	7.21	7.13	0.23
						1" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00	0.0000	135.00	No Ice	6.32	5.63	0.11
			0.00			1/2"	6.76	6.42	0.17
			0.00			Ice	7.20	7.12	0.23
						1" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00	0.0000	135.00	No Ice	6.32	5.63	0.11
			0.00			1/2"	6.76	6.42	0.17
			0.00			Ice	7.20	7.12	0.23
						1" Ice			
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00	0.0000	135.00	No Ice	6.32	5.63	0.11
			0.00			1/2"	6.76	6.42	0.17
			0.00			Ice	7.20	7.12	0.23
						1" Ice			
LNX-6515DS-A1M w/ Mount Pipe	A	From Leg	4.00	0.0000	135.00	No Ice	11.68	9.84	0.08
			0.00			1/2"	12.40	11.37	0.17
			0.00			Ice	13.14	12.91	0.27
						1" Ice			
LNX-6515DS-A1M w/ Mount Pipe	B	From Leg	4.00	0.0000	135.00	No Ice	11.68	9.84	0.08
			0.00			1/2"	12.40	11.37	0.17
			0.00			Ice	13.14	12.91	0.27
						1" Ice			
LNX-6515DS-A1M w/ Mount Pipe	C	From Leg	4.00	0.0000	135.00	No Ice	11.68	9.84	0.08
			0.00			1/2"	12.40	11.37	0.17

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
			0.00			Ice	13.14	12.91	0.27
						1" Ice			
ATSBT-TOP-MF-4G	A	From Leg	4.00	0.0000	135.00	No Ice	0.17	0.09	0.00
			0.00			1/2"	0.23	0.14	0.00
			0.00			Ice	0.29	0.19	0.01
						1" Ice			
ATSBT-TOP-MF-4G	B	From Leg	4.00	0.0000	135.00	No Ice	0.17	0.09	0.00
			0.00			1/2"	0.23	0.14	0.00
			0.00			Ice	0.29	0.19	0.01
						1" Ice			
ATSBT-TOP-MF-4G	C	From Leg	4.00	0.0000	135.00	No Ice	0.17	0.09	0.00
			0.00			1/2"	0.23	0.14	0.00
			0.00			Ice	0.29	0.19	0.01
						1" Ice			
T-Arm Mount [TA 602-3]	C	None		0.0000	135.00	No Ice	11.59	11.59	0.77
						1/2"	15.44	15.44	0.99
						Ice	19.29	19.29	1.21
						1" Ice			
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(2) LPA-80080/4CF w/ Mount Pipe	A	From Leg	4.00	0.0000	116.00	No Ice	2.86	6.57	0.03
			0.00			1/2"	3.22	7.19	0.08
			0.00			Ice	3.59	7.84	0.13
						1" Ice			
(2) LPA-80063/6CF w/ Mount Pipe	B	From Leg	4.00	0.0000	116.00	No Ice	9.83	10.22	0.05
			0.00			1/2"	10.40	11.38	0.14
			0.00			Ice	10.93	12.27	0.25
						1" Ice			
(2) APL868013 w/ Mount Pipe	C	From Leg	4.00	0.0000	116.00	No Ice	3.10	4.80	0.02
			0.00			1/2"	3.48	5.42	0.06
			0.00			Ice	3.85	6.04	0.11
						1" Ice			
DB-T1-6Z-8AB-0Z	C	From Leg	4.00	0.0000	116.00	No Ice	4.80	2.00	0.04
			0.00			1/2"	5.07	2.19	0.08
			0.00			Ice	5.35	2.39	0.12
						1" Ice			
(2) ClearGain Dual Band 800/1900 MHz	B	From Leg	4.00	0.0000	116.00	No Ice	1.32	0.69	0.02
			0.00			1/2"	1.47	0.80	0.03
			0.00			Ice	1.62	0.92	0.05
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.0000	116.00	No Ice	8.40	7.07	0.07
			0.00			1/2"	8.96	8.26	0.14
			0.00			Ice	9.49	9.18	0.21
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.0000	116.00	No Ice	8.40	7.07	0.07
			0.00			1/2"	8.96	8.26	0.14
			0.00			Ice	9.49	9.18	0.21
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.0000	116.00	No Ice	8.40	7.07	0.07
			0.00			1/2"	8.96	8.26	0.14
			0.00			Ice	9.49	9.18	0.21
						1" Ice			
HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	4.00	0.0000	116.00	No Ice	8.77	6.96	0.07
			0.00			1/2"	9.34	8.18	0.14
			0.00			Ice	9.89	9.14	0.21
						1" Ice			
HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.00	0.0000	116.00	No Ice	8.77	6.96	0.07
			0.00			1/2"	9.34	8.18	0.14
			0.00			Ice	9.89	9.14	0.21
						1" Ice			
HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.00	0.0000	116.00	No Ice	8.77	6.96	0.07
			0.00			1/2"	9.34	8.18	0.14
			0.00			Ice	9.89	9.14	0.21
						1" Ice			
RRH2X60-PCS	A	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08

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
			0.00			Ice	2.59	2.09	0.10
						1" Ice			
RRH2X60-PCS	B	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			0.00			Ice	2.59	2.09	0.10
						1" Ice			
RRH2X60-PCS	C	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.72	0.06
			0.00			1/2"	2.39	1.90	0.08
			0.00			Ice	2.59	2.09	0.10
						1" Ice			
RRH2x60-700	A	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			0.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2x60-700	B	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			0.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH2x60-700	C	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.82	0.06
			0.00			1/2"	3.76	2.05	0.08
			0.00			Ice	4.03	2.29	0.11
						1" Ice			
RRH4X45-AWS4 B66	A	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.59	0.06
			0.00			1/2"	2.88	1.77	0.08
			0.00			Ice	3.10	1.96	0.11
						1" Ice			
RRH4X45-AWS4 B66	B	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.59	0.06
			0.00			1/2"	2.88	1.77	0.08
			0.00			Ice	3.10	1.96	0.11
						1" Ice			
RRH4X45-AWS4 B66	C	From Leg	4.00	0.0000	116.00	No Ice	0.00	1.59	0.06
			0.00			1/2"	2.88	1.77	0.08
			0.00			Ice	3.10	1.96	0.11
						1" Ice			
DB-T1-6Z-8AB-0Z	C	From Leg	4.00	0.0000	116.00	No Ice	4.80	2.00	0.04
			0.00			1/2"	5.07	2.19	0.08
			0.00			Ice	5.35	2.39	0.12
						1" Ice			
Platform Mount [LP 1201-1]	C	None		0.0000	116.00	No Ice	23.10	23.10	2.10
						1/2"	26.80	26.80	2.50
						Ice	30.50	30.50	2.90
						1" Ice			
***									
(2) 7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	106.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	106.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	106.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
SBNHH-1D65A w/ Mount Pipe	A	From Leg	4.00	0.0000	106.00	No Ice	5.82	5.05	0.06
			0.00			1/2"	6.20	5.72	0.11
			2.00			Ice	6.60	6.38	0.17
						1" Ice			
SBNHH-1D65A w/ Mount Pipe	B	From Leg	4.00	0.0000	106.00	No Ice	5.82	5.05	0.06
			0.00			1/2"	6.20	5.72	0.11
			2.00			Ice	6.60	6.38	0.17
						1" Ice			
SBNHH-1D65A w/ Mount Pipe	C	From Leg	4.00	0.0000	106.00	No Ice	5.82	5.05	0.06
			0.00			1/2"	6.20	5.72	0.11

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
			2.00			Ice	6.60	6.38	0.17
						1" Ice			
RRUS12/RRUS A2	A	From Leg	4.00	0.0000	106.00	No Ice	3.14	1.84	0.07
			0.00			1/2"	3.36	2.01	0.10
			2.00			Ice	3.59	2.20	0.13
						1" Ice			
RRUS12/RRUS A2	B	From Leg	4.00	0.0000	106.00	No Ice	3.14	1.84	0.07
			0.00			1/2"	3.36	2.01	0.10
			2.00			Ice	3.59	2.20	0.13
						1" Ice			
RRUS12/RRUS A2	C	From Leg	4.00	0.0000	106.00	No Ice	3.14	1.84	0.07
			0.00			1/2"	3.36	2.01	0.10
			2.00			Ice	3.59	2.20	0.13
						1" Ice			
(4) LGP2140X	A	From Leg	4.00	0.0000	106.00	No Ice	1.08	0.36	0.01
			0.00			1/2"	1.21	0.45	0.02
			2.00			Ice	1.35	0.56	0.03
						1" Ice			
(4) LGP2140X	B	From Leg	4.00	0.0000	106.00	No Ice	1.08	0.36	0.01
			0.00			1/2"	1.21	0.45	0.02
			2.00			Ice	1.35	0.56	0.03
						1" Ice			
(4) LGP2140X	C	From Leg	4.00	0.0000	106.00	No Ice	1.08	0.36	0.01
			0.00			1/2"	1.21	0.45	0.02
			2.00			Ice	1.35	0.56	0.03
						1" Ice			
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	106.00	No Ice	0.92	0.92	0.02
			0.00			1/2"	1.46	1.46	0.04
			2.00			Ice	1.64	1.64	0.06
						1" Ice			
(2) RRUS-11	A	From Leg	4.00	0.0000	106.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			2.00			Ice	3.21	1.50	0.09
						1" Ice			
(2) RRUS-11	B	From Leg	4.00	0.0000	106.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			2.00			Ice	3.21	1.50	0.09
						1" Ice			
(2) RRUS-11	C	From Leg	4.00	0.0000	106.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			2.00			Ice	3.21	1.50	0.09
						1" Ice			
Platform Mount [LP 1201-1]	C	None		0.0000	106.00	No Ice	23.10	23.10	2.10
						1/2"	26.80	26.80	2.50
						Ice	30.50	30.50	2.90
						1" Ice			
Miscellaneous [NA 507-1]	C	None		0.0000	106.00	No Ice	4.80	4.80	0.25
						1/2"	6.70	6.70	0.29
						Ice	8.60	8.60	0.34
						1" Ice			
Miscellaneous [NA 509-3]	C	None		0.0000	106.00	No Ice	11.84	11.84	0.28
						1/2"	16.96	16.96	0.30
						Ice	22.08	22.08	0.32
						1" Ice			
***									
OG-860/1920/GPS-A	B	From Leg	4.00	0.0000	76.00	No Ice	0.31	0.37	0.00
			0.00			1/2"	0.40	0.46	0.01
			1.00			Ice	0.49	0.55	0.01
						1" Ice			
KS24019-L112A	C	From Leg	4.00	0.0000	76.00	No Ice	0.14	0.14	0.01
			0.00			1/2"	0.20	0.20	0.01
			1.00			Ice	0.26	0.26	0.01
						1" Ice			
Side Arm Mount [SO 701-3]	C	None		0.0000	76.00	No Ice	2.83	2.83	0.20
						1/2"	3.92	3.92	0.24

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
						Ice 1" Ice	5.01	5.01	0.28

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_z	q_z psf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg % 	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1 147.00-142.00	144.48	1.368	33.93	9.488	A	0.000	9.488	9.488	100.00	0.000	0.000
					B	0.000	9.488		100.00	0.000	0.000
					C	0.000	9.488		100.00	0.000	0.420
L2 142.00-137.00	139.48	1.357	33.68	9.848	A	0.000	9.848	9.848	100.00	0.000	0.000
					B	0.000	9.848		100.00	0.000	0.000
					C	0.000	9.848		100.00	0.000	0.420
L3 137.00-132.00	134.49	1.347	33.42	10.207	A	0.000	10.207	10.207	100.00	0.000	0.000
					B	0.000	10.207		100.00	0.000	0.000
					C	0.000	10.207		100.00	0.000	1.023
L4 132.00-127.00	129.49	1.336	33.15	10.567	A	0.000	10.567	10.567	100.00	0.000	0.000
					B	0.000	10.567		100.00	0.000	0.000
					C	0.000	10.567		100.00	0.000	1.425
L5 127.00-122.00	124.49	1.325	32.88	10.927	A	0.000	10.927	10.927	100.00	0.000	0.000
					B	0.000	10.927		100.00	0.000	0.000
					C	0.000	10.927		100.00	0.000	1.425
L6 122.00-117.00	119.49	1.314	32.60	11.286	A	0.000	11.286	11.286	100.00	0.000	0.000
					B	0.000	11.286		100.00	0.000	0.000
					C	0.000	11.286		100.00	0.000	1.425
L7 117.00-112.00	114.49	1.302	32.31	11.646	A	0.000	11.646	11.646	100.00	0.000	0.000
					B	0.000	11.646		100.00	0.000	0.000
					C	0.000	11.646		100.00	0.000	1.425
L8 112.00-105.00	108.48	1.287	31.94	16.909	A	0.000	16.909	16.909	100.00	0.000	0.000
					B	0.000	16.909		100.00	0.000	0.000
					C	0.000	16.909		100.00	0.000	1.995
L9 105.00-103.75	104.37	1.277	31.68	3.041	A	0.000	3.041	3.041	100.00	0.000	0.000
					B	0.000	3.041		100.00	0.000	0.000
					C	0.000	3.041		100.00	0.000	0.356
L10 103.75-98.75	101.24	1.269	31.48	12.388	A	0.000	12.388	12.388	100.00	0.000	0.000
					B	0.000	12.388		100.00	0.000	0.000
					C	0.000	12.388		100.00	0.000	1.425
L11 98.75-93.75	96.24	1.255	31.15	12.747	A	0.000	12.747	12.747	100.00	0.000	0.000
					B	0.000	12.747		100.00	0.000	0.000
					C	0.000	12.747		100.00	0.000	1.425
L12 93.75-89.75	91.74	1.243	30.83	10.457	A	0.000	10.457	10.457	100.00	0.000	0.000
					B	0.000	10.457		100.00	0.000	0.000
					C	0.000	10.457		100.00	0.000	1.401
L13 89.75-89.50	89.62	1.237	30.68	0.661	A	0.000	0.661	0.661	100.00	0.000	0.000
					B	0.000	0.661		100.00	0.000	0.000
					C	0.000	0.661		100.00	0.000	0.158
L14 89.50-88.25	88.87	1.235	30.63	3.319	A	0.000	3.319	3.319	100.00	0.000	0.000
					B	0.000	3.319		100.00	0.000	0.000
					C	0.000	3.319		100.00	0.000	0.791
L15 88.25-88.00	88.12	1.232	30.57	0.667	A	0.000	0.667	0.667	100.00	0.000	0.000
					B	0.000	0.667		100.00	0.000	0.000
					C	0.000	0.667		100.00	0.000	0.158
L16 88.00-86.00	87.00	1.229	30.49	5.365	A	0.000	5.365	5.365	100.00	0.000	0.000
					B	0.000	5.365		100.00	0.000	0.000
					C	0.000	5.365		100.00	0.000	1.266

Section Elevation ft	z ft	K_Z	q_z psf	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
L17 86.00-85.75	85.87	1.226	30.41	0.675	A	0.000	0.675	0.675	100.00	0.000	0.000
					B	0.000	0.675		100.00	0.000	0.000
					C	0.000	0.675		100.00	0.000	0.158
L18 85.75-84.25	85.00	1.223	30.34	4.067	A	0.000	4.067	4.067	100.00	0.000	0.000
					B	0.000	4.067		100.00	0.000	0.000
					C	0.000	4.067		100.00	0.000	0.949
L19 84.25-84.00	84.12	1.22	30.28	0.681	A	0.000	0.681	0.681	100.00	0.000	0.000
					B	0.000	0.681		100.00	0.000	0.000
					C	0.000	0.681		100.00	0.000	0.158
L20 84.00-79.00	81.49	1.212	30.07	13.809	A	0.000	13.809	13.809	100.00	0.000	0.000
					B	0.000	13.809		100.00	0.000	0.000
					C	0.000	13.809		100.00	0.000	3.164
L21 79.00-73.75	76.36	1.196	29.67	14.886	A	0.000	14.886	14.886	100.00	0.000	0.000
					B	0.000	14.886		100.00	0.000	0.000
					C	0.000	14.886		100.00	0.000	3.322
L22 73.75-72.75	73.25	1.185	29.41	2.828	A	0.000	2.828	2.828	100.00	0.000	0.000
					B	0.000	2.828		100.00	0.000	0.000
					C	0.000	2.828		100.00	0.000	0.633
L23 72.75-67.75	70.24	1.175	29.15	14.354	A	0.000	14.354	14.354	100.00	0.000	0.000
					B	0.000	14.354		100.00	0.000	0.000
					C	0.000	14.354		100.00	0.000	3.164
L24 67.75-63.08	65.41	1.157	28.71	13.731	A	0.000	13.731	13.731	100.00	0.000	0.000
					B	0.000	13.731		100.00	0.000	0.000
					C	0.000	13.731		100.00	0.000	3.275
L25 63.08-62.83	62.95	1.148	28.48	0.744	A	0.000	0.744	0.744	100.00	0.000	0.000
					B	0.000	0.744		100.00	0.000	0.000
					C	0.000	0.744		100.00	0.000	0.200
L26 62.83-57.83	60.32	1.138	28.23	15.067	A	0.000	15.067	15.067	100.00	0.000	0.000
					B	0.000	15.067		100.00	0.000	0.000
					C	0.000	15.067		100.00	0.000	3.997
L27 57.83-52.83	55.32	1.117	27.72	15.427	A	0.000	15.427	15.427	100.00	0.000	0.000
					B	0.000	15.427		100.00	0.000	0.000
					C	0.000	15.427		100.00	0.000	3.997
L28 52.83-47.83	50.32	1.095	27.17	15.787	A	0.000	15.787	15.787	100.00	0.000	0.000
					B	0.000	15.787		100.00	0.000	0.000
					C	0.000	15.787		100.00	0.000	3.997
L29 47.83-42.75	45.28	1.071	26.57	16.408	A	0.000	16.408	16.408	100.00	0.000	0.000
					B	0.000	16.408		100.00	0.000	0.000
					C	0.000	16.408		100.00	0.000	4.061
L30 42.75-42.50	42.62	1.058	26.24	0.801	A	0.000	0.801	0.801	100.00	0.000	0.000
					B	0.000	0.801		100.00	0.000	0.000
					C	0.000	0.801		100.00	0.000	0.200
L31 42.50-37.50	39.99	1.044	25.89	16.212	A	0.000	16.212	16.212	100.00	0.000	0.000
					B	0.000	16.212		100.00	0.000	0.000
					C	0.000	16.212		100.00	0.000	3.997
L32 37.50-32.75	35.12	1.015	25.19	15.735	A	0.000	15.735	15.735	100.00	0.000	0.000
					B	0.000	15.735		100.00	0.000	0.000
					C	0.000	15.735		100.00	0.000	3.891
L33 32.75-32.50	32.62	1	24.80	0.837	A	0.000	0.837	0.837	100.00	0.000	0.000
					B	0.000	0.837		100.00	0.000	0.000
					C	0.000	0.837		100.00	0.000	0.210
L34 32.50-27.50	29.99	0.982	24.37	16.932	A	0.000	16.932	16.932	100.00	0.000	0.000
					B	0.000	16.932		100.00	0.000	0.000
					C	0.000	16.932		100.00	0.000	4.206
L35 27.50-22.50	24.99	0.945	23.45	17.291	A	0.000	17.291	17.291	100.00	0.000	0.000
					B	0.000	17.291		100.00	0.000	0.000
					C	0.000	17.291		100.00	0.000	4.206
L36 22.50-17.50	19.99	0.902	22.37	17.651	A	0.000	17.651	17.651	100.00	0.000	0.000
					B	0.000	17.651		100.00	0.000	0.000
					C	0.000	17.651		100.00	0.000	4.206
L37 17.50-12.50	14.99	0.85	21.09	18.011	A	0.000	18.011	18.011	100.00	0.000	0.000
					B	0.000	18.011		100.00	0.000	0.000
					C	0.000	18.011		100.00	0.000	4.206
L38 12.50-8.25	10.37	0.85	21.09	15.592	A	0.000	15.592	15.592	100.00	0.000	0.000
					B	0.000	15.592		100.00	0.000	0.000
					C	0.000	15.592		100.00	0.000	3.575
L39 8.25-8.00	8.12	0.85	21.09	0.925	A	0.000	0.925	0.925	100.00	0.000	0.000
					B	0.000	0.925		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	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	0.925		100.00	0.000	0.210
L40 8.00-6.25	7.12	0.85	21.09	6.502	A	0.000	6.502	6.502	100.00	0.000	0.000
					B	0.000	6.502		100.00	0.000	0.000
					C	0.000	6.502		100.00	0.000	1.472
L41 6.25-6.00	6.12	0.85	21.09	0.932	A	0.000	0.932	0.932	100.00	0.000	0.000
					B	0.000	0.932		100.00	0.000	0.000
					C	0.000	0.932		100.00	0.000	0.210
L42 6.00-3.25	4.62	0.85	21.09	10.317	A	0.000	10.317	10.317	100.00	0.000	0.000
					B	0.000	10.317		100.00	0.000	0.000
					C	0.000	10.317		100.00	0.000	2.313
L43 3.25-3.00	3.12	0.85	21.09	0.943	A	0.000	0.943	0.943	100.00	0.000	0.000
					B	0.000	0.943		100.00	0.000	0.000
					C	0.000	0.943		100.00	0.000	0.210
L44 3.00-0.00	1.50	0.85	21.09	11.389	A	0.000	11.389	11.389	100.00	0.000	0.000
					B	0.000	11.389		100.00	0.000	0.000
					C	0.000	11.389		100.00	0.000	2.523

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	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 147.00-142.00	144.48	1.368	8.31	1.7387	10.937	A	0.000	10.937	10.937	100.00	0.000	0.000
						B	0.000	10.937		100.00	0.000	0.000
						C	0.000	10.937		100.00	0.000	2.159
L2 142.00-137.00	139.48	1.357	8.25	1.7326	11.291	A	0.000	11.291	11.291	100.00	0.000	0.000
						B	0.000	11.291		100.00	0.000	0.000
						C	0.000	11.291		100.00	0.000	2.153
L3 137.00-132.00	134.49	1.347	8.19	1.7263	11.646	A	0.000	11.646	11.646	100.00	0.000	0.000
						B	0.000	11.646		100.00	0.000	0.000
						C	0.000	11.646		100.00	0.000	3.785
L4 132.00-127.00	129.49	1.336	8.13	1.7197	12.000	A	0.000	12.000	12.000	100.00	0.000	0.000
						B	0.000	12.000		100.00	0.000	0.000
						C	0.000	12.000		100.00	0.000	4.864
L5 127.00-122.00	124.49	1.325	8.06	1.7130	12.354	A	0.000	12.354	12.354	100.00	0.000	0.000
						B	0.000	12.354		100.00	0.000	0.000
						C	0.000	12.354		100.00	0.000	4.851
L6 122.00-117.00	119.49	1.314	7.99	1.7060	12.708	A	0.000	12.708	12.708	100.00	0.000	0.000
						B	0.000	12.708		100.00	0.000	0.000
						C	0.000	12.708		100.00	0.000	4.837
L7 117.00-112.00	114.49	1.302	7.92	1.6987	13.062	A	0.000	13.062	13.062	100.00	0.000	0.000
						B	0.000	13.062		100.00	0.000	0.000
						C	0.000	13.062		100.00	0.000	4.822
L8 112.00-105.00	108.48	1.287	7.83	1.6896	18.880	A	0.000	18.880	18.880	100.00	0.000	0.000
						B	0.000	18.880		100.00	0.000	0.000
						C	0.000	18.880		100.00	0.000	6.726
L9 105.00-103.75	104.37	1.277	7.76	1.6831	3.393	A	0.000	3.393	3.393	100.00	0.000	0.000
						B	0.000	3.393		100.00	0.000	0.000
						C	0.000	3.393		100.00	0.000	1.201
L10 103.75-98.75	101.24	1.269	7.71	1.6779	13.786	A	0.000	13.786	13.786	100.00	0.000	0.000
						B	0.000	13.786		100.00	0.000	0.000
						C	0.000	13.786		100.00	0.000	4.781
L11 98.75-93.75	96.24	1.255	7.63	1.6695	14.139	A	0.000	14.139	14.139	100.00	0.000	0.000
						B	0.000	14.139		100.00	0.000	0.000
						C	0.000	14.139		100.00	0.000	4.764
L12 93.75-89.75	91.74	1.243	7.56	1.6615	11.565	A	0.000	11.565	11.565	100.00	0.000	0.000
						B	0.000	11.565		100.00	0.000	0.000
						C	0.000	11.565		100.00	0.000	4.401
L13 89.75-89.50	89.62	1.237	7.52	1.6576	0.730	A	0.000	0.730	0.730	100.00	0.000	0.000
						B	0.000	0.730		100.00	0.000	0.000
						C	0.000	0.730		100.00	0.000	0.438
L14 89.50-	88.87	1.235	7.51	1.6562	3.665	A	0.000	3.665	3.665	100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	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
88.25						B	0.000	3.665		100.00	0.000	0.000
						C	0.000	3.665		100.00	0.000	2.187
L15 88.25-88.00	88.12	1.232	7.49	1.6548	0.736	A	0.000	0.736	0.736	100.00	0.000	0.000
						B	0.000	0.736		100.00	0.000	0.000
						C	0.000	0.736		100.00	0.000	0.437
L16 88.00-86.00	87.00	1.229	7.47	1.6527	5.916	A	0.000	5.916	5.916	100.00	0.000	0.000
						B	0.000	5.916		100.00	0.000	0.000
						C	0.000	5.916		100.00	0.000	3.495
L17 86.00-85.75	85.87	1.226	7.45	1.6505	0.743	A	0.000	0.743	0.743	100.00	0.000	0.000
						B	0.000	0.743		100.00	0.000	0.000
						C	0.000	0.743		100.00	0.000	0.437
L18 85.75-84.25	85.00	1.223	7.44	1.6489	4.479	A	0.000	4.479	4.479	100.00	0.000	0.000
						B	0.000	4.479		100.00	0.000	0.000
						C	0.000	4.479		100.00	0.000	2.618
L19 84.25-84.00	84.12	1.22	7.42	1.6471	0.750	A	0.000	0.750	0.750	100.00	0.000	0.000
						B	0.000	0.750		100.00	0.000	0.000
						C	0.000	0.750		100.00	0.000	0.436
L20 84.00-79.00	81.49	1.212	7.37	1.6419	15.177	A	0.000	15.177	15.177	100.00	0.000	0.000
						B	0.000	15.177		100.00	0.000	0.000
						C	0.000	15.177		100.00	0.000	8.705
L21 79.00-73.75	76.36	1.196	7.27	1.6313	16.314	A	0.000	16.314	16.314	100.00	0.000	0.000
						B	0.000	16.314		100.00	0.000	0.000
						C	0.000	16.314		100.00	0.000	9.105
L22 73.75-72.75	73.25	1.185	7.21	1.6245	3.099	A	0.000	3.099	3.099	100.00	0.000	0.000
						B	0.000	3.099		100.00	0.000	0.000
						C	0.000	3.099		100.00	0.000	1.734
L23 72.75-67.75	70.24	1.175	7.14	1.6177	15.702	A	0.000	15.702	15.702	100.00	0.000	0.000
						B	0.000	15.702		100.00	0.000	0.000
						C	0.000	15.702		100.00	0.000	8.629
L24 67.75-63.08	65.41	1.157	7.04	1.6062	14.981	A	0.000	14.981	14.981	100.00	0.000	0.000
						B	0.000	14.981		100.00	0.000	0.000
						C	0.000	14.981		100.00	0.000	9.032
L25 63.08-62.83	62.95	1.148	6.98	1.6001	0.811	A	0.000	0.811	0.811	100.00	0.000	0.000
						B	0.000	0.811		100.00	0.000	0.000
						C	0.000	0.811		100.00	0.000	0.559
L26 62.83-57.83	60.32	1.138	6.92	1.5933	16.395	A	0.000	16.395	16.395	100.00	0.000	0.000
						B	0.000	16.395		100.00	0.000	0.000
						C	0.000	16.395		100.00	0.000	11.157
L27 57.83-52.83	55.32	1.117	6.79	1.5795	16.743	A	0.000	16.743	16.743	100.00	0.000	0.000
						B	0.000	16.743		100.00	0.000	0.000
						C	0.000	16.743		100.00	0.000	11.099
L28 52.83-47.83	50.32	1.095	6.66	1.5646	17.090	A	0.000	17.090	17.090	100.00	0.000	0.000
						B	0.000	17.090		100.00	0.000	0.000
						C	0.000	17.090		100.00	0.000	11.036
L29 47.83-42.75	45.28	1.071	6.51	1.5482	17.718	A	0.000	17.718	17.718	100.00	0.000	0.000
						B	0.000	17.718		100.00	0.000	0.000
						C	0.000	17.718		100.00	0.000	11.142
L30 42.75-42.50	42.62	1.058	6.43	1.5389	0.866	A	0.000	0.866	0.866	100.00	0.000	0.000
						B	0.000	0.866		100.00	0.000	0.000
						C	0.000	0.866		100.00	0.000	0.548
L31 42.50-37.50	39.99	1.044	6.34	1.5291	17.487	A	0.000	17.487	17.487	100.00	0.000	0.000
						B	0.000	17.487		100.00	0.000	0.000
						C	0.000	17.487		100.00	0.000	10.886
L32 37.50-32.75	35.12	1.015	6.17	1.5094	16.930	A	0.000	16.930	16.930	100.00	0.000	0.000
						B	0.000	16.930		100.00	0.000	0.000
						C	0.000	16.930		100.00	0.000	10.356
L33 32.75-32.50	32.62	1	6.08	1.4983	0.900	A	0.000	0.900	0.900	100.00	0.000	0.000
						B	0.000	0.900		100.00	0.000	0.000
						C	0.000	0.900		100.00	0.000	0.548
L34 32.50-27.50	29.99	0.982	5.97	1.4857	18.170	A	0.000	18.170	18.170	100.00	0.000	0.000
						B	0.000	18.170		100.00	0.000	0.000
						C	0.000	18.170		100.00	0.000	10.911
L35 27.50-22.50	24.99	0.945	5.75	1.4589	18.507	A	0.000	18.507	18.507	100.00	0.000	0.000
						B	0.000	18.507		100.00	0.000	0.000
						C	0.000	18.507		100.00	0.000	10.798
L36 22.50-17.50	19.99	0.902	5.48	1.4267	18.840	A	0.000	18.840	18.840	100.00	0.000	0.000
						B	0.000	18.840		100.00	0.000	0.000
						C	0.000	18.840		100.00	0.000	10.662

Section Elevation ft	z ft	K_z	q_z psf	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
L37 17.50-12.50	14.99	0.85	5.17	1.3862	19.166	A	0.000	19.166	19.166	100.00	0.000	0.000
						B	0.000	19.166		100.00	0.000	0.000
						C	0.000	19.166		100.00	0.000	10.491
L38 12.50-8.25	10.37	0.85	5.17	1.3360	16.538	A	0.000	16.538	16.538	100.00	0.000	0.000
						B	0.000	16.538		100.00	0.000	0.000
						C	0.000	16.538		100.00	0.000	8.737
L39 8.25-8.00	8.12	0.85	5.17	1.3038	0.980	A	0.000	0.980	0.980	100.00	0.000	0.000
						B	0.000	0.980		100.00	0.000	0.000
						C	0.000	0.980		100.00	0.000	0.507
L40 8.00-6.25	7.12	0.85	5.17	1.2868	6.877	A	0.000	6.877	6.877	100.00	0.000	0.000
						B	0.000	6.877		100.00	0.000	0.000
						C	0.000	6.877		100.00	0.000	3.525
L41 6.25-6.00	6.12	0.85	5.17	1.2675	0.985	A	0.000	0.985	0.985	100.00	0.000	0.000
						B	0.000	0.985		100.00	0.000	0.000
						C	0.000	0.985		100.00	0.000	0.500
L42 6.00-3.25	4.62	0.85	5.17	1.2323	10.881	A	0.000	10.881	10.881	100.00	0.000	0.000
						B	0.000	10.881		100.00	0.000	0.000
						C	0.000	10.881		100.00	0.000	5.413
L43 3.25-3.00	3.12	0.85	5.17	1.1850	0.993	A	0.000	0.993	0.993	100.00	0.000	0.000
						B	0.000	0.993		100.00	0.000	0.000
						C	0.000	0.993		100.00	0.000	0.482
L44 3.00-0.00	1.50	0.85	5.17	1.1009	11.940	A	0.000	11.940	11.940	100.00	0.000	0.000
						B	0.000	11.940		100.00	0.000	0.000
						C	0.000	11.940		100.00	0.000	5.572

Tower Pressure - Service

$G_H = 1.100$

Section Elevation ft	z ft	K_z	q_z psf	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 147.00-142.00	144.48	1.368	10.71	9.488	A	0.000	9.488	9.488	100.00	0.000	0.000
					B	0.000	9.488		100.00	0.000	0.000
					C	0.000	9.488		100.00	0.000	0.420
L2 142.00-137.00	139.48	1.357	10.63	9.848	A	0.000	9.848	9.848	100.00	0.000	0.000
					B	0.000	9.848		100.00	0.000	0.000
					C	0.000	9.848		100.00	0.000	0.420
L3 137.00-132.00	134.49	1.347	10.55	10.207	A	0.000	10.207	10.207	100.00	0.000	0.000
					B	0.000	10.207		100.00	0.000	0.000
					C	0.000	10.207		100.00	0.000	1.023
L4 132.00-127.00	129.49	1.336	10.47	10.567	A	0.000	10.567	10.567	100.00	0.000	0.000
					B	0.000	10.567		100.00	0.000	0.000
					C	0.000	10.567		100.00	0.000	1.425
L5 127.00-122.00	124.49	1.325	10.38	10.927	A	0.000	10.927	10.927	100.00	0.000	0.000
					B	0.000	10.927		100.00	0.000	0.000
					C	0.000	10.927		100.00	0.000	1.425
L6 122.00-117.00	119.49	1.314	10.29	11.286	A	0.000	11.286	11.286	100.00	0.000	0.000
					B	0.000	11.286		100.00	0.000	0.000
					C	0.000	11.286		100.00	0.000	1.425
L7 117.00-112.00	114.49	1.302	10.20	11.646	A	0.000	11.646	11.646	100.00	0.000	0.000
					B	0.000	11.646		100.00	0.000	0.000
					C	0.000	11.646		100.00	0.000	1.425
L8 112.00-105.00	108.48	1.287	10.09	16.909	A	0.000	16.909	16.909	100.00	0.000	0.000
					B	0.000	16.909		100.00	0.000	0.000
					C	0.000	16.909		100.00	0.000	1.995
L9 105.00-103.75	104.37	1.277	10.00	3.041	A	0.000	3.041	3.041	100.00	0.000	0.000
					B	0.000	3.041		100.00	0.000	0.000
					C	0.000	3.041		100.00	0.000	0.356
L10 103.75-98.75	101.24	1.269	9.94	12.388	A	0.000	12.388	12.388	100.00	0.000	0.000
					B	0.000	12.388		100.00	0.000	0.000
					C	0.000	12.388		100.00	0.000	1.425

Section Elevation ft	z ft	K_Z	q_z psf	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
L11 98.75-93.75	96.24	1.255	9.83	12.747	A	0.000	12.747	12.747	100.00	0.000	0.000
					B	0.000	12.747		100.00	0.000	0.000
					C	0.000	12.747		100.00	0.000	1.425
L12 93.75-89.75	91.74	1.243	9.74	10.457	A	0.000	10.457	10.457	100.00	0.000	0.000
					B	0.000	10.457		100.00	0.000	0.000
					C	0.000	10.457		100.00	0.000	1.401
L13 89.75-89.50	89.62	1.237	9.69	0.661	A	0.000	0.661	0.661	100.00	0.000	0.000
					B	0.000	0.661		100.00	0.000	0.000
					C	0.000	0.661		100.00	0.000	0.158
L14 89.50-88.25	88.87	1.235	9.67	3.319	A	0.000	3.319	3.319	100.00	0.000	0.000
					B	0.000	3.319		100.00	0.000	0.000
					C	0.000	3.319		100.00	0.000	0.791
L15 88.25-88.00	88.12	1.232	9.65	0.667	A	0.000	0.667	0.667	100.00	0.000	0.000
					B	0.000	0.667		100.00	0.000	0.000
					C	0.000	0.667		100.00	0.000	0.158
L16 88.00-86.00	87.00	1.229	9.63	5.365	A	0.000	5.365	5.365	100.00	0.000	0.000
					B	0.000	5.365		100.00	0.000	0.000
					C	0.000	5.365		100.00	0.000	1.266
L17 86.00-85.75	85.87	1.226	9.60	0.675	A	0.000	0.675	0.675	100.00	0.000	0.000
					B	0.000	0.675		100.00	0.000	0.000
					C	0.000	0.675		100.00	0.000	0.158
L18 85.75-84.25	85.00	1.223	9.58	4.067	A	0.000	4.067	4.067	100.00	0.000	0.000
					B	0.000	4.067		100.00	0.000	0.000
					C	0.000	4.067		100.00	0.000	0.949
L19 84.25-84.00	84.12	1.22	9.56	0.681	A	0.000	0.681	0.681	100.00	0.000	0.000
					B	0.000	0.681		100.00	0.000	0.000
					C	0.000	0.681		100.00	0.000	0.158
L20 84.00-79.00	81.49	1.212	9.50	13.809	A	0.000	13.809	13.809	100.00	0.000	0.000
					B	0.000	13.809		100.00	0.000	0.000
					C	0.000	13.809		100.00	0.000	3.164
L21 79.00-73.75	76.36	1.196	9.37	14.886	A	0.000	14.886	14.886	100.00	0.000	0.000
					B	0.000	14.886		100.00	0.000	0.000
					C	0.000	14.886		100.00	0.000	3.322
L22 73.75-72.75	73.25	1.185	9.29	2.828	A	0.000	2.828	2.828	100.00	0.000	0.000
					B	0.000	2.828		100.00	0.000	0.000
					C	0.000	2.828		100.00	0.000	0.633
L23 72.75-67.75	70.24	1.175	9.20	14.354	A	0.000	14.354	14.354	100.00	0.000	0.000
					B	0.000	14.354		100.00	0.000	0.000
					C	0.000	14.354		100.00	0.000	3.164
L24 67.75-63.08	65.41	1.157	9.07	13.731	A	0.000	13.731	13.731	100.00	0.000	0.000
					B	0.000	13.731		100.00	0.000	0.000
					C	0.000	13.731		100.00	0.000	3.275
L25 63.08-62.83	62.95	1.148	8.99	0.744	A	0.000	0.744	0.744	100.00	0.000	0.000
					B	0.000	0.744		100.00	0.000	0.000
					C	0.000	0.744		100.00	0.000	0.200
L26 62.83-57.83	60.32	1.138	8.91	15.067	A	0.000	15.067	15.067	100.00	0.000	0.000
					B	0.000	15.067		100.00	0.000	0.000
					C	0.000	15.067		100.00	0.000	3.997
L27 57.83-52.83	55.32	1.117	8.75	15.427	A	0.000	15.427	15.427	100.00	0.000	0.000
					B	0.000	15.427		100.00	0.000	0.000
					C	0.000	15.427		100.00	0.000	3.997
L28 52.83-47.83	50.32	1.095	8.58	15.787	A	0.000	15.787	15.787	100.00	0.000	0.000
					B	0.000	15.787		100.00	0.000	0.000
					C	0.000	15.787		100.00	0.000	3.997
L29 47.83-42.75	45.28	1.071	8.39	16.408	A	0.000	16.408	16.408	100.00	0.000	0.000
					B	0.000	16.408		100.00	0.000	0.000
					C	0.000	16.408		100.00	0.000	4.061
L30 42.75-42.50	42.62	1.058	8.29	0.801	A	0.000	0.801	0.801	100.00	0.000	0.000
					B	0.000	0.801		100.00	0.000	0.000
					C	0.000	0.801		100.00	0.000	0.200
L31 42.50-37.50	39.99	1.044	8.17	16.212	A	0.000	16.212	16.212	100.00	0.000	0.000
					B	0.000	16.212		100.00	0.000	0.000
					C	0.000	16.212		100.00	0.000	3.997
L32 37.50-32.75	35.12	1.015	7.95	15.735	A	0.000	15.735	15.735	100.00	0.000	0.000
					B	0.000	15.735		100.00	0.000	0.000
					C	0.000	15.735		100.00	0.000	3.891
L33 32.75-32.50	32.62	1	7.83	0.837	A	0.000	0.837	0.837	100.00	0.000	0.000
					B	0.000	0.837		100.00	0.000	0.000

Section Elevation ft	z ft	K_Z	q_z psf	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	0.837		100.00	0.000	0.210
L34 32.50-27.50	29.99	0.982	7.69	16.932	A	0.000	16.932	16.932	100.00	0.000	0.000
					B	0.000	16.932		100.00	0.000	0.000
					C	0.000	16.932		100.00	0.000	4.206
L35 27.50-22.50	24.99	0.945	7.40	17.291	A	0.000	17.291	17.291	100.00	0.000	0.000
					B	0.000	17.291		100.00	0.000	0.000
					C	0.000	17.291		100.00	0.000	4.206
L36 22.50-17.50	19.99	0.902	7.06	17.651	A	0.000	17.651	17.651	100.00	0.000	0.000
					B	0.000	17.651		100.00	0.000	0.000
					C	0.000	17.651		100.00	0.000	4.206
L37 17.50-12.50	14.99	0.85	6.66	18.011	A	0.000	18.011	18.011	100.00	0.000	0.000
					B	0.000	18.011		100.00	0.000	0.000
					C	0.000	18.011		100.00	0.000	4.206
L38 12.50-8.25	10.37	0.85	6.66	15.592	A	0.000	15.592	15.592	100.00	0.000	0.000
					B	0.000	15.592		100.00	0.000	0.000
					C	0.000	15.592		100.00	0.000	3.575
L39 8.25-8.00	8.12	0.85	6.66	0.925	A	0.000	0.925	0.925	100.00	0.000	0.000
					B	0.000	0.925		100.00	0.000	0.000
					C	0.000	0.925		100.00	0.000	0.210
L40 8.00-6.25	7.12	0.85	6.66	6.502	A	0.000	6.502	6.502	100.00	0.000	0.000
					B	0.000	6.502		100.00	0.000	0.000
					C	0.000	6.502		100.00	0.000	1.472
L41 6.25-6.00	6.12	0.85	6.66	0.932	A	0.000	0.932	0.932	100.00	0.000	0.000
					B	0.000	0.932		100.00	0.000	0.000
					C	0.000	0.932		100.00	0.000	0.210
L42 6.00-3.25	4.62	0.85	6.66	10.317	A	0.000	10.317	10.317	100.00	0.000	0.000
					B	0.000	10.317		100.00	0.000	0.000
					C	0.000	10.317		100.00	0.000	2.313
L43 3.25-3.00	3.12	0.85	6.66	0.943	A	0.000	0.943	0.943	100.00	0.000	0.000
					B	0.000	0.943		100.00	0.000	0.000
					C	0.000	0.943		100.00	0.000	0.210
L44 3.00-0.00	1.50	0.85	6.66	11.389	A	0.000	11.389	11.389	100.00	0.000	0.000
					B	0.000	11.389		100.00	0.000	0.000
					C	0.000	11.389		100.00	0.000	2.523

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp

Comb. No.	Description
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	147 - 142	Pole	Max Tension	26	0.00	-0.00	0.00
			Max. Compression	26	-9.24	0.41	-0.24
			Max. Mx	20	-3.80	29.62	-0.13
			Max. My	14	-3.80	0.21	-29.50
			Max. Vy	20	-6.32	29.62	-0.13
			Max. Vx	14	6.32	0.21	-29.50
			Max. Torque	24			0.31
L2	142 - 137	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-9.93	0.45	-0.28
			Max. Mx	20	-4.15	62.34	-0.14
			Max. My	14	-4.16	0.21	-62.20
			Max. Vy	20	-6.77	62.34	-0.14
			Max. Vx	14	6.76	0.21	-62.20
			Max. Torque	24			0.34
L3	137 - 132	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-16.08	0.63	-0.40
			Max. Mx	20	-6.11	109.72	-0.16
			Max. My	14	-6.12	0.23	-109.54
			Max. Vy	20	-11.36	109.72	-0.16
			Max. Vx	14	11.36	0.23	-109.54
			Max. Torque	24			0.40
L4	132 - 127	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.09	0.92	-0.58
			Max. Mx	20	-6.54	167.88	-0.18
			Max. My	14	-6.55	0.25	-167.65
			Max. Vy	20	-11.89	167.88	-0.18
			Max. Vx	14	11.89	0.25	-167.65
			Max. Torque	24			0.48
L5	127 - 122	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.12	1.22	-0.78
			Max. Mx	20	-6.98	228.69	-0.21
			Max. My	14	-7.00	0.27	-228.42
			Max. Vy	20	-12.43	228.69	-0.21
			Max. Vx	14	12.42	0.27	-228.42
			Max. Torque	24			0.57
L6	122 - 117	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.17	1.53	-0.97

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-7.45	292.15	-0.23
			Max. My	14	-7.47	0.29	-291.83
			Max. Vy	20	-12.96	292.15	-0.23
			Max. Vx	14	12.95	0.29	-291.83
			Max. Torque	24			0.66
L7	117 - 112	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.97	0.86	-3.39
			Max. Mx	20	-11.57	388.74	-0.72
			Max. My	14	-11.63	0.51	-387.30
			Max. Vy	20	-21.13	388.74	-0.72
			Max. Vx	14	20.72	0.51	-387.30
			Max. Torque	6			-1.79
L8	112 - 105	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	1.08	-3.53
			Max. Mx	20	-11.96	457.95	-0.86
			Max. My	14	-12.02	0.64	-455.16
			Max. Vy	20	-21.46	457.95	-0.86
			Max. Vx	14	21.05	0.64	-455.16
			Max. Torque	6			-1.79
L9	105 - 103.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.79	1.42	-3.27
			Max. Mx	20	-17.05	586.98	-0.96
			Max. My	14	-17.12	0.84	-581.98
			Max. Vy	20	-28.04	586.98	-0.96
			Max. Vx	14	27.62	0.84	-581.98
			Max. Torque	6			-1.61
L10	103.75 - 98.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.11	1.77	-3.50
			Max. Mx	20	-17.90	728.39	-1.16
			Max. My	14	-17.96	1.04	-721.30
			Max. Vy	20	-28.53	728.39	-1.16
			Max. Vx	14	28.12	1.04	-721.30
			Max. Torque	6			-1.61
L11	98.75 - 93.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.46	2.12	-3.73
			Max. Mx	20	-18.77	872.24	-1.37
			Max. My	14	-18.83	1.25	-863.05
			Max. Vy	20	-29.02	872.24	-1.37
			Max. Vx	14	28.60	1.25	-863.05
			Max. Torque	6			-1.61
L12	93.75 - 89.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.55	2.41	-3.91
			Max. Mx	20	-19.50	989.10	-1.53
			Max. My	14	-19.56	1.41	-978.24
			Max. Vy	20	-29.42	989.10	-1.53
			Max. Vx	14	29.01	1.41	-978.24
			Max. Torque	6			-1.60
L13	89.75 - 89.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.62	2.43	-3.92
			Max. Mx	20	-19.57	996.46	-1.54
			Max. My	14	-19.62	1.42	-985.49
			Max. Vy	20	-29.45	996.46	-1.54
			Max. Vx	14	29.04	1.42	-985.49
			Max. Torque	6			-1.60
L14	89.5 - 88.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.99	2.52	-3.98
			Max. Mx	20	-19.81	1033.39	-1.59
			Max. My	14	-19.86	1.47	-1021.89
			Max. Vy	20	-29.64	1033.39	-1.59
			Max. Vx	14	29.22	1.47	-1021.89
			Max. Torque	6			-1.60
L15	88.25 - 88	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.08	2.54	-3.99
			Max. Mx	20	-19.89	1040.80	-1.60
			Max. My	14	-19.94	1.48	-1029.20
			Max. Vy	20	-29.67	1040.80	-1.60

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	29.25	1.48	-1029.20
			Max. Torque	6			-1.60
L16	88 - 86	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.77	2.68	-4.08
			Max. Mx	20	-20.36	1100.44	-1.68
			Max. My	14	-20.41	1.56	-1088.00
			Max. Vy	20	-29.98	1100.44	-1.68
			Max. Vx	14	29.56	1.56	-1088.00
			Max. Torque	6			-1.60
L17	86 - 85.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.86	2.70	-4.10
			Max. Mx	20	-20.43	1107.94	-1.69
			Max. My	14	-20.49	1.57	-1095.40
			Max. Vy	20	-30.01	1107.94	-1.69
			Max. Vx	14	29.60	1.57	-1095.40
			Max. Torque	6			-1.60
L18	85.75 - 84.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.42	2.81	-4.16
			Max. Mx	20	-20.82	1153.13	-1.75
			Max. My	14	-20.87	1.63	-1139.96
			Max. Vy	20	-30.25	1153.13	-1.75
			Max. Vx	14	29.83	1.63	-1139.96
			Max. Torque	20			1.61
L19	84.25 - 84	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.51	2.83	-4.18
			Max. Mx	20	-20.89	1160.70	-1.76
			Max. My	14	-20.94	1.64	-1147.42
			Max. Vy	20	-30.28	1160.70	-1.76
			Max. Vx	14	29.87	1.64	-1147.42
			Max. Torque	20			1.62
L20	84 - 79	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.25	3.19	-4.40
			Max. Mx	20	-22.13	1313.95	-1.96
			Max. My	14	-22.18	1.84	-1298.58
			Max. Vy	20	-31.03	1313.95	-1.96
			Max. Vx	14	30.61	1.84	-1298.58
			Max. Torque	20			1.73
L21	79 - 73.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.61	3.27	-4.45
			Max. Mx	20	-22.38	1345.04	-2.00
			Max. My	14	-22.43	1.88	-1329.25
			Max. Vy	20	-31.17	1345.04	-2.00
			Max. Vx	14	30.75	1.88	-1329.25
			Max. Torque	20			1.75
L22	73.75 - 72.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.17	3.64	-4.79
			Max. Mx	20	-24.88	1511.63	-2.23
			Max. My	14	-24.92	2.12	-1493.64
			Max. Vy	20	-32.22	1511.63	-2.23
			Max. Vx	14	31.81	2.12	-1493.64
			Max. Torque	8			-1.93
L23	72.75 - 67.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.08	4.01	-5.02
			Max. Mx	20	-26.29	1674.50	-2.44
			Max. My	14	-26.33	2.33	-1654.42
			Max. Vy	20	-32.94	1674.50	-2.44
			Max. Vx	14	32.52	2.33	-1654.42
			Max. Torque	8			-2.04
L24	67.75 - 63.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.89	4.37	-5.23
			Max. Mx	20	-27.64	1829.89	-2.63
			Max. My	14	-27.68	2.53	-1807.86
			Max. Vy	20	-33.63	1829.89	-2.63
			Max. Vx	14	33.22	2.53	-1807.86
			Max. Torque	8			-2.16

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L25	63.08 - 62.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.01	4.39	-5.25
			Max. Mx	20	-27.75	1838.31	-2.64
			Max. My	14	-27.79	2.54	-1816.17
			Max. Vy	20	-33.67	1838.31	-2.64
			Max. Vx	14	33.26	2.54	-1816.17
			Max. Torque	8			-2.17
L26	62.83 - 57.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.33	4.76	-5.48
			Max. Mx	20	-29.53	2009.33	-2.84
			Max. My	14	-29.57	2.75	-1985.11
			Max. Vy	20	-34.74	2009.33	-2.84
			Max. Vx	14	34.33	2.75	-1985.11
			Max. Torque	22			2.34
L27	57.83 - 52.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.67	5.15	-5.71
			Max. Mx	20	-31.36	2185.64	-3.04
			Max. My	14	-31.39	2.96	-2159.33
			Max. Vy	20	-35.79	2185.64	-3.04
			Max. Vx	14	35.38	2.96	-2159.33
			Max. Torque	22			2.60
L28	52.83 - 47.83	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.04	5.53	-5.94
			Max. Mx	20	-33.22	2367.14	-3.25
			Max. My	14	-33.25	3.18	-2338.74
			Max. Vy	20	-36.82	2367.14	-3.25
			Max. Vx	14	36.41	3.18	-2338.74
			Max. Torque	22			2.85
L29	47.83 - 42.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.20	5.56	-5.96
			Max. Mx	20	-33.35	2379.30	-3.26
			Max. My	14	-33.38	3.19	-2350.77
			Max. Vy	20	-36.88	2379.30	-3.26
			Max. Vx	14	36.47	3.19	-2350.77
			Max. Torque	22			2.87
L30	42.75 - 42.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-69.63	5.94	-6.19
			Max. Mx	20	-36.86	2566.59	-3.46
			Max. My	14	-36.89	3.41	-2535.97
			Max. Vy	20	-38.02	2566.59	-3.46
			Max. Vx	14	37.61	3.41	-2535.97
			Max. Torque	22			3.13
L31	42.5 - 37.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-72.17	6.31	-6.40
			Max. Mx	20	-38.90	2759.13	-3.67
			Max. My	14	-38.93	3.62	-2726.43
			Max. Vy	20	-39.00	2759.13	-3.67
			Max. Vx	14	38.59	3.62	-2726.43
			Max. Torque	22			3.38
L32	37.5 - 32.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.60	6.65	-6.60
			Max. Mx	20	-40.89	2946.50	-3.86
			Max. My	14	-40.91	3.82	-2911.82
			Max. Vy	20	-39.91	2946.50	-3.86
			Max. Vx	14	39.50	3.82	-2911.82
			Max. Torque	22			3.62
L33	32.75 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-74.74	6.67	-6.61
			Max. Mx	20	-41.01	2956.48	-3.87
			Max. My	14	-41.04	3.83	-2921.70
			Max. Vy	20	-39.95	2956.48	-3.87
			Max. Vx	14	39.54	3.83	-2921.70
			Max. Torque	22			3.63
L34	32.5 - 27.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-77.45	7.02	-6.82
			Max. Mx	20	-43.24	3158.54	-4.07
			Max. My	14	-43.26	4.05	-3121.69
			Max. Vy	20	-40.89	3158.54	-4.07
			Max. Vx	14	40.48	4.05	-3121.69
			Max. Torque	22			3.89
L35	27.5 - 22.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.18	7.38	-7.02
			Max. Mx	20	-45.52	3365.17	-4.27
			Max. My	14	-45.54	4.26	-3326.24
			Max. Vy	20	-41.78	3365.17	-4.27
			Max. Vx	14	41.37	4.26	-3326.24
			Max. Torque	22			4.15
L36	22.5 - 17.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.93	7.74	-7.23
			Max. Mx	20	-47.84	3575.51	-4.47
			Max. My	14	-47.85	4.47	-3534.53
			Max. Vy	20	-42.38	3575.51	-4.47
			Max. Vx	14	41.97	4.47	-3534.53
			Max. Torque	22			4.39
L37	17.5 - 12.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.69	8.09	-7.43
			Max. Mx	20	-50.19	3788.68	-4.66
			Max. My	14	-50.20	4.69	-3745.65
			Max. Vy	20	-42.92	3788.68	-4.66
			Max. Vx	14	42.51	4.69	-3745.65
			Max. Torque	22			4.63
L38	12.5 - 8.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.03	8.37	-7.60
			Max. Mx	20	-52.21	3971.96	-4.83
			Max. My	14	-52.22	4.87	-3927.20
			Max. Vy	20	-43.36	3971.96	-4.83
			Max. Vx	14	42.96	4.87	-3927.20
			Max. Torque	22			4.84
L39	8.25 - 8	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.18	8.39	-7.61
			Max. Mx	20	-52.36	3982.80	-4.84
			Max. My	14	-52.36	4.88	-3937.94
			Max. Vy	20	-43.37	3982.80	-4.84
			Max. Vx	14	42.97	4.88	-3937.94
			Max. Torque	22			4.85
L40	8 - 6.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.23	8.51	-7.67
			Max. Mx	20	-53.25	4058.87	-4.91
			Max. My	14	-53.25	4.96	-4013.29
			Max. Vy	20	-43.59	4058.87	-4.91
			Max. Vx	14	43.18	4.96	-4013.29
			Max. Torque	22			4.94
L41	6.25 - 6	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.38	8.52	-7.68
			Max. Mx	20	-53.40	4069.76	-4.92
			Max. My	14	-53.40	4.97	-4024.09
			Max. Vy	20	-43.58	4069.76	-4.92
			Max. Vx	14	43.18	4.97	-4024.09
			Max. Torque	22			4.95
L42	6 - 3.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.95	8.69	-7.78
			Max. Mx	20	-54.77	4190.02	-5.03
			Max. My	14	-54.77	5.08	-4143.22
			Max. Vy	20	-43.89	4190.02	-5.03
			Max. Vx	14	43.49	5.08	-4143.22
			Max. Torque	22			5.09
L43	3.25 - 3	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91.09	8.71	-7.79
			Max. Mx	20	-54.91	4200.99	-5.03
			Max. My	14	-54.91	5.09	-4154.09
			Max. Vy	20	-43.89	4200.99	-5.03
			Max. Vx	14	43.49	5.09	-4154.09
			Max. Torque	22			5.10

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L44	3 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-92.75	8.87	-7.88
			Max. Mx	20	-56.39	4333.13	-5.15
			Max. My	14	-56.39	5.22	-4285.02
			Max. Vy	20	-44.21	4333.13	-5.15
			Max. Vx	14	43.81	5.22	-4285.02
			Max. Torque	22			5.25

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147 - 142	21.020	48	1.2618	0.0020
L2	142 - 137	19.701	48	1.2581	0.0020
L3	137 - 132	18.388	48	1.2475	0.0020
L4	132 - 127	17.090	48	1.2304	0.0020
L5	127 - 122	15.814	48	1.2048	0.0020
L6	122 - 117	14.570	48	1.1718	0.0021
L7	117 - 112	13.363	48	1.1325	0.0021
L8	112 - 105	12.200	48	1.0863	0.0018
L9	108.75 - 103.75	11.472	48	1.0513	0.0016
L10	103.75 - 98.75	10.386	48	1.0169	0.0015
L11	98.75 - 93.75	9.352	48	0.9567	0.0013
L12	93.75 - 89.75	8.385	48	0.8895	0.0011
L13	89.75 - 89.5	7.664	48	0.8315	0.0009
L14	89.5 - 88.25	7.621	48	0.8279	0.0009
L15	88.25 - 88	7.406	48	0.8096	0.0009
L16	88 - 86	7.364	48	0.8072	0.0009
L17	86 - 85.75	7.030	48	0.7881	0.0008
L18	85.75 - 84.25	6.989	48	0.7856	0.0008
L19	84.25 - 84	6.744	48	0.7711	0.0008
L20	84 - 79	6.704	48	0.7685	0.0008
L21	79 - 73.75	5.928	48	0.7126	0.0007
L22	78 - 72.75	5.780	48	0.7011	0.0007
L23	72.75 - 67.75	5.025	48	0.6675	0.0006
L24	67.75 - 63.08	4.354	48	0.6144	0.0005
L25	63.08 - 62.83	3.778	48	0.5626	0.0005
L26	62.83 - 57.83	3.749	48	0.5605	0.0005
L27	57.83 - 52.83	3.186	48	0.5155	0.0004
L28	52.83 - 47.83	2.670	48	0.4692	0.0004
L29	47.83 - 42.75	2.203	48	0.4223	0.0003
L30	47.5 - 42.5	2.174	48	0.4191	0.0003
L31	42.5 - 37.5	1.747	48	0.3943	0.0003
L32	37.5 - 32.75	1.359	48	0.3470	0.0002
L33	32.75 - 32.5	1.036	48	0.3019	0.0002
L34	32.5 - 27.5	1.021	48	0.2996	0.0002
L35	27.5 - 22.5	0.731	48	0.2542	0.0002
L36	22.5 - 17.5	0.489	48	0.2080	0.0001
L37	17.5 - 12.5	0.295	48	0.1619	0.0001
L38	12.5 - 8.25	0.150	48	0.1151	0.0001
L39	8.25 - 8	0.065	48	0.0749	0.0000
L40	8 - 6.25	0.062	48	0.0727	0.0000
L41	6.25 - 6	0.038	48	0.0573	0.0000
L42	6 - 3.25	0.035	48	0.0551	0.0000
L43	3.25 - 3	0.010	48	0.0300	0.0000
L44	3 - 0	0.009	48	0.0277	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.00	APXVSPP18-C-A20 w/ Mount	48	21.020	1.2618	0.0020	39504

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
135.00	Pipe ERICSSON AIR 21 B2A B4P w/ Mount Pipe	48	17.867	1.2415	0.0020	17262
116.00	(2) LPA-80080/4CF w/ Mount Pipe	48	13.126	1.1242	0.0021	6425
106.00	(2) 7770.00 w/ Mount Pipe	48	10.870	1.0325	0.0015	6710
76.00	OG-860/1920/GPS-A	48	5.488	0.6856	0.0006	7525

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	147 - 142	106.947	20	6.4244	0.0123
L2	142 - 137	100.239	20	6.4063	0.0120
L3	137 - 132	93.569	20	6.3534	0.0118
L4	132 - 127	86.971	20	6.2669	0.0116
L5	127 - 122	80.485	20	6.1372	0.0113
L6	122 - 117	74.155	20	5.9695	0.0111
L7	117 - 112	68.017	20	5.7697	0.0108
L8	112 - 105	62.103	20	5.5344	0.0097
L9	108.75 - 103.75	58.401	20	5.3562	0.0089
L10	103.75 - 98.75	52.877	20	5.1809	0.0083
L11	98.75 - 93.75	47.615	20	4.8742	0.0075
L12	93.75 - 89.75	42.693	20	4.5318	0.0067
L13	89.75 - 89.5	39.023	20	4.2365	0.0064
L14	89.5 - 88.25	38.801	20	4.2179	0.0064
L15	88.25 - 88	37.710	20	4.1247	0.0062
L16	88 - 86	37.495	20	4.1126	0.0062
L17	86 - 85.75	35.794	20	4.0149	0.0061
L18	85.75 - 84.25	35.584	20	4.0026	0.0061
L19	84.25 - 84	34.339	20	3.9286	0.0060
L20	84 - 79	34.134	20	3.9151	0.0060
L21	79 - 73.75	30.185	20	3.6304	0.0056
L22	78 - 72.75	29.431	20	3.5720	0.0055
L23	72.75 - 67.75	25.588	20	3.4004	0.0053
L24	67.75 - 63.08	22.170	20	3.1300	0.0049
L25	63.08 - 62.83	19.239	20	2.8662	0.0045
L26	62.83 - 57.83	19.089	20	2.8550	0.0045
L27	57.83 - 52.83	16.220	20	2.6260	0.0041
L28	52.83 - 47.83	13.594	20	2.3897	0.0038
L29	47.83 - 42.75	11.217	20	2.1507	0.0034
L30	47.5 - 42.5	11.069	20	2.1346	0.0034
L31	42.5 - 37.5	8.897	20	2.0084	0.0032
L32	37.5 - 32.75	6.920	20	1.7672	0.0028
L33	32.75 - 32.5	5.277	20	1.5372	0.0024
L34	32.5 - 27.5	5.196	20	1.5258	0.0024
L35	27.5 - 22.5	3.720	20	1.2943	0.0021
L36	22.5 - 17.5	2.488	20	1.0592	0.0017
L37	17.5 - 12.5	1.502	20	0.8242	0.0013
L38	12.5 - 8.25	0.763	20	0.5861	0.0009
L39	8.25 - 8	0.333	20	0.3812	0.0006
L40	8 - 6.25	0.313	20	0.3701	0.0006
L41	6.25 - 6	0.192	20	0.2918	0.0005
L42	6 - 3.25	0.177	20	0.2804	0.0004
L43	3.25 - 3	0.052	20	0.1526	0.0002
L44	3 - 0	0.044	20	0.1410	0.0002

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.00	APXVSPP18-C-A20 w/ Mount	20	106.947	6.4244	0.0124	8167

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	Pipe					
135.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20	90.919	6.3233	0.0119	3499
116.00	(2) LPA-80080/4CF w/ Mount Pipe	20	66.814	5.7272	0.0107	1289
106.00	(2) 7770.00 w/ Mount Pipe	20	55.336	5.2603	0.0086	1340
76.00	OG-860/1920/GPS-A	20	27.943	3.4928	0.0054	1487

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	147 - 142 (1)	TP22.8501x22x0.25	5.00	0.00	0.0	17.9332	-3.80	1229.86	0.003
L2	142 - 137 (2)	TP23.7002x22.8501x0.25	5.00	0.00	0.0	18.6078	-4.15	1276.12	0.003
L3	137 - 132 (3)	TP24.5504x23.7002x0.25	5.00	0.00	0.0	19.2823	-6.11	1322.38	0.005
L4	132 - 127 (4)	TP25.4005x24.5504x0.25	5.00	0.00	0.0	19.9569	-6.54	1368.64	0.005
L5	127 - 122 (5)	TP26.2506x25.4005x0.25	5.00	0.00	0.0	20.6315	-6.98	1414.15	0.005
L6	122 - 117 (6)	TP27.1007x26.2506x0.25	5.00	0.00	0.0	21.3060	-7.46	1448.42	0.005
L7	117 - 112 (7)	TP27.9508x27.1007x0.25	5.00	0.00	0.0	21.9806	-11.57	1481.92	0.008
L8	112 - 105 (8)	TP29.141x27.9508x0.25	7.00	0.00	0.0	22.4191	-11.96	1503.30	0.008
L9	105 - 103.75 (9)	TP28.8536x28.0034x0.3125	5.00	0.00	0.0	28.3092	-17.05	1941.45	0.009
L10	103.75 - 98.75 (10)	TP29.7039x28.8536x0.3125	5.00	0.00	0.0	29.1526	-17.90	1999.28	0.009
L11	98.75 - 93.75 (11)	TP30.5541x29.7039x0.3125	5.00	0.00	0.0	29.9959	-18.77	2057.12	0.009
L12	93.75 - 89.75 (12)	TP31.2343x30.5541x0.3125	4.00	0.00	0.0	30.6705	-19.50	2103.39	0.009
L13	89.75 - 89.5 (13)	TP31.2768x31.2343x0.3188	0.25	0.00	0.0	31.3206	-19.57	2147.97	0.009
L14	89.5 - 88.25 (14)	TP31.4893x31.2768x0.3188	1.25	0.00	0.0	31.5357	-19.81	2162.72	0.009
L15	88.25 - 88 (15)	TP31.5319x31.4893x0.5125	0.25	0.00	0.0	50.4584	-19.89	3460.44	0.006
L16	88 - 86 (16)	TP31.8719x31.5319x0.5125	2.00	0.00	0.0	51.0116	-20.36	3498.38	0.006
L17	86 - 85.75 (17)	TP31.9145x31.8719x0.5125	0.25	0.00	0.0	51.0808	-20.43	3503.12	0.006
L18	85.75 - 84.25 (18)	TP32.1695x31.9145x0.5125	1.50	0.00	0.0	51.4957	-20.82	3531.57	0.006
L19	84.25 - 84 (19)	TP32.212x32.1695x0.475	0.25	0.00	0.0	47.8483	-20.89	3281.44	0.006
L20	84 - 79 (20)	TP33.0623x32.212x0.4625	5.00	0.00	0.0	47.8556	-22.13	3281.94	0.007
L21	79 - 73.75 (21)	TP33.955x33.0623x0.4625	5.25	0.00	0.0	48.1053	-22.38	3299.06	0.007
L22	73.75 - 72.75 (22)	TP33.5x32.6073x0.5625	5.25	0.00	0.0	58.8058	-24.88	4032.90	0.006
L23	72.75 - 67.75 (23)	TP34.3502x33.5x0.5625	5.00	0.00	0.0	60.3236	-26.29	4136.99	0.006
L24	67.75 - 63.08 (24)	TP35.1442x34.3502x0.55	4.67	0.00	0.0	60.3911	-27.64	4141.62	0.007
L25	63.08 - 62.83 (25)	TP35.1867x35.1442x0.7125	0.25	0.00	0.0	77.9626	-27.75	5346.67	0.005

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L26	62.83 - 57.83 (26)	TP36.0369x35.1867x0.75	5.00	0.00	0.0	78.5115	-29.53	5384.32	0.005
L27	57.83 - 52.83 (27)	TP36.8871x36.0369x0.6875	5.00	0.00	0.0	78.9920	-31.36	5417.27	0.006
L28	52.83 - 47.83 (28)	TP37.7372x36.8871x0.6875	5.00	0.00	0.0	80.8471	-33.22	5544.50	0.006
L29	47.83 - 42.75 (29)	TP38.601x37.7372x0.675	5.08	0.00	0.0	79.5242	-33.35	5453.77	0.006
L30	42.75 - 42.5 (30)	TP37.8935x37.0433x0.75	5.00	0.00	0.0	88.4201	-36.86	6063.85	0.006
L31	42.5 - 37.5 (31)	TP38.7437x37.8935x0.7375	5.00	0.00	0.0	88.9658	-38.90	6101.28	0.006
L32	37.5 - 32.75 (32)	TP39.5514x38.7437x0.7375	4.75	0.00	0.0	90.8564	-40.88	6230.94	0.007
L33	32.75 - 32.5 (33)	TP39.5939x39.5514x0.7875	0.25	0.00	0.0	96.9975	-41.01	6652.09	0.006
L34	32.5 - 27.5 (34)	TP40.444x39.5939x0.775	5.00	0.00	0.0	97.5799	-43.24	6692.03	0.006
L35	27.5 - 22.5 (35)	TP41.2942x40.444x0.7625	5.00	0.00	0.0	98.0938	-45.52	6727.28	0.007
L36	22.5 - 17.5 (36)	TP42.1444x41.2942x0.7625	5.00	0.00	0.0	100.1510	-47.84	6868.38	0.007
L37	17.5 - 12.5 (37)	TP42.9946x42.1444x0.75	5.00	0.00	0.0	100.5630	-50.19	6896.62	0.007
L38	12.5 - 8.25 (38)	TP43.7172x42.9946x0.7375	4.25	0.00	0.0	100.6080	-52.21	6899.70	0.008
L39	8.25 - 8 (39)	TP43.7597x43.7172x0.8	0.25	0.00	0.0	109.0830	-52.36	7480.93	0.007
L40	8 - 6.25 (40)	TP44.0573x43.7597x0.7875	1.75	0.00	0.0	108.1540	-53.25	7417.19	0.007
L41	6.25 - 6 (41)	TP44.0998x44.0573x0.775	0.25	0.00	0.0	106.5720	-53.40	7308.74	0.007
L42	6 - 3.25 (42)	TP44.5674x44.0998x0.7625	2.75	0.00	0.0	106.0150	-54.77	7270.54	0.008
L43	3.25 - 3 (43)	TP44.6099x44.5674x0.7625	0.25	0.00	0.0	106.1180	-54.91	7277.60	0.008
L44	3 - 0 (44)	TP45.12x44.6099x0.75	3.00	0.00	0.0	105.6230	-56.39	7243.61	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft
L1	147 - 142 (1)	TP22.8501x22x0.25	29.65
L2	142 - 137 (2)	TP23.7002x22.8501x0.25	62.37
L3	137 - 132 (3)	TP24.5504x23.7002x0.25	109.75
L4	132 - 127 (4)	TP25.4005x24.5504x0.25	167.90
L5	127 - 122 (5)	TP26.2506x25.4005x0.25	228.71
L6	122 - 117 (6)	TP27.1007x26.2506x0.25	292.18
L7	117 - 112 (7)	TP27.9508x27.1007x0.25	388.74
L8	112 - 105 (8)	TP29.141x27.9508x0.25	457.95
L9	105 - 103.75 (9)	TP28.8536x28.0034x0.3125	586.98
L10	103.75 - 98.75 (10)	TP29.7039x28.8536x0.3125	728.39
L11	98.75 - 93.75 (11)	TP30.5541x29.7039x0.3125	872.24
L12	93.75 - 89.75 (12)	TP31.2343x30.5541x0.3125	989.10
L13	89.75 - 89.5 (13)	TP31.2768x31.2343x0.3188	996.46
L14	89.5 - 88.25 (14)	TP31.4893x31.2768x0.3188	1033.38
L15	88.25 - 88	TP31.5319x31.4893x0.5125	1040.80

Section No.	Elevation ft	Size	M_{ux} kip-ft
	(15)	25	
L16	88 - 86 (16)	TP31.8719x31.5319x0.51	1100.44
		25	
L17	86 - 85.75	TP31.9145x31.8719x0.51	1107.94
	(17)	25	
L18	85.75 - 84.25	TP32.1695x31.9145x0.51	1153.13
	(18)	25	
L19	84.25 - 84	TP32.212x32.1695x0.475	1160.70
	(19)		
L20	84 - 79 (20)	TP33.0623x32.212x0.462	1313.95
		5	
L21	79 - 73.75	TP33.955x33.0623x0.462	1345.04
	(21)	5	
L22	73.75 - 72.75	TP33.5x32.6073x0.5625	1511.63
	(22)		
L23	72.75 - 67.75	TP34.3502x33.5x0.5625	1674.50
	(23)		
L24	67.75 - 63.08	TP35.1442x34.3502x0.55	1829.90
	(24)		
L25	63.08 - 62.83	TP35.1867x35.1442x0.71	1838.31
	(25)	25	
L26	62.83 - 57.83	TP36.0369x35.1867x0.7	2009.33
	(26)		
L27	57.83 - 52.83	TP36.8871x36.0369x0.68	2185.64
	(27)	75	
L28	52.83 - 47.83	TP37.7372x36.8871x0.68	2367.14
	(28)	75	
L29	47.83 - 42.75	TP38.601x37.7372x0.675	2379.30
	(29)		
L30	42.75 - 42.5	TP37.8935x37.0433x0.75	2566.59
	(30)		
L31	42.5 - 37.5	TP38.7437x37.8935x0.73	2759.13
	(31)	75	
L32	37.5 - 32.75	TP39.5514x38.7437x0.73	2946.51
	(32)	75	
L33	32.75 - 32.5	TP39.5939x39.5514x0.78	2956.48
	(33)	75	
L34	32.5 - 27.5	TP40.444x39.5939x0.775	3158.55
	(34)		
L35	27.5 - 22.5	TP41.2942x40.444x0.762	3365.17
	(35)	5	
L36	22.5 - 17.5	TP42.1444x41.2942x0.76	3575.51
	(36)	25	
L37	17.5 - 12.5	TP42.9946x42.1444x0.75	3788.68
	(37)		
L38	12.5 - 8.25	TP43.7172x42.9946x0.73	3971.97
	(38)	75	
L39	8.25 - 8 (39)	TP43.7597x43.7172x0.8	3982.81
L40	8 - 6.25 (40)	TP44.0573x43.7597x0.78	4058.88
		75	
L41	6.25 - 6 (41)	TP44.0998x44.0573x0.77	4069.77
		5	
L42	6 - 3.25 (42)	TP44.5674x44.0998x0.76	4190.02
		25	
L43	3.25 - 3 (43)	TP44.6099x44.5674x0.76	4200.99
		25	
L44	3 - 0 (44)	TP45.12x44.6099x0.75	4333.13

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L1	147 - 142 (1)	TP22.8501x22x0.25	6.32	0.00
L2	142 - 137 (2)	TP23.7002x22.8501x0.25	6.77	0.00

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L3	137 - 132 (3)	TP24.5504x23.7002x0.25	11.36	0.00
L4	132 - 127 (4)	TP25.4005x24.5504x0.25	11.89	0.00
L5	127 - 122 (5)	TP26.2506x25.4005x0.25	12.43	0.00
L6	122 - 117 (6)	TP27.1007x26.2506x0.25	12.96	0.00
L7	117 - 112 (7)	TP27.9508x27.1007x0.25	21.13	1.48
L8	112 - 105 (8)	TP29.141x27.9508x0.25	21.46	1.51
L9	105 - 103.75 (9)	TP28.8536x28.0034x0.3125	28.04	1.35
L10	103.75 - 98.75 (10)	TP29.7039x28.8536x0.3125	28.53	1.40
L11	98.75 - 93.75 (11)	TP30.5541x29.7039x0.3125	29.02	1.44
L12	93.75 - 89.75 (12)	TP31.2343x30.5541x0.3125	29.42	1.49
L13	89.75 - 89.5 (13)	TP31.2768x31.2343x0.3188	29.45	1.50
L14	89.5 - 88.25 (14)	TP31.4893x31.2768x0.3188	29.64	1.52
L15	88.25 - 88 (15)	TP31.5319x31.4893x0.5125	29.67	1.53
L16	88 - 86 (16)	TP31.8719x31.5319x0.5125	29.98	1.57
L17	86 - 85.75 (17)	TP31.9145x31.8719x0.5125	30.01	1.58
L18	85.75 - 84.25 (18)	TP32.1695x31.9145x0.5125	30.25	1.61
L19	84.25 - 84 (19)	TP32.212x32.1695x0.475	30.28	1.62
L20	84 - 79 (20)	TP33.0623x32.212x0.4625	31.03	1.73
L21	79 - 73.75 (21)	TP33.955x33.0623x0.4625	31.17	1.75
L22	73.75 - 72.75 (22)	TP33.5x32.6073x0.5625	32.22	1.93
L23	72.75 - 67.75 (23)	TP34.3502x33.5x0.5625	32.94	2.04
L24	67.75 - 63.08 (24)	TP35.1442x34.3502x0.55	33.63	2.16
L25	63.08 - 62.83 (25)	TP35.1867x35.1442x0.7125	33.67	2.17
L26	62.83 - 57.83 (26)	TP36.0369x35.1867x0.7	34.74	2.32
L27	57.83 - 52.83 (27)	TP36.8871x36.0369x0.6875	35.79	2.46
L28	52.83 - 47.83 (28)	TP37.7372x36.8871x0.6875	36.82	2.61
L29	47.83 - 42.75 (29)	TP38.601x37.7372x0.675	36.88	2.62
L30	42.75 - 42.5 (30)	TP37.8935x37.0433x0.75	38.02	2.77
L31	42.5 - 37.5 (31)	TP38.7437x37.8935x0.7375	39.00	2.91
L32	37.5 - 32.75 (32)	TP39.5514x38.7437x0.7375	39.91	3.05
L33	32.75 - 32.5 (33)	TP39.5939x39.5514x0.7875	39.95	3.06
L34	32.5 - 27.5 (34)	TP40.444x39.5939x0.775	40.89	3.21
L35	27.5 - 22.5 (35)	TP41.2942x40.444x0.7625	41.78	3.36
L36	22.5 - 17.5 (36)	TP42.1444x41.2942x0.7625	42.38	3.50
L37	17.5 - 12.5 (37)	TP42.9946x42.1444x0.75	42.92	3.64
L38	12.5 - 8.25 (38)	TP43.7172x42.9946x0.7375	43.36	3.76
L39	8.25 - 8 (39)	TP43.7597x43.7172x0.8	43.37	3.76
L40	8 - 6.25 (40)	TP44.0573x43.7597x0.7875	43.59	3.81

Section No.	Elevation ft	Size	Actual V_u K	Actual T_u kip-ft
L41	6.25 - 6 (41)	TP44.0998x44.0573x0.775	43.58	3.82
L42	6 - 3.25 (42)	TP44.5674x44.0998x0.7625	43.89	3.90
L43	3.25 - 3 (43)	TP44.6099x44.5674x0.7625	43.89	3.91
L44	3 - 0 (44)	TP45.12x44.6099x0.75	44.21	4.00

CCIpole

per TIA-222- G

Site BU: 876316

Work Order: _____

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	147	42	3.75	18	22	29.141	0.25	1	A607-60
2	108.75	35	4.25	18	28.00	33.955	0.3125	1.25	A607-60
3	78	35.25	4.75	18	32.61	38.601	0.375	1.5	A607-60
4	47.5	47.5	0	18	37.04	45.12	0.4375	1.75	A607-60

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	8.25	channel	MP3-05 (1.25")	2					o		o											
2	0	88.25	channel	MP3-05 (1.25")	2												o						o
3	6.25	76.75	channel	MP3-05 (1.25")	1						o												
4	75.5	86	channel	MP3-05 (1.25")	1							o											
5	84.25	89.75	channel	MP3-05 (1.25")	1						o												
6	3.25	32.75	plate	CI-065125; (1) (1.1875)	2			o						o									
7	3.25	32.75	plate	CI-065125; (1) (1.1875)	1														o				
8	32.75	63.08	plate	CI-060100; (1) (1.1875)	3			o						o					o				
9	0	3.25	plate	FP 1.25 x 5.75_1	3	c									c				o				
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	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	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	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	5.33	2.09	5.65	0.79	29.000	29.000	18.000	4.994	1.2500	A572-65
6	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
7	6.5	1.25	8.125	0.625	n/a	33.000	19.000	6.563	1.1875	A572-65
8	6	1	6	0.5	30.000	30.000	16.000	4.750	1.1875	A572-65
9	1.25	5.75	7.1875	2.875	n/a	n/a	0.000	7.188	0.0000	A572-65

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	147 - 142	3.80	29.65	6.32
2	142 - 137	4.15	62.37	6.77
3	137 - 132	6.11	109.75	11.36
4	132 - 127	6.54	167.90	11.89
5	127 - 122	6.98	228.71	12.43
6	122 - 117	7.46	292.18	12.96
7	117 - 112	11.57	388.74	21.13
8	112 - 108.75	11.96	457.95	21.46
9	108.75 - 103.75	17.05	586.98	28.04
10	103.75 - 98.75	17.90	728.39	28.53
11	98.75 - 93.75	18.77	872.24	29.02
12	93.75 - 89.75	19.50	989.10	29.42
13	89.75 - 89.5	19.57	996.46	29.45
14	89.5 - 88.25	19.81	1033.39	29.64
15	88.25 - 88	19.89	1040.80	29.67
16	88 - 86	20.36	1100.44	29.98
17	86 - 85.75	20.43	1107.94	30.01
18	85.75 - 84.25	20.82	1153.13	30.25
19	84.25 - 84	20.89	1160.70	30.28
20	84 - 79	22.13	1313.95	31.03
21	79 - 78	22.38	1345.04	31.17
22	78 - 72.75	24.88	1511.63	32.22
23	72.75 - 67.75	26.29	1674.50	32.94
24	67.75 - 63.08	27.64	1829.90	33.63
25	63.08 - 62.83	27.75	1838.31	33.67
26	62.83 - 57.83	29.53	2009.34	34.74
27	57.83 - 52.83	31.36	2185.64	35.79
28	52.83 - 47.83	33.22	2367.14	36.82
29	47.83 - 47.5	33.35	2379.30	36.88
30	47.5 - 42.5	36.86	2566.59	38.02
31	42.5 - 37.5	38.90	2759.13	39.00
32	37.5 - 32.75	40.89	2946.51	39.91
33	32.75 - 32.5	41.01	2956.49	39.95
34	32.5 - 27.5	43.24	3158.55	40.89
35	27.5 - 22.5	45.52	3365.17	41.78
36	22.5 - 17.5	47.84	3575.51	42.38
37	17.5 - 12.5	50.19	3788.68	42.92
38	12.5 - 8.25	52.21	3971.97	43.36
39	8.25 - 8	52.36	3982.81	43.37
40	8 - 6.25	53.25	4058.87	43.59
41	6.25 - 6	53.40	4069.77	43.58
42	6 - 3.25	54.77	4190.02	43.89
43	3.25 - 3	54.91	4200.99	43.89
44	3 - 0	56.39	4333.13	44.21

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
147 - 142	Pole	TP22.85x22x0.25	Pole	5.5%	Pass
142 - 137	Pole	TP23.7x22.85x0.25	Pole	10.5%	Pass
137 - 132	Pole	TP24.55x23.7x0.25	Pole	17.1%	Pass
132 - 127	Pole	TP25.4x24.55x0.25	Pole	24.3%	Pass
127 - 122	Pole	TP26.251x25.4x0.25	Pole	30.8%	Pass
122 - 117	Pole	TP27.101x26.251x0.25	Pole	37.1%	Pass
117 - 112	Pole	TP27.951x27.101x0.25	Pole	47.0%	Pass
112 - 108.75	Pole	TP29.141x27.951x0.25	Pole	53.4%	Pass
108.75 - 103.75	Pole	TP28.854x28.003x0.3125	Pole	52.6%	Pass
103.75 - 98.75	Pole	TP29.704x28.854x0.3125	Pole	61.4%	Pass
98.75 - 93.75	Pole	TP30.554x29.704x0.3125	Pole	69.3%	Pass
93.75 - 89.75	Pole	TP31.234x30.554x0.3125	Pole	75.1%	Pass
89.75 - 89.5	Pole + Reinf.	TP31.277x31.234x0.3188	Pole	76.3%	Pass
89.5 - 88.25	Pole + Reinf.	TP31.489x31.277x0.3188	Pole	78.0%	Pass
88.25 - 88	Pole + Reinf.	TP31.532x31.489x0.5125	Reinf. 2 Tension Rupture	66.0%	Pass
88 - 86	Pole + Reinf.	TP31.872x31.532x0.5125	Reinf. 2 Tension Rupture	68.6%	Pass
86 - 85.75	Pole + Reinf.	TP31.914x31.872x0.5125	Reinf. 2 Tension Rupture	69.5%	Pass
85.75 - 84.25	Pole + Reinf.	TP32.17x31.914x0.5125	Reinf. 2 Tension Rupture	71.4%	Pass
84.25 - 84	Pole + Reinf.	TP32.212x32.17x0.475	Reinf. 2 Tension Rupture	73.1%	Pass
84 - 79	Pole + Reinf.	TP33.062x32.212x0.4625	Reinf. 2 Tension Rupture	79.2%	Pass
79 - 78	Pole + Reinf.	TP33.955x33.062x0.4625	Reinf. 2 Tension Rupture	80.4%	Pass
78 - 72.75	Pole + Reinf.	TP33.5x32.607x0.5625	Reinf. 2 Tension Rupture	77.2%	Pass
72.75 - 67.75	Pole + Reinf.	TP34.35x33.5x0.5625	Reinf. 2 Tension Rupture	81.9%	Pass
67.75 - 63.08	Pole + Reinf.	TP35.144x34.35x0.55	Reinf. 2 Tension Rupture	86.0%	Pass
63.08 - 62.83	Pole + Reinf.	TP35.187x35.144x0.7125	Reinf. 8 Tension Rupture	70.6%	Pass
62.83 - 57.83	Pole + Reinf.	TP36.037x35.187x0.7	Reinf. 8 Tension Rupture	74.4%	Pass
57.83 - 52.83	Pole + Reinf.	TP36.887x36.037x0.6875	Reinf. 8 Tension Rupture	78.0%	Pass
52.83 - 47.83	Pole + Reinf.	TP37.737x36.887x0.6875	Reinf. 8 Tension Rupture	81.6%	Pass
47.83 - 47.5	Pole + Reinf.	TP38.601x37.737x0.675	Reinf. 8 Tension Rupture	81.8%	Pass
47.5 - 42.5	Pole + Reinf.	TP37.894x37.043x0.75	Reinf. 8 Tension Rupture	80.7%	Pass
42.5 - 37.5	Pole + Reinf.	TP38.744x37.894x0.7375	Reinf. 8 Tension Rupture	83.8%	Pass
37.5 - 32.75	Pole + Reinf.	TP39.551x38.744x0.7375	Reinf. 8 Tension Rupture	86.5%	Pass
32.75 - 32.5	Pole + Reinf.	TP39.594x39.551x0.7875	Reinf. 2 Tension Rupture	79.8%	Pass
32.5 - 27.5	Pole + Reinf.	TP40.444x39.594x0.775	Reinf. 2 Tension Rupture	82.4%	Pass
27.5 - 22.5	Pole + Reinf.	TP41.294x40.444x0.7625	Reinf. 6 Tension Rupture	84.9%	Pass
22.5 - 17.5	Pole + Reinf.	TP42.144x41.294x0.7625	Reinf. 6 Tension Rupture	87.3%	Pass
17.5 - 12.5	Pole + Reinf.	TP42.995x42.144x0.75	Reinf. 6 Tension Rupture	89.7%	Pass
12.5 - 8.25	Pole + Reinf.	TP43.717x42.995x0.7375	Reinf. 6 Tension Rupture	91.5%	Pass
8.25 - 8	Pole + Reinf.	TP43.76x43.717x0.8	Reinf. 2 Tension Rupture	89.3%	Pass
8 - 6.25	Pole + Reinf.	TP44.057x43.76x0.7875	Reinf. 2 Tension Rupture	90.0%	Pass
6.25 - 6	Pole + Reinf.	TP44.1x44.057x0.775	Reinf. 2 Tension Rupture	90.4%	Pass
6 - 3.25	Pole + Reinf.	TP44.567x44.1x0.7625	Reinf. 2 Tension Rupture	91.4%	Pass
3.25 - 3	Pole + Reinf.	TP44.61x44.567x0.7625	Reinf. 1 Tension Rupture	90.5%	Pass
3 - 0	Pole + Reinf.	TP45.12x44.61x0.75	Reinf. 1 Tension Rupture	91.6%	Pass
				Summary	
			Pole	78.0%	Pass
			Reinforcement	91.6%	Pass
			Overall	91.6%	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
147 - 142	1157	n/a	1157	17.93	n/a	17.93	5.5%									
142 - 137	1292	n/a	1292	18.61	n/a	18.61	10.5%									
137 - 132	1438	n/a	1438	19.28	n/a	19.28	17.1%									
132 - 127	1594	n/a	1594	19.96	n/a	19.96	24.3%									
127 - 122	1761	n/a	1761	20.63	n/a	20.63	30.8%									
122 - 117	1940	n/a	1940	21.31	n/a	21.31	37.1%									
117 - 112	2130	n/a	2130	21.98	n/a	21.98	47.0%									
112 - 108.75	2260	n/a	2260	22.42	n/a	22.42	53.4%									
108.75 - 103.75	2912	n/a	2912	28.31	n/a	28.31	52.6%									
103.75 - 98.75	3181	n/a	3181	29.15	n/a	29.15	61.4%									
98.75 - 93.75	3465	n/a	3465	29.99	n/a	29.99	69.3%									
93.75 - 89.75	3704	n/a	3704	30.67	n/a	30.67	75.1%									
89.75 - 89.5	3732	79	3811	30.71	5.65	36.36	76.3%					65.2%				
89.5 - 88.25	3810	80	3889	30.92	5.65	36.57	78.0%					66.9%				
88.25 - 88	3812	2334	6145	30.96	16.95	47.91	47.4%		66.0%			66.0%				
88 - 86	3938	2382	6319	31.30	16.95	48.25	49.3%		68.6%			68.6%				
86 - 85.75	3956	2434	6390	31.34	22.60	53.94	50.0%		69.5%		50.5%	52.8%				
85.75 - 84.25	4053	2470	6523	31.60	22.60	54.20	51.3%		71.4%		52.0%	54.3%				
84.25 - 84	4078	1978	6057	31.64	16.95	48.59	57.4%		73.1%		70.0%					
84 - 79	4413	2079	6492	32.48	16.95	49.43	62.3%		79.2%		75.9%					
79 - 78	4482	2099	6581	32.65	16.95	49.60	63.3%		80.4%		77.0%					
78 - 72.75	5464	2618	8082	39.43	16.95	56.38	55.5%		77.2%	77.2%						
72.75 - 67.75	5895	2746	8641	40.44	16.95	57.39	59.0%		81.9%	81.9%						
67.75 - 63.08	6318	2868	9187	41.38	16.95	58.33	62.0%		86.0%	86.0%						
63.08 - 62.83	6350	5315	11665	41.43	34.95	76.38	50.9%		69.5%	66.3%					70.6%	
62.83 - 57.83	6826	5564	12390	42.45	34.95	77.40	53.6%		73.2%	69.9%					74.4%	
57.83 - 52.83	7326	5818	13145	43.46	34.95	78.41	56.3%		76.7%	73.3%					78.0%	
52.83 - 47.83	7850	6079	13928	44.47	34.95	79.42	58.8%		80.1%	76.6%					81.6%	
47.83 - 47.5	7885	6096	13981	44.54	34.95	79.49	59.0%		80.3%	76.8%					81.8%	
47.5 - 42.5	9225	6129	15354	52.01	34.95	86.96	58.0%		79.0%	75.8%					80.7%	
42.5 - 37.5	9868	6396	16263	53.19	34.95	88.14	60.2%		81.8%	78.6%					83.8%	
37.5 - 32.75	10505	6655	17159	54.31	34.95	89.26	62.1%		84.5%	81.2%					86.5%	
32.75 - 32.5	10545	7805	18350	54.37	41.33	95.70	58.7%		79.8%	75.8%			79.7%	77.2%		
32.5 - 27.5	11246	8130	19376	55.55	41.33	96.88	60.7%		82.4%	78.3%			82.4%	79.8%		
27.5 - 22.5	11978	8461	20440	56.73	41.33	98.06	62.5%		84.9%	80.7%			84.9%	82.2%		
22.5 - 17.5	12741	8799	21541	57.91	41.33	99.24	64.3%		87.2%	83.0%			87.3%	84.6%		
17.5 - 12.5	13536	9144	22680	59.09	41.33	100.42	66.0%		89.5%	85.2%			89.7%	86.9%		
12.5 - 8.25	14237	9443	23680	60.10	41.33	101.42	67.4%		91.3%	87.0%			91.5%	88.7%		
8.25 - 8	14413	11045	25457	60.16	52.63	112.78	65.0%	70.1%	89.3%	68.6%			82.2%	82.6%		
8 - 6.25	14711	11191	25901	60.57	52.63	113.19	65.6%	70.7%	90.0%	67.2%			82.9%	83.3%		
6.25 - 6	14677	10645	25322	60.63	46.98	107.60	66.8%	79.7%	90.4%				86.5%	86.7%		
6 - 3.25	15153	10864	26017	61.28	46.98	108.25	67.6%	80.7%	91.4%				87.6%	87.8%		
3.25 - 3	15121	10428	25549	61.34	44.16	105.50	65.8%	90.5%	83.5%							79.2%
3 - 0	15651	10653	26303	62.05	44.16	106.21	66.7%	91.6%	84.6%							80.2%

Note: Section capacity checked in 5 degree increments.

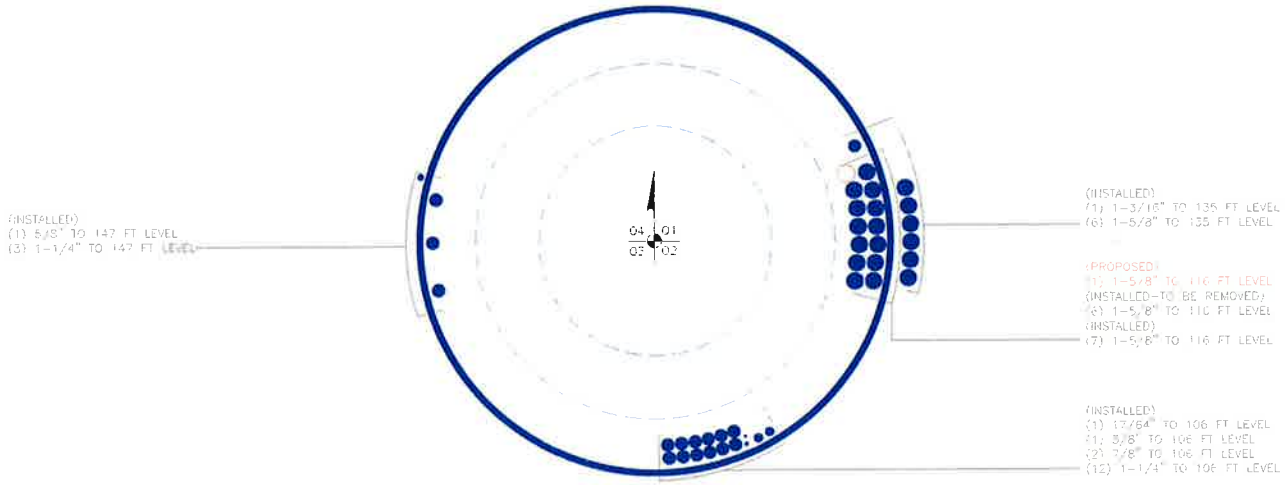
TNX Geometry Input

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	147 - 142	5		18	22.000	22.850	0.25	A607-60	1.000
2	142 - 137	5		18	22.850	23.700	0.25	A607-60	1.000
3	137 - 132	5		18	23.700	24.550	0.25	A607-60	1.000
4	132 - 127	5		18	24.550	25.400	0.25	A607-60	1.000
5	127 - 122	5		18	25.400	26.251	0.25	A607-60	1.000
6	122 - 117	5		18	26.251	27.101	0.25	A607-60	1.000
7	117 - 112	5		18	27.101	27.951	0.25	A607-60	1.000
8	112 - 108.75	7	3.75	18	27.951	29.141	0.25	A607-60	1.000
9	108.75 - 103.75	5		18	28.003	28.854	0.3125	A607-60	1.000
10	103.75 - 98.75	5		18	28.854	29.704	0.3125	A607-60	1.000
11	98.75 - 93.75	5		18	29.704	30.554	0.3125	A607-60	1.000
12	93.75 - 89.75	4		18	30.554	31.234	0.3125	A607-60	1.000
13	89.75 - 89.5	0.25		18	31.234	31.277	0.31875	A607-60	1.161
14	89.5 - 88.25	1.25		18	31.277	31.489	0.31875	A607-60	1.160
15	88.25 - 88	0.25		18	31.489	31.532	0.5125	A607-60	0.950
16	88 - 86	2		18	31.532	31.872	0.5125	A607-60	0.946
17	86 - 85.75	0.25		18	31.872	31.914	0.5125	A607-60	1.056
18	85.75 - 84.25	1.5		18	31.914	32.170	0.5125	A607-60	1.052
19	84.25 - 84	0.25		18	32.170	32.212	0.475	A607-60	1.016
20	84 - 79	5		18	32.212	33.062	0.4625	A607-60	1.033
21	79 - 78	5.25	4.25	18	33.062	33.955	0.4625	A607-60	1.031
22	78 - 72.75	5.25		18	32.607	33.500	0.5625	A607-60	0.959
23	72.75 - 67.75	5		18	33.500	34.350	0.5625	A607-60	0.951
24	67.75 - 63.08	4.67		18	34.350	35.144	0.55	A607-60	0.966
25	63.08 - 62.83	0.25		18	35.144	35.187	0.7125	A607-60	0.980
26	62.83 - 57.83	5		18	35.187	36.037	0.7	A607-60	0.986
27	57.83 - 52.83	5		18	36.037	36.887	0.6875	A607-60	0.993
28	52.83 - 47.83	5		18	36.887	37.737	0.6875	A607-60	0.982
29	47.83 - 47.5	5.08	4.75	18	37.737	38.601	0.675	A607-60	1.000
30	47.5 - 42.5	5		18	37.043	37.894	0.75	A607-60	0.984
31	42.5 - 37.5	5		18	37.894	38.744	0.7375	A607-60	0.991
32	37.5 - 32.75	4.75		18	38.744	39.551	0.7375	A607-60	0.982
33	32.75 - 32.5	0.25		18	39.551	39.594	0.7875	A607-60	0.987
34	32.5 - 27.5	5		18	39.594	40.444	0.775	A607-60	0.993
35	27.5 - 22.5	5		18	40.444	41.294	0.7625	A607-60	1.000
36	22.5 - 17.5	5		18	41.294	42.144	0.7625	A607-60	0.991
37	17.5 - 12.5	5		18	42.144	42.995	0.75	A607-60	0.999
38	12.5 - 8.25	4.25		18	42.995	43.717	0.7375	A607-60	1.008
39	8.25 - 8	0.25		18	43.717	43.760	0.8	A607-60	1.034
40	8 - 6.25	1.75		18	43.760	44.057	0.7875	A607-60	1.047
41	6.25 - 6	0.25		18	44.057	44.100	0.775	A607-60	1.010
42	6 - 3.25	2.75		18	44.100	44.567	0.7625	A607-60	1.021
43	3.25 - 3	0.25		18	44.567	44.610	0.7625	A607-60	0.994
44	3 - 0	3		18	44.610	45.120	0.75	A607-60	1.006

APPENDIX B

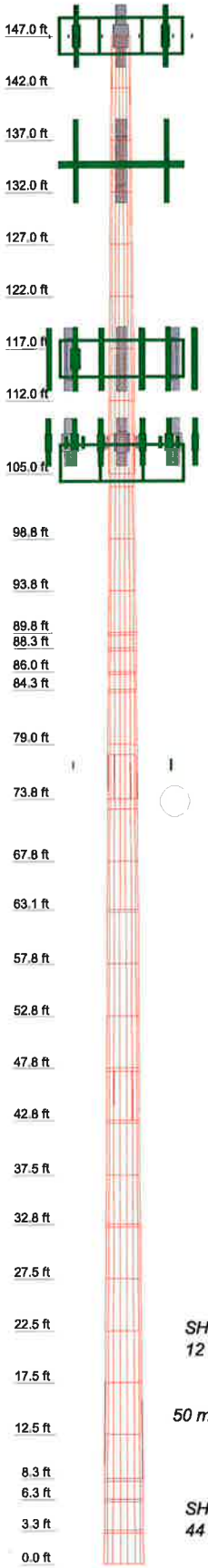
BASE LEVEL DRAWING



APPENDIX C

ADDITIONAL CALCULATIONS

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.3125	0.4625	0.4625	0.5625	0.5625	0.6250	0.7000	0.6875	0.6875	0.6875	0.6875	0.6875	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500	0.7500
Socket Length (ft)								3.75													4.25								4.75										
Top Dia (in)	22.0000	22.8501	23.7002	24.5504	25.4005	26.2506	27.1007	27.9508	28.8008	29.7039	30.5541	31.4043	32.2544	33.1046	33.9547	34.8049	35.6550	36.5052	37.3553	38.2055	39.0556	39.9058	40.7559	41.6061	42.4562	43.3064	44.1565	45.0067	45.8568	46.7070	47.5571	48.4073	49.2574	50.1076	50.9577	51.8079	52.6580	53.5082
Bot Dia (in)	22.8501	23.7002	24.5504	25.4005	26.2506	27.1007	27.9508	28.8008	29.7039	30.5541	31.4043	32.2544	33.1046	33.9547	34.8049	35.6550	36.5052	37.3553	38.2055	39.0556	39.9058	40.7559	41.6061	42.4562	43.3064	44.1565	45.0067	45.8568	46.7070	47.5571	48.4073	49.2574	50.1076	50.9577	51.8079	52.6580	53.5082	54.3583
Grade	A607-60																																					
Weight (K)	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.9	1.0	1.0	0.9	0.1	1.3	1.3	1.3	1.4	1.5	1.5	1.4	0.1	1.6	1.7	1.7	1.5	0.1



ALL REACTIONS ARE FACTORED

AXIAL 93 K

SHEAR 12 K

MOMENT 1258 kip-ft

TORQUE 2 kip-ft

50 mph WIND - 0.7500 in ICE

AXIAL 56 K

SHEAR 44 K

MOMENT 4333 kip-ft

TORQUE 5 kip-ft

REACTIONS - 101 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
APXVSPP18-C-A20 w/ Mount Pipe	147	(2) LPA-80080/4CF w/ Mount Pipe	116
APXVSPP18-C-A20 w/ Mount Pipe	147	(2) LPA-80063/6CF w/ Mount Pipe	116
APXVSPP18-C-A20 w/ Mount Pipe	147	(2) APL868013 w/ Mount Pipe	116
APXVTM14-C-120 w/ Mount Pipe	147	DB-T1-6Z-8AB-0Z	116
APXVTM14-C-120 w/ Mount Pipe	147	(2) ClearGain Dual Band 800/1900 MHz	116
APXVTM14-C-120 w/ Mount Pipe	147		
800 EXTERNAL NOTCH FILTER	147	(2) SBNHH-1D65B w/ Mount Pipe	116
800 EXTERNAL NOTCH FILTER	147	(2) SBNHH-1D65B w/ Mount Pipe	116
800 EXTERNAL NOTCH FILTER	147	(2) SBNHH-1D65B w/ Mount Pipe	116
1900MHz RRH (65MHz)	147	HBXX-6517DS-A2M w/ Mount Pipe	116
1900MHz RRH (65MHz)	147	HBXX-6517DS-A2M w/ Mount Pipe	116
1900MHz RRH (65MHz)	147	HBXX-6517DS-A2M w/ Mount Pipe	116
(3) ACU-A20-N	147	RRH2X60-PCS	116
(3) ACU-A20-N	147	RRH2X60-PCS	116
(3) ACU-A20-N	147	RRH2X60-PCS	116
800MHZ RRH	147	RRH2x60-700	116
800MHZ RRH	147	RRH2x60-700	116
800MHZ RRH	147	RRH2x60-700	116
TD-RRH8x20-25	147	RRH4X45-AWS4 B66	116
TD-RRH8x20-25	147	RRH4X45-AWS4 B66	116
TD-RRH8x20-25	147	RRH4X45-AWS4 B66	116
Platform Mount [LP 1201-1]	147	DB-T1-6Z-8AB-0Z	116
Miscellaneous [NA 507-1]	147	Platform Mount [LP 1201-1]	116
(2) 2 3/8" OD x 6 ft mount pipe	147	(2) 7770.00 w/ Mount Pipe	106
(2) 2 3/8" OD x 6 ft mount pipe	147	(2) 7770.00 w/ Mount Pipe	106
(2) 2 3/8" OD x 6 ft mount pipe	147	(2) 7770.00 w/ Mount Pipe	106
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	135	SBNHH-1D65A w/ Mount Pipe	106
		SBNHH-1D65A w/ Mount Pipe	106
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	135	SBNHH-1D65A w/ Mount Pipe	106
		RRUS12/RRUS A2	106
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	135	RRUS12/RRUS A2	106
		RRUS12/RRUS A2	106
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	135	(4) LGP2140X	106
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	135	(4) LGP2140X	106
		(4) LGP2140X	106
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	135	DC6-48-60-18-8F	106
		(2) RRUS-11	106
LNX-6515DS-A1M w/ Mount Pipe	135	(2) RRUS-11	106
LNX-6515DS-A1M w/ Mount Pipe	135	(2) RRUS-11	106
LNX-6515DS-A1M w/ Mount Pipe	135	Platform Mount [LP 1201-1]	106
ATSBT-TOP-MF-4G	135	Miscellaneous [NA 507-1]	106
ATSBT-TOP-MF-4G	135	Miscellaneous [NA 509-3]	106
ATSBT-TOP-MF-4G	135	OG-860/1920/GPS-A	76
T-Arm Mount [TA 602-3]	135	KS24019-L112A	76
		Side Arm Mount [SO 701-3]	76

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft

Paul J. Ford and Company
250 E Broad St, Suite 600
Columbus, OH 43215
Phone: (614) 221-6679
FAX: (555) 555-1235

Job:	147-Ft. Monopole / Secondino Propert		
Project:	37517-1800.001 / BU 876316		
Client:	Crown Castle	Drawn by: mherbert	App'd:
Code:	TIA-222-G	Date: 10/04/17	Scale: N
Path:			Dwg No.

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

BU#: *876316*
Site Name: *Secondino Property*
App #:

Anchor Rod Data		
Eta Factor, η	0.5	TIA G (Fig. 4-4)
Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	52	in
Anchor Spacing:	6	in

Plate Data		
W=Side:	53	in
Thick:	3	in
Grade:	50	ksi
Clip Distance:	6	in

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

Pole Data		
Diam:	45.12	in
Thick:	0.4375	in
Grade:	60	ksi
# of Sides:	18	"0" IF Round

Base Reactions		
TIA Revision:	G	
Factored Moment, Mu:	4333	ft-kips
Factored Axial, Pu:	56	kips
Factored Shear, Vu:	44	kips

Anchor Rod Results

TIA G --> Max Rod (Cu+ Vu/η):	259.0 Kips
Axial Design Strength, Φ*Fu*Anet:	260.0 Kips
Anchor Rod Stress Ratio:	99.6% **Pass**

Base Plate Results Flexural Check

Base Plate Stress:	37.9 ksi
PL Design Bending Strength, Φ*Fy:	45.0 ksi
Base Plate Stress Ratio:	84.3% **Pass**

PL Ref. Data
Yield Line (in):
29.83
Max PL Length:
29.83

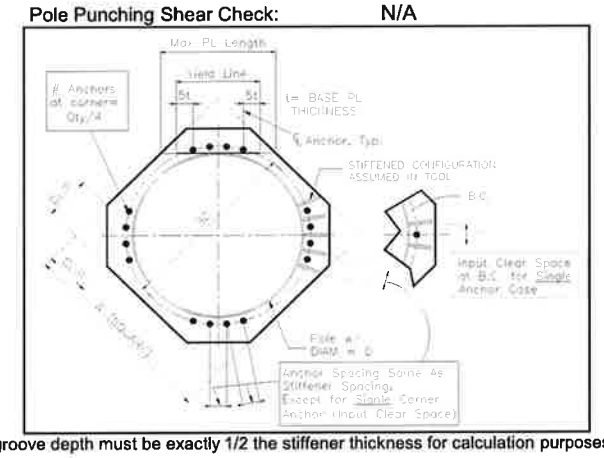
N/A - Unstiffened

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



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

Drilled Pier Foundation

BU # :	876316
Site Name:	Secondino Property
App. Number:	

TIA-222 Revison:	G
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	4333	
Axial Force (kips)	56	
Shear Force (kips)	44	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	22.5	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 22.5' below grade		
Pier Diameter	7	ft
Rebar Quantity	32	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	

Analysis Results		
Soil Lateral Capacity	*Compression*	*Uplift*
$D_{V=0}$ (ft from TOC)	5.85	-
Soil Safety Factor	1.96	-
Max Moment (kip-ft)	4651.47	-
Rating	*67.9%*	-
Soil Vertical Capacity	*Compression*	*Uplift*
Skin Friction (kips)	206.50	-
End Bearing (kips)	1676.96	-
Weight of Concrete (kips)	108.90	-
Total Capacity (kips)	1883.46	-
Axial (kips)	164.90	-
Rating	*8.8%*	-
Reinforced Concrete Capacity	*Compression*	*Uplift*
Critical Depth (ft from TOC)	5.74	-
Critical Moment (kip-ft)	4651.28	-
Critical Moment Capacity	7534.60	-
Rating	*61.7%*	-

Soil Interaction Rating	**67.9%**
Structural Foundation Rating	**61.7%**

Soil Profile

Groundwater Depth	5	ft	# of Layers	8

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3	3	116	150	0	0	0.000	0.000	0.08	0.08			Cohesionless
2	3	3.5	0.5	115	150	0	0	0.000	0.000	0.18	0.18			Cohesionless
3	3.5	5	1.5	115	150	0	38	0.000	0.000	0.18	0.18			Cohesionless
4	5	7	2	54	87.6	0	41	0.000	0.000	0.24	0.24			Cohesionless
5	7	10	3	55	87.6	0	45	0.000	0.000	0.38	0.38			Cohesionless
6	10	15	5	55	87.6	0	45	0.000	0.000	0.48	0.48			Cohesionless
7	15	20	5	55	87.6	3.25	0	1.78	1.78	1.20	1.20			Cohesive
8	20	22.5	2.5	55	87.6	0	45	0.00	0.00	0.76	0.76	58.1		Cohesionless

ATTACHMENT 4

Town of Branford, Connecticut - Assessment Parcel Map

Parcel: H05-000-003-00010 Address: 21 ACORN RD

Approximate Scale: 1 inch = 100 feet

0 20 40 60 80 Feet

Grand List Date October 2015

Disclaimer:

This map is for informational purposes only.

All information is subject to verification by any user. The Town of Branford and its mapping

21 ACORN RD

Location	21 ACORN RD	**Mblu**	H05/000 003/ 00010/ /
Acct#	008133	**Owner**	ALTRIO INVESTMENT GROUP LLC
Assessment	$634,200	**Appraisal**	$905,900
PID	1176	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$477,600	$428,300	$905,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$334,300	$299,900	$634,200

Owner of Record

Owner	ALTRIO INVESTMENT GROUP LLC
Co-Owner	
Address	P O BOX 622 BRANFORD, CT 06405

Sale Price	$0
Certificate	
Book & Page	0568/0731
Sale Date	04/08/1994

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ALTRIO INVESTMENT GROUP LLC			0568/0731	04/08/1994

Building Information

Building 1 : Section 1

Year Built:	2001
Living Area:	10911
Replacement Cost:	$647,741
Building Percent Good:	67
Replacement Cost Less Depreciation:	$434,000

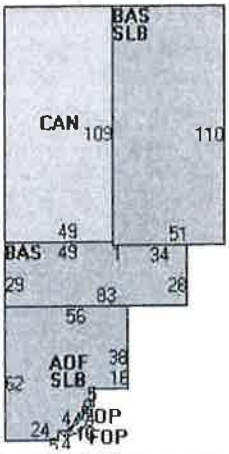
Building Attributes	
Field	**Description**

STYLE	Warehouse
MODEL	Ind/Comm
Grade	B
Stories:	1
Occupancy	1
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Bldg Use	COMM WHS MDL96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3160
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	17
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/BranfordCTPhotos//\00\01\93/

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	7983	7983
AOF	Office	2928	2928
CAN	Canopy	5341	0
FOP	Porch, Open	80	0
SLB	Slab	8538	0
		24870	10911

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
SPR1	SPRINKLERS-WET	13324 S.F.	$8,900	1
SPR2	WET/CONCEALED	2928 S.F.	$2,600	1
A/C	AIR CONDITION	2928 S.F.	$4,300	1

Land

Land Use

Use Code	3160
Description	COMM WHS MDL96
Zone	IG-2
Neighborhood	350
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	1.56
Frontage	
Depth	
Assessed Value	$299,900
Appraised Value	$428,300

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	PAVING-ASPHALT			21000 S.F.	$24,300	1
FN3	FENCE-6' CHAIN			500 L.F.	$3,500	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$477,600	$428,300	$905,900
2014	$477,600	$428,300	$905,900
2013	$547,900	$428,300	$976,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$334,300	$299,900	$634,200
2014	$334,300	$299,900	$634,200
2013	$383,500	$299,900	$683,400

ATTACHMENT 5

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 11/01/2017 US POSTAGE $002.38⁰ ZIP 06103 041L1220380 ANN STREET STATION 06103 NOV 01 2017 U.S.P.S.
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	James B. Cosgrove, First Selectman Town of Branford 1019 Main Street Branford, CT 06405				
2.	Harry Smith, Town Planner Town of Branford 1019 Main Street Branford, CT 06405				
3.	Altrio Investment Group LLC P.O. Box 622 Branford, CT 06405				
4.					
5.					
6.					